

**Edwards Aquifer Habitat Conservation Plan**  
**Expanded Water Quality Monitoring Report**

**January 2017**





## EXECUTIVE SUMMARY

The Edwards Aquifer Habitat Conservation Plan (EAHCP) Expanded Water Quality Monitoring Program was developed in accordance with the directives of the EAHCP to identify and assess potential impairments to water quality within the Comal River and headwaters of the San Marcos River systems. The expanded EAHCP sampling requirements are described in the *2016 Edwards Aquifer Authority Water Quality Monitoring Program Work Plan for Comal Springs and San Marcos* (Edwards Aquifer Habitat Conservation Plan [EAHCP] Work Plan) (EAA 2015). The program includes surface water (base flow) sampling, sediment sampling, real-time instrument water quality monitoring, stormwater sampling and passive diffusion sampling. The EAA contracted with SWCA Environmental Consultants (SWCA) to execute the expanded sampling program in 2014, 2015, and 2016, with the exception of RTI water quality monitoring, which is still conducted by the EAA. A groundwater sampling element was also included in the sampling program, which was to be conducted during periods of extremely low spring flow from Comal and San Marcos springs. Spring flow rates remained above minimum flow rates of 30 cubic feet per second (cfs) at Comal Springs and above 50 cfs at San Marcos Springs during 2016 and, therefore, the groundwater sampling element was not conducted.

The Comal Springs complex has five sample locations along the Comal system from the upstream end of Landa Lake (where Blieders Creek empties into the headwaters of Landa Lake) to the south end of the Comal River, upstream of the confluence with the Guadalupe River. In the San Marcos system, samples are collected at seven locations. Sample sites begin at Sink Creek upstream of the headwaters of Spring Lake on the north end of the system and end downstream of Capes Dam on the south end of the system.

Surface water (base flow) and stormwater samples were collected twice annually from each spring complex. Sediment samples were collected once annually from each spring complex. Passive diffusion samplers were deployed in each spring complex for two week periods, six times per year.

There were a limited number of detections above comparative standards, which is indicative of generally high water quality. Bis(2-ethylhexyl) phthalate was detected above the Texas Risk Reduction Program Protective Concentration Level (PCL) in several surface and stormwater samples in 2016 but may be a laboratory or sampling equipment artifact. Total polycyclic aromatic hydrocarbons (PAHs) were detected above the Probable Effect Concentration (PEC) for sediment samples collected in each year of the sampling program at two locations in the San Marcos Springs complex. Lead was detected above the PEC at one sample location (HSM340- City Park and Hopkins Street) in the San Marcos Springs complex in 2014 and 2016.

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## 1.0 INTRODUCTION

The Edwards Aquifer Authority (EAA) and its predecessor agency, the Edwards Underground Water District (EUWD), in cooperation with the U.S. Geological Survey (USGS) and the Texas Water Development Board (TWDB) have maintained a water quality sampling program since 1968. Analyses of these data have been used by the EAA to assess aquifer water quality. This routine or historical sampling program involves the analyses of a broad spectrum of parameters in wells, springs, and streams across the region. The EAA's existing sampling program was expanded with the adoption of the Edwards Aquifer Habitat Conservation Program (EAHCP) to include collection of additional samples and sample types in the immediate vicinity of Comal and San Marcos Springs. The expanded water quality sampling program was developed in accordance with the directives of the EAHCP to identify and assess potential impairments to water quality within the Comal River and headwaters of the San Marcos River systems. The expanded EAHCP sampling requirements are described in the *2016 Edwards Aquifer Authority Water Quality Monitoring Program Work Plan for Comal Springs and San Marcos* (Edwards Aquifer Habitat Conservation Plan [EAHCP] Work Plan) (EAA 2015), which is included in Appendix A of this document.

Based on the requirements of the EAHCP Work Plan, the expanded sampling program requires the collection of the following sample types:

1. Surface water (base flow) samples
2. Sediment samples
3. Real-time instrument (RTI) water quality monitoring
4. Stormwater sampling
5. Passive Diffusion Samplers (PDS)

The EAA contracted with SWCA Environmental Consultants (SWCA) to execute the expanded sampling program in 2014, 2015, and 2016, with the exception of RTI water quality monitoring, which is still conducted by the EAA. Surface water quality monitoring was enhanced beginning in 2014 by the addition of PDS for trace organic compounds analyses, conducted by SWCA. A groundwater sampling element was also included in the sampling program, which was to be conducted during periods of extremely low spring flow from Comal and San Marcos springs. The groundwater sampling element of the sampling program was only to be conducted if spring flow rates dropped below 30 cubic feet per second (cfs) at Comal Springs or below 50 cfs at San Marcos Springs. Spring flow rates remained above 30 cfs at Comal Springs and above 50 cfs at San Marcos Springs during 2016 and, therefore, the groundwater sampling element was not conducted. Hydrographs of spring flow are presented in Appendix B.

Prior to the implementation of the EAHCP, the historical sampling program had not specifically addressed surface water quality, sediment quality, real-time changes for basic water quality parameters, or stormwater impacts along the Comal River or headwaters of the San Marcos River. Therefore, this expanded sampling program was designed to gather data specific to all of the new parameters. This report presents the surface water, sediment, stormwater and PDS data collected by SWCA in 2016. The data set represents the fourth year of the program and is not sufficient to establish any long-term trends or patterns.

For purposes of this report, the Comal River may also be referred to as Comal Springs or Comal Springs complex, and the San Marcos River headwaters may also be referred to as San Marcos Springs or San

Marcos Springs complex. An overview of surface water, sediment, and stormwater sample locations for Comal and San Marcos springs are shown in Figures 1 and 2. Figures 3–6 provide detailed location data for sample points at the Comal Springs complex. Figures 7–10 provide detailed locations for the sample points at the San Marcos Springs complex.

### **1.1 Surface Water (Base Flow) Samples**

Surface water (base flow) samples are collected twice annually at each spring complex. The Comal Springs complex has five sample locations along the Comal system from the upstream end of Landa Lake (where Blieders Creek empties into the headwaters of Landa Lake) to the south end of the Comal River, upstream of the confluence with the Guadalupe River. In the San Marcos system, surface water samples are collected at seven locations. Sample sites begin at Sink Creek upstream of the headwaters of Spring Lake on the north end of the system and end downstream of Capes Dam on the south end of the system.

Surface water sample locations are designed to provide water quality data for the majority of the surface waters of each spring system and river reach of concern. Sample sites in each system are located upstream and downstream of springflow or other potential surface water inputs (such as Dry Comal Creek or Purgatory Creek). Surface water samples are analyzed for a broad spectrum of parameters as outlined in Table 1. Surface water samples were collected in March and September 2016.

Regulatory standards for surface water quality vary depending upon type of use. For this report, surface water (base flow) results are compared to drinking water quality standards (30 Texas Administrative Code [TAC] Chapter 290, Subchapter F) for detected constituents of concern. These guidelines were selected for use since in general they provide the most stringent quality standards. For detections of interest that do not have an established maximum contaminant level (MCL) under 30 TAC 290, the Texas Risk Reduction Program (TRRP) from 30 TAC 350 was substituted. The TRRP standards used are the Tier I, residential standards and are referred to as protective concentration levels (PCLs). Pharmaceutical and Personal Care Products (PPCP) including caffeine can be chemicals of concern because they can indicate the presence of contamination from anthropogenic sources including wastewater discharge (U.S. Environmental Protection Agency [EPA] 2012). Currently, there are no regulatory standards to compare caffeine detections against, but results are listed in this report to provide an indication of potential anthropogenic impacts. Additionally, bacteriological results were compared with Texas Surface Water Quality Standards for primary recreational waters (30 TAC 307.7). The 30 TAC 307.7 standards are typically applied to waters affected by anthropogenic sources and are used here solely to provide a reference level for bacterial counts. Other guidelines may be more useful or appropriate for particular research; however, for the scope of this report these standards provide an appropriate and applicable guideline with regard to water quality.

**Table 1. Listing of Analytical Parameters by Sample Type**

Analytical Parameter	Surface Water (Base Flow) Samples	Stormwater Samples	Sediment Samples	PDS
Volatile Organic Compounds (VOCs)	Yes	Yes	Yes	Yes*
Semi-volatile Organic Compounds (SVOCs)	Yes	Yes	Yes	Yes*
Organochlorine Pesticides	Yes	Yes	Yes	Yes*
Polychlorinated Biphenyls (PCBs)	Yes	Yes	Yes	No
Organophosphorous Pesticides	Yes	Yes	Yes	No
Herbicides	Yes	Yes	Yes	No
Metals (Al, Sb, As, Ba, Be, Cd, Cr [total], Cu, Fe, Pb, Mn, Hg, Ni, Se, Ag, Tl, and Zn)	Yes	Yes	Yes	No
General water quality parameters (GWQP), total alkalinity (as CaCO <sub>3</sub> ), bicarbonate alkalinity (as CaCO <sub>3</sub> ), carbonate alkalinity (as CaCO <sub>3</sub> ); Cl, Br, NO <sub>3</sub> , SO <sub>4</sub> , F, pH, total dissolved solids (TDS), total suspended solids (TSS), Ca, Mg, Na, K, Si, Sr, CO <sub>3</sub> ,	Yes	Yes	No TDS or TSS	No
Phosphorus (total)	Yes	Yes	Yes	No
Total Organic Carbon (TOC),	Yes	Yes	Yes	No
Dissolved Organic Carbon (DOC)	Yes	Yes	No	No
Total Kjeldahl Nitrogen (TKN)	Yes	Yes	No	No
Bacteria (E. coli)	Yes	Yes	No	No
Field Parameters (DO, pH, Conductivity, Turbidity, Temperature)	Yes	Yes	No	No
Caffeine	Yes	Yes	No	No

\* Passive diffusion samplers (PDS) samplers are analyzed for a modified set of VOCs, SVOCs, and organochlorine pesticides

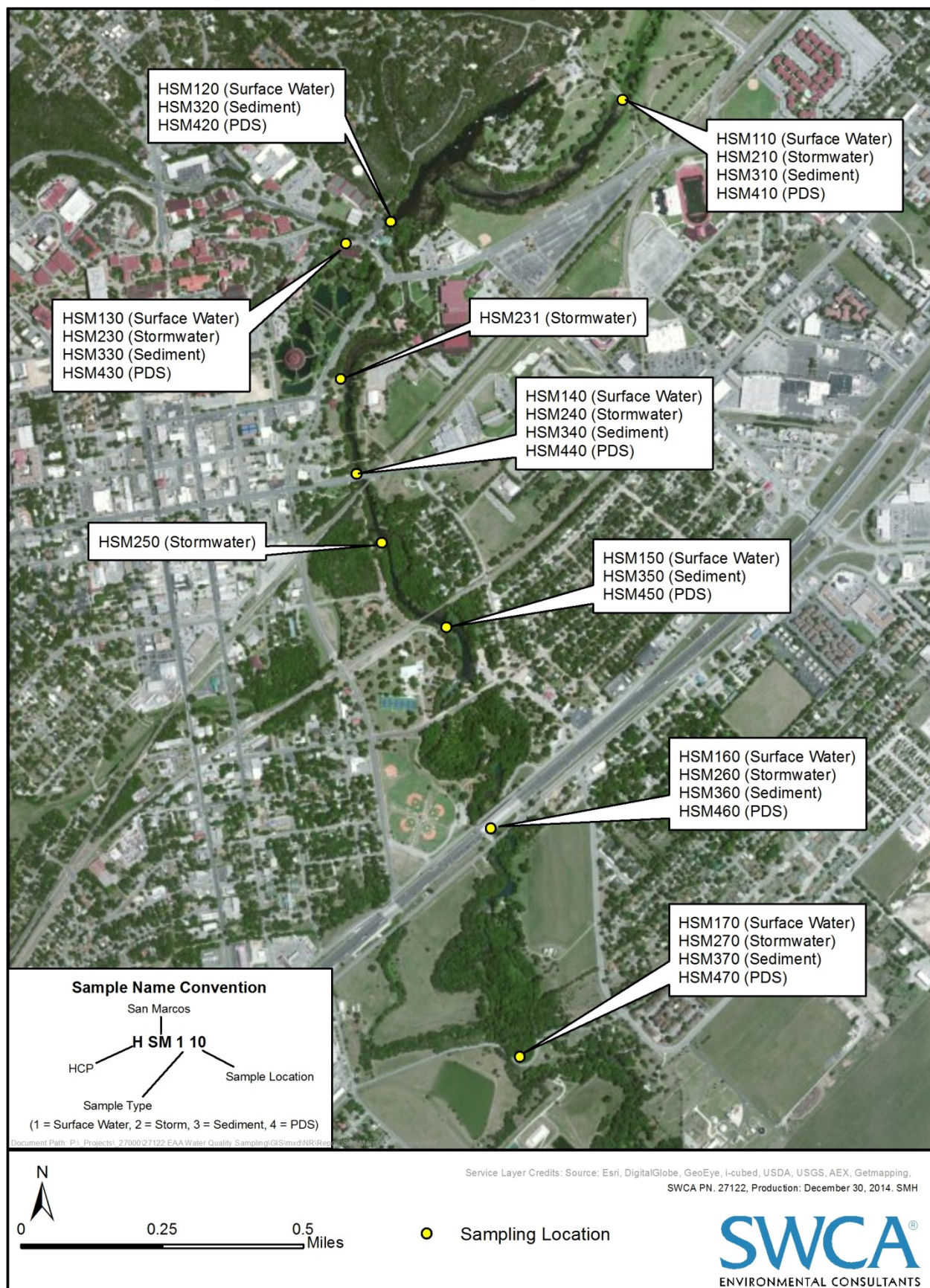


**Figure 1. EAHCP expanded water quality monitoring program, Comal Springs and River.**





**Figure 2. EAHCP expanded water quality monitoring program, San Marcos Springs and River.**



## **1.2     Sediment Samples**

Collection of sediment samples within each spring system was included in the program to help ascertain potential effects on listed species via direct or indirect exposure to sediments. Designated sediment sample locations were coincident with surface water (base flow) sample locations at each spring complex. Specifically, five sediment samples were collected from the Comal Springs area and seven locations were sampled within the San Marcos area. In the first two years of the program, sediment samples were collected from the sediment surface to approximately 18 inches below the surface. The EAHCP Work Plan reduced the sampling depth to three inches below the surface beginning in 2015. Samples were analyzed for the parameters listed in Table 1.

SWCA collected sediment samples as close to each associated surface water sample location as possible. However, for some of the samples, collection points were moved slightly to find adequate sediment or to avoid rocky substrates that prevented collection of adequate sample volume. Appendix C of this report discusses sample locations where any significant deviations from this approach occurred.

Analytical results for sediment samples are compared to the sediment quality guidelines published in *Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems* (MacDonald, Ingersoll, and Berger 2000). These guidelines are based on determination of probable sediment toxicity in freshwater ecosystems and provide a numerical sediment quality guideline for 28 chemicals of concern. The guidance provides two basic standards for comparison: 1) threshold effect concentration (TEC), and 2) probable effect concentration (PEC). Analytical results with a concentration below the TEC are predicted to be non-toxic (on sediment-dwelling organisms), whereas results with a concentration above the PEC are indicated as having a probable toxic effect on sediment-dwelling organisms. Detected compounds with concentrations between the TEC and PEC are considered equally likely to be toxic or non-toxic. Additional guidelines for chemicals of concern that were not included in MacDonald et al. (2000) were taken from *Conducting Ecological Risk Assessments at Remediation Sites in Texas* developed by the Texas Commission on Environmental Quality ([TCEQ] 2014a) and *Guidance for Assessing and Reporting Surface Water Quality in Texas* (TCEQ 2012). While numerous other guidelines for sediment quality exist, these guidelines provide a good reference for the scope of the current investigation. Future researchers may find other guidelines more specific to particular concerns or interests.

## **1.3     Stormwater Samples**

SWCA conducted stormwater sampling at five Comal Springs locations and at seven San Marcos Springs locations. The EAA adopted stormwater sample collection as part of the expanded water quality monitoring effort to assess potential contaminants that may be present in surface water runoff generated by storm events. The stormwater sampling effort was designed to assess what changes in water quality occur within each surface water system during a storm event. SWCA collected storm samples in association with various surface water inputs along each spring complex within the study area. Appendix C of this report discusses details of each stormwater sample location and any deviations from the EAHCP Work Plan. Stormwater samples were analyzed for the same parameters as surface water (base flow) samples as outlined in Table 1.

SWCA collected stormwater samples at three points across the storm hydrograph for each stormwater sampling site. Sample collection was targeted for the rising limb, peak, and receding limb of the storm hydrograph. Timing for sample collection was generally determined using the RTI system's conductivity

and turbidity parameters rather than the flow measurements from the USGS streamflow gauges. The USGS gauges are only updated on an hourly basis, whereas data from the RTIs was available on 15-minute intervals and provided more timely information. Automated sample collection equipment was not utilized for stormwater sample collection due to sample volume, preservation, and analysis limitations. Therefore, sampling was conducted manually. Each spring group was sampled twice for stormwater events during calendar year 2016 per the EAHCP Work Plan.

As previously mentioned, standards for surface water quality vary dependent upon type of use. For this report, stormwater results are compared to drinking water quality standards (30 TAC 290, Subchapter F) for detected chemicals of concern. These guidelines were selected for use since, in general, they provide the most stringent quality standards. For detections of interest that do not have an established MCL under 30 TAC 290, the TRRP PCLs from 30 TAC 350 were substituted. The TRRP standards used are the Tier I, residential standards. Currently, there are no regulatory standards to compare caffeine detections against, but results are listed in this report to provide an indication of anthropogenic contamination. Bacterial counts were compared with Texas Surface Water Quality Standards (30 TAC 307). Other guidelines may be more useful or appropriate for particular research; however, for the scope of this report these standards provide an appropriate and applicable guideline with regard to water quality.

#### **1.4 Surface Water Passive Sampling**

SWCA deployed Amplified Geochemical Imaging (AGI) LLC, PDSs in both spring complexes to measure trace organic constituents. Samplers consisted of a sorbent solid phase material that concentrates compounds from the environment. Following collection, the analytes of interest were eluted and analyzed by gas chromatography coupled with a mass spectrometry detector (GC-MS). The increased contact time associated with long-term deployment of the collection material allowed the analytes to be greatly concentrated beyond what is typically found in water samples. Therefore, the PDS provides greater sensitivity to trace level constituents. Analyzed parameters can be found in Table 1.

SWCA deployed PDSs to each of the 12 sample sites for two-week periods in February, April, June, August, October, and December 2016. Sample points coincided with surface water collection points unless prevented by field conditions, and any alterations are discussed in Appendix C.

#### **2.0 SAMPLE LOCATION DETAIL**

Details of individual sample locations are provided in the following figures. Figures 3–6 show sample location details for the Comal Springs area. Figures 7–10 provide sample location details for the San Marcos Springs area.

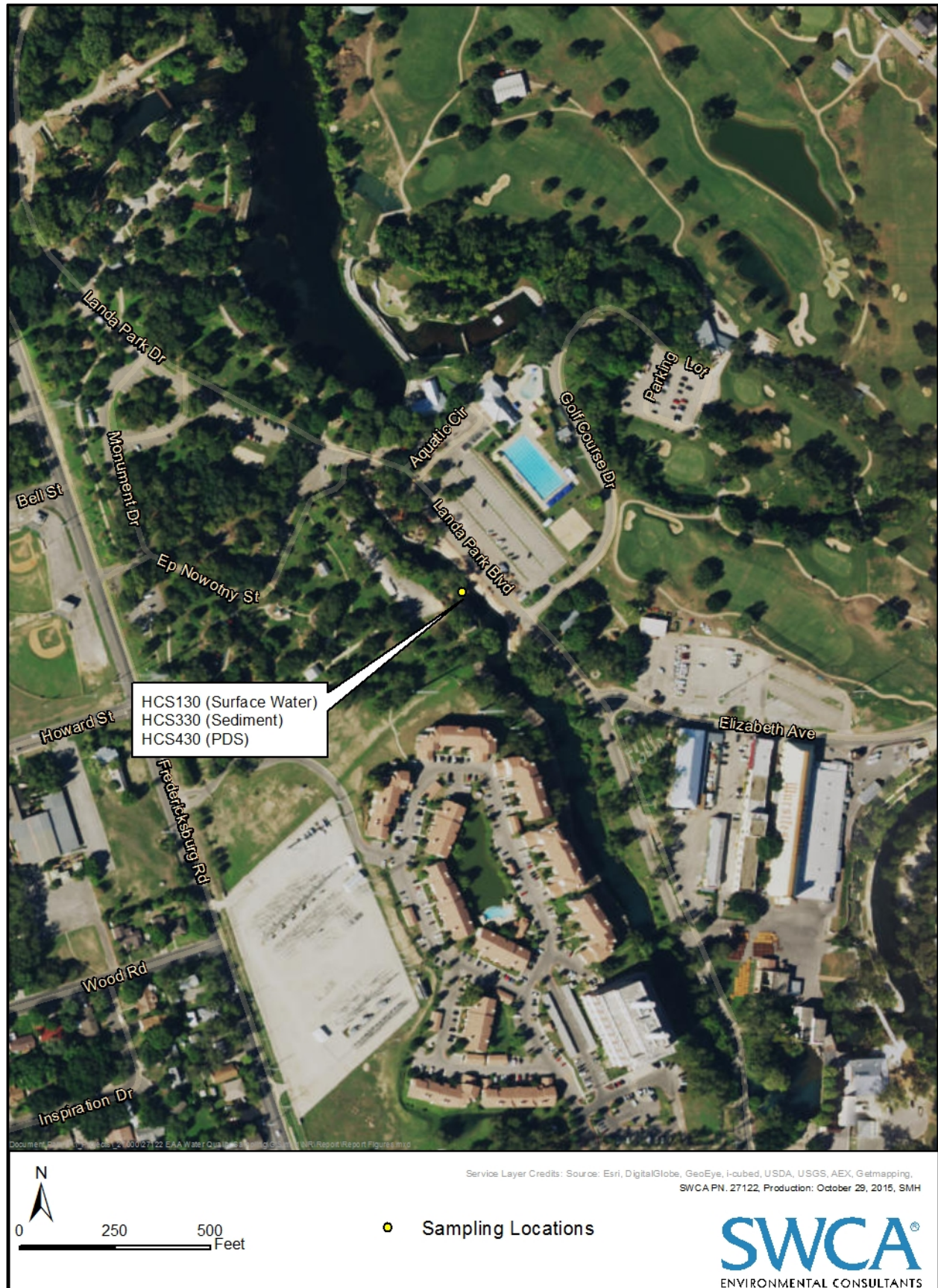


**Figure 3. EAHCP Comal Springs detailed map indicating sample locations 110, 210, 310, 410, 120, 320 and 420.**





Figure 4. EAHCP Comal Springs detailed map indicating sample locations 130, 330 and 430.





**Figure 5. EAHCP Comal Springs detailed map indicating sample locations 140, 240, 340, 440, 250, 160, 260, 360 and 460.**





Figure 6. EAHCP Comal Springs detailed map indicating sample location 270.





**Figure 7. EAHCP San Marcos Springs detailed map indicating sample locations 110, 210, 310, 410, 120, 320 and 420.**





**Figure 8. EAHCP San Marcos Springs detailed map indicating sample locations 130, 230, 330, 430, 231, 140, 240, 340 and 440.**





**Figure 9. EAHCP San Marcos Springs detailed map indicating sample locations 150, 250, 350 and 450.**





**Figure 10. EAHCP San Marcos Springs detailed indicating map sample locations 160, 260, 360, 460, 170, 270, 370 and 470.**



### **3.0 MODIFICATIONS OF ACTIVITIES DUE TO DROUGHT**

Sampling activities were impacted by the sporadic occurrence of qualifying rainfall events within the project area. Significant rainfall occurred during the first half of 2016. Rainfall for the year was average, however, rainfall was very sparse from July through much of October. Rain events in the second half of 2016 were generally scattered in nature and often too small in magnitude to generate sufficient runoff to sample.

Also, due to abundant rainfall in the spring of 2016, flow rates did not drop below 30 cfs at Comal Springs, or below 50 cfs at San Marcos Springs. No extreme low-flow sampling was initiated at water wells (Sections 6.4.3.3 and 6.4.4.3 of the EAHCP).

### **4.0 AFFECT ON COVERED SPECIES**

The implementation of the EAHCP water quality and sediment sampling program provided baseline data along the Comal River and upper reaches of the San Marcos River system. SWCA collected water quality grab samples twice from each river during base flow conditions and during two storm events. SWCA also collected sediment samples from both systems. PDSs were used to evaluate trace organic compounds six times throughout the year.

The collection and analysis of water quality and sediment samples aids evaluation of the habitat of species by providing base flow, storm flow, and sediment quality data. The data included water quality discharging directly from the springs and water discharging into the Comal and San Marcos Rivers below the springs.

In Section 7, analytical results are compared to various water quality and sediment standards as guidelines to identify any existing problems and create a body of baseline data to ascertain any long-term sediment and water quality trends. These trends can then be compared to trends in biologic survey data that is also being collected as part of the EAHCP.

### **5.0 LOGISTICS**

To accommodate the needs of the EAHCP's expanded water quality monitoring program, a significant amount of resources are required. These resources, including sampling equipment, safety gear, trained staff, and sampling schedules, are all key components to the program. Additionally, the development of sampling strategies and planning of each sampling event are required to insure that resources are used efficiently, and collection is completed within the scheduled time frame. The strategies must account for the unpredictable nature of storm events. Below is a short synopsis of events and tasks undertaken to accomplish the necessary logistics for the EAHCP sampling program.

#### **5.1 Surface Water (Base Flow) Sampling Program**

Prior to each sampling event, SWCA staff acquired necessary supplies and equipment including laboratory sample kits, disposable bailers, and 0.45-micron filters.



## **5.2 Sediment Sampling Program**

SWCA acquired sediment sampling equipment in 2014 and 2015, and purchased an additional core sampler extension handle in 2016 to accommodate sampling at site HCS330, because the water depth was greater than in previous years. In May 2016, SWCA staff acquired sample containers from the contract laboratory.

## **5.3 Stormwater Program**

Prior to each sampling event, SWCA acquired laboratory sample kits and prepared them for use in the field. All other sampling and safety supplies were kept stocked and ready for mobilization in the event a storm occurred. SWCA monitored weather forecasts on a regular basis to determine if teams would be mobilized for a potential sampling event. Prior to mobilization, many logistical concerns have to be addressed including, but not limited to, personnel availability, safety, staging area reservation, vehicle availability, sonde rental, and laboratory notifications.

## **5.4 Surface Water Passive Sampling Program**

SWCA acquired PDS from the contract laboratory approximately two weeks prior to each sampling event. SWCA constructed sample deployment devices in 2014, and constructed additional deployment devices in 2016 to replace devices lost or damaged in the field. Prior to each deployment, SWCA decontaminated the devices and placed them inside clean plastic bags.

## **6.0 SAMPLE COLLECTION METHODOLOGY**

### **6.1 Surface Water (Base Flow) Sampling Program**

SWCA collected surface water quality (base flow) grab samples from five sites throughout the Comal Springs complex and seven sites throughout the San Marcos Springs complex, biannually. According to the EAHCP Work Plan, the sample dates were to be six months apart. The preferred method for obtaining a surface water sample is to reach the sampling location from the shoreline or wade to the sample location, obtain field parameters (pH, specific conductivity, dissolved oxygen, and temperature) and then insert the sample bottle directly into the water or use a sample bottle and pole assembly. SWCA collected samples directly within sample bottles as opposed to using a pole assembly. For samples collected while wading, SWCA collected the samples on the upstream side of the sampler. SWCA collected samples in accordance with the criteria set forth in the *EAA Groundwater Quality Monitoring Plan*.

Filtration for methods 6010B (metals), 6020 (metals), 7470A (mercury), 960 (dissolved organic carbon, DOC) and field alkalinity were performed at the sample location by using a 0.45-micron high capacity cartridge filter attached to a single-sample disposable bailer. Preservatives were placed in the bottles (as appropriate) by the contracted laboratory. Samples were placed in coolers with ice immediately upon collection. Samples were later picked up by the contract laboratory. When not in use or after collection, sampling equipment and/or coolers containing samples were secured inside the SWCA vehicles to maintain appropriate sample custody and security.

The *EAA Groundwater Quality Monitoring Plan* required the collection of one field duplicate sample for each spring complex per sampling event. SWCA sampled the field duplicate immediately after the parent water quality sample and in the same manner as the parent water quality sample.

Analyses for field alkalinity were conducted at SWCA's San Antonio office. The method used for field alkalinity is discussed in detail in the *EAA Groundwater Quality Monitoring Plan* (Appendix D). Field alkalinity analysis was performed within 8 hours of sample collection. Any deviations from this hold time are discussed in Appendix C. Representative photographs of field activities are included in Appendix E.

## **6.2 Sediment Sampling Program**

SWCA collected sediment samples once annually from the first three inches of sediment below the streambed surface at each of the 12 sampling locations. Sediment sample collection points generally coincided with the surface water collection points at each of the 12 sample locations in the spring complexes, but varied slightly based on field conditions. Based on the amount of available sediment at each site, the location and area sampled varied. Sample collection location variations are discussed in Appendix C. Sediment sample collection methods were consistent with the guidelines established in the *EAA Groundwater Quality Monitoring Plan*. SWCA collected the majority of samples using stainless steel hand trowels. The trowel was inserted into the sediment three inches, and the sample was scooped into sample containers provided by the contract laboratory. SWCA collected one one-liter jar and one two-ounce jar for volatile organic compound (VOC) analysis at each location. Samples were composed of sediment collected at three locations at each sample point, which was combined and homogenized at the contract laboratory prior to analysis. The water depth at HCS330 made it impossible to collect a sample using hand trowels; instead SWCA collected the sample using a hand core sampler consisting of a two-inch-diameter, 20-inch-long stainless steel barrel with a plastic tube liner. SWCA extruded the samples from the sample tube and into the sample containers.

In compliance with the *EAA Groundwater Quality Monitoring Plan* and consistent with the EAA practices of 2013, SWCA collected two field duplicates and two equipment blanks. One field duplicate sample is required for each spring complex. SWCA collected the field duplicates at the same locations as two of the field samples, using the same methods as the field samples. Two equipment blanks were prepared in the laboratory of SWCA's San Antonio office. To collect one of the blanks, American Society for Testing and Materials (ASTM) Type II Reagent Grade water was poured through a new plastic sampling tube into sample collection containers. SWCA collected the second equipment blank by pouring ASTM Type II Reagent Grade water over a decontaminated trowel into sample collection containers. The samples were containerized in the same manner as a surface water sample using the same types of containers and preservatives. Sample portions for metals analyses requiring field filtration were filtered using a 0.45-micron high capacity cartridge filter and disposable bailer. The equipment blanks were not analyzed for the following analytes: field parameters, turbidity, field alkalinity, and bacteria.

All samples were labeled and put on ice immediately upon collection for later shipment to the contract laboratory. Samples were secured inside locked SWCA vehicles during field operations and appropriate custody was maintained at all times. Representative photographs of field activities are included in Appendix E.

## **6.3 Stormwater Sampling Program**

Stormwater samples are designated by the EAHCP Work Plan (Appendix A) for collection twice annually from each spring complex. SWCA collected stormwater samples when rainfall amounts were adequate to initiate at least a 5% rise at the respective USGS gauging locations for each spring complex. SWCA

collected samples across the storm-affected stream hydrograph at the rise, peak, and recession limb of the associated stream hydrograph. As with the other sample types, SWCA sampled five locations at Comal Springs and seven locations at San Marcos Springs. In general, the turbidity and conductivity data from the RTIs at each site were used as a surrogate for the stream hydrograph due to immediate availability of the data. Stream hydrograph data is only updated hourly on the USGS website. The RTI data is updated every 15 minutes, which provides greater resolution regarding the effect of the storm event on the streams and facilitates quicker sampling response times. Graphs showing water quality parameters during each storm event are included in Appendix B.

Stormwater sample collection was affected by the ongoing dry conditions across the region during the second half of 2016. Often, storms that materialized were insufficient to create adequate runoff for sample collection. In general, when rainfall probabilities exceeded 20% for a given time period, the team was placed on-call for sample collection. The team was mobilized when rainfall probabilities of at least 0.5 inch exceeded 50%. Storm team duty is summarized and documented in Appendix F of this document.

Due to the inherently unsafe conditions associated with stormwater flow, SWCA field staff used disposable single-use bailers when needed in order to safely obtain water samples during stormwater sampling events. Field parameters were collected first by inserting the sonde probe as close to the sample location as possible. In March and November 2016, SWCA sampled location HSM240 using disposable bailers. SWCA staff lowered bailers from the bridge above the sample location and used a rope affixed to the bailer for retrieval. SWCA used new bailers and rope for each sample point. After retrieval, SWCA staff transferred the water to the sample containers. SWCA used only new, disposable equipment for stormwater sampling events.

Stormwater sampling efforts conformed to the protocols outlined in the *EAA Groundwater Quality Monitoring Plan* for sample collection, handling, and decontamination. Filtration for methods 6010B (metals), 6020 (metals), DOC and field alkalinity were performed using a 0.45-micron high capacity cartridge filter and peristaltic pump. Preservatives were placed in the bottles (as needed) by the contract laboratory prior to sample collection. SWCA immediately placed all samples into coolers with ice and later shipped samples to the contract laboratory. When not in use or after collection, sampling equipment and/or coolers containing samples were secured inside locked SWCA vehicles to maintain appropriate sample custody and security.

According to the *EAA Groundwater Quality Monitoring Plan*, SWCA collected two field duplicates for the Comal Springs complex and three for the San Marcos Springs complex per rain event. SWCA sampled field duplicates after collection of the parent sample and in the same manner as the field sample. No equipment blanks were required for stormwater samples as all equipment used was new and disposable.

Analyses for field alkalinity were performed at the field staging area or at SWCA's San Antonio office. The method used for field alkalinity is discussed in detail in the *EAA Groundwater Quality Monitoring Plan*. Representative photographs of field activities are included in Appendix E.

#### **6.4 Surface Water Passive Samplers**

SWCA deployed the PDSs at each of the 12 sample locations during the months of February, April, June, August, October, and December 2016. In general, PDS locations corresponded to surface water sampling

points unless prevented by field conditions. Lost PDSs, human tampering, and any variations in deployment locations are discussed in Appendix C.

SWCA staff constructed deployment devices at SWCA's San Antonio office in June 2014. Two-inch thick, 18-inch diameter concrete disks were poured and a stainless steel silverware cup was set approximately one inch deep in the center of the disk. Handles were formed by inserting both ends of an 18-inch length of vinyl-coated stainless steel cable into each side of the disk. Site numbers were marked in the wet concrete to dedicate each device to a sample location. The concrete was allowed to cure, and each device was decontaminated following the *EAA Groundwater Quality Monitoring Plan* guidelines and placed in a clean plastic bag prior to the first deployment. The same decontamination procedures were followed for subsequent sampling events. SWCA constructed additional deployment devices in 2016 to replace devices lost or damaged in the field. The deployment device is pictured in Figure 11.

Upon arrival at the sample location, the PDS was removed from a dedicated vial and affixed inside of a second stainless steel silverware cup with a plastic cable tie. This cup was inverted and placed on top of the cup set in the concrete sampling device enclosing the PDS inside the two cups. The two cups were secured to one another with additional plastic cable ties. The device was then gently lowered into the water. Installation date and time and PDS identification numbers were noted in the field notebook and on the PDS vial. To retrieve the PDS, the devices were simply removed from the water and the cable ties cut. The PDS was then immediately placed back in the dedicated vial and retrieval date and time were notated. Deployment devices were secured at SWCA offices when PDSs were not deployed.

SWCA collected field duplicates as directed by the *EAA Groundwater Quality Monitoring Plan*. To collect field duplicates, a second PDS was installed inside selected deployment devices. Field PDSs were always accompanied by test blank samplers to monitor for VOC contamination. Deployment devices were dedicated to each sample location to avoid cross contamination and were decontaminated following the *EAA Groundwater Quality Monitoring Plan* guidelines prior to each use. Representative photographs of field activities are included in Appendix E.

**Figure 11. PDS deployment device prior to installation at site HSM440.**



## **7.0 SAMPLE RESULTS**

Results from the sampling efforts related to the EAHCP sampling program are discussed in the paragraphs that follow. Results are discussed by sample type for Comal Springs, followed by a separate discussion by sample type for San Marcos Springs. Sample events are listed in the order of surface water (base flow) samples, sediment samples, stormwater samples, and PDS. Laboratory analyses and field parameters are provided in Appendix G of this document. The laboratory data were reviewed by SWCA staff with the results of that review provided as Appendix H (data validation discussion) of this document. Each sample location (latitude/longitude), name, and other location information are also summarized in Appendix I of this document.

### **7.1 Comal Springs Sample Results**

SWCA sampled the Comal Springs complex for water quality during surface water (base flow) conditions in March and September 2016. In general, few detections were noted. As discussed previously, surface water (base flow) samples are compared to the drinking water standards for water quality in this report.

Sediments at the Comal Springs complex were sampled in June 2016. Sediment results are compared to the standards developed by McDonald et al. (2000) and TCEQ (2012, 2014a). These standards are based on the probability that a detected compound has a toxic effect on sediment-dwelling organisms and are referred to as the TEC and PEC. Detections below the TEC are not considered to be toxic, whereas detections above

the PEC are considered to be toxic to sediment dwelling organisms. Detections above the TEC but less than the PEC are considered equally likely to be toxic or non-toxic.

Stormwater events were sampled at the Comal Springs complex in April and September 2016. Stormwater results did not indicate a significant number of detections of concern.

PDS sampling events were conducted at the Comal Springs complex in February, April, June, August, October and December 2016. Generally speaking, various VOCs and total petroleum hydrocarbons (TPH) were detected at various sample locations, but only tetrachloroethene was consistently detected.

### 7.1.1 Comal Springs Surface Water / Base Flow Sampling

SWCA sampled the Comal Springs complex on March 2 and September 8, 2016, for surface water (base flow) events.

#### 7.1.1.1 Surface Water / Base Flow - Bacteria

Bacteria results for surface water (base flow) associated with the Comal Springs complex ranged from 11 MPN/100 mL (most probable number of colony-forming units per 100 milliliters of water) to 100 MPN/100 mL for *Escherichia coli* (*E. coli*). Because of the presence of various fauna in surface water collection sites, positive detections are not uncommon. The 2014 Texas Surface Water Quality Standard for *E. coli* in primary recreation waters is a geometric mean of 126 MPN/100 mL with no individual sample exceeding 399 MPN/100 mL (30 TAC 307.7). The geometric mean for surface water samples collected from the Comal Springs complex during 2016 was approximately 38 MPN/100 mL. Surface water (base flow) bacteria counts are summarized in Table 2.

**Table 2. Surface Water Samples – Bacteria Counts  
- Comal Springs Complex**

Location	Date	Count (MPN/100 mL)
HCS110	3/2/2016	100
	9/8/2016	96
HCS120	3/2/2016	21
	9/8/2016	25
FDHCS120	3/2/2016	11
	9/8/2016	26
HCS130	3/2/2016	13
	9/8/2016	75
HCS140	3/2/2016	41
	9/8/2016	71
HCS160	3/2/2016	46
	9/8/2016	48

MPN/100 mL – Most probable number per 100 milliliters of water.

### 7.1.1.2 Surface Water / Base Flow - Volatile Organic Compounds (VOCs)

No VOCs were detected at any of the five sampling sites from the Comal Springs complex during the March or September 2016 sampling events.

### 7.1.1.3 Surface Water / Base Flow - Semi-volatile Organic Compounds (SVOCs)

Generally, semi-volatile organic compounds (SVOCs) were analyzed because their detection can indicate the presence of chemicals originating from anthropogenic sources and therefore be used to evaluate potential impacts on water quality. Two SVOCs were detected in the Comal Springs complex during the September 2016 sampling events. Bis(2-Ethylhexyl) phthalate (DEHP) and di-n-butyl phthalate were each detected in two samples. The detections were “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit. DEHP was detected in sample HCS160 at 10.1 J µg/L, exceeding the PCL of 6 µg/L in September 2016. SVOC detections are summarized below in Table 3. DEHP detections are shown further in Figure 12.

**Table 3. Surface Water Samples – Semi-volatile organic compound detections - Comal Springs Complex**

Location	Date Collected	Bis(2-Ethylhexyl) Phthalate (µg/L)	Di-n-Butyl Phthalate (µg/L)
HCS110	3/2/2016	<5.00	<0.709
	9/8/2016	5.52 J	<0.709
HCS140	3/2/2016	<5.00	<0.709
	9/8/2016	<5.00	2.20 J
HCS160	3/2/2016	<5.00	<0.709
	9/8/2016	10.1 J	2.48 J
MCL		NE	NE
PCL		6	2400

J – Detection is greater than the method detection limit, but less than the reporting limit

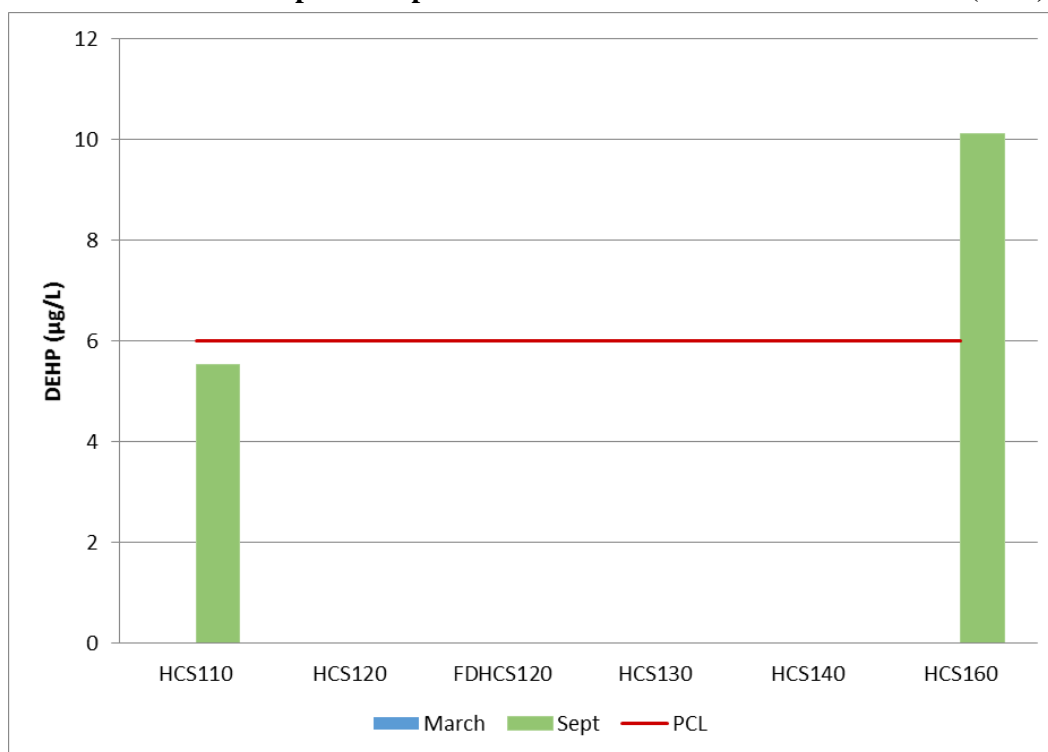
MCL – maximum contaminant level

NE – Not established

PCL – protective concentration levels

µg/L – micrograms per liter

**Figure 12. Bis(2-Ethylhexyl) phthalate (DEHP) in Comal Springs Complex Surface Water Samples Compared to the Protective Concentration Level (PCL)**



#### **7.1.1.4 Surface Water / Base Flow - Pesticides**

Surface water samples were analyzed for pesticides because their detection can indicate the presence of chemicals originating from anthropogenic sources; and therefore, can be used to evaluate potential impacts on water quality. No pesticides were detected in any of the samples collected for the March or September 2016 sampling events at all five sites for the Comal Springs complex. Due to an error at the laboratory, organophosphorus pesticide samples originally collected on September 9, 2016, had to be recollected on October 24, 2016. This deviation is discussed in more detail in Appendix C.

#### **7.1.1.5 Surface Water / Base Flow - Herbicides**

Surface water samples were analyzed for herbicides because their detection can indicate the presence of chemicals originating from anthropogenic sources; and therefore, can be used to evaluate potential impacts on water quality. Herbicide analyses indicated no detections for both the March and September 2016 sampling events at all five sites for the Comal Springs complex.

#### **7.1.1.6 Surface Water / Base Flow - Polychlorinated Biphenyls (PCBs)**

Surface water samples were analyzed for the various Aroclor compounds that are collectively referred to as Polychlorinated Biphenyls (PCBs). PCB detection can indicate the presence of chemicals originating from anthropogenic sources; and therefore, can be used to evaluate potential impacts on water quality. No PCBs were detected during both the March and September 2016 sampling events at all five sites for the Comal Springs complex.



### 7.1.1.7 Surface Water / Base flow - Metals

Surface water samples were analyzed for metals that may indicate the presence of chemicals originating from anthropogenic sources. Although metals were detected for the March and September 2016 sampling events at all five sites for the Comal Springs complex, no metals were detected at a concentration in excess of the drinking water standards. The metals arsenic, barium, lead, mercury, and selenium were the detected metals of concern; however, none of their concentrations approached the MCL or PCL. These detections are listed below in Table 4. Note that many of the detections are “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit. Also note that some metals are naturally occurring in rock, soil, groundwater, and surface water and may not indicate an anthropogenic source.

**Table 4. Surface Water Samples – Metal detections - Comal Springs Complex**

Location	Date Collected	Arsenic (mg/L)	Barium (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)
HCS110	3/2/2016	0.00161 J	0.0464	<0.000733	<0.000130	0.00157 J
	9/8/2016	<0.00109	0.0601	<0.000733	<0.000130	<0.00108
HCS120	3/2/2016	<0.00109	0.0445	<0.000733	<0.000130	<0.00108
	9/8/2016	<0.00109	0.0561	<0.000733	<0.000130	<0.00108
FDHCS120	3/2/2016	<0.00109	0.0445	0.00179 J	<0.000130	<0.00108
	9/8/2016	<0.00109	0.0588	<0.000733	<0.000130	<0.00108
HCS130	3/2/2016	<0.00109	0.0439	<0.000733	<0.000130	0.00153 J
	9/8/2016	<0.00109	0.0547	<0.000733	<0.000130	<0.00108
HCS140	3/2/2016	<0.00109	0.0425	<0.000733	<0.000130	0.00108 J
	9/8/2016	<0.00109	0.0578	<0.000733	<0.000130	<0.00108
HCS160	3/2/2016	<0.00109	0.0435	<0.000733	<0.000130	<0.00108
	9/8/2016	<0.00109	0.0578	<0.000733	0.000302 J	<0.00108
MCL		0.01	2	NE	0.002	0.05
PCL		--	--	0.015	--	--

-- - Not applicable

J – Detection is greater than the method detection limit, but less than the reporting limit

MCL – maximum contaminant level

mg/L – milligrams per liter

NE – Not established

PCL – protective concentration levels

### 7.1.1.8 Surface Water / Base Flow - Nitrates

Surface water samples were analyzed for nitrate-nitrite as nitrogen. Laboratory analyses indicated a limited range of nitrate-nitrite as nitrogen in surface water samples. Of the 12 surface water samples (ten environmental samples and two field duplicates) collected for the two sample events, concentrations ranged from 1.23 milligrams per liter (mg/L) to 1.92 mg/L. None of the nitrate concentrations detected exceeded

the MCL of 10 mg/L for drinking water. The highest nitrate concentration in surface water at the Comal Springs complex, 1.92 mg/L, was detected at HCS130 on September 8, 2016. Nitrate-nitrogen results are summarized in Table 5.

**Table 5. Surface Water Samples – Nitrate Detections - Comal Springs Complex**

Location	Date	Concentration (mg/L)
HCS110	3/2/2016	1.23
	9/8/2016	1.53
HCS120	3/2/2016	1.79
	9/8/2016	1.86
FDHCS120	3/2/2016	1.78
	9/8/2016	1.87
HCS130	3/2/2016	1.84
	9/8/2016	1.92
HCS140	3/2/2016	1.76
	9/8/2016	1.83
HCS160	3/2/2016	1.79
	9/8/2016	1.87
MCL		10

MCL – maximum contaminant level

mg/L – milligrams per liter

#### **7.1.1.9 Surface Water / Base Flow – Caffeine**

Surface water base flows were analyzed for caffeine, which can indicate an anthropogenic source. Caffeine may enter surface water from leaking sewer or septic systems or it may be present in the aquifer from similar sources in the recharge zone (EPA 2012). Potential ecological effects are currently unknown but could include reduced reproductive success in aquatic species (EPA 2012). Caffeine detections in surface water (base flow) samples from Comal Springs in March 2016 ranged from 2.6 to 15 nanograms per liter (ng/L). Caffeine was only detected at three surface water locations in the Comal Springs system, HCS110, HCS120 and HCS130. There is no regulatory standard or expected value for comparison. Results are shown in Table 6.

**Table 6. Surface Water Samples – Caffeine Detections - Comal Springs Complex**

Location	Date Collected	Caffeine (ng/L)
HCS110	3/2/2016	5.3
	9/8/2016	<0.31
HCS120	3/2/2016	2.6
	9/8/2016	<0.31
FDHCS120	3/2/2016	3.8
	9/8/2016	15
HCS130	3/2/2016	7.8
	9/8/2016	15
HCS140	3/2/2016	<0.31
	9/8/2016	<0.31
HCS160	3/2/2016	<0.31
	9/8/2016	<0.31

ng/L – nanograms per liter

## 7.1.2 Comal Springs Sediment Sampling

### 7.1.2.1 Sediment - Volatile Organic Compounds (VOCs)

Four VOC compounds were detected in sediment samples collected in the Comal Springs system in 2016. All VOC detections are “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit. None of the VOCs detected have established TEC or PEC values. The detections are summarized below in Table 7.

**Table 7. Sediment Samples – Volatile Organic Compound Detections - Comal Springs Complex**

Location	Date Collected	Acetone (µg/kg)	2-Butanone (µg/kg)	4-Isopropyltoluene (µg/kg)	Styrene (µg/kg)
HCS310	6/8/2016	64.4 J	<15.5	<3.21	<2.44
HCS320	6/8/2016	43.1 J	7.38 J	<0.671	<0.510
HCS330	6/8/2016	9.15 J	<2.14	<0.445	0.641 J
HCS340	6/8/2016	41.2 J	8.68 J	<0.584	<0.444
HCS360	6/8/2016	199 J	<20.5	<4.26	<3.24
FDHCS360	6/8/2016	224 J	38.7 J	46.3 J	<3.32
TEC		NE	NE	NE	NE
PEC		NE	NE	NE	NE

J – Detection is greater than the method detection limit, but less than the reporting limit

µg/kg – micrograms per kilograms

NE – not established

PEC – probable effect concentration

TEC – threshold effect concentration

#### **7.1.2.2 Sediment - Semi-volatile Organic Compounds (SVOCs)**

Several SVOC compounds were detected in the sediment samples collected in the Comal Springs system in 2016. Many of these detections are “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit. DEHP was detected in all Comal Springs sediment samples in 2016. Sediment samples from HCS320 and HCS340 also contained 3- and 4-methylphenol. The remaining detections were polycyclic aromatic hydrocarbons (PAH) compounds.

The SVOC detections are summarized below in Table 8. PAH compounds exceeding the TEC are shown graphically in Figures 13–17. Total PAH detections are shown in Figure 18, where the total PAH concentrations (sum of all detected concentrations for each sample point) are compared to the TEC and PEC values for total PAH concentration established by MacDonald et al. (2000). Samples HCS360 and FDHCS360 exceed the TEC for total PAH concentrations and five individual PAH compounds.

**Table 8. Sediment Samples – Semi-volatile Organic Compound Detections - Comal Springs Complex**

Location	Date Collected	PAH Compounds											Non-PAH Compounds	
		Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Fluoranthene	Indeno (1,2,3-cd) pyrene	Phenanthrene	Pyrene	TOTAL PAH	Bis(2-ethylhexyl) phthalate	3 and 4-Methylphenol
		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
HCS310	6/8/2016	<0.0782	<0.0633	<0.0558	<0.0558	<0.0484	<0.0558	0.0656 J	<0.0596	<0.0782	<0.0633	0.0656	0.163 J	<0.104
HCS320	6/8/2016	<0.0767	<0.0621	<0.0548	<0.0548	<0.0475	<0.0548	<0.0621	<0.0585	<0.0767	<0.0621	--	0.151 J	0.374 J
HCS330	6/8/2016	<0.026	<0.0211	0.0233 J	<0.0186	<0.0161	<0.0186	0.0443 J	0.0449 J	<0.026	<0.0211	0.1125	0.531	<0.0347
HCS340	6/8/2016	<0.0656	<0.0531	<0.0468	<0.0468	<0.0406	<0.0468	0.0619 J	<0.05	<0.0656	<0.0531	0.0619	0.761	0.572 J
HCS360	6/8/2016	0.14 J	0.184 J	0.376 J	0.0892 J	0.152 J	0.244 J	0.44 J	0.223 J	0.104 J	0.256 J	2.2082	0.381 J	<0.124
FDHCS360	6/8/2016	0.156 J	0.192 J	0.437 J	0.0891 J	0.185 J	0.294 J	0.505 J	0.224 J	0.119 J	0.295 J	2.4961	0.356 J	<0.124
TEC		0.108	0.150	NE	NE	NE	0.166	0.423	NE	0.204	0.195	1.610	NE	NE
PEC		1.050	1.450	NE	NE	NE	1.290	2.230	NE	1.170	1.520	22.800	NE	NE

J – Detection is greater than the method detection limit, but less than the reporting limit

mg/kg – milligrams per kilograms

NE – not established

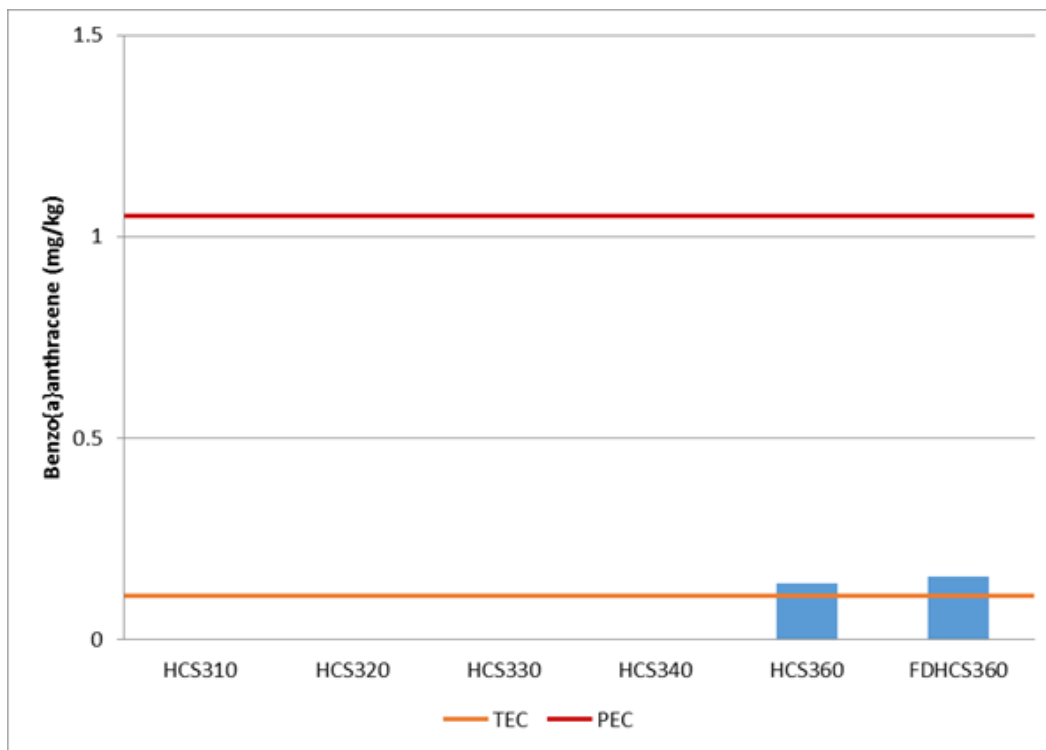
PAH – polycyclic aromatic hydrocarbons

PEC – probable effect concentration

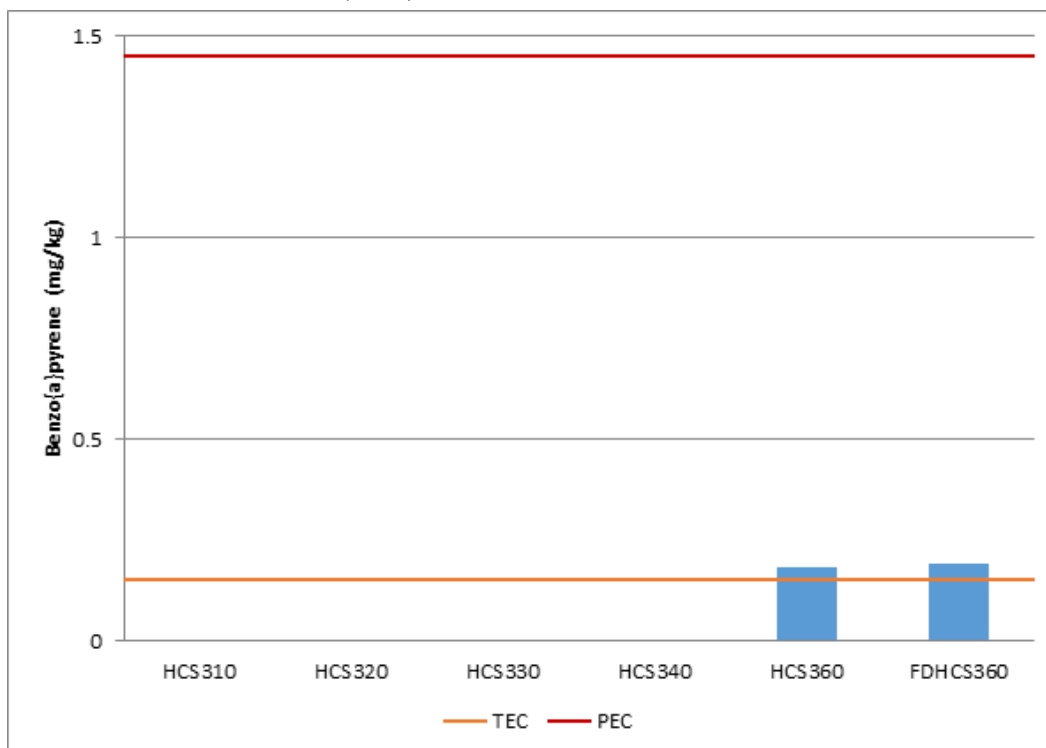
TEC – threshold effect concentration

-- – not applicable

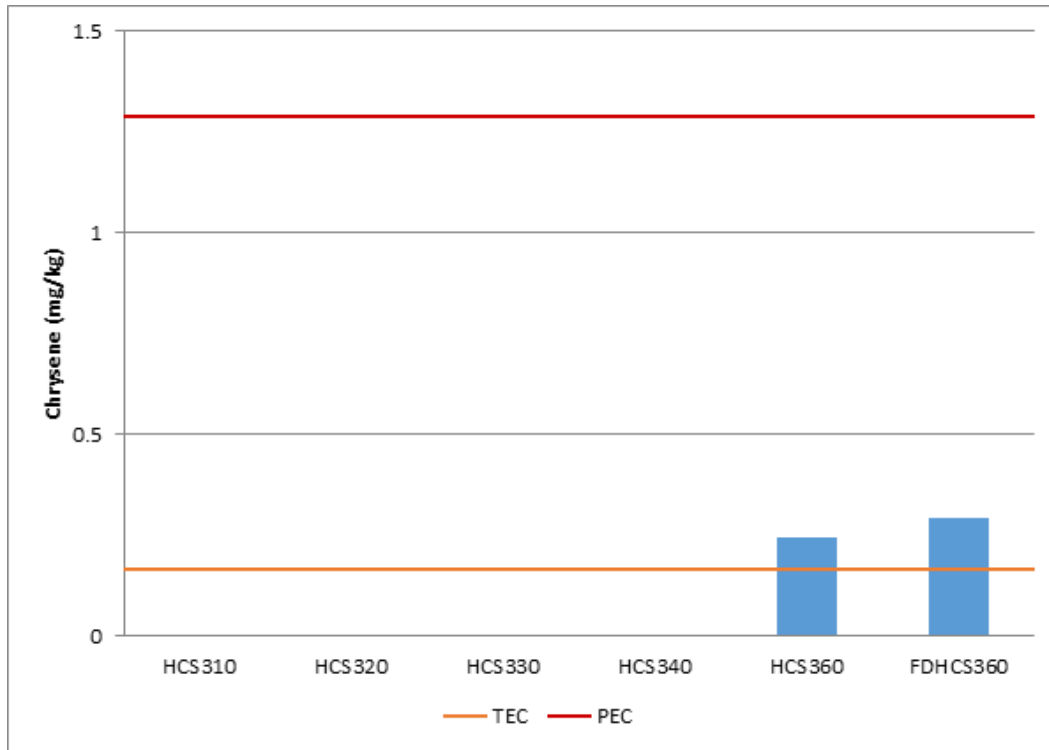
**Figure 13. Benzo(a)anthracene in Comal Springs Complex Sediments Compared to the Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) Values**



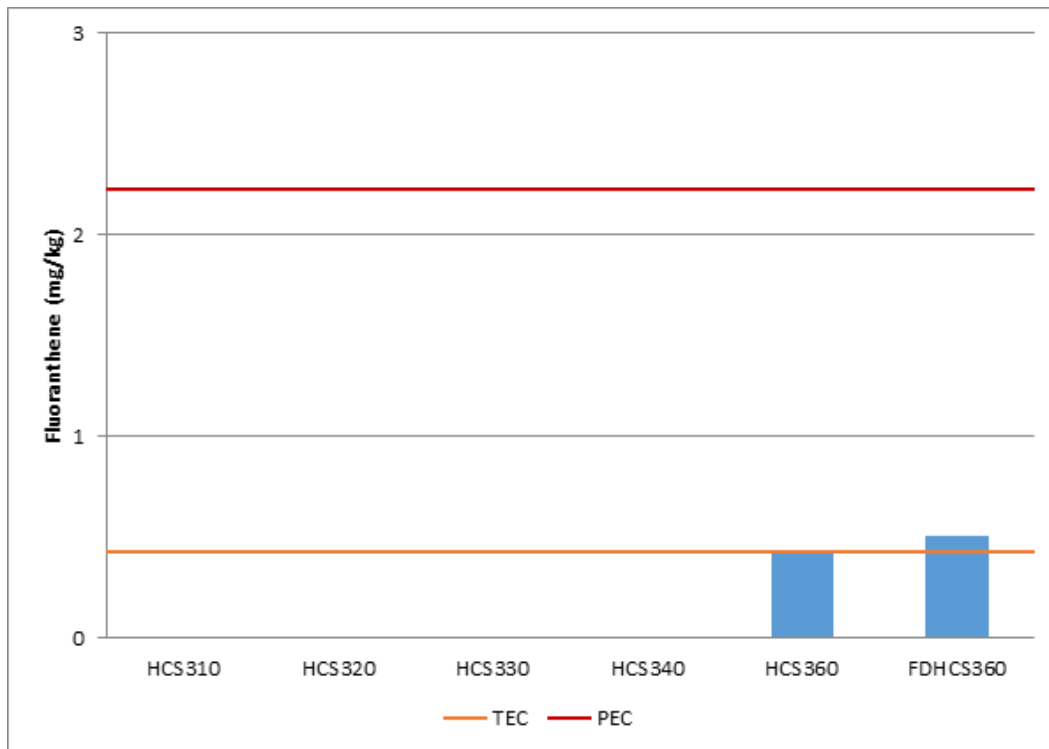
**Figure 14. Benzo(a)pyrene in Comal Springs Complex Sediments Compared to the Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) Values**



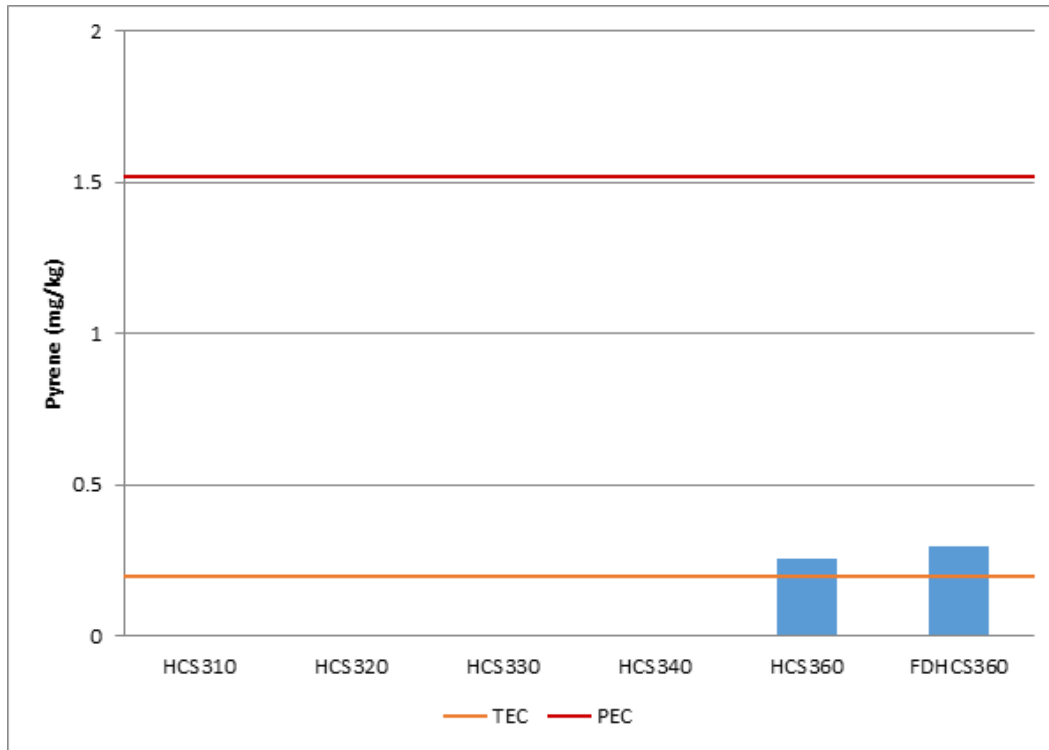
**Figure 15. Chrysene Detections in Comal Springs Complex Sediments Compared to the Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) Values**



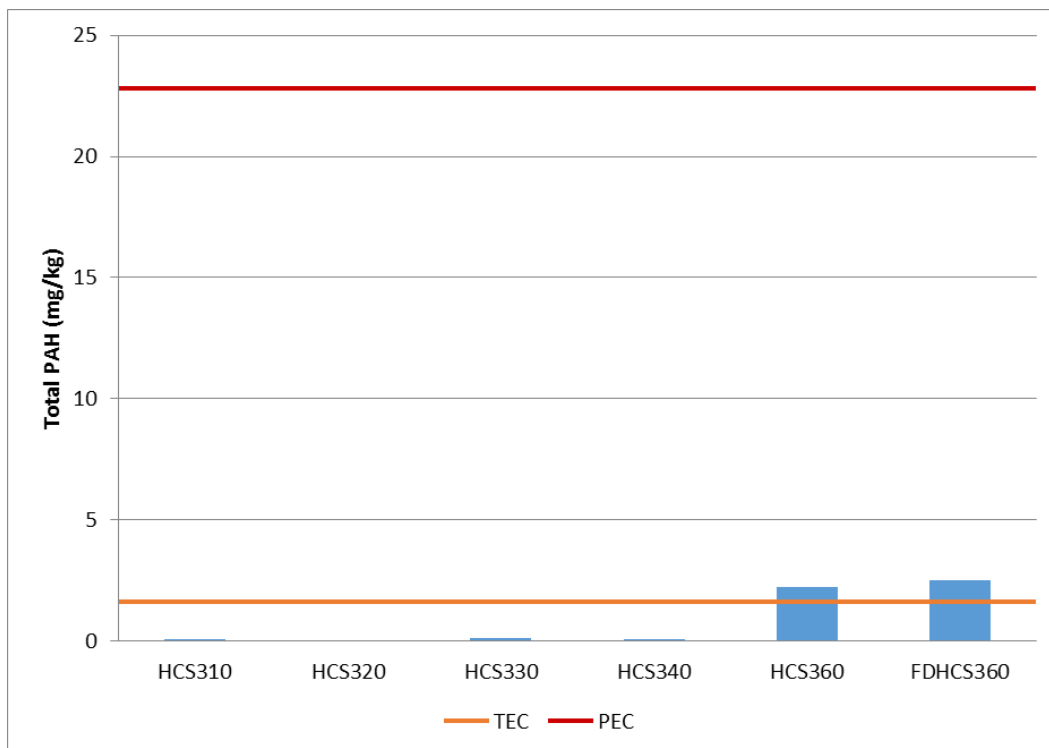
**Figure 16. Fluoranthene Detections in Comal Springs Complex Sediments Compared to the Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) Values**



**Figure 17. Pyrene Detections in Comal Springs Complex Sediments Compared to the Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) Values**



**Figure 18. Total polycyclic aromatic hydrocarbons (PAH) in Comal Springs Complex Sediments Compared to the Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) Values**





### ***7.1.2.3 Sediment – Pesticides***

Sediment samples were analyzed for both organochlorine and organophosphorus pesticides. No pesticides were detected in any of the sediment samples collected in the Comal Springs complex.

### ***7.1.2.4 Sediment – Herbicides***

Sediments were analyzed for herbicide compounds to further assess sediment quality at the Comal Springs complex. Herbicide compounds were detected in two sediment samples collected from the Comal Springs complex. Dalapon was detected at a concentration of 9.72 J µg/kg at HCS320. Another herbicide compound, 2,4-D, was detected in FDHCS360 at a concentration of 5.05 J µg/kg. Both of these detections are “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit. There are no TEC or PECs established for these compounds.

### ***7.1.2.5 Sediment – Polychlorinated Biphenyls***

Sediments were analyzed for PCB compounds to further assess sediment quality at the Comal Springs complex. There was one PCB detection in the sediment samples collected from the Comal Springs complex in 2016. Aroclor 1262 was detected in HCS340 at a concentration of 16.5 J µg/kg. This detection is “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit. The detection does not exceed the total PCB TEC of 59.8 µg/kg or PEC of 676 µg/kg.

### ***7.1.2.6 Sediment – Metals***

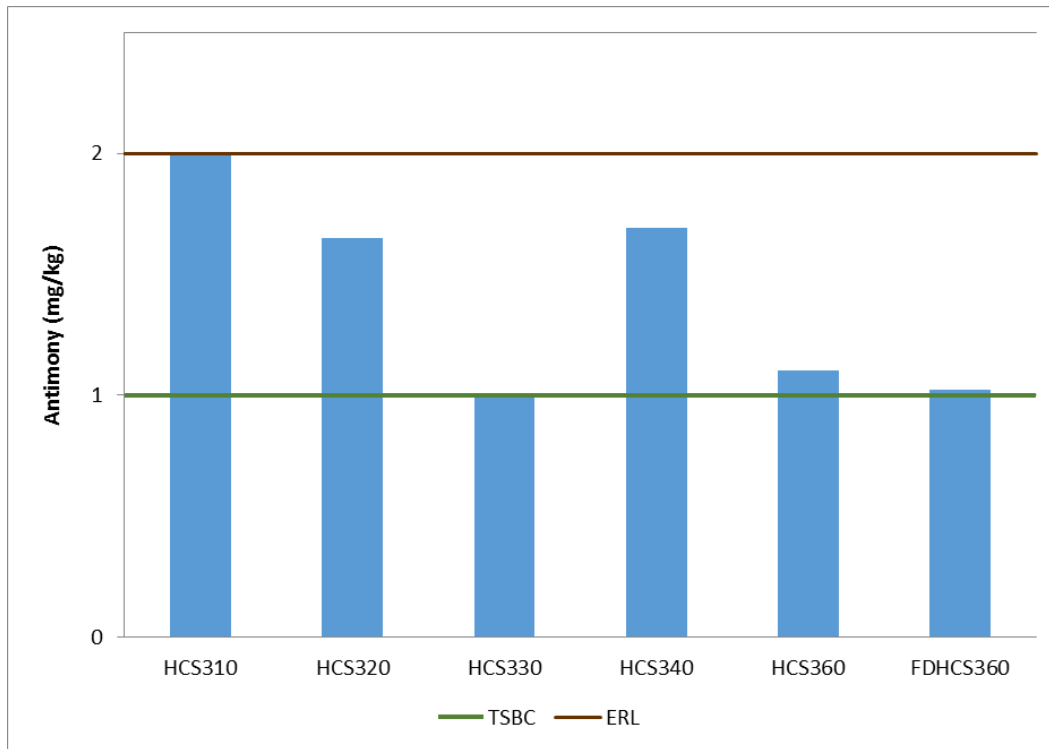
Many metals are naturally occurring within soil, rock, and sediment. Sediment sample results for the Comal Springs complex tested positive for several metals, generally at low concentrations. Metals detected above the method detection limit and subsequently evaluated in this report for potential toxic effects using the TEC and/or PEC standards are: arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc. Other metals detected that do not have a TEC or PEC value available were compared to Texas-specific background concentrations (TSBC) (TCEQ 2014b) for soil. These metals are aluminum, antimony, barium, beryllium, iron, manganese, and selenium. None of the metals detected exceeded TEC or PEC values. Only two metals without PECs, antimony and selenium, exceeded the TSBC.

For the evaluation of antimony levels TCEQ recommends an Effects Range Low (ERL) of 2 mg/kg (TCEQ 2014a) and an Effects Range Median (ERM) of 25 mg/kg (TCEQ 2012). Antimony detections were “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit. Antimony was detected at HCS310 at 2.00 J mg/kg, meeting but not exceed the ERL.

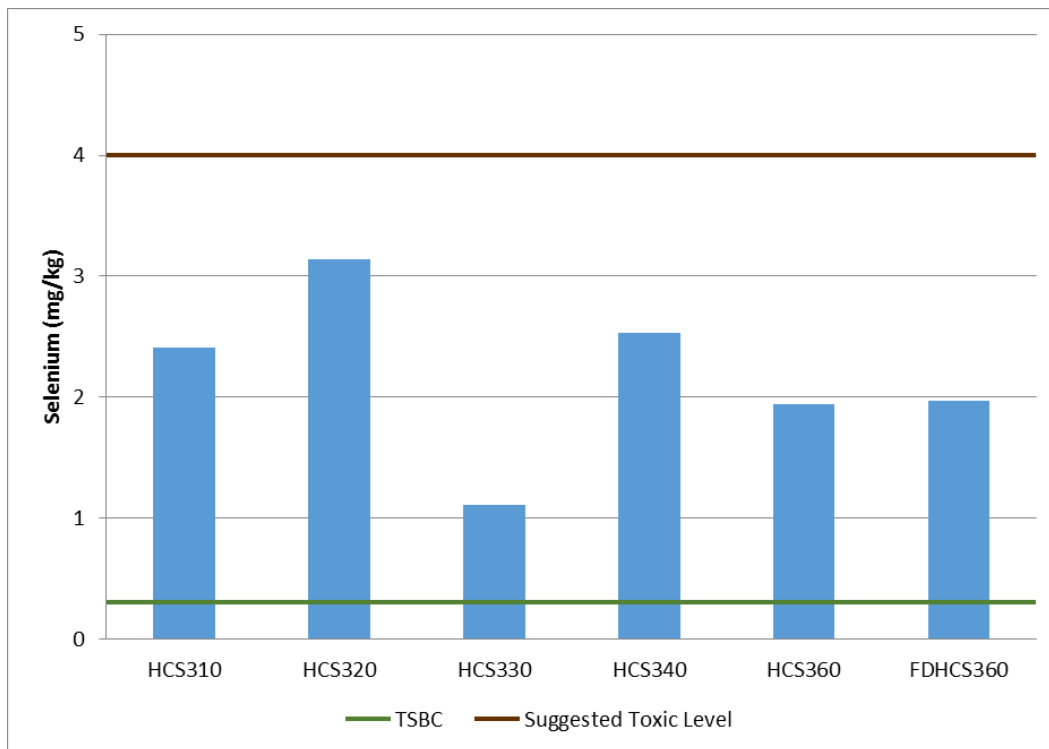
Sediment studies of selenium concentrations have shown that levels below 4 mg/kg are not likely to bioaccumulate in the food chain or have adverse impacts on the reproduction of fish or aquatic birds (Lemly 1995; Moore et al. 1990; Van Derveer and Canton 1996). Selenium detections did not exceed this amount in the sediment samples from the Comal Springs complex in 2016.

Metal detections are listed in Table 9. Antimony and selenium detections are displayed graphically in Figures 19 and 20.

**Figure 19. Antimony in Comal Springs Complex Sediments Compared to Texas-Specific Background Concentration (TSBC) and Effects Range Low (ERL)**



**Figure 20. Selenium in Comal Springs Complex Sediments Compared to Texas-Specific Background Concentration (TSBC) and Possible Bioaccumulation Toxic Values**



**Table 9. Sediment Samples – Metal Detections – Comal Springs Complex**

	Date	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Zinc
Location	Collected	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
HCS310	6/8/2016	952	2.00 J	1.25 J	16	0.0750 J	0.258 J	2.77	2.83 J	1640	7.95	41.2	0.0221 J	2.10 J	2.41	20.9
HCS320	6/8/2016	2860	1.65 J	3.75	27.3	0.257 J	0.626 J	7.27	5.36	3980	10.4	42.5	<0.0167	5.88	3.14	43
HCS330	6/8/2016	4120	1.01 J	3.1	51.5	0.391 J	0.597	6.9	3.99	4970	8.2	291	<0.0114	6.22	1.11	14.2
HCS340	6/8/2016	1320	1.69 J	1.22 J	48	0.189 J	0.397 J	3.75	4.74	2490	5.92	62.3	0.0279 J	4.01	2.53	13.6
HCS360	6/8/2016	5540	1.10 J	3.07 J	51.4	0.480 J	0.848 J	10.2	11.4	6120	23.5	126	<0.0203	7.94	1.94	89.1
FDHCS360	6/8/2016	5060	1.02 J	2.85 J	48.8	0.446 J	0.762 J	9.73	10.3	5780	22.3	130	0.0366 J	7.38	1.97	74.1
TEC		NE	NE	9.79	NE	NE	0.99	43.4	31.6	NE	35.8	NE	0.18	22.7	NE	121
PEC		NE	NE	33	NE	NE	4.98	111	149	NE	128	NE	1.06	48.6	NE	459
TSBC		30000	1	5.9	300	1.5	NE	NE	15	15000	15	300	0.04	10	0.3	30

J – Detection is greater than the method detection limit, but less than the reporting limit.

Mg/kg – milligrams per kilograms

NE – not established

PEC – probable effect concentration

TEC – threshold effect concentration

TSBC – Texas-specific background concentrations

### 7.1.3 Comal Springs Stormwater Sampling

Stormwater samples were collected during two storm events at the Comal Springs complex. SWCA sampled the events according to the guidelines in the EAHCP Work Plan. The events occurred on April 12–13, 2016, and September 26–27, 2016. Total rainfall for the April 2016 event was approximately 1.00 to 1.49 inches (National Oceanic and Atmospheric Administration [NOAA] 2016) causing streamflow measured at USGS Gauge 08169000 to increase from approximately 273 cfs to a peak of 376 cfs (USGS 2016). Total rainfall for the September 2016 event was approximately 3.00 to 3.99 inches in the immediate sampling area but reached up to 6.00 inches in areas to the north and west of the sampling area that are within the catchment area of Comal River tributaries (NOAA 2016). Streamflow measurements from the USGS gauge increased from approximately 359 cfs to a peak of 2100 cfs (USGS 2016). Rain fell in the area in the early morning of September 26, 2016, and by 07:30 rain in the immediate area had stopped and water quality began to recover. SWCA collected a set of peak samples at this time when discharge was approximately 538 cfs. After these peak samples were collected, specific conductivity began to fall again and streamflow began to increase but rain had not been falling in the area. SWCA monitored water quality, streamflow and weather radar and prepared to collect another round of peak samples. At HCS250, SWCA staff observed water levels rising and at approximately 12:30, streamflow gradually ceased and then began to flow upstream. It became apparent that flooding in the Guadalupe River was pushing water up the Comal River. EAA was consulted and it was determined that the peak samples collected at 07:30, near 538 cfs, best represented the peak of the storm since the larger peak at 2100 cfs was influenced by the Guadalupe River. SWCA staff returned on September 27, 2016, to collect the trail samples after the Comal River showed more than 50% recovery from the larger 2100 cfs peak.

#### 7.1.3.1 Stormwater – Bacteria Detections

Stormwater samples collected and analyzed for bacteria analyses generally tested positive for high levels of bacteria. Bacterial analyses were performed for *E. coli*, using a most probable number method. The 2014 Texas Surface Water Quality Standard for *E. coli* in primary recreation waters is a geometric mean of 126 MPN/100 mL with no individual sample exceeding 399 MPN/100 mL (30 TAC 307.7). The geometric mean for stormwater samples collected from the Comal Springs complex during April 2016 was approximately 3,999 MPN/100 mL. Bacteria counts from April 2016 ranged from 1,200 MPN/100 mL to 16,000 MPN/100 mL with all samples exceeding the individual sample limit. The geometric mean for stormwater samples collected from the Comal Springs complex during September 2016 was approximately 6,029 MPN/100 mL. Bacteria counts from September 2016 ranged from 1,100 MPN/100 mL to 240,000 MPN/100 mL, with all samples exceeding the individual sample limit. Individual detections are listed below in Table 10 and shown in relation to stream discharge and specific conductivity in Figures 21 and 22. Due to the timing of storm events and laboratory working hours, it was not possible to deliver all samples to the laboratory within sample holding time of 8 hours (see discussion in Appendix C). These samples were included in the range and geometric mean calculations.

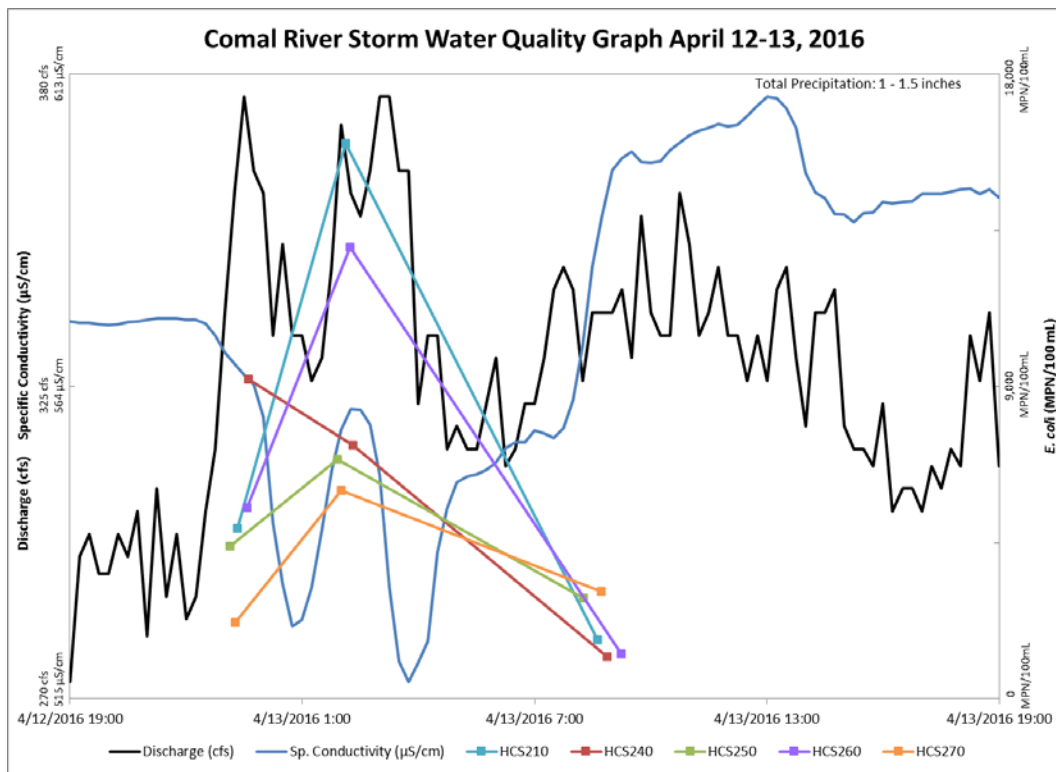
**Table 10. Stormwater Samples – Bacteria Counts – Comal Springs Complex**

Location	Date	Count (MPN/100 mL)
HCS210 Lead	4/12/2016	4900 H
	9/26/2016	16000 H
HCS210 Peak	4/13/2016	16000 H
	9/26/2016	240000 H
HCS210 Trail	4/13/2016	1700
	9/27/2016	4000
HCS240 Lead	4/12/2016	9200 H
	9/26/2016	13000 H
HCS240 Peak	4/13/2016	7300 H
	9/26/2016	3700 H
HCS240 Trail	4/13/2016	1200
	9/27/2016	1100
HCS250 Lead	4/12/2016	4400 H
	9/26/2016	14000 H
HCS250 Peak	4/13/2016	6900 H
	9/26/2016	13000 H
HCS250 Trail	4/13/2016	2900
	9/27/2016	1300
HCS260 Lead	4/12/2016	5500 H
	9/26/2016	9200 H
HCS260 Peak	4/13/2016	13000 H
	9/26/2016	9800 H
HCS260 Trail	4/13/2016	1300
	9/27/2016	1500
FDHCS260 Trail	4/13/2016	1400
	9/27/2016	1300
HCS270 Lead	4/12/2016	2200 H
	9/26/2016	20000 H
HCS270 Peak	4/13/2016	6000 H
	9/26/2016	11000 H
HCS270 Trail	4/13/2016	3100
	9/27/2016	1900
FDHCS270 Trail	4/13/2016	3400
	9/27/2016	1300

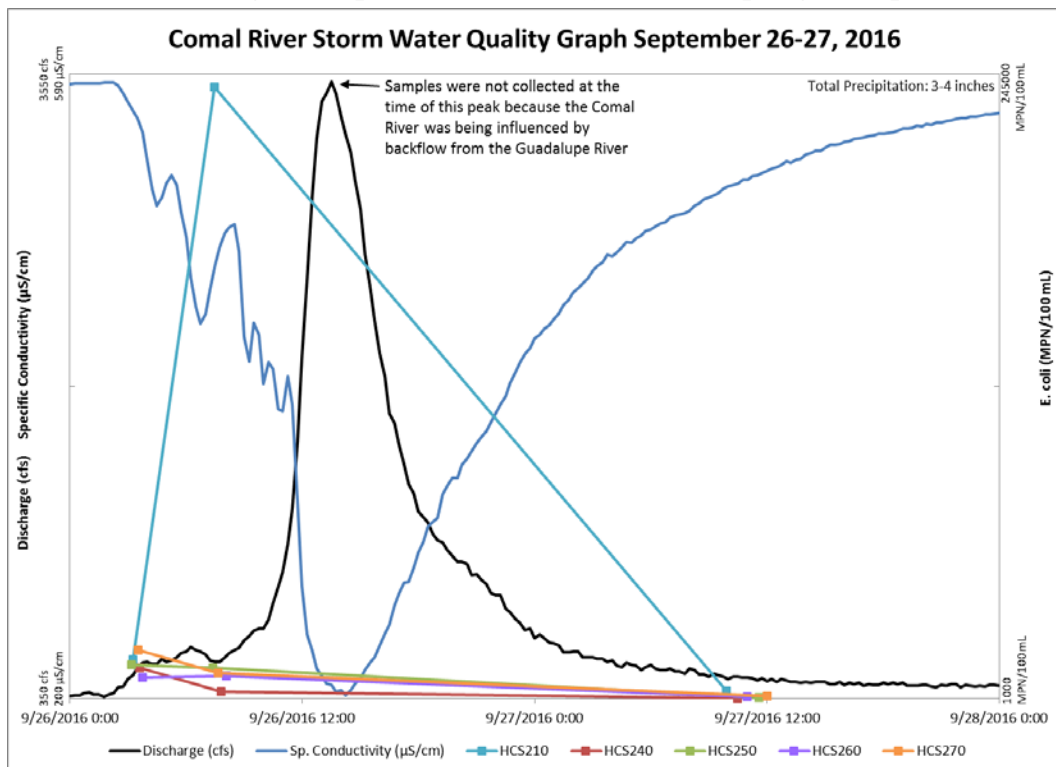
H – Analyzed outside hold time, result included for comparison but not considered valid

MPN/100 mL – Most probable number per 100 milliliters of water

**Figure 21. Stormwater Samples – April 2016 Bacteria Counts in Relation to Stream Discharge and Specific Conductivity – Comal Springs Complex**



**Figure 22. Stormwater Samples – September 2016 Bacteria Counts in Relation to Stream Discharge and Specific Conductivity – Comal Springs Complex**



### 7.1.3.2 Stormwater – Volatile Organic Compounds (VOCs)

There were no VOC detections in stormwater samples during the April or September 2016 storm events. Acetone was detected at a concentration of 7.21 J µg/L in the trip blank associated with the peak samples from September 26, 2016.

### 7.1.3.3 Stormwater – Semi-volatile Organic Compounds (SVOCs)

Generally, SVOCs were analyzed because their detection can indicate the presence of chemicals originating from anthropogenic sources; and therefore, can be used to evaluate potential impacts on water quality. No SVOCs were detected at any of the five sampling sites in the Comal Springs complex during the April 2016 stormwater sampling event. One SVOC, DEHP, was detected in six samples from the September 2016 stormwater sampling event. All of the detections are “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit. Four DEHP detections exceeded the PCL of 6 µg/L. SVOC detections are listed below in Table 11 and shown graphically in Figure 23.

**Table 11. Stormwater Samples – Semi-volatile Organic Compound Detections – Comal Springs Complex**

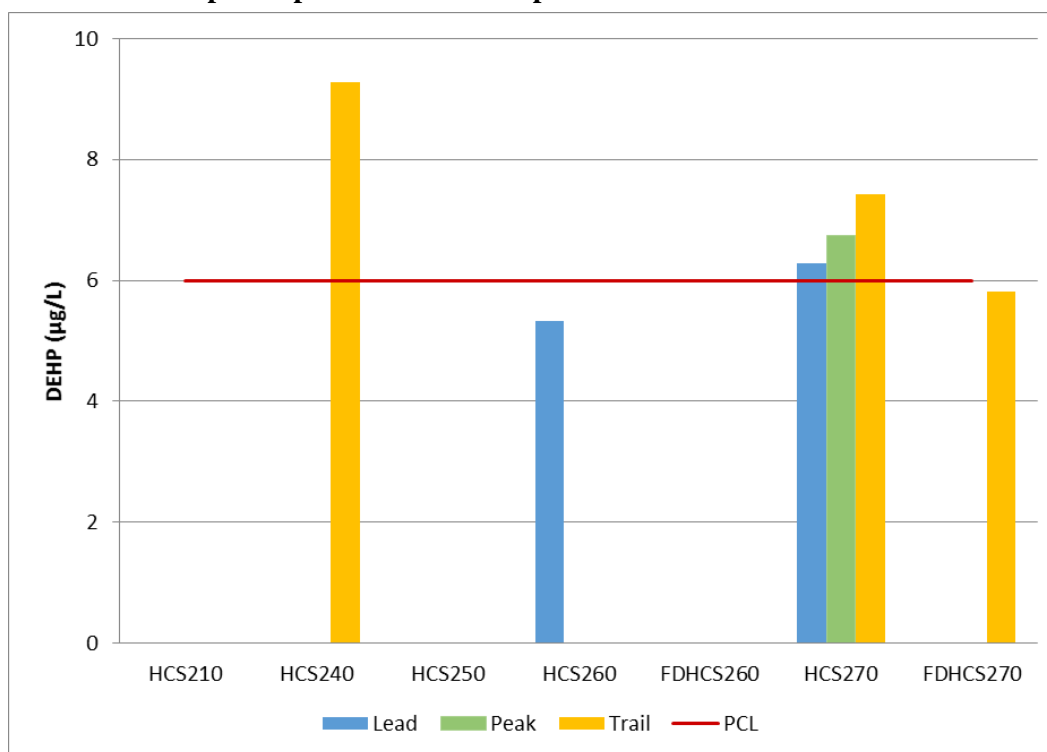
Location	Date	Bis(2-ethylhexyl) phthalate (µg/L)
HCS240 Trail	4/13/16	<5.00
	9/27/16	9.28 J
HCS260 Lead	4/12/16	<5.00
	9/26/16	5.33 J
HCS270 Lead	4/12/16	<5.00
	9/26/16	6.28 J
HCS270 Peak	4/13/16	<5.00
	9/26/16	6.74 J
HCS270 Trail	4/13/16	<5.00
	9/27/16	7.43 J
FDHCS270 Trail	4/13/16	<5.00
	9/27/16	5.81 J
PCL		6

J – Detection is greater than the method detection limit, but less than the reporting limit

µg/L – micrograms per liter

PCL – protective concentration level

**Figure 23. Bis(2-ethylhexyl) Phthalate (DEHP) in Comal Springs Complex Stormwater Samples September 2016 Compared to Protective Concentration Level (PCL)**



#### **7.1.3.4 Stormwater – Herbicides and Pesticides**

One organophosphorus pesticide and one herbicide were detected in stormwater samples from the Comal Springs complex in 2016.

The organophosphorus pesticide, disulfoton, was detected in one sample during the September 2016 storm event. The detection occurred at HCS260 Lead at a concentration of 0.373 J µg/L. This detection is “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit. The detection is well below the MCL of 0.98 µg/L.

The herbicide compound, 2,4-D, was detected during the storm event in the Comal Springs complex sampled during both the April and September 2016 events. The compound was detected in a total of five samples. All of the detections are “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit. None of the detections approach the MCL of 70 µg/L for 2,4-D.

Herbicide detections are summarized below in Table 12.



**Table 12. Stormwater Samples – Herbicide Detections – Comal Springs Complex**

Location	Date	2,4-D (µg/L)
HCS210 Trail	4/13/16	<0.0354
	9/27/16	0.0368 J
HCS240 Peak	4/13/16	0.0677 J
	9/26/16	<0.0356
HCS250 Peak	4/13/16	0.227 J
	9/26/16	<0.0351
HCS270 Lead	4/12/16	0.255 J
	9/26/16	<0.0350
HCS270 Peak	4/13/16	0.216 J
	9/26/16	<0.0350
MCL		70

J – Detection is greater than the method detection limit, but less than the reporting limit

µg/L – micrograms per liter

MCL – maximum contaminant level

#### **7.1.3.5 Stormwater – Polychlorinated Biphenyls (PCBs)**

Stormwater samples were analyzed for the various Aroclor compounds that are generally referred to collectively as PCBs. None of the stormwater samples from the Comal Springs complex indicated positive detections of PCB compounds during the April or September 2016 sampling events.

#### **7.1.3.6 Stormwater – Metals**

Stormwater samples were analyzed for metals in accordance with the EAHCP Work Plan. Several positive metal detections were noted in the sample set; however, no samples contained a metal at a concentration in excess of the drinking water MCL and most detections were below laboratory reporting limits.

#### **7.1.3.7 Stormwater – Nitrates**

Stormwater samples were analyzed for nitrate-nitrite as nitrogen in accordance with the EAHCP Work Plan. All nitrate results were below the MCL of 10 mg/L. For the April 2016 event, the range of nitrate results was 0.492 J mg/L to 1.77 mg/L, with an average of 1.49 mg/L. During the September 2016 event, nitrate concentrations ranged from 0.404 J mg/L to 1.78 mg/L, with an average of 1.33 mg/L. For comparison the average nitrate in spring water samples at Comal Springs for calendar year 2014 was 1.91 mg/L (EAA 2015). Nitrate results are summarized in Table 13.

**Table 13. Stormwater Samples – Nitrate Detections  
– Comal Springs Complex**

Location	Date	Concentration (mg/L)
HCS210 Lead	4/12/2016	0.923
	9/26/2016	0.404 J
HCS210 Peak	4/13/2016	0.492 J
	9/26/2016	0.664
HCS210 Trail	4/13/2016	0.867
	9/27/2016	0.565
HCS240 Lead	4/12/2016	1.77
	9/26/2016	1.04
HCS240 Peak	4/13/2016	1.67
	9/26/2016	1.62
HCS240 Trail	4/13/2016	1.75
	9/27/2016	1.68
HCS250 Lead	4/12/2016	1.63
	9/26/2016	1.21
HCS250 Peak	4/13/2016	1.41
	9/26/2016	1.21
HCS250 Trail	4/13/2016	1.67
	9/27/2016	1.67
HCS260 Lead	4/12/2016	1.76
	9/26/2016	1.78
HCS260 Peak	4/13/2016	1.69
	9/26/2016	1.40
HCS260 Trail	4/13/2016	1.53
	9/27/2016	1.65
FDHCS260 Trail	4/13/2016	1.53
	9/27/2016	1.65
HCS270 Lead	4/12/2016	1.77
	9/26/2016	1.62
HCS270 Peak	4/13/2016	1.60
	9/26/2016	1.21
HCS270 Trail	4/13/2016	1.67
	9/27/2016	1.64
FDHCS270 Trail	4/13/2016	1.66
	9/27/2016	1.63
MCL		10

J – Detection is greater than the method detection limit, but less than the reporting limit

mg/L – milligrams per liter

### 7.1.3.8 Stormwater – Caffeine

Stormwater was analyzed for caffeine, which can indicate an anthropogenic source. Caffeine may enter surface water from leaking sewer or septic systems or it may be present in the aquifer from similar sources in the recharge zone (EPA 2012). Potential ecological effects are currently unknown but could include reduced reproductive success of aquatic organisms (EPA 2012). Caffeine detections in stormwater samples from Comal Springs in April 2016 ranged from 45 ng/L to 110,000 ng/L. In September 2016, caffeine detections ranged from 13 ng/L to 920 ng/L. There is no regulatory standard or expected value for comparison. These results are shown in Table 14.

**Table 14. Stormwater Samples – Caffeine Detections – Comal Springs Complex**

Location	Date Collected	Caffeine (ng/L)
HCS210 Lead	4/12/2016	91
	9/26/2016	480
HCS210 Peak	4/13/2016	93000
	9/26/2016	280
HCS210 Trail	4/13/2016	50000
	9/27/2016	170
HCS240 Lead	4/12/2016	45
	9/26/2016	300
HCS240 Peak	4/13/2016	90000
	9/26/2016	67
HCS240 Trail	4/13/2016	9200
	9/27/2016	30
HCS250 Lead	4/12/2016	100000
	9/26/2016	240
HCS250 Peak	4/13/2016	110000
	9/26/2016	450
HCS250 Trail	4/13/2016	9900
	9/27/2016	54
HCS260 Lead	4/12/2016	35000
	9/26/2016	97
HCS260 Peak	4/13/2016	27000
	9/26/2016	150
HCS260 Trail	4/13/2016	38000
	9/27/2016	13
FDHCS260 Trail	4/13/2016	28000
	9/27/2016	36
HCS270 Lead	4/12/2016	47000
	9/26/2016	380

**Table 14. Stormwater Samples – Caffeine  
Detections – Comal Springs Complex**

Location	Date Collected	Caffeine (ng/L)
HCS270 Peak	4/13/2016	86000
	9/26/2016	400
HCS270 Trail	4/13/2016	28000
	9/27/2016	920
FDHCS270 Trail	4/13/2016	35000
	9/27/2016	35

ng/L – nanograms per liter

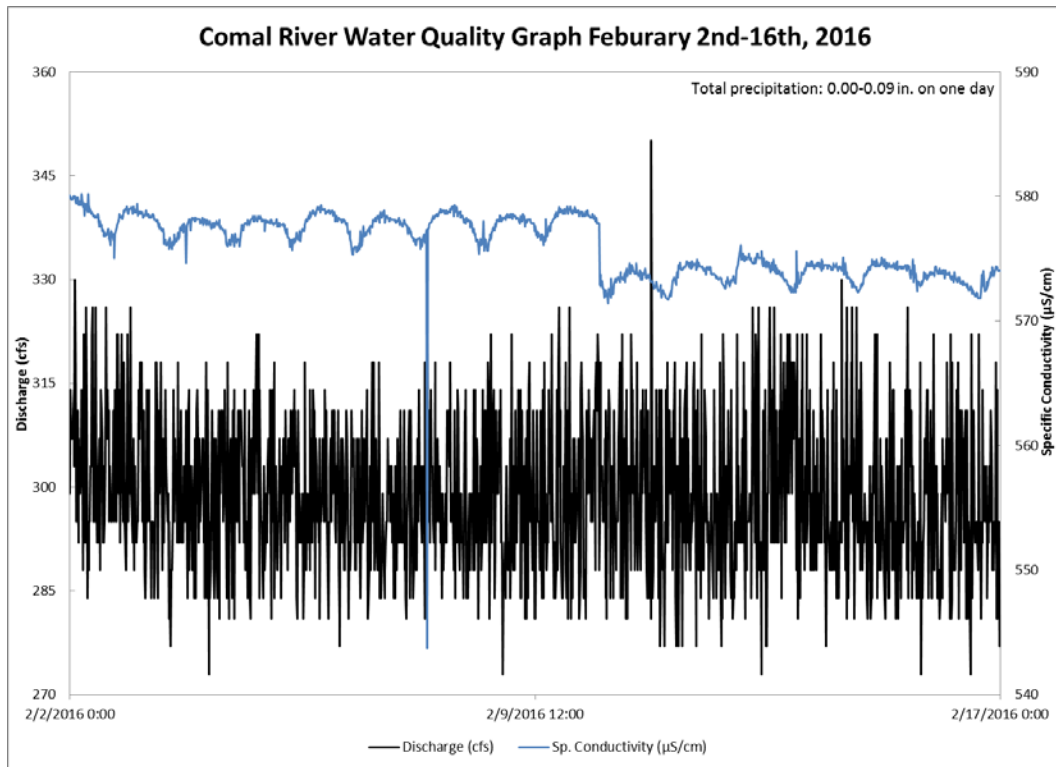
#### **7.1.4 Comal Springs Surface Water Passive Sampling**

PDSs were installed in the Comal Springs system in February, April, June, August, October and December 2016. The PDS was not analyzed from site HCS460 in April 2016 due to sediment collection on the deployment device. Any changes to deployment locations or non-recovered samplers are discussed in Appendix C.

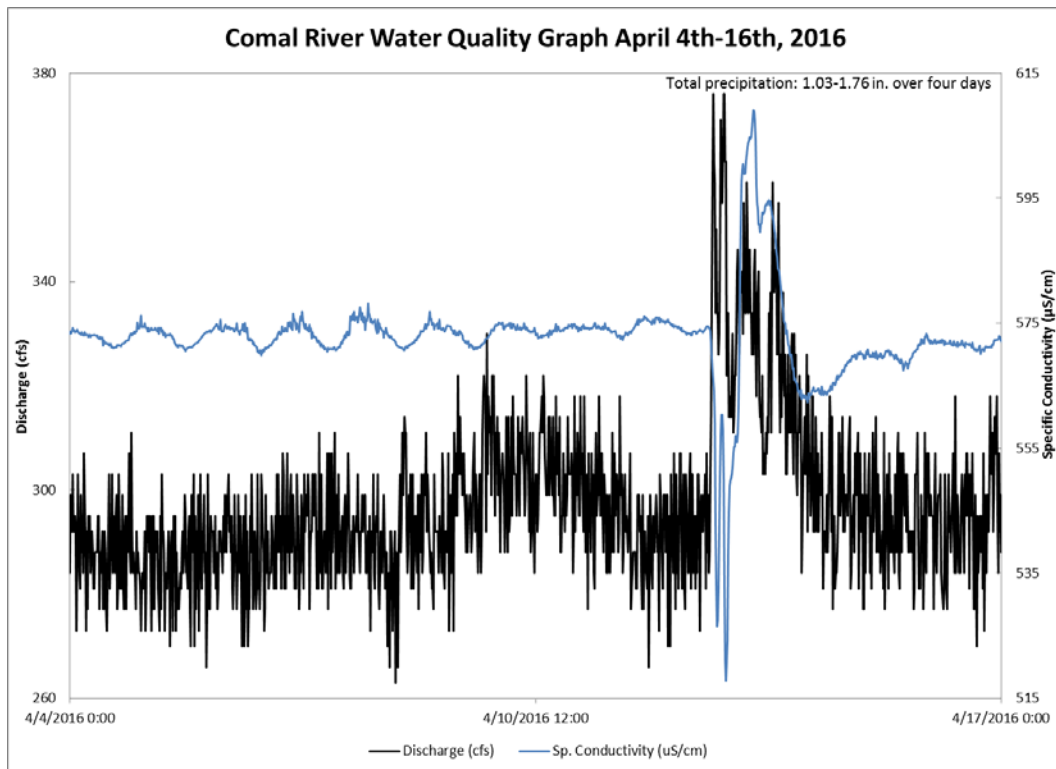
Rain events did occur during some PDS deployment periods during 2016. Figures 24–29 show specific conductivity and discharge for each PDS deployment period. In April 2016, samplers were removed from the river after a period of 12 days instead of the 14 days as called for in the EAHCP Work Plan. A large storm was forecasted for the area. When the forecast was brought to the attention of EAA staff, EAA requested the PDS be retrieved prior to the storm event because of concerns that samplers could be lost and that the PDS results would not reflect base flow conditions. This deviation is discussed in greater detail in Appendix C.

There is not a suitable set of regulatory standards to compare PDS results to, but rather the data are a qualitative tool for evaluating the presence of trace concentrations of organic compounds. PDSs were analyzed for a suite of SVOCs, VOCs, and organochlorine pesticides. Few compounds were detected, the most notable are relatively consistent detections of tetrachloroethene. Positive detections are shown in Table 15.

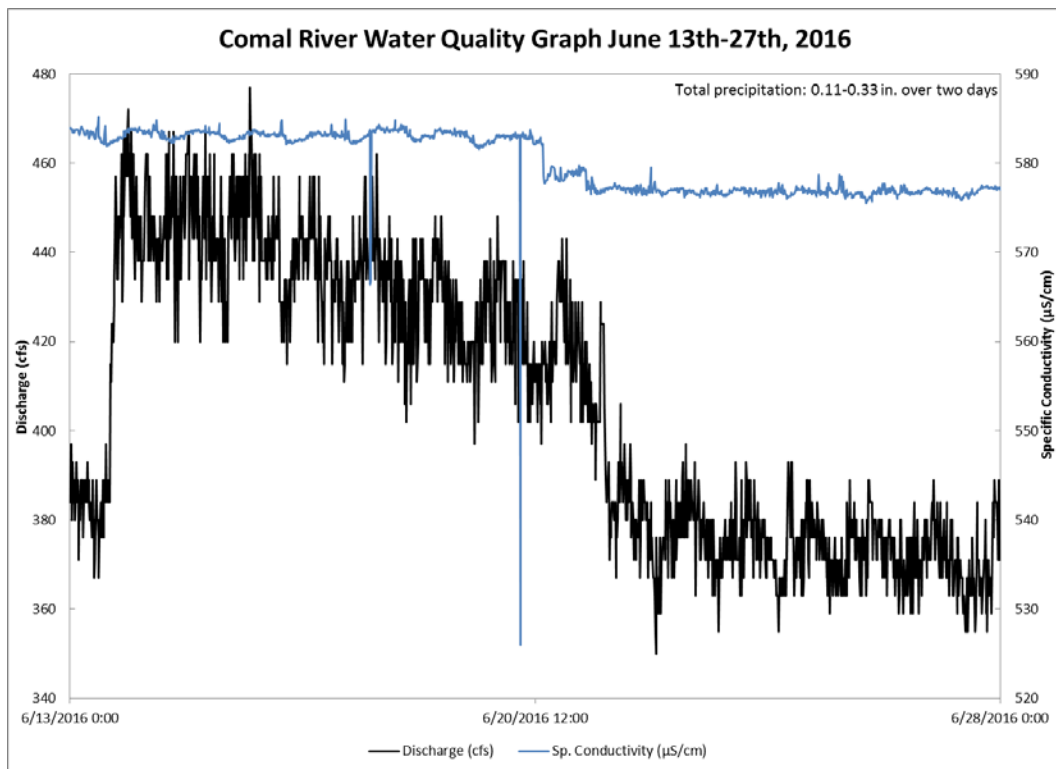
**Figure 24. Passive Diffusion Sampling – February 2016 Stream Discharge and Specific Conductivity – Comal Springs Complex**



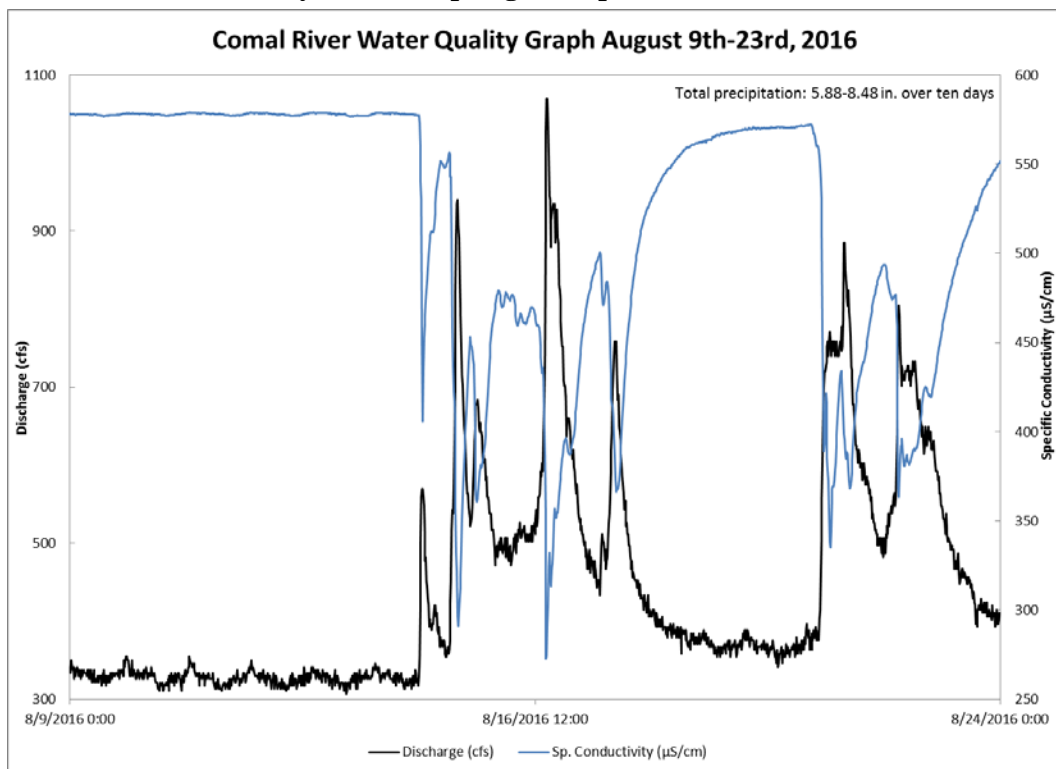
**Figure 25. Passive Diffusion Sampling – April 2016 Stream Discharge and Specific Conductivity – Comal Springs Complex**



**Figure 26. Passive Diffusion Sampling – June 2016 Stream Discharge and Specific Conductivity – Comal Springs Complex**

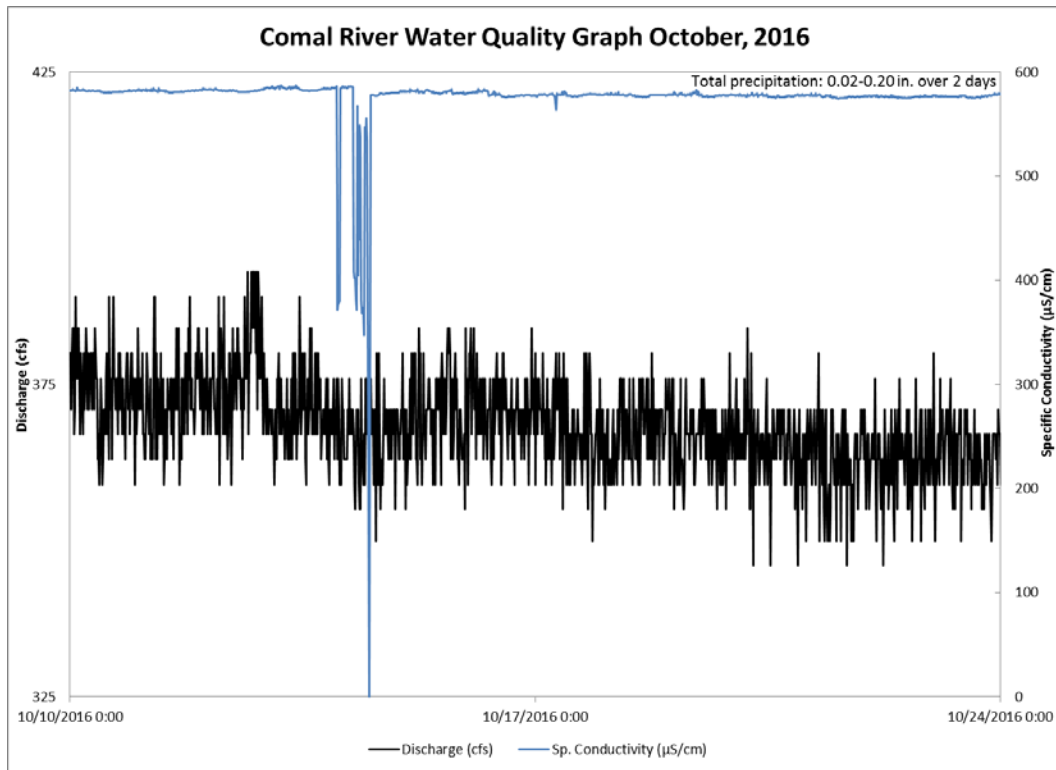


**Figure 27. Passive Diffusion Sampling – August 2016 Stream Discharge and Specific Conductivity – Comal Springs Complex**

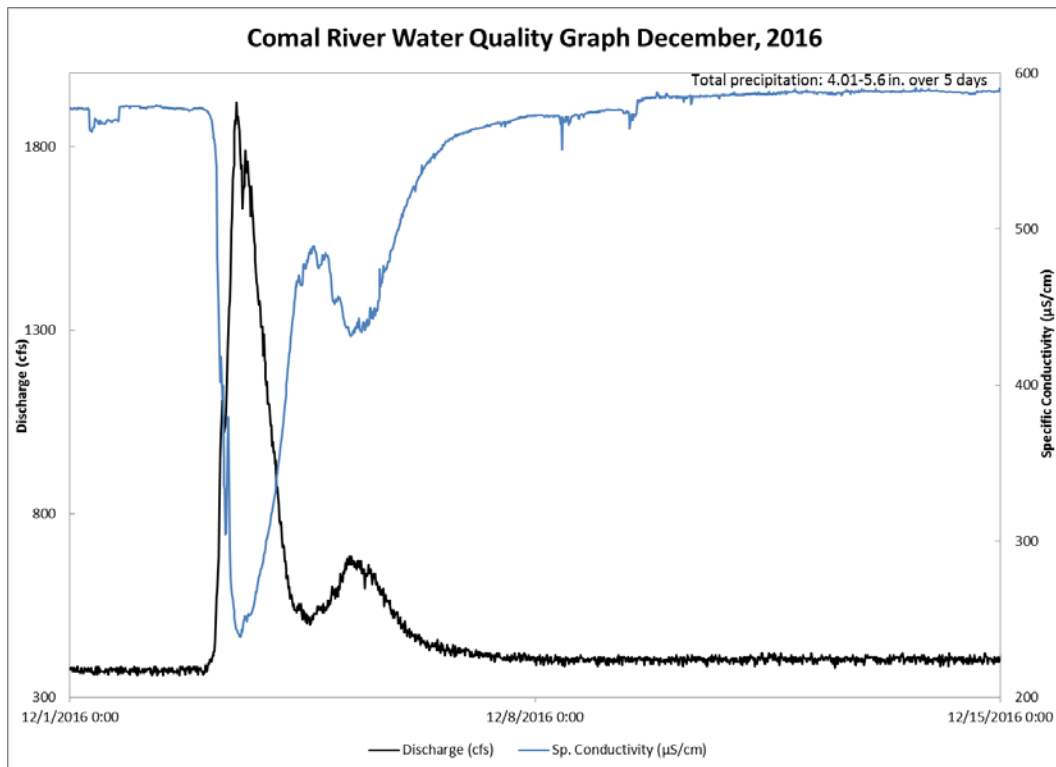




**Figure 28. Passive Diffusion Sampling – October 2016 Stream Discharge and Specific Conductivity – Comal Springs Complex**



**Figure 29. Passive Diffusion Sampling – December 2016 Stream Discharge and Specific Conductivity – Comal Springs Complex**



**Table 15. Passive Diffusion Samples – Comal Springs Complex**

Location	Month 2016	Acenaphthene (µg)	Acenaphthylene (µg)	Anthracene (µg)	BTEX (µg)	Chloroform (µg)	Fluoranthene (µg)	Fluorene (µg)	p/m-Xylene (µg)	Phenanthrene (µg)	Pyrene (µg)	Tetrachloroethene (µg)	TPH (µg)
HCS410	February	<0.05	<0.05	<0.05	<0.02	0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.08	<0.50
	April	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.09	<0.50
	June	0.37	0.09	0.11	<0.02	0.02	0.16	0.72	<0.02	0.56	0.14	0.23	6.33
	August	<0.05	<0.05	<0.50	<0.02	<0.02	<0.50	<0.05	<0.02	<0.50	<0.50	0.09	0.51
	October	<0.05	<0.05	<0.05	<0.02	0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.16	<0.50
	December	<0.05	<0.05	<0.05	<0.02	0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.10	<0.50
HCS420	February	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.22	<0.50
	April	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.16	<0.50
	June	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.18	0.72
	August	<0.05	<0.05	<0.50	<0.02	<0.02	<0.50	<0.05	<0.02	<0.50	<0.50	0.19	0.54
	October	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.23	<0.50
	December	<0.05	<0.05	<0.50	<0.02	<0.02	<0.50	<0.05	<0.02	<0.50	<0.50	0.32	<0.50
HCS430	February	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.40	<0.50
	April	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.48	<0.50
	June	0.09	<0.05	<0.05	<0.02	<0.02	<0.05	0.25	<0.02	0.2	<0.05	0.55	1.75
	August	<0.05	<0.05	<0.50	<0.02	<0.02	<0.50	<0.05	<0.02	<0.50	<0.50	0.56	0.55
	October	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.58	<0.50
	December	<0.05	<0.05	<0.50	<0.02	<0.02	<0.50	<0.05	<0.02	<0.50	<0.50	0.59	<0.50
HCS440	February	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.40	<0.50
	April	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.32	<0.50
	June	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	0.12	<0.02	0.1	<0.05	0.35	1.68
	August	<0.05	<0.05	<0.50	<0.02	<0.02	<0.50	<0.05	<0.02	<0.50	<0.50	0.39	0.75
	October	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.32	<0.50
	December	<0.05	<0.05	<0.50	<0.02	<0.02	<0.50	<0.05	<0.02	<0.50	<0.50	0.33	<0.50

**Table 15. Passive Diffusion Samples – Comal Springs Complex**

Location	Month 2016	Acenaphthene (µg)	Acenaphthylene (µg)	Anthracene (µg)	BTEX (µg)	Chloroform (µg)	Fluoranthene (µg)	Fluorene (µg)	p/m-Xylene (µg)	Phenanthrene (µg)	Pyrene (µg)	Tetrachloroethene (µg)	TPH (µg)
FDHCS440	February	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.33	<0.50
	April	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.3	<0.50
	June	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	0.05	<0.05	0.35	1.4
	August	<0.05	<0.05	<0.50	<0.02	<0.02	<0.50	<0.05	<0.02	<0.50	<0.50	0.39	0.77
	October	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.34	<0.50
	December	<0.05	<0.05	<0.50	<0.02	<0.02	<0.50	<0.05	<0.02	<0.50	<0.50	0.34	<0.50
HCS460	February	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.27	<0.50
	April	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	June	0.25	0.05	0.08	0.04	<0.02	0.08	0.76	0.04	0.46	0.06	0.3	4.99
	August	<0.05	<0.05	<0.50	<0.02	<0.02	<0.50	<0.05	<0.02	<0.50	<0.50	0.19	0.60
	October	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	0.33	<0.50
	December	<0.05	<0.05	<0.50	<0.02	<0.02	<0.50	<0.05	<0.02	<0.50	<0.50	0.27	<0.50

BTEX – benzene, toluene, ethylbenzene, and xylenes

NA – Not analyzed

TPH – total petroleum hydrocarbons

µg – micrograms

## **7.2     San Marcos Springs Sample Results**

The surface waters associated with the San Marcos Springs complex were sampled for surface water (base flow) conditions in March and September 2016. In general, few detections were noted. As discussed previously, surface water samples are compared to the drinking water standards for water quality in this report.

Sediments at the San Marcos Springs complex were sampled in June 2016. Sediment results were compared to the standards developed by McDonald et al. (2000). These standards are based on the probability of a detected compound having a toxic effect on sediment dwelling organisms and are referred to as the TEC and PEC. Detections below the TEC are not considered to be toxic, whereas detections above the PEC are considered to be toxic to sediment-dwelling organisms. Detections above the TEC but less than the PEC are considered to be equally likely to be toxic or non-toxic.

Stormwater events were sampled at the San Marcos Springs complex in March and November 2016. Generally speaking, stormwater results did not indicate a significant number of detections of concern.

PDS sampling events were conducted at the San Marcos Springs complex in February, April, June, August, October, and December 2016. Generally speaking, various VOCs and TPH were detected at various sample locations, but only tetrachloroethene was relatively consistently detected.

### **7.2.1    San Marcos Springs Surface Water / Base Flow Sampling**

The San Marcos Springs complex was sampled on March 3 and September 9, 2016, for surface water (base flow) events.

#### ***7.2.1.1 Surface Water / Base flow – Bacteria***

Bacteria results for surface water (base flow) associated with the San Marcos Springs complex ranged from 5 MPN/100 mL through 91 MPN/100 mL for *E. coli*. Because of the presence of various fauna in surface water collection sites, positive detections are common. The 2014 Texas Surface Water Quality Standard for *E. coli* in primary recreation waters is a geometric mean of 126 MPN/100 mL with no individual sample exceeding 399 MPN/100 mL (30 TAC 307.7). The geometric mean for surface water samples collected from the San Marcos Springs complex during 2016 was approximately 33 MPN/100 mL. No surface water samples collected from the San Marcos Springs in 2016 exceeded the individual sample limit of 399 MPN/100 mL. Surface water (base flow) bacteria counts are summarized in Table 16.



**Table 16. Surface Water Samples – Bacteria Counts  
– San Marcos Springs Complex**

Location	Date	Count (MPN/100 mL)
HSM110	3/3/2016	15
	9/9/2016	89
FDHSM110	3/3/2016	13
	9/9/2016	91
HSM120	3/3/2016	64
	9/9/2016	86
HSM130	3/3/2016	5
	9/9/2016	41
HSM140	3/3/2016	49
	9/9/2016	56
HSM150	3/3/2016	28
	9/9/2016	37
HSM160	3/3/2016	17
	9/9/2016	29
HSM170	3/3/2016	17
	9/9/2016	49

MPN/100 mL – most probable number per 100 milliliters

#### **7.2.1.2 Surface Water / Base Flow – Volatile Organic Compounds (VOCs)**

No VOCs were detected in the San Marcos Springs surface water samples in March or September 2016.

#### **7.2.1.3 Surface Water / Base Flow – Semi-volatile Organic Compounds (SVOCs)**

Surface water samples were analyzed for SVOCs because their detection can indicate the presence of chemicals originating from anthropogenic sources; and therefore, can be used to evaluate potential impacts on water quality. Three SVOCs were detected in surface water samples from the San Marcos Springs complex. Note all detections are “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit. All detections of DEHP in San Marcos surface water samples from 2016 were above the PCL of 6 µg/L. Di-n-butyl phthalate was detected in the method blank associated with the September 2016 samples at a concentration of 3.858 µg/L, this may have affected detection results. Detections are summarized in Table 17 and DEHP detections are shown in Figure 30.

**Table 17. Surface Water Samples – Semi-volatile Organic Compound Detections – San Marcos Springs Complex**

Location	Date Collected	Bis(2-ethylhexyl) phthalate (µg/L)	Diethyl phthalate (µg/L)	Di-n-butyl phthalate (µg/L)
HSM110	3/3/16	<5.00	<0.666	<0.709
	9/9/16	<5.00	<0.666	2.18 J B
FDHSM110	3/3/16	<5.00	<0.666	<0.709
	9/9/16	<5.00	<0.666	3.66 J B
HSM120	3/3/16	12.5 J	3.16 J	<0.709
	9/9/16	6.04 J	<0.666	<0.709
HSM130	3/3/16	<5.00	<0.666	<0.709
	9/9/16	11.3 J	<0.666	2.30 J B
HSM140	3/3/16	<5.00	<0.666	<0.709
	9/9/16	<5.00	<0.666	<0.709
HSM150	3/3/16	<5.00	<0.666	<0.709
	9/9/16	<5.00	<0.666	<0.709
HSM160	3/3/16	<5.00	<0.666	<0.709
	9/9/16	<5.00	<0.666	<0.709
HSM170	3/3/16	<5.00	<0.666	<0.709
	9/9/16	19.0 J	<0.666	2.11 J B
MCL		NE	NE	NE
PCL		6	20000	2400

B – Analyte was detected in associated method blank

J – Detection is greater than the method detection limit, but less than the reporting limit

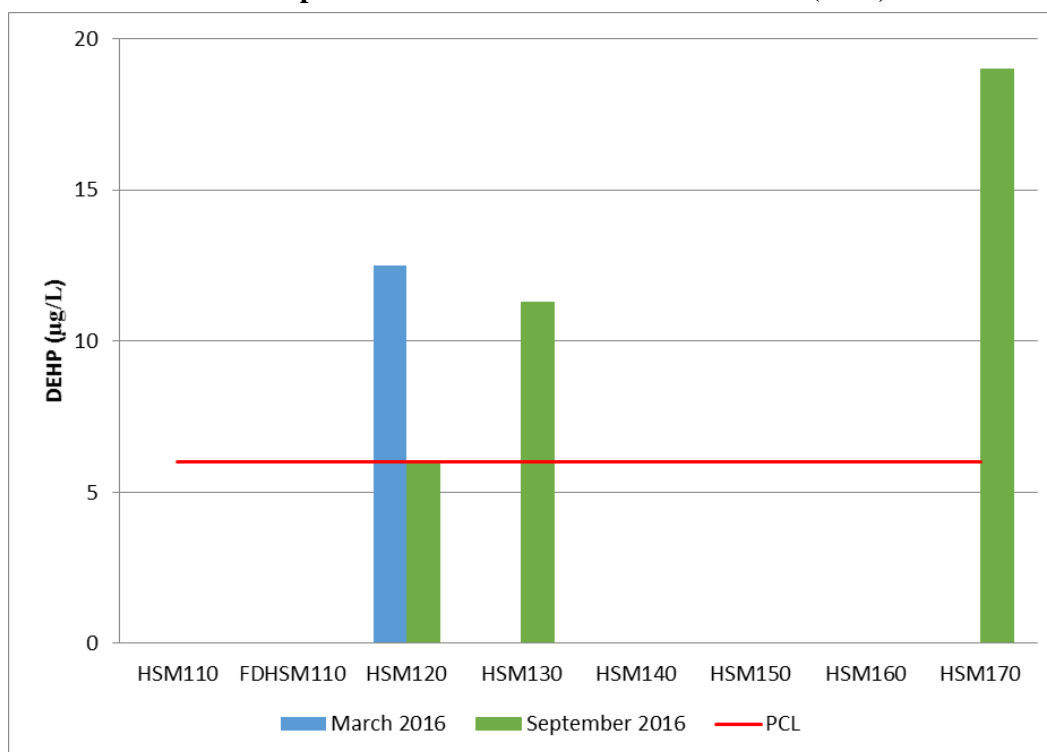
MCL – maximum contaminant level

NE – not established

PCL – protective concentration level

µg/L – micrograms per liter

**Figure 30. Bis(2-ethylhexyl) Phthalate (DEHP) in San Marcos Springs Complex Surface Water Compared to Protective Concentration Level (PCL)**



#### **7.2.1.4 Surface Water / Base Flow – Pesticides**

Surface water samples were analyzed for pesticides because their detection can indicate the presence of chemicals originating from anthropogenic sources; and therefore, can be used to evaluate potential impacts on water quality. No pesticides were detected in any of the San Marcos Springs complex surface water samples during March and September 2016. Due to an error at the laboratory, water samples for organophosphorus pesticides collected on September 9, 2016 were resampled October 24, 2016. This deviation is discussed further in Appendix C of this report.

#### **7.2.1.5 Surface Water / Base flow – Herbicides**

Surface water samples were analyzed for herbicides because their detection can indicate the presence of chemicals originating from anthropogenic sources; and therefore, can be used to evaluate potential impacts on water quality. Herbicides were not detected for the March or September 2016 sampling events at any of the seven sites for the San Marcos Springs complex.

#### **7.2.1.6 Surface Water / Base Flow – Polychlorinated Biphenyls (PCBs)**

Surface water samples were analyzed for the various Aroclor compounds that are generally referred to collectively as PCBs. PCBs are sampled because their detection can indicate the presence of chemicals originating from anthropogenic sources and therefore help in the evaluation of potential impacts on water quality. PCBs were not detected for the March or September 2016 sampling events at any of the seven sites for the San Marcos Springs complex.

### 7.2.1.7 Surface Water / Base Flow – Metals

Surface water samples were analyzed for metals because their detection can indicate the presence of chemicals originating from anthropogenic sources; and therefore, can be used to evaluate potential impacts on water quality. Although metals were detected for both the March and September 2016 sampling events at all seven sites for the San Marcos Springs complex, no metals of concern were detected at concentrations in excess of the drinking water standards. Arsenic, barium, chromium, copper, lead, manganese, selenium, and zinc were detected; however, none of their concentrations exceeded a regulatory standard. These detections are listed in Table 18. Note many detections are “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit.

**Table 18. Surface Water Samples – Metal Detections – San Marcos Springs Complex**

Location	Date Collected	Arsenic (mg/L)	Barium (mg/L)	Chromium (mg/L)	Copper (mg/L)	Lead (mg/L)	Manganese (mg/L)	Selenium (mg/L)	Zinc (mg/L)
HSM110	3/3/16	<0.00109	0.028	<0.0014	<0.002	<0.000733	0.112	<0.00108	<0.00355
	9/9/16	0.00152 J	0.0427	0.0115	0.0334	0.00289 J	0.275	<0.00108	<0.00355
FDHSM110	3/3/16	<0.00109	0.0282	<0.0014	<0.002	<0.000733	0.119	<0.00108	<0.00355
	9/9/16	0.00129 J	0.0417	<0.00140	<0.00200	<0.000733	0.275	<0.00108	<0.00355
HSM120	3/3/16	<0.00109	0.0266	<0.0014	<0.002	<0.000733	<0.0116	<0.00108	<0.00355
	9/9/16	<0.00109	0.0382	<0.00140	<0.00200	<0.000733	<0.0116	0.00165 J	<0.00355
HSM130	3/3/16	<0.00109	0.0317	<0.0014	<0.002	<0.000733	<0.0116	<0.00108	<0.00355
	9/9/16	<0.00109	0.0422	<0.00140	<0.00200	<0.000733	<0.0116	0.00130 J	<0.00355
HSM140	3/3/16	<0.00109	0.0291	<0.0014	<0.002	0.000737 J	<0.0116	<0.00108	<0.00355
	9/9/16	<0.00109	0.0369	<0.00140	<0.00200	<0.000733	<0.0116	0.00184 J	<0.00355
HSM150	3/3/16	<0.00109	0.0375	<0.0014	<0.002	<0.000733	<0.0116	<0.00108	<0.00355
	9/9/16	<0.00109	0.0388	<0.00140	<0.00200	<0.000733	<0.0116	<0.00108	<0.00355
HSM160	3/3/16	<0.00109	0.0351	0.00414 J	0.00677 J	<0.000733	<0.0116	<0.00108	0.00464 J
	9/9/16	<0.00109	0.0385	<0.00140	<0.00200	<0.000733	<0.0116	<0.00108	<0.00355
HSM170	3/3/16	<0.00109	0.0351	<0.0014	<0.002	<0.000733	<0.0116	<0.00108	<0.00355
	9/9/16	<0.00109	0.0377	<0.00140	<0.00200	<0.000733	<0.0116	<0.00108	<0.00355
MCL		0.01	2	0.1	NE	NE	NE	0.05	NE
PCL		--	--	--	1.3	0.015	3.4	--	7.3

-- -- Not applicable

J – Detection is greater than the method detection limit, but less than the reporting limit.

Mg/L – milligrams per liter

MCL – maximum contaminant level

NE – None Established

PCL – protective concentration levels

### 7.2.1.8 Surface Water / Base Flow – Nitrates

Surface water samples were analyzed for nitrate-nitrite as nitrogen. Laboratory analyses indicated a limited range of nitrate-nitrite as nitrogen in surface water samples. Of the 16 surface water samples (14 environmental samples and two field duplicates) collected for the two sample events, concentrations ranged



from 0.585 mg/L to 1.68 mg/L. None of the nitrate concentrations exceeded the MCL of 10 mg/L for drinking water. The highest nitrate concentration in surface water at the San Marcos Springs complex was 1.68 H mg/L from HSM130 sampled on September 9, 2016. Nitrate-nitrogen results are summarized in Table 19. Due to oversight at the laboratory some nitrate samples were analyzed outside of hold time in September 2016 this is further discussed in Appendix C.

**Table 19. Surface Water Samples – Nitrate Detections – San Marcos Springs Complex**

Location	Date	Concentration (mg/L)
HSM110	3/3/2016	0.706 H
	9/9/2016	0.585
FDHSM110	3/3/2016	0.706 H
	9/9/2016	0.587
HSM120	3/3/2016	1.24 H
	9/9/2016	1.3
HSM130	3/3/2016	1.67 H
	9/9/2016	1.68
HSM140	3/3/2016	1.25
	9/9/2016	1.21
HSM150	3/3/2016	1.25
	9/9/2016	1.21
HSM160	3/3/2016	1.24
	9/9/2016	1.19
HSM170	3/3/2016	1.23
	9/9/2016	1.18
MCL		10

H – Analyzed outside hold time, result included for comparison but not considered valid

mg/L – milligrams per liter

#### **7.2.1.9 Surface Water / Base Flow – Caffeine**

Surface water base flows were analyzed for caffeine, which can indicate the possible presence of human wastewater discharge. Caffeine may enter surface water from leaking sewer or septic systems or it may be present in the aquifer from similar sources in the recharge zone (EPA 2012). Potential ecological effects are currently unknown but could include reduced reproductive success in aquatic species (EPA 2012). Caffeine detections in surface water samples from San Marcos Springs in 2016 ranged from 2.6 ng/L to 53 ng/L. There is no regulatory standard or expected value for comparison. Results are shown in Table 20.

**Table 20. Surface Water Samples – Caffeine  
Detections – San Marcos Springs Complex**

Location	Date Collected	Caffeine (ng/L)
HSM110	3/3/2016	23
	9/9/2016	39
FDHSM110	3/3/2016	2.6
	9/9/2016	<0.31
HSM120	3/3/2016	15
	9/9/2016	<0.31
HSM150	3/3/2016	<0.31
	9/9/2016	13
HSM170	3/3/2016	<0.31
	9/9/2016	53

ng/L – nanograms per liter

## 7.2.2 San Marcos Springs Sediment Sampling

### 7.2.2.1 Sediment – Volatile Organic Compounds (VOCs)

VOCs were detected in sediment samples collected at all of the seven sample sites in the San Marcos Springs complex in 2016. Note many detections are “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit. Methylene chloride was detected in the method blank at a concentration of 56.6 J µg/kg, which may affect detection results. None of the detected compounds have established TEC and PECs. The detections are summarized below in Table 21.

**Table 21. Sediment Samples – Volatile Organic Compound Detections – San Marcos Springs Complex**

Location	Date Collected	Acetone (µg/kg)	2-Butanone (µg/kg)	Methylene chloride (µg/kg)	p-Isopropyltoluene (µg/kg)	Toluene (µg/kg)
HSM310	6/9/16	226 J	40.4 J	<60.2	<4.75	<10.8
HSM320	6/9/16	247 J	33.3 J	<68.5	<5.41	129
HSM330	6/9/16	12.7 J	<1.88	<4.96	<0.392	<0.892
HSM340	6/9/16	62.8 J	<13.4	<35.3	<2.79	<6.35
HSM350	6/9/16	225 J	35.2 J	56.6 J B	15.7 J	<8.04
HSM360	6/9/16	25.8 J	3.89 J	<6.38	<0.504	<1.15
HSM370	6/9/16	13.1 J	<2.36	<6.20	<0.490	<1.12
FDHSM370	6/9/16	10.4 J	<2.50	<6.57	<0.519	<1.18
TEC		NE	NE	NE	NE	NE
PEC		NE	NE	NE	NE	NE

B – Analyte was detected in associated method blank

J – Detection is greater than the method detection limit, but less than the reporting limit.

µg/kg – micrograms per kilogram

NE – Not established

PEC – probable effect concentration

TEC – threshold effect concentration

### 7.2.2.2 Sediment – Semi-volatile Organic Compounds (SVOCs)

Several SVOC compounds were detected in the sediment samples collected in the San Marcos Springs system in 2016. Many of these detections are “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit. The discussion of SVOC detections presented below is divided between non-PAH and PAH compounds.

#### **Non-Polycyclic Aromatic Hydrocarbon (PAH) Detections**

Three non-PAH SVOC compounds were detected in 2016 sediment samples from the San Marcos Spring complex, butyl benzyl phthalate, diethyl phthalate and 3- and 4-methylphenol. No TECs or PECs have been established for any of the non-PAH SVOCs detected.

Based on analysis of 2013 laboratory data, the EAA concluded that three compounds may have been laboratory artifacts. The compounds were DEHP, di-n-octyl phthalate, and di-n-butyl phthalate. The EAA noted in the *2013 Edwards Aquifer Habitat Conservation Plan Expanded Water Quality Report* (EAA 2013) that as the data set grows, additional conclusions could be drawn. The 2014 laboratory analyses of sediment samples did not detect di-n-octyl phthalate or di-n-butyl phthalate. However, DEHP was detected in three of the sediment samples (HSM320, HSM330, and HSM350) in 2014 leading SWCA to conclude it is possible DEHP is present within the sediment and not just a laboratory artifact. DEHP was detected again in three samples in 2015, HSM330, HSM340 and HSM350. In 2016, DEHP was detected in all San

Marcos sediment samples except HSM310 with concentrations ranging from 0.0671 J mg/kg to 0.668 J mg/kg. All detections in 2016 were less than the laboratory reporting limit, but were greater than the method detection limits. The detection of DEHP over the past three sampling events suggests DEHP is present within the sediment in the San Marcos River in the areas tested.

### **PAH Detections**

The remaining SVOC detections are all PAH compounds and are listed in Table 22. PAH detections are further shown in Figures 31–39, where the total PAH concentrations (sum of all detected concentrations for each sample point) and individual detections are compared to the TEC and PEC values established by MacDonald et al. (2000). Sample locations HSM340 and HSM350 exceed the TEC for total PAH concentrations. HSM320 and HSM330 exceeded the PEC for total PAH concentrations. Individual PAH compound TECs were exceeded in samples HSM320, HSM340 and HSM350. Individual PAH compound PECs were exceeded in samples HSM320 and HSM330.

Table 22. Sediment Samples – Semi-volatile Organic Compound Detections - San Marcos Springs Complex

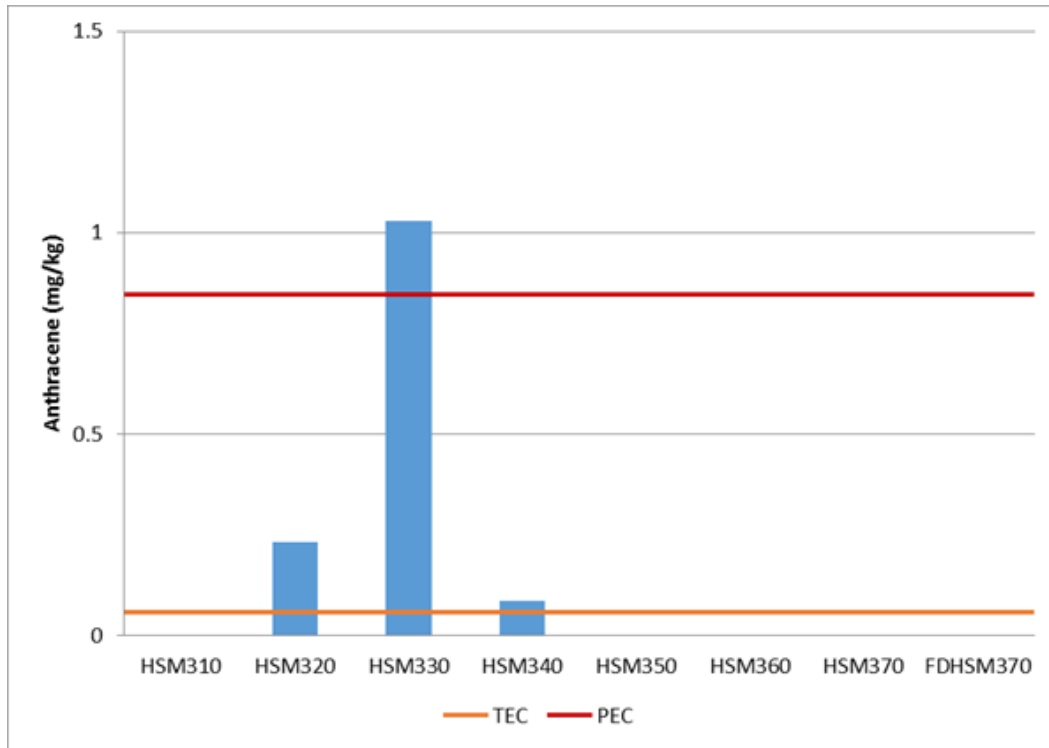
		PAH Compounds																		Non-PAH Compounds			
Location	Date Collected	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) Anthracene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Benzo (b) Fluoranthene (mg/kg)	Benzo (g,h,i) Perylene (mg/kg)	Benzo (k) Fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenz (a,h) anthracene (mg/kg)	Dibenzofuran (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno(1,2,3-c,d) Pyrene (mg/kg)	2-Methylnaphthalene (mg/kg)	Naphthalene (mg/kg)	Phenanthrene (mg/kg)	Pyrene (mg/kg)	Total PAH (mg/kg)	Bis(2-Ethylhexyl) Phthalate (DEHP) (mg/kg)	Butyl benzyl phthalate (mg/kg)	Diethyl phthalate (mg/kg)	3- and 4-Methylphenol (mg/kg)
HSM310	6/9/16	<0.0811	<0.0907	<0.1	<0.0811	<0.0716	<0.0716	<0.062	<0.0716	<0.0668	<0.0907	<0.0811	<0.0907	<0.0764	<0.0716	<0.0764	<0.1	<0.0811	--	<0.124	<0.0668	<0.0764	0.883 J
HSM320	6/9/16	<0.111	0.232 J	1.85	2.09	3.67	1.55	1.3	2.62	0.606 J	<0.124	4.38	<0.124	1.64	<0.0981	<0.105	1.23	2.98	24.148	0.35 J	<0.0915	<0.105	0.289 J
HSM330	6/9/16	0.515 J	1.03	1.93	1.67	2.69	0.634 J	1.1	2.08	0.324 J	0.314 J	5.03	0.613 J	0.825	0.109 J	0.402 J	4.43	3.22	26.916	0.668 J	<0.0621	0.216 J	<0.124
HSM340	6/9/16	<0.0468	0.0841 J	0.295 J	0.307 J	0.547	0.105 J	0.21 J	0.346 J	0.0986 J	<0.0523	0.792	<0.0523	0.207 J	<0.0413	<0.044	0.337 J	0.589	3.9177	0.211 J	0.0554 J	<0.044	<0.0771
HSM350	6/9/16	<0.12	<0.134	0.21 J	0.246 J	0.511 J	0.108 J	0.172 J	0.281 J	<0.0989	<0.134	0.59 J	<0.134	0.324 J	<0.106	<0.113	0.182 J	0.352 J	2.976	0.586 J	<0.0989	<0.113	4.33
HSM360	6/9/16	<0.045	<0.0502	<0.0555	0.0578 J	0.0915 J	<0.0397	0.0601 J	0.0774 J	<0.037	<0.0502	0.13 J	<0.0502	0.114 J	<0.0397	<0.0423	<0.0555	0.073 J	0.6038	0.156 J	<0.037	<0.0423	<0.074
HSM370	6/9/16	<0.0233	<0.026	<0.0287	0.0244 J	0.0498 J	<0.0205	<0.0178	0.0291 J	<0.0191	<0.026	0.0492 J	<0.026	0.0596 J	<0.0205	<0.0219	<0.0287	0.0273 J	0.2394	0.0671 J	<0.0191	<0.0219	<0.0383
FDHSM370	6/9/16	<0.0237	<0.0265	<0.0293	<0.0237	<0.0209	<0.0209	<0.0181	<0.0209	<0.0195	<0.0265	0.0361 J	<0.0265	0.0503 J	<0.0209	<0.0223	<0.0293	<0.0237	0.0864	0.0816 J	<0.0195	<0.0223	<0.039
TEC		NE	0.0572	0.108	0.15	NE	NE	NE	0.166	NE	NE	0.423	0.0774	NE	NE	NE	0.204	0.195	1.610	NE	NE	NE	NE
PEC		NE	0.845	1.05	1.45	NE	NE	NE	1.29	NE	NE	2.23	0.536	NE	NE	NE	1.17	1.52	22.800	NE	NE	NE	NE

J – Detection is greater than the method detection limit, but less than the reporting limit.  
Mg/kg – milligrams per kilogram  
NE – Not established  
PEC – probable effect concentration  
TEC – threshold effect concentration  
-- – not applicable

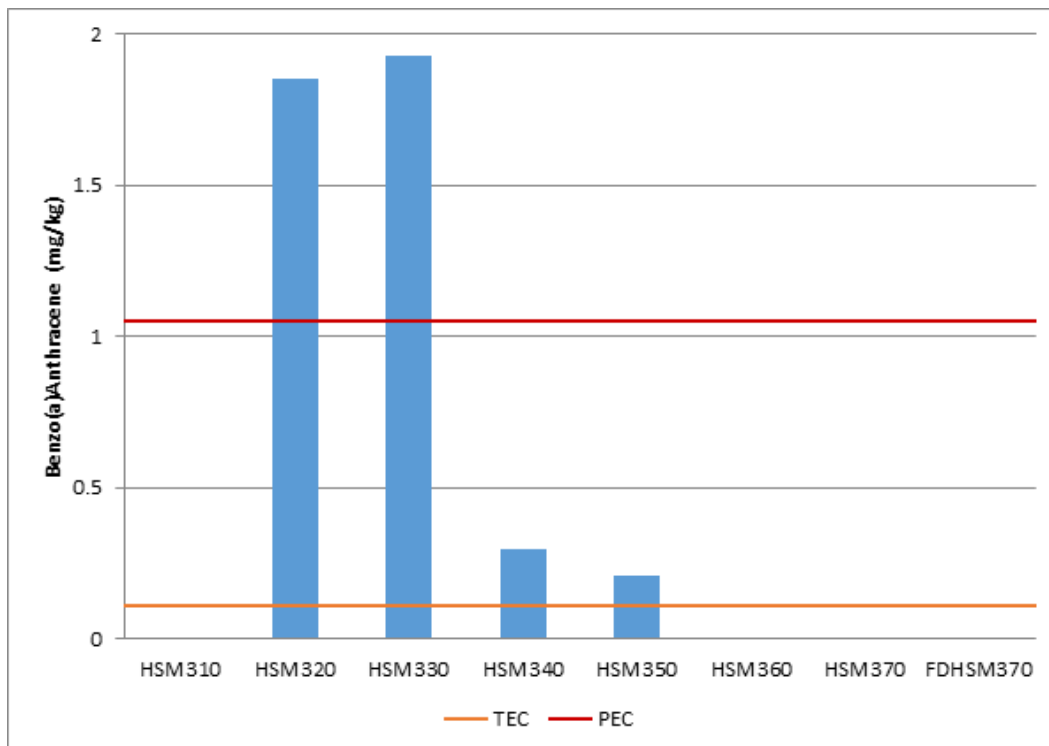


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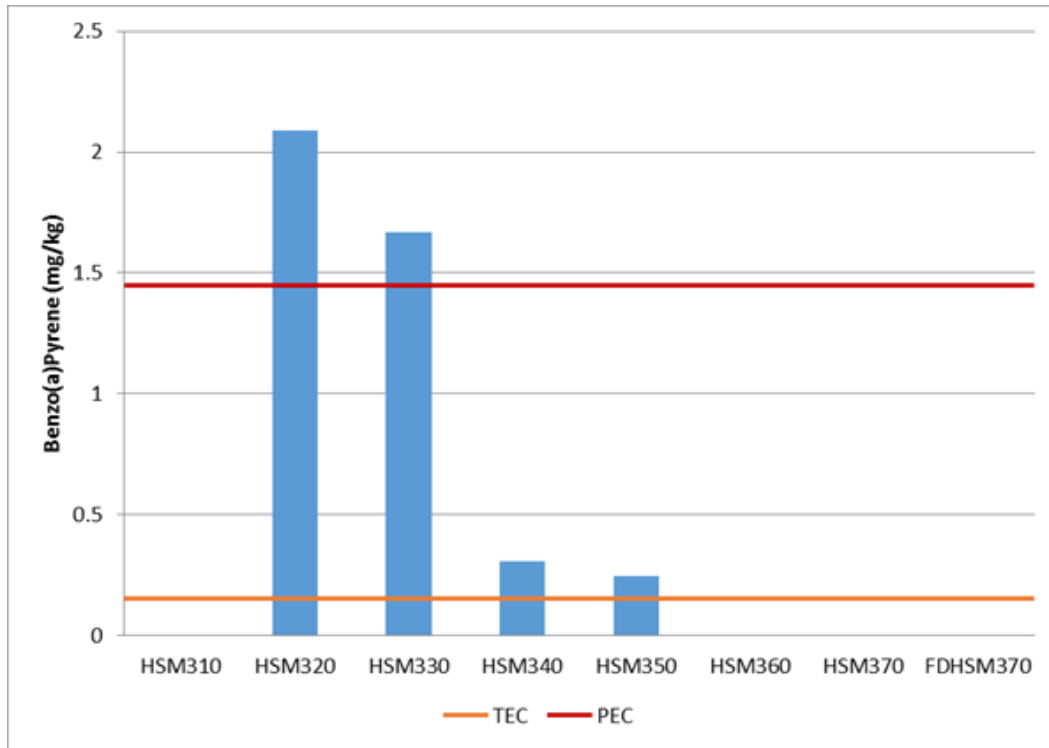
**Figure 31. San Marcos Springs Sediment Anthracene Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) values**



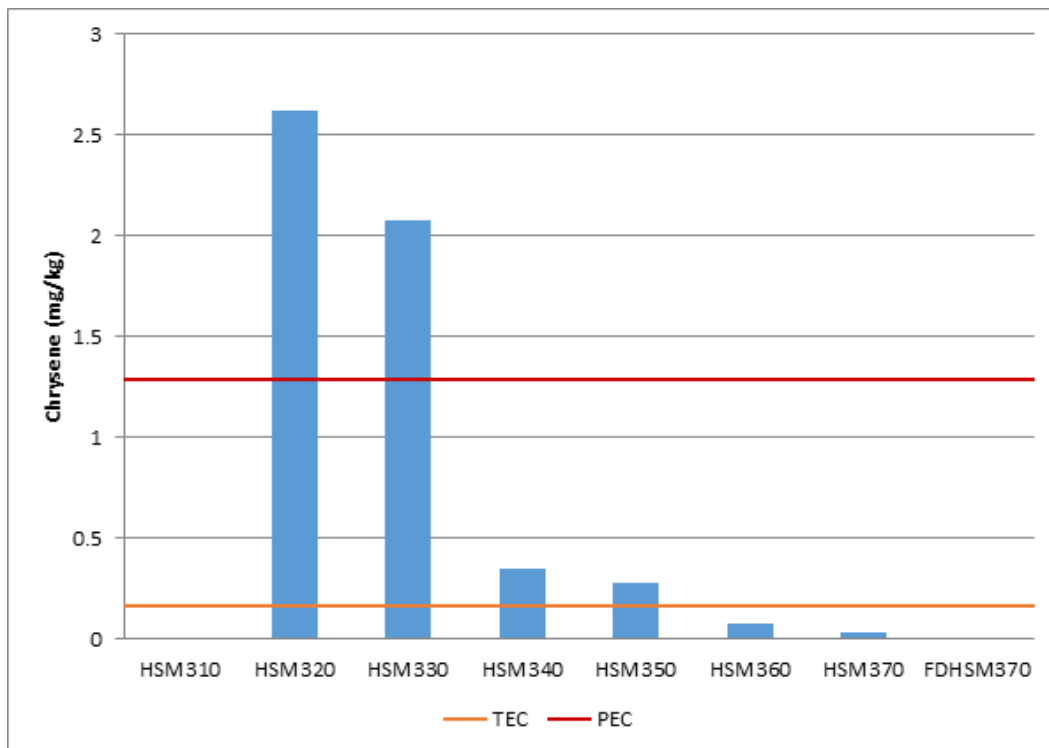
**Figure 32. San Marcos Springs Sediment Benzo(a)anthracene Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) values**



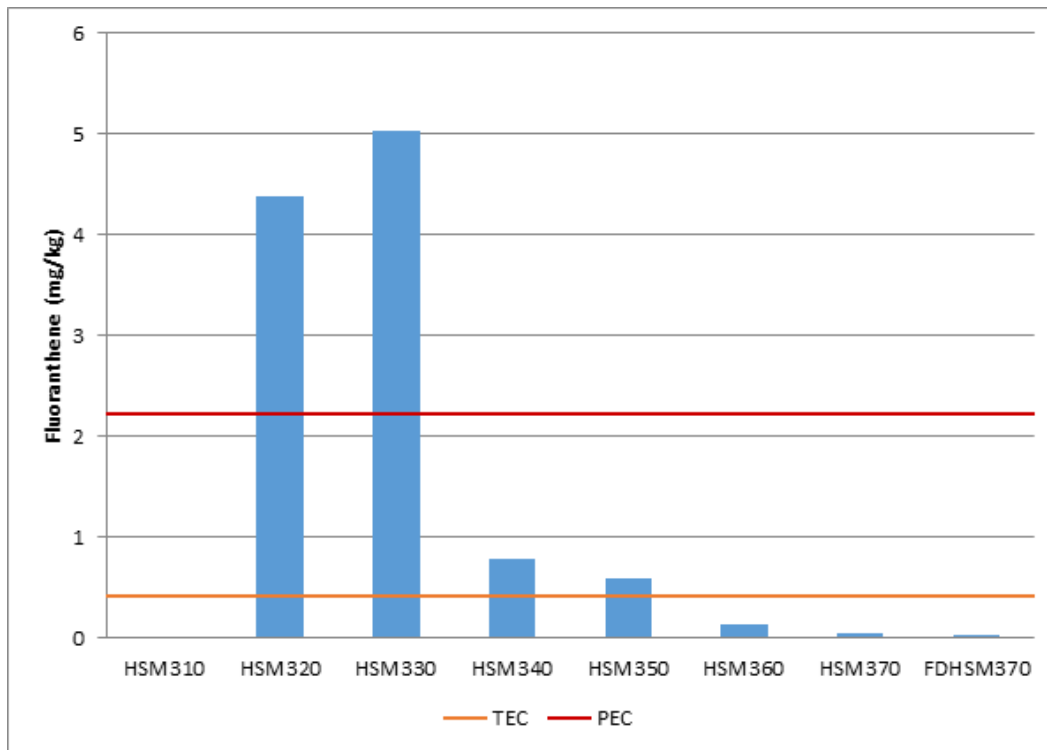
**Figure 33. San Marcos Springs Sediment Benzo(a)pyrene Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) values**



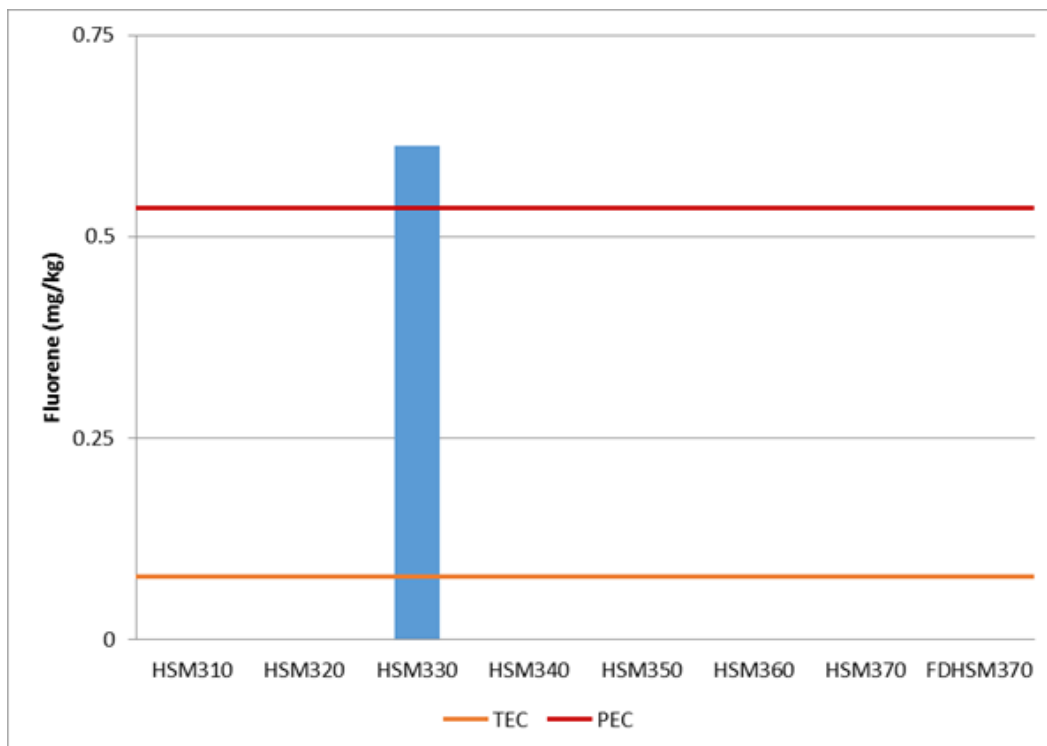
**Figure 34. San Marcos Springs Sediment Chrysene Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) values**



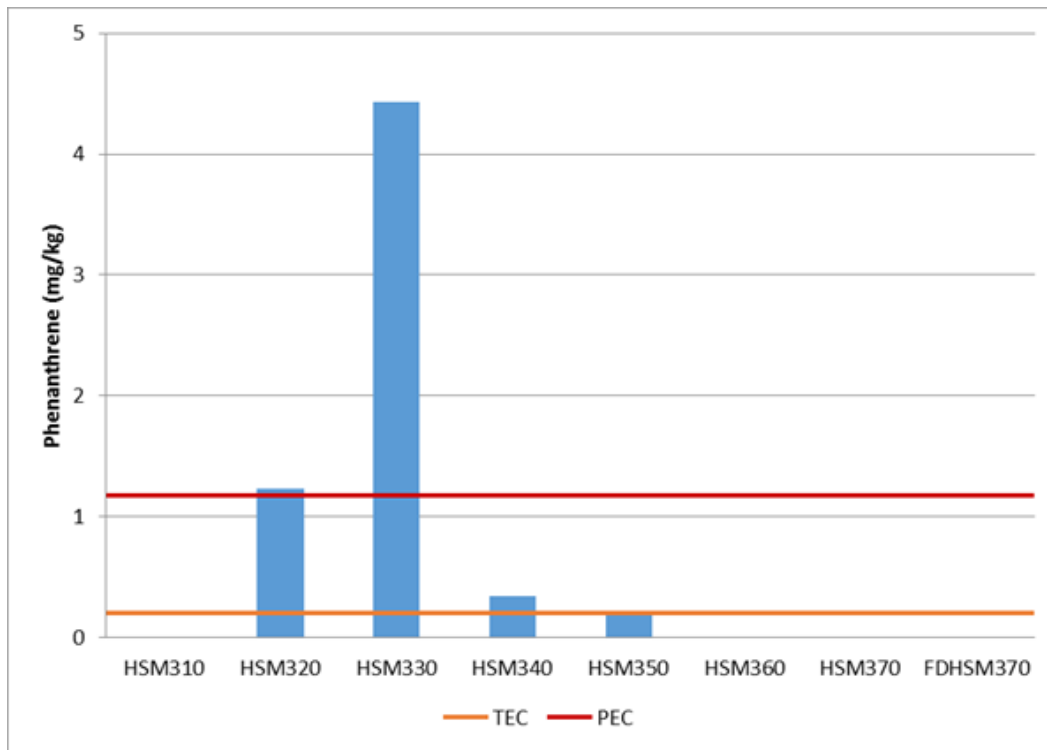
**Figure 35. San Marcos Springs Sediment Fluoranthene Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) values**



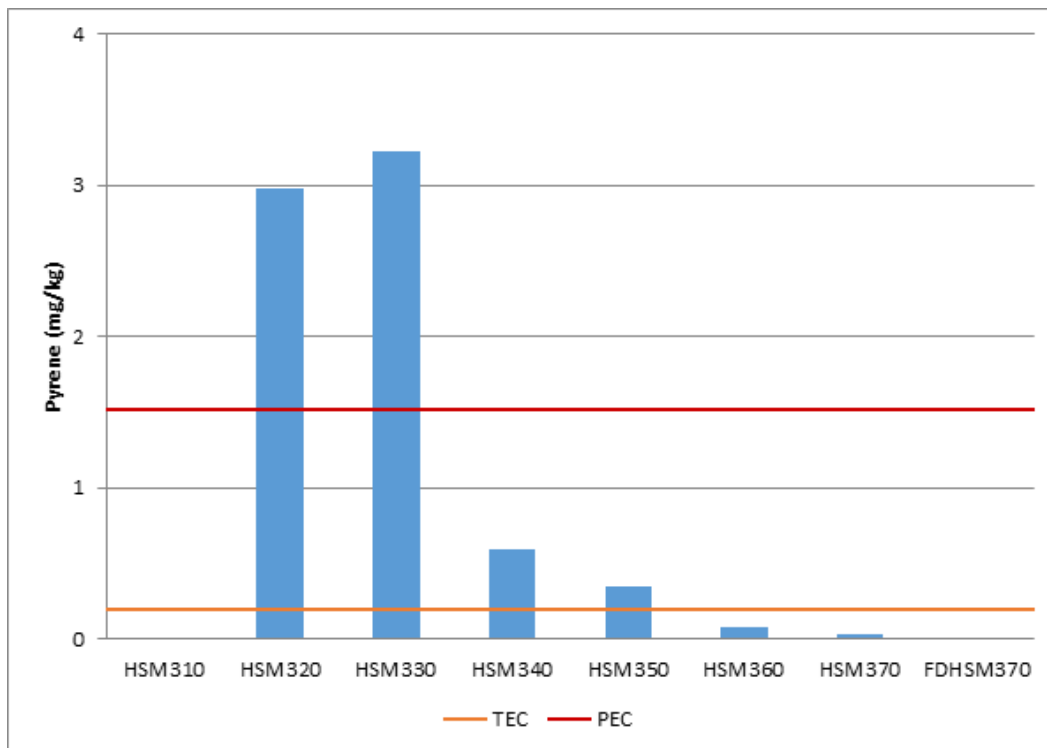
**Figure 36. San Marcos Springs Sediment Fluorene Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) values**



**Figure 37. San Marcos Springs Sediment Phenanthrene Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) values**

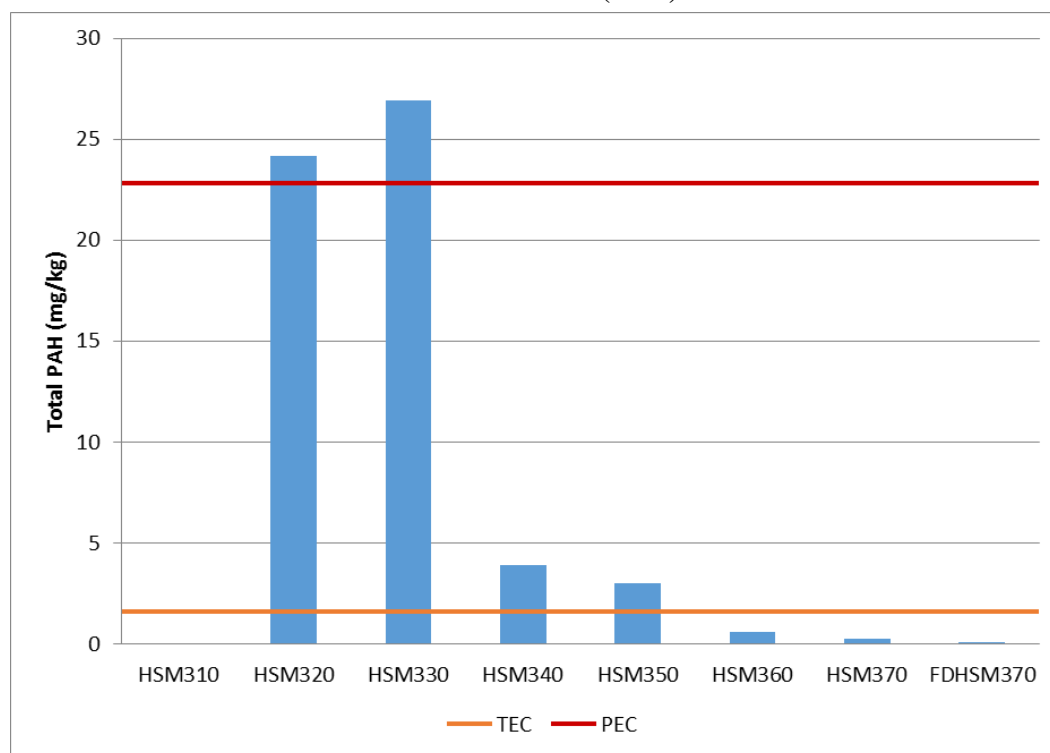


**Figure 38. San Marcos Springs Sediment Pyrene Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) values**





**Figure 39. San Marcos Springs Sediment Polycyclic Aromatic Hydrocarbons (PAH) Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) values**



### 7.2.2.3 Sediment - Pesticides

Sediment samples were analyzed for both organochlorine and organophosphorus pesticides. Organochlorine pesticides were detected in the San Marcos Springs sediment samples in 2016 at HSM320, HSM340, and HSM350. The TEC for 4,4-DDD was exceeded in samples HSM320 and HSM340. The TEC for 4,4-DDE was exceeded at HSM350. The PEC for 4,4-DDE was also exceeded at HSM320 and HSM340. Alpha-chlordane and gamma-chlordane were also detected but do not have established TEC or PECs. Concentrations are listed in Table 23. TEC and PEC exceedances are shown graphically in Figures 40 and 41.

**Table 23. Sediment Samples – Pesticide Detections - San Marcos Springs Complex**

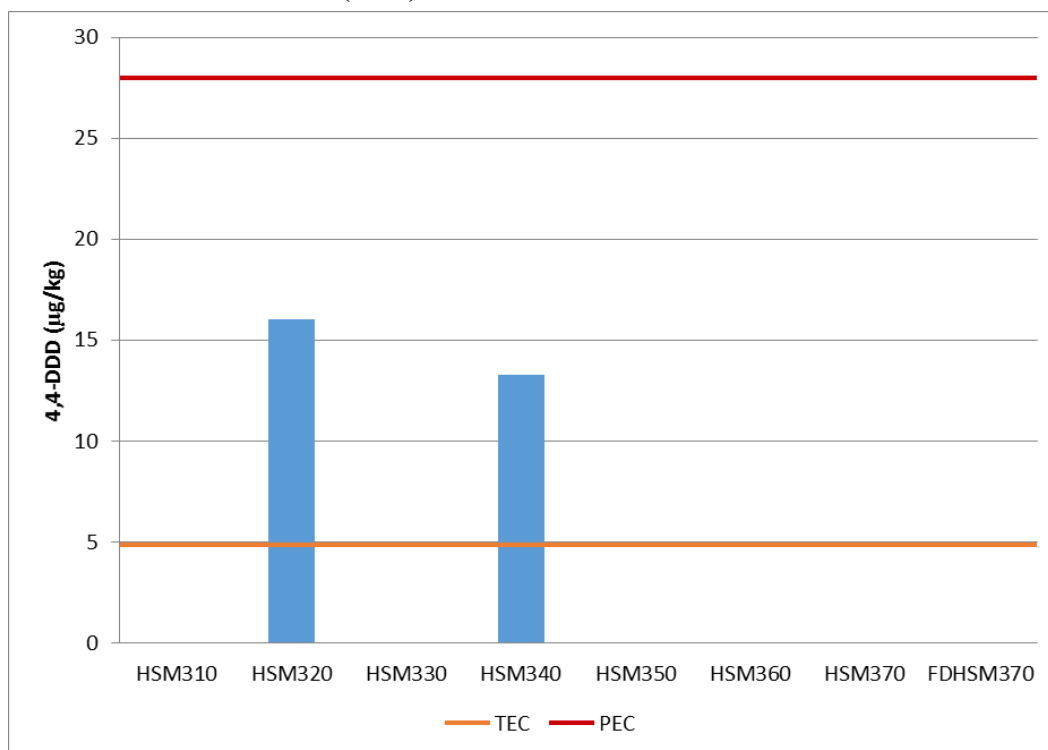
Location	Date Collected	4,4-DDD (µg/kg)	4,4-DDE (µg/kg)	Alpha-chlordane (µg/kg)	Gamma-chlordane (µg/kg)
HSM320	6/9/16	16	103	<5.50	<4.33
HSM340	6/9/16	13.3	31.5	7.54	19.2
HSM350	6/9/16	<3.03	9.72	<2.98	<2.34
TEC		4.88	3.16	NE	NE
PEC		28	31.3	NE	NE

NE – not established

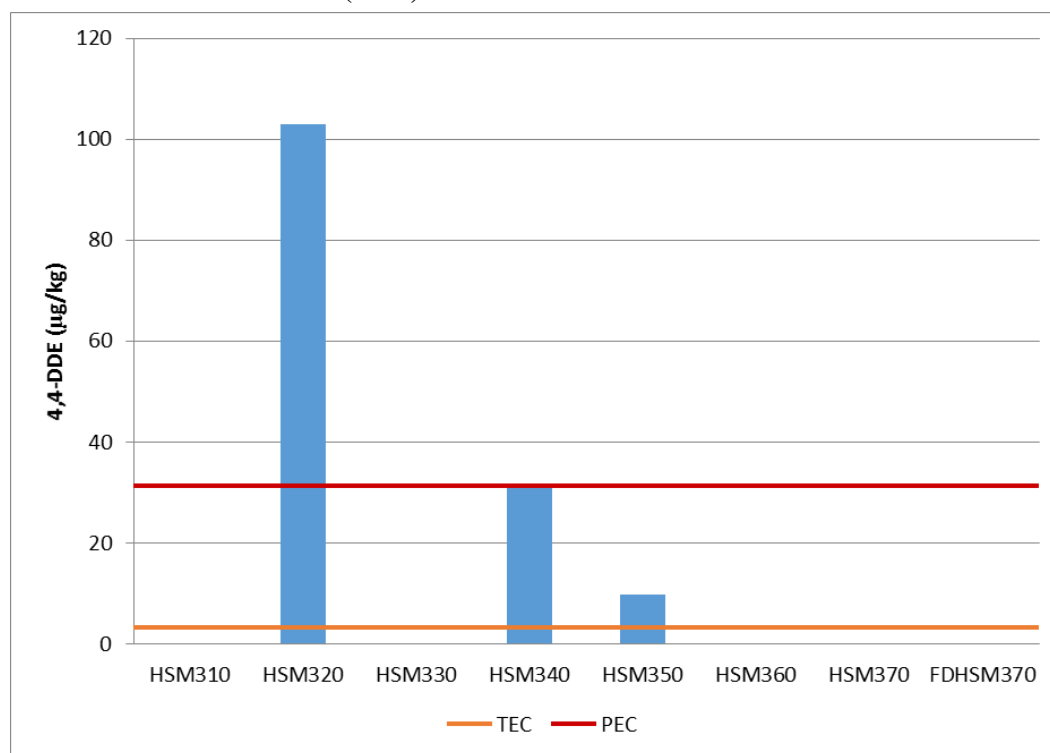
PEC – probable effect concentration

TEC – threshold effect concentration

µg/kg – micrograms per kilogram

**Figure 40. San Marcos Springs Sediment 4,4-DDD Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) values**

**Figure 41. San Marcos Springs Sediment 4,4-DDE Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) values**



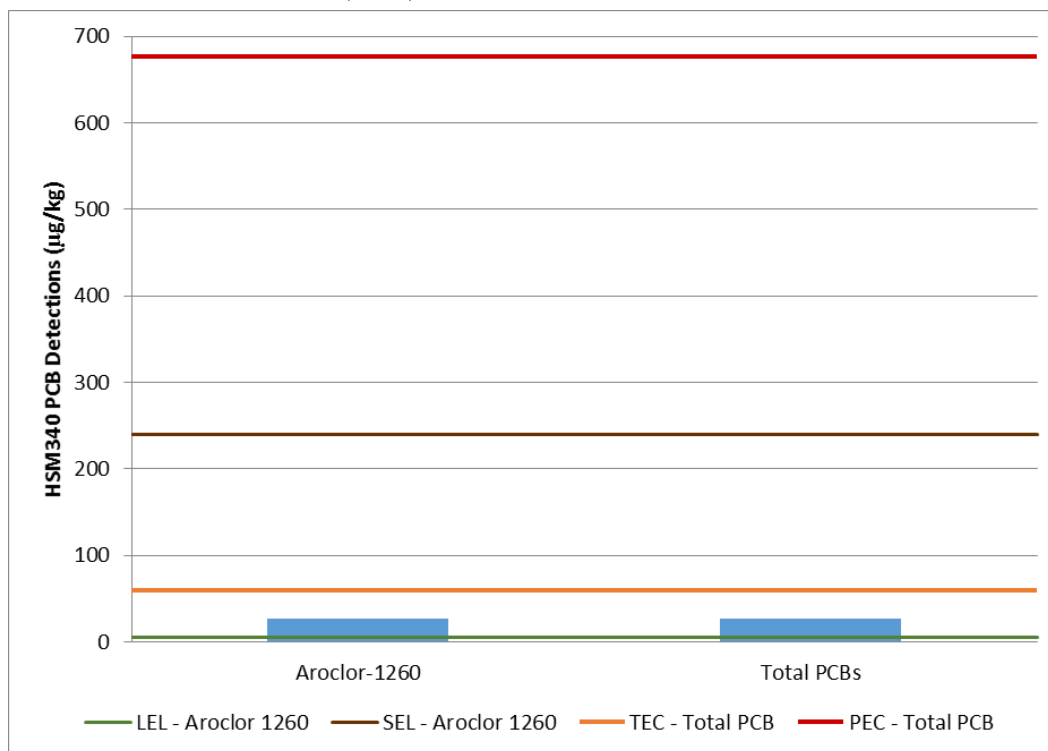
#### **7.2.2.4 Sediment - Herbicides**

Sediments were analyzed for herbicide compounds to further assess sediment quality at the San Marcos Springs complex. No herbicides were detected in any of the sediment samples from the seven sites in the San Marcos Springs complex.

#### **7.2.2.5 Sediment - Polychlorinated Biphenyls**

Sediments were analyzed for PCB compounds to further assess sediment quality at the San Marcos Springs complex. Aroclor-1260 was detected at a concentration of 26.3 J µg/kg in the sediment sample collected from HSM340. This detection was “J” flagged, indicating the detected concentration is less than the laboratory reporting limit, but greater than the method detection limit. MacDonald et al. (2000) established a TEC and PEC for Total PCB compounds but not individual PCBs. The detection was not above the TEC of 59.8 µg/kg or the PEC of 676 µg/kg for Total PCBs. However, TCEQ lists a Lower Effects Level (LEL) and Severe Effects Level (SEL) for select individual PCBs (TCEQ 2012, TCEQ 2014). The detection exceeded the LEL of 5 µg/kg for Aroclor-1260. The detection did not exceed the SEL of 240 µg/kg for Aroclor-1260. The detection is shown in comparison to the LEL and SEL values for Aroclor-1260 and the TEC and PEC values for Total PCBs in Figure 42.

**Figure 42. San Marcos Springs Sediment Aroclor-1260 and Total PCB Detections Compared to Lower Effects Level (LEL), Severe Effects Level (SEL), Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) values**



#### 7.2.2.6 Sediment - Metals

Many metals are naturally occurring within soil, rock, and sediment. Sediment sample results for metals at the San Marcos Springs complex tested positive for several metals, generally at low concentrations. Metals detected above the method detection limit and subsequently evaluated in this report for potential toxic effects using the TEC and PEC standards are: arsenic, cadmium, chromium, copper, lead, manganese, mercury, nickel, and zinc. Other metals detected that do not have a TEC or PEC value available are aluminum, antimony, barium, beryllium, iron and selenium which were compared to TSBC (TCEQ 2014b). Several samples exceeded one or more of these limits in 2016. The TEC for cadmium was exceeded in samples HSM310 and HSM350. Lead detections exceeded the TEC in samples HSM350 and HSM360. Lead concentrations also exceeded the PEC at HSM340. The manganese detection exceeded the TEC at HSM310. The Zinc concentration exceeded the TEC in sample HSM360.

All selenium detections were above the TSBC level of 0.3 mg/kg. Sediment studies of selenium concentrations have shown that levels below 4 mg/kg are not likely to bioaccumulate in the food chain or have adverse impacts on the reproduction of fish or aquatic birds (Lemly 1995; Moore et al. 1990; Van Derveer and Canton 1996). Selenium detections did not exceed 4 mg/kg in 2016 San Marcos sediment samples.

For the evaluation of antimony levels, TCEQ recommends an ERL of 2 mg/kg (TCEQ 2014) and an ERM of 25 mg/kg (TCEQ 2012). Antimony detections were “J” flagged, indicating the detected concentration is

less than the laboratory reporting limit, but greater than the method detection limit. Antimony detections at HSM330, HSM350, HSM370 and FDHSM370 exceeded the TSBC but did not exceed the ERL.

Metal detections are listed in Table 24. Metals with detections above an established TEC, TSBC or PEC value are displayed graphically in Figures 43–48, for antimony, cadmium, lead, manganese, selenium and zinc, respectively.



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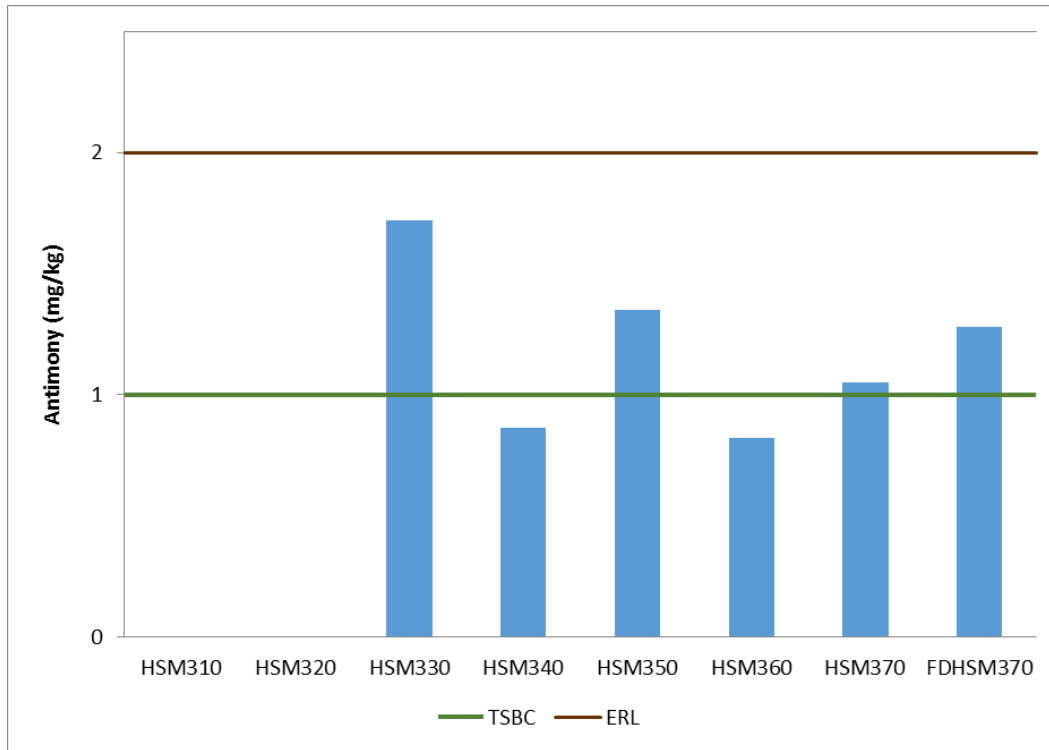
Table 24. Sediment Samples – Metal Detections - San Marcos Springs Complex

Location	Date Collected	Aluminum (mg/kg)	Antimony (mg/kg)	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Iron (mg/kg)	Lead (mg/kg)	Manganese (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Zinc (mg/kg)
HSM310	6/9/16	5560	<0.562	7.44	60.4	0.586 J	1.2	13.7	7.24	11400	11.5	710	0.0261 J	10.6	1.44 J	30.4
HSM320	6/9/16	2420	<0.694	3.78 J	24.6	0.251 J	0.650 J	5.96	10.7	6440	17.2	68	0.0386 J	5.03 J	2.78	48.8
HSM330	6/9/16	1210	1.72 J	7.01	21.2	0.172 J	0.819	6.77	5.65	8050	10.2	338	0.0161 J	7.51	1.54	32.1
HSM340	6/9/16	4340	0.861 J	3.47	41.3	0.437 J	0.788	35.8	9.28	5540	260	156	0.0715 J	7.14	1.15	52.7
HSM350	6/9/16	3020	1.35 J	4.14	38.3	0.312 J	1.11	10.5	10.1	5880	43.4	294	0.0799 J	8.87	1.93	46.3
HSM360	6/9/16	5050	0.820 J	5.76	38.1	0.474 J	0.955	16.9	8.8	7260	116	352	0.0201 J	8.9	1.09 J	447
HSM370	6/9/16	3930	1.05 J	3.16	36.9	0.512 J	0.777	7.97	5.03	5970	14.5	302	0.0234 J	7.27	0.952 J	28.7
FDHSM370	6/9/16	3380	1.28 J	2.4	37.1	0.347 J	0.784	9.16	4.47	4710	17.3	339	<0.0140	5.47	1.13	25.9
TEC		NE	NE	9.79	NE	NE	0.99	43.4	31.6	NE	35.8	460	0.18	22.7	NE	121
PEC		NE	NE	33	NE	NE	4.98	111	149	NE	128	1100	1.06	48.6	NE	459
TSBC		30000	1	5.9	300	1.5	NE	NE	15	15000	15	300	0.04	10	0.3	30

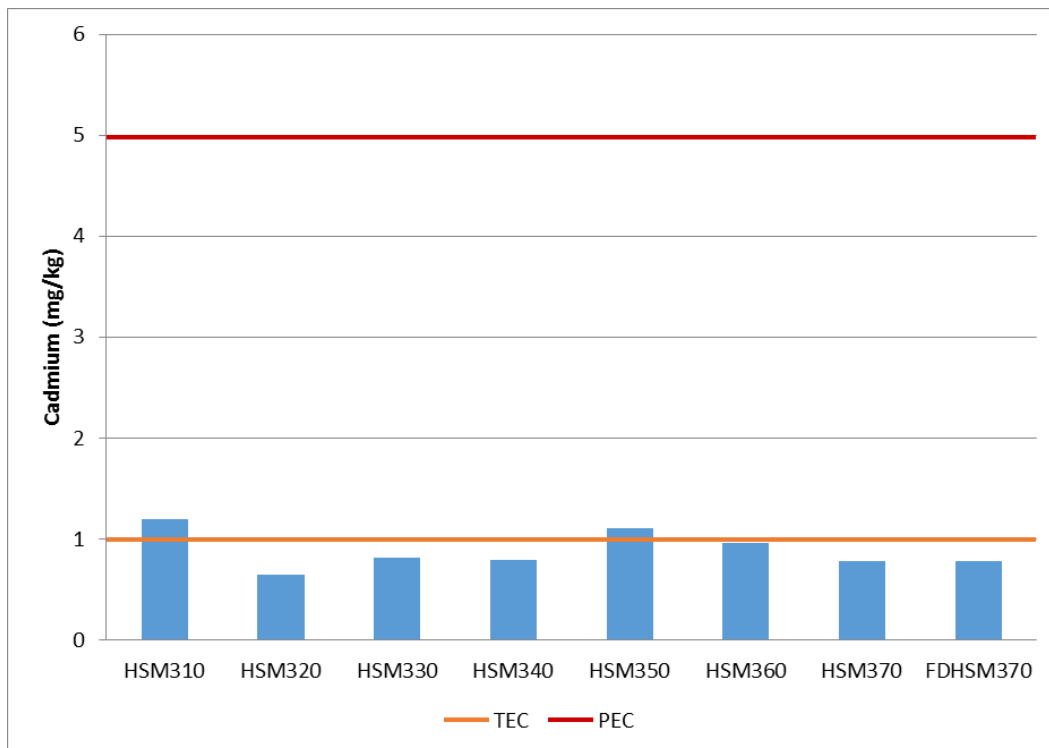
J – Detection is greater than the method detection limit, but less than the reporting limit.  
Mg/kg – milligrams per kilogram  
NE – Not established  
PEC – probable effect concentration  
TEC – threshold effect concentration  
TSBC – Texas-specific soil background concentration

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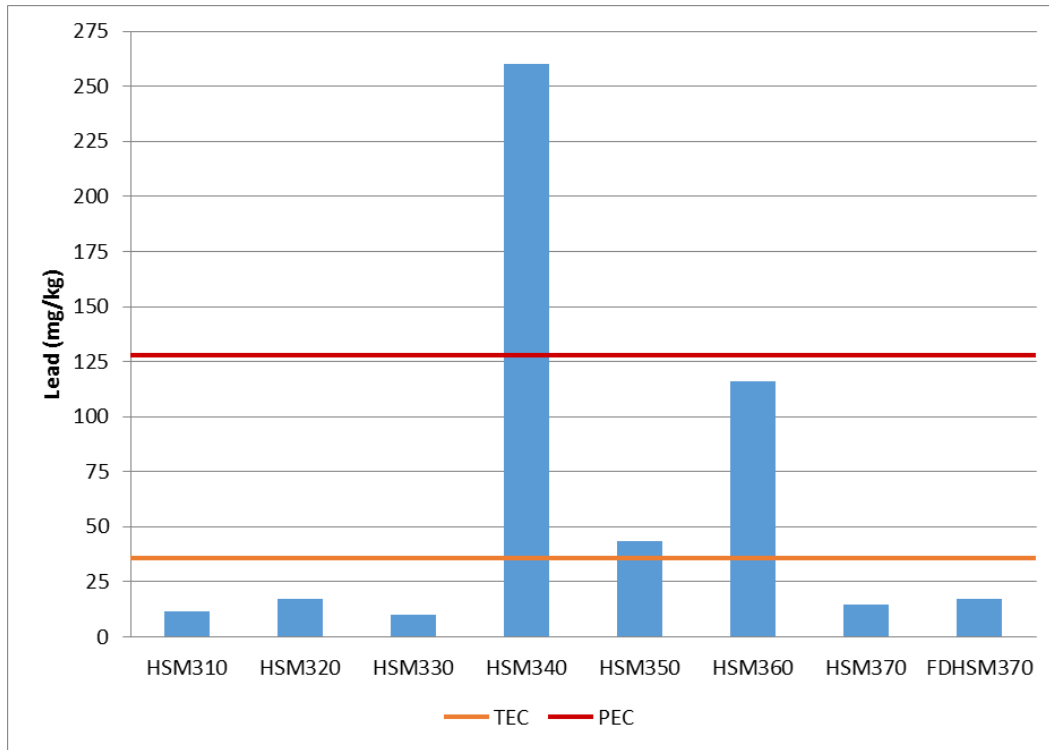
**Figure 43. San Marcos Springs Sediment Antimony Detections Compared to Texas-specific Background Concentration (TSBC) and Effects Range Low (ERL) Values**



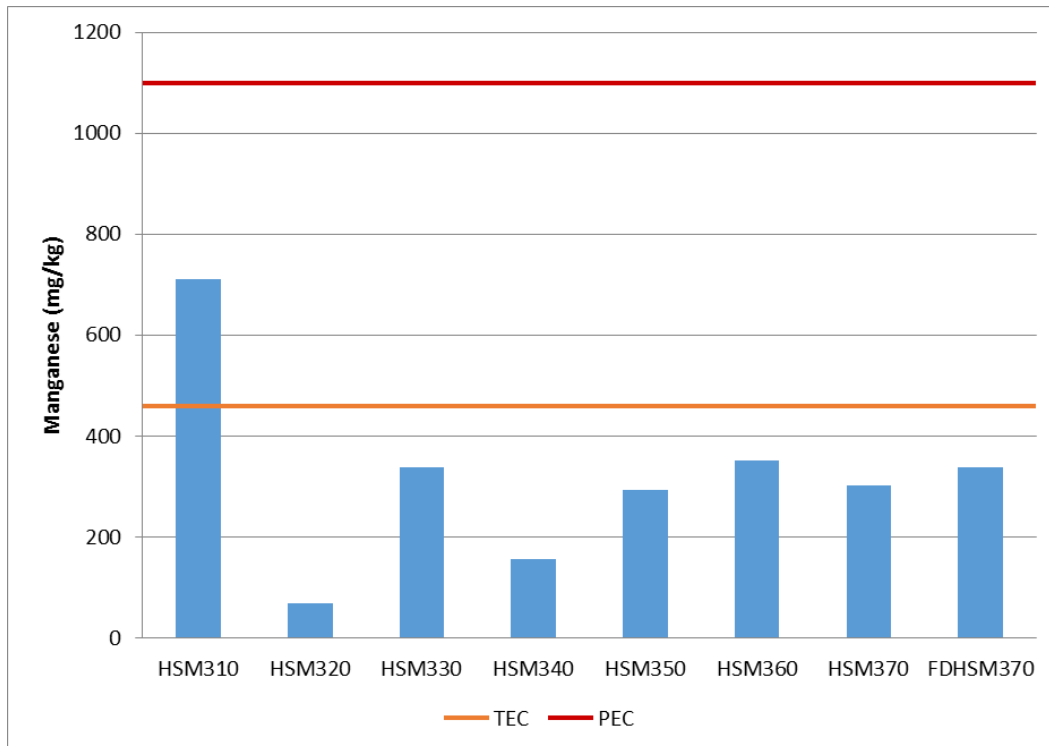
**Figure 44. San Marcos Springs Sediment Cadmium Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) Values**



**Figure 45. San Marcos Springs Sediment Lead Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) Values**

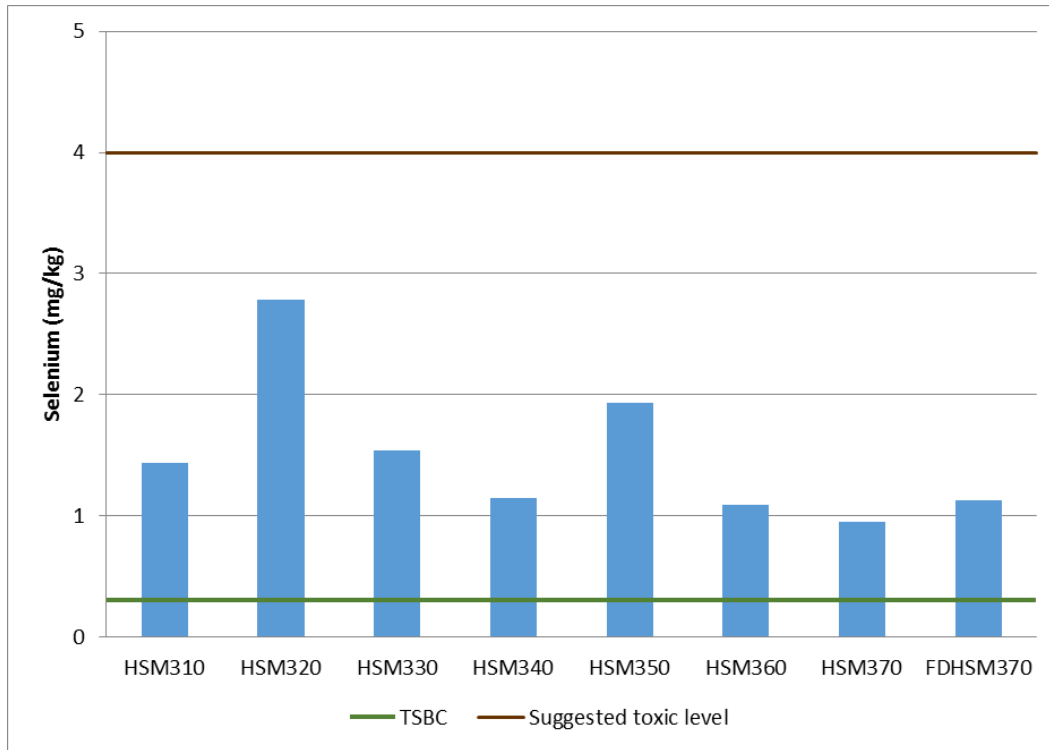


**Figure 46. San Marcos Springs Sediment Manganese Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) Values**

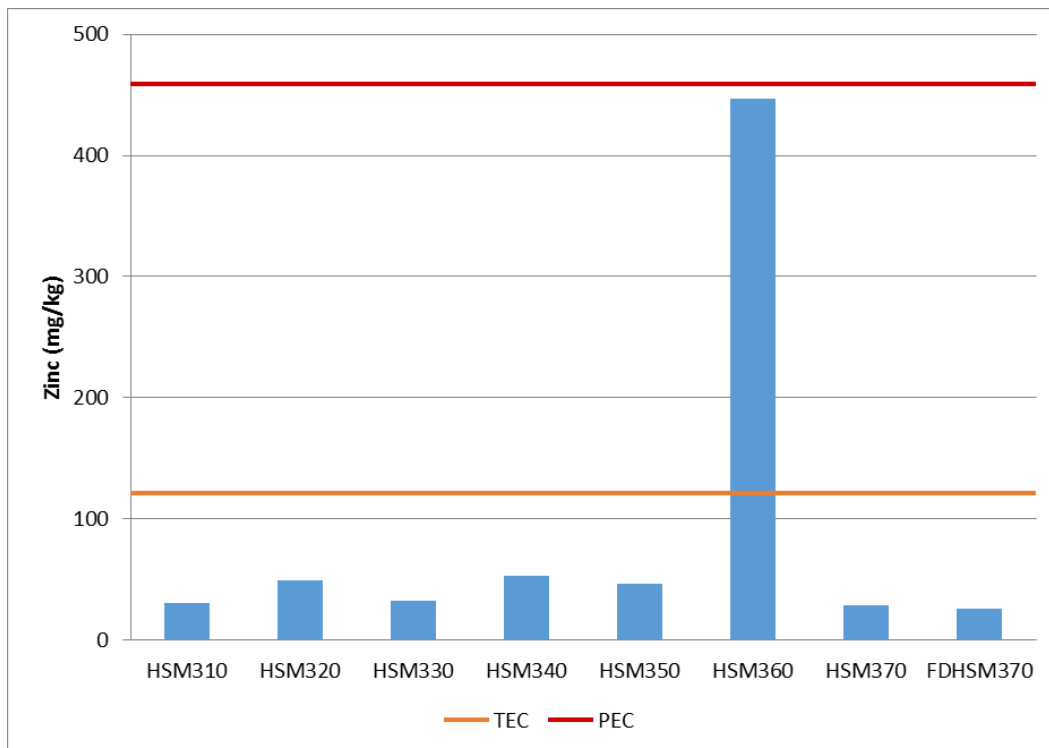




**Figure 47. San Marcos Springs Sediment Selenium Detections Compared to Texas-specific Soil Background Concentration (TSBC) and Possible Bioaccumulation Level**



**Figure 48. San Marcos Springs Sediment Zinc Detections Compared to Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) Values**



### 7.2.3 San Marcos Springs Stormwater Sampling

Stormwater samples were to be collected during two storm events at the San Marcos Springs complex in 2016. Each event was to be sampled according to the guidelines in the EAHCP Work Plan. The first sampling event occurred on March 9, 2016. Total rainfall for the first event was approximately 0.75 to 0.99 inches (NOAA 2016). The streamflow measured at USGS Gauge 08170500 increased from 245 cfs to 246 cfs during the event (USGS 2016), it is unclear if the gauge was operating correctly during the event, as a larger increase is generally observed during storm events. A more than 20% change in specific conductivity and other water quality parameters did occur during the event and SWCA staff observed a rise in water levels at sampling locations. Therefore, the storm event is considered valid for sampling based on the guidelines in the *EAA Groundwater Quality Monitoring Plan*. The second event occurred on November 3, 2016. Total rainfall for the November 2016 event was approximately 0.50 to 0.75 inches (NOAA 2016). The storm caused streamflow to increase from 255 cfs to 306 cfs (USGS 2016).

#### 7.2.3.1 Stormwater - Bacteria Detections

Stormwater samples collected and analyzed for bacteria analyses generally tested positive for high levels of bacteria. The 2014 Texas Surface Water Quality Standard for *E. coli* in primary recreation waters is a geometric mean of 126 MPN/100 mL with no individual sample exceeding 399 MPN/100 mL (30 TAC 307.7). The geometric mean for stormwater samples collected from the San Marcos Springs complex in March 2016 was approximately 5,065 MPN/100 mL. Bacteria counts ranged from 75 MPN/100 mL to 61,000 MPN/100 mL with several samples exceeding the individual sample limit during the March 2016 event. November 2016 *E. coli* counts ranged from 72 to >24,000 MPN/100 mL with a geometric mean of approximately 2543 MPN/100 mL. Individual detections are listed below in Table 25 and shown in relation to stream discharge and specific conductivity in Figures 49 and 50. Due to the timing of storm events and laboratory working hours, it was not possible to deliver all samples to the laboratory within sample holding times (see discussion in Appendix C). Samples exceeding hold times were included in the range and geometric mean calculations.

**Table 25. Stormwater Samples – Bacteria Counts  
- San Marcos Springs Complex**

Location	Date	Concentration (MPN/100 mL)
HSM210 Lead	3/9/2016	75 H
	11/3/2016	72 H
HSM210 Peak	3/9/2016	960
	11/3/2016	93 H
HSM210 Trail	3/9/2016	2000
	11/3/2016	240 H
FDHSM210 Trail	3/9/2016	2400
	11/3/2016	280 H
HSM230 Lead	3/9/2016	61000 H
	11/3/2016	>24000 H
HSM230 Peak	3/9/2016	49000
	11/3/2016	16000 H

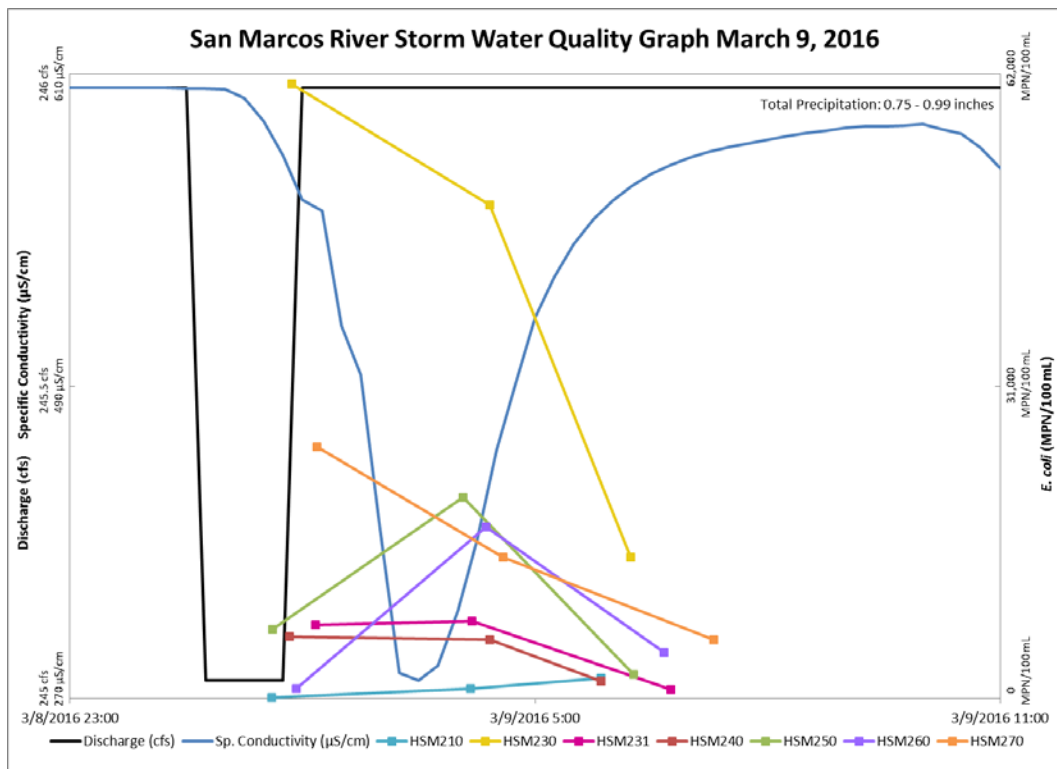
**Table 25. Stormwater Samples – Bacteria Counts  
- San Marcos Springs Complex**

Location	Date	Concentration (MPN/100 mL)
HSM230 Trail	3/9/2016	14000
	11/3/2016	4900 H
FDHSM230 Trail	3/9/2016	26000
	11/3/2016	6500 H
HSM231 Lead	3/9/2016	7300 H
	11/3/2016	>24000 H
HSM231 Peak	3/9/2016	7700
	11/3/2016	2000 H
HSM231 Trail	3/9/2016	880
	11/3/2016	390 H
FDHSM231 Trail	3/9/2016	1400
	11/3/2016	610 H
HSM240 Lead	3/9/2016	6100 H
	11/3/2016	4400 H
HSM240 Peak	3/9/2016	5800
	11/3/2016	980 H
HSM240 Trail	3/9/2016	1700
	11/3/2016	360 H
HSM250 Lead	3/9/2016	6900 H
	11/3/2016	10000 H
HSM250 Peak	3/9/2016	20000
	11/3/2016	17000 H
HSM250 Trail	3/9/2016	2400
	11/3/2016	4100 H
HSM260 Lead	3/9/2016	990 H
	11/3/2016	1700 H
HSM260 Peak	3/9/2016	17000
	11/3/2016	6900 H
HSM260 Trail	3/9/2016	4600
	11/3/2016	3300 H
HSM270 Lead	3/9/2016	25000 H
	11/3/2016	7700 H
HSM270 Peak	3/9/2016	14000
	11/3/2016	>24000 H
HSM270 Trail	3/9/2016	5800
	11/3/2016	11000 H

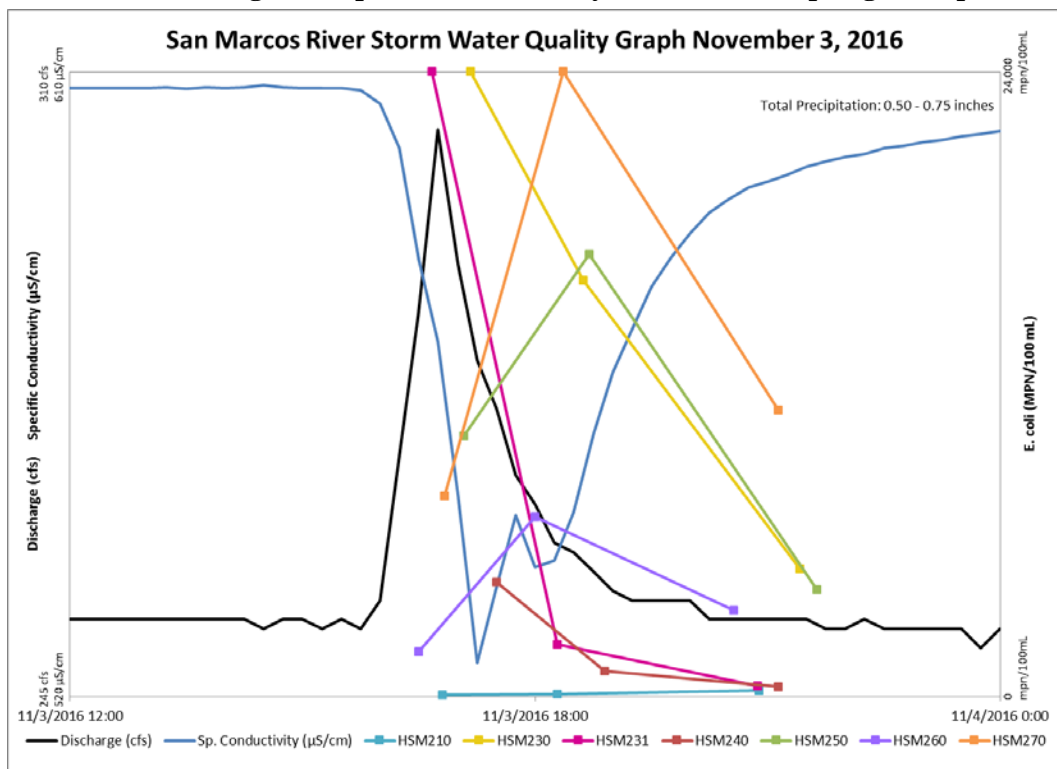
H – Analyzed outside hold time, result included for comparison but not considered valid

MPN/100 mL – Most probable number per 100 milliliters of water

**Figure 49. Stormwater Samples – March 2016 Bacteria Counts in Relation to Stream Discharge and Specific Conductivity – San Marcos Springs Complex**



**Figure 50. Stormwater Samples – November 2016 Bacteria Counts in Relation to Stream Discharge and Specific Conductivity – San Marcos Springs Complex**



### 7.2.3.2 Stormwater - Volatile Organic Compounds (VOCs)

One VOC compound, acetone, was detected in several stormwater samples from the March 2016 Sampling event and one sample from the November 2016 event. All of these detections were less than the established PCL, and one exceeded the laboratory reporting limit. The detections are summarized in Table 26.

**Table 26. Stormwater Samples – Volatile Organic Compound Detections - San Marcos Springs Complex**

Location	Date	Acetone (ug/L)
HSM210 Lead	3/9/2016	<5.00
	11/3/2016	<5.00
HSM210 Peak	3/9/2016	<5.00
	11/3/2016	<5.00
HSM210 Trail	3/9/2016	<5.00
	11/3/2016	<5.00
FDHSM210 Trail	3/9/2016	6.27 J
	11/3/2016	<5.00
HSM230 Lead	3/9/2016	5.45 J
	11/3/2016	<5.00
HSM230 Peak	3/9/2016	<5.00
	11/3/2016	<5.00
HSM230 Trail	3/9/2016	7.75 J
	11/3/2016	<5.00
FDHSM230 Trail	3/9/2016	<5.00
	11/3/2016	<5.00
HSM231 Lead	3/9/2016	8.09 J
	11/3/2016	<5.00
HSM231 Peak	3/9/2016	<5.00
	11/3/2016	<5.00
HSM231 Trail	3/9/2016	<5.00
	11/3/2016	7.41 J
FDHSM231 Trail	3/9/2016	5.61 J
	11/3/2016	<5.00
HSM240 Lead	3/9/2016	<5.00
	11/3/2016	<5.00
HSM240 Peak	3/9/2016	<5.00
	11/3/2016	<5.00
HSM240 Trail	3/9/2016	<5.00
	11/3/2016	<5.00
HSM250 Lead	3/9/2016	12.4
	11/3/2016	<5.00
HSM250 Peak	3/9/2016	<5.00
	11/3/2016	<5.00

**Table 26. Stormwater Samples – Volatile Organic Compound Detections - San Marcos Springs Complex**

Location	Date	Acetone (ug/L)
HSM250 Trail	3/9/2016	<5.00
	11/3/2016	<5.00
HSM260 Lead	3/9/2016	<5.00
	11/3/2016	<5.00
HSM260 Peak	3/9/2016	6.49 J
	11/3/2016	<5.00
HSM260 Trail	3/9/2016	<5.00
	11/3/2016	<5.00
HSM270 Lead	3/9/2016	<5.00
	11/3/2016	<5.00
HSM270 Peak	3/9/2016	<5.00
	11/3/2016	<5.00
HSM270 Trail	3/9/2016	6.41 J
	11/3/2016	<5.00
MCL		NE
PCL		22,000

J – Detection is greater than the method detection limit, but less than the reporting limit

µg/L – micrograms per liter

NE – Not established

MCL – maximum contaminant level

PCL – protective concentration level

### 7.2.3.3 Stormwater - Semi-volatile Organic Compounds (SVOCs)

Stormwater samples were collected and analyzed for SVOCs. One SVOC, DEHP, was detected in HSM240 Lead in March 2016 at a concentration of 9.88 J µg/L. DEHP was also detected in several samples from the November 2016 storm event. These detections were less than the laboratory reporting limit but greater than the established PCL of 6 µg/L. These detections are summarized in Table 27 and shown graphically in Figures 51 and 52.

**Table 27. Stormwater Samples – Bis(2-Ethylhexyl) Phthalate (DEHP) Detections - San Marcos Springs Complex**

Location	Date	Concentration (µg/L)
HSM240 Lead	3/9/2016	9.88 J
	11/3/2016	<5.00
HSM250 Lead	3/9/2016	<5.00
	11/3/2016	11.0 J
HSM260 Peak	3/9/2016	<5.00
	11/3/2016	14.5 J



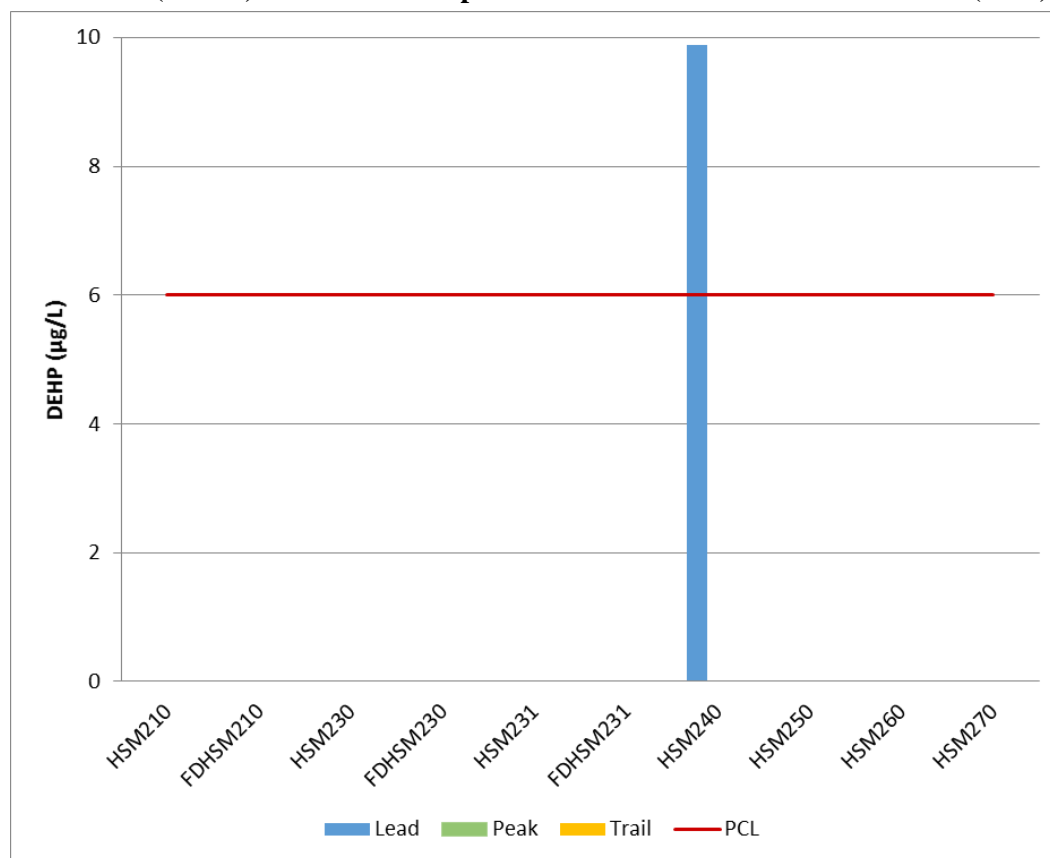
**Table 27. Stormwater Samples – Bis(2-Ethylhexyl) Phthalate (DEHP) Detections - San Marcos Springs Complex**

Location	Date	Concentration (µg/L)
HSM260 Trail	3/9/2016	<5.21
	11/3/2016	8.46 J
HSM270 Peak	3/9/2016	<5.00
	11/3/2016	7.00 J
HSM270 Trail	3/9/2016	<5.00
	11/3/2016	17.4 J
PCL		6

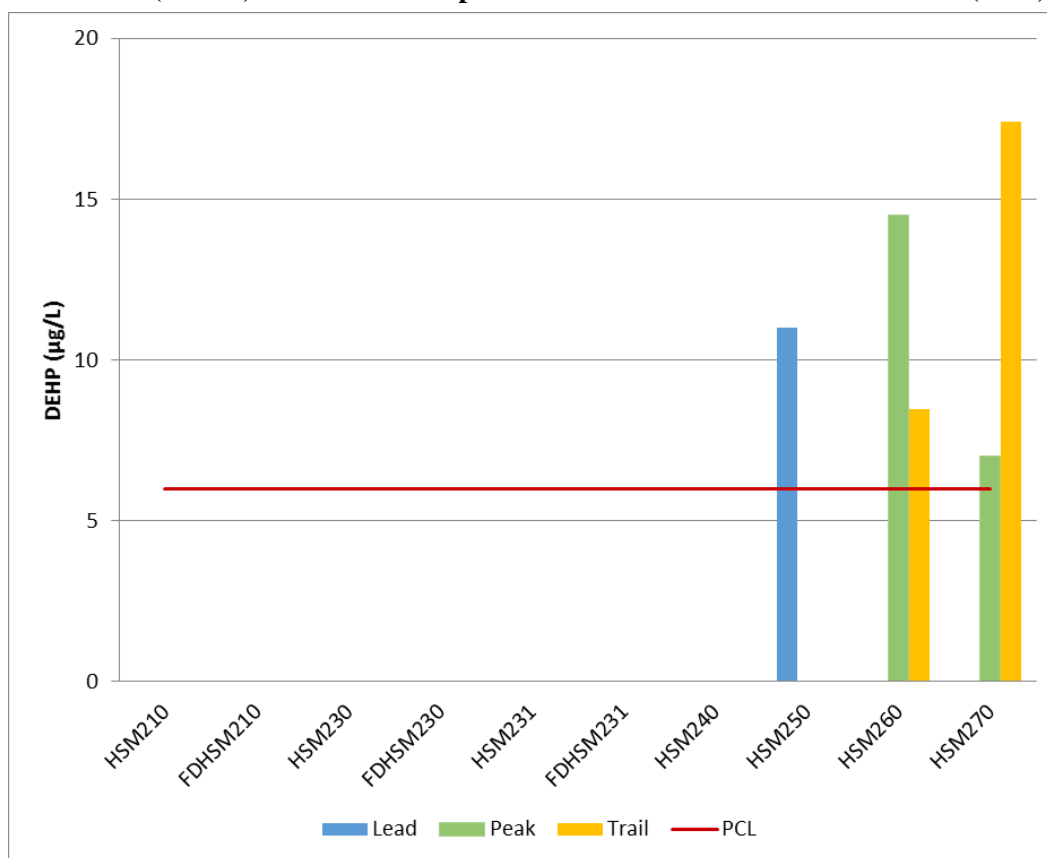
mg/L – milligrams per liter

NA – Not analyzed

**Figure 51. March 2016 San Marcos Springs Stormwater Bis(2-ethylhexyl) Phthalate (DEHP) Detections Compared to Protective Concentration Level (PCL)**



**Figure 52. November 2016 San Marcos Springs Stormwater Bis(2-ethylhexyl) Phthalate (DEHP) Detections Compared to Protective Concentration Level (PCL)**



#### **7.2.3.4 Stormwater - Herbicides and Pesticides**

Stormwater samples were collected and analyzed for organochlorine pesticides, organophosphorous pesticides, and herbicides. There were no detections of herbicides or pesticides during the March or November 2016 stormwater event.

#### **7.2.3.5 Stormwater - Polychlorinated Biphenyls**

Stormwater samples were analyzed for the various Aroclor compounds that are generally referred to collectively as PCBs. None of the stormwater samples from the San Marcos Springs complex indicated positive detections of PCB compounds during the March or November 2016 sampling event.

#### **7.2.3.6 Stormwater - Metals**

Stormwater samples were analyzed for metals in accordance with the EAHCP Work Plan. Several positive metal detections were noted in the sample set; however, no samples contained a metal at a concentration in excess of the drinking water MCL, and many detections were below laboratory reporting limits during the March or November 2016 sampling event.

#### **7.2.3.7 Stormwater - Nitrates**

Stormwater samples were analyzed for nitrate-nitrite as nitrogen in accordance with the EAHCP Work Plan. All samples contained nitrate results below the MCL of 10 mg/L. During the March 2016 event, the

range of nitrate results was 0.687 mg/L to 1.27 mg/L, with an average concentration of approximately 1.07 mg/L. In November 2016, nitrate results ranged from 0.469 mg/L to 1.42 mg/L, with an average concentration of approximately 0.999 mg/L. For comparison, the average nitrate in spring water samples at San Marcos Springs for calendar year 2014 was 1.42 mg/L (EAA 2015). Nitrate detections are summarized in Table 28.

**Table 28. Stormwater Samples – Nitrate Detections - San Marcos Springs Complex**

Location	Date	Concentration (mg/L)
HSM210 Lead	3/9/2016	0.728
	11/3/2016	0.469 J
HSM210 Peak	3/9/2016	0.723
	11/3/2016	0.505
HSM210 Trail	3/9/2016	0.743
	11/3/2016	0.546
FDHSM210 Trail	3/9/2016	0.687
	11/3/2016	0.544
HSM230 Lead	3/9/2016	0.922
	11/3/2016	0.668
HSM230 Peak	3/9/2016	1.1
	11/3/2016	1.34
HSM230 Trail	3/9/2016	1.21
	11/3/2016	1.42
FDHSM230 Trail	3/9/2016	1.2
	11/3/2016	1.42
HSM231 Lead	3/9/2016	1.24
	11/3/2016	0.868
HSM231 Peak	3/9/2016	1.2
	11/3/2016	1.13
HSM231 Trail	3/9/2016	1.26
	11/3/2016	1.15
FDHSM231 Trail	3/9/2016	1.27
	11/3/2016	1.15
HSM240 Lead	3/9/2016	1.2
	11/3/2016	1.07
HSM240 Peak	3/9/2016	1.23
	11/3/2016	1.14
HSM240 Trail	3/9/2016	1.26
	11/3/2016	1.15
HSM250 Lead	3/9/2016	1.18
	11/3/2016	0.895
HSM250 Peak	3/9/2016	1.03
	11/3/2016	1.01

**Table 28. Stormwater Samples – Nitrate  
Detections - San Marcos Springs Complex**

Location	Date	Concentration (mg/L)
HSM250 Trail	3/9/2016	1.23
	11/3/2016	1.13
HSM260 Lead	3/9/2016	1.25
	11/3/2016	1.10
HSM260 Peak	3/9/2016	0.875
	11/3/2016	1.04
HSM260 Trail	3/9/2016	1.15
	11/3/2016	1.12
HSM270 Lead	3/9/2016	1.13
	11/3/2016	1.04
HSM270 Peak	3/9/2016	0.889
	11/3/2016	1.01
HSM270 Trail	3/9/2016	1.06
	11/3/2016	1.05
MCL		10

mg/L – milligrams per liter

NA – Not analyzed

#### **7.2.3.8 Stormwater – Caffeine**

Stormwater was analyzed for caffeine, which can indicate an anthropogenic source. Caffeine may enter surface water from leaking sewer or septic systems or it may be present in the aquifer from similar sources in the recharge zone (EPA 2012). Potential ecological effects are currently unknown but could include reduced reproductive success in aquatic species (EPA 2012). Caffeine detections in stormwater samples from San Marcos Springs in March 2016 ranged from 7.7 ng/L to 5,100 ng/L and was detected in all samples except HCS210 Lead. Caffeine detections from November 2016 ranged from 45 ng/L to 3700 ng/L. There is no regulatory standard or expected value for comparison. Results are shown in Table 29. The caffeine sample container for HSM230 Peak from March 2016 was broken in shipment to the laboratory, so this sample was not analyzed.

**Table 29. Stormwater Samples – Caffeine  
Detections - San Marcos Springs Complex**

Location	Date Collected	Caffeine (ng/L)
HCS210 Lead	3/9/2016	<0.31
	11/3/2016	3700
HCS210 Peak	3/9/2016	7.7
	11/3/2016	<0.31
HCS210 Trail	3/9/2016	53
	11/3/2016	<0.31
FDHSM210 Trail	3/9/2016	69
	11/3/2016	<0.31
HSM230 Lead	3/9/2016	5100
	11/3/2016	<0.31
HSM230 Peak	3/9/2016	NA
	11/3/2016	1100
HSM230 Trail	3/9/2016	2300
	11/3/2016	600
FDHSM230 Trail	3/9/2016	2400
	11/3/2016	600
HSM231 Lead	3/9/2016	220
	11/3/2016	2200
HSM231 Peak	3/9/2016	150
	11/3/2016	150
HSM231 Trail	3/9/2016	30
	11/3/2016	<0.31
FDHSM231 Trail	3/9/2016	36
	11/3/2016	<0.31
HCS240 Lead	3/9/2016	470
	11/3/2016	720
HCS240 Peak	3/9/2016	130
	11/3/2016	45
HCS240 Trail	3/9/2016	52
	11/3/2016	<0.31
HCS250 Lead	3/9/2016	920
	11/3/2016	1900
HCS250 Peak	3/9/2016	540
	11/3/2016	1400
HCS250 Trail	3/9/2016	78
	11/3/2016	230
HCS260 Lead	3/9/2016	140
	11/3/2016	69

**Table 29. Stormwater Samples – Caffeine  
Detections - San Marcos Springs Complex**

		Caffeine
	Date	
HCS260 Peak	3/9/2016	830
	11/3/2016	1200
HCS260 Trail	3/9/2016	170
	11/3/2016	400
HCS270 Lead	3/9/2016	550
	11/3/2016	1500
HCS270 Peak	3/9/2016	740
	11/3/2016	1200
HCS270 Trail	3/9/2016	250
	11/3/2016	660

NA – Not analyzed  
ng/L – nanograms per liter

#### 7.2.4 San Marcos Springs Surface Water Passive Sampling

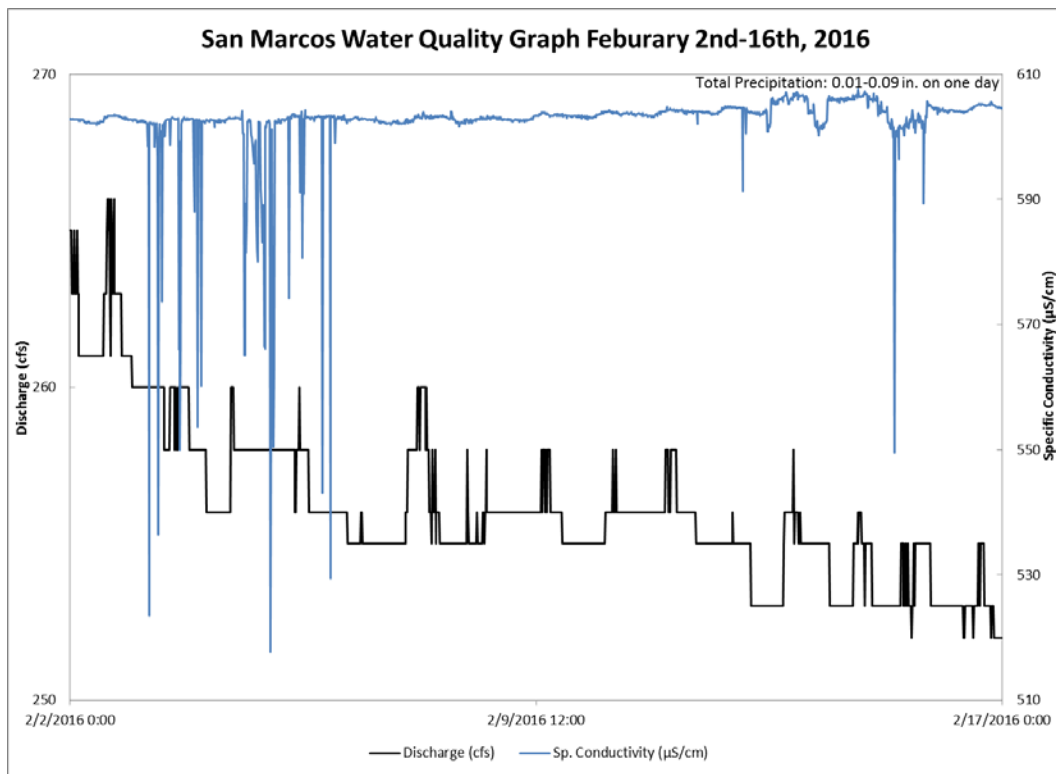
PDSs were installed in the San Marcos Springs system in February, April, June, August, October, and December 2016. HSM430 and FDHSM430 were not analyzed in April 2016 because the deployment device was flipped upside down and sediment accumulated around the deployment device and came in contact with these PDSs. During the June 2016 PDS deployment period, the deployment device from HSM440 was lost, the sampler was found by the City of San Marcos and returned but was not analyzed. The sampler for HSM470 in October 2016 showed signs of human tampering and was not analyzed. Sediment accumulated inside the deployment device and contacted the samplers for HSM430 and FDHSM430 during the December 2016 deployment, the samplers were not analyzed. Any lost or damaged samplers and changes to deployment locations are discussed in Appendix C.

Rain events did occur during some PDS deployment periods during 2016. Figures 53–58 show specific conductivity and stream discharge rates for each PDS deployment period. In April 2016, samplers were removed from the river after a period of 12 days instead of the 14 days as called for in the EAHCP Work Plan. A large storm was forecasted for the area. When the forecast was brought to the attention of EAA staff, EAA requested the PDS be retrieved prior to the storm event because of concerns that samplers could be lost and that the PDS results would not reflect base flow conditions. This deviation is discussed in greater detail in Appendix C.

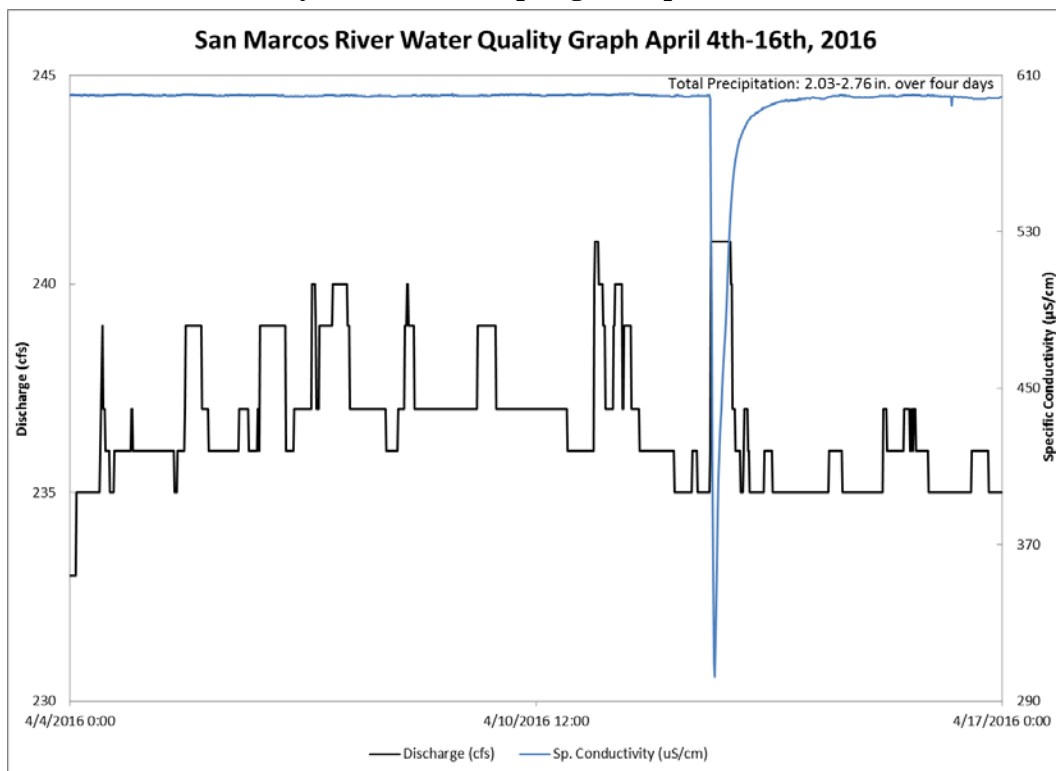
There are no regulatory standards for comparison to PDS results. PDSs were analyzed for VOCs, SVOCs, and organochlorine pesticides. Few compounds were detected, only tetrachloroethene and TPH were consistently detected. Positive detections are shown in Tables 30 and 31.



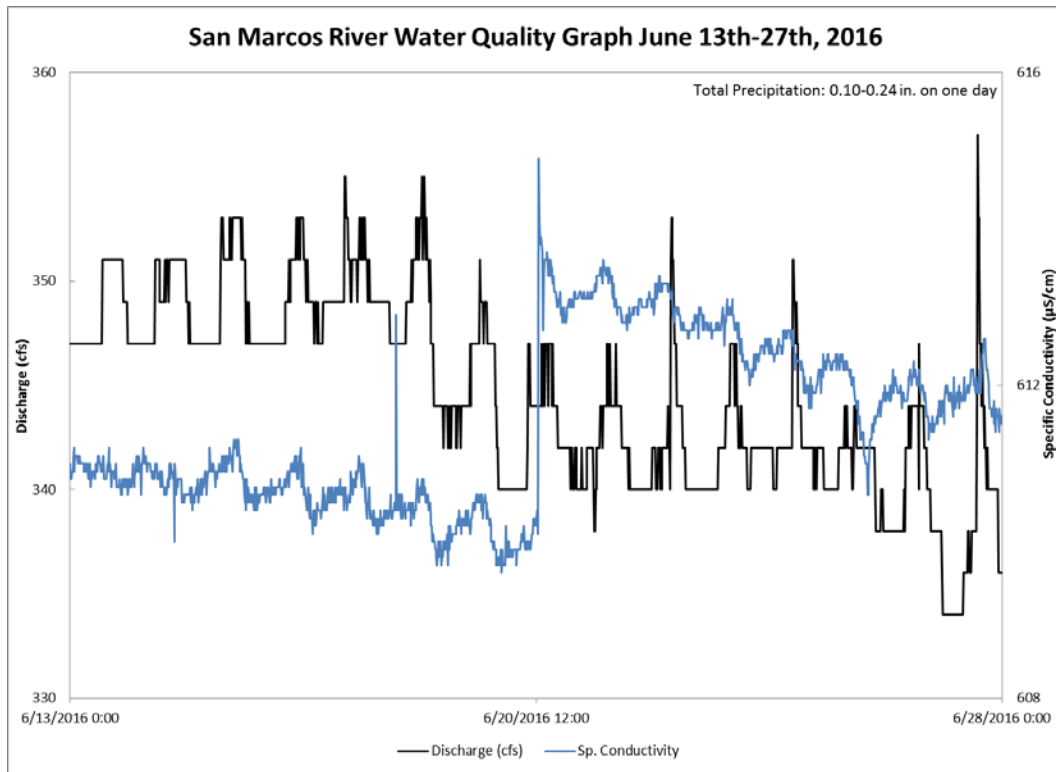
**Figure 53. Passive Diffusion Sampling – February 2016 Stream Discharge and Specific Conductivity – San Marcos Springs Complex**



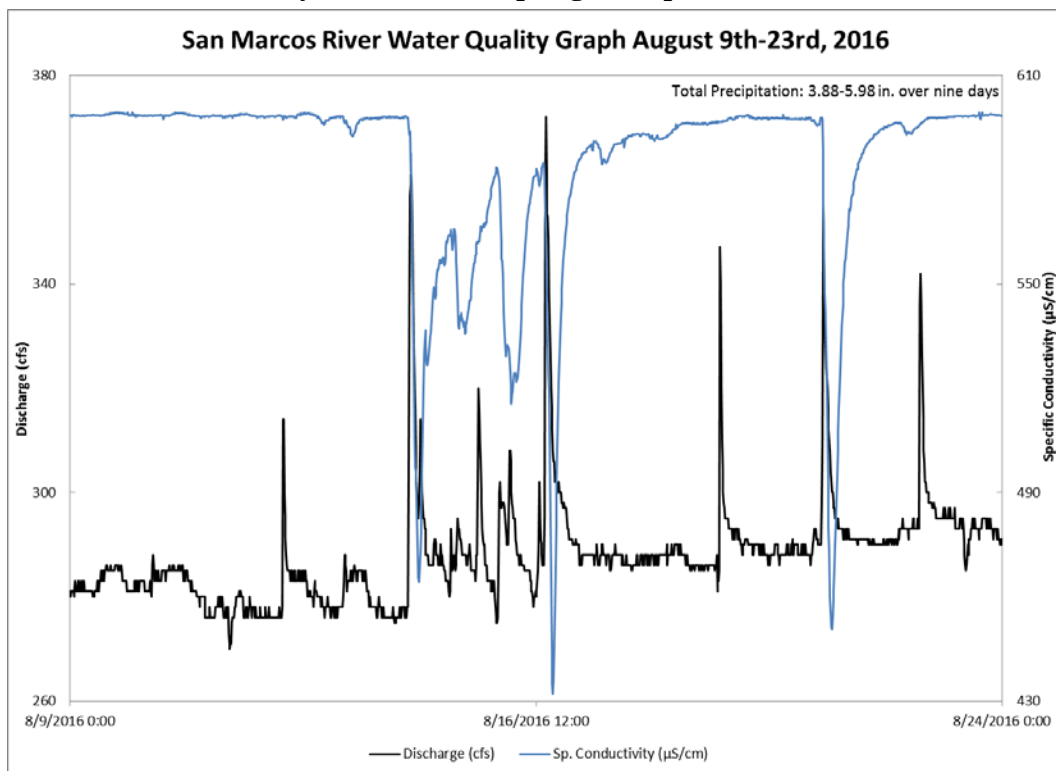
**Figure 54. Passive Diffusion Sampling – April 2016 Stream Discharge and Specific Conductivity – San Marcos Springs Complex**



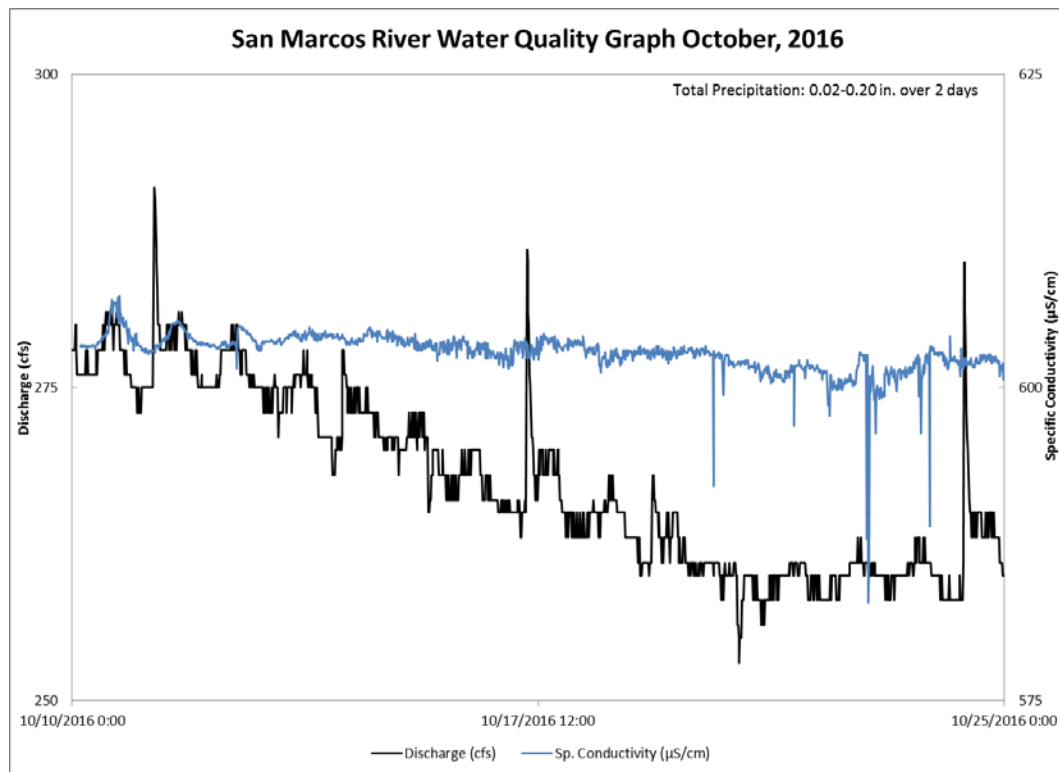
**Figure 55. Passive Diffusion Sampling – June 2016 Stream Discharge and Specific Conductivity – San Marcos Springs Complex**



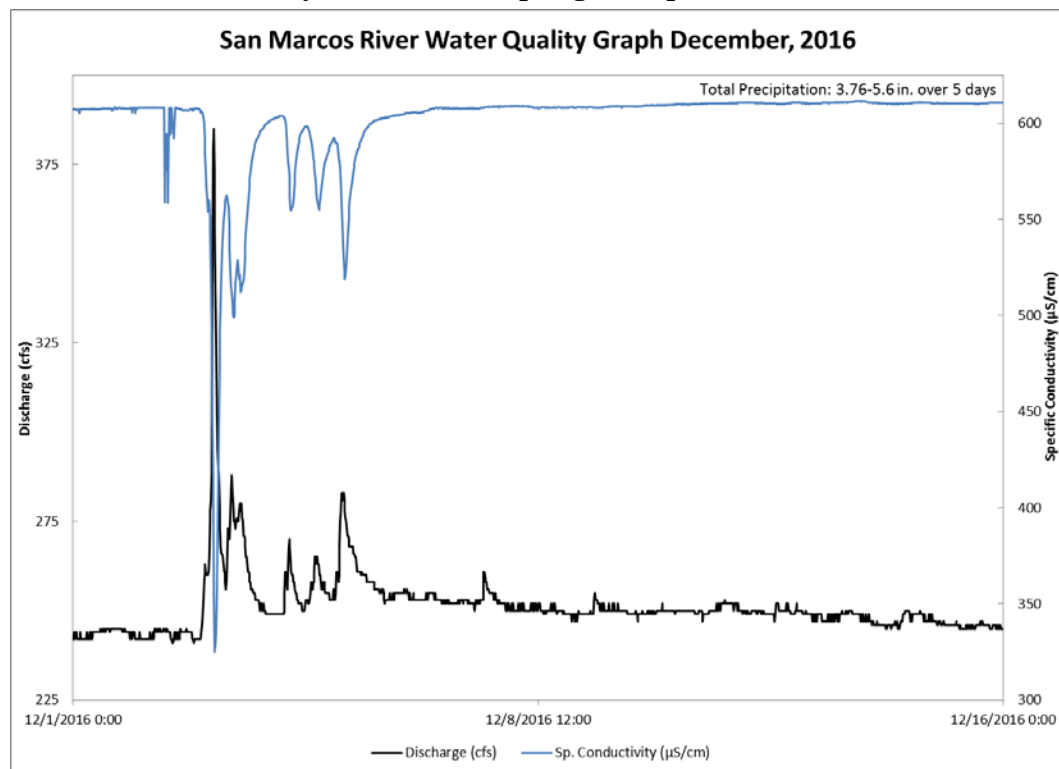
**Figure 56. Passive Diffusion Sampling – August 2016 Stream Discharge and Specific Conductivity – San Marcos Springs Complex**



**Figure 57. Passive Diffusion Sampling – October 2016 Stream Discharge and Specific Conductivity – San Marcos Springs Complex**



**Figure 58. Passive Diffusion Sampling – December 2016 Stream Discharge and Specific Conductivity – San Marcos Springs Complex**



**Table 30. Passive Diffusion – San Marcos Springs Complex – SVOC and VOC Detections**

Location	Month 2016	1,2,4-trimethylbenzene (µg)	Acenaphthene (µg)	Acenaphthylene (µg)	Anthracene (µg)	Benzene (µg)	BTEX (µg)	c-1,2-Dichloroethene (µg)	Chloroform (µg)	Fluoranthene (µg)	Fluorene (µg)	p/m-Xylene (µg)	Pentadecane (µg)	Phenanthrene (µg)	Pyrene (µg)	Tetrachloroethene (µg)	Toluene (µg)	TPH (µg)
HSM410	February	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.50
	April	<0.02	<0.05	<0.05	<0.05	0.28	0.37	0.14	<0.02	<0.05	<0.05	0.02	<0.05	<0.05	<0.05	<0.02	0.07	2.75
	June	<0.02	4.26	0.72	1.42	<0.02	<0.02	<0.02	<0.02	1.9	9.44	<0.02	0.22	6.85	1.62	<0.02	<0.02	103.02
	August	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	<0.02	<0.02	0.60
	October	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	<0.02	<0.02	<0.50
	December	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	<0.02	<0.02	<0.50
HSM420	February	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.09	<0.02	<0.50
	April	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.05	<0.02	<0.50
	June	<0.02	0.46	0.08	0.14	<0.02	<0.02	<0.02	<0.02	0.11	1.29	<0.02	<0.05	0.74	0.09	0.14	<0.02	6.63
	August	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.09	<0.02	0.53
	October	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.17	<0.02	<0.50
	December	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.22	<0.02	<0.50
HSM430	February	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.55	<0.02	<0.50
	April	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	June	<0.02	0.75	0.15	0.28	<0.02	<0.02	<0.02	0.03	0.3	1.7	<0.02	<0.05	1.37	0.28	1.87	<0.02	16.56
	August	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.80	<0.02	0.56
	October	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	1.03	<0.02	0.93
	December	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**Table 30. Passive Diffusion – San Marcos Springs Complex – SVOC and VOC Detections**

Location	Month 2016	1,2,4-trimethylbenzene (µg)	Acenaphthene (µg)	Acenaphthylene (µg)	Anthracene (µg)	Benzene (µg)	BTEX (µg)	c-1,2-Dichloroethene (µg)	Chloroform (µg)	Fluoranthene (µg)	Fluorene (µg)	p/m-Xylene (µg)	Pentadecane (µg)	Phenanthrene (µg)	Pyrene (µg)	Tetrachloroethene (µg)	Toluene (µg)	TPH (µg)
FDHSM430*	February	<0.02	<0.05	<0.05	<0.05	<0.02	0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.54	0.02	<0.50
	April	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	June	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	0.03	<0.05	0.07	<0.02	<0.05	0.06	<0.05	1.82	<0.02	0.84
	August	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.87	<0.02	0.72
	October	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.96	<0.02	1.18
	December	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
HSM440	February	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.09	<0.02	<0.50
	April	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.1	<0.02	<0.50
	June	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	August	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.11	<0.02	0.55
	October	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.11	<0.02	<0.50
	December	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.08	<0.02	<0.50
FDHSM440*	April	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.09	<0.02	<0.50
	December	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.07	<0.02	<0.50
HSM450	February	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.05	<0.02	<0.50
	April	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.04	<0.02	<0.50
	June	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	August	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.05	<0.02	<0.50
	October	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.06	<0.02	<0.50
	December	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.07	<0.02	<0.50

**Table 30. Passive Diffusion – San Marcos Springs Complex – SVOC and VOC Detections**

Location	Month 2016	1,2,4-trimethylbenzene (µg)	Acenaphthene (µg)	Acenaphthylene (µg)	Anthracene (µg)	Benzene (µg)	BTEX (µg)	c-1,2-Dichloroethene (µg)	Chloroform (µg)	Fluoranthene (µg)	Fluorene (µg)	p/m-Xylene (µg)	Pentadecane (µg)	Phenanthrene (µg)	Pyrene (µg)	Tetrachloroethene (µg)	Toluene (µg)	TPH (µg)
HSM460	February	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.07	<0.02	<0.50
	April	<0.02	<0.05	<0.05	<0.05	<0.02	0.02	<0.02	<0.02	<0.05	<0.05	0.02	<0.05	<0.05	<0.05	0.05	<0.02	<0.50
	June	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	0.08	<0.02	<0.05	0.08	<0.05	0.13	<0.02	1.04
	August	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.06	<0.02	<0.50
	October	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.08	<0.02	<0.50
	December	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.09	<0.02	<0.50
HSM470	February	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.05	<0.02	<0.50
	April	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.04	<0.02	<0.50
	June	<0.02	<0.05	<0.05	<0.05	<0.02	<0.02	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	0.15	<0.02	1.4
	August	<0.02	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.07	<0.02	0.70
	October	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	December	0.03	<0.05	<0.05	<0.50	<0.02	<0.02	<0.02	<0.02	<0.50	<0.05	<0.02	<0.05	<0.50	<0.50	0.11	<0.02	<0.50

\* The field duplicate sample location was HSM430 for each sample event except for the April and December 2016 events.



**Table 31. Passive Diffusion – San Marcos Springs Complex – Organochlorine Pesticide Detections**

Location	Month 2016	4,4-DDD (µg)	4,4-DDE (µg)	4,4-DDT (µg)	Dieldrin (µg)	Endosulfan Sulfate (µg)	Endrin Ketone (µg)	Methoxychlor (µg)
HSM410	February	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	April	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	June	0.37	0.4	0.26	0.3	0.3	0.55	0.23
	August	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	October	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	December	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
HSM420	February	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	April	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	June	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	August	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	October	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	December	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
HSM430	February	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	April	NA	NA	NA	NA	NA	NA	NA
	June	0.09	0.07	<0.05	0.08	<0.05	0.21	0.1
	August	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	October	NA	NA	NA	NA	NA	NA	NA
	December	NA	NA	NA	NA	NA	NA	NA
FDHSM430*	February	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	April	NA	NA	NA	NA	NA	NA	NA
	June	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	August	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	October	NA	NA	NA	NA	NA	NA	NA
	December	NA	NA	NA	NA	NA	NA	NA
HSM440	February	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	April	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	June	NA	NA	NA	NA	NA	NA	NA
	August	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	October	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	December	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
FDHSM440*	April	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	December	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

**Table 31. Passive Diffusion – San Marcos Springs Complex – Organochlorine Pesticide Detections**

Location	Month 2016	4,4-DDD (µg)	4,4-DDE (µg)	4,4-DDT (µg)	Dieldrin (µg)	Endosulfan Sulfate (µg)	Endrin Ketone (µg)	Methoxychlor (µg)
HSM450	February	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	April	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	June	NA	NA	NA	NA	NA	NA	NA
	August	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	October	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	December	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
HSM460	February	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	April	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	June	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	August	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	October	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	December	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
HSM470	February	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	April	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	June	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	August	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	October	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	December	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

\* The field duplicate sample location was HSM430 for each sample event except for the April and December 2016 events.

## 8.0 SUMMARY OF RESULTS

SWCA staff collected surface water (base flow), stormwater, sediment, and passive diffusion samples from Comal and San Marcos springs complexes. The sampling events met the requirements of the EAHCP and provided background data for these two systems. The limited number of detections above comparative standards is indicative of generally high water quality. However, the total PAH, non-PAH SVOCs, and lead results that exceeded comparative standards were of concern. Specific compounds detected above a PCL (for water) or PEC (for sediment), are listed below in Table 32.

**Table 32. Compounds detected above Protective Concentration Levels (PCL) or Probable Effect Concentrations (PEC).**

Sample Location	Sample Type	Date	Compound	Concentration	PCL or PEC
HCS160	Surface Water (Base Flow)	September 2016	DEHP	10.1 J µg/L	6 µg/L
HCS240 Trail	Stormwater	September 2016	DEHP	9.28 J µg/L	6 µg/L
HCS270 Lead	Stormwater	September 2016	DEHP	6.28 J µg/L	6 µg/L
HCS270 Peak	Stormwater	September 2016	DEHP	6.74 J µg/L	6 µg/L
HCS270 Trail	Stormwater	September 2016	DEHP	7.43 J µg/L	6 µg/L
HSM120	Surface Water (Base Flow)	March 2016	DEHP	12.5 J µg/L	6 µg/L
HSM120	Surface Water (Base Flow)	September 2016	DEHP	6.04 J µg/L	6 µg/L
HSM130	Surface Water (Base Flow)	September 2016	DEHP	11.3 J µg/L	6 µg/L
HSM170	Surface Water (Base Flow)	September 2016	DEHP	19 J µg/L	6 µg/L
HSM320	Sediment	June 2016	Total PAH	24.148 mg/kg	22.8 mg/kg
HSM320	Sediment	June 2016	4,4-DDE	103 µg/kg	31.3 µg/kg
HSM330	Sediment	June 2016	Total PAH	26.916 mg/kg	22.8 mg/kg
HSM340	Sediment	June 2016	4,4-DDE	31.5 µg/kg	31.3 µg/kg
HSM340	Sediment	June 2016	Lead	260 mg/kg	128 mg/kg
HSM240 Lead	Stormwater	March 2016	DEHP	9.88 J µg/L	6 µg/L
HSM250 Lead	Stormwater	November 2016	DEHP	11.0 J µg/L	6 µg/L
HSM260 Peak	Stormwater	November 2016	DEHP	14.5 J µg/L	6 µg/L
HSM260 Trail	Stormwater	November 2016	DEHP	8.46 J µg/L	6 µg/L
HSM270 Peak	Stormwater	November 2016	DEHP	7.00 J µg/L	6 µg/L
HSM270 Trail	Stormwater	November 2016	DEHP	17.4 J µg/L	6 µg/L

DEHP – bis(2-ethylehexyl) phthalate

J – Detection is greater than the method detection limit but is less than the reporting limit.

mg/kg – milligrams per kilogram

PAH – Polycyclic aromatic hydrocarbon

µg/kg – micrograms per kilogram

µg/L – micrograms per liter

### **PAHs in Sediment**

PAHs are a group of SVOCs common in urban runoff (Mahler et al. 2005) that can have adverse effects on aquatic life including plants, invertebrates, and fish. The effects of exposure vary but can include organ damage, reproductive harm, or immune system weakening (Mahler et al. 2005). Coal-tar parking lot sealants have been identified as a significant source of PAHs in urban waterways and were banned from use in areas surrounding the recharge zone of the Edwards Aquifer within Comal and Hays Counties by the EAA in 2012. In each sample year thus far, levels of total PAH in sediment samples have exceeded TECs and PECs at two sites in the San Marcos Springs complex.

### **DEHP**

DEHP was detected in the majority of sediment samples from the Comal and San Marcos springs complexes in 2013. However, DEHP results were noted in the laboratory blank samples for October 2013 surface water (base flow) sampling event and were considered likely post collection contaminants or false positive detections. In general, DEHP is quite problematic in that it is common in plastics and other materials. Therefore, the EAA considered DEHP as a likely laboratory or sampling equipment artifact. DEHP was not detected in water quality samples from both spring complexes in 2014 and 2015. In 2016, DEHP was detected in multiple surface water (base flow) and stormwater samples collected from both spring complexes. Nonetheless, DEHP detections were “J” flagged indicating that the detection was greater than the method detection limit, but less than the reporting limit.

### **Lead in Sediment**

Lead has been detected at concentrations of 56.0 mg/kg, 235 mg/kg, 63.5 mg/kg, and 260 mg/kg in years 2013, 2014, 2015, and 2016, respectively at sample location HSM340. The TEC and PEC for lead are 35.8 and 128 mg/kg, respectively.

### **Proposed Activities for 2017**

In 2015, the EAHCP received the *National Academy of Sciences (NAS) Report 1* (2015), containing recommendations for EAHCP’s Monitoring, Modeling and Applied Research programs, including the Expanded Water Quality Monitoring Program. From *Report 1*, a list of water quality monitoring recommendations was presented to the NAS Recommendation Review Work Group (NAS Work Group). Based on the NAS Work Group assessment, at its February 18, 2016, meeting, the Implementing Committee convened the 2016 EAHCP Expanded Water Quality Monitoring Program Work Group (WQWG) to carry out a holistic review of the Expanded Water Quality Monitoring Program, taking into account the recommendations of NAS, the NAS Work Group, the input of the Science Committee, the Permittees, and the subject matter experts. The purpose of the WQWG was to produce a final report for review by the Implementing Committee, developed through a consensus-based decision-making process. The WQWG held meetings from March to May 2016. An overview of the approved Scope of Work 2017 can be seen in Table 33 below.

**Table 33. Overview of the Approved Scope of Work 2017**

Sample Type	Frequency
Sediment	Biennially in even years
Real-time monitoring	Add one monitoring station per system
Stormwater	<ul style="list-style-type: none"> <li>• Reduced to one sampling event per year</li> <li>• Test only for integrated pest management plan chemicals in odd years</li> <li>• Test full suite in even years as currently done</li> <li>• Add two samples to the rising limb of the hydrograph for a total of five samples per location when possible <ul style="list-style-type: none"> <li>○ Priority given to locations at tributary outflows</li> </ul> </li> </ul>
Passive Diffusion Samplers	<ul style="list-style-type: none"> <li>• Currently done</li> <li>• Add PPCP membrane only at the bottom of the channel in both systems</li> </ul>
Tissue sampling	One sample in odd years from both systems

## 9.0 DATA QUALITY OBJECTIVES

SWCA evaluated each sampling event to determine if procedures should be modified to improve data collection to ensure data quality objectives are met. Appendix C provides a discussion of problems encountered, deviations to the Work Plan, and resolutions to these circumstances. The only ongoing challenge recognized is the inability to consistently deliver *E. coli* samples to a laboratory within hold times during stormwater sampling events. This inability is inherent to stormwater sampling events due to the occurrence of storms during non-working hours. SWCA uses special runners to deliver samples to the laboratory as early as possible to minimize hold time exceedances.

Based on procedures implemented to correct or improve data collection methods and the relatively low significance of the deviations, the circumstances described in Appendix C do not compromise the integrity of the study or this report.

## 10.0 DEFINITIONS

Alkalinity	The capacity of water to neutralize acids, a property imparted by the water's content of carbonate, bicarbonate, hydroxide, and on occasion borate, silicate, and phosphate. It is expressed in milligrams per liter of equivalent calcium carbonate (mg/l CaCO <sub>3</sub> ).
Aquifer	Underground geological formation or group of formations containing water; source of groundwater for wells and springs.
ASTM	Abbreviation for American Society for Testing and Materials. A nonprofit organization that develops and publishes approximately 12,000 technical standards, covering the procedures for testing and classification of materials of every sort.
Bacteria	Microscopic living organisms that can aid in pollution control by metabolizing organic matter in sewage, oil spills, or other pollutants. However, certain bacteria in soil, water, or air can also cause human, animal, and plant health problems.
Basin	Any area draining to a point of interest.
Baseline data	Initial data generated by consistent monitoring of the same sites over time.
Caffeine	A stimulant drug found naturally in coffee, tea, and chocolate, and also within soft drinks and other foods. If detected, it might indicate an anthropogenic source of water impacts.
Channel	A long, narrow excavation or surface feature that conveys surface water and is open to the air.
Deionized water	Water with all ions removed.
Detection limit	The lowest concentration of a given pollutant that an analytical method or equipment can detect and still report as greater than zero. Generally, as readings approach the detection limit, they become less and less reliable quantitatively.
Dissolved solids	The total amount of dissolved material, organic, and inorganic, contained in water or wastewater. Measurements are expressed as ppm or mg/L.
DO	Abbreviation for dissolved oxygen. Oxygen molecules that are dissolved in water and available for living organisms to use for respiration. Usually expressed in milligrams per liter or percent of saturation. The concentration of DO is an important environmental parameter contributing to water quality.
DOC	Abbreviation for dissolved organic carbon, a broad classification of organic molecules of varied origin and composition within aquatic systems. Organic

carbon compounds are a result of decomposition processes from dead organic matter, such as plants.

DQO	Abbreviation for data quality objectives, a process used to develop performance and acceptance criteria or data quality objectives that clarify study objectives, define the appropriate type of data, and specify tolerable levels of data needed to support decisions.
Drainage	The collection, conveyance, containment, and/or discharge of surface and stormwater runoff.
EARIPHCP	Abbreviation for Edwards Aquifer Recovery Implementation Program Habitat Conservation Plan.
Endpoint	That state in titration at which an effect, such as a color change, occurs, indicating that a desired point in the titration has been reached.
Equipment blank	Sample used to assess the effectiveness of the decontamination process on sampling equipment. The equipment blank is prepared by pouring reagent-grade water over/through sampling equipment and analyzing for parameters of concern (to match the sampling routine applicable to the site).
Field duplicate	Second sample collected simultaneously from the same source as the parent sample, but which is submitted and analyzed as a separate sample. This sample should generally be identified such that the laboratory is unaware that it is a field duplicate.
Filtration	The process of separating solids from a liquid by means of a porous substance (filter) through which only the liquid can pass.
Groundwater	Water found beneath Earth's surface that fills pores between materials, such as sand, soil, or gravel.
Habitat	The specific area of environment in which a particular type of plant or animal lives and grows.
HCP	Abbreviation for Habitat Conservation Plan. A planning document that is required by the United States Fish and Wildlife Service as part of their enforcement of the Endangered Species Act.
LCS/LCSD	Abbreviation for Laboratory control samples and laboratory control sample duplicate. LCS/LCSD are evaluated to assess overall method performance and are the primary indicators of laboratory performance. In general, laboratory control samples are similar in composition as the environmental samples, contain known concentrations of all the analytes of interest, and undergo the same preparatory and determinative procedures as the environmental samples. An LCS/LCSD may be analyzed to provide information on the precision of the analytical method.



MS/MSD	Abbreviation for matrix spike/matrix spike duplicate. MS/MSD results are examined to evaluate the impact of matrix effects on overall analytical performance and potential usability of the data. A matrix spike is a representative environmental sample that is spiked with target analytes of interest prior to being taken through the entire analytical process in order to evaluate analytical bias for an actual matrix. A matrix duplicate is a collected (e.g., a VOC soil sample) or a homogenized sample that is processed through the entire analytical procedure in order to evaluate overall precision for an actual matrix.
MDL	Abbreviation for method detection limit, minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as determined from analysis of a sample containing the analyte in a given matrix.
MPN	Abbreviation for most probable number. An analytical method used to detect the presence of coliforms in a water sample and estimate their numbers.
PCBs	Abbreviation for polychlorinated biphenyls. Group of more than 200 chlorinated toxic hydrocarbon compounds that can be biomagnified.
PCL	Abbreviation for protective concentration levels, which is established to protect human health.
Peak	Maximum instantaneous flow at a specific location resulting from a given storm condition.
pH	A measure of the alkalinity or acidity of a substance. Also defined as the negative logarithm of the hydrogen ion concentration ( $-\log_{10}[\text{H}^+]$ ) where $\text{H}^+$ is the hydrogen ion concentration in moles per liter. The pH of a substance is neutral at 7.0, acidic below 7.0, and alkaline above 7.0.
PQL	Abbreviation for practical quantitation limit, which is the smallest concentration of the analyte that can be reported with a specific degree of confidence.
Precipitation	The discharge of water, in liquid or solid state, out of the atmosphere, generally upon a land or water surface. Precipitation includes rainfall, snow, hail, and sleet.
Precision	The ability of a measurement to be consistently reproduced.
QA/QC	Abbreviation for quality assurance/quality control. The total integrated program for assuring reliability of monitoring and measurement data.
Recession	End of runoff event, which is defined as the point in time when the recession limb of the hydrograph is $< 2\%$ of the peak or is within $10\%$ of the prestorm base flow, whichever is greater.

RPD	Abbreviation for relative percent difference. The RPD provide a measure of precision.
Representative	Said of samples collected that are similar to those of groundwater in its in situ condition.
RL	Abbreviation for reporting limit, the smallest concentration of an analyte reported by the laboratory to a customer. The RL is never less than the PQL and is generally twice the MDL.
Runoff	Precipitation, snowmelt, or irrigation water that runs off the land into surface water. Runoff can carry pollutants from the air and land into the receiving waters.
Sediment	Fragmental material that originates from weathering of rocks and is transported by, suspended in, or deposited by water or air.
Shelby Sampler	A thin-walled tube with a cutting edge at the toe. A sampler head attaches the tube to the drill rod and pressure vents. Generally used in cohesive soils. Soil or sediment sampled from this sampler is considered undisturbed.
Spring	Water coming naturally out of the ground.
Stormwater	Stormwater is the water that runs off surfaces such as rooftops, paved streets, highways, and parking lots. It can also come from hard, grassy surfaces such as lawns, play fields, graveled roads, and parking lots.
Surface water	Water that forms and remains above ground, such as lakes, ponds, rivers, streams, bays, and oceans.
SVOC	Abbreviation for semi-volatile organic compounds, which is a group of chemicals composed primarily of carbon and hydrogen that have a relatively low tendency to evaporate (volatilize) into the air from water or soil. Some of the compounds that make up asphalt are examples of SVOCs.
TDS	Abbreviation for total dissolved solids, or the total amount of all inorganic and organic substances, including minerals, salts, metal, cations, or anions that are dispersed within a volume of water.
Temporal	Over a period of time.
TKN	Abbreviation for total Kjeldahl nitrogen, which is the total concentration of organic and ammonia nitrogen in wastewater.
TOC	Abbreviation for total organic carbon, which is the gross amount of organic matter found in natural water. Suspended-particulate, colloidal, and dissolved organic matter are part of the TOC measurement. Settable solids consisting of inorganic

	sediments and some organic particulate are not transferred from the sample by the lab analyst and are not part of the TOC measurement.
TSBC	Texas-specific Background Concentrations as established by the Texas Commission on Environmental Quality.
Turbidimeter	An instrument for measuring turbidity in which a standard suspension is used for reference.
Turbidity	A measure of how clear the water is; how much the suspended material in water results in the scattering and absorption of light rays. An analytical quantity is usually reported in turbidity units and determined by measurements of light diffraction. Material that can increase turbidity (reduce clarity of water) are suspended clay, silt, sand, algae, plankton, microbes, and other substances.
Trip blank	Sample known to be free of contamination (for target analytes) that is prepared in the laboratory and treated as an environmental sample after receipt by the sampler. Trip blank samples are applicable to VOC analysis only.
TSS	Abbreviation for total suspended solids, which are the nonfilterable residue retained on a glass-fiber disk filter mesh measuring 1.2 micrometers after filtration of a sample of water or wastewater.
USGS	Abbreviation for United States Geological Services. USGS is a federal research organization that provides impartial information on health of ecosystems and environment, natural hazards that may threaten us, natural resources, impacts of climate and land use change, and core science systems which provide timely, relevant, and useable information.
VOC	Abbreviation for volatile organic compounds, which are often used as solvents in industrial processes and are either known or suspected carcinogens or mutagens. The five most toxic are vinyl chloride, tetrachloroethene, trichloroethene, 1,2-dichloroethane, and carbon tetrachloride.
Whirl-Pak®	Sterilized, clear polyethylene bag used to collect water samples for analysis.
WQAL	Abbreviation for a list of parameters defined as the following: pH, conductivity, temperature, dissolved oxygen, turbidity, and alkalinity in the field. Other parameters submitted for laboratory analysis include cations, anions, nutrients, metals, VOCs, SVOCs, herbicides and pesticides, bacteria, TOC, PCBs, and phosphorous.

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**APPENDIX A**

**EDWARDS AQUIFER HABITAT CONSERVATION PLAN  
(EAHCP) WORK PLAN**

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## **2016 Edwards Aquifer Authority Water Quality Monitoring Program Work Plan for Comal Springs and San Marcos Springs**

### **INTRODUCTION**

This Work Plan details the sampling strategy and protocols for surface water quality monitoring in 2016 for the Edwards Aquifer Habitat Conservation Plan (EAHCP) document (Section 5.7.2) implemented by the Edwards Aquifer Authority (EAA), utilizing a third party contractor. The goal of the water quality monitoring program, first implemented in 2013, is to detect water quality impairments that may negatively impact the listed species. In the event that certain constituents of concern are detected at levels indicating the potential for adverse effects, the Implementing Committee member with jurisdictional authority will be consulted to identify sources and consider Best Management Practices (BMPs) to reduce and/or eliminate the constituents of concern. If necessary, additional testing could be included in the current or following year to assist in determining the source of contamination and the Science Committee could be consulted to assist with BMP identification and source determination.

### **SCOPE OF WORK**

The Water Quality Monitoring Program described below includes surface water, storm water, groundwater, and sediment sampling within Comal Springs and San Marcos Springs and associated river systems. Sample collection and analyses performed by EAA staff in 2013, has been performed by a contractor since 2014.

For 2016, the contractor will use the same sampling locations used in 2014 and as shown in the attached figures. However, changes in springflow, surface water runoff, land use, site security and access may dictate minor modification to sample collection locations and schedules as sampling efforts progress. Any minor changes resulting from these factors that are necessary as a result of safety or equipment concerns will be noted in the field sample sheets and dedicated field books. Should logistics or safety issues require any significant changes to this work plan, the sampling contractor shall report those issues to the EAA. Subsequently, the EAA will present those changes to the Science and Implementing committees for review and approval as needed prior to their implementation.

### **COMAL SPRINGS**

Comal Springs discharges an average of 291 cubic feet second (cfs) into Landa Lake, located within the city of New Braunfels, Texas. Comal Springs is considered a spring complex with multiple discharge points along the 4,500 foot reach of Landa Lake. The springs issue from the Edwards Group limestone along the 4,500-foot section of the northeast-southwest trending escarpment formed by the Comal Springs Fault. Landa Lake forms the headwaters of the Comal River which flows approximately two miles before entering the Guadalupe River.

Discharge measurements have been collected from Comal Springs since 1933 and the EAA has been collecting water quality samples for more than ten years. In recent years, the EAA has been collecting samples from Spring 1, Spring 3, and Spring 7 on a quarterly basis during normal flow conditions and on a monthly basis when the San Antonio pool critical period triggers have been reached. Spring 1, Spring 3, and Spring 7 discharge into Landa Lake and make up part of the Comal Springs complex. Figure 1 indicates these historical groundwater sampling locations. Water quality samples are collected and analyzed for: dissolved oxygen (DO), pH, conductivity, and temperature, in the field and for alkalinity<sup>1</sup>. Samples are also submitted to the EAA contract laboratory for analysis of cations, anions, nutrients, metals, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), herbicides, pesticides, bacteria, total organic carbons (TOC), dissolved organic carbons (DOC), polychlorinated biphenyls (PCBs), and phosphorous. For the purposes of EAHCP related water sampling, the analyte caffeine has been added to the list of analyzed parameters. This list of parameters is defined as the water quality analytical list (WQAL).

### **Sampling Methods**

All samples will be collected following the EAA's *Field Sampling Plan* or contractor established methodology upon approval by the EAA. Samples shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP) accredited contract laboratory. To date no requests to deviate from the EAA's *Field Sampling Plan* have been received or approved.

### **EAHCP Surface Water Sampling Locations**

To comply with sampling requirements outlined in the EAHCP, five additional surface water sampling locations (Figure 2) were identified in the 2013 EAHCP Water Quality Work Plan for intensive monitoring in the Landa Lake and Comal River area as listed below:

- Upper Springs (near Blieders Creek);
- Upper Landa Lake - (near Spring Island);
- Lower Landa Lake - (above outfalls);
- Upper Old Channel - (Elizabeth Street); and,
- USGS Gauge - (above San Antonio Street Bridge).

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<sup>1</sup> Alkalinity analysis will be conducted within eight hours of sample collection.

### **Surface Water Sampling Frequency**

In 2016, water samples will be collected twice from each of the five surface water locations listed above. The interval between sampling events will be approximately six months. Samples will be collected in March and September. Water samples will be analyzed for the WQAL parameters and caffeine using a NELAP laboratory. A listing of analytical parameters is provided in Appendix A.

### **Sediment Sampling**

One sediment sample will be collected during June 2016 from each of the surface water sampling locations (Figure 2). Three samples will be collected from each sample site and composited into a single sample for analysis (to minimize VOC loss, it is recommended the compositing process be performed at the laboratory). Sediment samples will be analyzed for the analytical parameters provided in Appendix B. Results of sediment sampling analysis will be used to formulate future sediment sampling at Landa Lake and the Comal River. Sediment samples will be collected from zero to three inches below the surface for calendar year 2016. Sediment sample intervals will likely vary in subsequent sample years based on the results of each year of sediment analyses.

### **Storm Water Sampling Program for Comal Springs**

Two storm water sampling events will be performed in 2016 to evaluate storm water quality from the urban landscape. A storm water sampling event will be triggered when the flow rate at the United States Geological Survey (USGS) Comal Springs gauging station (#08169000) increases by five percent or there is a twenty percent change in three of the five water quality parameters measured in the downstream real time water quality monitoring probe. Three water quality samples will be collected and analyzed from each surface water sampling location during the sampling event. Sample times will be spaced to reflect changes in the stream hydrograph (initial rise, peak flow, and recession limb). Water samples will be analyzed for the WQAL parameters and caffeine using a NELAP laboratory. A listing of analytical parameters for storm water samples is provided in Appendix A.

The following locations will be sampled for storm water as indicated on Figure 3:

- Upper Springs (near Blieders Creek);
- New Channel – (below confluence with Dry Comal Creek);
- Upper Old Channel - (at Elizabeth Street);
- Lower Old Channel - (above Hinman Island); and,
- Comal River - (above confluence with Guadalupe River).

### **Groundwater Sample Collection for Extreme Low Flow Scenarios for Comal Springs**

In the event total springflow at Comal Springs (as measured by USGS Comal Springs gauging station #08169000) drops below 30 cfs, the EAHCP (6.4.3.3) calls for weekly monitoring of three wells in the vicinity of the spring complex for DO, conductivity, pH, and temperature. Should springflow be at 20 cfs, then additional parameters to include nutrients, total dissolved solids (TDS), and TOC are to be added to the weekly sample regimen. Analytical parameters for all low flow sampling is included in Appendix A. Based on conditions during the drought of record (circa 1950s), sampling for lower flow scenario could last for up to 21 weeks. The three specific wells

to be used will be determined at the time of low flow sample initiation, based on well conditions and aquifer levels.

### **Real Time Instrument Water Quality Data Logging Program for Comal Springs**

Continuous water quality monitoring stations will continue in 2016 at the following locations indicated on Figure 4:

Spring Run 3;  
Spring 7; and,  
New Channel (below confluence with Dry Comal Creek).

Monitoring will be performed using a data logging sonde capable of collecting data on 15 minute intervals. The parameters measured will include temperature, dissolved oxygen, pH, turbidity, and conductivity. These data will be evaluated to identify short-term and long-term water quality variations of the spring system as well as changes in water quality related to storm water runoff.

**This monitoring effort will continue to be performed by EAA staff in 2016.**

### **Collection of Passive Diffusion Samples (Passive Samples) at Comal Springs**

Passive samples are to be collected during the 2016 sampling effort using a passive diffusion type sampling device. Devices will be obtained from Amplified Geochemical Imaging LLC (AGI), or equivalent to the AGI device for functionality and analytical parameters. Sample locations for PDS samples are provided in Figure 5. The passive sampling effort shall be performed in February, April, June, August, October, and December. The devices shall be installed for a two-week interval at the same locations as the base flow surface water samples. Specifically at the sample points below.

Upper Springs (near Bleiders Creek);  
Upper Landa Lake - (near Spring Island);  
Lower Landa Lake - (above outfalls);  
Upper Old Channel - (Elizabeth Street); and,  
USGS Gauge - (above San Antonio Street Bridge).

The general parameter set for PDS samples is listed in Appendix A, under *Analytical Parameters for Passive Diffusion Samplers, Comal and San Marcos Springs*.

## **SAN MARCOS SPRINGS**

Located in San Marcos, Texas on the campus of Texas State University, San Marcos Springs discharges an average of 176 cfs into Spring Lake. The springs issue from the Edwards Group limestone along the northeast-southwest trending escarpment formed by the San Marcos Springs

Fault. Spring Lake forms the headwaters of the San Marcos River. Discharge measurements have been collected from San Marcos Springs since 1957 and the EAA has been collecting water quality samples for more than ten years.

In recent years, the EAA has been collecting samples from Deep Spring and Hotel Spring on a quarterly basis during normal flow conditions and on a monthly basis when the San Antonio pool critical period triggers have been reached. Both Deep and Hotel springs are located in the bed of Spring Lake and make up part of the San Marcos Springs complex. Figure 6 indicates these historical groundwater sample locations at San Marcos Springs. Water quality samples are collected and analyzed for: dissolved oxygen (DO), pH, conductivity, and temperature, in the field and for alkalinity<sup>2</sup>. Samples are also submitted to the EAA contract laboratory for analysis of cations, anions, nutrients, metals, VOCs, SVOCs, herbicides, pesticides, bacteria, TOC, PCBs, and phosphorous. For the purposes of EAHCP related water sampling, the analyte caffeine has been added to the list of analyzed parameters. This list of WQAL parameters is an identical to the list of parameters analyzed for at Comal Springs.

### **Sampling Methods**

All samples will be collected following the EAA's *Field Sampling Plan* or contractor established methodology upon approval by the EAA. Samples shall be analyzed by a NELAP accredited contract laboratory. To date no requests to deviate from the EAA's *Field Sampling Plan* have been received or approved.

### **Surface Water Sampling Locations**

To comply with sampling requirements outlined in the EAHCP document, seven additional surface water sampling locations (Figure 7) were identified in the 2013 HCP work plan for intensive monitoring as listed below:

- Sink Creek;
- Spring Lake;
- Sessoms Creek;
- City Park;
- Rio Vista Dam;
- I-35 reach; and,
- Capes Dam/Willow Creek.

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<sup>2</sup> Alkalinity analysis will be conducted within eight hours of sample collection.



**Surface Water Sampling Frequency**

In 2016, water samples will be collected twice from each of the seven surface water locations listed above. The interval between sampling events will be approximately six months. Samples will be collected in March and September. Water samples will be analyzed for the WQAL parameters and caffeine using a NELAP laboratory. A listing of analytical parameters is provided in Appendix A.

**Sediment Sampling**

One sediment sample will be collected during June 2016 from each of the surface water sampling locations (Figure 7). Three samples will be collected from each sample site and composited into a single sample for analysis (it is recommended that compositing of the sample be performed at the laboratory to minimize VOC loss). Sediment samples will be analyzed for the analytical parameters provided in Appendix B. Results of sediment sampling analysis will be used to formulate future sediment sampling at Spring Lake and the San Marcos River. Sediment samples will be collected from zero to three inches below the surface for calendar year 2016. Sediment sample intervals will vary in subsequent sample years based on the results of each year of sediment analyses.

**Storm Water Sampling Program for San Marcos Springs**

Two storm water sampling events will be performed in 2016 to evaluate storm water runoff from the urban landscape. A storm water sampling event will be triggered when the flow rate at the USGS San Marcos Springs gauging station (#08170500) increases by five percent or there is a twenty percent change in three of the five water quality parameters measured in the downstream real time water quality monitoring probe. Three water quality samples will be collected from each surface water sampling location during the sampling event. Sampling times will be spaced to reflect changes in the stream hydrograph (initial rise, peak flow, and recession limb). Water samples will be analyzed for the WQAL parameters and caffeine using a NELAP laboratory. A listing of analytical parameters is provided in Appendix A, for storm water samples.

The following locations will be sampled for storm water as indicated on Figure 8:

- Sink Creek;
- Sessoms Creek;
- Dog Beach Outflow;
- Hopkins Street Outflow;
- Purgatory Creek (above San Marcos River);
- I-35 Reach; and
- Willow Creek (above San Marcos River).

**Groundwater Sample Collection for Extreme Low Flow Scenarios for San Marcos Springs**

In the event total springflow at San Marcos Springs (as measured by USGS San Marcos Springs gauging station (#08170500)) drops below 50 cfs, the EAHCP (6.4.4.3) calls for weekly monitoring of three wells in the vicinity of the spring complex for DO, conductivity, pH, and temperature. Should springflow drop below 30 cfs, then additional parameters to include Nutrients, TDS, and TOC are to be added to the sample regimen. Analytical parameters for all low flow sampling is included in Appendix A. Based on conditions during the drought of record (circa 1950s), sampling for lower flow scenario could last for up to 21 weeks. The three specific wells to be used will be determined at the time of sampling abased on well conditions and aquifer levels.

**Real Time Instrument Water Quality Data Logging Program for San Marcos Springs**

Continuous water quality monitoring stations were established in 2013 and will continue in 2016 at the following locations indicated on Figure 9:

USGS gauging station;  
Rio Vista Dam; and  
Capes Dam/Willow Creek.

Monitoring will be performed using a data logging sonde capable of collecting data on 15 minute intervals. The parameters measured will include temperature, dissolved oxygen, pH, turbidity, and specific conductance. These data will be evaluated to identify short-term and long-term water quality variations of the spring system as well as changes in water quality related to storm water runoff. **This monitoring effort will continue to be performed by EAA staff in 2016.**

In 2015, an additional water quality data logging point was installed at Capes Dam/Willow Creek area that coincident with surface water sample point HSM 170 (Capes Dam/Willow Creek area). The additional station will help with the timing of storm sample collection as well as improved monitoring of the IH-35 and Willow Creek runoff impacts.

**Collection of Passive Diffusion Samples (Passive Samples) at San Marcos Springs**

Passive samples are to be collected during the 2016 sampling effort using a passive diffusion type sampling device. Devices will be obtained from AGI, or equivalent to the AGI device for functionality and analytical parameters. Sample locations for PDS samples are provided in Figure 10. The passive sampling effort shall be performed in February, April, June, August, October, and December. The devices shall be installed for a two-week interval at the same locations as the base flow surface water samples. Specifically at the sample points that follow.

Sink Creek;  
Spring Lake;  
Sessoms Creek;  
City Park;  
Rio Vista Dam;  
I-35 reach; and,  
Capes Dam/Willow Creek.

The general parameter set for PDS samples is listed in Appendix A, under *Analytical Parameters for Passive Diffusion Samplers, Comal and San Marcos Springs*.

### **WATER QUALITY MONITORING REPORT**

The contractor will compile and present sampling results in an annual report to the EAA. The report will include an evaluation of analytical data, graphs of results that exceed comparative or regulatory standards, a discussion of water and sediment quality, laboratory reports and field data sheets, photographs, sampling locations and rationale, description of sampling methods, and a description and rationale for any deviations from the Water Quality Sampling Plan due to logistics or safety issues. The report is to be submitted in hard copy and electronically and will be reviewed internally by EAA. The deadline for submittal to the EAA is December 21, 2016.

### **DATA COMPILATION, ANALYSES AND REPORTING**

All of the data collected as a result of the 2016 HCP Water Quality Monitoring Plan will be compiled, and analyzed, and the results will be presented to the Implementing Committee by February 15, 2017; prior to inclusion in the annual EAHCP Annual Report that is required by Sections 6.2.4 and 9.3 of the EAHCP and Section 11.1c of the Implementing Agreement. The report will include an evaluation of all analytical data, including graphs, key photographs and general summary of results.

### **CHANGES TO WORKPLAN FROM THE 2014 SAMPLING EFFORT**

In summary, the work plan has few changes from 2015. Funding is requested for maintenance and replacement needs for existing RTIs, as well as data transmission and web hosting fees. Detail for the RTIs is listed in Appendix C.

### **SCIENCE COMMITTEE REVIEW**

This 2016 Water Quality Work Plan was reviewed by the EAHCP Science Committee at their April 2015 meeting. They recommended no additions or changes for 2016.

## **BUDGET**

Table 7.1 Budget: \$200,000

Requested work plan Budget: \$497,530.00

2016 EAHCP Sampling as performed by an outside contractor, annual costs \$474,430.00

Real Time Instruments (RTI): \$23,100.00 (see Appendix C)

### **Justification for Budget Adjustment**

The real time water quality data logging instrumentation is in need of funding for maintenance, in addition spare instrumentation is needed to prevent extended down time in the event of catastrophic failure. The instruments also require funding for calibration fluids, batteries, and other incidental costs. Cost details are provided in Appendix C.

**Figure 1**  
**Comal Springs Groundwater Sample Locations**



Most of the historical EAA sampling records for Comal Springs pertains to the locations known as Spring 1, Spring 3, and Spring 7 (spring vents). Other locations at Comal Springs may have a limited sample record.

Samples are collected monthly during low flow conditions (critical period), and quarterly during normal conditions.

**Explanation**

★ Historical Groundwater (Spring) Sample Location

Prepared by:





**Figure 2**  
**Comal Springs Surface Water Sample Locations**



**Comal Springs HCP Related Sample Points**

**Analytical Parameter List (HCP)**

Surface Water = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Kjeldahl, Metals

Storm Water = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Kjeldahl, Metals

Sediment = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Metals

**Notes:**

Pesticides = Organochlorine and Organophosphorus;

GWQP = Alkalinity, Bicarbonate, Carbonate, Ca, Mg, Na, K, Chloride, Sulfate, F, Si, Sr, Bromide, Nitrate (as N), pH, TDS, and TSS; as applicable.

Surface water samples collected twice annually.

Storm water samples collected twice annually.

**Explanation**

★ Surface Water Sample Location

**Prepared by:**





**Figure 3**  
**Comal Springs Storm Water Sample Locations**



#### Comal Springs HCP Related Sample Points

##### Analytical Parameter List (HCP)

Surface Water = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Kjeldahl, Metals

Storm Water = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Kjeldahl, Metals

Sediment = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Metals

Notes:

Pesticides = Organochlorine and Organophosphorus;

GWQP = Alkalinity, Bicarbonate, Carbonate, Ca, Mg, Na, K, Chloride, Sulfate, F, Si, Sr, Bromide, Nitrate (as N), pH, TDS, and TSS; as applicable.

Surface water samples collected twice annually.

Storm water samples collected twice annually.

##### Explanation

● Storm Water Sample Location

Prepared by:





**Figure 4**  
**Comal Springs Real Time Water Quality Station Locations**



**Comal Springs HCP Related Sample Points**

**Analytical Parameter List (HCP)**

Surface Water = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Kjeldahl, Metals

Storm Water = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Kjeldahl, Metals

Sediment = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Metals

**Notes:**

Pesticides = Organochlorine and Organophosphorus;

GWQP = Alkalinity, Bicarbonate, Carbonate, Ca, Mg, Na, K, Chloride, Sulfate, F, Si, Sr, Bromide, Nitrate (as N), pH, TDS, and TSS; as applicable.

Surface water samples collected twice annually.

Storm water samples collected twice annually.

**Explanation**

Continuous (Real Time) Water Quality Station

**Prepared by:**





**Figure 5**  
**Comal Springs Passive Diffusion Sampler Locations**



**Comal Springs HCP Related Sample Points**

**Passive Diffusion Samplers (PDS)**

**Notes:**

PDS devices are to be placed at the locations listed herein, for a two-week time period in the months of February, April, June, August, October, and December.

PDS devices will be from Amplified Geochemical Imaging, LLC, or equivalent and shall provide analyses for: TPH, BTEX, 1,3,5 and 1,2,4-trimethylbenzene, MTBE, phenanthrene, naphthalene 1-methyl naphthalene, octane, cis and trans-1,2-dichloroethane, 1,1-dichloroethane, chloroform, 1,1,1-trichloroethane, 1,2-dichloroethane, carbon tetrachloride, trichloroethene, tetrachloroethene, chlorobenzene, 1,4-dichlorobenzene, 1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,3-dichlorobenzene, and 1,2-dichlorobenzene.

**Explanation**

★ Passive Diffusion Sampler Location

**Prepared by:**





**Figure 6**  
**San Marcos Springs Groundwater Sample Locations**



Most of the historical EAA sampling records for San Marcos Springs pertains to the locations known as Hotel and Deep (spring vents). Other locations at San Marcos Springs may have a limited sample record.

Samples are collected monthly during low flow conditions (critical period), and quarterly during normal conditions.

**Explanation**

- ★ Historical Groundwater (Spring) Sample Location

Prepared by:





**Figure 7**  
**San Marcos Springs Surface Water Sample Locations**



**San Marcos Springs HCP Related Sample Points**

**Analytical Parameter List (HCP)**

Surface Water = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Kjeldahl, Metals  
 Storm Water = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Kjeldahl, Metals  
 Sediment = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Metals

**Notes:**

Pesticides = Organochlorine and Organophosphorus;

GWQP = Alkalinity, Bicarbonate, Carbonate, Ca, Mg, Na, K, Chloride, Sulfate, F, Si, Sr, Bromide, Nitrate (as N), pH, TDS, and TSS; as applicable.

Surface water samples collected twice annually.  
 Storm water samples collected twice annually.

**Explanation**

★ Surface Water Sample Location

**Prepared by:**





**Figure 8**  
**San Marcos Springs Storm Water Sample Locations**



**San Marcos Springs HCP Related Sample Points**

**Analytical Parameter List (HCP)**

Surface Water = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Kjeldahl, Metals  
 Storm Water = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Kjeldahl, Metals  
 Sediment = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Metals

**Notes:**

Pesticides = Organochlorine and Organophosphorus;

GWQP = Alkalinity, Bicarbonate, Carbonate, Ca, Mg, Na, K, Chloride, Sulfate, F, Si, Sr, Bromide, Nitrate (as N), pH, TDS, and TSS; as applicable.

Surface water samples collected twice annually.  
 Storm water samples collected twice annually.

**Explanation**

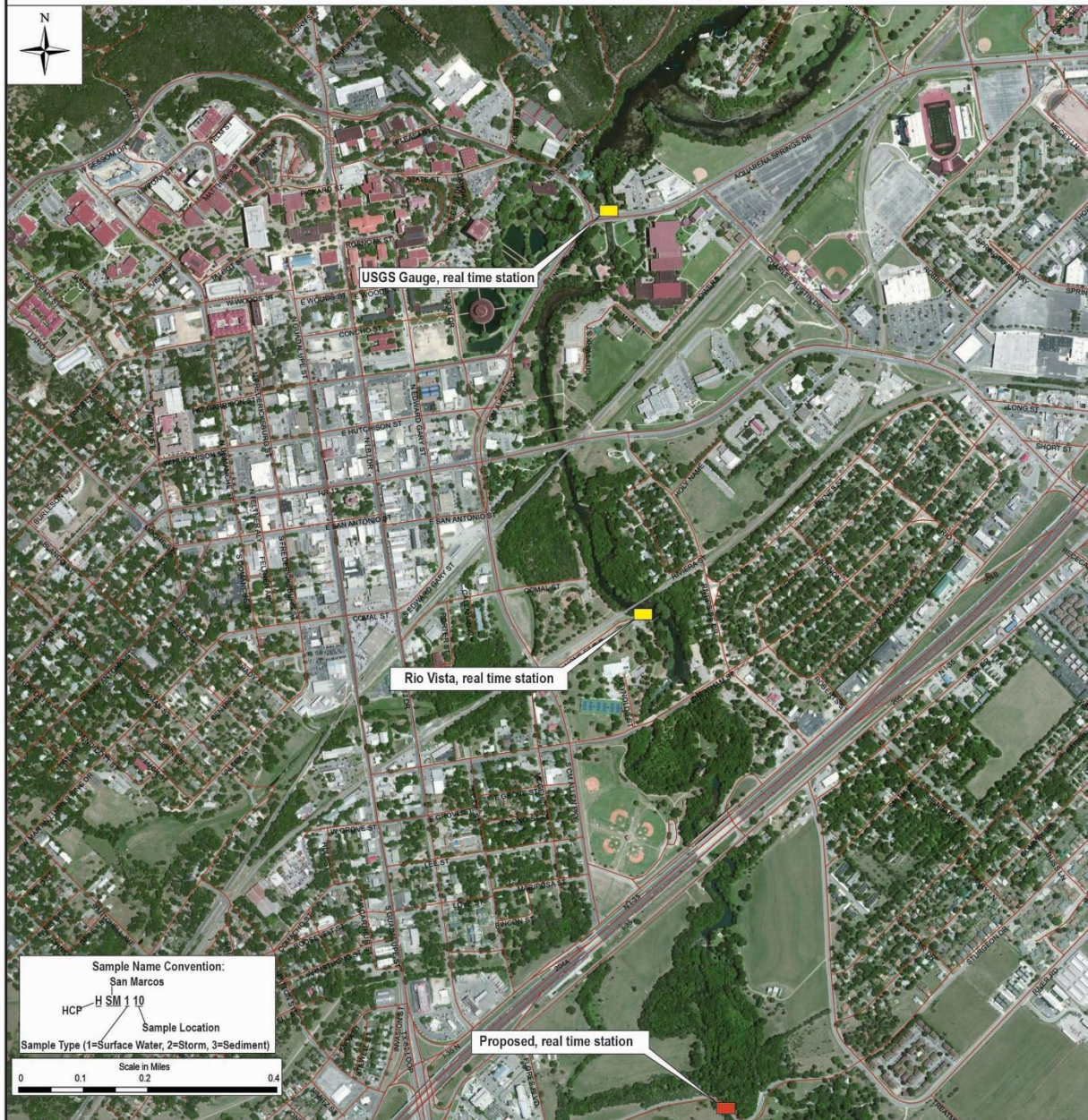
● Storm Water Sample Locations

**Prepared by:**





**Figure 9**  
**San Marcos Springs Real Time Water Quality Station Locations**



**San Marcos Springs HCP Related Sample Points**

**Analytical Parameter List (HCP)**

Surface Water = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Kjeldahl, Metals

Storm Water = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Kjeldahl, Metals

Sediment = GWQP, VOC, SVOC, Pesticides, Herbicides, PCBs, Tot. Phos., TOC, DOC, Metals

**Notes:**

Pesticides = Organochlorine and Organophosphorus;

GWQP = Alkalinity, Bicarbonate, Carbonate, Ca, Mg, Na, K, Chloride, Sulfate, F, Si, Sr, Bromide, Nitrate (as N), pH, TDS, and TSS, as applicable.

Surface water samples collected twice annually.

Storm water samples collected twice annually.

**Explanation**

Continuous (Real Time) Water Quality Station Location

Proposed Continuous (Real Time) Water Quality Station Location for Addition in 2015

**Prepared by:**







**Appendix A****Analytical Parameters for Assessing Water Quality from Storm Water and Surface Water Locations, Comal and San Marcos Springs**

<b>Analyses</b>
Volatile Organic Compounds (VOCs)
Semi-volatile Organic Compounds (SVOCs)
Organochlorine Pesticides
Polychlorinated Biphenyls (PCBs)
Organophosphorous Pesticides
Herbicides
Metals (Al, Sb, As, Ba, Be, Cd, Cr (total), Cu, Fe, Pb, Mn, Hg, Ni, Se, Ag, Tl, and Zn)
General Chemistry (GWQP) Total Alkalinity (as CaCO <sub>3</sub> ), Bicarbonate Alkalinity (as CaCO <sub>3</sub> ), Carbonate Alkalinity (as CaCO <sub>3</sub> ); (Cl, Br, NO <sub>3</sub> , SO <sub>4</sub> , F <sup>-</sup> , pH, TDS, TSS, Ca, Mg, Na, K, Si, Sr, CO <sub>3</sub> ), and Total Suspended Solids (TSS).
Phosphorus (total)
Total Organic Carbon (TOC),
Dissolved Organic Carbon (DOC)
Kjeldahl Nitrogen
Bacteria Testing ( <i>E coli</i> )
Caffeine

<b>Method</b>	<b>Method Description</b>	<b>Protocol</b>
8260B	Volatile Organic Compounds	(GC/MS) SW846
8270C	Semivolatile Organic Compounds	(GC/MS) SW846
8081B	Organochlorine Pesticides	(GC) SW846
8082A	Polychlorinated Biphenyls (PCBs)	by Gas Chromatography SW846
8141A	Organophosphorous Pesticides	(GC) SW846
8151A	Herbicides	(GC) SW846
6010B	Metals	(ICP) SW846
6020	Metals	(ICP/MS) SW846
7470A	Mercury	(CVAA) SW846
300.0	Anions,	Ion Chromatography
340.2	Fluoride	MCAWW
365.4	Phosphorus,	Total EPA
9040C	pH	SW846
9060	Organic Carbon,	Total (TOC) SW846
SM 2320B	Alkalinity	SM
SM 2540C	Solids,	Total Dissolved (TDS) SM
SM 2540D	Solids, Total Suspended (TSS)	SM
351.2	Nitrogen, Total Kjeldahl	MCAWW
1694	Caffeine	

**Protocol References:**

EPA = US Environmental Protection Agency

MCAWW = "Methods for Chemical Analysis of Water and Wastes," EPA-600/4-79-020, March 1983 and Subsequent Revisions.

SM = "Standard Methods for the Examination of Water and Wastewater,"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.



**Number of required QA/QC Samples for Surface (Base Flow) Sampling, Storm Sampling, and Sediment Sampling**

<b>QA/QC Samples (Dupes/EQ Blanks)</b>	<b>Equip. Blanks</b>	<b>Dupes</b>	<b>Total</b>
Comal Surface Water=	2	2	4
San Marcos Surface Water=	2	2	4
Comal Storm Water=	2	4	6
San Marcos Storm Water=	2	6	8
Comal Sediments=	1	1	2
San Marcos Sediments=	1	1	2
<b>Total Costs QA/QC Samples</b>	<b>10</b>	<b>16</b>	<b>26</b>

**Analytical Parameters for Critical Period Related (Low Flow) Sampling of Water Wells, Comal and San Marcos Springs**

<b>Analyses</b>
General Chemistry (GWQP) Total Alkalinity (as CaCO <sub>3</sub> ), Bicarbonate Alkalinity (as CaCO <sub>3</sub> ), Carbonate Alkalinity (as CaCO <sub>3</sub> ); (Cl, Br, NO <sub>3</sub> , SO <sub>4</sub> , F, pH, TDS, TSS, Ca, Mg, Na, K, Si, Sr, CO <sub>3</sub> ,)
Total Organic Carbon (TOC)
Total Dissolved Solids (TDS)

**Analytical Parameters for Passive Diffusion Samplers, Comal and San Marcos Springs**

PDS devices are to be placed at the locations listed Figures 5 and 10, for a two-week time period in the months of February, April, June, August, October, and December.
PDS devices will be from Amplified Geochemical Imaging, LLC, or equivalent and shall provide analyses for the following: TPH, BTEX, 1,3,5 and 1,2,4-trimethylbenzene, MTBE, phenanthrene, naphthalene1-methyl naphthalene, octane, cis and trans-1,2,-dichloroethene, 1,1-dichloroethane, chloroform, 1,1,1-trichloroethane, 1,2-dichloroethane, carbon tetrachloride, trichloroethene, tetrachloroethene, chlorobenzene, 1,4-dichlorobenzene, 1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,3-dichlorobenzene, and 1,2-dichlorobenzene.

## Appendix B

### Analytical Parameters for Assessing Water Quality from Sediment Sample Locations, Comal and San Marcos Springs

<b>Analyses</b>
Volatile Organic Compounds (VOCs)
Semi-volatile Organic Compounds (SVOCs)
Organochlorine Pesticides
Polychlorinated Biphenyls (PCBs)
Organophosphorous Pesticides
Herbicides
Metals (Al, Sb, As, Ba, Be, Cd, Cr (total), Cu, Fe, Pb, Mn, Hg, Ni, Se, Ag, Tl, and Zn)
General Chemistry Total Alkalinity (as CaCO <sub>3</sub> ), Bicarbonate Alkalinity (as CaCO <sub>3</sub> ), Carbonate Alkalinity (as CaCO <sub>3</sub> ); Ca, Mg, Na, K, Chloride, Sulfate, Phosphorus (total)
Total Organic Carbon (TOC),
Dissolved Organic Carbon (DOC)
Bacteria Testing ( <i>E coli</i> )

Method	Method Description	Protocol
8260B	Volatile Organic Compounds	(GC/MS) SW846
8270C	Semivolatile Organic Compounds	(GC/MS) SW846
8081B	Organochlorine Pesticides	(GC) SW846
8082A	Polychlorinated Biphenyls (PCBs)	by Gas Chromatography SW846
8141A	Organophosphorous Pesticides	(GC) SW846
8151A	Herbicides	(GC) SW846
6010B	Metals	(ICP) SW846
6020	Metals	(ICP/MS) SW846
7470A	Mercury	(CVAA) SW846
300.0	Anions,	Ion Chromatography
340.2	Fluoride	MCAWW
365.4	Phosphorus,	Total EPA
9040C	pH	SW846
9060	Organic Carbon,	Total (TOC) SW846
SM 2320B	Alkalinity	SM
SM 2540C	Solids,	Total Dissolved (TDS) SM
SM 2540D	Solids, Total Suspended (TSS)	SM

#### Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods for Chemical Analysis of Water and Wastes," EPA-600/4-79-020, March 1983 and Subsequent Revisions.

SM = "Standard Methods for the Examination of Water and Wastewater,"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## Appendix C

### Estimated Costs for Addition of a Real Time Water Quality Monitoring Instrument at San Marcos Springs, and Ongoing Costs for Operation and Maintenance.

TWO new Eureka, Manta 2 Probe, equipped to monitor: DO, pH, Temperature, Conductivity, and Turbidity with Associated Netronix Telemetry System.	\$6,000.00 each for a total of \$12,000
Annual maintenance costs for equipment, to include batteries (as needed), repairs, and calibration standards (estimated costs are for six total instruments)	\$6,000.00
Annual data contract to include cellular data fees, and web hosting at Netronix site (estimated costs are for six total instruments, which includes the proposed new addition in San Marcos)	\$5,100.00
<b>Total Estimated Costs for Real Time Water Quality Instrumentation calendar year 2015</b>	<b>\$23,100.00</b>

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## **APPENDIX B**

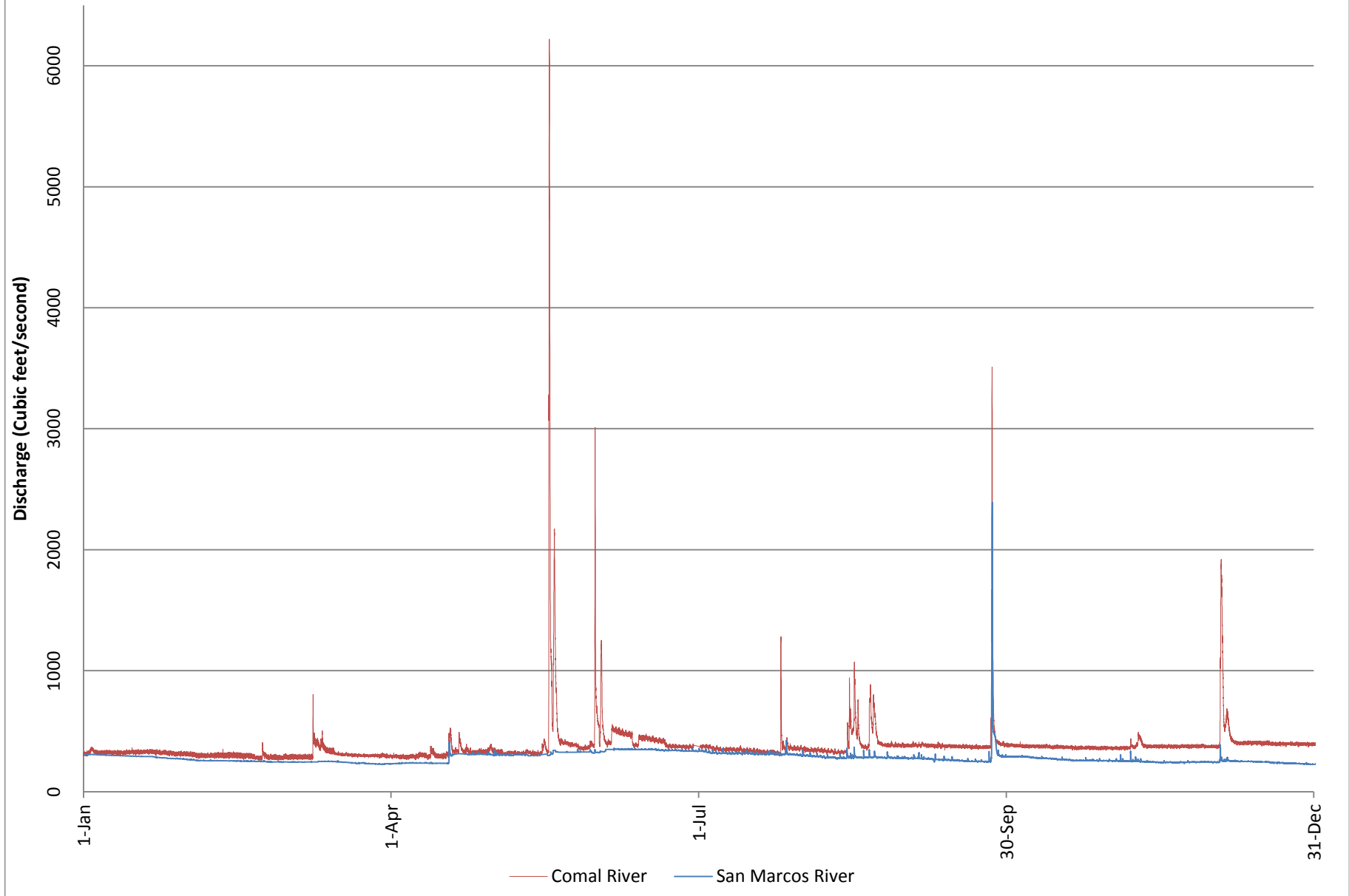
### **SPRING HYDROGRAPHS AND STORM WATER QUALITY GRAPHS**

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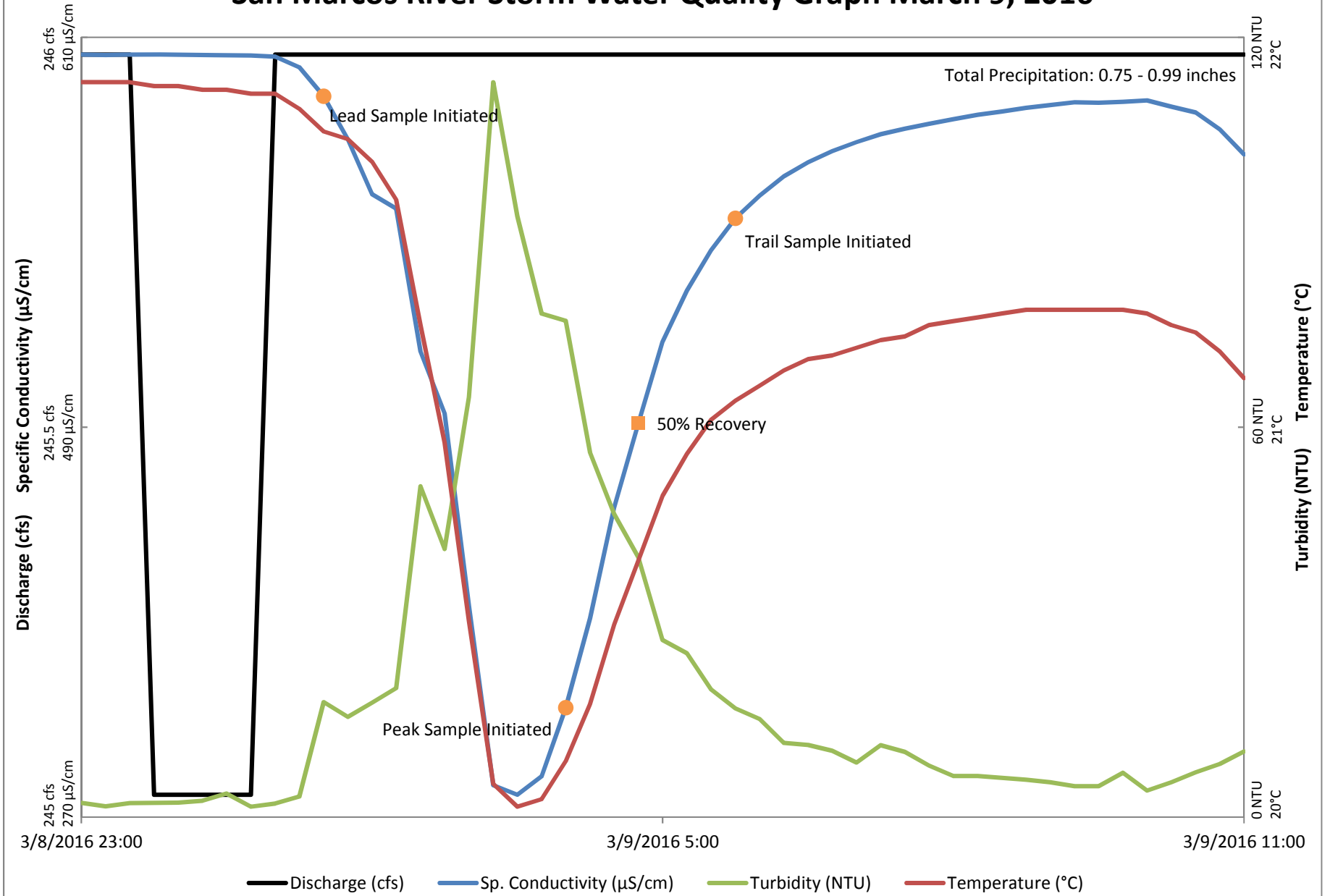
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## Discharge (cfs) Raw Data Plot 2016



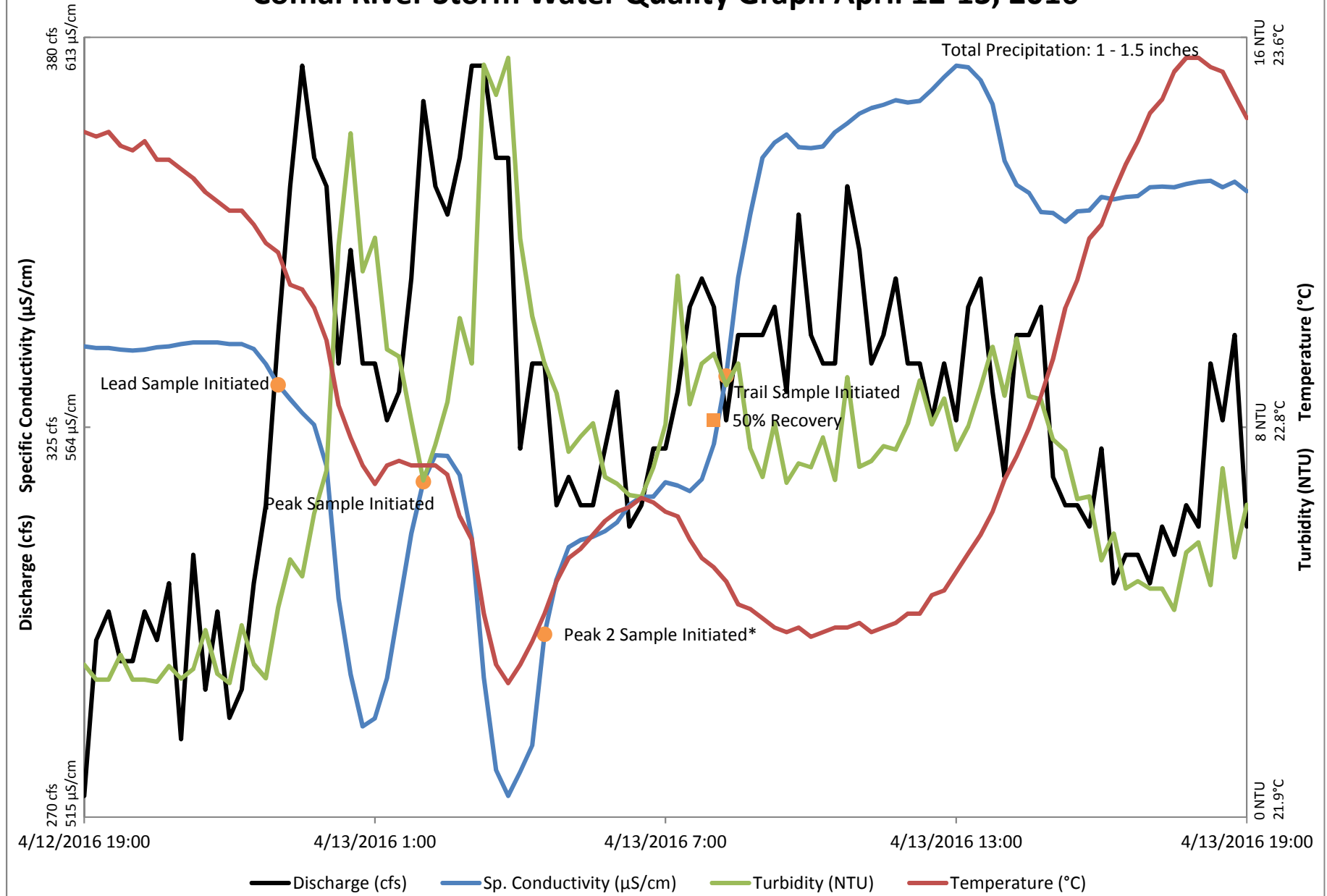
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# San Marcos River Storm Water Quality Graph March 9, 2016



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# Comal River Storm Water Quality Graph April 12-13, 2016



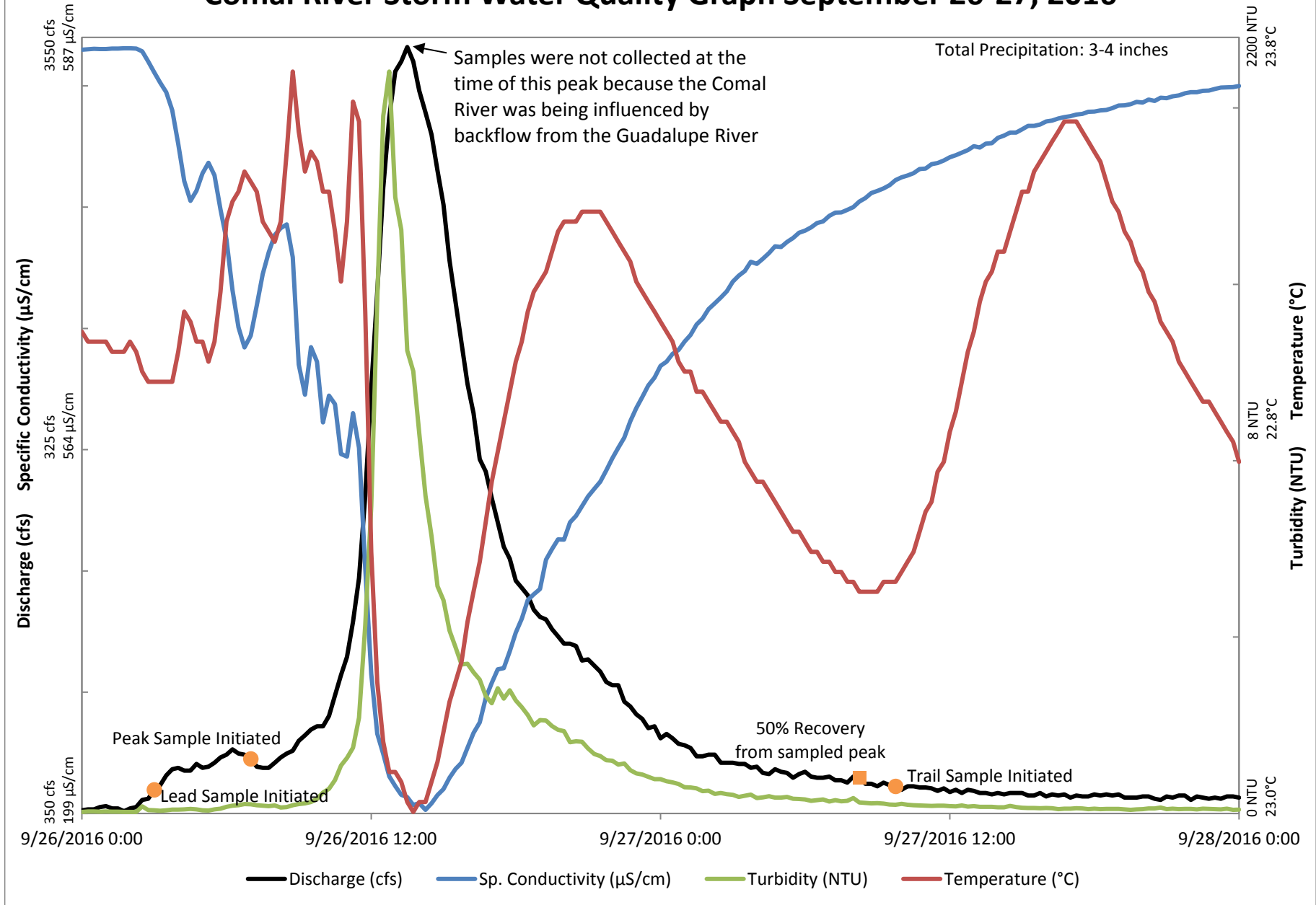
\*Peak 2 samples were not analyzed per EAA request

Data Source: Environet 2016, USGS 2016



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## Comal River Storm Water Quality Graph September 26-27, 2016

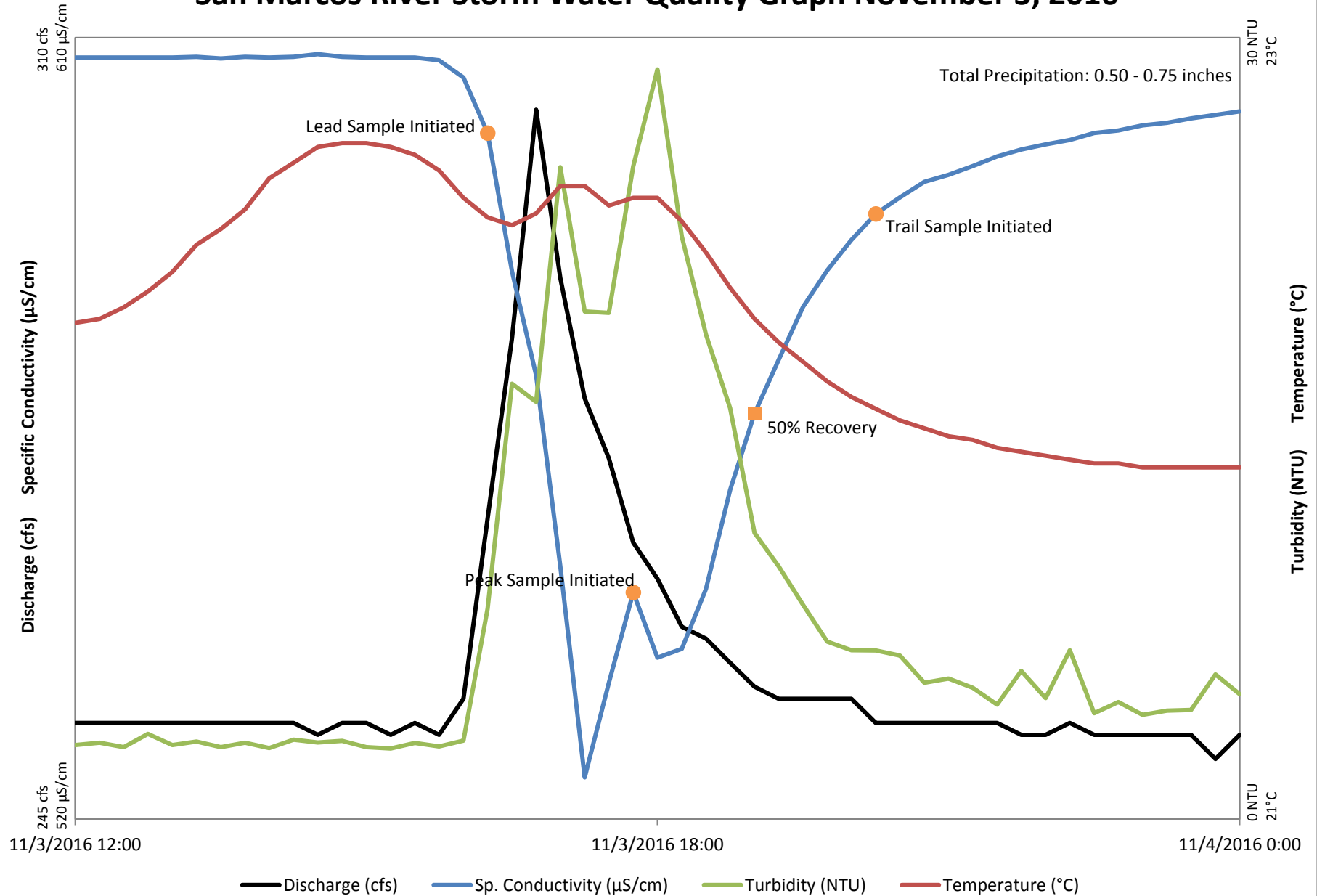


\*Peak 2 samples were not analyzed per EAA request

Data Source: Environet 2016, USGS 2016

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# San Marcos River Storm Water Quality Graph November 3, 2016



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## **APPENDIX C**

### **DISCUSSION OF DEVIATIONS**

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## **Appendix C Discussion of Deviations**

### **Comal Springs**

#### **Surface Water (Base Flow)**

Surface water was collected in the Comal Springs complex in March and September 2016. Surface water (base flow) sampling locations did not deviate from the *2016 Edwards Aquifer Authority Water Quality Monitoring Program Work Plan for Comal Springs and San Marcos Springs* (EAHCP Work Plan) (EAA, 2015).

#### **March 2, 2016, and September 8, 2016, Collection**

In accordance with the EAHCP Work Plan (EAA, 2015), filtration for metals and alkalinity samples was performed in the field by collecting water with disposable bailers and attaching filters to the bailers. Alkalinity analysis was performed at the SWCA office in San Antonio. Because the hold-time for pH analysis is only 15 minutes, laboratory analysis of pH was performed outside of hold time, but pH was measured in the field as part of the water quality parameter data set.

#### **March 2, 2016, Collection**

An error in the field resulted in the loss of the water quality parameter data collected at site HCS120.

#### **September 8, 2016, Collection**

Organophosphorus pesticides samples were mislabeled at the contract laboratory after extraction from the original sample containers. There was no way for the laboratory to distinguish the identities of the samples, so they had to be re-extracted. This second extraction occurred outside of the hold time for organophosphorus pesticide analysis. New samples for organophosphorus pesticides were collected October 24, 2016.

#### **Stormwater**

Stormwater events were sampled April 12-13 and September 26-27, 2016, in the Comal Springs complex. Infrequent qualifying storm events made storm water sampling exceedingly difficult to perform in the second half of 2016. Rain events were generally scattered in nature and often too small in magnitude to generate sufficient runoff to sample. Storm water sampling locations did not deviate from those proposed in the EAHCP Work Plan.

#### **April 12-13, 2016, Event**

Lead sample collection began at approximately 23:00 on April 12, 2016, making it impossible for *E. coli* samples to reach the laboratory within the 6-hour hold time. The peak occurred at approximately 01:45 on April 13, 2016, also making it impossible for *E. coli* samples to reach the laboratory within the 6-hour hold time. Lead and Peak samples were submitted when the contract laboratory opened on the morning of April 13, 2016. Trail samples were collected and delivered to the laboratory on April 13, 2016, within hold time.

Because the hold-time for pH analysis is only 15 minutes, laboratory analysis of pH was performed outside of hold time, but pH was measured in the field as part of the water quality parameter data set. Due to timing of the storm, alkalinity samples HCS240 Peak, HCS250 Peak, HCS260 Peak and HCS270 Peak were analyzed outside of hold time.

#### September 26-27, 2016, Event

It was not possible for the Comal Springs lead or peak *E. coli* samples to be delivered to the contract laboratory within holding times due to the timing of the storm. The specific conductivity in the Comal River recovered but began to fall again several times and storm cells continued to materialize or dissipate in the immediate vicinity making it impossible for SWCA to predict when samples would need to be collected and when a staff member could be spared to deliver samples to the laboratory. Lead sample collection began at approximately 03:00 on September 26, 2016. They were to be delivered to the laboratory when it opened at 08:00. However, specific conductivity peaked abruptly and peak sample collection began at approximately 07:00 making staff unavailable to deliver the samples. A runner was called in to deliver the samples to the laboratory as soon as possible. Following peak collection specific conductivity began to fall again, SWCA staff deployed to sampling locations in order to collect an additional peak sample. At this time it was determined that the Comal River was being influenced by backflow from the Guadalupe River and the peak samples collected at 07:00 would be analyzed. SWCA staff delivered the peak samples to the laboratory as soon as possible following this decision. Trail samples were collected on September 27, 2016 and were delivered to the laboratory within holding times. Because the hold-time for pH analysis is only 15 minutes, laboratory analysis of pH was performed outside of hold time, but pH was measured in the field as part of the water quality parameter data set.

Turbidity readings from the sonde used by one sampling team did not appear accurate in the field. The turbidity measurements were the same at sites HCS210, HCS240 and HCS260 during the lead sample. The turbidity result of 200 NTU was assumed correct at HCS210 Lead but not for HCS240 Lead and HCS260 Lead. The sonde appeared to be functioning correctly at HCS210 but that reading became locked in for the additional sampling locations. Turbidity for HCS240 Lead and HCS260 Lead was not included in the data set.

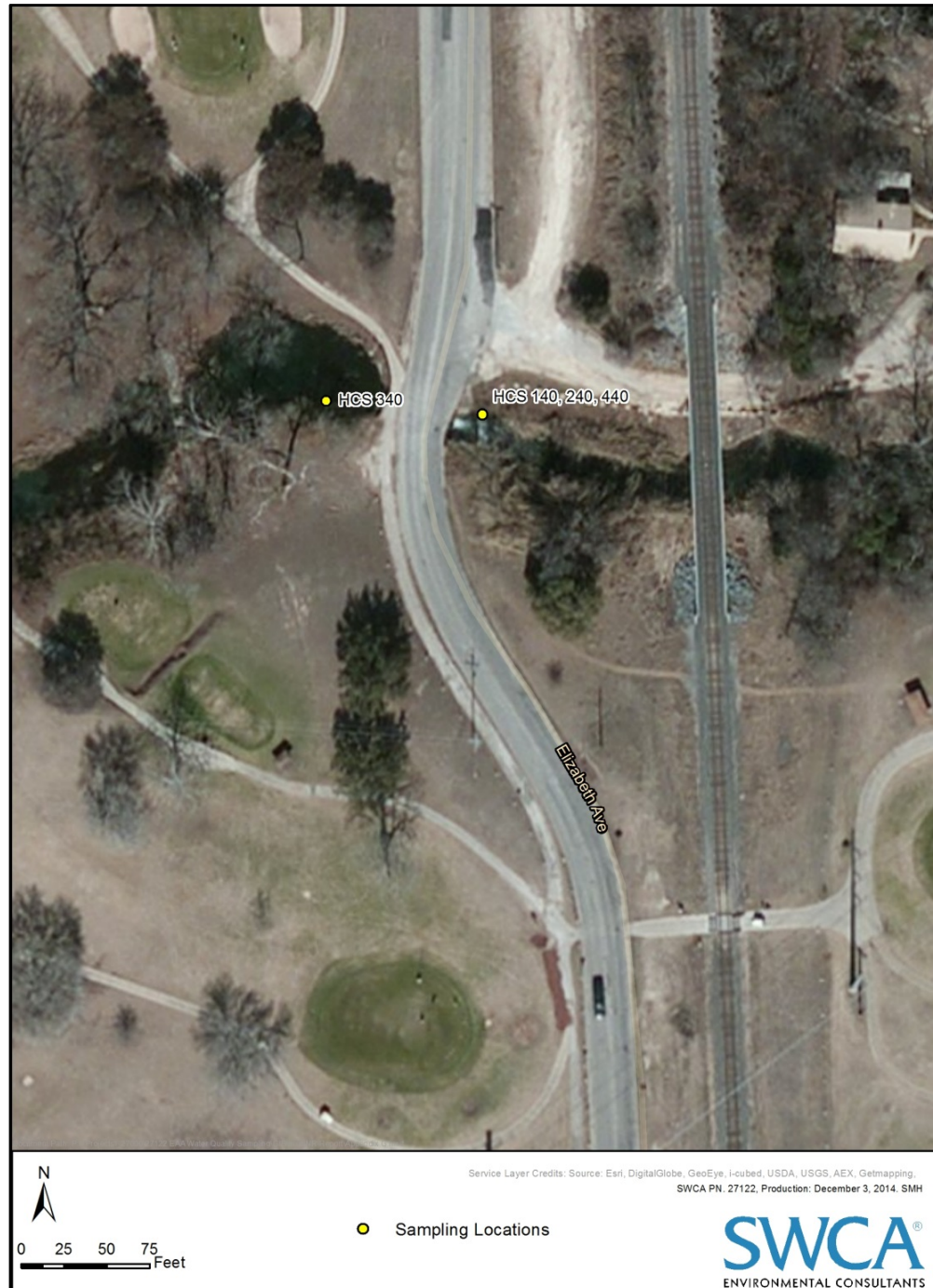
#### **Sediments**

Sediment samples were collected from the Comal Springs complex on June 8, 2015. The EAHCP Work Plan (EAA, 2015) designated sediment collection sites to coincide with surface water collection points but allowed for some deviation from these locations as field conditions dictated. Sediment samples were collected more than 30 feet from surface water collection points due to limited amounts of available sediment at the surface water locations at HCS340 and HCS360. Sediment collection location deviations are discussed below.

## HCS340

Surface water samples are collected from the eastern side of Elizabeth Avenue at this sample site, however the substrate in this area is very rocky with a strong current and little to no sediment. Sediment samples were collected upstream on the western side of Elizabeth Avenue, approximately 30 feet from the road. Sediment was collected approximately ten feet from the southern shore as shown in Figure 1.

Figure 1. HCS340 Sample Location.



## HCS360

Surface water collection occurred on the upstream side of the bridge near the western bank at this location. Sediment was collected on the upstream side of the bridge approximately 12 feet from the eastern bank due to high river depth and limited available sediment near the surface water sample location, as shown in Figure 2. A sediment field duplicate was also collected in the same location.

Figure 2. HCS360 Sample Location.



Due to a laboratory oversight nitrates were not analyzed within holding times for the sediment samples.

### **Passive Diffusion Samplers**

Passive diffusion samplers (PDSs) were deployed at each of the surface water sample collection sites. When at all possible, deployment locations coincided with the surface water locations. Some adjustments had to be made to account for river depth, accessibility by SWCA staff for installation and retrieval, and potential interference by the public. PDSs were deployed for two-week periods during the months of February, April, June, August, October, and December 2016.

Storm events did occur during some PDS deployment periods. Rain events large enough to cause an increase in discharge at the USGS Streamflow gauge in the Comal River occurred during PDS deployments during April, August, and December 2016. A large storm was forecasted for April 16 to 18, 2016. PDS were deployed in the river April 4, 2016 and scheduled to be retrieved April 18, 2016. Per EAA request the PDS were retrieved prior to the storm event on the morning of April 16, 2016 after 12 days of exposure opposed to the normal 14 days. The PDS were collected early to reduce the risk of samplers being lost in the field during high storm flows and results not adequately reflecting base flow conditions. Figures 24 to 29 in the main body of this report show specific conductivity and discharge readings during each PDS deployment period.

Any alterations to sample locations or lost PDS are discussed below.

#### HCS460

April 2016 – PDS deployment device was flipped over. A large amount of vegetation and sediment came in contact with the sampler. The sampler was not analyzed due to contact with collected sediment.



## **San Marcos**

### **Surface water**

Surface water was collected in the San Marcos Springs complex in March and September 2015. Surface water sampling locations did not deviate from the EAHCP Work Plan (EAA, 2015).

#### **March 3, 2016, and September 9, 2016, Collection**

Because the hold time for pH analysis is only 15 minutes, laboratory analysis of pH was performed outside of the hold time. However, pH was measured in the field as part of the water quality parameter data set. In accordance with the EAHCP Work Plan (EAA, 2015), filtration for metals and alkalinity samples was performed in the field by collecting water in disposable bailers and attaching filters to the bailers. Alkalinity analysis was performed at the SWCA office in San Antonio.

#### **March 3, 2016, Collection**

Samples were picked up by laboratory staff at the SWCA office on the morning of March 4, 2016 for delivery to the laboratory in Corpus Christi, TX. Samples did not arrive at the Corpus Christi laboratory until the morning of March 5, 2016. This caused nitrate samples for HSM110, FDHSM110, HSM120, and HSM130 to be analyzed outside of hold time. SWCA staff addressed this issue with the laboratory and was assured samples would be delivered promptly in the future.

Alkalinity samples FDHSM110, HSM120, HSM130, HSM150, HSM160, and HSM170 were analyzed outside of hold time.

Caffeine was not analyzed from HSM230 Peak, the bottle containing the sample from was broken in shipment to the laboratory.

#### **September 9, 2016, Collection**

Organophosphorus pesticides samples were mislabeled at the contract laboratory after extraction from the original sample containers. There was no way for the laboratory to distinguish the identities of the samples, so the samples had to be re-extracted. This second extraction occurred outside of the hold time for organophosphorus pesticide analysis. New samples for organophosphorus pesticides were collected October 24, 2016.

### **Stormwater**

Stormwater events were sampled March 9, 2016 and November 3, 2016, in the San Marcos Springs complex. Stormwater sampling locations did not deviate from those proposed in the EAHCP Work Plan.

#### **March 9, 2016, Event**

Lead sample collection began at approximately 01:30 on March 9, 2016 making it impossible to deliver *E. coli* samples to the laboratory within the 6-hour hold time. All samples were submitted when the contract laboratory opened on the morning of March 9, 2016. Because the hold-time for pH analysis is only 15

minutes, laboratory analysis of pH was performed outside of hold time. However, pH was measured in the field as part of the water quality parameter data set. HSM240 samples were collected using bailers from the pedestrian bridge approximately 60 feet upstream of the surface water sampling location.

The streamflow measured at USGS Gauge 08170500 increased from 245 cfs to 246 cfs during the event (USGS, 2015), it is unclear if the gauge was operating correctly during the event as a larger increase is generally observed during storm events. A more than 20% change in specific conductivity and other water quality parameters did occur during the event and SWCA staff observed a rise in water levels at sampling locations. Therefore, the storm event is considered valid for sampling based on the guidelines in the EAA Groundwater Quality Monitoring Report.

#### November 3, 2016, Event

All sample collection occurred between 16:30 and 21:30 on November 3, 2016, making it impossible to deliver the *E. coli* samples to the contract laboratory within hold times. The samples were delivered to the laboratory as soon as possible on the morning of November 4, 2016. Samples for the remaining analyses were picked up by the other contract laboratory on November 4, 2016. Laboratory analyses of pH have a hold time of only 15 minutes, therefore pH analyses were performed outside of hold time. However, pH was measured in the field as part of water quality parameter monitoring. Due to a laboratory oversight sample HSM210 Trail was analyzed outside of hold time for organophosphorus pesticides. HSM240 samples were collected using bailers from the pedestrian bridge approximately 60 feet upstream of the surface water sampling location.

#### **Sediment**

Sediment samples were collected from the San Marcos Springs complex June 9, 2016. The EAHCP Work Plan (EAA, 2015) designated sediment collection sites to coincide with surface water collection points but allowed for some deviation from these locations as field conditions dictated. Sediment samples were collected more than 30 feet from surface water collection points due to limited amounts of available sediment and river depth at HSM310, HSM350, and HSM370. Sediment collection location deviations are discussed below.

### HSM310

Surface water samples were collected from the center of the downstream side of the West Laurel Street Bridge. The bottom of this area has many large rocks and little exposed sediment. Sediment samples were collected approximately six feet upstream of the bridge, approximately five feet from the eastern bank. Sample locations are shown below in Figure 3.

Figure 3. HSM310 Sample Location



## HSM350

Water depth and access along the Rio Vista Park footbridge limited the possibilities for sediment collection. Sediment samples were collected on the east side of the island approximately 15 feet to the east of the island. Sample locations are shown below in Figure 4.

Figure 4. HSM350 Sample Location

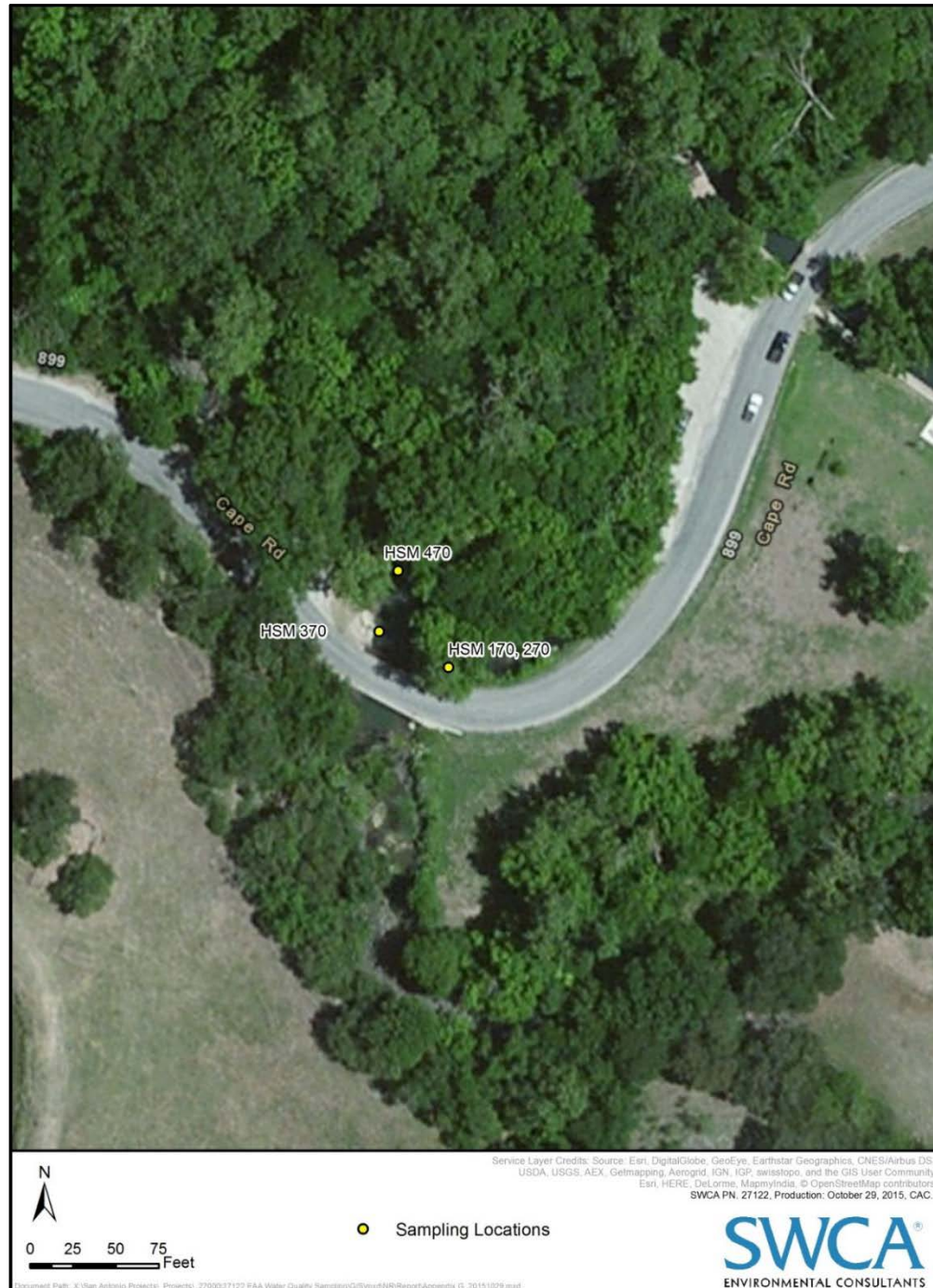




## HSM370

Surface water samples are collected near the middle of the channel on the upstream side of the Cape Street Bridge. High water depth, strong current, and rocky bottom limited sediment collection possibilities. Sediment samples were collected approximately ten feet from the western bank of the Cape Street Bridge, as shown in Figure 5. A field duplicate was collected at the same location.

Figure 5. HSM370 Sample Location



Due to a laboratory oversight, nitrate samples were not analyzed within hold times for sediment samples.

### **Passive Diffusion Sampling**

Passive diffusion samplers were deployed at each of the surface water sample collection sites. When at all possible, deployment locations coincided with the surface water locations. Some adjustments had to be made to account for river depth, accessibility by SWCA staff for installation and retrieval, and interference by the public. PDSs were deployed for two-week periods during the months of February, April, June, August, October and December 2016. In 2014, SWCA staff designed and constructed a concrete and stainless steel deployment device to hold the PDS. Use of the devices continued throughout 2016.

Storm events did occur during some PDS deployment. Rain events large enough to cause a change in discharge at the USGS streamflow gauge in the San Marcos River occurred during PDS deployments in April, August, and December 2016. A large storm was forecasted for April 16 to 18, 2016. PDS were deployed in the river April 4, 2016 and scheduled to be retrieved April 18, 2016. Per EAA request the PDS were retrieved prior to the storm event on the morning of April 16, 2016 after 12 days of exposure opposed to the normal 14 days. The PDS were collected early to reduce the risk of samplers being lost in the field during high storm flows and results not reflecting base flow conditions. Figures 53 to 58 in the main body of this report show specific conductivity and discharge readings during each PDS deployment period.

Any alterations to sample locations or lost PDS are discussed below.



## HSM420

In 2014, the PDS location for HSM420 was moved downstream from the surface water collection site to an area with easier and safer access for SWCA staff. This location was used for all 2016 deployments. The sample location is shown below in Figure 6.

Figure 6. HSM420 sample location.



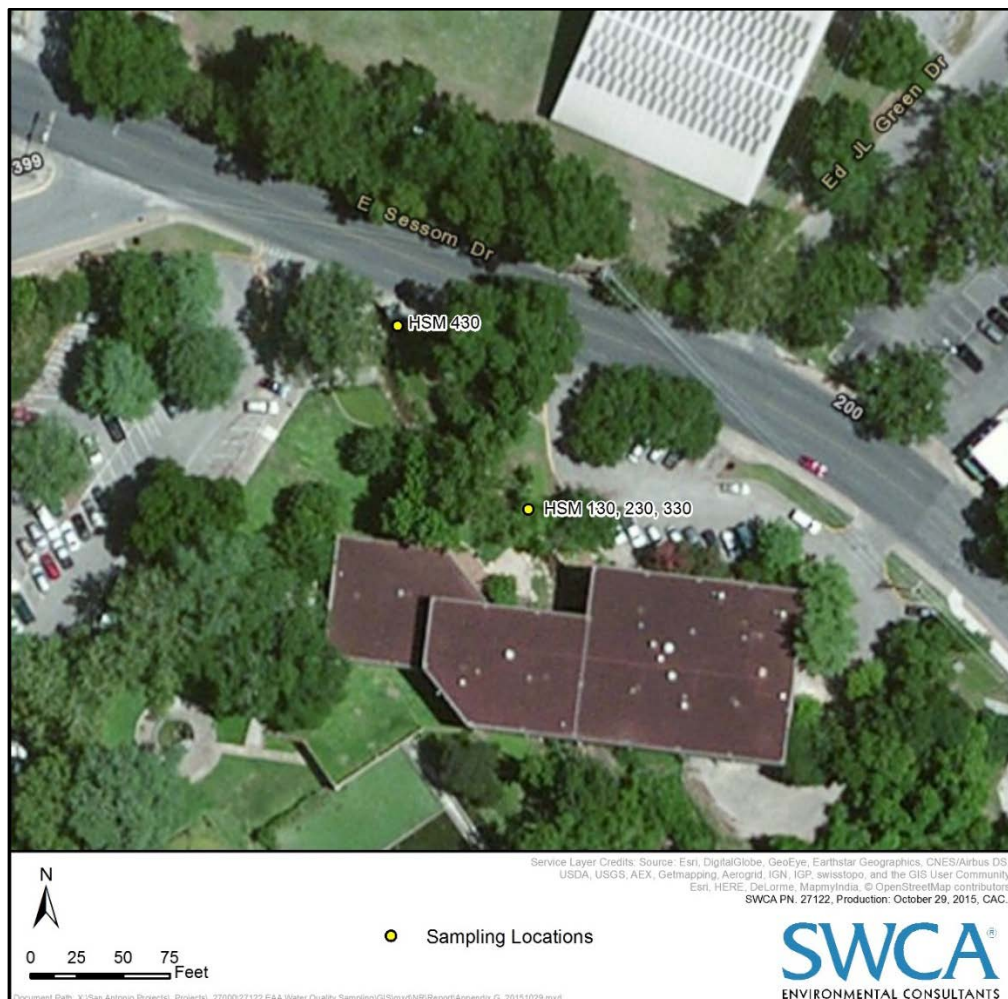
## HSM430

In 2014, the PDS location for HSM430 was moved upstream from the surface water collection site, as shown in Figure 7. This area was chosen because a children's education program accesses the river near the main sampling site. The upstream location protects the PDS from interference by the children and any sediment disturbed by their activity. This location was utilized throughout 2016.

April 2016 – Deployment device was found on its side, buried in sediment. The sampler was not analyzed due to contact with the sediment. The field duplicate sampler was also contained in this device and was not analyzed. Each PDS contains two sampling sections that can be split to act as a field duplicate when necessary. The sampler from HSM440 was split to act as a replacement field duplicate for this sampling period.

December 2016 – Coarse gravel sediment collected on the deployment device, filling the bottom of the stainless steel cup and contacting the samplers. The samplers were not analyzed due to the contact with the sediment.

Figure 7. HSM430 Sample Location



#### HSM440

June 2016 – The deployment device was not recovered from the river. The top portion of the device with the sampler intact was found by City of San Marcos staff and returned to SWCA. The sampler was not analyzed.

#### HSM450

June 2016 – The deployment device was found approximately 75 feet downstream of its deployment location. It was assumed this was due to human tampering and the sampler was not analyzed.

#### HSM470

October 2016 – The deployment device was found partially open. It was assumed this was due to human tampering and the sampler was not analyzed.

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**APPENDIX D**

**GROUNDWATER QUALITY MONITORING PLAN**

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# Groundwater Quality Monitoring Plan

## EDWARDS AQUIFER AUTHORITY

900 E. Quincy Street  
San Antonio, Texas, 78215

*Version 1.3*  
*Revised July 2013*





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**ACRONYMS AND ABBREVIATIONS**

ASTM	American Society of Testing and Materials
bgs	below ground surface
COC	chain of custody
DQO	data quality objective
EAA	Edwards Aquifer Authority
EAHCP	Edwards Aquifer Habitat Conservation Plan
e-line	electronic water level measurement device
GW	groundwater
MSL	mean sea level
NAWQA	national water quality assessment
PPCP	pharmaceutical and personal care products
psi	pounds per square inch
QA	quality assurance
QC	quality control
SOP	standard operating procedure
TWDB	Texas Water Development Board
USGS	United States Geological Survey
U.S. EPA	United States Environmental Protection Agency
VOA	volatile organic analysis
VOC	volatile organic compound

## **SECTION 1**

### **PURPOSE AND OBJECTIVES**

#### **1.1 PURPOSE AND OBJECTIVES OF THE PLAN**

Data derived from water quality sampling and analysis provide the primary indicator of the state of water quality in the Edwards Aquifer. These data are also a key component of assessing water quality changes over time. Water quality data also compose the primary source of information for our understanding and monitoring of contaminant loading and migration in the Edwards Aquifer. As such, analytical samples collected for assessing water quality must be collected under a set of standard operating procedures (SOPs), which are outlined in this plan. Included herein are sections on data quality objectives (DQOs), sampling programs, analytical methods, field procedures, and guidelines for plan review.

The purpose of this plan is to provide an SOP document ensuring that useful, consistent, and defensible water quality data are produced by implementation of appropriate procedures and methods when water quality samples are being collected and analyzed. Water quality samples are currently collected under various sampling programs at the Edwards Aquifer Authority (EAA). Data quality requirements vary by program and are discussed in Sections 2 and 3.

Section 2 of this plan provides a description of DQOs in general, as well as DQOs for this program. Section 3 provides detailed information for each of the sampling programs. Section 4 provides a listing of analytical methods used by the EAA, as well as data-flagging requirements, information for sample containers, hold times, and sample preservation. Section 5 outlines field procedures; Section 6 discusses staff training and field audits. Section 7 provides information regarding annual plan review, and Section 8 provides a list of references cited in the document. The appendices (A–G) provide maps of sample locations, a glossary of terms, instrument operation and calibration information, field forms, information on regulatory limits for various compounds, stormwater sample-collection details, and equipment-decontamination procedures.

The purpose of this plan can be achieved by implementation of the objectives listed below and discussed in detail in Sections 2–7 of the plan. Each EAA staff member charged with the responsibility of collecting water quality or other analytical samples is required to be familiar with this plan, along with the objectives and procedures outlined in it. The objectives of this plan are to

- Obtain quality data that are defensible for their intended purpose,

- Analyze field samples in an appropriate and consistent manner such that the results are accurate and repeatable (see calibration procedures in Appendix C),
- Collect samples for laboratory analysis in an appropriate and consistent manner that will ensure accurate and reliable analytical results with a minimal number of anomalous data,
- Select sample sites and time periods that will provide representative water quality data for a range of aquifer conditions, and
- Review the plan annually and revise as needed.

## SECTION 2

### DATA QUALITY OBJECTIVES

The U.S. Environmental Protection Agency (U.S. EPA) has developed criteria for data quality objectives utilizing a seven-step process that optimizes sample collection and analysis on the basis of data uses, fiscal budget, sample quantity, and other parameters (U.S. EPA, 2000). The process is iterative and may be modified by the planning team to incorporate changes as required:

- 1. State the Problem**  
Define the problem, identify the planning team, and examine the budget and schedule.
- 2. Identify the Decision**  
State the decision, identify study questions, and define alternative actions.
- 3. Identify Inputs to the Decision**  
Identify information needed for the decision, such as information sources, bases for action level, and sampling and analysis methods.
- 4. Define the Boundaries of Study**  
Specify sample characteristics, and define spatial/temporal limits and units of decision making.
- 5. Develop a Decision Rule**  
Define parameters for decision rules, specify action levels, and develop logic for action.
- 6. Specify Tolerable Limits on Decision Errors**  
Set acceptable limits for decision errors relative to consequences (health effects, costs, other impacts).
- 7. Optimize the Design for Obtaining Data**  
Select a resource-effective sampling and analysis plan that meets performance criteria.

#### 2.1 U.S. EPA DQO Process as Applied to EAA Analytical Programs

##### 2.1.1 DQO—State the Problem

Collect and analyze groundwater, spring water, and surface water samples that are contained in, issue from, or provide recharge to the Edwards Aquifer. In addition, collect stormwater and sediment samples as needed to satisfy program requirements. Sampling activities are to be conducted such that sufficient funding is held in reserve to collect confirmation samples if needed. In addition, the program must be flexible enough to collect samples in the event of a contingency (spill or other event) that affects or could potentially affect water quality of the Edwards Aquifer. The planning team includes the



Chief Technical Officer (CTO) and supervisory staff of the Aquifer Science Team of the EAA. Budget is proposed by the team and presented for board approval annually. The schedule is annual, with a general goal of collecting a minimum of 80 samples from wells, sampling all major springs (monthly or quarterly, depending on hydrologic conditions), and sampling surface waters twice annually while maintaining a budget reserve sufficient to address other needs (confirmation and contingency sampling).

Under a separate budget, the same team is charged with collecting surface water, stormwater, and sediment samples in support of the Edwards Aquifer Habitat Conservation Plan (EAHCP). Surface water, stormwater, and sediment samples are collected upstream, within, and downstream of Comal and San Marcos springs. Comal Springs has five designated sample locations, whereas San Marcos Springs has seven. Surface water and stormwater samples are to be collected twice annually, whereas sediment samples are collected once annually for the first year (to obtain baseline sediment quality information). Subsequent years may vary depending on results. See *Water Quality Monitoring Program Strategy for Comal Springs and San Marcos Springs in Support of the Edwards Aquifer Habitat Conservation Plan* (EAHCP Workplan).

### **2.1.2 DQO—Identify the Decision**

The decision is to collect the samples as described earlier under the sampling programs and protocols outlined in detail in this document. Study questions are:

- Can the quality of water entering into, residing in, and issuing forth from the Edwards Aquifer be representatively monitored?
- For the allowed budget, how many analytical parameters can be collected?
- What analytical parameters are the most informative with regard to water quality?
- Can a relevant data set that provides historical and current water quality information as relates to the Edwards Aquifer, be developed and maintained?
- Can the data indicate trends in water quality over time?
- Can contingency sampling functionally define contaminant flowpaths and ultimately help in the prevention of public exposure to contaminants in the event of a spill?
- How does the EAA functionally share the information collected with stakeholders and the public?

Alternative actions are to

- Modify the analytical parameter list to accommodate budget constraints,
- Reduce the number of sample points and sample frequency if needed to accommodate budget constraints, and

- Continually review results to assess the need for, and feasibility of, modifying the parameter list such that analytical parameters collected provide the most information for the program, as well as cost-effective information.

### **2.1.3 DQO—Identify Inputs to the Decision**

Sample frequency, sample type, and analytical program are all based on many inputs. The EAA strategic plan dictates minimum sample numbers, for example. Other inputs of importance include findings from karst researchers worldwide regarding the varying nuances of sampling in karst environments (i.e., multiple samples from a single location are generally more valuable than single samples from multiple locations). Assimilating and incorporating information gleaned from EAA sample results annually provide significant inputs to the process as well.

Action levels as defined for this study are not directly comparable to action levels for hazardous waste cleanup. In this program, action levels generally depend on sample type and program: for example, stormwater samples are triggered by specific stormwater events. Action levels may also be related to contingencies. If a contaminant of concern is detected in relation to a contingency, then additional sampling may be triggered. In other cases, an action level may be reached if an anthropogenic compound is detected above a regulatory limit. The resulting action will generally be to utilize additional sampling so as to delineate a possible source if a “contaminant” is the trigger.

Sampling and analysis methods are specific to each sampling program and are designed to provide data on water quality and changes to water quality that may occur over time. Results of each program are reviewed regularly, and changes to the parameters for each program may be made on the basis of these reviews or other needs. All programs are generally analyzed for field parameters (conductivity, dissolved oxygen [DO], turbidity, pH, and temperature) at the time the sample is collected. Other laboratory analytical parameters are then designated on the basis of the program.

### **2.1.4 DQO—Define Boundaries of the Study**

Spatially the study is limited to the Edwards Aquifer Region, which includes contributing area, recharge zone, and artesian zone of the aquifer, as well as contiguous areas that may be pertinent to data collection. Temporal limits are defined by sample program and hydrologic condition. Temporal parameters are described in more detail under sample programs.

### **2.1.5 DQO—Develop a Decision Rule**

Decision rules are defined by multiple factors:

- Strategic plan,
- Board directives,
- Approved budget,

- Data analyses and results,
- Historical data for a particular site, and
- EAHCP requirements.

#### **2.1.6 DQO—Specify Tolerable Limits on Decision Errors**

Decision-error limits are dictated by sample program. Whereas all results are considered important, contingency samples have an elevated priority because of the potential to provide a warning to the public in the event water quality is impacted. As such, in the event of a major contingency that requires long-term sampling and analysis, the budget impact would be significant. In some scenarios, additional laboratory funding would be requested from the board to cover these costs. Other sample programs are expected to be well planned and orchestrated such that no budget overruns occur.

The goal of the program in general is to collect a number of samples adequate to monitor the health of the Edwards Aquifer with high confidence that results are representative and accurate. These samples are collected through various sampling programs, as outlined in the next section.

#### **2.1.7 DQO—Optimize the Design for Obtaining Data**

The sampling plan as designed provides a resource-effective plan that meets performance criteria through data review, data assessment, and program requirements. The design is optimized by the data needs of each sample program, in which analytical parameters are specific to a program and designed to provide a maximum number of data cost-effectively.

### **2.2 Additional Inputs for DQO Process**

Another definition of DQOs is provided by the Air Force Center for Environmental Excellence (AFCEE) in its *Quality Assurance Project Plan* (QAPP), which states that “DQOs specify the data type, quality, quantity, and uses needed to make decisions and are the basis for designing data collection activities” (AFCEE, 2001). The U.S. EPA and the AFCEE both generally utilize DQOs for hazardous waste clean-up sites, which often represent a threat to public health and the environment. However, sampling programs at the EAA differ in that most samples taken are “clean” and are not used to assess the success of a clean-up action.

Therefore, for the purposes of this plan, DQOs are met by assigning a level of precision and procedural techniques and parameter suites that are appropriate for the sample type and monitoring program. Whereas it is the purpose of this plan for all data produced to be representative and fully defensible, all data do not necessarily need to be analyzed by reference methods in the analytical laboratory utilizing a full suite of QA/QC samples. Most water quality samples collected are intended for monitoring the general status of water quality within the Edwards Aquifer, with one potential exception. In some cases, contingency sampling may be used to assess the impact of an event (i.e., a spill) to the Edwards Aquifer that has the potential for public health implications.

Therefore, DQOs developed for this document are designed to provide data of quality and quantity adequate to reflect the needs of the sample program under which a particular sample is collected. Most analytical data collected are designed to assess

- The presence or absence of anthropogenic compounds in the sample.
- Changes to chemical quality of the sample point when compared with prior data,
- Development of data adequate to establish a record of water quality such that future changes to water quality can be measured,
- Measurement of changes to water quality against changes in hydrologic conditions, and
- In the case of confirmation samples, assessment with a high degree of confidence the presence or absence of a compound of interest.

## **SECTION 3**

### **SAMPLING PROGRAMS AND OBJECTIVES**

Water quality samples are collected under one of the EAA sample programs described in detail in this section. Sample parameters vary with the sample program. For a better understanding of the sampling programs and sample distribution, typical water quality sample locations, see Appendix A, which is a listing of sample type and program. EAHCP sample locations are also provided.

#### **3.1 SAMPLE TYPES AND SAMPLE PROGRAMS**

Sample type is simply defined by source and media. The EAA collects samples from wells, springs, surface water, and, at times, groundwater in caves. Samples of soil or sediment may also be collected under some circumstances. As such, sample types are:

- Wells (applies to groundwater samples and includes water collected in caves),
- Springs,
- Surface water,
- Soil or sediment, and
- Stormwater.

Sample programs exist for each sample type, driving the DQO process for a given sample. Each sample program has a defined sample frequency and analytical parameter list. However, the analytical parameter list is always subject to future revision to accommodate changing circumstances. Table 3-1 summarizes current sample types and individual sample programs conducted by the EAA.

**Table 3-1. Sample Types and Sample Programs**

Sample Type	Sample Program	Sample Frequency	Analytical Parameters
Wells	Passive	Quarterly	FP, GWQP, VOC, TPH, TOC, PAH, metals, bacteria
	NAWQA	Annually	FP, GWQP, VOC, 8081B, 8141A, 8151A, 8082A, TOC, PAH, metals, bacteria
	Routine	Annually	FP, GWQP, VOC, 8081B, 8141A, 8151A, TOC, PAH, metals, bacteria
	TWDB	Annually	FP, GWQP, VOC, 8081B, 8141A, 8151A, TOC, PAH, metals, bacteria
	PPCP	Annual	FP, PPCP (limited to nine wells annually)
	Contingency	As needed	Defined by contingency event
	Confirmation	As needed	Defined by detection needing confirmation
	QA/QC	Per QA needs	Defined by QA program
	EAHCP	Water level dependant	FP, GWQP, TOC, TDS
Springs	Primary	Quarterly (noncritical period) Monthly (critical period)	FP, GWQP, SVOC, VOC, 8081B, 8141A, 8151A, 8082A, TOC, metals, total phosphorous, bacteria, orthophosphate as P
	Secondary	Annually	FP, GWQP, SVOC, VOC, 8081B, 8141A, 8151A, 8082A, TOC, metals, total phosphorous, bacteria
	PPCP	Annually	FP, PPCP (limited to six spring samples annually)
	Contingency	As needed	Defined by contingency event
	Confirmation	As needed	Defined by detection needing confirmation
	QA/QC	Per QA needs	Defined by QA program
Surface water	Primary	Twice annually	FP, GWQP, 8081B, 8141A, 8151A, 8082A, TOC, PAH, metals, total phosphorous, bacteria
	Secondary	Annual	FP, GWQP, 8081B, 8141A, 8151A, 8082A, TOC, PAH, metals, total phosphorous, bacteria
	EAHCP	Twice annually	FP, GWQP, VOC, SVOC, 8081B, 8141A, 8151A, 8082A, TOC, metals, total phosphorous, bacteria, TKN, DOC
	PPCP	Annually	FP, PPCP (limited to two surface water samples annually)
	Contingency	As needed	Defined by contingency event
	Confirmation	As needed	Defined by detection requiring confirmation
	QA/QC	Per QA needs	Defined by QA program
Soil/sediment	EAHCP	Annually	FP, GWQP, VOC, SVOC, 8081B, 8141A, 8151A, 8082A, TOC, metals, total phosphorous
	Contingency	As needed	Defined by contingency event
	Confirmation	As needed	Defined by detection requiring confirmation
	QA/QC	Per QA needs	Defined by QA program
Stormwater	EAHCP	Twice annually	FP, GWQP, VOC, SVOC, 8081B, 8141A, 8151A, 8082A, TOC, metals, total phosphorous, bacteria, TKN
	Confirmation	As needed	Defined by detection requiring confirmation
	QA/QC	Per QA needs	Defined by QA program

FP=field parameter, GWQP=general water quality parameters, SVOC=semivolatile organic compound, VOC=volatile organic compound, TOC=total organic carbon, TKN=total kjeldahl nitrogen, PPCP=personal care and pharmaceutical products., PAH=polynuclear aromatic hydrocarbons, TPH=total petroleum hydrocarbons, DOC=dissolved organic compounds



### 3.2 SAMPLE PROGRAM DETAIL

The sample types and programs summarized in Table 3-1 comprise the various analytical samples collected and analyzed by the EAA. Specific details of each program are provided in this section.

#### Sample Programs for Well Sample Types

##### 1. Passive Sampling Program

The passive sampling program is a program to provide continuous monitoring of particular wells (referred to as sentinel wells) through the use of a passive sampling device. The device currently used is the Amplified Geochemical Imaging (AGI), LLC passive diffuse sample module (aka, Gore Module). This device utilizes a sorbent material encased in GoreTex® fabric that is capable of detecting certain analytes for volatile and semivolatile compounds, as well as petroleum hydrocarbon compounds. The Gore Modules are hung at specific intervals continuously in a sentinel well and replaced each month. The module is then shipped to AGI, LLC. for analysis (which is included as part of the module cost). Currently six wells designated as sentinel wells are located in Medina, Bexar, and Hays counties. These wells are sampled via grab sample quarterly. Sample parameter selection for this sample type is generally based on collecting parameters that are also detectable by the Gore Module, plus some additional parameters of value to an understanding of long-term trends in water quality. Sample frequency is also selected to detect temporal changes in water quality at a single sample point.

##### 2. National Water Quality Assessment (NAWQA) Program

The NAWQA wells are a series of thirty wells installed by the USGS for long-term assessment of water quality on a regional and national scale. Ten of these wells (all in the recharge zone of Bexar County) are sampled annually. The sample parameter list is selected on the basis of the NAWQA program and is used to contribute data to that study, as well as to build a historical record of water quality for the EAA data set. Ten out of 30 NAWQA wells are sampled annually, and every well must be sampled within a three-year period.

##### 3. Routine Water Quality Monitoring

Routine water quality samples are collected from a variety of well types (monitoring, domestic, agricultural, industrial, and municipal) to provide a data set for water quality regionwide for different well types. Sample parameters are broad in spectrum and designed to detect the most common anthropogenic compounds, as well as to document changes in concentrations of common cations and anions. These wells are generally sampled annually or less frequently.

**4. Texas Water Development Board (TWDB)**

Twenty TWDB samples are collected at designated wells using a split-sample technique, such that a sample set is sent to the TWDB contract laboratory (at no cost to the EAA). The remaining sample is sent to the EAA contract laboratory and analyzed for some of the same (TWDB) parameters, as well as additional parameters. This sample type provides a cost-effective tool for evaluation and comparison of analytical results for certain parameters (metals and anions). These wells (or springs, in some cases) are sampled annually under this program for a wide variety of parameters and are also used to assess the health of the system and to establish potential changes or trends in quality.

**5. Pharmaceuticals and Personal Care Products (PPCPs)**

These parameters detect various compounds found in common personal care products, as well as medications and household items. The primary value in this sample group is the conclusiveness of the data. Because the detection limits are low and the percentage of detections (at low concentrations) to date is high, this sample program appears to provide the most conclusive evidence of anthropogenic impacts on the Edwards Aquifer. The current sample budget allows for nine wells, six springs, and two surface waters to be sampled annually for these parameters. The same locations are sampled each year (with some exceptions) to provide a temporal record of water quality changes associated with the compounds. This program is being evaluated for an increase in sample frequency at some locations.

**6. Contingency Samples**

Contingency samples are collected only on an as-needed basis to assess potential contamination events related to spills or similar contingencies that have a high potential for affecting water quality in the Edwards Aquifer. Sample parameters and sample frequency are determined on the basis of type of spill (or other contingency), as well as the size of the event. Sample parameters and frequency are decided on by management. EAA staff members are subsequently directed to an appropriate course of action on the basis of assessment of the event by management.

**7. Confirmation Samples**

Confirmation samples are samples collected in response to an unexpected detection at a site where additional confirmation is needed in order to assess the probability that detection is not a sampling artifact or otherwise false detection. Confirmation detections are method and analyte specific and are taken at the direction of management.

**8. QA/QC Samples**

QA/QC samples are discussed in detail in Section 3.3.

**9. EAHCP Drought Contingency-Sampling of transect wells and Springs**

Well samples collected for the EAHCP are collected only when certain springflow criteria are met—specifically, low-flow situations at Comal and San Marcos springs. For Comal Springs, when flows fall below 30 cubic feet per second (cfs), weekly monitoring at three wells is to be conducted for DO, conductivity, pH, and temperature. The next trigger at Comal Springs is 20 cfs, and weekly monitoring is conducted using the same parameters plus nutrients, TDS, and TOC. For San Marcos Springs, the first trigger is 50 cfs, and the second trigger is 30 cfs.

**Sample Programs for Spring Sample Types****1. Primary Springs**

Primary springs are Comal, Hueco, and San Marcos. They are sampled monthly during critical periods (critical period = a ten-day average when water levels at Bexar, County, index well J-17 of below 660 feet msl, and/or a ten-day average springflow rate at either Comal or San Marcos springs is less than 225 cfs for Comal Springs and less than 96 cfs for San Marcos Springs). During noncritical periods, sampling is generally conducted quarterly. Sample parameters are extensive because the springs represent a composite sample of aquifer water and are directly associated with habitat for threatened and endangered species.

**2. Secondary Springs**

Secondary springs generally produce a smaller volume of springflow and may or may not be located within the San Antonio Segment of the Edwards Aquifer. These springs are Las Moras (Fort Clark Springs), San Pedro, San Antonio, Government Canyon, and other springs that may be designated for infrequent sampling. Las Moras is generally sampled annually, whereas the others are sampled quarterly or annually if flowing. Sample parameters are the same as those for the primary springs, except that sample frequency differs between primary and secondary.

**3. Pharmaceuticals and Personal Care Products (PPCPs)**

These parameters detect various compounds found in common personal care products, as well as medications and household items. The primary value in this sample group is the conclusiveness of the data. Because the detection limits are low and the percent of detections (at low concentrations) to date are high, this sample program appears to provide the most conclusive evidence of anthropogenic impacts on the aquifer. The current sample budget allows for nine wells, six springs, and two surface waters to be sampled annually for these parameters. The same locations are sampled each year (with some exceptions)

to provide a temporal record of water quality changes associated with the compounds. This program is being evaluated for an increase in sample frequency at some locations.

#### **4. Contingency Samples**

Contingency samples are collected only on an as-needed basis to assess potential contamination events related to spills or similar contingencies that have a high potential for affecting water quality in the Edwards Aquifer. Sample parameters and sample frequency are determined on the basis of type of spill (or other contingency), as well as the size of the event. Sample parameters and frequency are decided on by management. EAA staff members are subsequently directed to an appropriate course of action on the basis of assessment of the event by management.

#### **5. Confirmation Samples**

Confirmation samples are samples collected in response to an unexpected detection at a site where additional confirmation is needed in order to assess the probability that detection is not a sampling artifact or otherwise false detection. Confirmation detections are method and analyte specific and are taken at the direction of management.

#### **6. QA/QC Samples**

QA/QC samples are discussed in detail in Section 3.3.

#### **7. Drought Contingency-Sampling of transect wells and Springs**

### **Sample Programs for Surface Water Sample Types**

#### **1. Primary Surface Water**

Primary surface waters are collected twice annually from eight locations: Nueces River at Laguna, Dry Frio River at Reagan Wells, Frio River at Concan, Sabinal River near Sabinal, Seco Creek at Miller Ranch, Hondo Creek near Tarpley, Medina River at Bandera, and Blanco River at Wimberley. These sample locations have a significant historical sample record and provide information regarding the quality of waters that effectively provide recharge to the Edwards Aquifer. Sample parameter lists are fairly significant, but do not generally include VOCs because of the low probability of detection of these compounds in a surface water environment.

#### **2. Secondary Surface Water**

Secondary surface water sites may have varying locations and are generally sampled only annually. They are generally sites of interest because of their ability to provide recharge to the aquifer, or they may be indicators of water

quality from springs issuing forth from the Trinity Aquifer. Sample parameter lists are fairly significant but do not generally include VOCs because of the low probability of detection of these compounds in a surface water environment.

### **3. EAHCP Surface Water Samples**

EAHCP surface water samples are collected at Comal and San Marcos springs; Comal Springs has five sample locations, whereas San Marcos has seven sample locations, which are situated upstream and downstream of the spring orifice locations. Parameters provide a broad spectrum of analyses so that water quality might be better understood in detail at these locations. The parameters list will also be used to study trends in water quality at these locations over time. Sample frequency is twice annually.

### **4. Pharmaceuticals and Personal Care Products (PPCPs)**

These parameters detect various compounds found in common personal care products, as well as medications and household items. The primary value in this sample group is the conclusiveness of the data. Because the detection limits are low and the percent of detections (at low concentrations) to date high, this sample program appears to provide the most conclusive evidence of anthropogenic impacts on the aquifer. The current sampling budget allows for nine wells, six springs, and two surface waters to be sampled annually for these parameters. The same locations are sampled each year (with some exceptions) to provide a temporal record of water quality changes associated with the compounds. This program is being evaluated for an increase in sample frequency at some locations.

### **5. Contingency Samples**

Contingency samples are collected only on an as-needed basis to assess potential contamination events related to spills or similar contingencies that have a high potential for affecting water quality in the Edwards Aquifer. Sample parameters and sample frequency are determined on the basis of type of spill (or other contingency), as well as the size of the event. Sample parameters and frequency are decided on by management. EAA staff members are subsequently directed to an appropriate course of action on the basis of assessment of the event by management.

### **6. Confirmation Samples**

Confirmation samples are samples collected in response to an unexpected detection at a site where additional confirmation is needed in order to assess the probability that detection is not a sampling artifact or otherwise false detection. Confirmation detections are method and analyte specific and are taken at the direction of management.

**7. QA/QC Samples**

QA/QC samples are discussed in detail in Section 3.3.

**Sample Programs for Sediment Sample Types****1. EAHCP Sediment Samples**

EAHCP sediment samples will be collected for a broad spectrum of parameters to establish a base-line data set for sediments in and around Comal and San Marcos springs. These sample data are important to an understanding of potential issues with disturbing sediments in these areas.

**2. Contingency Samples**

Contingency samples are collected only on an as-needed basis to assess potential contamination events related to spills or similar contingencies that have a high potential for affecting water quality in the Edwards Aquifer. Sample parameters and sample frequency are determined on the basis of type of spill (or other contingency), as well as the size of the event. Sample parameters and frequency are decided on by management. EAA staff members are subsequently directed to an appropriate course of action on the basis of assessment of the event by management.

**3. Confirmation Samples**

Confirmation samples are samples collected in response to an unexpected detection at a site where additional confirmation is needed in order to assess the probability that detection is not a sampling artifact or otherwise false detection. Confirmation detections are method and analyte specific and are taken at the direction of management.

**4. QA/QC Samples**

QA/QC samples are discussed in detail in Section 3.3

**Sample Programs for Stormwater Sample Types****1. EAHCP Stormwater Samples**

EAHCP stormwater samples are collected twice annually for a broad spectrum of parameters to establish a base-line data set for stormwater quality in and around Comal and San Marcos springs. Stormwater samples are collected across the hydrograph at three points (rising, peak, and recession) to ascertain changes in water quality associated with storm flow.



**2. Confirmation Samples**

Confirmation samples are samples collected in response to an unexpected detection at a site where additional confirmation is needed in order to assess the probability that detection is not a sampling artifact or otherwise false detection. Confirmation detections are method and analyte specific and are taken at the direction of management.

**3. QA/QC Samples**

QA/QC samples are discussed in detail in Section 3.3

**3.3 QUALITY CONTROL AND QUALITY ASSURANCE SAMPLES (QA/QC)**

So that the data quality process is adhered to, additional samples for QA/QC must be taken and analyzed on occasion so that the quality of the sample collection and analysis process might be assessed. The various types of QA/QC samples applicable to this plan are outlined in the following paragraphs. Approximately ten percent of all samples will be QA/QC samples.

**3.3.1 Matrix Spike and Matrix Spike Duplicate**

Matrix spike and matrix spike duplicate samples (MS/MSD) are used to assess the effects of the sample matrix on the analytical process. The MS/MSD is a split (or replicate) of a parent sample collected in the field concurrently during the normal sample-collection process. Ideally, one MS/MSD is collected for each media type (soil, water, sludge, etc.) every 20 samples for each analysis being performed. For most sampling, no media changes will be encountered; i.e., most samples will be water. However, should the samples vary significantly in turbidity, collection of a specific MS/MSD for a sample with elevated turbidity may be advisable.

The MS/MSD is spiked and analyzed, and if the spiked analytes are recovered within a method-specific percentage, then matrix effects will be deemed minimal and no matrix data flag will be attached to the results. However, if spike recovery does not fall within the designated percentage, then analytical results will be flagged with an M-flag, indicating that a matrix effect is present. The sample name for MS/MSDs is identical to that of the parent sample, with the MS/MSD attached as a modifier at the end of the sample name. The MS/MSD will also be noted on the chain of custody (COC).

**3.3.2 Ambient Blanks**

Ambient blanks are taken to assess the possibility of site-specific atmospheric contamination of VOC samples. Ambient blanks are taken only when an area is suspected of having detectable quantities of atmospheric VOCs present (e.g., if VOC samples are being collected near a fueling operation). Ambient blanks are prepared by pouring ASTM

II, reagent-grade water directly into a 40-milliliter (mL), VOA container at the sample site during collection. The VOA is allowed to remain open and exposed to the atmosphere for the duration of the sample-collection process. The water is treated and analyzed as a sample from this point forward, with the designation *AB* on the COC. Ambient blanks are applicable to VOC samples.

### 3.3.3 Equipment Blanks

Equipment blanks consist of ASTM II, reagent-grade water poured over/through any sampling equipment used for collection of definitive samples. Most sample-collection equipment is disposable; however, in some cases, an equipment blank may be required. Equipment blanks are used to assess the effectiveness of decontamination procedures (for new materials provided to the EAA or from EAA decontamination processes) and are designated as *EB* on the COC. The frequency of collection of equipment blanks will depend on the sampling routine and sampling equipment in use.

### 3.3.4 Trip Blanks

Trip blanks are applicable only to VOC samples and are prepared and supplied by the contracted analytical laboratory. Trip blanks are to be shipped from the laboratory and maintained along with the VOC samples collected in the field. The purpose of trip blanks is to assess any potential contamination that may be introduced during shipping and sample handling. Trip blanks are designated on the COC as *TB*. Trip blanks are not to be opened in the field.

### 3.3.5 Duplicate or Replicate Samples

Duplicate and replicate samples are intended to assess the precision or repeatability of the analytical process. Typically one in ten samples should have a duplicate sample collected. The collection frequency of one duplicate per ten samples is generally acceptable. Note, however, that if a confirmation sampling event involves only three wells, then the duplicate (as well as other) QA/QC samples are still required. In other words, duplicates compose 10% of the sample set such that a sample population of ten would contain one duplicate. However, a sample population of 11 would contain two duplicates. The calculated number of duplicates is always rounded to the next whole number. Duplicates will generally be collected only at the 10% level for EAHCP analysis. For other programs, duplicate analysis is covered generally by the application of a TWDB sample set. Exceptions may apply and will be designated by management.

A duplicate sample is a second sample collected at the same location as that of the parent, either simultaneously or immediately following collection of the first sample (AFCEE, 2001). Both samples are collected, stored, and transported identically. A replicate sample, sometimes called a *split sample* is defined as a single sample divided into two samples (AFCEE, 2001). As with a duplicate, collection, storage, and transport of the resulting

samples must be identical. Duplicate and replicate samples each have unique identifiers (see Section 4).

### **3.3.6 Spike Samples**

Spike samples are used as part of EAA's quality control on the contracted laboratory. EAA sampling staff members collect and subsequently spike twelve liters of water at one of the major springs, the spike containing a known percentage of a substance (contaminant). The spiked sample is then submitted to the contracted laboratory for analysis. If the contracted laboratory reports the findings within the specified amount, then EAA has confidence in their data. However, if the contracted laboratory is unable to detect or report the spikes, then EAA will pursue corrective action with the help of laboratory personnel to resolve the discrepancy. The corrective-action process will be initiated by the Hydrogeology Supervisor.

### **3.3.7 Recording QA/QC Samples in Analytical Workbook**

Samples collected for QA/QC or spiked samples are to be recorded in chronological order in the laboratory notebook. The laboratory notebook is to be kept in the EAA Camden Building in the water quality area with the calibration notebook.

**SECTION 4****ANALYTICAL METHODS, SAMPLE IDENTIFICATION, AND CUSTODY PROCEDURES**

This section will discuss analytical methods applicable to the EAA sampling program, as well as provide a summary of analytical hold times, acceptable sample containers, and preservation techniques. In addition, a discussion of proper identification and sample custody procedures is provided herein.

**4.1 ANALYTICAL METHODS**

A variety of analytical methods are used in the various water quality and sediment sampling programs. Table 4-1 lists standard analytical reference methods that have possible application to the various programs. Recall, too, that Table 3-1 provides a current listing of analytical methods/parameters for each sample type and program.

**Table 4-1. Analytical Reference Methods**

<b>Analysis</b>	<b>Method</b>
VOC	SW-8260b
SVOC	SW-8270c
Chlorinated herbicides	SW-8151a
Organophosphorus compounds	SW-8141a
Nonvolatile compounds by HPLC	SW-8321
Organochlorine pesticides	SW-8081b
Polychlorinated biphenyls (PCBs)	SW-8082a
PAH	SW-8310
Determination of triazine pesticides	EPA-619
Organonitrogen pesticides in industrial/municipal wastewater	EPA-633
Oryzalin in industrial/municipal wastewater	EPA-638
TPH	TX-1005
Metals (except mercury)	SW-6010b or SW-6020
Mercury	SW-7470A
Cyanide	SW-9010B

**Table 4-1. Analytical Reference Methods (continued)**

<b>Analysis</b>	<b>Method</b>
Alkalinity	EPA-310.1
Common anions	SW-9056
Sulfate (SO <sub>4</sub> )	EPA 300.0
pH	SW-9040B
Total dissolved solids (TDS)	EPA 160.1
Total suspended solids (TSS)	EPA 160.2
Ortho-phosphate	EPA 365.3
Nitrate/nitrite (both as N)	EPA 353.2
Ammonia (as N)	EPA 350.3
Kjeldahl (as N)	EPA 351.3
Total organic carbon (TOC)	EPA 415.1 or SW-9060
Sulfide	EPA 376.2
Dissolved organic compound	SM 5310C- 2000
E-coli most probable number (MPN)	SM9223B-2004
Dissolved orthophosphate lab	EPA 365.3- 1978
Ammonia as N-nondistilled	SMA4500 NH3D-1997
Bromide	EPA 300.0- 1993
Chloride	EPA 300.0- 1993
Nitrate as N	EPA 300.0- 1993
Total phosphorous	EPA 365.3- 1978
Enterococci	ENTEROLERT
Eshcerichia coli-colilert	SM 9223B 20Ed
Total coliform_colilert	SM 9223B 20Ed
TWDB anions	EPA 300.1
TWDB cations	EPA 200
TWDB nitrate	EPA 353.2
Anti-bacterial agents	1694
Pharmaceuticals	1694
Steroids/hormones	1698

SIM analysis	MS-SIM-GX/MS
Nonylphenols	WS-MS-0010
General water quality parameters (GWQP), general chemistry—(alkalinity, bicarbonate, carbonate, Ca, Mg, Na, K, Cl, SO <sub>4</sub> , F, Si, Sr, bromide, nitrate as N, pH, TDS, and TSS)	Methods listed in table

## 4.2 DATA-FLAGGING CONVENTIONS

Analytical data must be qualified by the EAA-contracted analytical laboratory, which is done summarily by the addition of data flags to the data result. Table 4-2 provides a summary of the data-flagging convention used in this plan (modified from AFCEE, 2001).

**Table 4-2. Data Flags**

<b>Flag</b>	<b>Description</b>
J	Analyte positively identified. Quantitation is an estimation because the associated numerical value is below the reporting limit (RL).
U or ND	Analyte analyzed for, but not detected. Associated numerical value at or below method detection limit (MDL).
R	Data rejected because of deficiencies in ability to analyze sample and meet QC criteria.
B	Analyte found in associated blank, as well as in sample.
M	Matrix effect present.
T	Tentatively identified compound (using GC/MS).
No flag	Analyte detected at reported concentration.

## 4.3 SAMPLE CONTAINERS AND HOLD TIMES

Samples sent to the analytical laboratory must be properly containerized, preserved, and analyzed within specified hold times for the method for the data to be of defensible quality. In addition to the requirement for samples to be chilled to 4°C, ±2°, some analytical methods require the sample to be maintained at specific pH values. As such, Table 4-3 lists acceptable container types, preservatives, and hold times for common analytical methods. The table includes all scheduled analyses for the various sampling programs. In the event an analysis is required that is not included in the table, Aquifer Science Team members listed herein (hydrogeology supervisor or hydrologic data coordinator) will communicate with the EAA contracted laboratory regarding appropriate containers, preservatives, and hold times for the methods in question.



**Table 4-3. Sample Containers, Preservatives, and Hold Times**

Analyte or Method <sup>1</sup>	Container	Preservation	Minimum Sample Volume	Holding Times
Volatile organic compounds (SW8260B)	G, Teflon®-lined septum, T	4°C, HCl to pH <two	3× 40 mL with no head space or (1) 250 mL amber bottle with no head space	14 days (water and soil); seven days if unpreserved by acid
Semivolatile organic compounds (SW8270C)	G, Teflon®-lined cap, T	4°C	1L or 8 ounces/soil	Seven days until extraction and 40 days after extraction (water); 14 days until extraction and 40 days after extraction (soil)
Chlorinated herbicides (SW8151a)	G, Teflon®-lined cap, T	4°C	1L or 8 ounces/soil	Seven days until extraction and 40 days after extraction (water); 14 days until extraction and 40 days after extraction (soil)
Organophosphorus compounds (SW8141A)	G, Teflon®-lined cap, T	4°C	1L or 8 ounces/soil	Seven days until extraction and 40 days after extraction (water); 14 days until extraction and 40 days after extraction (soil)
Organochlorine pesticides (SW8081)	G, Teflon®-lined cap, T	4°C	1L or 8 ounces/soil	Seven days until extraction and 40 days after extraction (water); 14 days until extraction and 40 days after extraction (soil)
Polychlorinated biphenyls (SW8082)	G, Teflon®-lined cap, T	4°C	1L or 8 ounces/soil	Seven days until extraction and 40 days after extraction (water); 14 days until extraction and 40 days after extraction (soil)

*Section 4*

Analyte or Method <sup>1</sup>	Container	Preservation	Minimum Sample Volume	Holding Times
Polynuclear aromatic hydrocarbons (SW8310)	G, Teflon®-lined cap, T	4°C	1L or 8 ounces/soil	Seven days until extraction and 40 days after extraction (water); 14 days until extraction and 40 days after extraction (soil)
Total petroleum hydrocarbons (TX1005)	G, Teflon®-lined septum, T	4°C, HCl to pH <2	3× 40 mL with no head space or (1) 250 mL amber bottle with no head space	14 days (water); to extraction, and 14 days after extraction
General water quality parameters (alkalinity, bicarbonate, carbonate, Ca, Mg, Na, K, Cl, SO <sub>4</sub> , F, Si, Sr, bromide, nitrate (as N), pH, TDS, and TSS)	P, G	4°C	250 mL	28 days
Cyanide	P, B	4°C; NaOH to pH >12	500 mL or four ounces /soil	14 days (water and soil)
Ortho-phosphate (as P)	P, G	4°C	50 mL	48 days
Nitrate (as N) and nitrite (as N)	P, G	4°C	250 mL	48 days
Ammonia (as N)	P, G	4°C	250 mL	28 days
Kjeldahl (as N)	P, G	4°C	250 mL	28 days
Total organic carbon	P, G	4°C, H <sub>2</sub> SO <sub>4</sub> to pH <2	250 mL	28 days
Dissolved organic carbon	P, G	4°C, H <sub>2</sub> SO <sub>4</sub>	400 mL	28 days
Phosphorus	P, G	4°C, H <sub>2</sub> SO <sub>4</sub>	500 mL	28 days
Alkalinity E310.1	P, G	4°C	50 mL	14 days
Common anions SW9056	P, G	None required	50 mL	28 days for Br <sup>-</sup> , F <sup>-</sup> , Cl <sup>-</sup> , and SO <sub>4</sub> <sup>2-</sup> ; 48 hours for NO <sub>3</sub> <sup>-</sup> , NO <sub>2</sub> <sup>-</sup> , and PO <sub>4</sub> <sup>3-</sup>
Cyanide, total and amenable to chlorination SW9010A SW9012	P, G, T	4°C; NaOH to pH >12, 0.6 g ascorbic acid	500 mL or four ounces /soil	14 days (water and soil)
Total dissolved solids (TDS) E160.1	P, G	4°C	100 mL	Seven days
Total suspended solids (TSS) E160.2	P, G	4°C	100 mL	Seven days
Biological oxygen demand (BOD), five-day	P, G	4°C	1L	48 hours
Sulfide	P, G	4°C	1L	Seven days

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Analyte or Method <sup>1</sup>	Container	Preservation	Minimum Sample Volume	Holding Times
Total inorganic carbon	P, G	4°C	250 mL	28 days
Escherichia coli-colilert	P, G, WP	4°C, dark, sodium thiosulfate, one-inch headspace	100–250 mL	Six + two h (this holding time represents six field hours and two lab hours)
Enterococci	P, G, WP	4°C, dark, sodium thiosulfate, one-inch headspace	100–250 mL	Six + two h (this holding time represents six field hours and two lab hours)
Total coliform-colilert	P, G, WP	4°C, dark, sodium thiosulfate, one-inch headspace	100–250 mL	Six + two h (this holding time represents six field hours and two lab hours)
TWDB anions	P, G	4°C, filtered on site	500 mL	28 days
TWDB cations	P, G	4°C, HNO <sub>3</sub> , filtered on site	250 mL	28 days
TWDB nitrate	P, G	4°C, H <sub>2</sub> SO <sub>4</sub> , filtered on site	500 mL	28 days
1694 Pharmaceuticals (LCMS/MS) Acetaminophen Caffeine Carbamazepine Cotinine DEET Diltiazem Fluoxetine Gemfibrozil Ibuprofen Lincomycin Naproxen Sulfamethoxazole Trimethoprim Tylosin Iopromide	G, Teflon®-lined cap, T	4°C	1L or 8 ounces/soil	Seven days (unpreserved), 14 (days preserved)
1694 Antibacterial (LCMS/MS) Triclobarban Triclosan	G, Teflon®-lined cap, T	4°C	1L or 8 ounces/soil	Seven days (unpreserved), 14 (days preserved)

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Analyte or Method <sup>1</sup>	Container	Preservation	Minimum Sample Volume	Holding Times
1698 Steroids/hormones (LCMS/MS) 17a-Estradiol 17a-Ethynyl estradiol 17b-Estradiol Equilenin Estriol Estrone Progesterone Testosterone	G, Teflon®-lined cap, T	4°C, H <sub>2</sub> SO <sub>4</sub>	1L or 8 ounces/soil	Seven days (unpreserved), 14 (days preserved)
Nonylphenols/ethoxylates/bisphenol-A (GCMS) Bisphenol-A Nonylphenol diethoxylate (tech.) Nonylphenol monoethoxylate (tech.) p-Nonylphenol (tech.) p-tert-octylphenol para-n-nonylphenol	G, Teflon®-lined cap, T	4°C, H <sub>2</sub> SO <sub>4</sub>	1L or 8 ounces/soil	Seven days (unpreserved), 14 (days preserved)
Selected metals—6020 (Al, Sb, As, Ba, Be, Cd, Cr (total), Cu, Fe, Pb, Mn, Hg, Ni, Se, Ag, Tl, and Zn)	P, G, T	HNO <sub>3</sub> to pH <2, 4°C	500 mL or 8 ounces/soil	180 days (water and soil)
Hg—Cold vapor 7470.7471	P, G	HNO <sub>3</sub> to pH <2, 4°C	250 mL	28 days (14 days if in plastic bottle)
Selected metals—(ICP unless otherwise noted) 6020/7470/7471 (Al, Sb-ICP-MS or GFAA, As, Ba, Be, Cd, Cr (total), Cu, Fe, Pb, Mn, Hg-ICP-MS or CVAA, Ni, Se-ICP-MS or GFAA, Ag, Tl-ICP-MS or GFAA, and Zn)	P, G, T	HNO <sub>3</sub> to pH <2, 4°C	500 mL or 8 ounces/soil	180 days (water and soil)
Hg- ICP-MS or CVAA <b>7470/7471</b>	P, G	HNO <sub>3</sub> to pH <2, 4°C	250 mL	28 days (14 days if in plastic bottle)

- Polyethylene (P); glass (G); brass sleeves in sample barrel, sometimes called California brass (T).
- No pH adjustment for soil.
- Preservation with 0.008 percent Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> only required when residual chlorine present.

## 4.4 SAMPLE IDENTIFICATION

Each sample must have a unique identifier so that it can be differentiated from other samples. In addition, sample names must meet the required criteria for entry into the data base and subsequent electronic storage and retrieval of the data. Therefore, sample names must conform to the guidelines herein.

### 4.4.1 Sample Identification, for Non-EAHCP Samples

The primary method for non-EAHCP sample identification will be to use the state well registration number for wells (and springs as applicable) or the site name for surface water samples. When no well number is available for a spring, then an abbreviation for the spring name and orifice will be used. For example,

- The unique identifier, for use on the COC for Comal Springs, Orifice 1 is DX 68-23-301,
- The unique identifier for use on the COC for Comal Springs Orifice 3 (no state well number) is CS3,
- The unique identifier for use on the COC for the Nueces River at Laguna is Nueces@Laguna, and
- For wells that are sampled in more than one location within the borehole, the interval number is attached to the well name. For example, well LR-67-09-101 is regularly sampled at two intervals, so the COC name is LR-67-09-101-1 (interval 1 or upper interval) and LR-67-09-101-4 (interval 4, or the deepest interval).

Note that to the extent possible, custody forms and sample-container labels will be preprinted by the laboratory.

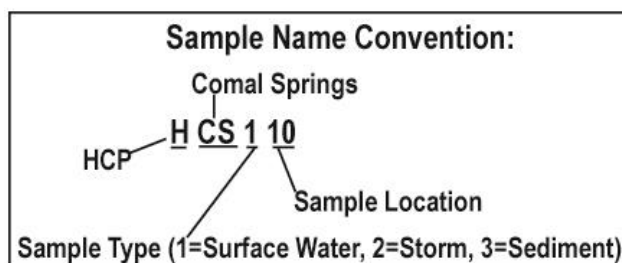
In some cases no well number or other recognized registration number will exist for the sample point. Then documentation for the sample location will require location (latitude/longitude and address if available) and name of well owner. Photographic documentation is also required. The subsequent sample name will be a *pseudo* state well number derived from the well location and owner name. For example,

The unique identifier for a sample taken from the Mary Smith residence in San Antonio, a private well with no state well registration number and located in Bexar County (abbreviation AY) at state well grid location 68-23-8, would be AY-68-23-8MS.

When wells of this type are sampled, proper documentation to include collection location, sample name, sample parameters, date, and time is extremely important and will be recorded in the field log for cross reference to the COC.

#### 4.4.2 Sample Identification, for EAHCP Samples

For samples collected under the EAHCP, sample names are designed to provide additional data regarding sample type. Specifically the sample name will indicate the sample as an EAHCP-related sample, the spring group (Comal or San Marcos), sample type (surface water, stormwater, or sediment), and sample location. In the example below, the sample name refers to an EAHCP sample at Comal Springs, collected for surface water, at location 10. Sample locations are noted on the sample-collection maps for the EAHCP (included in Appendix A with calendar year 2013 non-EAHCP sample locations).



#### 4.4.3 Sample Identification, QA/QC

For QA/QC samples, a modifier is added to the sample name to indicate the QA/QC type, for example, DX-68-23-301 (Comal Spring 1). If an MS/MSD sample were collected, a separate set of samples named DX-68-23-301MS/MSD would be collected. The appropriate modifier for each QA/QC sample is listed in Table 4-4.

**Table 4-4. QA/QC Sample Nomenclature**

Sample Type	Modifier
Matrix spike/matrix spike duplicate	MS/MSD*
Ambient blank	AB <sup>#</sup>
Equipment blank	EB <sup>#</sup>
Trip blank	TB <sup>#</sup>
Duplicate	FD*
Replicate	FR*

\* Requires sample, with same sample name as parent + modifier at end.

<sup>#</sup> Numerical suffix to be attached and referenced in laboratory notebook; suffix starts at 1 at beginning of each calendar year. Details for location, etc. included in field notebook documentation.



#### 4.5 SAMPLE CUSTODY

All samples shipped to the analytical laboratory must have proper custody documentation. One person on each sampling team is to have primary responsibility for sample custody (generally the lead sampler). This person will be designated as the *sample custodian* for sample collection. A person has custody of a sample group if samples are (1) in his/her possession, (2) in his/her view after being in his/her possession, (3) placed in a secure area by the sample custodian.

Furthermore, the laboratory COC form is to be filled out completely by the sample custodian in the field. The form must contain all required information for proper sample identification (if not preprinted) and must contain appropriate signatures. In addition, samples must remain in control of the sample custodian. Once collected, samples must be under the supervision of the sample custodian or secured in a manner such that no reasonable chance of unauthorized access to the samples exists. Furthermore, samples shipped by a common courier (i.e., Federal Express), require that the sample custodian note on the COC when the samples were released to the courier and why. The contracted analytical laboratory will sign the COC upon receipt. A breach of sample custody can invalidate the defensibility of the sample set.

#### 4.6 DATA VALIDATION

Analytical data require review in order to be validated prior to publication. The amount of review (or level of review) is a function of the sample type. Field-collected data results are reviewed in the field by the analyst. One of the best ways for the field analyst to assess the acceptability of field data and subsequently validate them is to compare the results with historical data. This comparison, combined with proper equipment calibration, maintenance, and analytical technique, will provide an adequate validation process for field-parameter data. In the event that the analyst finds a discrepancy in the field data, a second analysis for the parameter in question should be performed. If the analyst feels that the data may be inaccurate because of issues with the field analysis, this fact is to be noted on the sample field sheet.

Contract analytical-laboratory data will receive a 100% analyst review at the analytical laboratory prior to posting of analytical results. A subsequent analytical laboratory review by the QA/QC section is required prior to the analytical laboratory's certification of the results. A subsequent 10% review by EAA staff of the analytical data is required upon receipt of the final analytical report. The analytical report will contain numerical analytical results for the laboratory QA/QC samples (i.e., LCS, method blanks, etc.). These laboratory analytical data are to have data flags assigned by the analytical laboratory.

## **SECTION 5**

### **FIELD PROCEDURES AND SAMPLE COLLECTION**

Possibly the most significant part of any successful sample collection is the field procedures and documentation that occur in the field. Field procedures to include sample equipment decontamination; sample-collection procedures for well, spring, surface water, and sediment samples; a listing of potential sources of contamination; and the proper use of field notebooks are included in this section.

#### **5.1 RESPONSIBILITIES**

The CTO and hydrogeology supervisor for the data-collection program will ensure that the samples obtained represent the environment being investigated. The hydrologic data coordinator will ensure that all field crews are provided with the necessary information, equipment, and supplies to successfully schedule and complete sampling. The hydrologic data coordinator will also be the primary point of contact between the contract analytical laboratory project manager and the EAA sampling team(s). The hydrologic data coordinator will report sampling deviations to the CTO and hydrogeology supervisor. Sample-collection staff (generally, environmental science technicians) are responsible for being familiar with the instructions provided in this SOP and for collection of samples in accordance with this SOP. For most sample-collection events, a sample team of two people will be utilized. Teams will have a lead sampler (according to experience level) who is directly responsible for adherence to directives of the SOP.

#### **5.2 EQUIPMENT DECONTAMINATION**

In order to obtain samples that are reliable and defensible, all (nondisposable) sample-collection equipment must be decontaminated prior to use. When possible, sample collection from a wellhead valve directly to a sample container is best. When this kind of collection is not possible, disposable equipment is preferable.

If neither option is plausible, then nondisposable sample-collection devices (constructed of Teflon® when possible) must be used. Sampling equipment that is exposed directly to sample media (pumps, peristaltic or submersible pump tubing, reusable bailers, or other devices) will be washed in a nonphosphate, laboratory-grade detergent such as Alconox®, followed by a double rinse in potable water. A final rinse of deionized or distilled water will be applied after completion of the initial decontamination process.

Equipment that will not be used immediately must be kept clean by wrapping in aluminum foil or placed inside clean plastic bags. Such storage will prevent

contamination of the equipment prior to use. See Appendix G for additional detail regarding equipment-decontamination procedures.

### 5.3 SOURCES OF SAMPLE CONTAMINATION

Samples can easily become contaminated during the sample-collection process. It is the responsibility of the sampler to prevent contamination from occurring. A multitude of potential cross-contamination sources are present in the field environment. Because many of the analytical methods used can quantify various analytes in parts per billion or less, even minute sources can potentially contaminate a sample. For example, Table 5-1 summarizes some of the potential sources that can cause a false-positive reading in a sample. These should be considered when samples are collected in the field. Also note that water has a strong affinity for many anthropogenic compounds. Use of good judgment is another aspect of collecting defensible data. Steps should be taken to avoid cross-contamination of samples. If the sampler suspects the possibility of cross-contamination, he/she should note it in the field log for the sample set in question, or the site should be sampled again if necessary.

**Table 5-1. Potential Sources of Cross-Contamination**

Source	Possible Contaminant
Fuels—generators, work vehicles	BTEX/TPH/VOC/SVOC
Exhaust fumes—generators, vehicles, heavy roadway traffic, overhead air traffic	BTEX/TPH/VOC/SVOC
Oil/grease residue on tools, gloves, etc.	TPH/SVOC
Tape	VOC
Insect spray	VOC/SVOC/pesticides
Insect repellent	SVOC/VOC/pesticides
Sunscreen	VOC/SVOC/PPCP
Soil/debris	Bacteriological/metals/SVOCs
Foods/drinks/medications and other personal care products such as soap, makeup, deodorant, etcetera.	PPCPs

## 5.4 FIELD NOTEBOOKS

The field notebook is a legal document and should be treated as such. All pertinent site information should be in the notebook, including site name, weather information, site conditions, well condition (if applicable), equipment problems, sample-collection notes such as approximate sample times, and any other information that may be deemed valuable. The names of individuals on the sample team, as well as visitors to the site, should also be recorded in the notebook. All information recorded in the field notebook should follow the format described herein. No blank spaces are to be left on pages. All blank areas should be marked through with a single line and initialed by the author. The top of each page should have the date and sample site. The base of each page should contain the initials of the author. Mistakes are to be crossed out with a single line and initialed. Field notebooks are to be recorded in black ink only.

## 5.5 SAMPLE COLLECTION

Field personnel must wear clean (disposable) nitrile gloves during the sample-collection process. Generally samples for field water quality parameters are to be collected first, followed by VOC, SVOC, and metals samples. Any required information is to be recorded in the field notebook before, during, and after sampling.

### 5.5.1 Well Samples

Each well must be gauged and sounded (if possible). The general condition of the well will be noted in the field notebook. After the water level is gauged, the purge volume for the well will be calculated by the following equation,

$$V = H \times F,$$

where V is one well volume, H is the difference between depth of the well and depth to water in feet (i.e., length of water column in well), and F is the number of gallons per foot of water for the well size (Table 5-2).

**Table 5-2. Well-Casing Volume in Gallons per Foot**

Casing Diameter (in inches)	F (gallons per foot of water in well)
2	0.16
4	0.65
6	1.47
8	2.6
10	4.1
12	5.9
16	10.4

The relationship  $F = \pi (D/2)^2 \times 7.48$  gallons/ft<sup>3</sup> can be used to calculate pipe volumes not listed in the table. Note that D = pipe diameter in feet and F = volume per foot.

A well may be sampled upon achieving *one* of the following: a minimum of three well volumes are purged from the well or field-parameter readings are stabilized for a minimum of three parameter measurements. Wells that go dry prior to purging the three well volumes, or the field-parameter readings have not stabilized, shall be purged to dryness (except for drinking-water supply or irrigation wells). During purging, water will be monitored for the following field parameters: *temperature, pH, DO, conductivity, and turbidity*.

Stabilization is defined as

- Temperature fluctuations limited to  $\pm 1^\circ \text{C}$ ,
- pH fluctuations  $\pm 0.1$  unit,
- DO fluctuations  $\pm 0.3$  milligrams per liter (mg/L),
- Conductivity fluctuations  $\pm 5\%$ , and
- Turbidity  $\pm 10$  NTU.

In the event that these parameters do not stabilize (after purging of three well volumes), a maximum of six well volumes will be purged prior to sample collection (if the field parameters stabilize at any point, the well is considered ready to sample, and purging may cease). Once the well has stabilized or the maximum purge volume is reached, and the well has recovered to at least 80% of its initial level, it is ready to sample.

### 5.5.2 Spring Samples

Springwater samples should be as representative of the actual water issuing forth from the spring as possible and not be “contaminated” by surrounding surface waters. As such, various sample-collection techniques may be necessary. For spring orifices located below surface water, samplers should use a peristaltic pump to collect the springwater sample by placing the intake part of the pump tubing in the spring orifice. This placement allows for filling of sample bottles without introducing surface waters or overflowing the bottles and losing any preservatives inside. This technique is not feasible or necessary for all spring sites but should be utilized as appropriate. When a spring that can be sampled without a pump is being sampled, then a typical grab sample may be collected. In some cases (high flow volume) it may be necessary to collect samples in a clean bottle (such as a clean 1,000-mL amber glass bottle, clean Teflon beaker, or something similar) and the container used to transfer water into subsequent containers. Doing so will prevent the loss of any preservatives that may be in sample bottles. However, the action should be performed with as little agitation to the sample as possible to preserve potential VOCs in the parent sample.

Note: If preservatives in the sample container are diluted or lost because of the collection technique, a new bottle should be used. If a new bottle is unavailable, the lack of preservatives must be communicated to the laboratory to ensure that the sample remains valid by being analyzed within the appropriate hold time.

Current information and observations concerning springflow at the time of sample collection should be entered in the field notebook. For example, approximate springflow volume (can be listed as low, medium, high) is the flow representative of an extreme volume (high or low); observed water quality should be noted (clear, cloudy, or murky), along with other observations deemed appropriate by the lead sampler.

### **5.5.3 Surface Water Samples**

Surface water samples should be collected without disturbing the sediment, if at all possible. The presence of sediment in the sample may bias the results. Samples should be collected from the flowing parts of the stream on the upstream side of the sample collector. Samples are not to be collected from stagnant areas, and they should also be taken from approximately the same location for each sample event. Sample bottles should be filled by collecting the water sample in a clean bottle or by using a peristaltic pump and transferred into the final sample bottle. Caution should be used to prevent overfilling of the sample bottle and diluting any preservatives that may be in the bottle.

Note: If preservatives in the sample container are diluted or lost because of the collection technique, a new bottle should be used. If a new bottle is unavailable, the lack of preservatives must be communicated to the laboratory to ensure that the sample remains valid by being analyzed within the appropriate hold time.

Information regarding the sample point in the stream, streamflow, and water conditions, as well as other information deemed appropriate by the sampler, should be entered into the field notebook at the time of sample collection.

### **5.5.4 Sediment Samples**

Sediment samples are scheduled for collection by the EAHCP sampling program. Furthermore, the possibility exists that EAA staff may be required to collect samples of this type on occasion for other programs. As such, a brief discussion of this type of sample is included herein. Sediment samples may be collected from below the water line, from a dry stream bed, or from any other source in which sediments or soils may collect. The collection technique will depend on conditions. For example, a push tube for collection of sediments below the water surface is generally needed. However, if sediments are being collected from a dry area, then they may be collected using a trowel, hand auger, or push tube of some type. As with all sediment/soil-related samples, VOC samples must be collected in a manner that will minimize the loss of in situ volatiles. As



such, sediment samples for VOC analysis will not be composited or homogenized in the field. Samples for VOC analysis are to be collected first.

In the event that the discreet-interval sediment sampler is used for collection of sediments, the procedure for device operation is as follows:

1. Insert the lower-half of the lead internal rod using a  $\frac{3}{8}$ -inch coupler (first stage) into the internal drive tip. Pull down on the brass ring, push the grooved end of the lead internal rod into the recess, and gently release the brass ring.
2. Insert the internal drive tip and lead internal-rod assembly into the external drive tip.
3. Connect the upper lead internal rod using the  $\frac{3}{8}$ -inch coupler (second stage) to the lower lead internal rod (first stage).
4. Insert a four-ft liner, with the hole in the liner oriented to the top, into the sample tube (the sample tube has a two-inch outside diameter and consists of two parts, a double female lead section and a male  $\times$  female extension). If the EAA staff chooses to use a two-ft liner instead of a four-ft liner, the process is the same, except that the male  $\times$  female upper extension is not used.
5. Insert a plastic core catcher (white) in the bottom of the sample tube, with the dome pointing toward the top.
6. Insert the internal drive tip/external drive tip assembly into the sampler tube.
7. Insert the metal core catcher into the top of the main sampler tube, with the dome pointing upward.
8. Install the internal tip chamber to the top of the main sampler tube.
9. Install the top drive head adapter to the top of the internal tip chamber.
10. Install the thread protector cap or internal rod with external drive extensions (if using  $1\frac{1}{8} \times 3$  ft external extensions with  $\frac{3}{8}$ -inch internal rods, place a  $\frac{3}{8}$ -inch coupler on the top of the internal rods prior to installing the top drive head adapter). Install the thread protector cap at the top of the internal rod prior to connecting the vented drive head (install the correct number of internal/external extensions necessary to lower the sampler to the surface and arrive at the desired sampling point).
11. Install the vented hammer adapter, already attached to the slide hammer.

The field notebook will note details related to the sediment samples; for example, was the sediment dry or below water, how was it collected, was it discolored, at what depth (from the surface) was the sample collected? If sediments are field screened with a photoionization detector (PID), readings from the various intervals will be recorded. Other details will be recorded as deemed appropriate by the sampler.

Also, if a hand trowel is used, it must be constructed of stainless steel, and it must be decontaminated prior to each use. For sites at which multiple samples will be collected, multiple hand trowels may be used, or a single trowel may be used if it is decontaminated in the field (Alconox wash, double rinse in potable water, followed by a DI water rinse).

### **5.5.5 Stormwater Samples**

Stormwater samples are scheduled for collection under the EAHCP program at each spring group, twice annually. Stormwater sample collection offers additional challenges and safety issues, as compared with that of other samples collected under EAA programs. This section provides a general summary of stormwater sampling, additional detail regarding this sample type being provided in Appendix F.

Stormwater samples are scheduled for collection across three points on the storm hydrograph. One sample collected from the initial rise on the hydrograph, a second sample from the peak area of the hydrograph, and a final sample along the recession limb of the graph. In addition, water quality parameters obtained from EAA-installed real-time water quality monitors, flow data from the U.S.G.S. springs gauges, and local weather radar maps will be used to define the behavior of the systems and help guide sample-collection timing. The real-time monitors collect data at 15-minute intervals for conductivity, DO, pH, temperature, and turbidity.

A stormwater event will be dictated by a rainfall event sufficient to cause a significant rise in springflow at either Comal or San Marcos springs. The significant rise in springflow is to be further defined in conjunction with real-time data systems. See Appendix F for details on stormwater sampling procedures.

## **SECTION 6**

### **ANNUAL REVIEW OF PLAN**

#### **6.1 ANNUAL REVIEW OF GROUNDWATER QUALITY PLAN**

Data collection described in this plan will be reviewed by May 31 each year. The review will be directed at ensuring that all data collection herein is necessary, properly performed, and properly staffed. Furthermore, the review will ascertain whether the methodologies in use remain appropriate for their intended purpose. The review process will include all sample types and programs, as well as methods used to collect and analyze these samples.

Postreview, modifications will be made, if needed, to accommodate changes to EAA sampling. Changes will be initiated by the management and staff of the EAA Aquifer Science Team.

## **SECTION 7**

### **CONTINUING EDUCATION CREDITS FOR SAMPLE-COLLECTION PERSONNEL**

#### **7.1 CONTINUING EDUCATION**

Staff members assigned to sample-collection teams must attain a minimum of 12 hours of continuing education each year. Opportunities for continuing education will be provided either in-house by the EAA, or, in some cases, staff may be sent to an offsite facility to attend a class. One hour of credit is considered to be one classroom or contact hour. Staff may also carry credits over into the following year if more than 12 hours of credit are obtained in a calendar year. It is the responsibility of each staff member to document his/her credit hours annually and submit them to the hydrogeology supervisor by December 1 of each year.

## **SECTION 8**

### **REFERENCES CITED**

- AFCEE, 2001, Quality Assurance Project Plan, Version 3.1: Air Force Center for Environmental Excellence, Brooks AFB, Texas.
- EAA, 2012, Water Quality Monitoring Program Strategy for Comal Springs and San Marcos Springs in Support of the Edwards Aquifer Habitat Conservation Plan.
- SARA, 2013, Watershed Monitoring, San Antonio River Authority.
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## **SECTION 9**

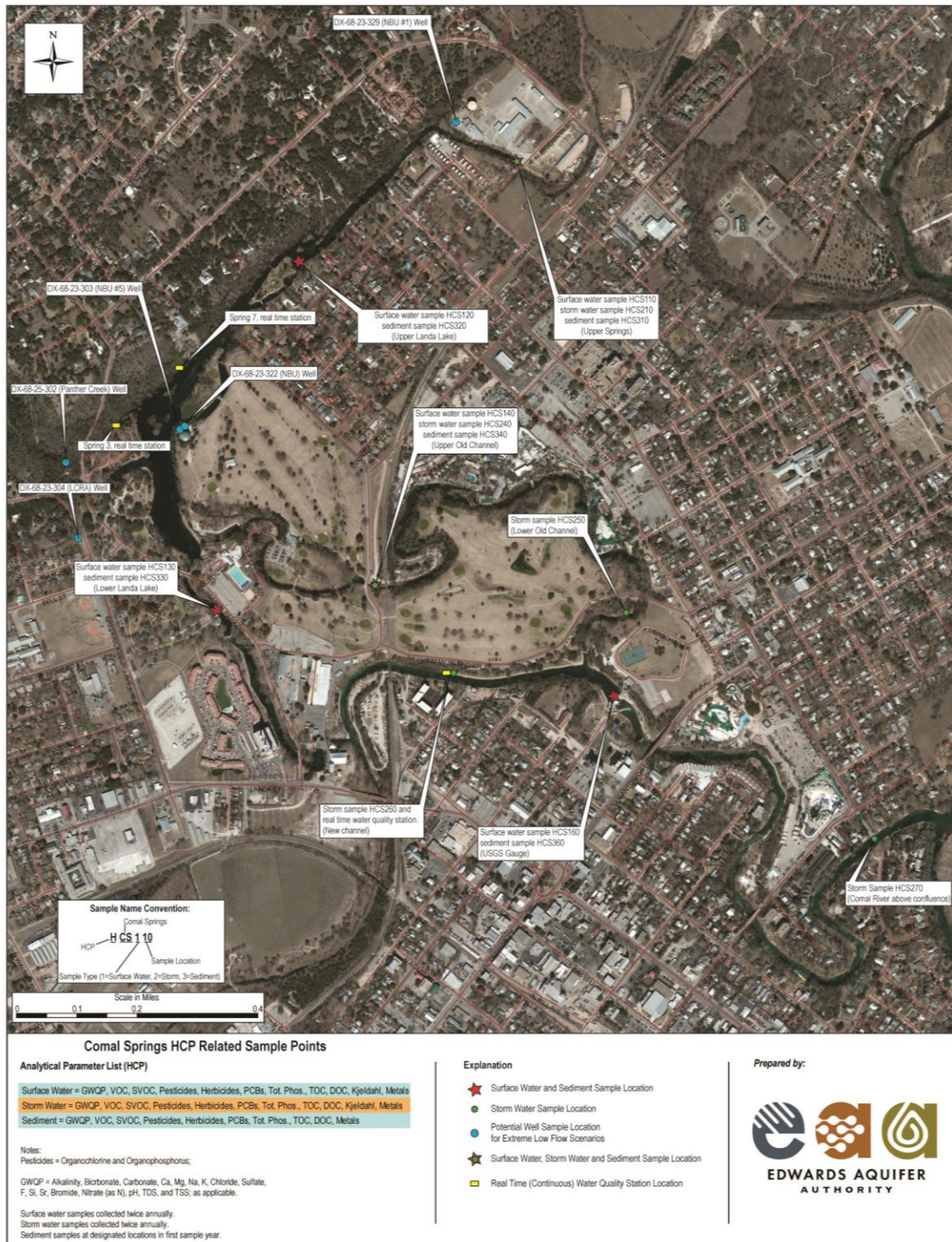
### **REFERENCES NOT CITED**

- Driscoll, F.G., 1995, Groundwater and Wells: St. Paul, Johnson Screens, 1089 p.
- Nielsen, D.M., 2006, Environmental Site Characterization and Ground-Water Monitoring: New York, Taylor and Francis, 1318 p.

**APPENDIX A—Sample Locations (2013)**











## **APPENDIX B—Glossary of Terms**

Ambient blank	Sample known not to contain target analytes, which are used to assess airborne contaminants at the site. The ambient blank [AB] is
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	opened at the site and exposed to site (ambient) conditions and subsequently treated as an environmental sample thereafter. AB samples are applicable to VOC analysis only.
Anion	Negatively charged ion.
Aquifer	Underground geological formation or group of formations containing water; source of groundwater for wells and springs.
Cation	Positively charged ion.
DOC	Abbreviation for dissolved organic carbon, a broad classification of organic molecules of varied origin and composition within aquatic systems. Organic carbon compounds are a result of decomposition processes from dead organic matter, such as plants.
DQO	Abbreviation for data quality objectives, a process used to develop performance and acceptance criteria or data quality objectives that clarify study objectives, define the appropriate type of data, and specify tolerable levels of data needed to support decisions.
Equipment blank	Sample used to assess the effectiveness of the decontamination process on sampling equipment. The equipment blank is prepared by pouring reagent-grade water over/through sampling equipment and analyzing for parameters of concern (to match the sampling routine applicable to the site).
Field duplicate	Second sample collected simultaneously from the same source as the parent sample, but which is submitted and analyzed as a separate sample. This sample should generally be identified such that the laboratory is unaware that it is a field duplicate.
Field replicate	Sometimes referred to as a <i>split sample</i> , a single sample divided into two (or more) samples.
Groundwater	Water found beneath Earth's surface that fills pores between materials, such as sand, soil, or gravel.
Initial rise	Initial surface runoff of a rainstorm. During this phase, water pollution entering storm drains in areas with high proportions of impervious surfaces is typically more concentrated during first flush than it is during the remainder of the storm.

Matrix spike	Sample used to determine the effect of the matrix on a method's recovery efficiency. A known amount of the target analyte is added to a specified amount of matrix sample for which an independent estimate of the target analyte concentration is available. Duplicate samples must be available as well (matrix spike duplicate, or MSD).
MDL	Abbreviation for method detection limit, minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as determined from analysis of a sample containing the analyte in a given matrix.
Peak	Maximum instantaneous flow at a specific location resulting from a given storm condition.
PQL	Abbreviation for practical quantitation limit, which is the smallest concentration of the analyte that can be reported with a specific degree of confidence.
Precision	State or quality of being precise; exactness. The ability of a measurement to be consistently reproduced.
Purge	To remove standing water in a well.
Recession	End of runoff event, which is defined as the point in time when the recession limb of the hydrograph is <two% of the peak or is within ten % of the prestorm base flow, whichever is greater.
Recharge zone	Where an aquifer is replenished with water by the downward percolation of precipitation through soil and rock.
Representative	Said of samples collected that are similar to those of groundwater in its in situ condition.
RL	Abbreviation for reporting limit [RL], the smallest concentration of an analyte reported by the laboratory to a customer. The RL is never less than the PQL and is generally twice the MDL.
Spike sample	One of any known concentrations of specific analytes that have been added to minimize change in the matrix of the original

	sample. Every spike sample analyzed should have an associated reference to the spike solution and the volume added.
Spring	Water coming naturally out of the ground.
Surface water	That which forms and remains above ground, such as lakes, ponds, rivers, streams, bays, and oceans.
SVOC	Abbreviation for semivolatile organic compounds, which is a group of chemicals composed primarily of carbon and hydrogen that have a tendency to evaporate (volatilize) into the air from water or soil. Some of the compounds that make up asphalt are examples of SVOCs.
TDS	Abbreviation for total dissolved solids, or the total amount of all inorganic and organic substances, including minerals, salts, metal, cations, or anions that are dispersed within a volume of water.
Temporal	Over a period of time.
TKN	Abbreviation for total kjeldahl nitrogen, which is the total concentration of organic and ammonia nitrogen in wastewater.
TOC	Abbreviation for total organic carbon, which is the gross amount of organic matter found in natural water. Suspended-particulate, colloidal, and dissolved organic matter are part of the TOC measurement. Settable solids consisting of inorganic sediments and some organic particulate are not transferred from the sample by the lab analyst and are not part of the TOC measurement.
Trip blank	Sample known to be free of contamination (for target analytes) that is prepared in the laboratory and treated as an environmental sample after receipt by the sampler. Trip blank [TB] samples are applicable to VOC analysis only.
TSS	Abbreviation for total suspended solids, which are the nonfilterable residue retained on a glass-fiber disk filter mesh measuring 1.2 micrometers after filtration of a sample of water or wastewater.
VOC	Abbreviation for volatile organic compounds, which are often used as solvents in industrial processes and are either known or suspected carcinogens or mutagens. The five most toxic are vinyl

chloride, tetrachloroethylene, trichloroethylene, 1,2-dichloroethane, and carbon tetrachloride.

Well                      Bored, drilled, or driven shaft whose purpose is to reach underground water supplies.



## **APPENDIX C—Equipment Use and Calibration**

## DOCUMENTATION PROCEDURES

All equipment maintenance and calibration must be documented in the laboratory notebook kept at the EAA Camden Building. This documentation is an important part of ensuring that data-collection results are “defensible.” Calibration details, equipment type, date, calibration statement, and sampler’s signature must appear in the book for each day that the equipment is used.

EAA currently uses the YSI 556 MPS field instrument to collect pH, DO, conductivity, and temperature at each sample point. Calibration procedures for this instrument are detailed next.

## CALIBRATION PROCEDURES

### Calibration Procedures for YSI 556 MPS

#### Accessing the Calibrate Screen

1. Press the **On/Off** key to display the run screen.
2. Press the **Escape** key to display the main menu screen.
3. Use the arrow keys to highlight the **Calibrate** selection

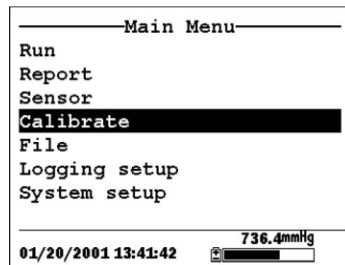


Figure 6.1 Main Menu

4. Press the **Enter** key. The Calibrate screen will be displayed.

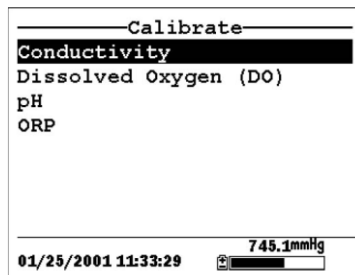


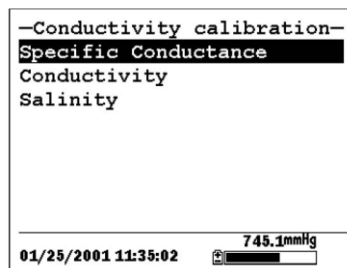
Figure 6.2 Calibrate Screen

## Conductivity Calibration

This procedure calibrates specific conductance (recommended), conductivity, and salinity.

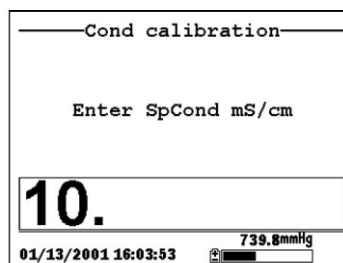
Calibrating any one option automatically calibrates the other two.

1. Go to the Calibrate screen
2. Use the arrow keys to highlight the **Conductivity** selection.
3. Press **Enter**. The Conductivity Calibration Screen is displayed.



## Conductivity Calibration Selection Screen

4. Use the arrow keys to highlight the Specific Conductance selection.
5. Press **Enter**. The Conductivity Calibration Entry Screen is displayed.



## Conductivity Calibration Selection Screen

6. Place the correct amount of conductivity standard into a clean, dry or pre-rinsed transport/calibration cup.

**WARNING:** Calibration reagents may be hazardous to health. See information on label.

**NOTE:** For maximum accuracy, the conductivity standard you choose should be within the same conductivity range as the samples you are preparing to measure. However, we do not recommend using standards less than one mS/cm. For example:

- For freshwater use a one-mS/cm conductivity standard.
- For brackish water use a ten-mS/cm conductivity standard.
- For seawater use a 50-mS/cm conductivity standard.

**NOTE:** Before proceeding, ensure that the sensor is as dry as possible. Ideally, rinse the conductivity sensor with a small amount of standard that can be discarded. Be certain that cross-contamination of solutions be avoided. Make certain that no salt deposits are around the oxygen or pH/ORP sensors, particularly if standards of low conductivity are being employed.

7. Carefully immerse the sensor end of the probe module into the solution.
8. Gently rotate and/or move the probe module up and down to remove any bubbles from the conductivity cell.

**NOTE:** The sensor must be completely immersed past its vent hole. Using the recommended volumes and ensure that the vent hole is covered.

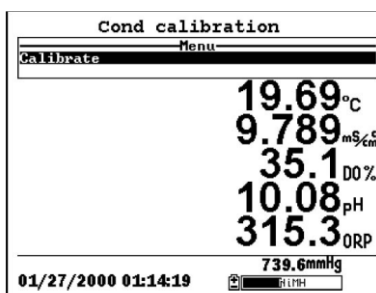
9. Screw the transport/calibration cup onto the threaded end of the probe module and securely tighten.

**NOTE:** Do not over tighten because doing so could damage the threaded parts.

10. Use the keypad to enter the calibration value of the standard being used.

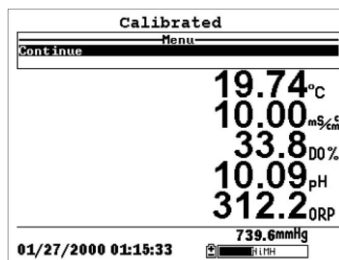
**NOTE:** Be sure to enter the value in **mS/cm at 25°C**.

11. Press **Enter**. The Conductivity Calibration Screen is displayed.



**Conductivity Calibration Screen**

12. Allow at least one minute for temperature equilibration before proceeding. The current values of all enabled sensors will appear on the screen and will change with time as they stabilize.
13. Observe the reading under Specific Conductance. When the reading shows no significant change for approximately 30 seconds, press **Enter**. The screen will indicate that the calibration has been accepted and prompt pressing of **Enter** again to Continue.



**Calibrated**

14. Press **Enter** to return to the Conductivity Calibrate Selection Screen
15. Press **Escape** to return to the Calibrate menu. See Figure 6.2 Calibrate Screen.
16. Rinse the probe module and sensors in tap or purified water and dry.

### **Dissolved Oxygen Calibration**

This procedure calibrates dissolved oxygen. Calibrating any one option (% or mg/L) automatically calibrates the other.

1. Go to the calibrate screen as described in Section 6.2.1 *Accessing the Calibrate Screen*.

**NOTE:** The instrument must be on for at least 10 to 15 minutes to polarize the DO sensor before calibrating.

2. Use the arrow keys to highlight the **Dissolved Oxygen** selection. See Figure 6.2 Calibrate Screen.
3. Press **Enter**. The Dissolved Oxygen Calibration Screen is displayed.

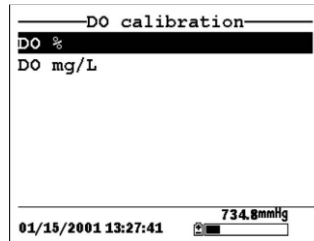


Figure 6.7 DO Calibration Screen

### DO Calibration in Percent Saturation

1. Use the arrow keys to highlight the DO% selection.
2. Press **Enter**. The DO Barometric Pressure Entry Screen is displayed.

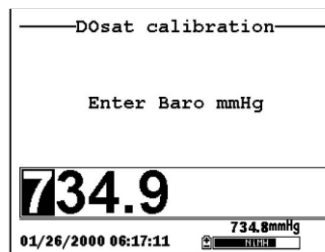


Figure 6.8 DO Barometric Pressure Entry Screen

3. Place approximately 3 mm ( $\frac{1}{8}$  inch) of water in the bottom of the transport/calibration cup.
4. Place the probe module into the transport/calibration cup.  
**NOTE:** Ensure that the DO and temperature sensors are **not** immersed in the water.
5. Engage only one or two threads of the transport/calibration cup to ensure that the DO sensor is vented to the atmosphere.
6. Use the keypad to enter the current local barometric pressure.

**NOTE:** If the unit has the optional barometer, no entry is required.

**NOTE:** Barometer readings that appear in meteorological reports are generally corrected to sea level and must be uncorrected before use



7. Press **Enter**. The DO% Saturation Calibration screen is displayed.

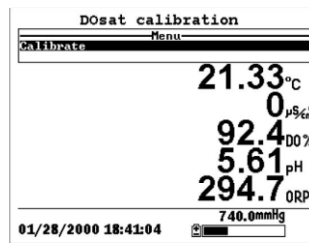


Figure 6.9 DO Sat Calibration Screen

8. Allow approximately ten minutes for the air in the transport/calibration cup to become water saturated and for the temperature to equilibrate before proceeding.
9. Observe the reading under DO %. When the reading shows no significant change for approximately 30 seconds, press **Enter**. The screen will indicate that the calibration has been accepted and prompt pressing of **Enter** again to Continue. See Figure 6.6 Calibrated.
10. Press **Enter** to return to the DO Calibration Screen, See Figure 6.7 DO Calibration Screen.
11. Press **Escape** to return to the calibrate menu. See Figure 6.2 Calibrate Screen.
12. Rinse the probe module and sensors in tap or purified water and dry.

## pH Calibration

1. Go to the Calibrate Screen as described in *Section 6.2.1 Accessing the Calibrate Screen*.
2. Use the arrow keys to highlight the **pH** selection. See Figure 6.2 Calibrate Screen.
3. Press **Enter**. The pH Calibration screen is displayed.

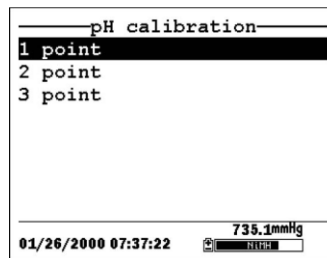


Figure 6.12 pH Calibration Screen

4. Select the **one-point** option only if adjusting a previous calibration. If a two-point or three-point calibration has been performed previously, the calibration can be adjusted by carrying out a one-point calibration. The procedure for this calibration is the same as for a two-point calibration, but the software will prompt a selection of only one pH buffer.
5. Select the **two-point** option to calibrate the pH sensor using only two calibration standards. Use this option if the media being monitored is known to be either basic or acidic. For example, if the pH of a pond is known to vary between 5.5 and seven, a two-point calibration with pH seven and pH four buffers is sufficient. A three-point calibration with an additional pH ten buffer will not increase the accuracy of this measurement because the pH is not within this higher range.
6. Select the **three-point** option to calibrate the pH sensor using three calibration solutions. In this procedure, the pH sensor is calibrated with a pH seven buffer and two additional buffers. The three-point calibration method assures maximum accuracy when the pH of the media to be monitored cannot be anticipated. The procedure for this calibration is the same as for a two-point calibration, but the software will prompt a selection of a third pH buffer.
7. Use the arrow keys to highlight the **two-point** selection.
8. Press **Enter**. The pH Entry Screen is displayed.

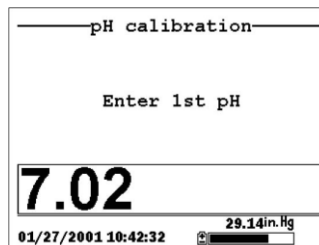


Figure 6.13 pH Entry Screen

9. Place the correct amount (see Table 6.1 Calibration Volumes) of pH buffer into a clean, dry, or prerinsed transport/calibration cup.

**NOTE:** Always calibrate with buffer seven first, regardless of whether performing a one-, two-, or three-point calibration.

**WARNING:** Calibration reagents may be hazardous to health. See reagent label for more information.

**NOTE:** For maximum accuracy, the pH buffers chosen should be within the same pH range as the water being prepared for sampling.

**NOTE:** Before proceeding, ensure that the sensor is as dry as possible. Ideally, rinse the pH sensor with a small amount of buffer that can be discarded. Be certain to avoid cross-contamination of buffers with other solutions.

10. Carefully immerse the sensor end of the probe module into the solution.
11. Gently rotate and/or move the probe module up and down to remove any bubbles from the pH sensor.  
  
**NOTE:** The sensor must be completely immersed. Using the recommended volumes from Table 6.1 Calibration Volumes should ensure that the sensor is covered.
12. Screw the transport/calibration cup onto the threaded end of the probe module and securely tighten.

**NOTE:** Do not overtighten because doing so could damage the threaded parts.

13. Use the keypad to enter the calibration value of the buffer being used **at the current temperature**.

**NOTE:** pH vs. temperature values are printed on the labels of all YSI pH buffers.

14. Press **Enter**. The pH Calibration Screen is displayed.

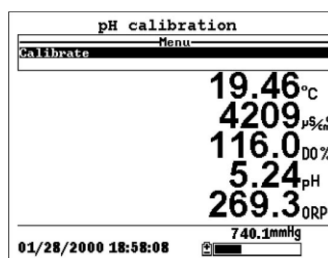


Figure 6.14 pH Calibration Screen

15. Allow at least one minute for temperature equilibration before proceeding. The current values of all enabled sensors will appear on the screen and will change with time as they stabilize.

16. Observe the reading under pH. When the reading shows no significant change for approximately 30 seconds, press **Enter**. The screen will indicate that the calibration has been accepted and prompt **Enter** to be pressed again to continue.
17. Press **Enter** to return to the specified pH Calibration Screen, See Figure 6.13 pH Entry Screen.
18. Rinse the probe module, transport/calibration cup, and sensors in tap or purified water and dry.
19. Repeat steps 6 through 13 using a second pH buffer.
20. Press **Enter** to return to the pH Calibration Screen. See Figure 6.12 pH Calibration Screen.
21. Press **Escape** to return to the Calibrate menu. See Figure 6.2 Calibrate Screen.
22. Rinse the probe module and sensors in tap or purified water and dry.

#### **Return to Factory Settings.**

1. Go to the Calibrate screen as described in Section 6.2.1 *Accessing the Calibrate Screen*.
2. Use the arrow keys to highlight the **Conductivity** selection. See Figure 6.2 Calibrate Screen.

**NOTE:** We will use the Conductivity sensor as an example; however, this process will work for any sensor.

3. Press **Enter**. The Conductivity Calibration Selection Screen is displayed. See Figure 6.3 Conductivity Calibration Selection Screen.
4. Use the arrow keys to highlight the **Specific Conductance** selection.
5. Press **Enter**. The Conductivity Calibration Entry Screen is displayed. See Figure 6.4 Conductivity Calibration Entry Screen.
6. Press and hold the **Enter** key down, and press the **Escape** key.

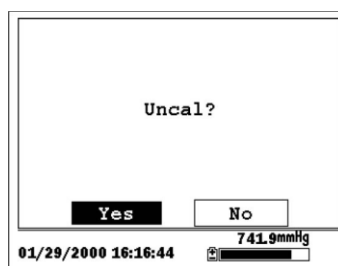


Figure 6.17 ORP Calibration Screen

7. Use the arrow keys to highlight the **YES** selection.

**CAUTION:** Pressing **YES** returns a sensor to the factory settings. For example, in the selection to return specific conductance to the factory setting, salinity and conductivity will automatically return to their factory settings.

8. Press **Enter** to return you to the Conductivity Calibrate Selection Screen. See Figure 6.3 Conductivity Calibration Selection Screen. .
9. Press **Escape** to return to the Calibrate menu. See Figure 6.2 Calibrate Screen.

## **HACH Digital Titrator (for Alkalinity) Primary Method**

Titration is performed using the HACH digital titrator. This instrument provides precise results when properly operated.

### **Basic Operation**

1. Select a sample volume and titration cartridge corresponding to the expected sample concentration.
2. Insert the cartridge into the titrator slide and lock it into place with the plunger. Remove the polyethylene cap from the cartridge and insert a clean delivery tube into the end of the cartridge. (Note: use a straight tube with a hook on the end for hand-held titrations and a 90° tube with a hook at the end for stationary setups.)
3. To start the titrant flow, hold the tip of the cartridge upward while turning the delivery knob until the air is expelled and several drops of solution flow from the tip of the delivery tube.
4. Use the counter reset knob (the smaller of the two knobs) to set the digital counter back to zero, then blot any titrant from the delivery tube.
5. Proceed with titration by submerging the tip of the delivery tube into the sample and turning the delivery knob to dispense the titrant. (Note: during the titration process, samples must be continuously stirred either manually or with the magnetic stirrer)

### **Calculations**

HACH titration cartridge solutions are designed to give those numbers used in the titrations (reading from the digital meter) to be actual sample concentration in mg/L, or they are marked with conversion factors. If in the process of sample preparation, the amount of SAMPLE becomes less than 100 mL, the titration number must be multiplied by the divisional factor. For example, if the intended 100-mL sample is reduced to 25 mL (¼ of 100 mL) during the sample-preparation process, then the final result must be multiplied by 4 (25 mL × 4 = 100 mL) to obtain the result.

### **General Maintenance**

1. For long-term storage the delivery tube should be removed, the polyethylene cap reattached, and the cartridge removed from the titrator body. DO NOT attempt to remove the cartridge from the titrator without recapping.
2. After use and removal from the cartridges, rinse the delivery tubes with deionized water to prevent clogging.

The titration process should be checked monthly by titration of a standard solution and recorded in the laboratory notebook. Acceptable results are obtained if the titration is within ±3% of the standard solution.

### **Alkalinity Determination Using the HACH Digital Titrator**

Alkalinity of water is defined by its acid-neutralizing capacity. Once a sample has been collected, geochemical changes can alter the sample's alkalinity. Therefore, alkalinity samples are to be analyzed in the field or immediately upon returning to the EAA laboratory.

#### **Procedure**

Sample alkalinity is determined by titration with sulfuric acid to a pH of 4.5 and includes all carbonate, bicarbonate, and hydroxide present within the sample. Values are recorded as mg/L calcium carbonate.

1. Follow the steps outlined in HACH digital titrator usage, with the sulfuric acid cartridge as the active titrant and the 90° delivery tube as a stationary setup.
2. Set up the HACH titrator unit and attach the digital titrator to the rotational holder and clamp securely.
3. The pH and temperature probes should also be connected to the titrastir at the end of the rotational holder. For best results, attempt to have the ends of the delivery tube, pH probe, and temperature probe at the same level.
4. Rinse a 25-mL pipette three times with deionized water and then three times with the sample water to be tested. Pipette 25 mL of this sample into a clean 50-mL beaker. Record this amount on the corresponding field sheet.
5. Place the beaker on the stir plate, put a stir bar in the beaker, and turn on the stirring function.
6. Rotate the titrastir arm toward the sample beaker, submerging the probes and delivery tube. Note: ensure that the titrator counter is reset to zero and the outside of the delivery tube is free of sulfuric acid before submerging.
7. Turn on the pH meter and record the stabilized pH reading of the sample. Record this value on the corresponding field data sheet.
8. Titrate by turning the delivery knob until the pH is reduced to 4.5, which is the endpoint, and the amount of titrant used should be recorded.
9. Calculate the alkalinity by multiplying the amount of titrant used by the dilution factor, and record on the appropriate field data sheet.

Collect a second alkalinity sample every ten samples as a field duplicate, and analyze as outlined above. The field duplicate percent difference should not exceed  $\pm 5\%$ , where %D is defined as

$$[(X1 - X2) / X1] \times 100 = \%D \text{ (X1 = original sample, X2 = duplicate sample)}$$

*(see next page for additional alkalinity procedures)*



## **Additional Procedures for Alkalinity Analyses, University of Minnesota Methodology (to be incorporated into the EAA methodology)**

### **Good Titration Practices**

#### Aliquot Measurement

- ◆ Sample aliquots should be measured with the most accurate method available.
- ◆ Rinse the volumetric flask with sample water.
- ◆ Never rinse the titration flask with sample water.
- ◆ Rinse the titration flask with De-Ionized water between samples and air dry (glass) or shake dry (PMP plastic).
- ◆ An electronic balance is preferred over a volumetric flask is preferred over a graduated cylinder.
- ◆ A 0.1g scale is comparable to a volumetric flask.
- ◆ An electronic balance allows the size of sample aliquots to be varied.
- ◆ An electronic balance allows aliquot size to be reduced in high alkalinity samples which reduces titration time.

#### Titration Equipment

- ◆ Digital titrator should be periodically lubricated.
- ◆ Titrant cartridges must be kept tightly capped to prevent evaporation.
- ◆ Old, partially used titrant cartridges should be replaced.
- ◆ Don't try to use every drop of acid in the titrant cartridge - when it gets low start a new cartridge.
- ◆ Delivery tubes should be flushed with fresh titrant before use and rinsed after use.
- ◆ A magnetic stirrer (battery powered for field use) helps ensure thorough mixing.

#### Titration Procedures

- ◆ All chemical analyses should be replicated.
- ◆ Titrations are done in triplicate to allow comparison of results ensuring that reproducible results are obtained.
- ◆ Replicates that vary by more than two percent indicate interference or analytic error.
- ◆ Real time analysis of the results allows additional titrations and/or a change in procedure to identify the sources of the interference or error.
- ◆ Work consistently and quickly to limit degassing and precipitation in your sample bottle.
- ◆ Add acid uniformly to each aliquot as if performing the first titration.

### **Colorimetric**

- ◆ Bromocresol Green / Methyl Red indicator dyes.
- ◆ pH 4.8 to 4.5 buffer solutions.
- ◆ Adding acid too quickly and incomplete equilibration will produce irregular results.
- ◆ Use buffered indicator solutions to define endpoint.
- ◆ Relies on human color interpretation.

### **Potentiometric**

#### pH Endpoint

- ◆ Meter calibration is critical.
- ◆ Adding acid too quickly and incomplete equilibration will produce irregular results.
- ◆ Must allow for solution equilibration and meter stabilization.
- ◆ Uses one data point to determine endpoint.

#### $\Delta$ pH/ $\Delta$ v acid

- ◆ Must be done in uniform steps through the endpoint.
- ◆ Adding acid too quickly and incomplete equilibration will produce irregular results.
- ◆ Organics may shift endpoint.
- ◆ Uses two data points to determine endpoint.

Figure 1 shows a typical “S” shaped titration curve. The inflection point represents the true alkalinity of the sample and may not occur at exactly pH 4.5.

### **Gran Titration**

- ◆ Uses many data points.
- ◆ Must be carried well past the endpoint.
- ◆ Requires graphical interpretation or linear regression.
- ◆ Adding acid too quickly and incomplete equilibration will produce non-linear trend.
- ◆ Presence of organics will produce non-linear trends.
- ◆ Least susceptible to operator error or chemical interference but should still be backed up by replicate measurements - replicate may be by colorimetric or potentiometric methods.

To calculate the alkalinity, use the formula  $(V_{\text{aliquot}} + V_{\text{titrant}}) \times 10^{(4.65 - \text{pH})}$  to plot an ascending line after the endpoint with apparent alkalinity on the x-axis;  $V_{\text{aliquot}}$  in ml,  $V_{\text{titrant}} = \text{titrator digits}/800$  and 4.65 is the assumed endpoint. A linear regression can then be used to calculate an x-intercept. Use only the points well after the endpoint to get the best regression as shown in Figure 2.

### **Common Interferences**

◆ **Highly colored waters**

Organic-rich waters with humic and fulvic acids.  
Often have low pH and correspondingly low alkalinity.

#### **Solutions**

Perform Gran Titration - by extrapolating from points below pH 4.5 a fairly precise determination of alkalinity can be made.

Add a second packet of indicator dye to intensify green and red colors.

◆ **Chlorinated waters**

Color change at endpoint goes from green to yellow.

Solution: Add 5 drops and 2N Sodium Thiosulfate to scavenge any free chlorine before titrating.

◆ **Clay-rich waters**

Colors of indicators are "off" often tending towards an orange endpoint.  
Commonly associated with poorly developed monitoring wells.

Solution: Filter the sample before titrating.

◆ **Muddy waters**

Suspended sediment may contain carbonates or clays that could react with the acid titrant.  
Thick sediment may mask the color changes.

Solution: Filter the sample, preferably after allowing sediment to settle.

### **References**

*Determination of the Equivalent Point in Potentiometric Titrations*, 1950, Gunnar Gran, Acta Chemica Scandinavica, pp 559-577.

*Determination of the Equivalence Point in Potentionmetric Titrations - Part II*, 1952, Gunnar Gran, The Analyst, International Congress on Analytical Chemistry, V. 77, pp 661-671.

*Field Guide for Collecting and Processing Stream-Water Samples for the National Water-Quality Assessment Program*, Larry R. Shelton, 1994, U.S. Geological Survey Open-File Report 94-455, 42 pp.

*Field and Laboratory Methods*, 1998, Scott C. Alexander and E.C. Alexander Jr., Hydrogeochemistry Lab, Dept. of Geology & Geophysics, Univ. of Minnesota, 21 pp.

*EPA Method 310.1: Alkalinity determination to a colorimetric end-point.*

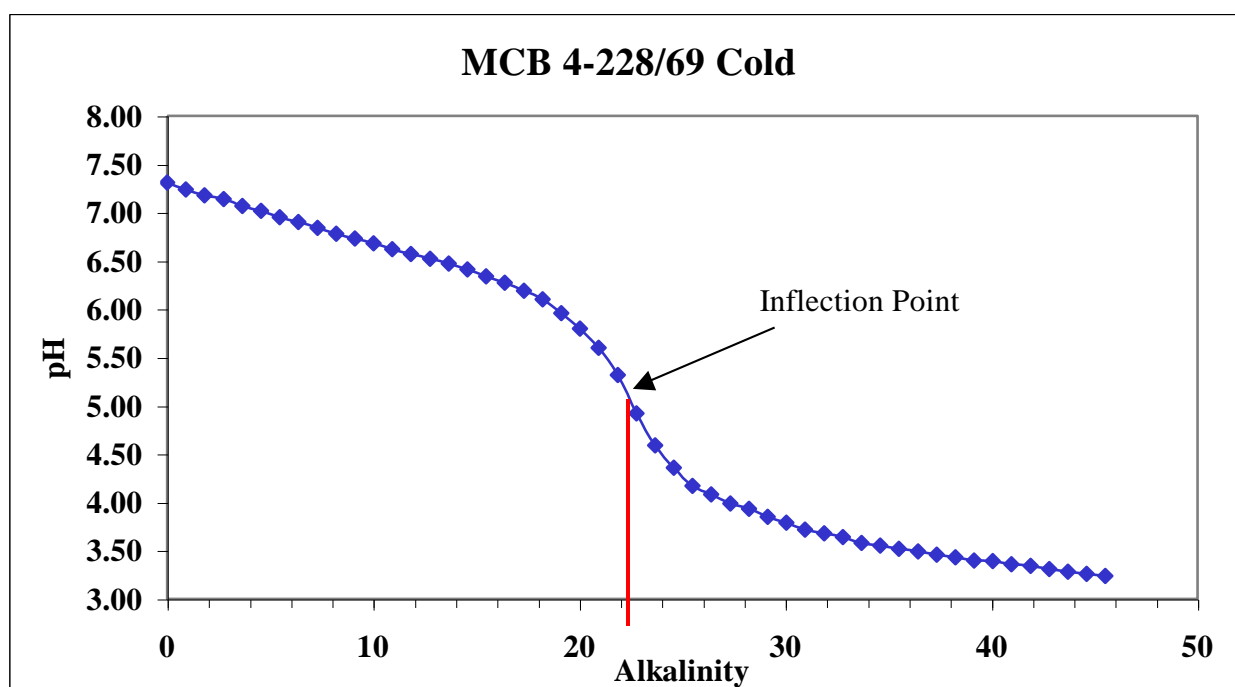


Figure 1. Example of pH titration

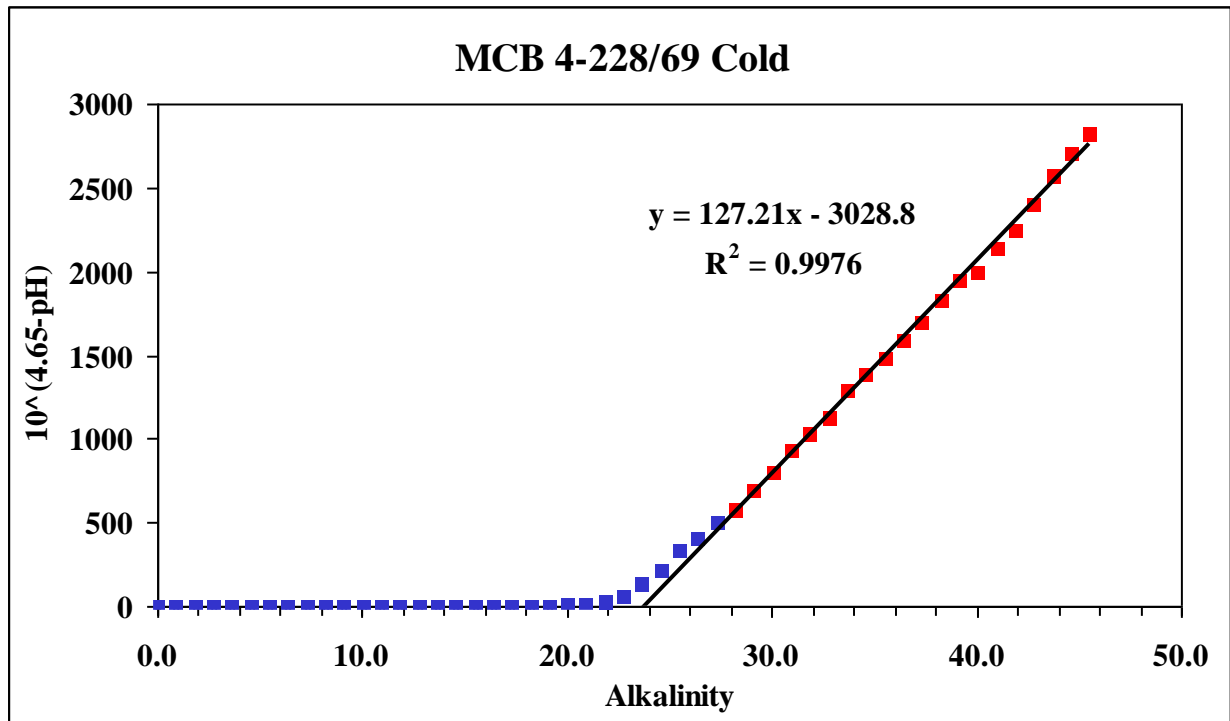


Figure 2. Example of Gran Titration

## Use of the DR2800 Portable Spectrophotometer for Alkalinity Measurements (Secondary Method for Alkalinity Determination)

EAA currently uses the DR2800 Portable Spectrophotometer for measuring alkalinity values of samples in the event the Hach Digital Titrator is not available. Measurements are made at the EAA Camden building following the field sample-collection event. All measurements are to be recorded in the alkalinity notebook and on the field sheet. Operation procedures for this instrument are detailed next.

---

### Alkalinity, Total

DOC316.53.01257

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#### Colorimetric Method

Method 10239

25 to 400 mg/L CaCO<sub>3</sub>

TNTplus™ 870

**Scope and Application:** For drinking water, wastewater and boiler water.

---

### Test preparation

#### Before the test:

**DR 2800 only:** Install the light shield in Cell Compartment #2 before performing this test.

Read the safety advice and expiration date on the package.

The recommended sample and reagent temperature is 15–25 °C (59–77 °F).

The recommended reagent storage temperature is 15–25 °C (59–77 °F).

TNTplus™ methods are activated from the Main Menu when the sample vial is inserted into the sample cell holder.

#### Collect the following items:

Description	Quantity
Total alkalinity TNT870 vials	variable
Light shield (DR 2800 only)	1
Pipette for 2.0-mL sample	1
Pipette for 0.5-mL sample	1
Pipette tips	variable

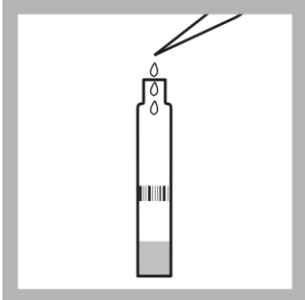
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### TNTplus™ method

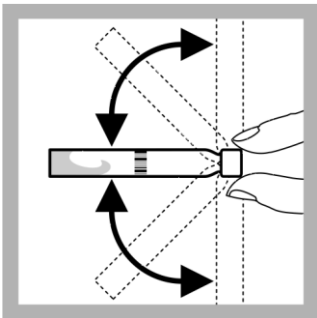
---



1. Pipette 2.0 mL of **Solution A** into test vial.



2. Pipette 0.5 mL of sample into vial.



3. Cap and invert vial until contents are well mixed.



4. Wait 5 minutes.





5. After timer expires, wipe vial and insert it into cell holder. Instrument reads barcode, selects method, and make measurement. No instrument zero required. Results are in mg/L CaCO<sub>3</sub>.

## Interferences

If samples contain particles, remove the particles by filtration through a 0.45- $\mu$ m filter.

## Sample collection, preservation, and storage

- Collect samples in clean plastic or glass bottles. Fill completely and cap tightly.
- Prevent excessive agitation or prolonged exposure to air. Complete the test procedure as soon as possible after collection for best accuracy.
- The sample can be stored for 24 h if cooled to 4 °C (39 °F) or below. Warm to room temperature before the test begins.

## Accuracy check

### Standard solution method required for accuracy check:

- Alkalinity Voluette® Ampule Standard Solution, 25,000 mg/L CaCO<sub>3</sub> (0.500 N)
- Ampule breaker
- Variable-volume pipette
- Pipette tips
- 100-mL volumetric flask, Class A
- Deionized water

1. Prepare a 250-mg/L CaCO<sub>3</sub> standard solution as follows:

- a.** Pipette 1.0 mL of alkalinity standard solution, 25,000 mg/L as  $\text{CaCO}_3$ , into a clean 1.0-mL volumetric flask.
  - b.** Dilute to the mark with deionized water. Mix well. Prepare this solution daily.
- 2.** Use this solution in place of the sample. Follow the TNTplus™ method test procedure. The result should be within 10% of the expected value.

## **Summary of method**

Carbonates and other buffers react with the reagent in the vial to change the pH. The pH affects the color of the indicator, which is measured photometrically at 615 nm.

## Calibration Procedures for Backup Instruments

The following pages contain a discussion of proper use of “backup” instrumentation owned by the EAA, but not in regular use. These instruments may be utilized during a contingency sampling event, or in the case where newer instrumentation is not available due to damage or other issues.

### Calibration Procedures for Luminescent Dissolved Oxygen Probe Model LDO10101 with HQ30d Meter

#### **Before calibration:**

The probe must have the correct service-life time stamp. Set the date and time in the meter before the probe is attached.

It is not necessary to recalibrate when moving a calibrated probe from one HQd meter to another if the additional meter is configured for the same calibration options.

To view the current calibration, push Select View Probe Data, then select View Current Calibration.

If any two probes are connected, push the **UP** or **DOWN** arrow to change to the single display mode in order to show the Calibrate option.

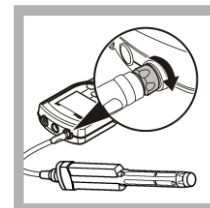
#### **Calibration notes:**

- % saturation or mg/L calibration methods are available in the Modify Current Settings menu.
- Slope value is the comparison between the latest calibration and the factory calibration shown as a percentage.
- Calibration is recorded in the probe and the data log. Calibration is also sent to a PC, printer, or flash memory stick if connected.

- Air bubbles under the sensor tip when submerged can cause slow response or error in measurement. If bubbles are present, gently shake the probe until bubbles are removed.

**Water-saturated air (100%) calibration procedure:**

1. Connect the probe to the meter. Ensure that the cable locking nut is securely connected to the meter. Turn on the meter.



2. Push **Calibrate**.



3. Push **Methods**. Select User Cal-100%. Push **OK**.



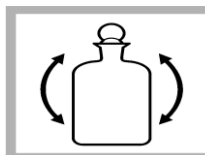
4. Rinse the probe cap with deionized water. Blot dry with a lint-free cloth.



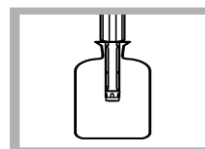
5. Add approximately ¼ inch (6.4 mm) of reagent water to a narrow-neck bottle, such as a BOD bottle.



6. Put a stopper in the bottle and shake the bottle vigorously for approximately 30 seconds to saturate the entrapped air with water. Allow up to 30 minutes for contents to equilibrate to room temperature.



7. Remove the stopper. Carefully dry the probe cap using a nonabrasive cloth. Put the probe in the bottle.



8. Push **Read**. The display shows “Stabilizing” as the probe stabilizes. The display shows the standard value when the reading is stable.

9. Push **Done** to view the calibration summary.

10. Push **Store** to accept the calibration and return the measurement mode. If a rugged probe, install the shroud on the probe.



## Calibration Procedures for Conductivity Model 5197500 or 5197503 with sensION™ 5 (Backup Instrumentation)

### Before the test:

Collect samples in clean plastic or glass bottles.

Analyze samples as soon as possible after collection. However, samples may be stored at least 24 h by cooling to 4 °C (39 °F) or below (all storage temperatures have changed to 0 to 6 °C as per the EPA MUR, March 2007). When solutions are measured that are not at reference temperature, the meter automatically adjusts the conductivity value to reference temperature from 20 or 25 °C.

Water samples containing oils, grease, or fats will coat the electrode and affect the accuracy of the readings. If this coating occurs, clean the probe with a strong detergent solution, then thoroughly rinse with deionized water.

Mineral buildup on the probe can be removed with a diluted 1:1 hydrochloric acid solution. Refer to the meter user's manual.

Calibration instructions are given in the operation section of the meter manual. For most accurate results, calibrate before use or check the accuracy of the meter using a known conductivity standard.

### Calibrating with a Known Standard

1. Place the probe in a conductivity standard that is in the expected range of the samples. On the meter, choose one of four ranges that corresponds to the sample range. Agitate the probe to dislodge bubbles in the cell. Avoid resting the probe on the bottom or sides of the container.
2. Press **CAL**. Functional keys will appear in the lower-left part of the display. **CAL?** and **1.000 1/cm** will appear in the upper display. If the meter has been calibrated, the last calibration value will appear. The numeric keypad will become active.
3. Press the arrow keys to scroll to the factory-calibration options (1000 µS/cm or 18 mS/cm). To calibrate using one of

these standards, press **ENTER**.

4. If using a standard with a different value, use the number keys to enter the standard conductivity at 25 °C, then press **ENTER**. The meter will automatically correct the calibration measurement to 25 °C using the NaCl-based, non-linear temperature coefficient.

If the standard has a value of 25 °C in the  $\mu\text{S}/\text{cm}$  range, enter the value when 1000  $\mu\text{S}/\text{cm}$  is displayed. If the standard has a value of 25 °C in the  $\text{mS}/\text{cm}$  range, enter the value when 18  $\text{mS}/\text{cm}$  is displayed. All four places have a number entered in them. If a number entry error occurs, start over by pressing **SETUP/CE**.

5. When the reading is stable, the calibration is automatically stored, and the instrument returns to reading mode.

### Calibration Procedures for Turbidimeter

**Note:** *for best accuracy, use the same sample cell of four matched sample cells for all measurements during calibration. Always insert the cell so that the orientation mark placed on the cell during the matching procedure is correctly aligned.*

#### Calibration

1. Rinse a clean sample cell with dilution water several times. Then fill the cell to the line (~15 mL) with dilution water or use StablCal <0.1 NTU standard. *Note: the same dilution water used for preparing the standards must be used in this step.*
2. Insert the sample cell in the cell compartment by aligning the orientation mark on the cell with the mark on the front of the cell compartment. Close the lid, and press **I/O**. *Note: choose signal average mode option (on or off) before pressing CAL—the SIGNAL AVERAGE key in calibration mode.*
3. Press **CAL**. The CAL and S0 icons will be displayed and will flash. The four-digit display will show the value of the S0 standard for the previous calibration. If the blank value were forced to 0.0, the display would be blank (as shown.) Press **→** for a numerical display.



**Hach Company recommends the use of StableCal® Stabilized Formazin or formazin standards only for the calibration of Hach turbidimeters. Hach Company cannot guarantee the performance of the turbidimeter if calibrated with co-polymer styrene divinylbenzene beads of other suspension. DO NOT calibrate with Gelex® Secondary Standards.**

4. Press **READ**. The instrument will count from 60 to 0 (67 to 0 if signal average is on), read the blank, and use it to calculate a correction factor for the 20 NTU standard measurement. If the dilution water is less than or equal to 0.5 NTU, E 1 will appear when the calibration is calculated. The display will automatically increment to the next standard. Remove the sample cell from the cell compartment. *Note: turbidity of the dilution water can be “forced” to zero by pressing → rather than reading the dilution water. The display will show S0 NTU, and the up arrow key must be pressed to continue with the next standard.*
5. The display will show the S1 (with the 1 flashing) and 20 NTU, or the value of the S1 standard for the previous calibration. If the value is incorrect, edit the value by pressing the → key until the number that needs editing flashes. Use the up arrow key to scroll to the correct number. After editing, fill a clean sample cell to the line with well-mixed 20 NTU StablCal Standard of 20 NTU formazin standard. Insert the sample cell compartment by aligning the orientation mark on the cell with the mark on the front of the cell compartment. Close the lid.
6. Press **READ**. The instrument will count from 60 to 0 (67 to 0 if signal average is on), measure the turbidity, and store the value. The display will automatically increment to the next standard. Remove the sample cell from the cell compartment. *Note: for potable water applications with low turbidity values, instrument calibration may be stopped after the 20 NTU StablCal Standard has been read. Press CAL after reading the 20-NTU standard. Instrument calibration is now complete for the range of 0–20 NTU only. The instrument will continue to read turbidity values above 20 NTU. These values were not updated during the 0–20 NTU calibration.*
7. The display will show the S2 (with the 2 flashing) and 100 NTU of the value of the S2 standard for the previous calibration. If the value is incorrect, edit the value by pressing the → key until the number that needs editing flashes. Use the up arrow key to scroll to the correct number. After

editing, fill a clean sample cell to the line with well-mixed 100 NTU StableCal Standard or 100 NTU formazin standard. Insert the sample cell into the cell compartment by aligning the orientation mark on the cell with the mark on the front of the cell compartment. Close the lid.

8. Press **READ**. The instrument will count from 60 to 0 (67 to 0 if signal average is on), measure the turbidity and store the value. Then the display will automatically increment to the next standard. Remove the sample cell from the cell compartment.
9. The display will show the S3 (with 3 flashing) and 800 NTU, or the value of the S3 standard for the previous calibration. If the value is incorrect, edit the value by pressing the → key until the number that needs editing flashes. Use the up arrow key to scroll to the correct number. After editing, fill a clean sample cell to the line with well-mixed 800 NTU formazin standard. Insert the sample cell into the cell compartment by aligning the orientation mark on the cell with the mark on the front of the cell compartment. Close the lid.
10. Press **READ**. The instrument will count from 60 to 0 (67 to 0 if signal average is on), measure the turbidity, and store the value. Then the display will increment back to the S0 display. Remove the sample cell from the cell compartment.
11. Press **CAL** to accept the calibration. The instrument will return to measurement mode automatically. *Note: pressing CAL completes the calculation of the calibration coefficients. If calibration errors occurred during calibration, error messages will appear after CAL is pressed. If E1 or E2 appear, check the standard preparation and review the calibration; repeat the calibration if necessary. If CAL? appears, an error may have occurred during calibration. If CAL? is flashing, the instrument is using the default calibration.*

#### Notes

- If the **I/O** key is pressed during calibration, the new calibration data are lost, and the old calibration will be used for measurements. Once in calibration mode, only the **READ**, **I/O**, ↑, and → keys function. Signal averaging and range mode must be selected before the

calibration mode can be entered.

- If **E 1** or **E 2** is displayed, an error occurred during calibration. Check the standard preparation and review the calibration; repeat the calibration if necessary. Press **DIAG** to cancel the error message (**E 1** or **E 2**). To continue without repeating the calibration, press **I/O** twice to restore the previous calibration. If **CAL?** is displayed, an error may have occurred during calibration. The previous calibration may not be restored. Either recalibrate or use the calibration as is.
- To review a calibration, press **CAL** and then  $\uparrow$  to view the calibration standard values. As long as **READ** is never pressed and **CAL** is not flashing, the calibration will not be updated. Press **CAL** again to return to the measurement mode.

## pH Meter Calibration

The pH meter must be calibrated before daily use. The calibration may be accomplished in the laboratory or in the field. In addition to a “preuse” calibration, it is strongly recommended that the meter be checked with a standard buffer solution at least once during the day in order to observe any instrument drift that may have occurred.

### Manual Calibration (with two reference solutions)

1. Attach or verify that the pH-indicating electrode and the automatic temperature compensator (ATC) are on the display unit.
2. Remove the rubber filling solution plug (if so equipped) to allow equilibration of the internal solution to the ambient air. Allow approximately five minutes for the equilibration process, and replace the plug.
3. Turn on the unit and select the calibration mode.
4. Rinse both electrodes with deionized water and dry (carefully) any excess water.
5. Rinse the pH electrode in the first pH buffer (reference) solution. After rinsing, immerse the electrode in a container of the first reference solution, and stir to remove bubbles on the electrode.
6. Allow the display to read **READY** and begin flashing. If the pH reading is within the manufacturer’s specifications (see equipment manual), press **YES**. If not, press **NO** and repeat the procedure. The first standard will subsequently be locked into the unit’s memory.
7. To calibrate the meter to the second pH reference solution, repeat steps 4, 5, and 6 USING the second solution.
8. Remove and rinse probes IN deionized water, and begin sample analysis. Otherwise the meter may be turned off; it will keep calibrating as long as the power source remains intact.

### **Electrode Care and Maintenance for pH Meters**

The pH electrodes discussed above are of the temperature-compensating triode design. These probes are delicate and require careful handling. The probes should not be allowed to freeze and **MUST** be stored in a vial of the storage solution.

1. Inspect the probe for damage before each use. Verify that probes contain the appropriate levels of filling solution.
2. If filling-solution levels are low, more solution should be added. Use the Hach solution for Hach probes and the Orion solution for Orion probes.
3. If the probe appears sluggish when readings are taken, the filling solution should be drained and refilled with fresh solution.
4. During normal operations, the probe will become fouled with scale deposits and oils. Clean with laboratory-grade soap by soaking the probe in the soap solution and rinsing in deionized water. If fouling is not removed by this procedure, then a 0.1-N solution of HCL or HNO<sub>3</sub> can be used as a soaking media.
5. Probes must be stored in the electrode storage solution or in a 4.0-pH buffer solution. If probes are allowed to dry out, irreversible damage to the probe may occur.

### **Conductivity Probes**

Orion Conductivity/Temperature Meters, Models 122, 126, 128, and 1230

Conductance, refers to the ability of a substance to carry an electrical current. These probes are used to define the physical parameters of conductivity. Conductivity is the algebraic reciprocal of electrical resistance and is expressed in SI units of microSeimens per centimeter. Specific conductance is electrical conductance measured across a one-cm cube of liquid (sample) between opposing faces of two platinum electrodes at 25°C. Conductivity is the same parameter measured at ambient temperature that has not been temperature compensated to 25°C.

### **Calibration**

The conductivity meter must be calibrated in the laboratory or in the field daily. Conductance standards should be chosen to closely reflect the values expected in the sample groups. For example, if historical conductivity values for an area to be sampled range below 1000 µS/cm, the 500-µS/cm solution should be chosen. The meters are designed to provide a nonlinear-function temperature coefficient to correct calculations; however, best results may be obtained when samples are 25°C.

### **Calibration Steps**

- 1 Select conductivity measurement by turning the meter's conductivity/temperature selector knob from **OFF** to **CONDUCTIVITY** (labeled  $\Delta$ ).
- 2 Submerge the probe into THE selected conductivity standard (past the open area within the probe), and stir briefly to eliminate any air bubbles.
- 3 Maintain the probe in solution, wait for the reading to stabilize, and record the final value.
- 4 No manual adjustment for the meter exists; therefore, the process described herein provides a reference check. If the conductivity reading obtained from steps 1 through 3 is within  $\pm 3\%$  of the given standard value, the meter is deemed to be within tolerance limits. If repeated attempts fail to obtain readings within the acceptable range, the meter will require factory service.

### **Maintenance**

- 1 The meter electrode must be clean for readings to be accurate. Laboratory-grade soap may be used to clean dirt and oil deposits from the meter. For mineral deposits, a 1-M-HCl solution may be used in ten parts deionized water, and ten parts isopropyl alcohol as a soaking agent for their removal.
- 2 The conductivity probe may be stored dry. After each use, however, the probe should be rinsed in deionized water and blotted dry.
- 3 The unit will indicate a low battery by flashing **LOBAT** in the upper-left-hand corner of the LCD display. The nine-volt disposable battery should be changed out with the unit **OFF**, to prevent damage.

## **APPENDIX D—Forms**



**EDWARDS AQUIFER  
AUTHORITY**

Water Quality Field Data Sheet

**HCP SEDIMENT**

**Site Information**

Station Name:	
Location:	
Owner/Contact: Edwards Aquifer Authority	
Address: 900 East Quincy	
County:	
Point of Collection:	
Date:    /    / 201	Time:
Ambient Temp.	Collector(s):
Weather:	

**Equal-Width-Increment Method**

Transect Width:
Number of Verticals:
Flow/Appearance:

Type of Analysis: (circle all that apply)					
GWQP	Select. Met.	8081	8082	8141	8151
T.					
TOC	Phosphorous	SVOCs	TB	DOC	VOC

**Notes**


Latitude:	Longitude:
Datum: _____	

updated 06/06/13





**EDWARDS AQUIFER  
AUTHORITY**

Water Quality Field Data Sheet

**HCP STORM WATER**

**Site Information**

Station Name:
Location:
Owner/Contact: Edwards Aquifer Authority
Address: 900 East Quincy
County:
Point of Collection:
Date: / / 201      Time:
Ambient Temp.      Collector(s):
Weather:

**Field Readings**

Time Sampled:
pH:
Temperature:
Conductivity:
Dissolved Oxygen:
Turbidity:

**Equal-Width-Increment Method**

Transect Width:
Flow/Appearance:

**Instrument Calibration**

Conductivity Meter #	
Standard	Meter Reading
500	
1000	
10000	
pH Meter #	
Standard	Meter Reading
Buffer 4.0	
Buffer 7.0	
Buffer 10.0	
pH Meter #	
Standard	Meter Reading
DI water in bottle	

**Alkalinity**

Alkalinity Meter:	DR 2800 TNT870
Total Alkalinity	

Type of Analysis: (circle all that apply)					
GWQP	Selet. Met.	8081	8082	8141	8151
TOC	T. Phosphorous	TKN	E-Coli MPN	DOC	VOC
TB	SVOCs				

Latitude:	Longitude:
-----------	------------

Datum: \_\_\_\_\_

**Sampling Conditions**

Gage Readings	Time	Level
Before Sampling		
After Sampling		
Hydrologic Event	Hydrologic Condition	
Storm	Stable, Low	
Drought	Falling	
Spill	Stable, High	
Regulated Flow	Rising	
Routine Sample	Stable, Normal	

updated 12/21/12



**EDWARDS AQUIFER  
AUTHORITY**

Water Quality Field Data Sheet

**HCP SURFACE WATER**

**Site Information**

Station Name:
Location:
Owner/Contact: Edwards Aquifer Authority
Address: 900 East Quincy
County:
Point of Collection:
Date: / / 201      Time:
Ambient Temp.      Collector(s):
Weather:

**Field Readings**

Time Sampled:
pH:
Temperature:
Conductivity:
Dissolved Oxygen:
Turbidity:

**Equal-Width-Increment Method**

Transect Width:
Flow/Appearance:

**Instrument Calibration**

Conductivity Meter #	
Standard	Meter Reading
500	
1000	
10000	
pH Meter #	
Standard	Meter Reading
Buffer 4.0	
Buffer 7.0	
Buffer 10.0	
pH Meter #	
Standard	Meter Reading
DI water in bottle	

**Alkalinity**

	mL of Sample	mL of Acid	Total Alk	
Rep.1				Ave. Total Alk.
Rep. 2				
Rep3.				

**Type of Analysis: (circle all that apply)**

GWQP	Selct. Met.	8081	8082	8141	8151
TOC	T. Phosphorous	TKN	E-Coli MPN	DOC	VOC
TB	SVOCs				

Latitude:	Longitude:
-----------	------------

Datum: \_\_\_\_\_

**Sampling Conditions**

Gage Readings	Time	Level
Before Sampling		
After Sampling		
Hydrologic Event	Hydrologic Condition	
Storm	Stable, Low	
Drought	Falling	
Spill	Stable, High	
Regulated Flow	Rising	
Routine Sample	Stable, Normal	

updated 12/21/12



Water Quality Field Data Sheet

**SPRINGS**

**Spring Information**

State well ID #: NA	
Owner/Contact: New Braunfels Parks & Rec.	
Address:	
Phone Number:	
County: Comal	
Spring Name / #: Comal Springs 7	
Point of Collection: Springs Oriface	
Spring Use: Springs	
Date:	Time:
Weather:	Collector(s):

**Field Readings**

Time Sampled:				
Turbidity:				
Time	Temp	Cond.	pH	DO

**Alkalinity**

	mL of Sample	mL of Acid	Total Alk	
Rep. 1				Ave. Total Alk. <div style="border: 1px solid black; width: 50px; height: 20px; margin: 0 auto;"></div>
Rep. 2				
Rep. 3				

**Instrument Calibration**

Conductivity Meter	
Standard	Meter Reading
500	
1000	
pH Meter	
Standard	Meter Reading
Buffer 4.0	
Buffer 7.0	
Buffer 10.0	
DO Meter	
Standard	Meter Reading
DI water in bottle	

**Type of Analysis: (circle all that apply)**

GWQP	Select. Met.	8081	8082	8141	8151
8260	Trip Blank	SVOC'S	TOC	T. Phosphorous	Ortho-phosphate as P
E-Coli MPN	TPH	PAH	PPCP		

Latitude:	Longitude:
-----------	------------

Datum: \_\_\_\_\_

**Sampling Conditions**

Spring Flow	Low	Medium	High
Flow Appearance	Clear	Cloudy	Murky

updated 12/21/12



EDWARDS AQUIFER  
AUTHORITY

Water Quality Field Data Sheet

**SURFACE WATER**

**Site Information**

Station Name:
Location:
Owner/Contact:
Address:
County:
Point of Collection:
Date: Time:
Ambient Temp. Collector(s):
Weather:

**Field Readings**

Time Sampled:
pH:
Temperature:
Conductivity:
Dissolved Oxygen:
Turbidity:

**Equal-Width-Increment Method**

Transect Width:
Number of Verticals:
Flow/Appearance:

**Instrument Calibration**

Conductivity Meter #	
Standard	Meter Reading
500	
1000	
10000	
pH Meter #	
Standard	Meter Reading
Buffer 4.0	
Buffer 7.0	
Buffer 10.0	
pH Meter #	
Standard	Meter Reading
DI water in bottle	

**Alkalinity**

	mL of Sample	mL of Acid	Total Alk	
Rep.1				Ave. Total Alk.
Rep. 2				
Rep3.				

**Type of Analysis: (circle all that apply)**

GWQP	Select. Met.	8081	8082	8141	8151
TOC	T. Phosphorous	Ortho-phosphate as P	E-Coli MPN	TPH	PAH
PPCP					

Latitude:	Longitude:
-----------	------------

Datum: \_\_\_\_\_

**Sampling Conditions**

Gage Readings	Time	Level
Before Sampling		
After Sampling		
Hydrologic Event	Hydrologic Condition	
Storm	Stable, Low	
Drought	Falling	
Spill	Stable, High	
Regulated Flow	Rising	
Routine Sample	Stable, Normal	

updated 12/21/12



Water Quality Field Data Sheet  
**GROUNDWATER**

**Well Information**

**Field Readings**

<b>State well ID #:</b> <b>Owner/Contact:</b> <b>Address:</b> <b>Phone Number:</b> <b>County:</b> <b>Well Name / #:</b> <b>Point of Collection:</b> <b>Well Use:</b> <b>Weather:</b> <b>Date:</b> <b>Time:</b> <b>Flow Rate:</b> gpm <b>Collector(s):</b> <b>Water Level:</b> <b>Well Depth:</b> <b>Casing Dia.:</b> 3 x well volume=	<b>Started Pumping:</b> <b>Time Sampled:</b> <b>Turbidity:</b> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <th>Time</th> <th>Temp</th> <th>Cond.</th> <th>pH</th> <th>Do</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>	Time	Temp	Cond.	pH	Do																														
Time	Temp	Cond.	pH	Do																																

**Instrument Calibration**

Conductivity Meter #	
Standard	Meter Reading
500	
1000	
10000	
pH Meter #	
Standard	Meter Reading
Buffer 4.0	
Buffer 7.0	
Buffer 10.0	
DO Meter	
Standard	Meter Reading
DI water in bottle	

**Alkalinity**

	mL of Sample	mL of Acid	Total Alk	
Rep.1				<b>Ave. Total Alk.</b> <div style="border: 1px solid black; height: 20px; width: 100%; margin-top: 5px;"></div>
Rep. 2				
Rep3.				

<b>Latitude:</b>	<b>Longitude:</b>
------------------	-------------------

Datum:

Type of Analysis: (circle all that apply)					
GWQP	Selct. Met.	8081	8082	8141	8151
8260	Trip Blank	SVOC'S	TOC	T. Phosphorous	Ortho-phosphate as P
E-Coli MPN	TPH	PAH	PPCP		

Updated on 12/21/12







Page 1 of 1



**APPENDIX E—Drinking-Water Standards and Chemical Health Effects,  
from 30 TAC 290, RG-346, and U.S. EPA, July 2002**

*(Note, regulatory limits change frequently for certain compounds, the data herein are for general comparisons. The reader should utilized the most recent data available online from TCEQ and EPA if sample results exceed regulatory limits)*

Parameter, Method, and Units	Maximum Contaminant Levels or Secondary Standards	Potential Health Effects from Ingestion of Water^	Sources of Contaminant in Drinking Water^
Temperature (°C) EPA 170.1	NE	NA	NA
pH measured at 25°C EPA 150.1	>7.0*	NA	NA
Turbidity (NTU)	NE	NA	NA
Dissolved oxygen (DO) (mg/L)	NE	NA	NA
Alkalinity total as CaCO <sub>3</sub> SM 2320 B (mg/L)	NE	NA	NA
Specific conductance µS/cm	NE	NA	NA
<b>Laboratory</b>		NA	NA
Alkalinity total as CaCO <sub>3</sub> SM 2320 B	NE	NA	NA
Bicarbonate (HCO <sub>3</sub> ) SM 2320 B	NE	NA	NA
Fecal coliform (CFU/100 mL)	0 MCLG <sup>1</sup>	NA	NA
Fecal strep (CFU/100 mL)	0 MCLG <sup>1</sup>	NA	NA
E. coli (CFU/100 mL)	0 MCLG <sup>1</sup>	NA	NA
pH measured at 25°C EPA 150.1	>7.0*	NA	NA
Specific conductance µS/cm	NE	NA	NA
<b>Nutrients (mg/L)</b>			
Nitrate-nitrite as N EPA354.1/300.0	10	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Parameter, Method, and Units	Maximum Contaminant Levels or Secondary Standards	Potential Health Effects from Ingestion of Water^	Sources of Contaminant in Drinking Water^
Nitrate as N E300	10	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Orthophosphate EPA 365.3	NE	NA	NA
Ammonia as N SM 4500	NE	NA	NA
Phosphorus	NE	NA	NA
<b>Major Ions (mg/L)</b>		NA	NA
Sulfate (SO <sub>4</sub> ) EPA 300.0	300*	NA	NA
Solids total dissolved (TDS) EPA 160.1	1,000*	NA	NA
Solids total suspended (TSS) EPA 160.2	NE	NA	NA
Bromide (Br) EPA 300.0	NE	NA	NA
Chloride (Cl) EPA 300.0	300*	NA	NA
Fluoride (F) EPA 340.2	2.0*	Bone disease (pain and tenderness of the bones); children may get mottled teeth	Water additive that promotes strong teeth, erosion of natural deposits, discharge from fertilizer and aluminum factories
<b>Metals by EPA 200.7 and 200.8 (µg/L)</b>		NA	NA
Aluminum	24,000**	NA	NA
		NA	NA
Antimony	6	Increase in blood cholesterol; decrease in blood sugar	Discharge from petroleum refineries, fire retardants, ceramics, electronics, solder
Arsenic	5	Skin damage or problems with circulatory systems and increased risk of cancer	Erosion of natural deposits; runoff from orchards and glass and electronics production wastes

<b>Parameter, Method, and Units</b>	<b>Maximum Contaminant Levels or Secondary Standards</b>	<b>Potential Health Effects from Ingestion of Water<sup>^</sup></b>	<b>Sources of Contaminant in Drinking Water<sup>^</sup></b>
Barium	2,000	Increase in blood pressure	Discharge of drilling wastes, discharge from metal refineries, erosion of natural deposits
Beryllium	4	Intestinal lesions	Discharge from metal refineries and coal-burning factories. erosion of natural deposits
Boron	4,900**		
Cadmium	5	Kidney damage	Corrosion of galvanized pipe, erosion of natural deposits, discharge from metal refineries, runoff from waste batteries and paints
Chromium	100	Allergic dermatitis	Discharge from steel and pulp mills, erosion of natural deposits
Cobalt	1,500**	NA	NA
Copper	1,300*	Short-term exposure, gastrointestinal distress; long-term exposure, liver or kidney damage. People with Wilson's disease should consult their personal doctor if the amount of copper in their water exceeds the action level.	Corrosion of household plumbing systems, erosion of natural deposits
Iron	300*	NA	NA
Lead	15	Infants and children: delays in physical or mental development; children could show slight deficits in attention span and learning abilities. Adults: Kidney problems, high blood pressure	Corrosion of household plumbing systems, erosion of natural deposits
Lithium	490**	NA	NA
Manganese	1,100*	NA	NA
Molybdenum	120**	NA	NA
Nickel	490**	NA	NA

Parameter, Method, and Units	Maximum Contaminant Levels or Secondary Standards	Potential Health Effects from Ingestion of Water^	Sources of Contaminant in Drinking Water^
Selenium	50	Hair or fingernail loss, numbness in fingers or toes, circulatory problems	Discharge from petroleum refineries, erosion of natural deposits, discharge from mines
Silver	120*	NA	NA
Strontium	15,000**	NA	NA
Thallium	2	Hair loss; changes in blood; kidney, intestine, or liver problems	Leaching from ore processing sites; discharge from electronics, glass, and drug factories
Uranium	30	NA	NA
Vanadium	1.7**	NA	NA
Zinc	7,300*	NA	NA
		NA	NA
<b>Metals by E200.8 (mg/L)</b>			
Calcium	NE	NA	NA
Magnesium	NE	NA	NA
Potassium	NE	NA	NA
Sodium	NE	NA	NA
<b>Metals by SW-7470A (mg/L)</b>			
Mercury	0.002	Kidney damage	Erosion of natural deposits, discharge from refineries and factories, runoff from landfills and croplands
<b>Total Organic Carbon by E415.1 (mg/L)</b>			
TOC	NE	NA	NA
<b>Herbicides by SW-8141 (µg/L)</b>			
Azinphosmethyl	37**	NA	NA
Bolstar (Sulprofos)	73**	NA	NA
Chlorpyrifos	73**	NA	NA
Coumaphos	170**	NA	NA



<b>Parameter, Method, and Units</b>	<b>Maximum Contaminant Levels or Secondary Standards</b>	<b>Potential Health Effects from Ingestion of Water<sup>^</sup></b>	<b>Sources of Contaminant in Drinking Water<sup>^</sup></b>
Demeton-O	1.0**	NA	NA
Demeton-S	0.98**	NA	NA
Diazinon	22**	NA	NA
Dichlorvos	3.1**	NA	NA
Dimethoate	4.9**	NA	NA
Disulfoton	0.98**	NA	NA
EPN	0.24**	NA	NA
Ethoprop	2.4**	NA	NA
Famphur	0.73**	NA	NA
Fensulfothion	24**	NA	NA
Fenthion	1.7**	NA	NA
Malathion	490**	NA	NA
Merphos	7.3**	NA	NA
Methyl parathion	6.1**	NA	NA
Mevinphos (Phosdrin)	0.61**	NA	NA
Mononcrotophos	15**	NA	NA
Naled	49**	NA	NA
Parathion	150**	NA	NA
Phorate	4.9**	NA	NA
Ronnel	1,200**	NA	NA
Stirophos (Tetrachlorvinphos)	1,000**	NA	NA
Sulfotepp (Tetraethyl dithiopyrophosphate)	12**	NA	NA
Tokuthion (Prothiofos)	2.4**	NA	NA
Trichloronate	73**	NA	NA
Thionazin	1.7**	NA	NA
<b>Herbicides by SW-8151 (µg/L)</b>			
2,4,5-T	240	NA	NA
2,4,5-TP (Silvex)	50	Liver problems	Residue of banned herbicide

<b>Parameter, Method, and Units</b>	<b>Maximum Contaminant Levels or Secondary Standards</b>	<b>Potential Health Effects from Ingestion of Water<sup>^</sup></b>	<b>Sources of Contaminant in Drinking Water<sup>^</sup></b>
2,4- D	<b>70</b>	<b>Kidney, liver, or adrenal gland problems</b>	<b>Runoff from herbicide used on row crops</b>
2,4-DB	<b>200</b>	<b>NA</b>	<b>NA</b>
Dalapon	<b>200</b>	<b>Minor kidney changes</b>	<b>Runoff from herbicide used on rights of way</b>
Dicamba	<b>730</b>	<b>NA</b>	<b>NA</b>
Dichoroprop	<b>240</b>	<b>NA</b>	<b>NA</b>
Dinoseb	<b>7</b>	<b>Reproductive difficulties</b>	<b>Runoff from herbicide used on soybeans and vegetables</b>
MCPA	<b>12</b>	<b>NA</b>	<b>NA</b>
MCPP (mecoprop)	<b>24</b>	<b>NA</b>	<b>NA</b>
Pentachlorophenol	<b>1</b>	<b>Liver or kidney problems, increased cancer risk</b>	<b>Discharge from wood-preserving factories</b>
<b>Pesticides by SW-8081 (µg/L)</b>			
4, 4'-DDD	<b>3.8**</b>	<b>NA</b>	<b>NA</b>
4, 4'-DDE	<b>2.7**</b>	<b>NA</b>	<b>NA</b>
4, 4'-DDT	<b>2.7**</b>	<b>NA</b>	<b>NA</b>
Aldrin	<b>0.05**</b>	<b>NA</b>	<b>NA</b>
Alpha-bhc (Alpha-hexachlorocyclohexane)	<b>0.1**</b>	<b>NA</b>	<b>NA</b>
Alpha-chlordane	<b>2.6**</b>	<b>NA</b>	<b>NA</b>
Beta-bhc (Beta-hexachlorocyclohexane)	<b>0.5**</b>	<b>NA</b>	<b>NA</b>
Chlordane	<b>2.0**</b>	<b>Liver or nervous system problems, increased risk of cancer</b>	<b>Residue of banned termiticide</b>
Delta-bhc (Delta-hexachlorocyclohexane)	<b>0.5**</b>	<b>NA</b>	<b>NA</b>
Dieldrin	<b>0.57**</b>	<b>NA</b>	<b>NA</b>
Endosulfan I	<b>49**</b>	<b>NA</b>	<b>NA</b>
Endosulfan II	<b>150**</b>	<b>NA</b>	<b>NA</b>
Endosulfan sulfate	<b>150**</b>	<b>NA</b>	<b>NA</b>
Endrin	<b>2.0**</b>	<b>Liver problems</b>	<b>Residue of banned insecticide</b>

<b>Parameter, Method, and Units</b>	<b>Maximum Contaminant Levels or Secondary Standards</b>	<b>Potential Health Effects from Ingestion of Water<sup>^</sup></b>	<b>Sources of Contaminant in Drinking Water<sup>^</sup></b>
Endrin aldehyde	7.3**	NA	NA
Endrin ketone	==		
Gamma-bhc (Lindane)	7.3**	NA	NA
Gamma-chlordane	0.2	Liver or kidney problems	Runoff/leaching from insecticide used on cattle, lumber, gardens
	2.6**	NA	NA
Heptachlor epoxide	0.4	Liver damage, increased risk of cancer	Residue of banned termiticide
Methoxychlor	0.2	Liver damage, increased risk of cancer	Breakdown of heptachlor
Toxaphene	40	Reproductive difficulties	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
PCBs by SW-8082 (µg/L)	3	Kidney, liver, or thyroid problems; increased risk of cancer	Runoff/leaching from insecticide used on cotton and cattle
Aroclor 1016			
Aroclor 1221	0.5	Skin changes, thymus gland problems, immune deficiencies, reproductive or nervous system difficulties, increased risk of cancer	Runoff from landfills, discharge of waste chemicals
Aroclor 1232	0.5	Skin changes, thymus gland problems, immune deficiencies, reproductive or nervous system difficulties, increased risk of cancer	Runoff from landfills, discharge of waste chemicals
Aroclor 1242	0.5	Skin changes, thymus gland problems, immune deficiencies, reproductive or nervous system difficulties, increased risk of cancer	Runoff from landfills, discharge of waste chemicals
Aroclor 1248	0.5	Skin changes, thymus gland problems, immune deficiencies, reproductive or nervous system difficulties, increased risk of cancer	Runoff from landfills, discharge of waste chemicals

Parameter, Method, and Units	Maximum Contaminant Levels or Secondary Standards	Potential Health Effects from Ingestion of Water^	Sources of Contaminant in Drinking Water^
Aroclor 1254	0.5	Skin changes, thymus gland problems, immune deficiencies, reproductive or nervous system difficulties, increased risk of cancer	Runoff from landfills, discharge of waste chemicals
Aroclor 1260	0.5	Skin changes, thymus gland problems, immune deficiencies, reproductive or nervous system difficulties, increased risk of cancer	Runoff from landfills, discharge of waste chemicals
Aroclor 1262	0.5	Skin changes, thymus gland problems, immune deficiencies, reproductive or nervous system difficulties, increased risk of cancer	Runoff from landfills, discharge of waste chemicals
Aroclor 1268	0.5	Skin changes, thymus gland problems, immune deficiencies, reproductive or nervous system difficulties, increased risk of cancer	Runoff from landfills, discharge of waste chemicals
	0.5	Skin changes, thymus gland problems, immune deficiencies, reproductive or nervous system difficulties, increased risk of cancer	Runoff from landfills, discharge of waste chemicals
<b>SVOCs by SW-8270C (µg/L)</b>			
1,2- dichlorobenzene	600**	NA	NA
1,2,4- trichlorobenzene			
2, 4, 5-trichlorophenol	70**	Changes in adrenal glands	Discharge from textile finishing factories
2, 4, 6-trichlorophenol	2,400**	NA	NA
2, 4-dichlorophenol	24**	NA	NA
2, 4-dimethylphenol	73**	NA	NA

<b>Parameter, Method, and Units</b>	<b>Maximum Contaminant Levels or Secondary Standards</b>	<b>Potential Health Effects from Ingestion of Water<sup>^</sup></b>	<b>Sources of Contaminant in Drinking Water<sup>^</sup></b>
2, 4-dinitrophenol	<b>490**</b>	<b>NA</b>	<b>NA</b>
2-chlorophenol	<b>49**</b>	<b>NA</b>	<b>NA</b>
2-methylnaphthalene	<b>120**</b>	<b>NA</b>	<b>NA</b>
2-methylphenol (o-cresol)	<b>98**</b>	<b>NA</b>	<b>NA</b>
2-nitroaniline	<b>1,200**</b>	<b>NA</b>	<b>NA</b>
2-nitrophenol	<b>7.3**</b>	<b>NA</b>	<b>NA</b>
3 & 4 methylphenol (m&p cresol)	<b>49**</b>	<b>NA</b>	<b>NA</b>
3-nitroaniline	<b>1,200**</b>	<b>NA</b>	<b>NA</b>
4, 6-dinitro-2-methylphenol	<b>7.3**</b>	<b>NA</b>	<b>NA</b>
4-chloro-3-methylphenol	<b>2.4**</b>	<b>NA</b>	<b>NA</b>
4- chloroaniline	<b>120**</b>	<b>NA</b>	<b>NA</b>
4-nitroaniline	<b>4.6**</b>	<b>NA</b>	<b>NA</b>
4-nitrophenol	<b>46**</b>	<b>NA</b>	<b>NA</b>
Naphthalene	<b>49**</b>	<b>NA</b>	<b>NA</b>
Nitrobenzene	<b>490**</b>	<b>NA</b>	<b>NA</b>
Pentachlorophenol	<b>49**</b>	<b>NA</b>	<b>NA</b>
Phenanthrene	<b>1</b>	<b>NA</b>	<b>NA</b>
Phenol	<b>730**</b>	<b>NA</b>	<b>NA</b>
Pyrene	<b>7,300**</b>	<b>NA</b>	<b>NA</b>
N-nitrosodi-n-propylamine	<b>730**</b>	<b>NA</b>	<b>NA</b>
N-nitrosodiphenylamine	<b>0.13**</b>	<b>NA</b>	<b>NA</b>
Acenaphthene	<b>190**</b>	<b>NA</b>	<b>NA</b>
Acenaphthylene	<b>1,500**</b>	<b>NA</b>	<b>NA</b>
Anthracene	<b>1,500**</b>	<b>NA</b>	<b>NA</b>
Benzo(a)anthracene (1 2-benzanthracene)	<b>7,300**</b>	<b>NA</b>	<b>NA</b>
Benzo(b)fluoranthene	<b>1.3**</b>	<b>NA</b>	<b>NA</b>
Benzo(k)fluoranthene	<b>1.3**</b>	<b>NA</b>	<b>NA</b>
Benzo(ghi)perylene	<b>13**</b>	<b>NA</b>	<b>NA</b>
Benzo(a)pyrene	<b>730**</b>	<b>NA</b>	<b>NA</b>

<b>Parameter, Method, and Units</b>	<b>Maximum Contaminant Levels or Secondary Standards</b>	<b>Potential Health Effects from Ingestion of Water^</b>	<b>Sources of Contaminant in Drinking Water^</b>
Benzyl Alcohol	<b>0.2</b>	<b>Reproductive difficulties, increased risk of cancer</b>	<b>Leaching from linings of water storage tanks and distribution lines</b>
Butyl benzyl phthalate	<b>2,400**</b>	<b>NA</b>	<b>NA</b>
Bis(2-chloroethoxy)methane	<b>480**</b>	<b>NA</b>	<b>NA</b>
Bis(2-chloroethyl)ether	<b>0.83**</b>	<b>NA</b>	<b>NA</b>
Bis(2-ethylhexyl)phthalate	<b>0.83**</b>	<b>NA</b>	<b>NA</b>
4-bromophenyl phenyl ether	<b>6</b>	<b>NA</b>	<b>NA</b>
4-chloroaniline	<b>0.061**</b>	<b>NA</b>	<b>NA</b>
2-chloronaphthalene	<b>4.6**</b>	<b>NA</b>	<b>NA</b>
4-chlorophenyl phenyl ether	<b>2,000**</b>	<b>NA</b>	<b>NA</b>
Chrysene	<b>0.061**</b>	<b>NA</b>	<b>NA</b>
Dibenz(a,h)anthracene	<b>130**</b>	<b>NA</b>	<b>NA</b>
Dibenzofuran	<b>0.2**</b>	<b>NA</b>	<b>NA</b>
3 3-dichlorobenzidine	<b>98**</b>	<b>NA</b>	<b>NA</b>
Diethyl phthalate	<b>2**</b>	<b>NA</b>	<b>NA</b>
Dimethyl phthalate	<b>20,000**</b>	<b>NA</b>	<b>NA</b>
Di-n-butyl phthalate	<b>20,000**</b>	<b>NA</b>	<b>NA</b>
Di-n-octyl phthalate	<b>2,400**</b>	<b>NA</b>	<b>NA</b>
2 4-dinitrotoluene	<b>980**</b>	<b>NA</b>	<b>NA</b>
2 6-dinitrotoluene	<b>1.3**</b>	<b>NA</b>	<b>NA</b>
Fluoranthene	<b>1.3**</b>	<b>NA</b>	<b>NA</b>
Fluorene	<b>980**</b>	<b>NA</b>	<b>NA</b>
Hexachlorobenzene	<b>980**</b>	<b>NA</b>	<b>NA</b>
Hexachlorobutadiene	<b>1**</b>	<b>Liver or kidney problems, reproductive difficulties, increased risk of cancer</b>	<b>Discharge from metal refineries and agricultural chemical factories</b>
Hexachlorocyclopentadiene	<b>12**</b>	<b>NA</b>	<b>NA</b>
Hexachloroethane	<b>50</b>	<b>Kidney or stomach problems</b>	<b>Discharge from chemical factories</b>
Indeno(1,2,3-cd)pyrene	<b>24**</b>	<b>NA</b>	<b>NA</b>

<b>Parameter, Method, and Units</b>	<b>Maximum Contaminant Levels or Secondary Standards</b>	<b>Potential Health Effects from Ingestion of Water<sup>^</sup></b>	<b>Sources of Contaminant in Drinking Water<sup>^</sup></b>
Isophorone	1.3**	NA	NA
VOCs SW-8260b (µg/L)	960**	NA	NA
1, 1, 1, 2-tetrachloroethane			
1, 1, 1-trichloroethane	35.0**	NA	NA
1, 1, 2, 2-tetrachloroethane	200	Liver, nervous system, or circulatory problems	Discharge from metal degreasing sites and other factories
1, 1, 2-trichloroethane	4.6**		
1, 1-dichloroethane	5	Liver, kidney, or immune system problems	Discharge from industrial chemical factories
1, 1-dichloropropene	4,900**	NA	NA
1, 1-dichloroethene (Vinylidene chloride)	9.1**	NA	NA
1- chlorohexane	7	NA	NA
1-octene	980**	NA	NA
1, 2, 3-trichlorobenzene	NE	NA	NA
1, 2, 3-trichloropropane	73**	NA	NA
1, 2, 4-trichlorobenzene	0.03**	NA	NA
1, 2, 4-trimethylbenzene	72**	NA	NA
1, 2-dibromo-3-chloropropane	1,200**	NA	NA
1, 2-dibromoethane (EDB)	0.2	Reproductive difficulties, increased risk of cancer	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
1, 2-dichlorobenzene	NE	NA	NA
1, 2-dichloroethane (EDC)	600**	NA	NA
1, 2-dichloropropane	5	Increased risk of cancer	Discharge from industrial chemical factories
1, 3, 5-trimethylbenzene	5	Increased risk of cancer	Discharge from industrial chemical factories
1,3- butadiene	1,200**	NA	NA
1, 3-dichlorobenzene	NE	NA	NA
1, 3-dichloropropane	730**	NA	NA
1, 4-dichlorobenzene	9.1**	NA	NA
1, 4-dioxane	75**	NA	NA



<b>Parameter, Method, and Units</b>	<b>Maximum Contaminant Levels or Secondary Standards</b>	<b>Potential Health Effects from Ingestion of Water<sup>^</sup></b>	<b>Sources of Contaminant in Drinking Water<sup>^</sup></b>
2, 2-dichloropropane	<b>9.1**</b>	<b>NA</b>	<b>NA</b>
2- chloro-1,3- butadiene	<b>13</b>	<b>NA</b>	<b>NA</b>
2-chlorotoluene	<b>NE</b>	<b>NA</b>	<b>NA</b>
2-hexanone	<b>490**</b>	<b>NA</b>	<b>NA</b>
2-nitropropane	<b>120**</b>	<b>NA</b>	<b>NA</b>
1,3,5- trichlorobenzene	<b>3.4**</b>	<b>NA</b>	<b>NA</b>
3- chloro-1- propene	<b>73**</b>	<b>NA</b>	<b>NA</b>
4-chlorotoluene	<b>NE</b>	<b>NA</b>	<b>NA</b>
4-isopropyltoluene	<b>490**</b>	<b>NA</b>	<b>NA</b>
4-methyl-2-pentanone (MIBK)	<b>2,400**</b>	<b>NA</b>	<b>NA</b>
Acetone	<b>1,950**</b>	<b>NA</b>	<b>NA</b>
Acetonitrile	<b>22,000**</b>	<b>NA</b>	<b>NA</b>
Benzene	<b>780**</b>	<b>NA</b>	<b>NA</b>
Benzyl chloride	<b>5</b>	<b>Anemia, decrease in blood platelets, increased risk of cancer</b>	<b>Discharge from factories, leaching from gas storage tanks and landfills</b>
Bromobenzene	<b>5.4**</b>	<b>NA</b>	<b>NA</b>
Bromochloromethane (chlorobromomethane)	<b>200**</b>	<b>NA</b>	<b>NA</b>
Bromodichloromethane	<b>980**</b>	<b>NA</b>	<b>NA</b>
Bromoform (Tribromomethane)	<b>15**</b>	<b>NA</b>	<b>NA</b>
Bromomethane (methyl bromide)	<b>120**</b>	<b>NA</b>	<b>NA</b>
Carbon disulfide	<b>34**</b>	<b>NA</b>	<b>NA</b>
Carbon tetrachloride	<b>2,400**</b>	<b>NA</b>	<b>NA</b>
Chlorobenzene	<b>5</b>	<b>Liver problems, increased risk of cancer</b>	<b>Discharge from chemical plants and other industrial activities</b>
Chloroethane (ethyl chloride)	<b>100</b>	<b>Liver or kidney problems</b>	<b>Discharge from chemical and agricultural chemical factories</b>
Chloroform	<b>9,800**</b>	<b>NA</b>	<b>NA</b>
Chloromethane (methyl chloride)	<b>240**</b>	<b>NA</b>	<b>NA</b>

<b>Parameter, Method, and Units</b>	<b>Maximum Contaminant Levels or Secondary Standards</b>	<b>Potential Health Effects from Ingestion of Water<sup>^</sup></b>	<b>Sources of Contaminant in Drinking Water<sup>^</sup></b>
Cis-1, 2-dichloroethene	<b>70**</b>	<b>NA</b>	<b>NA</b>
Cis-1, 3-dichloropropene	<b>70</b>	<b>NA</b>	<b>NA</b>
Cis-1,4- dichloro-2- butene	<b>2.0**</b>	<b>NA</b>	<b>NA</b>
Cyclohexane	<b>NE</b>	<b>NA</b>	<b>NA</b>
Cyclohexanone	<b>120,000**</b>	<b>NA</b>	<b>NA</b>
Dibromochloromethane	<b>120,000**</b>	<b>NA</b>	<b>NA</b>
Dibromomethane	<b>11**</b>	<b>NA</b>	<b>NA</b>
Dichlorodifluoromethane	<b>NE</b>	<b>NA</b>	<b>NA</b>
Ethylbenzene	<b>4,900**</b>	<b>NA</b>	<b>NA</b>
Ethyl acetate	<b>700**</b>	<b>Liver or kidney problems</b>	<b>Discharge from petroleum refineries</b>
Ethyl ether	<b>22,000**</b>	<b>NA</b>	<b>NA</b>
Ethylene oxide	<b>4900**</b>	<b>NA</b>	<b>NA</b>
Ethyl methacrylate	<b>0.89**</b>	<b>NA</b>	<b>NA</b>
Hexane	<b>2,200**</b>	<b>NA</b>	<b>NA</b>
Hexachlorobutadiene	<b>1,500**</b>	<b>NA</b>	<b>NA</b>
Iodomethane	<b>12**</b>	<b>NA</b>	<b>NA</b>
Isobutyl alcohol	<b>34**</b>	<b>NA</b>	<b>NA</b>
Isooctane	<b>7,300**</b>	<b>NA</b>	<b>NA</b>
Isopropylbenzene (cumene)	<b>NE</b>	<b>NA</b>	<b>NA</b>
Methacrylonitrile	<b>700 / 2,400**</b>	<b>NA</b>	<b>NA</b>
Methyl ethyl ketone (2-butanone)	<b>2.4**</b>	<b>NA</b>	<b>NA</b>
Methyl methacrylate	<b>15,000**</b>	<b>NA</b>	<b>NA</b>
Methylene chloride (dichloromethane)	<b>34,000**</b>	<b>NA</b>	<b>NA</b>
Naphthalene	<b>5**</b>	<b>NA</b>	<b>NA</b>
n-Butylbenzene	<b>490**</b>	<b>NA</b>	<b>NA</b>
n-Heptane	<b>1,200**</b>	<b>NA</b>	<b>NA</b>
n-Propylbenzene	<b>1,500**</b>	<b>NA</b>	<b>NA</b>
Pentachloroethane	<b>980**</b>	<b>NA</b>	<b>NA</b>

<b>Parameter, Method, and Units</b>	<b>Maximum Contaminant Levels or Secondary Standards</b>	<b>Potential Health Effects from Ingestion of Water<sup>^</sup></b>	<b>Sources of Contaminant in Drinking Water<sup>^</sup></b>
Propionitrile	<b>10**</b>	NA	NA
sec-Butylbenzene	<b>9.8**</b>	NA	NA
Styrene	<b>980**</b>	NA	NA
tert-Butylbenzene	<b>100</b>	NA	NA
Tert-butyl methyl ether (mtbe)	<b>980**</b>	NA	NA
Tetrachloroethene	<b>240**</b>	NA	NA
Toluene	<b>5</b>	NA	NA
Trans-1, 2-dichloroethene	<b>1,000</b>	<b>Nervous system, kidney, or liver problems</b>	<b>Discharge from petroleum factories</b>
Trans-1, 3-dichloropropene	<b>100</b>	NA	NA
Trans-1,4- dicloro-2-butene	<b>9.1**</b>	NA	NA
Trichloroethene	<b>NE</b>	NA	NA
Trichlorofluoromethane	<b>5</b>	NA	NA
Vinyl Acetate	<b>7,300**</b>	NA	NA
Vinyl chloride (chloroethene)	<b>24,000**</b>	NA	NA
m-p-xylene	<b>2</b>	<b>Increased risk of cancer</b>	<b>Leaching from PVC pipes, discharge from plastic factories</b>
o-xylene	<b>10,000**</b>	NA	NA
Xylenes, Total	<b>10,000**</b>	NA	NA
	<b>10,000**</b>	<b>Nervous system damage</b>	<b>Discharge from petroleum factories, discharge from chemical factories</b>
Total coliforms (including E. Coli MPN)			
1694 Pharmaceuticals (LCMS/MS)	<b>0</b>	<b>Not a health threat in itself; it is used to indicate whether other potentially harmful bacteria may be present.</b>	<b>Coli forms are naturally present in the environment, as well as feces; fecal coli forms and E. coli only come from human and animal fecal waste.</b>
1694 Pharmaceuticals (LCMS/MS)	NA	NA	NA
1694 Pharmaceuticals (LCMS/MS)	NA	NA	NA
1694 Pharmaceuticals (LCMS/MS)	NA	NA	NA

<b>Parameter, Method, and Units</b>	<b>Maximum Contaminant Levels or Secondary Standards</b>	<b>Potential Health Effects from Ingestion of Water<sup>^</sup></b>	<b>Sources of Contaminant in Drinking Water<sup>^</sup></b>
Turbidity	NA	NA	NA
	NA	Turbidity is a measure of the cloudiness of water. It is used to indicate water quality and filtration effectiveness (e.g., whether disease-causing organisms are present). Higher turbidity levels are often associated with higher levels of disease-causing microorganisms such as viruses, parasites, and some bacteria. These organisms can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.	Soil runoff

Maximum contaminant level and secondary standards from 30 TAC 290 Subchapter F.

\*\* Numerical value for risk reduction not an MCL, but provides a measure of desirable concentrations, from RG-346 ([www.sos.state.tx.us](http://www.sos.state.tx.us)).

<sup>^</sup>From EPA 816-F-02-013 July 2002.

**APPENDIX F—Stormwater-Sampling Detail**

## **Stormwater-Sampling Program for Comal and San Marcos Springs in Support of the Edwards Aquifer Habitat Conservation Plan**

### **PURPOSE**

The purpose of this technical procedure is to describe the methodology for collecting grab samples from stormwater runoff in surface waters at Comal and San Marcos springs. Sample frequency is twice annually, with samples collected across three points on the hydrograph. The EAA samples storm waters at Comal Springs at the following five locations (see Appendix A for map):

1. Upper Springs (near Blieders Creek),
2. New Channel—(below confluence with Dry Comal Creek),
3. Upper Old Channel—(at Elizabeth Street),
4. Lower Old Channel—(above Hinman Island), and
5. Comal River—(above confluence with Guadalupe River).

The EAA samples stormwaters at San Marcos Springs at the following seven locations (see Appendix A for map):

1. Sink Creek, upstream of Spring Lake,
2. Sessoms Creek,
3. Dog Beach Outflow,
4. Hopkins Street Outflow,
5. Purgatory Creek (above San Marcos River),
6. I-35 Reach, and
7. Willow Creek (above San Marcos River).

### **SCOPE**

This procedure applies to all EAA personnel and subcontractors who sample storm water.

### **DEFINITIONS**

1. Stormwater runoff as stated by the US EPA, “is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces and does not percolate into the ground” (US EPA Stormwater Program, [epa.gov](http://epa.gov)).
2. Rivers are sources of water that flow on top of the ground in volume.
3. Sample intervals (for the EAHCP stormwater sampling program) are defined as:
  - a. Initial rise, or rising limb of the hydrograph;
  - b. Peak area of hydrograph; and
  - c. Recession limb of the hydrograph.

## **GENERAL**

Weather permitting, EAA will sample two stormwater events per year to evaluate stormwater quality from urban landscapes that discharge to Comal and San Marcos springs.

## **STORM-EVENT SELECTION CRITERIA**

According to the *Water Quality Monitoring Program Strategy for Comal Springs and San Marcos Springs in Support of the Edwards Aquifer Habitat Conservation Plan*, (EAHCP Workplan “a storm water sampling event will be triggered when a local rainfall event causes a significant increase in spring flow at the historic Comal Springs gauging station and the San Marcos Springs gauging station.” Furthermore, data collected from real-time instrumentation for surface water quality will be used to further refine the type of stormwater event(s) to be sampled. Real-time data are collected for the following parameters at 15-minute intervals from the stations shown on Comal and San Marcos springs EAHCP maps (Appendix A):

- Conductivity,
- DO,
- pH,
- Temperature, and
- Turbidity.

EAA field staff will monitor incoming storms by radar to determine whether the storm will produce one-half inch or more of localized precipitation and determine whether the storm is safe for stormwater sampling. Because of the nature of storms, stormwater sampling may be canceled as a result of false starts, safety issues, or if a new storm interrupts the stormwater sampling. Aquifer Science Management will make the final determination regarding go/no go for stormwater sampling.

## **Minimum Antecedent Dry Period Requirements**

The following is a guideline to determine whether watersheds have returned to “normal” flow conditions. Each watershed will be evaluated separately because one watershed may return to “normal” flow conditions faster and technically be ready for another stormwater sampling event before another watershed, as noted below:

- One day wait if the previous rain event was limited to light rain/drizzle, producing only a surface wetting and no runoff
- Three days wait if the previous rain event did not produce enough rainfall to result in a measurable increase in discharge at the sample location(s)

- Minimum of five days wait if preceded by a rainfall of at least one-half inch at a sample location. The antecedent dry period may be longer if the sample location(s) are still being impacted by runoff from a previous rain event (SARA, 2013).

### **Canceling a Stormwater-Sampling Event**

- A stormwater-sampling event may be canceled because of excessive lightning, hail, high winds, or flooding. If a storm does become severe during a stormwater-sampling event, the event will be postponed, cancelled, or suspended under some circumstances.
- A stormwater sampling event may be suspended because of a new rain event. For example, if samples are collected during the 10% of baseline flow conditions and another storm event interrupts this sampling event, then sampling will be suspended. The second storm will represent a new stormwater event.

## **RESPONSIBILITIES**

### **CTO and Hydrogeologist Supervisor—Aquifer Science**

The CTO and hydrogeologist supervisor—aquifer science will determine which parameters need to be sampled and will ensure that the samples obtained represent the environment being investigated. Sampling parameters are listed in the EAHCP workplan.

### **Hydrologic Data Coordinator**

The hydrologic data coordinator will schedule sampling events and ensure that all field crews are provided with the information and equipment necessary to successfully complete scheduled sampling (i.e., location ID and selected analyses). Furthermore, the coordinator will organize and interface with local entities as needed to ensure that all notifications are in place for each river/spring complex as needed.

### **Environmental Science Technicians**

Environmental science technicians will generally be responsible for collection of samples. Other individuals may also be asked to participate in sample-collection activities. However, each sample team of two people will have a lead sampler who reports back to the hydrogeologist supervisor—aquifer science. Reports will include



problems and issues in the field, inability to sample because of unforeseen or changing circumstances, and any deviations from the sample-collection plan and protocols.

## **PROCEDURE**

### **Supplies and Equipment**

#### **Major Equipment Items**

- Sample dipper
- Peristaltic pump with inert sample tubing
- 500- or 1,000-mL Teflon™ beakers affixed to telescoping rods
- Two gallon buckets for field-parameter readings

#### **Equipment Support Items**

- Trash bags
- Gloves (nitrile)
- Kim wipes/towels
- Rope
- Garden wagon

#### **Sampling Supplies**

- Sample bottles
- COC forms
- Sample labels
- Bailer (for filtration)
- 0.45-micron filter
- Ice chest
- Ice for sample preservation
- Ziplock bags
- Field sheet
- Pen and waterproof permanent marker

#### **Monitoring Equipment**

- pH and temperature meter
- Specific conductance meter
- Dissolved-oxygen meter
- Turbidity meter

### **Health and Safety Items**

- First-aid kit and emergency eye-wash kit
- Fire extinguisher
- Mobile phone
- Helmet with head lamp
- Hand sanitizer
- Mud boots
- Raincoat
- Life vests with reflective markings
- Throw rope
- Computer access to real-time flow, water quality, and weather data

### **Field Equipment Decontamination**

Proper decontamination between sites is essential to the avoidance of introducing contaminants from the sampling equipment. Before sampling, all hoses, buckets, water quality probes, and other sampling equipment should be decontaminated at EAA before fieldwork. Procedures specified in the EAA's *Field Sampling Plan* should be followed for decontamination of field equipment.

### **Instrument Usage and Measurement of Water Quality Parameters**

Before going into the field, the environmental science technician should verify that all field instruments are operating properly. Calibration will be done on pH, specific conductivity, dissolved oxygen, and turbidity meters, and calibration information should be recorded in the calibration log book.

### **Purging**

No purging is required for stormwater runoff to be sampled in the Comal and San Marcos rivers.

### **Sample Collection**

According to the EAHCP work plan, “three water quality samples will be collected from each surface water sampling location during the sampling event. Sample times will be spaced to reflect changes in the stream hydrograph.” The first sample will be during the initial rise in the hydrograph. The second sample will be collected near the peak of flow. The final sample will be collected along the recession limb of the storm hydrograph. In some circumstances, additional samples may be collected during the storm event such

that sample groups may be subsequently compared to hydrograph data and the most representative samples groups sent for analyses. Following is the sampling procedure:

#### **At EAA Offices**

- EAA field staff will monitor local weather forecasts and Doppler radars to determine whether an incoming storm meets the criteria for a stormwater sampling event.
- If the incoming storm DOES NOT meet the criteria, no action will be taken.
- If the incoming storm DOES meet the criteria, EAA field staff will monitor weather conditions, estimate a time of arrival of the incoming storm, and determine whether weather conditions are safe for stormwater sampling (CTO or hydrogeologist supervisor will make the final go/no go decision).
- EAA field staff will notify the contracted laboratories for the possibility of samples.
- Labels for the sample bottles will be filled out.
- Aquifer Science CTO or Hydrogeologist supervisor will make the final determination regarding go/no-go with regard to the storm event.

#### **In the Field**

- Field personnel must wear clean (disposable) nitrile gloves during the sample-collection process.
- Sample water will be collected in a two-gallon bucket for parameter readings, and sample water will be collected in a 500- or 1000-mL Teflon™ beaker attached to telescoping rods, or, if needed, a peristaltic pump with inert tubing will be used.
- Meter(s) will be inserted into a two-gallon bucket and measurements recorded on a field sheet, or, if a peristaltic pump is being used, a flow chamber will be used.
- Samples will be collected using beakers or a peristaltic pump.
  - Herbicides and pesticides
  - General water quality parameters
  - Selected metals
  - Turbidity
  - Bacteria (E-coli most probable number)
  - Total phosphorous
  - Total organic carbon
  - Dissolved organic carbon
  - Total kjeldahl nitrogen
  - All containers will be filled almost full, except for alkalinity and VOCs
  - Alkalinity

- A bailer attached with a filter will be used or a filter will be attached onto tubing from the peristaltic pump
  - Alkalinity must have no head space.
- Selected metals
  - A bailer attached with a filter will be used or a filter will be attached onto tubing from the peristaltic pump
- VOC
  - The VOC sample vial will be completely filled so that the water forms a convex meniscus at the top and then capped so that no air space exists in the vial. The vial must be turned over and tapped to check for bubbles in the vial, which indicate trapped air. If bubbles are observed, the vial should be discarded and another sample collected.
- Any required information will be recorded on the field sheet before, during, and after sampling. Parameter readings will be measured in a two-gallon bucket and recorded on field sheets.
- Preservatives (if any) will be placed in the bottles by EAA-contracted laboratories.
- After the samples have been collected, they will be immediately placed in an ice-filled cooler.
- Prior to departure from the field, field documentation, including the COC form, will be completed, and all EAA field employees will clean their hands with hand sanitizer.
- Field notebooks will be used to record basic information for each event, such as magnitude of storm, issues related to sample collection, weather conditions, time of day samples were collected, and other information deemed pertinent by the lead sampler and/or coordinator.

The second sample will be collected near the peak of flow and will follow the same procedure as that of the initial rise on the hydrograph sample. The third sample will be collected along the recession limb of the hydrograph and will follow the same procedure as that of the other two sampling events. Again, the possibility exists that additional sample may be collected during the event with the most representative three sample groups being submitted for analyses (based on comparison with the appropriate stream hydrograph).

### **Contracted Laboratories**

EAA field staff will drop off samples at EAA-contracted laboratories or have samples picked up at the EAA offices. Samples will be analyzed within proper holding times.

## **Equipment Blanks**

Equipment blanks consist of ASTM II, reagent-grade water poured over/through any sampling equipment used for collection of definitive samples. Most sample-collection equipment is disposable; however, in some cases, an equipment blank may be required. Equipment blanks are used to assess the effectiveness of decontamination procedures (for new materials provided to the EAA or from EAA's decontamination processes) and are designated as *EB* on the COC. The frequency of collection of equipment blanks will depend on the sampling routine and sampling equipment in use. Collection of equipment blanks will be designated prior to sample-collection events.

## **Trip Blanks**

Trip blanks are used to assess potential volatile organic contamination during sample custody in the field and shipment to the receiving laboratory. Trip blanks are submitted with characteristic samples to the laboratory to verify that volatile organic contamination has not occurred from outside influences during sample handling to transport (such as absorption through the septa.)

Trip blanks consist of two 40-mL vials filled with ASTM Type II reagent-grade water prepared by the contracted laboratory. Trip blanks will remain unopened until they are received at the contracted laboratory.

## **Sample Identification, Handling, and Documentation**

Samples will be identified, handled, and recorded as described in the preceding sections of this document.

## **Records**

Field sheets and COCs will be kept in a bound field log book. The following will be recorded using waterproof ink on these sheets and in the field notebook:

- Names of sampling personnel
- Weather conditions
- Project name
- Date and time of sampling
- Analyses to be performed by EAA-contracted laboratory
- Equipment-calibration information
- Field-parameter measurements
- Irregularities, problems, or delays

## **APPENDIX G—Equipment-Decontamination Procedures**

## **Decontamination**

Proper decontamination of all equipment used in the sample-collection process is essential to obtaining quality, representative samples. Improperly decontaminated equipment is capable of causing cross-contamination between sample sites, resulting in samples that are not representative of in situ site conditions. The objective of this appendix is to provide a set of decontamination procedures applicable to various EAA equipment and sampling programs.

Whereas many different protocols exist for decontamination, ASTM Standard D 5088 is perhaps the most commonly referenced protocol. The methods outlined here are tailored to EAA sampling environments and programs.

## **Basic Decontamination Procedure—Groundwater, Surface Water, and Spring Sampling Equipment**

When possible, equipment that comes into contact with sample media will be single-use (disposable) equipment or dedicated equipment. Having such equipment helps reduce the possibility of cross-contamination of samples. However, for many sample types, such dedicated equipment may not be possible. As such, a listing of equipment that may be used to collect a water sample (groundwater, surface water, or spring) would include

- Grundfos submersible pump and associated pump tubing
- Peristaltic pump tubing
- Sample dippers
- Surface water churn

Other equipment that *may* come into direct contact with sample media of concern includes

- Water level measurement devices (steel tape and e-lines)
- Field-parameter probes
- Downhole geophysical equipment

Equipment that will have direct contact with any sample media will be decontaminated prior to use for sample collection or prior to introduction into the well, surface water site, or spring vent, as applicable.

## **Grundfos Submersible Pumps**

Decontamination will be accomplished as follows for submersible well pumps. Sampler will wear new, disposable, nitrile (or equivalent) gloves to perform the decontamination.

Materials needed:

- Submersible pump, pump controller, and pump tubing
- 33-gallon trashcan (dedicated for decon use only)
- Alconox® or laboratory-grade soap
- DI water
- Large plastic bags or foil
- Plastic sheeting
- Clean scrub brush(es)

The designated trashcan will be rinsed with fresh, potable water and subsequently filled with potable water and laboratory-grade soap (per soap label directions).

When the container is approximately 80% full, the pump will be lowered, with heat shield attached, into the trashcan. The pump should be suspended at least six inches off the bottom of the trashcan. The pump will then be activated and allowed to discharge outside of the trashcan for at least 30 seconds. After the initial discharge, pump tubing will be directed into the trashcan such that the decontamination mixture is recirculated through the pump and tubing. The pump should run/recirculate a minimum of ten pump-tubing volumes (about 40 gallons) through the system. This process should take about 15 to 20 minutes.

Note: in the event that the pump or tubing has sediment or other foreign matter on it, a step will be added. A clean scrub brush will be used to remove any sediment or other foreign matter from the equipment manually prior to the circulation process.

Next, the decontamination mixture will be allowed to pump out of the trashcan into the sink (the pump should not be allowed to run dry or cavitate). The pump and tubing will be placed on a clean surface (plastic sheet) and the trashcan rinsed in clean water. The pump will be rinsed and placed back into the trashcan. The pump is to be allowed to discharge outside of the trashcan until the soapy water is evacuated from the tubing. The discharge tubing will then be placed back into the trashcan and more clean water added if needed. The freshwater will be recirculated through the pump and into the trashcan for a minimum of ten volumes (about 40 gallons). Once circulation is complete, the pump will be allowed to discharge outside the trashcan until nearly empty (again, the pump should not be allowed to run dry or cavitate). Next, a final rinse of DI water will be provided on the pump and tubing, an adequate volume being used to ensure that the pump and tubing are well rinsed.

Upon completion of the decontamination procedure, the pump will be sealed in a clean plastic bag, and the end of the pump tubing will be sealed in its own clean plastic bag. A



rubber band can be used to affix the bags around the apparatus. Pump and hose assembly are to be stored indoors when not in use, away from any sources of cross-contamination.

### **Tubing Decontamination for Peristaltic Pumps:**

Decontamination should be accomplished as follows for peristaltic pump tubing. Sampler will wear new, disposable, nitrile (or equivalent) gloves to perform the decontamination.

Materials needed:

- Four five- or seven-gallon plastic buckets (for decon use only)
- Alconox® or laboratory-grade soap
- DI water
- Large plastic bags that can be sealed (large zip-top bags)
- Plastic sheeting
- Clean scrub brush(s)

The designated buckets will be rinsed in fresh, potable water. The first bucket will be subsequently filled with potable water and laboratory-grade soap (per soap label directions). The next two buckets will be filled with clean tap water. All three decontamination buckets are to be placed on top of a clean sheet of plastic sufficiently long to provide a clean surface on which all decontamination can take place. Decon buckets are to be placed in order on the sheet, with the soap bucket first, followed by the two rinse buckets. Decontamination should proceed such that each step is always followed in order from most contaminated to least contaminated (i.e., from prewash if needed, to soap–water mixture, to first rinse bucket, to second rinse bucket, to final DI water rinse).

Any excess foreign material will be removed from the tubing, first by wiping or scrubbing with soap and water mixture (if needed). The suction side of the tubing will be lowered into the soap–water bucket. The pump will be activated and allowed to discharge outside of the bucket until the soap–water mixture has initially purged the tubing. After the initial discharge, the pump tubing will be directed into the bucket such that the decontamination mixture is recirculated through the tubing. The pump will be allowed to run a minimum of ten pump-tubing volumes through the system (or about eight to ten gallons).

Next, the suction end of the tubing will be placed into the first rinse bucket and the pump allowed to discharge into the soap bucket until the soapy water is evacuated from the tubing. The discharge side of the tubing will then be placed back into the first rinse bucket. The freshwater will be allowed to recirculate through the pump and into the first rinse bucket for a minimum of ten volumes (or about eight to ten gallons). Once circulation is complete, the process will be repeated using the second rinse bucket. Final rinse is to be accomplished by pumping/recirculating DI water through the tubing for a minimum of ten volumes, using the third rinse bucket filled with DI water. Next, a final

rinse of DI water will be provided on the outside of the tubing using an adequate volume to ensure that the tubing is well rinsed. This final rinse will complete the decontamination process.

Upon completion of the decontamination procedure, the tubing will be allowed to dry and the tubing seal placed in a plastic bag to prevent exposure to cross-contamination. Bagged tubing is to be stored indoors when not in use away from any sources of cross-contamination.

Note: peristaltic tubing for EAHCP samples is dedicated tubing and is to be stored in *labeled* bags. The bag label will have the name of the sample point written on the outside of it. EAHCP-related tubing is not to be used for any other applications.

### **Decontamination of Other Equipment Used in Collection of Water or Soil Samples**

Decontamination will be accomplished as follows for other equipment that will come into direct contact with sample media (dippers, churns, sample probes—if placed into sample media, water level measurement devices, soil sampling devices, or trowels). Sampler will wear new, disposable, nitrile (or equivalent) gloves to perform the decontamination.

Materials needed:

- Sample-collection device (dipper, churn, etc.) or field meter (applies only to that part of the probe exposed to sample media) or water level measurement device
- Three five- or seven-gallon plastic buckets (for decon use only)
- Alconox® or laboratory-grade soap
- DI water
- Large plastic bags or foil
- Plastic sheeting
- Clean scrub brush

Designated buckets will be rinsed in fresh, potable water. The first bucket will be subsequently filled with potable water and laboratory-grade soap (per soap label directions). The remaining two buckets will be filled with clean tap water. All three decontamination buckets are to be placed on top of a clean sheet of plastic sufficiently long to provide a clean surface on which all decontamination will take place. Decon buckets are to be placed in order on the sheet, with the soap bucket first, followed by the two rinse buckets. Decontamination will proceed such that each step is always followed in order from most contaminated to least contaminated (i.e., from prewash if needed, to soap–water mixture, to first rinse bucket, to second rinse bucket, to final DI water rinse).

Any excess sediment or foreign matter will be removed from the device by gentle scrubbing and rinsing with water prior to placement into the soap–water mixture. The

sampling device will be placed into the soap–water mixture and gently scrubbed (all surfaces that will come into contact with sample media must be cleaned).

Note: the surface water churn may not fit in the bucket(s), as such the churn may be cleaned in the 33-gallon trashcan, or it may be cleaned by some of the soap–water mixture being poured into the churn. The churn will be cleaned with the soap–water mixture; double rinsed in clean, potable water; and provided a final rinse in DI water.

Upon completion of the soap–water wash, each device being decontaminated must be double rinsed (i.e., buckets two and three) in clean, potable water, followed by a final rinse in DI water. Upon completion of decontamination, equipment will be allowed to dry and stored such that it is not exposed to potential contaminants. Equipment should be stored in plastic bags or wrapped in foil to further insulate it from potential contamination.

Note: decontamination buckets are to be monitored when used for multiple items to ensure that the soap–water mixture does not become spent or ineffective. They are to be replaced as needed. Also, rinse water should be replaced regularly when it appears to have a significant accumulation of soap.

### **Special Decontamination Procedures**

Downhole or soil-sampling equipment may be decontaminated generally by one of the applicable processes outlined above. However, in rare cases, a tool or device that is not disposable may be exposed to hydrocarbon residue or, in rarer cases, high concentrations of heavy metals may occur. In such a scenario, the tool may (at the discretion of management) require a more elaborate decontamination procedure.

### **Exposure to Hydrocarbons**

In the event that a tool is exposed to free-product hydrocarbons, an additional step in the decontamination process may be required that will involve spraying the tool with pesticide-grade methanol or hexane prior to the final DI water rinse. Use of solvents in this case serves to remove any hydrocarbon residual from the tool.

### **Exposure to Heavy Metals**

In the event that a tool or device is exposed to heavy metals, and the sample media are being analyzed for these same metals, another step in the decontamination process may be required. In this case, the tool may require a spray rinse with dilute (10%) hydrochloric or nitric acid prior to DI water rinse. Use of acid in this situation will act to remove residual metals from the tool.

Note: use of solvents or acids is only to be pursued if directed by management. Use of these products can be hazardous and can also present issues regarding disposal of the waste products themselves. Use of the products may also damage sampling equipment in

some cases. In the vast majority of cases, the standard washing and rinsing procedures described herein are adequate for proper decontamination of sampling equipment. Analysis of equipment blanks will be pursued when needed so that the decontamination process might be assessed. It is the responsibility of the sampler to notify management if a tool is suspected of any unusual exposure

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**APPENDIX E**

**PHOTOGRAPHIC LOG**

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## PHOTOGRAPHIC LOG

Comal and San Marcos springs, Texas

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**PHOTOGRAPH 1.**  
**Surface water sonde data collection, September 8, 2016;**  
**sample location HCS120.**



**PHOTOGRAPH 2.**  
**Field filtering surface water grab samples, September 9, 2016;**  
**sample location HSM140.**



## PHOTOGRAPHIC LOG

### Comal and San Marcos springs, Texas

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**PHOTOGRAPH 3.**  
**Surface water sonde data collection, September 9, 2016;**  
**sample location HSM120.**



**PHOTOGRAPH 4.**  
**Surface water grab sample collection, September 9, 2016;**  
**sample location HSM170.**

## PHOTOGRAPHIC LOG

Comal and San Marcos springs, Texas

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**PHOTOGRAPH 5.**  
**Surface water alkalinity analysis, March 3, 2016.**



## PHOTOGRAPHIC LOG

### Comal and San Marcos springs, Texas

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**PHOTOGRAPH 6.**  
**Sediment sample collected with trowel, June 9, 2016;**  
**sample location HSM310.**



**PHOTOGRAPH 7.**  
**Sediment sample collected with core sampler, June 9, 2016;**  
**sample location HCS330.**



## PHOTOGRAPHIC LOG

### Comal and San Marcos springs, Texas

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**PHOTOGRAPH 8.**  
**PDS deployment device decontamination, February 2, 2016.**



**PHOTOGRAPH 9.**  
**Placing PDS deployment device using hook, October 10, 2016;**  
**sample location HCS460.**



## PHOTOGRAPHIC LOG

Comal and San Marcos springs, Texas

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**PHOTOGRAPH 10.**  
**Retrieving PDS deployment device, October 24, 2016;**  
**sample location HCS440.**

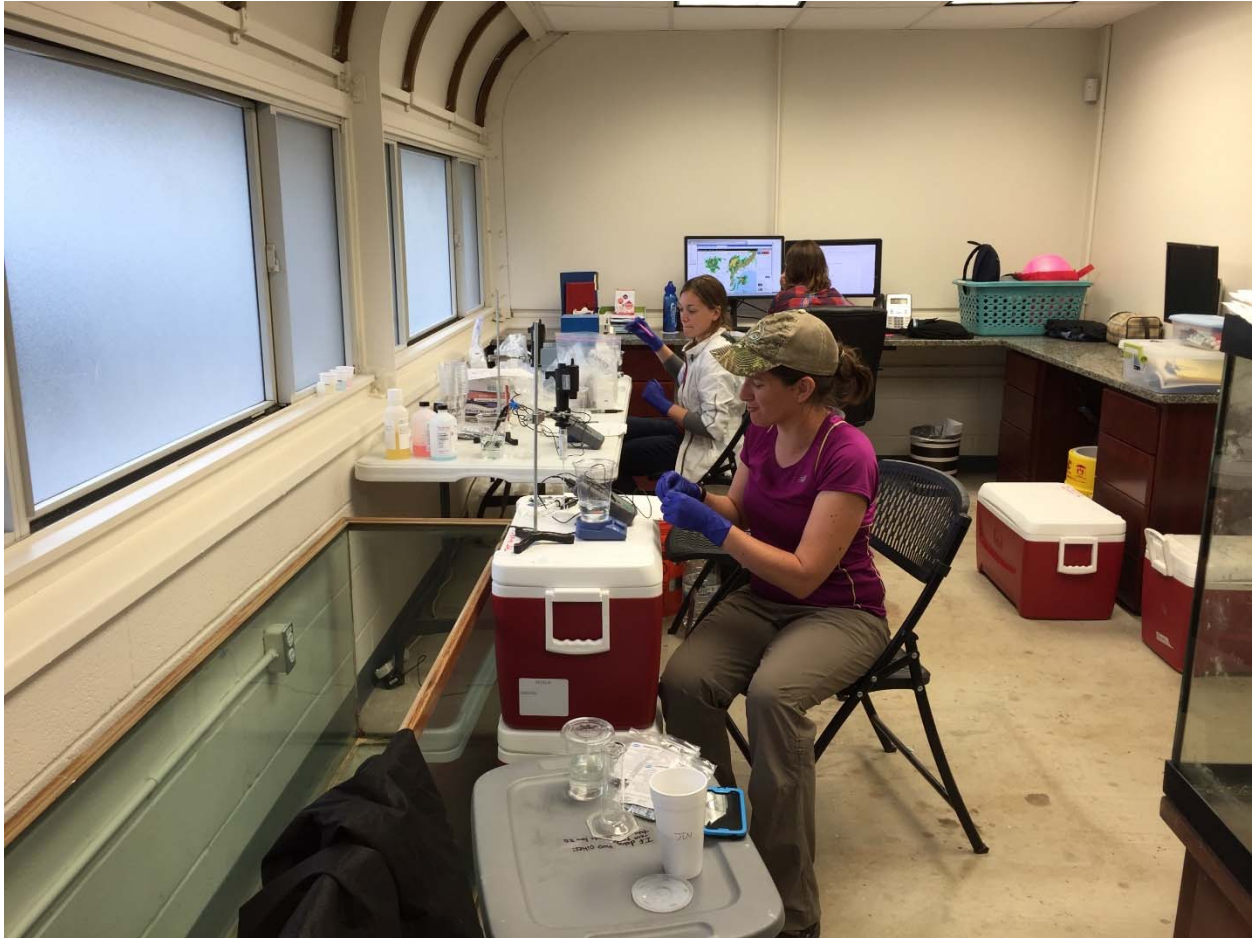


**PHOTOGRAPH 10.**  
**Retrieving PDS deployment device, October 24, 2016;**  
**sample location HCS420.**

## PHOTOGRAPHIC LOG

Comal and San Marcos springs, Texas

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**PHOTOGRAPH 10.**

**Stormwater alkalinity analysis, March, 9, 2016; San Marcos Springs.**



## PHOTOGRAPHIC LOG

Comal and San Marcos springs, Texas

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**PHOTOGRAPH 10.**

**Stormwater alkalinity analysis, March, 9, 2016; San Marcos Springs.**

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**APPENDIX F**

**RECORD OF STORMWATER SAMPLING**

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January 4, 2016 – SWCA staff began restocking and assembling necessary supplies and equipment.

January 2016 (and prior to each subsequent event) – Sample kits, labels and Chain-of-Custody (COC) forms were received from a contract laboratory and sampling containers, and coolers were labeled by SWCA staff.

January 11, 2016 – Staff went on standby for sampling events when all preparations were complete.

April, 2016 –The overall goal of the program is to sample each system at the beginning and end of the year. After completion of one event in each spring system EAA requested SWCA hold stormwater sampling until after July 1, 2016.

July 1, 2016 – SWCA sampling teams returned to on-call status and began monitoring forecasts for stormwater sampling.

## **COMAL SPRINGS COMPLEX**

April 12-13, 2016 – SWCA staff mobilized to New Braunfels in the evening of April 12, 2016. A base camp was established at the Schlitterbahn Resort. Rain began to fall and lead sampling was initiated at approximately 23:00 on April 12, 2016. Peak sampling was initiated at approximately 01:45 on April 13, 2016. Specific conductivity recovered quickly but then began to fall again and peaked at a slightly lower level than the 01:45 peak. SWCA collected a second set of peak samples at approximately 04:30. EAA was consulted and it was determined that the 01:45 peak would be submitted for analysis and the 04:30 peak would be discarded. Trail sampling was initiated at approximately 08:00, after specific conductivity had recovered to within 50% of the base flow condition. Samples were filtered using a peristaltic pump at the Schlitterbahn Resort. At the conclusion of the event, samples were transported back to SWCA's San Antonio office where they were retrieved by a contract laboratory. *E. coli* samples were hand delivered by SWCA staff to another contract laboratory on the morning of April 13, 2016.

September 24-27, 2016 - SWCA monitored weather forecasts and radar on September 24 and 25, 2016. The forecasts had showed opportunities for rain on the 24th, but those chances diminished. By 21:00 on the 24th, chances for rain on the 25th were much less than 50% chance of less than 0.5 inch for New Braunfels. The chance of rain in San Marcos for the 25th was 50% chance of 0.6 inch at 13:00. However, when the forecast was checked at 07:30 on the 25th the chance of rain for San Marcos did not exceed 50% until midnight. The chance of rain in New Braunfels was not predicted to reach 50%.

SWCA project manager, Philip Pearce, P.G., checked the forecast again at noon and at 14:00. At those times the chance of rain in New Braunfels was never predicted to be near 50%. The chance of rain was very low until midnight in San Marcos. Between 14:15 and 14:30, SWCA storm team member, Jennifer Moreland observed the forecasts for both cities change drastically, rain cells had developed and headed toward San Marcos. SWCA staff was not able to get to the office, load equipment, and drive to San Marcos in time to capture the first flush of the storm event. However, over 1 inch of rain was predicted to fall in New Braunfels later in the evening, and only scattered showers had fallen in New Braunfels thus far. After

talking with Gizelle Luevano at the EAA, it was determined that it would be appropriate to sample the Comal River system if sufficient rainfall occurred later that afternoon or evening. SWCA sampling teams arrived in New Braunfels around 17:30 and continued to monitor the weather forecasts and radar. Light showers began to fall around 19:00. Radar showed more intense rainfall to the south of New Braunfels, but the rainfall did not intensify enough in New Braunfels to affect water quality measurably in the Comal River. The rainfall south of New Braunfels was a very large cell that covered much of South Texas. SWCA therefore, continued to watch the radar to see if it would expand and intensify in the New Braunfels area.

The weather forecast indicated a small chance of thunderstorms at 5:30 am, Monday morning. At about 02:00 SWCA set alarms for 04:00 and 05:00 am to check on conditions, and turned out the lights. More intense rain began to fall almost immediately and by 02:45 the specific conductivity began to drop. Lead sampling was initiated at this time. By 05:00, the specific conductivity rose suggesting the storm was peaking, so a set of peak samples (Peak 1) were collected. After returning to base camp the specific conductivity began dropping again. Later, at approximately 07:15 the specific conductivity began to rise suggesting the storm was peaking. Therefore, we collected another set of samples (Peak 2). Specific conductivity dropped and rose two more times, but rain cells were visible on radar approaching New Braunfels from the southeast. Therefore, additional drops in specific conductivity were anticipated, and samples were not collected at those times. By 11:00, the conductivity rose slightly and no significant rainfall was approaching New Braunfels on weather radar. SWCA sampling teams deployed teams to sample locations. However, before samples were collected the conductivity began to drop again, although no rainfall was present and no significant runoff entering the Comal River was visible by sample teams.

At sample location HCS250 (Lower Old Channel) the sample team observed the Comal River level was out of the banks. At 12:15 some flow was observed in the middle of the channel. Over a period of approximately 45 minutes, the water level continued to rise. Flow in the center of the channel ceased and flow was observed moving in the upstream direction. It was apparent flood water from the Guadalupe River was moving up the Comal River. The specific conductivity as measured in the Comal Springs Old Channel continued to drop. Phil Pearce, contacted EAA staff member, Gizelle Luevano and described the situation. EAA indicated that SWCA should submit and analyze the second set of peak samples collected by SWCA at 07:15, and that no other samples should be collected to evaluate a peak due to influence by water from the Guadalupe River. SWCA finished running alkalinity tests on the samples that had already been collected and returned to the SWCA San Antonio office.

Lead, Peak 1 and Peak 2 samples were picked up by a contract laboratory the same day. Lead and Peak 1 *E. coli* samples were delivered to another contract laboratory by an SWCA runner on the morning of September 26, 2016. Peak 2 *E. coli* samples were delivered to a contract laboratory by SWCA sampling team members when sampling concluded on September 26, 2016.

SWCA deployed a team the following day, September 27, 2016, to collect the trail set of samples during the falling limb of the hydrograph. Trail samples were submitted to the contract laboratories on September 27, 2016.

## SAN MARCOS SPRINGS COMPLEX

March 9, 2016 – SWCA sampling teams deployed to the San Marcos Nature Center in the evening on March 8, 2016. Lead sampling was initiated at approximately 01:30 on March 9, 2016 after significant rain began, and water quality parameters began to change. The streamflow measured at USGS Gauge 08170500 increased from 245 cfs to 246 cfs during the event (USGS, 2015), it is unclear if the gauge was operating correctly during the event as a larger increase is generally observed during storm events. SWCA staff relied upon the real time instrument (RTI) data to monitor the effect of the storm on the river. A more than 20% change in specific conductivity and other water quality parameters did occur during the event and SWCA staff observed a rise in water levels at sampling locations. Therefore, the storm event is considered valid for sampling based on the guidelines in the *EAA Groundwater Quality Monitoring Plan*.

Peak sampling was initiated at approximately 04:00 on March 9, 2016. The river recovered quickly once the rain ended. Trail sampling was initiated at approximately 05:45 after specific conductivity had recovered more than 50% to base line conditions.

Filtration for the metals, dissolved organic carbon (DOC) and alkalinity samples was performed at SWCA's San Antonio office utilizing a peristaltic pump. New disposable bailers were used to collect all samples at HSM240. *E. coli* samples were delivered to a contract laboratory when it opened the morning of March 9, 2016. Due to the overnight collection of samples, it was not possible to deliver lead *E. coli* samples to a contract laboratory within the 6-hour hold time. At the conclusion of the event, samples were transported back to SWCA's San Antonio office where they were retrieved by a contract laboratory.

November 3, 2016 – A storm was forecast for the area the morning of November 3, 2016. SWCA followed the forecast and radar and deployed to the San Marcos Nature Center midday. The rain began at approximately 15:75. Lead sampling was initiated at approximately 16:15 after water quality parameters began to change. The rain ceased during the lead sample and water quality began to recover quickly, peak sampling was initiated immediately following lead sampling at approximately 17:45. Water quality reached 50% recovery and trail sampling was initiated at approximately 20:15. Sample filtration and alkalinity were performed at the San Marcos Nature Center before SWCA staff returned to the SWCA San Antonio office the morning of November 4, 2016. Due to the evening sampling times, *E. coli* samples were delivered to a contract laboratory when it opened in the morning of November 4, 2016 outside of hold time. Samples for remaining analyses were picked up from the SWCA office by laboratory staff also on the morning of November 4, 2016. New disposable bailers were used for all samples collected from HSM240.

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**APPENDIX G**

**LABORATORY REPORTS**

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## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



March 03, 2016

Page 1 of 2

**Client:**

Phil Pearce  
6200 UTSA Blvd Ste 102  
San Antonio, TX 78249

Fax #: NA

This analytical report is intended exclusively for the individual or entity to which it is addressed. Recipient is not authorized to print or copy this report, except in full without written approval of the laboratory. If you have received this report in error, please notify the San Antonio River Authority.

**Sample Location:** HCS110  
**Sample Number:** AB00527  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/2/16 12:37  
**Receipt Date/Time:** 3/2/16 16:00

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00527-A	E. coli	√	SM 9223B-2004	100	MPN/100 mL		1	46514	3/2/16	16:48	KAB
AB00527-A	E. Coli Holding Time - IDEXX Colilert		NA	4.18	hours		0.00	46513	3/2/16	16:48	KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



March 03, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46514

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

3/3/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



March 03, 2016

Page 1 of 2

**Client:**

Phil Pearce  
6200 UTSA Blvd Ste 102  
San Antonio, TX 78249

Fax #: NA

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**Sample Location:** HCS120  
**Sample Number:** AB00528  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/2/16 13:16  
**Receipt Date/Time:** 3/2/16 16:00

### CASE NARRATIVE

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00528-A	E. coli	√	SM 9223B-2004	21	MPN/100 mL		1	46514	3/2/16	16:48	KAB
AB00528-A	E. Coli Holding Time - IDEXX Colilert		NA	3.53	hours		0.00	46513	3/2/16	16:48	KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



March 03, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46514

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

3/3/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



March 03, 2016

Page 1 of 2

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Phil Pearce  
6200 UTSA Blvd Ste 102  
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Fax #: NA

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**Sample Location:** FDHCS120  
**Sample Number:** AB00529  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/2/16 13:16  
**Receipt Date/Time:** 3/2/16 16:00

### CASE NARRATIVE

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00529-A	E. coli	√	SM 9223B-2004	11	MPN/100 mL		1	46514	3/2/16	16:48	KAB
AB00529-A	E. Coli Holding Time - IDEXX Colilert		NA	3.53	hours		0.00	46513	3/2/16	16:48	KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



March 03, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46514

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

3/3/2016

Date

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**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



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**Sample Location:** HCS130  
**Sample Number:** AB00530  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/2/16 11:29  
**Receipt Date/Time:** 3/2/16 16:00

**CASE NARRATIVE**

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00530-A	E. coli	√	SM 9223B-2004	13	MPN/100 mL		1	46514	3/2/16	16:48	KAB
AB00530-A	E. Coli Holding Time - IDEXX Colilert		NA	5.32	hours		0.00	46513	3/2/16	16:48	KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



March 03, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46514

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

3/3/2016

Date

A - Outside upper acceptance criteria  
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H - Hold Time for preparation or analysis exceeded  
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**Sample Location:** HCS140  
**Sample Number:** AB00531  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/2/16 14:00  
**Receipt Date/Time:** 3/2/16 16:00

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00531-A	E. coli	√	SM 9223B-2004	41	MPN/100 mL		1	46514	3/2/16	16:48	KAB
AB00531-A	E. Coli Holding Time - IDEXX Colilert		NA	2.80	hours		0.00	46513	3/2/16	16:48	KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



March 03, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46514

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

3/3/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

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Fax #: NA

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**Sample Location:** HCS160  
**Sample Number:** AB00532  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/2/16 14:30  
**Receipt Date/Time:** 3/2/16 16:00

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Limited air space.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00532-A	E. coli	√	SM 9223B-2004	46	MPN/100 mL		1	46514	3/2/16	16:48	KAB
AB00532-A	E. Coli Holding Time - IDEXX Colilert		NA	2.30	hours		0.00	46513	3/2/16	16:48	KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



March 03, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46514

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

3/3/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-60073-1

TestAmerica Sample Delivery Group: Comal Springs  
Client Project/Site: 2016 Surface Water/Base Flowing  
Revision: 1

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
8/11/2016 2:37:46 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

# Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.

## Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

## General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
F1	MS and/or MSD Recovery is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

TestAmerica Corpus Christi

## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

### Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

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# Case Narrative

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Job ID: 560-60073-1**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

### Job Narrative 560-60073-1

#### Revised Report 1 08-11-2016

In the original report the Bicarbonate and Carbonate did not pull into the job. Test America apologizes for any inconvenience this may have caused the client.

#### Receipt

The samples were received on 3/4/2016 8:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 8 coolers at receipt time were 0.3° C, 0.7° C, 0.7° C, 0.9° C, 1.3° C, 1.4° C, 1.5° C and 1.6° C.

#### Receipt Exceptions

560-60073: TALS does not provide a description in the containers tab for 1-Liter Amber w/Ascorbic Acid. In the pH column, there noted is Ascorbic Acid for verification.

#### GC/MS VOA

Method 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 560-125820 were outside control limits for Benzyl chloride, cis-1,4-Dichloro-2-butene, 1,1,1,2-Tetrachloroethane and 1,2,3-Trichlorobenzene. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method 8270C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 560-125782 and analytical batch 560-125807 were outside control limits for Bis(2-chloroethyl)ether, 2,4-Dinitrotoluene and 2,6-Dinitrotoluene. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8270C: The method blank for preparation batch 560-125782 and analytical batch 560-125807 contained Bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

Method 8141A: The continuing calibration verification (CCV) associated with batch 280-316439 recovered above the upper control limit for merphos on the confirmation column. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: HCS110 (560-60073-1), HCS120 (560-60073-2), FDHCS120 (560-60073-3), HCS130 (560-60073-4), HCS130 (560-60073-4[MS]), HCS130 (560-60073-4[MSD]), HCS140 (560-60073-5), HCS160 (560-60073-6), (CCV 280-316439/38), (560-60051-G-1-A MS) and (560-60051-H-1-A MSD).  
8141 / A-316439 / P - 315982

CCV1: OK for all

---MB, LCS, 560-59988-1, 1MS, 1MSD

CCV2: OK for all

---560-60019-2, 2MS, 2MSD, 560-60051-1

CCV3: OK for all

---560-60051-1MS, 1MSD, 560-60073-1, 2, 3, 4, 4MS, 4MSD, 5, 6

CCV4

primary: OK for all

confirmation: merphos +17% (avg = 5%)

Method 8082A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 560-125817 and analytical batch 560-125830 were outside control limits for Aroclor 1016 and Aroclor 1260. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

## Case Narrative

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

### Job ID: 560-60073-1 (Continued)

#### Laboratory: TestAmerica Corpus Christi (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method 6020: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with sample 560-60073-4 were outside acceptable limits for Antimony, Cadmium, Lead and Manganese. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

Method 300.0: The following sample(s) was received with less than 2 hrs remaining on the holding time remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: HCS130 (560-60073-4[MS]) and HCS130 (560-60073-4[MSD]).

Method 9040C: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples have been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe. 560-60073-1-6

Method 351.2: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with sample 560-60073-4 were outside acceptable limits for Kjeldahl Nitrogen. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method(s) 3510C: The following samples were spiked with an unverified standard.  
8141 LCS\_00096 was created on 03/04/2016.  
analytical batch 280-315982  
HCS130 (560-60073-4[MS]) and HCS130 (560-60073-4[MSD])  
Method: 3510C 8141A 8141B

When the extract was verified it was observed that the standard was made with 2mls of one of the stocks rather than the 1ml usually used. As a result, multiple analytes are spiked at a higher concentration than usual. All recoveries were within control limits in the LCS, MS, and MSDs, therefore the data has been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Client Sample ID: HCS110

## Lab Sample ID: 560-60073-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	82.2		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	17.6		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.54		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	5.56		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	12.5		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.717		0.00500	0.000700	mg/L	1			6010B	Dissolved
Arsenic	1.61	J	5.00	1.09	ug/L	1			6020	Dissolved
Barium	46.4		5.00	0.810	ug/L	1			6020	Dissolved
Selenium	1.57	J	5.00	1.08	ug/L	1			6020	Dissolved
Bromide	0.544	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	18.5		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.23		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	24.8		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.234		0.100	0.0200	mg/L	1			340.2	Total/NA
Nitrogen, Kjeldahl	0.311		0.200	0.100	mg/L	1			351.2	Total/NA
Total Organic Carbon	4.79		1.00	0.285	mg/L	1			9060	Total/NA
Dissolved Organic Carbon	0.823	J	1.00	0.285	mg/L	1			9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.61	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	226		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	226		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	331		10.0	10.0	mg/L	1			SM 2540C	Total/NA

## Client Sample ID: HCS120

## Lab Sample ID: 560-60073-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	83.9		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	16.8		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.38		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	5.67		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	11.9		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.683		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	44.5		5.00	0.810	ug/L	1			6020	Dissolved
Bromide	0.545	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	17.6		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.79		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	24.4		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.200		0.100	0.0200	mg/L	1			340.2	Total/NA
Total Organic Carbon	2.17		1.00	0.285	mg/L	1			9060	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.31	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	229		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	229		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	340		10.0	10.0	mg/L	1			SM 2540C	Total/NA

## Client Sample ID: FDHCS120

## Lab Sample ID: 560-60073-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	85.8		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	17.0		0.200	0.0257	mg/L	1			6010B	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Client Sample ID: FDHCS120 (Continued)

## Lab Sample ID: 560-60073-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	1.37		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.80		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	12.0		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.681		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	44.5		5.00	0.810	ug/L	1		6020	Dissolved
Lead	1.79	J	5.00	0.733	ug/L	1		6020	Dissolved
Bromide	0.548	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.6		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.78		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.3		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.207		0.100	0.0200	mg/L	1		340.2	Total/NA
Nitrogen, Kjeldahl	0.163	J	0.200	0.100	mg/L	1		351.2	Total/NA
Total Organic Carbon	1.32		1.00	0.285	mg/L	1		9060	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.22	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	224		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	224		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	343		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HCS130

## Lab Sample ID: 560-60073-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	86.0		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	16.7		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.35		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.66		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	12.5		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.655		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	43.9		5.00	0.810	ug/L	1		6020	Dissolved
Selenium	1.53	J	5.00	1.08	ug/L	1		6020	Dissolved
Bromide	0.547	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.8		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.84		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	28.5		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.184		0.100	0.0200	mg/L	1		340.2	Total/NA
Nitrogen, Kjeldahl	0.112	J F1	0.200	0.100	mg/L	1		351.2	Total/NA
Total Organic Carbon	1.07		1.00	0.285	mg/L	1		9060	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.28	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	224		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	224		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	349		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HCS140

## Lab Sample ID: 560-60073-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	83.7		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	16.0		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.30		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.58		0.500	0.0707	mg/L	1		6010B	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Client Sample ID: HCS140 (Continued)

## Lab Sample ID: 560-60073-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Sodium	11.5		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.630		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	42.5		5.00	0.810	ug/L	1			6020	Dissolved
Selenium	1.08	J	5.00	1.08	ug/L	1			6020	Dissolved
Bromide	0.549	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	17.5		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.76		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	24.9		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.202		0.100	0.0200	mg/L	1			340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.52	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	224		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	224		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	345		10.0	10.0	mg/L	1			SM 2540C	Total/NA

## Client Sample ID: HCS160

## Lab Sample ID: 560-60073-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	85.8		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	16.7		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.35		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	5.66		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	12.4		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.651		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	43.5		5.00	0.810	ug/L	1			6020	Dissolved
Bromide	0.547	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	17.8		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.79		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	27.1		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.209		0.100	0.0200	mg/L	1			340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.57	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	227		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	227		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	347		10.0	10.0	mg/L	1			SM 2540C	Total/NA

## Client Sample ID: TB02

## Lab Sample ID: 560-60073-7

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS110**

**Date Collected: 03/02/16 12:37**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/08/16 16:32	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/08/16 16:32	1
Benzene	0.330	U	1.00	0.330	ug/L			03/08/16 16:32	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/08/16 16:32	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 16:32	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/08/16 16:32	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/08/16 16:32	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/08/16 16:32	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/08/16 16:32	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/08/16 16:32	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/08/16 16:32	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/08/16 16:32	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/08/16 16:32	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/08/16 16:32	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/08/16 16:32	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/08/16 16:32	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/08/16 16:32	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/08/16 16:32	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/08/16 16:32	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/08/16 16:32	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/08/16 16:32	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 16:32	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/08/16 16:32	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/08/16 16:32	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/08/16 16:32	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/08/16 16:32	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/08/16 16:32	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/08/16 16:32	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/08/16 16:32	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 16:32	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/08/16 16:32	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/08/16 16:32	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/08/16 16:32	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/08/16 16:32	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/08/16 16:32	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/08/16 16:32	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/08/16 16:32	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/08/16 16:32	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/08/16 16:32	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/08/16 16:32	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/08/16 16:32	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/08/16 16:32	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/08/16 16:32	1
EDB	0.175	U	1.00	0.175	ug/L			03/08/16 16:32	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/08/16 16:32	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 16:32	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/08/16 16:32	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/08/16 16:32	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/08/16 16:32	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS110**

**Date Collected: 03/02/16 12:37**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/08/16 16:32	1
Hexane	2.00	U	5.00	2.00	ug/L			03/08/16 16:32	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/08/16 16:32	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/08/16 16:32	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/08/16 16:32	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/08/16 16:32	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/08/16 16:32	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/08/16 16:32	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/08/16 16:32	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/08/16 16:32	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/08/16 16:32	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/08/16 16:32	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/08/16 16:32	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/08/16 16:32	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/08/16 16:32	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 16:32	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/08/16 16:32	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/08/16 16:32	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/08/16 16:32	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/08/16 16:32	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/08/16 16:32	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/08/16 16:32	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/08/16 16:32	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/08/16 16:32	1
Styrene	0.200	U	1.00	0.200	ug/L			03/08/16 16:32	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 16:32	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/08/16 16:32	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/08/16 16:32	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/08/16 16:32	1
Toluene	0.495	U	1.00	0.495	ug/L			03/08/16 16:32	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 16:32	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/08/16 16:32	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/08/16 16:32	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/08/16 16:32	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/08/16 16:32	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/08/16 16:32	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/08/16 16:32	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/08/16 16:32	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/08/16 16:32	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/08/16 16:32	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/08/16 16:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/08/16 16:32	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 16:32	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 16:32	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/08/16 16:32	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/08/16 16:32	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/08/16 16:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	76		70 - 130		03/08/16 16:32	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS110**

**Date Collected: 03/02/16 12:37**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	106		69 - 130		03/08/16 16:32	1
1,2-Dichloroethane-d4 (Surr)	84		70 - 140		03/08/16 16:32	1
Toluene-d8 (Surr)	104		70 - 130		03/08/16 16:32	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/07/16 12:44	03/08/16 12:58	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/07/16 12:44	03/08/16 12:58	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/07/16 12:44	03/08/16 12:58	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/07/16 12:44	03/08/16 12:58	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/07/16 12:44	03/08/16 12:58	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/07/16 12:44	03/08/16 12:58	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/07/16 12:44	03/08/16 12:58	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/07/16 12:44	03/08/16 12:58	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/07/16 12:44	03/08/16 12:58	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/07/16 12:44	03/08/16 12:58	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/07/16 12:44	03/08/16 12:58	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/07/16 12:44	03/08/16 12:58	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/07/16 12:44	03/08/16 12:58	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/07/16 12:44	03/08/16 12:58	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/07/16 12:44	03/08/16 12:58	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/07/16 12:44	03/08/16 12:58	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/07/16 12:44	03/08/16 12:58	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/07/16 12:44	03/08/16 12:58	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/07/16 12:44	03/08/16 12:58	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/07/16 12:44	03/08/16 12:58	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/07/16 12:44	03/08/16 12:58	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/07/16 12:44	03/08/16 12:58	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/07/16 12:44	03/08/16 12:58	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/07/16 12:44	03/08/16 12:58	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/07/16 12:44	03/08/16 12:58	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/07/16 12:44	03/08/16 12:58	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/07/16 12:44	03/08/16 12:58	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/07/16 12:44	03/08/16 12:58	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/07/16 12:44	03/08/16 12:58	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/07/16 12:44	03/08/16 12:58	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/07/16 12:44	03/08/16 12:58	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/07/16 12:44	03/08/16 12:58	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/07/16 12:44	03/08/16 12:58	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/07/16 12:44	03/08/16 12:58	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/07/16 12:44	03/08/16 12:58	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/07/16 12:44	03/08/16 12:58	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/07/16 12:44	03/08/16 12:58	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/07/16 12:44	03/08/16 12:58	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/07/16 12:44	03/08/16 12:58	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/07/16 12:44	03/08/16 12:58	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/07/16 12:44	03/08/16 12:58	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/07/16 12:44	03/08/16 12:58	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/07/16 12:44	03/08/16 12:58	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS110**

**Date Collected: 03/02/16 12:37**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-1**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	0.549	U	10.0	0.549	ug/L		03/07/16 12:44	03/08/16 12:58	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/07/16 12:44	03/08/16 12:58	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/07/16 12:44	03/08/16 12:58	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/07/16 12:44	03/08/16 12:58	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/07/16 12:44	03/08/16 12:58	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/07/16 12:44	03/08/16 12:58	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/07/16 12:44	03/08/16 12:58	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/07/16 12:44	03/08/16 12:58	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/07/16 12:44	03/08/16 12:58	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/07/16 12:44	03/08/16 12:58	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/07/16 12:44	03/08/16 12:58	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/07/16 12:44	03/08/16 12:58	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/07/16 12:44	03/08/16 12:58	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/07/16 12:44	03/08/16 12:58	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/07/16 12:44	03/08/16 12:58	1
Phenol	0.768	U	10.0	0.768	ug/L		03/07/16 12:44	03/08/16 12:58	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/07/16 12:44	03/08/16 12:58	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/07/16 12:44	03/08/16 12:58	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/07/16 12:44	03/08/16 12:58	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/07/16 12:44	03/08/16 12:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	34		23 - 130	03/07/16 12:44	03/08/16 12:58	1
2-Fluorophenol	36		10 - 130	03/07/16 12:44	03/08/16 12:58	1
Nitrobenzene-d5	37		27 - 130	03/07/16 12:44	03/08/16 12:58	1
Phenol-d5	37		10 - 130	03/07/16 12:44	03/08/16 12:58	1
Terphenyl-d14	17		10 - 141	03/07/16 12:44	03/08/16 12:58	1
2,4,6-Tribromophenol	39		18 - 130	03/07/16 12:44	03/08/16 12:58	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	0.00479	U	0.0575	0.00479	ug/L		03/08/16 09:16	03/10/16 18:12	1
4,4'-DDE	0.00479	U	0.0575	0.00479	ug/L		03/08/16 09:16	03/10/16 18:12	1
4,4'-DDT	0.00777	U	0.0575	0.00777	ug/L		03/08/16 09:16	03/10/16 18:12	1
Aldrin	0.00479	U	0.0575	0.00479	ug/L		03/08/16 09:16	03/10/16 18:12	1
alpha-BHC	0.00499	U	0.0575	0.00499	ug/L		03/08/16 09:16	03/10/16 18:12	1
alpha-Chlordane	0.00604	U	0.0575	0.00604	ug/L		03/08/16 09:16	03/10/16 18:12	1
beta-BHC	0.00479	U	0.0575	0.00479	ug/L		03/08/16 09:16	03/10/16 18:12	1
delta-BHC	0.00479	U	0.0575	0.00479	ug/L		03/08/16 09:16	03/10/16 18:12	1
Dieldrin	0.0125	U	0.0575	0.0125	ug/L		03/08/16 09:16	03/10/16 18:12	1
Endosulfan I	0.00479	U	0.0575	0.00479	ug/L		03/08/16 09:16	03/10/16 18:12	1
Endosulfan II	0.00825	U	0.0575	0.00825	ug/L		03/08/16 09:16	03/10/16 18:12	1
Endosulfan sulfate	0.00844	U	0.0575	0.00844	ug/L		03/08/16 09:16	03/10/16 18:12	1
Endrin	0.00738	U	0.0575	0.00738	ug/L		03/08/16 09:16	03/10/16 18:12	1
Endrin aldehyde	0.00479	U	0.0575	0.00479	ug/L		03/08/16 09:16	03/10/16 18:12	1
Endrin ketone	0.00786	U	0.0575	0.00786	ug/L		03/08/16 09:16	03/10/16 18:12	1
gamma-BHC (Lindane)	0.00432	U	0.0575	0.00432	ug/L		03/08/16 09:16	03/10/16 18:12	1
gamma-Chlordane	0.00642	U	0.0575	0.00642	ug/L		03/08/16 09:16	03/10/16 18:12	1
Heptachlor	0.00623	U	0.0575	0.00623	ug/L		03/08/16 09:16	03/10/16 18:12	1
Heptachlor epoxide	0.00499	U	0.0575	0.00499	ug/L		03/08/16 09:16	03/10/16 18:12	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS110**

**Date Collected: 03/02/16 12:37**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-1**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	0.00959	U	0.0575	0.00959	ug/L		03/08/16 09:16	03/10/16 18:12	1
Toxaphene	0.652	U	5.75	0.652	ug/L		03/08/16 09:16	03/10/16 18:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	40		10 - 152				03/08/16 09:16	03/10/16 18:12	1
DCB Decachlorobiphenyl	68		10 - 152				03/08/16 09:16	03/10/16 18:12	1
Tetrachloro-m-xylene	81		57 - 127				03/08/16 09:16	03/10/16 18:12	1
Tetrachloro-m-xylene	77		57 - 127				03/08/16 09:16	03/10/16 18:12	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.575	0.105	ug/L		03/08/16 09:16	03/08/16 17:00	1
Aroclor 1221	0.105	U	0.575	0.105	ug/L		03/08/16 09:16	03/08/16 17:00	1
Aroclor 1232	0.422	U	0.767	0.422	ug/L		03/08/16 09:16	03/08/16 17:00	1
Aroclor 1242	0.105	U	0.575	0.105	ug/L		03/08/16 09:16	03/08/16 17:00	1
Aroclor 1248	0.105	U	0.575	0.105	ug/L		03/08/16 09:16	03/08/16 17:00	1
Aroclor 1254	0.105	U	0.575	0.105	ug/L		03/08/16 09:16	03/08/16 17:00	1
Aroclor 1260	0.105	U	0.575	0.105	ug/L		03/08/16 09:16	03/08/16 17:00	1
Aroclor 1262	0.105	U	0.575	0.105	ug/L		03/08/16 09:16	03/08/16 17:00	1
Aroclor 1268	0.105	U	0.575	0.105	ug/L		03/08/16 09:16	03/08/16 17:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	137		10 - 150				03/08/16 09:16	03/08/16 17:00	1
DCB Decachlorobiphenyl	115		10 - 150				03/08/16 09:16	03/08/16 17:00	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.161	U	2.39	0.161	ug/L		03/07/16 09:20	03/11/16 06:10	1
Bolstar	0.300	U	0.956	0.300	ug/L		03/07/16 09:20	03/11/16 06:10	1
Chlorpyrifos	0.344	U	1.43	0.344	ug/L		03/07/16 09:20	03/11/16 06:10	1
Coumaphos	0.129	U	0.956	0.129	ug/L		03/07/16 09:20	03/11/16 06:10	1
Demeton-O	0.134	U	0.956	0.134	ug/L		03/07/16 09:20	03/11/16 06:10	1
Demeton-S	0.0660	U	1.91	0.0660	ug/L		03/07/16 09:20	03/11/16 06:10	1
Diazinon	0.141	U	0.478	0.141	ug/L		03/07/16 09:20	03/11/16 06:10	1
Dichlorvos	0.155	U	0.478	0.155	ug/L		03/07/16 09:20	03/11/16 06:10	1
Dimethoate	0.429	U	1.43	0.429	ug/L		03/07/16 09:20	03/11/16 06:10	1
Disulfoton	0.308	U	0.956	0.308	ug/L		03/07/16 09:20	03/11/16 06:10	1
EPN	0.142	U	1.15	0.142	ug/L		03/07/16 09:20	03/11/16 06:10	1
Ethoprop	0.169	U	1.43	0.169	ug/L		03/07/16 09:20	03/11/16 06:10	1
Ethyl Parathion	0.138	U	0.956	0.138	ug/L		03/07/16 09:20	03/11/16 06:10	1
Famphur	0.171	U	0.956	0.171	ug/L		03/07/16 09:20	03/11/16 06:10	1
Fensulfothion	0.520	U	2.39	0.520	ug/L		03/07/16 09:20	03/11/16 06:10	1
Fenthion	0.147	U	2.39	0.147	ug/L		03/07/16 09:20	03/11/16 06:10	1
Malathion	0.127	U	1.91	0.127	ug/L		03/07/16 09:20	03/11/16 06:10	1
Merphos	0.166	U	4.78	0.166	ug/L		03/07/16 09:20	03/11/16 06:10	1
Methyl parathion	0.135	U	3.82	0.135	ug/L		03/07/16 09:20	03/11/16 06:10	1
Mevinphos	0.440	U	5.93	0.440	ug/L		03/07/16 09:20	03/11/16 06:10	1
Naled	0.765	U	1.91	0.765	ug/L		03/07/16 09:20	03/11/16 06:10	1
Phorate	0.147	U	1.15	0.147	ug/L		03/07/16 09:20	03/11/16 06:10	1
Ronnel	0.111	U	9.56	0.111	ug/L		03/07/16 09:20	03/11/16 06:10	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS110**

**Date Collected: 03/02/16 12:37**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-1**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfotepp	0.161	U	1.43	0.161	ug/L		03/07/16 09:20	03/11/16 06:10	1
Tetrachlorvinphos (Stirophos)	0.119	U	3.35	0.119	ug/L		03/07/16 09:20	03/11/16 06:10	1
Thionazin	0.298	U	0.956	0.298	ug/L		03/07/16 09:20	03/11/16 06:10	1
Tokuthion	0.118	U	1.53	0.118	ug/L		03/07/16 09:20	03/11/16 06:10	1
Trichloronate	0.231	U	1.43	0.231	ug/L		03/07/16 09:20	03/11/16 06:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	65		49 - 171				03/07/16 09:20	03/11/16 06:10	1
Triphenylphosphate	74		60 - 154				03/07/16 09:20	03/11/16 06:10	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0953	U	4.77	0.0953	ug/L		03/07/16 07:35	03/09/16 00:14	1
Dicamba	0.0810	U	0.477	0.0810	ug/L		03/07/16 07:35	03/09/16 00:14	1
Mecoprop	18.1	U	114	18.1	ug/L		03/07/16 07:35	03/09/16 00:14	1
MCPA	16.2	U	114	16.2	ug/L		03/07/16 07:35	03/09/16 00:14	1
Dichlorprop	0.143	U	0.477	0.143	ug/L		03/07/16 07:35	03/09/16 00:14	1
2,4-D	0.0353	U	0.477	0.0353	ug/L		03/07/16 07:35	03/09/16 00:14	1
Silvex (2,4,5-TP)	0.0591	U	0.238	0.0591	ug/L		03/07/16 07:35	03/09/16 00:14	1
2,4,5-T	0.0591	U	0.238	0.0591	ug/L		03/07/16 07:35	03/09/16 00:14	1
2,4-DB	0.143	U	0.477	0.143	ug/L		03/07/16 07:35	03/09/16 00:14	1
Dinoseb	0.153	U	0.953	0.153	ug/L		03/07/16 07:35	03/09/16 00:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	80		45 - 130				03/07/16 07:35	03/09/16 00:14	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	82.2		0.200	0.101	mg/L		03/07/16 10:00	03/07/16 14:57	1
Magnesium	17.6		0.200	0.0257	mg/L		03/07/16 10:00	03/07/16 14:57	1
Potassium	1.54		0.500	0.375	mg/L		03/07/16 10:00	03/07/16 14:57	1
Silicon	5.56		0.500	0.0707	mg/L		03/07/16 10:00	03/07/16 14:57	1
Sodium	12.5		1.00	0.310	mg/L		03/07/16 10:00	03/07/16 14:57	1
Strontium	0.717		0.00500	0.000700	mg/L		03/07/16 10:00	03/07/16 14:57	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/07/16 10:00	03/07/16 19:37	1
Antimony	1.61	U	5.00	1.61	ug/L		03/07/16 10:00	03/07/16 19:37	1
Arsenic	1.61	J	5.00	1.09	ug/L		03/07/16 10:00	03/07/16 19:37	1
Barium	46.4		5.00	0.810	ug/L		03/07/16 10:00	03/07/16 19:37	1
Beryllium	1.24	U	4.00	1.24	ug/L		03/07/16 10:00	03/07/16 19:37	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/07/16 10:00	03/07/16 19:37	1
Chromium	1.40	U	5.00	1.40	ug/L		03/07/16 10:00	03/07/16 19:37	1
Copper	2.00	U	10.0	2.00	ug/L		03/07/16 10:00	03/07/16 19:37	1
Iron	101	U	250	101	ug/L		03/07/16 10:00	03/07/16 19:37	1
Lead	0.733	U	5.00	0.733	ug/L		03/07/16 10:00	03/07/16 19:37	1
Manganese	11.6	U	50.0	11.6	ug/L		03/07/16 10:00	03/08/16 13:38	1
Nickel	2.17	U	5.00	2.17	ug/L		03/07/16 10:00	03/07/16 19:37	1
Selenium	1.57	J	5.00	1.08	ug/L		03/07/16 10:00	03/07/16 19:37	1
Silver	0.941	U	5.00	0.941	ug/L		03/07/16 10:00	03/08/16 13:38	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS110**

**Date Collected: 03/02/16 12:37**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-1**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.693	U	2.00	0.693	ug/L		03/07/16 10:00	03/07/16 19:37	1
Zinc	3.55	U	25.0	3.55	ug/L		03/07/16 10:00	03/07/16 19:37	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/08/16 10:00	03/08/16 14:37	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.544	J	1.00	0.315	mg/L			03/04/16 11:04	1
Chloride	18.5		1.00	0.192	mg/L			03/04/16 11:04	1
Nitrate as N	1.23		0.500	0.103	mg/L			03/04/16 11:04	1
Sulfate	24.8		1.00	0.377	mg/L			03/04/16 11:04	1
Fluoride	0.234		0.100	0.0200	mg/L			03/08/16 10:10	1
Nitrogen, Kjeldahl	0.311		0.200	0.100	mg/L		03/14/16 09:20	03/15/16 10:40	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/14/16 09:20	03/15/16 10:46	1
Total Organic Carbon	4.79		1.00	0.285	mg/L			03/08/16 16:13	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.61	HF	0.100	0.100	SU			03/07/16 10:28	1
Total Alkalinity as CaCO3	226		5.00	5.00	mg/L			03/16/16 17:00	1
Bicarbonate Alkalinity as CaCO3	226		5.00	5.00	mg/L			03/16/16 17:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/16/16 17:00	1
Total Dissolved Solids	331		10.0	10.0	mg/L			03/07/16 14:02	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/04/16 14:20	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.823	J	1.00	0.285	mg/L			03/08/16 16:13	1

**Client Sample ID: HCS120**

**Date Collected: 03/02/16 13:16**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-2**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/08/16 16:57	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/08/16 16:57	1
Benzene	0.330	U	1.00	0.330	ug/L			03/08/16 16:57	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/08/16 16:57	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 16:57	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/08/16 16:57	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/08/16 16:57	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/08/16 16:57	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/08/16 16:57	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/08/16 16:57	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/08/16 16:57	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/08/16 16:57	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/08/16 16:57	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/08/16 16:57	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/08/16 16:57	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS120**

**Date Collected: 03/02/16 13:16**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-2**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	0.400	U	5.00	0.400	ug/L			03/08/16 16:57	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/08/16 16:57	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/08/16 16:57	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/08/16 16:57	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/08/16 16:57	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/08/16 16:57	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 16:57	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/08/16 16:57	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/08/16 16:57	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/08/16 16:57	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/08/16 16:57	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/08/16 16:57	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/08/16 16:57	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/08/16 16:57	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 16:57	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/08/16 16:57	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/08/16 16:57	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/08/16 16:57	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/08/16 16:57	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/08/16 16:57	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/08/16 16:57	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/08/16 16:57	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/08/16 16:57	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/08/16 16:57	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/08/16 16:57	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/08/16 16:57	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/08/16 16:57	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/08/16 16:57	1
EDB	0.175	U	1.00	0.175	ug/L			03/08/16 16:57	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/08/16 16:57	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 16:57	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/08/16 16:57	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/08/16 16:57	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/08/16 16:57	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/08/16 16:57	1
Hexane	2.00	U	5.00	2.00	ug/L			03/08/16 16:57	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/08/16 16:57	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/08/16 16:57	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/08/16 16:57	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/08/16 16:57	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/08/16 16:57	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/08/16 16:57	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/08/16 16:57	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/08/16 16:57	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/08/16 16:57	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/08/16 16:57	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/08/16 16:57	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/08/16 16:57	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/08/16 16:57	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS120**

**Date Collected: 03/02/16 13:16**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-2**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 16:57	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/08/16 16:57	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/08/16 16:57	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/08/16 16:57	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/08/16 16:57	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/08/16 16:57	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/08/16 16:57	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/08/16 16:57	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/08/16 16:57	1
Styrene	0.200	U	1.00	0.200	ug/L			03/08/16 16:57	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 16:57	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/08/16 16:57	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/08/16 16:57	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/08/16 16:57	1
Toluene	0.495	U	1.00	0.495	ug/L			03/08/16 16:57	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 16:57	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/08/16 16:57	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/08/16 16:57	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/08/16 16:57	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/08/16 16:57	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/08/16 16:57	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/08/16 16:57	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/08/16 16:57	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/08/16 16:57	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/08/16 16:57	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/08/16 16:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/08/16 16:57	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 16:57	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 16:57	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/08/16 16:57	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/08/16 16:57	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/08/16 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	76		70 - 130		03/08/16 16:57	1
Dibromofluoromethane (Surr)	107		69 - 130		03/08/16 16:57	1
1,2-Dichloroethane-d4 (Surr)	83		70 - 140		03/08/16 16:57	1
Toluene-d8 (Surr)	105		70 - 130		03/08/16 16:57	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/07/16 12:44	03/08/16 13:25	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/07/16 12:44	03/08/16 13:25	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/07/16 12:44	03/08/16 13:25	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/07/16 12:44	03/08/16 13:25	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/07/16 12:44	03/08/16 13:25	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/07/16 12:44	03/08/16 13:25	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/07/16 12:44	03/08/16 13:25	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/07/16 12:44	03/08/16 13:25	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/07/16 12:44	03/08/16 13:25	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS120**

**Date Collected: 03/02/16 13:16**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-2**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/07/16 12:44	03/08/16 13:25	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/07/16 12:44	03/08/16 13:25	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/07/16 12:44	03/08/16 13:25	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/07/16 12:44	03/08/16 13:25	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/07/16 12:44	03/08/16 13:25	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/07/16 12:44	03/08/16 13:25	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/07/16 12:44	03/08/16 13:25	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/07/16 12:44	03/08/16 13:25	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/07/16 12:44	03/08/16 13:25	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/07/16 12:44	03/08/16 13:25	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/07/16 12:44	03/08/16 13:25	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/07/16 12:44	03/08/16 13:25	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/07/16 12:44	03/08/16 13:25	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/07/16 12:44	03/08/16 13:25	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/07/16 12:44	03/08/16 13:25	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/07/16 12:44	03/08/16 13:25	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/07/16 12:44	03/08/16 13:25	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/07/16 12:44	03/08/16 13:25	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/07/16 12:44	03/08/16 13:25	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/07/16 12:44	03/08/16 13:25	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/07/16 12:44	03/08/16 13:25	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/07/16 12:44	03/08/16 13:25	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/07/16 12:44	03/08/16 13:25	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/07/16 12:44	03/08/16 13:25	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/07/16 12:44	03/08/16 13:25	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/07/16 12:44	03/08/16 13:25	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/07/16 12:44	03/08/16 13:25	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/07/16 12:44	03/08/16 13:25	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/07/16 12:44	03/08/16 13:25	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/07/16 12:44	03/08/16 13:25	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/07/16 12:44	03/08/16 13:25	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/07/16 12:44	03/08/16 13:25	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/07/16 12:44	03/08/16 13:25	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/07/16 12:44	03/08/16 13:25	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/07/16 12:44	03/08/16 13:25	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/07/16 12:44	03/08/16 13:25	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/07/16 12:44	03/08/16 13:25	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/07/16 12:44	03/08/16 13:25	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/07/16 12:44	03/08/16 13:25	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/07/16 12:44	03/08/16 13:25	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/07/16 12:44	03/08/16 13:25	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/07/16 12:44	03/08/16 13:25	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/07/16 12:44	03/08/16 13:25	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/07/16 12:44	03/08/16 13:25	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/07/16 12:44	03/08/16 13:25	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/07/16 12:44	03/08/16 13:25	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/07/16 12:44	03/08/16 13:25	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/07/16 12:44	03/08/16 13:25	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/07/16 12:44	03/08/16 13:25	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS120**

**Date Collected: 03/02/16 13:16**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-2**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.768	U	10.0	0.768	ug/L		03/07/16 12:44	03/08/16 13:25	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/07/16 12:44	03/08/16 13:25	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/07/16 12:44	03/08/16 13:25	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/07/16 12:44	03/08/16 13:25	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/07/16 12:44	03/08/16 13:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	38		23 - 130	03/07/16 12:44	03/08/16 13:25	1
2-Fluorophenol	40		10 - 130	03/07/16 12:44	03/08/16 13:25	1
Nitrobenzene-d5	42		27 - 130	03/07/16 12:44	03/08/16 13:25	1
Phenol-d5	42		10 - 130	03/07/16 12:44	03/08/16 13:25	1
Terphenyl-d14	53		10 - 141	03/07/16 12:44	03/08/16 13:25	1
2,4,6-Tribromophenol	44		18 - 130	03/07/16 12:44	03/08/16 13:25	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 19:44	1
4,4'-DDE	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 19:44	1
4,4'-DDT	0.00779	U	0.0577	0.00779	ug/L		03/08/16 09:16	03/08/16 19:44	1
Aldrin	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 19:44	1
alpha-BHC	0.00500	U	0.0577	0.00500	ug/L		03/08/16 09:16	03/08/16 19:44	1
alpha-Chlordane	0.00606	U	0.0577	0.00606	ug/L		03/08/16 09:16	03/08/16 19:44	1
beta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 19:44	1
delta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 19:44	1
Dieldrin	0.0125	U	0.0577	0.0125	ug/L		03/08/16 09:16	03/08/16 19:44	1
Endosulfan I	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 19:44	1
Endosulfan II	0.00827	U	0.0577	0.00827	ug/L		03/08/16 09:16	03/08/16 19:44	1
Endosulfan sulfate	0.00846	U	0.0577	0.00846	ug/L		03/08/16 09:16	03/08/16 19:44	1
Endrin	0.00740	U	0.0577	0.00740	ug/L		03/08/16 09:16	03/08/16 19:44	1
Endrin aldehyde	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 19:44	1
Endrin ketone	0.00788	U	0.0577	0.00788	ug/L		03/08/16 09:16	03/08/16 19:44	1
gamma-BHC (Lindane)	0.00433	U	0.0577	0.00433	ug/L		03/08/16 09:16	03/08/16 19:44	1
gamma-Chlordane	0.00644	U	0.0577	0.00644	ug/L		03/08/16 09:16	03/08/16 19:44	1
Heptachlor	0.00625	U	0.0577	0.00625	ug/L		03/08/16 09:16	03/08/16 19:44	1
Heptachlor epoxide	0.00500	U	0.0577	0.00500	ug/L		03/08/16 09:16	03/08/16 19:44	1
Methoxychlor	0.00962	U	0.0577	0.00962	ug/L		03/08/16 09:16	03/08/16 19:44	1
Toxaphene	0.654	U	5.77	0.654	ug/L		03/08/16 09:16	03/08/16 19:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	25		10 - 152	03/08/16 09:16	03/08/16 19:44	1
Tetrachloro-m-xylene	77		57 - 127	03/08/16 09:16	03/08/16 19:44	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:17	1
Aroclor 1221	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:17	1
Aroclor 1232	0.423	U	0.769	0.423	ug/L		03/08/16 09:16	03/08/16 17:17	1
Aroclor 1242	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:17	1
Aroclor 1248	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:17	1
Aroclor 1254	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:17	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS120**

**Date Collected: 03/02/16 13:16**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-2**

**Matrix: Water**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1260	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:17	1
Aroclor 1262	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:17	1
Aroclor 1268	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	128		10 - 150				03/08/16 09:16	03/08/16 17:17	1
DCB Decachlorobiphenyl	73		10 - 150				03/08/16 09:16	03/08/16 17:17	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.159	U	2.37	0.159	ug/L		03/07/16 09:20	03/11/16 06:41	1
Bolstar	0.298	U	0.949	0.298	ug/L		03/07/16 09:20	03/11/16 06:41	1
Chlorpyrifos	0.342	U	1.42	0.342	ug/L		03/07/16 09:20	03/11/16 06:41	1
Coumaphos	0.128	U	0.949	0.128	ug/L		03/07/16 09:20	03/11/16 06:41	1
Demeton-O	0.133	U	0.949	0.133	ug/L		03/07/16 09:20	03/11/16 06:41	1
Demeton-S	0.0655	U	1.90	0.0655	ug/L		03/07/16 09:20	03/11/16 06:41	1
Diazinon	0.140	U	0.475	0.140	ug/L		03/07/16 09:20	03/11/16 06:41	1
Dichlorvos	0.154	U	0.475	0.154	ug/L		03/07/16 09:20	03/11/16 06:41	1
Dimethoate	0.426	U	1.42	0.426	ug/L		03/07/16 09:20	03/11/16 06:41	1
Disulfoton	0.306	U	0.949	0.306	ug/L		03/07/16 09:20	03/11/16 06:41	1
EPN	0.141	U	1.14	0.141	ug/L		03/07/16 09:20	03/11/16 06:41	1
Ethoprop	0.168	U	1.42	0.168	ug/L		03/07/16 09:20	03/11/16 06:41	1
Ethyl Parathion	0.137	U	0.949	0.137	ug/L		03/07/16 09:20	03/11/16 06:41	1
Famphur	0.170	U	0.949	0.170	ug/L		03/07/16 09:20	03/11/16 06:41	1
Fensulfothion	0.516	U	2.37	0.516	ug/L		03/07/16 09:20	03/11/16 06:41	1
Fenthion	0.146	U	2.37	0.146	ug/L		03/07/16 09:20	03/11/16 06:41	1
Malathion	0.126	U	1.90	0.126	ug/L		03/07/16 09:20	03/11/16 06:41	1
Merphos	0.165	U	4.75	0.165	ug/L		03/07/16 09:20	03/11/16 06:41	1
Methyl parathion	0.134	U	3.80	0.134	ug/L		03/07/16 09:20	03/11/16 06:41	1
Mevinphos	0.437	U	5.88	0.437	ug/L		03/07/16 09:20	03/11/16 06:41	1
Naled	0.759	U	1.90	0.759	ug/L		03/07/16 09:20	03/11/16 06:41	1
Phorate	0.146	U	1.14	0.146	ug/L		03/07/16 09:20	03/11/16 06:41	1
Ronnel	0.110	U	9.49	0.110	ug/L		03/07/16 09:20	03/11/16 06:41	1
Sulfotepp	0.159	U	1.42	0.159	ug/L		03/07/16 09:20	03/11/16 06:41	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.32	0.118	ug/L		03/07/16 09:20	03/11/16 06:41	1
Thionazin	0.296	U	0.949	0.296	ug/L		03/07/16 09:20	03/11/16 06:41	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/07/16 09:20	03/11/16 06:41	1
Trichloronate	0.230	U	1.42	0.230	ug/L		03/07/16 09:20	03/11/16 06:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	68		49 - 171				03/07/16 09:20	03/11/16 06:41	1
Triphenylphosphate	78		60 - 154				03/07/16 09:20	03/11/16 06:41	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0954	U	4.77	0.0954	ug/L		03/07/16 07:35	03/09/16 00:34	1
Dicamba	0.0811	U	0.477	0.0811	ug/L		03/07/16 07:35	03/09/16 00:34	1
Mecoprop	18.1	U	114	18.1	ug/L		03/07/16 07:35	03/09/16 00:34	1
MCPA	16.2	U	114	16.2	ug/L		03/07/16 07:35	03/09/16 00:34	1
Dichlorprop	0.143	U	0.477	0.143	ug/L		03/07/16 07:35	03/09/16 00:34	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS120**

**Date Collected: 03/02/16 13:16**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-2**

**Matrix: Water**

## Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	0.0353	U	0.477	0.0353	ug/L		03/07/16 07:35	03/09/16 00:34	1
Silvex (2,4,5-TP)	0.0591	U	0.239	0.0591	ug/L		03/07/16 07:35	03/09/16 00:34	1
2,4,5-T	0.0591	U	0.239	0.0591	ug/L		03/07/16 07:35	03/09/16 00:34	1
2,4-DB	0.143	U	0.477	0.143	ug/L		03/07/16 07:35	03/09/16 00:34	1
Dinoseb	0.153	U	0.954	0.153	ug/L		03/07/16 07:35	03/09/16 00:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	77		45 - 130	03/07/16 07:35	03/09/16 00:34	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	83.9		0.200	0.101	mg/L		03/07/16 10:00	03/07/16 15:01	1
Magnesium	16.8		0.200	0.0257	mg/L		03/07/16 10:00	03/07/16 15:01	1
Potassium	1.38		0.500	0.375	mg/L		03/07/16 10:00	03/07/16 15:01	1
Silicon	5.67		0.500	0.0707	mg/L		03/07/16 10:00	03/07/16 15:01	1
Sodium	11.9		1.00	0.310	mg/L		03/07/16 10:00	03/07/16 15:01	1
Strontium	0.683		0.00500	0.000700	mg/L		03/07/16 10:00	03/07/16 15:01	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/07/16 10:00	03/07/16 20:08	1
Antimony	1.61	U	5.00	1.61	ug/L		03/07/16 10:00	03/07/16 20:08	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/07/16 10:00	03/07/16 20:08	1
Barium	44.5		5.00	0.810	ug/L		03/07/16 10:00	03/07/16 20:08	1
Beryllium	1.24	U	4.00	1.24	ug/L		03/07/16 10:00	03/07/16 20:08	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/07/16 10:00	03/07/16 20:08	1
Chromium	1.40	U	5.00	1.40	ug/L		03/07/16 10:00	03/07/16 20:08	1
Copper	2.00	U	10.0	2.00	ug/L		03/07/16 10:00	03/07/16 20:08	1
Iron	101	U	250	101	ug/L		03/07/16 10:00	03/07/16 20:08	1
Lead	0.733	U	5.00	0.733	ug/L		03/07/16 10:00	03/07/16 20:08	1
Manganese	11.6	U	50.0	11.6	ug/L		03/07/16 10:00	03/08/16 13:43	1
Nickel	2.17	U	5.00	2.17	ug/L		03/07/16 10:00	03/07/16 20:08	1
Selenium	1.08	U	5.00	1.08	ug/L		03/07/16 10:00	03/07/16 20:08	1
Silver	0.941	U	5.00	0.941	ug/L		03/07/16 10:00	03/08/16 13:43	1
Thallium	0.693	U	2.00	0.693	ug/L		03/07/16 10:00	03/07/16 20:08	1
Zinc	3.55	U	25.0	3.55	ug/L		03/07/16 10:00	03/07/16 20:08	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/08/16 10:00	03/08/16 14:39	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.545	J	1.00	0.315	mg/L			03/04/16 11:30	1
Chloride	17.6		1.00	0.192	mg/L			03/04/16 11:30	1
Nitrate as N	1.79		0.500	0.103	mg/L			03/04/16 11:30	1
Sulfate	24.4		1.00	0.377	mg/L			03/04/16 11:30	1
Fluoride	0.200		0.100	0.0200	mg/L			03/08/16 10:10	1
Nitrogen, Kjeldahl	0.100	U	0.200	0.100	mg/L		03/14/16 09:22	03/15/16 11:07	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/14/16 09:22	03/15/16 11:07	1
Total Organic Carbon	2.17		1.00	0.285	mg/L			03/08/16 16:13	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.

Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1

SDG: Comal Springs

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.31	HF	0.100	0.100	SU	-		03/07/16 10:28	1
Total Alkalinity as CaCO3	229		5.00	5.00	mg/L			03/16/16 17:00	1
Bicarbonate Alkalinity as CaCO3	229		5.00	5.00	mg/L			03/16/16 17:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/16/16 17:00	1
Total Dissolved Solids	340		10.0	10.0	mg/L			03/07/16 14:02	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/04/16 14:20	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		03/08/16 16:13	1

Client Sample ID: FDHCS120

Date Collected: 03/02/16 13:16

Date Received: 03/04/16 08:10

Lab Sample ID: 560-60073-3

Matrix: Water

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		03/08/16 17:22	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/08/16 17:22	1
Benzene	0.330	U	1.00	0.330	ug/L			03/08/16 17:22	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/08/16 17:22	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 17:22	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/08/16 17:22	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/08/16 17:22	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/08/16 17:22	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/08/16 17:22	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/08/16 17:22	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/08/16 17:22	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/08/16 17:22	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/08/16 17:22	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/08/16 17:22	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/08/16 17:22	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/08/16 17:22	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/08/16 17:22	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/08/16 17:22	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/08/16 17:22	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/08/16 17:22	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/08/16 17:22	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 17:22	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/08/16 17:22	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/08/16 17:22	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/08/16 17:22	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/08/16 17:22	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/08/16 17:22	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/08/16 17:22	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/08/16 17:22	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 17:22	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/08/16 17:22	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/08/16 17:22	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/08/16 17:22	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/08/16 17:22	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/08/16 17:22	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/08/16 17:22	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/08/16 17:22	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/08/16 17:22	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-60073-3**

**Date Collected: 03/02/16 13:16**

**Matrix: Water**

**Date Received: 03/04/16 08:10**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/08/16 17:22	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/08/16 17:22	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/08/16 17:22	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/08/16 17:22	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/08/16 17:22	1
EDB	0.175	U	1.00	0.175	ug/L			03/08/16 17:22	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/08/16 17:22	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 17:22	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/08/16 17:22	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/08/16 17:22	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/08/16 17:22	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/08/16 17:22	1
Hexane	2.00	U	5.00	2.00	ug/L			03/08/16 17:22	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/08/16 17:22	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/08/16 17:22	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/08/16 17:22	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/08/16 17:22	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/08/16 17:22	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/08/16 17:22	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/08/16 17:22	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/08/16 17:22	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/08/16 17:22	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/08/16 17:22	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/08/16 17:22	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/08/16 17:22	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/08/16 17:22	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 17:22	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/08/16 17:22	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/08/16 17:22	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/08/16 17:22	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/08/16 17:22	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/08/16 17:22	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/08/16 17:22	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/08/16 17:22	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/08/16 17:22	1
Styrene	0.200	U	1.00	0.200	ug/L			03/08/16 17:22	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 17:22	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/08/16 17:22	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/08/16 17:22	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/08/16 17:22	1
Toluene	0.495	U	1.00	0.495	ug/L			03/08/16 17:22	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 17:22	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/08/16 17:22	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/08/16 17:22	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/08/16 17:22	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/08/16 17:22	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/08/16 17:22	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/08/16 17:22	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/08/16 17:22	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-60073-3**

**Date Collected: 03/02/16 13:16**

**Matrix: Water**

**Date Received: 03/04/16 08:10**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/08/16 17:22	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/08/16 17:22	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/08/16 17:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/08/16 17:22	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 17:22	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 17:22	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/08/16 17:22	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/08/16 17:22	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/08/16 17:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		70 - 130		03/08/16 17:22	1
Dibromofluoromethane (Surr)	105		69 - 130		03/08/16 17:22	1
1,2-Dichloroethane-d4 (Surr)	81		70 - 140		03/08/16 17:22	1
Toluene-d8 (Surr)	105		70 - 130		03/08/16 17:22	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/07/16 12:44	03/08/16 13:53	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/07/16 12:44	03/08/16 13:53	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/07/16 12:44	03/08/16 13:53	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/07/16 12:44	03/08/16 13:53	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/07/16 12:44	03/08/16 13:53	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/07/16 12:44	03/08/16 13:53	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/07/16 12:44	03/08/16 13:53	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/07/16 12:44	03/08/16 13:53	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/07/16 12:44	03/08/16 13:53	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/07/16 12:44	03/08/16 13:53	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/07/16 12:44	03/08/16 13:53	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/07/16 12:44	03/08/16 13:53	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/07/16 12:44	03/08/16 13:53	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/07/16 12:44	03/08/16 13:53	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/07/16 12:44	03/08/16 13:53	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/07/16 12:44	03/08/16 13:53	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/07/16 12:44	03/08/16 13:53	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/07/16 12:44	03/08/16 13:53	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/07/16 12:44	03/08/16 13:53	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/07/16 12:44	03/08/16 13:53	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/07/16 12:44	03/08/16 13:53	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/07/16 12:44	03/08/16 13:53	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/07/16 12:44	03/08/16 13:53	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/07/16 12:44	03/08/16 13:53	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/07/16 12:44	03/08/16 13:53	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/07/16 12:44	03/08/16 13:53	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/07/16 12:44	03/08/16 13:53	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/07/16 12:44	03/08/16 13:53	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/07/16 12:44	03/08/16 13:53	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/07/16 12:44	03/08/16 13:53	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/07/16 12:44	03/08/16 13:53	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/07/16 12:44	03/08/16 13:53	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-60073-3**

**Date Collected: 03/02/16 13:16**

**Matrix: Water**

**Date Received: 03/04/16 08:10**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/07/16 12:44	03/08/16 13:53	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/07/16 12:44	03/08/16 13:53	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/07/16 12:44	03/08/16 13:53	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/07/16 12:44	03/08/16 13:53	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/07/16 12:44	03/08/16 13:53	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/07/16 12:44	03/08/16 13:53	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/07/16 12:44	03/08/16 13:53	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/07/16 12:44	03/08/16 13:53	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/07/16 12:44	03/08/16 13:53	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/07/16 12:44	03/08/16 13:53	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/07/16 12:44	03/08/16 13:53	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/07/16 12:44	03/08/16 13:53	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/07/16 12:44	03/08/16 13:53	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/07/16 12:44	03/08/16 13:53	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/07/16 12:44	03/08/16 13:53	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/07/16 12:44	03/08/16 13:53	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/07/16 12:44	03/08/16 13:53	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/07/16 12:44	03/08/16 13:53	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/07/16 12:44	03/08/16 13:53	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/07/16 12:44	03/08/16 13:53	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/07/16 12:44	03/08/16 13:53	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/07/16 12:44	03/08/16 13:53	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/07/16 12:44	03/08/16 13:53	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/07/16 12:44	03/08/16 13:53	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/07/16 12:44	03/08/16 13:53	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/07/16 12:44	03/08/16 13:53	1
Phenol	0.768	U	10.0	0.768	ug/L		03/07/16 12:44	03/08/16 13:53	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/07/16 12:44	03/08/16 13:53	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/07/16 12:44	03/08/16 13:53	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/07/16 12:44	03/08/16 13:53	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/07/16 12:44	03/08/16 13:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	39		23 - 130	03/07/16 12:44	03/08/16 13:53	1
2-Fluorophenol	40		10 - 130	03/07/16 12:44	03/08/16 13:53	1
Nitrobenzene-d5	42		27 - 130	03/07/16 12:44	03/08/16 13:53	1
Phenol-d5	43		10 - 130	03/07/16 12:44	03/08/16 13:53	1
Terphenyl-d14	61		10 - 141	03/07/16 12:44	03/08/16 13:53	1
2,4,6-Tribromophenol	48		18 - 130	03/07/16 12:44	03/08/16 13:53	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 20:09	1
4,4'-DDE	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 20:09	1
4,4'-DDT	0.00779	U	0.0577	0.00779	ug/L		03/08/16 09:16	03/08/16 20:09	1
Aldrin	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 20:09	1
alpha-BHC	0.00500	U	0.0577	0.00500	ug/L		03/08/16 09:16	03/08/16 20:09	1
alpha-Chlordane	0.00606	U	0.0577	0.00606	ug/L		03/08/16 09:16	03/08/16 20:09	1
beta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 20:09	1
delta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 20:09	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-60073-3**

**Date Collected: 03/02/16 13:16**

**Matrix: Water**

**Date Received: 03/04/16 08:10**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dieldrin	0.0125	U	0.0577	0.0125	ug/L		03/08/16 09:16	03/08/16 20:09	1
Endosulfan I	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 20:09	1
Endosulfan II	0.00827	U	0.0577	0.00827	ug/L		03/08/16 09:16	03/08/16 20:09	1
Endosulfan sulfate	0.00846	U	0.0577	0.00846	ug/L		03/08/16 09:16	03/08/16 20:09	1
Endrin	0.00740	U	0.0577	0.00740	ug/L		03/08/16 09:16	03/08/16 20:09	1
Endrin aldehyde	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 20:09	1
Endrin ketone	0.00788	U	0.0577	0.00788	ug/L		03/08/16 09:16	03/08/16 20:09	1
gamma-BHC (Lindane)	0.00433	U	0.0577	0.00433	ug/L		03/08/16 09:16	03/08/16 20:09	1
gamma-Chlordane	0.00644	U	0.0577	0.00644	ug/L		03/08/16 09:16	03/08/16 20:09	1
Heptachlor	0.00625	U	0.0577	0.00625	ug/L		03/08/16 09:16	03/08/16 20:09	1
Heptachlor epoxide	0.00500	U	0.0577	0.00500	ug/L		03/08/16 09:16	03/08/16 20:09	1
Methoxychlor	0.00962	U	0.0577	0.00962	ug/L		03/08/16 09:16	03/08/16 20:09	1
Toxaphene	0.654	U	5.77	0.654	ug/L		03/08/16 09:16	03/08/16 20:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	32		10 - 152	03/08/16 09:16	03/08/16 20:09	1
Tetrachloro-m-xylene	82		57 - 127	03/08/16 09:16	03/08/16 20:09	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:35	1
Aroclor 1221	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:35	1
Aroclor 1232	0.423	U	0.769	0.423	ug/L		03/08/16 09:16	03/08/16 17:35	1
Aroclor 1242	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:35	1
Aroclor 1248	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:35	1
Aroclor 1254	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:35	1
Aroclor 1260	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:35	1
Aroclor 1262	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:35	1
Aroclor 1268	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	142		10 - 150	03/08/16 09:16	03/08/16 17:35	1
DCB Decachlorobiphenyl	93		10 - 150	03/08/16 09:16	03/08/16 17:35	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.159	U	2.37	0.159	ug/L		03/07/16 09:20	03/11/16 07:11	1
Bolstar	0.298	U	0.948	0.298	ug/L		03/07/16 09:20	03/11/16 07:11	1
Chlorpyrifos	0.341	U	1.42	0.341	ug/L		03/07/16 09:20	03/11/16 07:11	1
Coumaphos	0.128	U	0.948	0.128	ug/L		03/07/16 09:20	03/11/16 07:11	1
Demeton-O	0.133	U	0.948	0.133	ug/L		03/07/16 09:20	03/11/16 07:11	1
Demeton-S	0.0654	U	1.90	0.0654	ug/L		03/07/16 09:20	03/11/16 07:11	1
Diazinon	0.139	U	0.474	0.139	ug/L		03/07/16 09:20	03/11/16 07:11	1
Dichlorvos	0.154	U	0.474	0.154	ug/L		03/07/16 09:20	03/11/16 07:11	1
Dimethoate	0.426	U	1.42	0.426	ug/L		03/07/16 09:20	03/11/16 07:11	1
Disulfoton	0.305	U	0.948	0.305	ug/L		03/07/16 09:20	03/11/16 07:11	1
EPN	0.141	U	1.14	0.141	ug/L		03/07/16 09:20	03/11/16 07:11	1
Ethoprop	0.168	U	1.42	0.168	ug/L		03/07/16 09:20	03/11/16 07:11	1
Ethyl Parathion	0.137	U	0.948	0.137	ug/L		03/07/16 09:20	03/11/16 07:11	1
Famphur	0.170	U	0.948	0.170	ug/L		03/07/16 09:20	03/11/16 07:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-60073-3**

**Date Collected: 03/02/16 13:16**

**Matrix: Water**

**Date Received: 03/04/16 08:10**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fensulfothion	0.516	U	2.37	0.516	ug/L		03/07/16 09:20	03/11/16 07:11	1
Fenthion	0.146	U	2.37	0.146	ug/L		03/07/16 09:20	03/11/16 07:11	1
Malathion	0.126	U	1.90	0.126	ug/L		03/07/16 09:20	03/11/16 07:11	1
Merphos	0.165	U	4.74	0.165	ug/L		03/07/16 09:20	03/11/16 07:11	1
Methyl parathion	0.134	U	3.79	0.134	ug/L		03/07/16 09:20	03/11/16 07:11	1
Mevinphos	0.436	U	5.88	0.436	ug/L		03/07/16 09:20	03/11/16 07:11	1
Naled	0.758	U	1.90	0.758	ug/L		03/07/16 09:20	03/11/16 07:11	1
Phorate	0.146	U	1.14	0.146	ug/L		03/07/16 09:20	03/11/16 07:11	1
Ronnel	0.110	U	9.48	0.110	ug/L		03/07/16 09:20	03/11/16 07:11	1
Sulfotepp	0.159	U	1.42	0.159	ug/L		03/07/16 09:20	03/11/16 07:11	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.32	0.118	ug/L		03/07/16 09:20	03/11/16 07:11	1
Thionazin	0.296	U	0.948	0.296	ug/L		03/07/16 09:20	03/11/16 07:11	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/07/16 09:20	03/11/16 07:11	1
Trichloronate	0.229	U	1.42	0.229	ug/L		03/07/16 09:20	03/11/16 07:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	69		49 - 171				03/07/16 09:20	03/11/16 07:11	1
Triphenylphosphate	75		60 - 154				03/07/16 09:20	03/11/16 07:11	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0951	U	4.75	0.0951	ug/L		03/07/16 07:35	03/09/16 00:53	1
Dicamba	0.0808	U	0.475	0.0808	ug/L		03/07/16 07:35	03/09/16 00:53	1
Mecoprop	18.1	U	114	18.1	ug/L		03/07/16 07:35	03/09/16 00:53	1
MCPA	16.2	U	114	16.2	ug/L		03/07/16 07:35	03/09/16 00:53	1
Dichlorprop	0.143	U	0.475	0.143	ug/L		03/07/16 07:35	03/09/16 00:53	1
2,4-D	0.0352	U	0.475	0.0352	ug/L		03/07/16 07:35	03/09/16 00:53	1
Silvex (2,4,5-TP)	0.0590	U	0.238	0.0590	ug/L		03/07/16 07:35	03/09/16 00:53	1
2,4,5-T	0.0590	U	0.238	0.0590	ug/L		03/07/16 07:35	03/09/16 00:53	1
2,4-DB	0.143	U	0.475	0.143	ug/L		03/07/16 07:35	03/09/16 00:53	1
Dinoseb	0.152	U	0.951	0.152	ug/L		03/07/16 07:35	03/09/16 00:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	78		45 - 130				03/07/16 07:35	03/09/16 00:53	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	85.8		0.200	0.101	mg/L		03/07/16 10:00	03/07/16 15:05	1
Magnesium	17.0		0.200	0.0257	mg/L		03/07/16 10:00	03/07/16 15:05	1
Potassium	1.37		0.500	0.375	mg/L		03/07/16 10:00	03/07/16 15:05	1
Silicon	5.80		0.500	0.0707	mg/L		03/07/16 10:00	03/07/16 15:05	1
Sodium	12.0		1.00	0.310	mg/L		03/07/16 10:00	03/07/16 15:05	1
Strontium	0.681		0.00500	0.000700	mg/L		03/07/16 10:00	03/07/16 15:05	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/07/16 10:00	03/07/16 20:13	1
Antimony	1.61	U	5.00	1.61	ug/L		03/07/16 10:00	03/07/16 20:13	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/07/16 10:00	03/07/16 20:13	1
Barium	44.5		5.00	0.810	ug/L		03/07/16 10:00	03/07/16 20:13	1
Beryllium	1.24	U	4.00	1.24	ug/L		03/07/16 10:00	03/07/16 20:13	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-60073-3**

**Date Collected: 03/02/16 13:16**

**Matrix: Water**

**Date Received: 03/04/16 08:10**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.854	U	2.00	0.854	ug/L		03/07/16 10:00	03/07/16 20:13	1
Chromium	1.40	U	5.00	1.40	ug/L		03/07/16 10:00	03/07/16 20:13	1
Copper	2.00	U	10.0	2.00	ug/L		03/07/16 10:00	03/07/16 20:13	1
Iron	101	U	250	101	ug/L		03/07/16 10:00	03/07/16 20:13	1
<b>Lead</b>	<b>1.79</b>	<b>J</b>	5.00	0.733	ug/L		03/07/16 10:00	03/07/16 20:13	1
Manganese	11.6	U	50.0	11.6	ug/L		03/07/16 10:00	03/08/16 13:48	1
Nickel	2.17	U	5.00	2.17	ug/L		03/07/16 10:00	03/07/16 20:13	1
Selenium	1.08	U	5.00	1.08	ug/L		03/07/16 10:00	03/07/16 20:13	1
Silver	0.941	U	5.00	0.941	ug/L		03/07/16 10:00	03/08/16 13:48	1
Thallium	0.693	U	2.00	0.693	ug/L		03/07/16 10:00	03/07/16 20:13	1
Zinc	3.55	U	25.0	3.55	ug/L		03/07/16 10:00	03/07/16 20:13	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/08/16 10:00	03/08/16 14:41	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>0.548</b>	<b>J</b>	1.00	0.315	mg/L			03/04/16 11:56	1
<b>Chloride</b>	<b>17.6</b>		1.00	0.192	mg/L			03/04/16 11:56	1
<b>Nitrate as N</b>	<b>1.78</b>		0.500	0.103	mg/L			03/04/16 11:56	1
<b>Sulfate</b>	<b>24.3</b>		1.00	0.377	mg/L			03/04/16 11:56	1
<b>Fluoride</b>	<b>0.207</b>		0.100	0.0200	mg/L			03/08/16 10:10	1
<b>Nitrogen, Kjeldahl</b>	<b>0.163</b>	<b>J</b>	0.200	0.100	mg/L		03/14/16 09:22	03/15/16 11:09	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/14/16 09:22	03/15/16 11:09	1
<b>Total Organic Carbon</b>	<b>1.32</b>		1.00	0.285	mg/L			03/08/16 16:13	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.22</b>	<b>HF</b>	0.100	0.100	SU			03/07/16 10:28	1
<b>Total Alkalinity as CaCO3</b>	<b>224</b>		5.00	5.00	mg/L			03/16/16 17:00	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>224</b>		5.00	5.00	mg/L			03/16/16 17:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/16/16 17:00	1
<b>Total Dissolved Solids</b>	<b>343</b>		10.0	10.0	mg/L			03/07/16 14:02	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/04/16 14:20	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1

**Client Sample ID: HCS130**

**Lab Sample ID: 560-60073-4**

**Date Collected: 03/02/16 11:29**

**Matrix: Water**

**Date Received: 03/04/16 08:10**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/08/16 16:07	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/08/16 16:07	1
Benzene	0.330	U	1.00	0.330	ug/L			03/08/16 16:07	1
Benzyl chloride	0.278	U F1	5.00	0.278	ug/L			03/08/16 16:07	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 16:07	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/08/16 16:07	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS130**

**Date Collected: 03/02/16 11:29**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-4**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	0.500	U	5.00	0.500	ug/L			03/08/16 16:07	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/08/16 16:07	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/08/16 16:07	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/08/16 16:07	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/08/16 16:07	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/08/16 16:07	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/08/16 16:07	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/08/16 16:07	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/08/16 16:07	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/08/16 16:07	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/08/16 16:07	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/08/16 16:07	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/08/16 16:07	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/08/16 16:07	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/08/16 16:07	1
cis-1,4-Dichloro-2-butene	0.500	U F1	5.00	0.500	ug/L			03/08/16 16:07	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/08/16 16:07	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/08/16 16:07	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/08/16 16:07	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/08/16 16:07	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/08/16 16:07	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/08/16 16:07	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/08/16 16:07	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 16:07	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/08/16 16:07	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/08/16 16:07	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/08/16 16:07	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/08/16 16:07	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/08/16 16:07	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/08/16 16:07	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/08/16 16:07	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/08/16 16:07	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/08/16 16:07	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/08/16 16:07	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/08/16 16:07	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/08/16 16:07	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/08/16 16:07	1
EDB	0.175	U	1.00	0.175	ug/L			03/08/16 16:07	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/08/16 16:07	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 16:07	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/08/16 16:07	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/08/16 16:07	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/08/16 16:07	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/08/16 16:07	1
Hexane	2.00	U	5.00	2.00	ug/L			03/08/16 16:07	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/08/16 16:07	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/08/16 16:07	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/08/16 16:07	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/08/16 16:07	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS130**

**Date Collected: 03/02/16 11:29**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-4**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/08/16 16:07	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/08/16 16:07	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/08/16 16:07	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/08/16 16:07	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/08/16 16:07	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/08/16 16:07	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/08/16 16:07	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/08/16 16:07	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/08/16 16:07	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 16:07	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/08/16 16:07	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/08/16 16:07	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/08/16 16:07	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/08/16 16:07	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/08/16 16:07	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/08/16 16:07	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/08/16 16:07	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/08/16 16:07	1
Styrene	0.200	U	1.00	0.200	ug/L			03/08/16 16:07	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 16:07	1
1,1,1,2-Tetrachloroethane	0.209	U F1	1.00	0.209	ug/L			03/08/16 16:07	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/08/16 16:07	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/08/16 16:07	1
Toluene	0.495	U	1.00	0.495	ug/L			03/08/16 16:07	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 16:07	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/08/16 16:07	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/08/16 16:07	1
1,2,3-Trichlorobenzene	0.217	U F1	5.00	0.217	ug/L			03/08/16 16:07	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/08/16 16:07	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/08/16 16:07	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/08/16 16:07	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/08/16 16:07	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/08/16 16:07	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/08/16 16:07	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/08/16 16:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/08/16 16:07	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 16:07	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 16:07	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/08/16 16:07	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/08/16 16:07	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/08/16 16:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		70 - 130		03/08/16 16:07	1
Dibromofluoromethane (Surr)	104		69 - 130		03/08/16 16:07	1
1,2-Dichloroethane-d4 (Surr)	79		70 - 140		03/08/16 16:07	1
Toluene-d8 (Surr)	105		70 - 130		03/08/16 16:07	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS130**

**Date Collected: 03/02/16 11:29**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-4**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/07/16 12:44	03/08/16 10:11	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/07/16 12:44	03/08/16 10:11	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/07/16 12:44	03/08/16 10:11	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/07/16 12:44	03/08/16 10:11	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/07/16 12:44	03/08/16 10:11	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/07/16 12:44	03/08/16 10:11	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/07/16 12:44	03/08/16 10:11	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/07/16 12:44	03/08/16 10:11	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/07/16 12:44	03/08/16 10:11	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/07/16 12:44	03/08/16 10:11	1
Bis(2-chloroethyl)ether	1.55	U F1	10.0	1.55	ug/L		03/07/16 12:44	03/08/16 10:11	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/07/16 12:44	03/08/16 10:11	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/07/16 12:44	03/08/16 10:11	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/07/16 12:44	03/08/16 10:11	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/07/16 12:44	03/08/16 10:11	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/07/16 12:44	03/08/16 10:11	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/07/16 12:44	03/08/16 10:11	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/07/16 12:44	03/08/16 10:11	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/07/16 12:44	03/08/16 10:11	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/07/16 12:44	03/08/16 10:11	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/07/16 12:44	03/08/16 10:11	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/07/16 12:44	03/08/16 10:11	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/07/16 12:44	03/08/16 10:11	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/07/16 12:44	03/08/16 10:11	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/07/16 12:44	03/08/16 10:11	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/07/16 12:44	03/08/16 10:11	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/07/16 12:44	03/08/16 10:11	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/07/16 12:44	03/08/16 10:11	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/07/16 12:44	03/08/16 10:11	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/07/16 12:44	03/08/16 10:11	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/07/16 12:44	03/08/16 10:11	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/07/16 12:44	03/08/16 10:11	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/07/16 12:44	03/08/16 10:11	1
2,4-Dinitrotoluene	0.509	U F1	20.0	0.509	ug/L		03/07/16 12:44	03/08/16 10:11	1
2,6-Dinitrotoluene	0.762	U F1	10.0	0.762	ug/L		03/07/16 12:44	03/08/16 10:11	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/07/16 12:44	03/08/16 10:11	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/07/16 12:44	03/08/16 10:11	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/07/16 12:44	03/08/16 10:11	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/07/16 12:44	03/08/16 10:11	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/07/16 12:44	03/08/16 10:11	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/07/16 12:44	03/08/16 10:11	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/07/16 12:44	03/08/16 10:11	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/07/16 12:44	03/08/16 10:11	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/07/16 12:44	03/08/16 10:11	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/07/16 12:44	03/08/16 10:11	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/07/16 12:44	03/08/16 10:11	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/07/16 12:44	03/08/16 10:11	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/07/16 12:44	03/08/16 10:11	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/07/16 12:44	03/08/16 10:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS130**

**Date Collected: 03/02/16 11:29**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-4**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/07/16 12:44	03/08/16 10:11	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/07/16 12:44	03/08/16 10:11	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/07/16 12:44	03/08/16 10:11	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/07/16 12:44	03/08/16 10:11	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/07/16 12:44	03/08/16 10:11	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/07/16 12:44	03/08/16 10:11	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/07/16 12:44	03/08/16 10:11	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/07/16 12:44	03/08/16 10:11	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/07/16 12:44	03/08/16 10:11	1
Phenol	0.768	U	10.0	0.768	ug/L		03/07/16 12:44	03/08/16 10:11	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/07/16 12:44	03/08/16 10:11	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/07/16 12:44	03/08/16 10:11	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/07/16 12:44	03/08/16 10:11	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/07/16 12:44	03/08/16 10:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	59		23 - 130	03/07/16 12:44	03/08/16 10:11	1
2-Fluorophenol	64		10 - 130	03/07/16 12:44	03/08/16 10:11	1
Nitrobenzene-d5	64		27 - 130	03/07/16 12:44	03/08/16 10:11	1
Phenol-d5	67		10 - 130	03/07/16 12:44	03/08/16 10:11	1
Terphenyl-d14	74		10 - 141	03/07/16 12:44	03/08/16 10:11	1
2,4,6-Tribromophenol	75		18 - 130	03/07/16 12:44	03/08/16 10:11	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	0.00493	U	0.0592	0.00493	ug/L		03/08/16 09:16	03/08/16 18:02	1
4,4'-DDE	0.00493	U	0.0592	0.00493	ug/L		03/08/16 09:16	03/08/16 18:02	1
4,4'-DDT	0.00799	U	0.0592	0.00799	ug/L		03/08/16 09:16	03/08/16 18:02	1
Aldrin	0.00493	U	0.0592	0.00493	ug/L		03/08/16 09:16	03/08/16 18:02	1
alpha-BHC	0.00513	U	0.0592	0.00513	ug/L		03/08/16 09:16	03/08/16 18:02	1
alpha-Chlordane	0.00621	U	0.0592	0.00621	ug/L		03/08/16 09:16	03/08/16 18:02	1
beta-BHC	0.00493	U	0.0592	0.00493	ug/L		03/08/16 09:16	03/08/16 18:02	1
delta-BHC	0.00493	U	0.0592	0.00493	ug/L		03/08/16 09:16	03/08/16 18:02	1
Dieldrin	0.0128	U	0.0592	0.0128	ug/L		03/08/16 09:16	03/08/16 18:02	1
Endosulfan I	0.00493	U	0.0592	0.00493	ug/L		03/08/16 09:16	03/08/16 18:02	1
Endosulfan II	0.00848	U	0.0592	0.00848	ug/L		03/08/16 09:16	03/08/16 18:02	1
Endosulfan sulfate	0.00868	U	0.0592	0.00868	ug/L		03/08/16 09:16	03/08/16 18:02	1
Endrin	0.00759	U	0.0592	0.00759	ug/L		03/08/16 09:16	03/08/16 18:02	1
Endrin aldehyde	0.00493	U	0.0592	0.00493	ug/L		03/08/16 09:16	03/08/16 18:02	1
Endrin ketone	0.00808	U	0.0592	0.00808	ug/L		03/08/16 09:16	03/08/16 18:02	1
gamma-BHC (Lindane)	0.00444	U	0.0592	0.00444	ug/L		03/08/16 09:16	03/08/16 18:02	1
gamma-Chlordane	0.00661	U	0.0592	0.00661	ug/L		03/08/16 09:16	03/08/16 18:02	1
Heptachlor	0.00641	U	0.0592	0.00641	ug/L		03/08/16 09:16	03/08/16 18:02	1
Heptachlor epoxide	0.00513	U	0.0592	0.00513	ug/L		03/08/16 09:16	03/08/16 18:02	1
Methoxychlor	0.00986	U	0.0592	0.00986	ug/L		03/08/16 09:16	03/08/16 18:02	1
Toxaphene	0.670	U	5.92	0.670	ug/L		03/08/16 09:16	03/08/16 18:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	25		10 - 152	03/08/16 09:16	03/08/16 18:02	1
Tetrachloro-m-xylene	76		57 - 127	03/08/16 09:16	03/08/16 18:02	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS130**

**Date Collected: 03/02/16 11:29**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-4**

**Matrix: Water**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.108	U F1	0.592	0.108	ug/L		03/08/16 09:16	03/08/16 15:32	1
Aroclor 1221	0.108	U	0.592	0.108	ug/L		03/08/16 09:16	03/08/16 15:32	1
Aroclor 1232	0.434	U	0.789	0.434	ug/L		03/08/16 09:16	03/08/16 15:32	1
Aroclor 1242	0.108	U	0.592	0.108	ug/L		03/08/16 09:16	03/08/16 15:32	1
Aroclor 1248	0.108	U	0.592	0.108	ug/L		03/08/16 09:16	03/08/16 15:32	1
Aroclor 1254	0.108	U	0.592	0.108	ug/L		03/08/16 09:16	03/08/16 15:32	1
Aroclor 1260	0.108	U F1	0.592	0.108	ug/L		03/08/16 09:16	03/08/16 15:32	1
Aroclor 1262	0.108	U	0.592	0.108	ug/L		03/08/16 09:16	03/08/16 15:32	1
Aroclor 1268	0.108	U	0.592	0.108	ug/L		03/08/16 09:16	03/08/16 15:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	121		10 - 150	03/08/16 09:16	03/08/16 15:32	1
DCB Decachlorobiphenyl	71		10 - 150	03/08/16 09:16	03/08/16 15:32	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.160	U	2.38	0.160	ug/L		03/07/16 09:20	03/11/16 07:42	1
Bolstar	0.299	U	0.951	0.299	ug/L		03/07/16 09:20	03/11/16 07:42	1
Chlorpyrifos	0.343	U	1.43	0.343	ug/L		03/07/16 09:20	03/11/16 07:42	1
Coumaphos	0.128	U	0.951	0.128	ug/L		03/07/16 09:20	03/11/16 07:42	1
Demeton-O	0.133	U	0.951	0.133	ug/L		03/07/16 09:20	03/11/16 07:42	1
Demeton-S	0.0657	U	1.90	0.0657	ug/L		03/07/16 09:20	03/11/16 07:42	1
Diazinon	0.140	U	0.476	0.140	ug/L		03/07/16 09:20	03/11/16 07:42	1
Dichlorvos	0.154	U	0.476	0.154	ug/L		03/07/16 09:20	03/11/16 07:42	1
Dimethoate	0.427	U	1.43	0.427	ug/L		03/07/16 09:20	03/11/16 07:42	1
Disulfoton	0.306	U	0.951	0.306	ug/L		03/07/16 09:20	03/11/16 07:42	1
EPN	0.142	U	1.14	0.142	ug/L		03/07/16 09:20	03/11/16 07:42	1
Ethoprop	0.168	U	1.43	0.168	ug/L		03/07/16 09:20	03/11/16 07:42	1
Ethyl Parathion	0.137	U	0.951	0.137	ug/L		03/07/16 09:20	03/11/16 07:42	1
Famphur	0.170	U	0.951	0.170	ug/L		03/07/16 09:20	03/11/16 07:42	1
Fensulfothion	0.518	U	2.38	0.518	ug/L		03/07/16 09:20	03/11/16 07:42	1
Fenthion	0.147	U	2.38	0.147	ug/L		03/07/16 09:20	03/11/16 07:42	1
Malathion	0.127	U	1.90	0.127	ug/L		03/07/16 09:20	03/11/16 07:42	1
Merphos	0.166	U	4.76	0.166	ug/L		03/07/16 09:20	03/11/16 07:42	1
Methyl parathion	0.134	U	3.81	0.134	ug/L		03/07/16 09:20	03/11/16 07:42	1
Mevinphos	0.438	U	5.90	0.438	ug/L		03/07/16 09:20	03/11/16 07:42	1
Naled	0.761	U	1.90	0.761	ug/L		03/07/16 09:20	03/11/16 07:42	1
Phorate	0.147	U	1.14	0.147	ug/L		03/07/16 09:20	03/11/16 07:42	1
Ronnel	0.110	U	9.51	0.110	ug/L		03/07/16 09:20	03/11/16 07:42	1
Sulfotepp	0.160	U	1.43	0.160	ug/L		03/07/16 09:20	03/11/16 07:42	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.33	0.118	ug/L		03/07/16 09:20	03/11/16 07:42	1
Thionazin	0.297	U	0.951	0.297	ug/L		03/07/16 09:20	03/11/16 07:42	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/07/16 09:20	03/11/16 07:42	1
Trichloronate	0.230	U	1.43	0.230	ug/L		03/07/16 09:20	03/11/16 07:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	70		49 - 171	03/07/16 09:20	03/11/16 07:42	1
Triphenylphosphate	76		60 - 154	03/07/16 09:20	03/11/16 07:42	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS130**

**Date Collected: 03/02/16 11:29**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-4**

**Matrix: Water**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0955	U	4.77	0.0955	ug/L	-	03/07/16 07:35	03/09/16 01:13	1
Dicamba	0.0812	U	0.477	0.0812	ug/L	-	03/07/16 07:35	03/09/16 01:13	1
Mecoprop	18.1	U	115	18.1	ug/L	-	03/07/16 07:35	03/09/16 01:13	1
MCPA	16.2	U	115	16.2	ug/L	-	03/07/16 07:35	03/09/16 01:13	1
Dichlorprop	0.143	U	0.477	0.143	ug/L	-	03/07/16 07:35	03/09/16 01:13	1
2,4-D	0.0353	U	0.477	0.0353	ug/L	-	03/07/16 07:35	03/09/16 01:13	1
Silvex (2,4,5-TP)	0.0592	U	0.239	0.0592	ug/L	-	03/07/16 07:35	03/09/16 01:13	1
2,4,5-T	0.0592	U	0.239	0.0592	ug/L	-	03/07/16 07:35	03/09/16 01:13	1
2,4-DB	0.143	U	0.477	0.143	ug/L	-	03/07/16 07:35	03/09/16 01:13	1
Dinoseb	0.153	U	0.955	0.153	ug/L	-	03/07/16 07:35	03/09/16 01:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	74		45 - 130	03/07/16 07:35	03/09/16 01:13	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	86.0		0.200	0.101	mg/L	-	03/07/16 10:00	03/07/16 14:18	1
Magnesium	16.7		0.200	0.0257	mg/L	-	03/07/16 10:00	03/07/16 14:18	1
Potassium	1.35		0.500	0.375	mg/L	-	03/07/16 10:00	03/07/16 14:18	1
Silicon	5.66		0.500	0.0707	mg/L	-	03/07/16 10:00	03/07/16 14:18	1
Sodium	12.5		1.00	0.310	mg/L	-	03/07/16 10:00	03/07/16 14:18	1
Strontium	0.655		0.00500	0.000700	mg/L	-	03/07/16 10:00	03/07/16 14:18	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L	-	03/07/16 10:00	03/07/16 19:15	1
Antimony	1.61	U F1	5.00	1.61	ug/L	-	03/07/16 10:00	03/07/16 19:15	1
Arsenic	1.09	U	5.00	1.09	ug/L	-	03/07/16 10:00	03/07/16 19:15	1
Barium	43.9		5.00	0.810	ug/L	-	03/07/16 10:00	03/07/16 19:15	1
Beryllium	1.24	U	4.00	1.24	ug/L	-	03/07/16 10:00	03/07/16 19:15	1
Cadmium	0.854	U F1	2.00	0.854	ug/L	-	03/07/16 10:00	03/07/16 19:15	1
Chromium	1.40	U	5.00	1.40	ug/L	-	03/07/16 10:00	03/07/16 19:15	1
Copper	2.00	U	10.0	2.00	ug/L	-	03/07/16 10:00	03/07/16 19:15	1
Iron	101	U	250	101	ug/L	-	03/07/16 10:00	03/07/16 19:15	1
Lead	0.733	U F1	5.00	0.733	ug/L	-	03/07/16 10:00	03/07/16 19:15	1
Manganese	11.6	U F1	50.0	11.6	ug/L	-	03/07/16 10:00	03/08/16 13:16	1
Nickel	2.17	U	5.00	2.17	ug/L	-	03/07/16 10:00	03/07/16 19:15	1
Selenium	1.53	J	5.00	1.08	ug/L	-	03/07/16 10:00	03/07/16 19:15	1
Silver	0.941	U	5.00	0.941	ug/L	-	03/07/16 10:00	03/08/16 13:16	1
Thallium	0.693	U	2.00	0.693	ug/L	-	03/07/16 10:00	03/07/16 19:15	1
Zinc	3.55	U	25.0	3.55	ug/L	-	03/07/16 10:00	03/07/16 19:15	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/08/16 10:00	03/08/16 14:30	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.547	J	1.00	0.315	mg/L	-		03/04/16 10:12	1
Chloride	17.8		1.00	0.192	mg/L	-		03/04/16 10:12	1
Nitrate as N	1.84		0.500	0.103	mg/L	-		03/04/16 10:12	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS130**

**Date Collected: 03/02/16 11:29**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-4**

**Matrix: Water**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	28.5		1.00	0.377	mg/L			03/04/16 10:12	1
Fluoride	0.184		0.100	0.0200	mg/L			03/08/16 10:10	1
Nitrogen, Kjeldahl	0.112	J F1	0.200	0.100	mg/L		03/14/16 09:22	03/15/16 11:01	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/14/16 09:22	03/15/16 11:01	1
Total Organic Carbon	1.07		1.00	0.285	mg/L			03/08/16 16:13	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.28	HF	0.100	0.100	SU			03/07/16 10:28	1
Total Alkalinity as CaCO3	224		5.00	5.00	mg/L			03/16/16 17:00	1
Bicarbonate Alkalinity as CaCO3	224		5.00	5.00	mg/L			03/16/16 17:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/16/16 17:00	1
Total Dissolved Solids	349		10.0	10.0	mg/L			03/07/16 14:02	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/04/16 14:20	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1

**Client Sample ID: HCS140**

**Date Collected: 03/02/16 14:00**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/08/16 17:47	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/08/16 17:47	1
Benzene	0.330	U	1.00	0.330	ug/L			03/08/16 17:47	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/08/16 17:47	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 17:47	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/08/16 17:47	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/08/16 17:47	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/08/16 17:47	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/08/16 17:47	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/08/16 17:47	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/08/16 17:47	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/08/16 17:47	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/08/16 17:47	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/08/16 17:47	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/08/16 17:47	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/08/16 17:47	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/08/16 17:47	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/08/16 17:47	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/08/16 17:47	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/08/16 17:47	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/08/16 17:47	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 17:47	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/08/16 17:47	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/08/16 17:47	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/08/16 17:47	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/08/16 17:47	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/08/16 17:47	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS140**

**Date Collected: 03/02/16 14:00**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/08/16 17:47	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/08/16 17:47	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 17:47	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/08/16 17:47	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/08/16 17:47	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/08/16 17:47	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/08/16 17:47	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/08/16 17:47	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/08/16 17:47	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/08/16 17:47	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/08/16 17:47	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/08/16 17:47	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/08/16 17:47	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/08/16 17:47	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/08/16 17:47	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/08/16 17:47	1
EDB	0.175	U	1.00	0.175	ug/L			03/08/16 17:47	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/08/16 17:47	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 17:47	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/08/16 17:47	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/08/16 17:47	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/08/16 17:47	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/08/16 17:47	1
Hexane	2.00	U	5.00	2.00	ug/L			03/08/16 17:47	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/08/16 17:47	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/08/16 17:47	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/08/16 17:47	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/08/16 17:47	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/08/16 17:47	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/08/16 17:47	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/08/16 17:47	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/08/16 17:47	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/08/16 17:47	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/08/16 17:47	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/08/16 17:47	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/08/16 17:47	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/08/16 17:47	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 17:47	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/08/16 17:47	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/08/16 17:47	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/08/16 17:47	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/08/16 17:47	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/08/16 17:47	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/08/16 17:47	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/08/16 17:47	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/08/16 17:47	1
Styrene	0.200	U	1.00	0.200	ug/L			03/08/16 17:47	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 17:47	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/08/16 17:47	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS140**

**Date Collected: 03/02/16 14:00**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/08/16 17:47	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/08/16 17:47	1
Toluene	0.495	U	1.00	0.495	ug/L			03/08/16 17:47	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 17:47	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/08/16 17:47	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/08/16 17:47	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/08/16 17:47	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/08/16 17:47	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/08/16 17:47	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/08/16 17:47	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/08/16 17:47	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/08/16 17:47	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/08/16 17:47	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/08/16 17:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/08/16 17:47	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 17:47	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 17:47	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/08/16 17:47	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/08/16 17:47	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/08/16 17:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		70 - 130		03/08/16 17:47	1
Dibromofluoromethane (Surr)	104		69 - 130		03/08/16 17:47	1
1,2-Dichloroethane-d4 (Surr)	83		70 - 140		03/08/16 17:47	1
Toluene-d8 (Surr)	104		70 - 130		03/08/16 17:47	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/07/16 12:44	03/08/16 14:21	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/07/16 12:44	03/08/16 14:21	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/07/16 12:44	03/08/16 14:21	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/07/16 12:44	03/08/16 14:21	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/07/16 12:44	03/08/16 14:21	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/07/16 12:44	03/08/16 14:21	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/07/16 12:44	03/08/16 14:21	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/07/16 12:44	03/08/16 14:21	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/07/16 12:44	03/08/16 14:21	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/07/16 12:44	03/08/16 14:21	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/07/16 12:44	03/08/16 14:21	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/07/16 12:44	03/08/16 14:21	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/07/16 12:44	03/08/16 14:21	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/07/16 12:44	03/08/16 14:21	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/07/16 12:44	03/08/16 14:21	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/07/16 12:44	03/08/16 14:21	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/07/16 12:44	03/08/16 14:21	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/07/16 12:44	03/08/16 14:21	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/07/16 12:44	03/08/16 14:21	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/07/16 12:44	03/08/16 14:21	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/07/16 12:44	03/08/16 14:21	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS140**

**Date Collected: 03/02/16 14:00**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-5**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/07/16 12:44	03/08/16 14:21	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/07/16 12:44	03/08/16 14:21	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/07/16 12:44	03/08/16 14:21	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/07/16 12:44	03/08/16 14:21	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/07/16 12:44	03/08/16 14:21	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/07/16 12:44	03/08/16 14:21	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/07/16 12:44	03/08/16 14:21	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/07/16 12:44	03/08/16 14:21	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/07/16 12:44	03/08/16 14:21	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/07/16 12:44	03/08/16 14:21	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/07/16 12:44	03/08/16 14:21	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/07/16 12:44	03/08/16 14:21	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/07/16 12:44	03/08/16 14:21	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/07/16 12:44	03/08/16 14:21	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/07/16 12:44	03/08/16 14:21	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/07/16 12:44	03/08/16 14:21	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/07/16 12:44	03/08/16 14:21	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/07/16 12:44	03/08/16 14:21	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/07/16 12:44	03/08/16 14:21	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/07/16 12:44	03/08/16 14:21	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/07/16 12:44	03/08/16 14:21	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/07/16 12:44	03/08/16 14:21	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/07/16 12:44	03/08/16 14:21	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/07/16 12:44	03/08/16 14:21	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/07/16 12:44	03/08/16 14:21	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/07/16 12:44	03/08/16 14:21	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/07/16 12:44	03/08/16 14:21	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/07/16 12:44	03/08/16 14:21	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/07/16 12:44	03/08/16 14:21	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/07/16 12:44	03/08/16 14:21	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/07/16 12:44	03/08/16 14:21	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/07/16 12:44	03/08/16 14:21	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/07/16 12:44	03/08/16 14:21	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/07/16 12:44	03/08/16 14:21	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/07/16 12:44	03/08/16 14:21	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/07/16 12:44	03/08/16 14:21	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/07/16 12:44	03/08/16 14:21	1
Phenol	0.768	U	10.0	0.768	ug/L		03/07/16 12:44	03/08/16 14:21	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/07/16 12:44	03/08/16 14:21	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/07/16 12:44	03/08/16 14:21	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/07/16 12:44	03/08/16 14:21	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/07/16 12:44	03/08/16 14:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	56		23 - 130	03/07/16 12:44	03/08/16 14:21	1
2-Fluorophenol	58		10 - 130	03/07/16 12:44	03/08/16 14:21	1
Nitrobenzene-d5	59		27 - 130	03/07/16 12:44	03/08/16 14:21	1
Phenol-d5	61		10 - 130	03/07/16 12:44	03/08/16 14:21	1
Terphenyl-d14	71		10 - 141	03/07/16 12:44	03/08/16 14:21	1
2,4,6-Tribromophenol	70		18 - 130	03/07/16 12:44	03/08/16 14:21	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 20:35	1
4,4'-DDE	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 20:35	1
4,4'-DDT	0.00779	U	0.0577	0.00779	ug/L		03/08/16 09:16	03/08/16 20:35	1
Aldrin	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 20:35	1
alpha-BHC	0.00500	U	0.0577	0.00500	ug/L		03/08/16 09:16	03/08/16 20:35	1
alpha-Chlordane	0.00606	U	0.0577	0.00606	ug/L		03/08/16 09:16	03/08/16 20:35	1
beta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 20:35	1
delta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 20:35	1
Dieldrin	0.0125	U	0.0577	0.0125	ug/L		03/08/16 09:16	03/08/16 20:35	1
Endosulfan I	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 20:35	1
Endosulfan II	0.00827	U	0.0577	0.00827	ug/L		03/08/16 09:16	03/08/16 20:35	1
Endosulfan sulfate	0.00846	U	0.0577	0.00846	ug/L		03/08/16 09:16	03/08/16 20:35	1
Endrin	0.00740	U	0.0577	0.00740	ug/L		03/08/16 09:16	03/08/16 20:35	1
Endrin aldehyde	0.00481	U	0.0577	0.00481	ug/L		03/08/16 09:16	03/08/16 20:35	1
Endrin ketone	0.00788	U	0.0577	0.00788	ug/L		03/08/16 09:16	03/08/16 20:35	1
gamma-BHC (Lindane)	0.00433	U	0.0577	0.00433	ug/L		03/08/16 09:16	03/08/16 20:35	1
gamma-Chlordane	0.00644	U	0.0577	0.00644	ug/L		03/08/16 09:16	03/08/16 20:35	1
Heptachlor	0.00625	U	0.0577	0.00625	ug/L		03/08/16 09:16	03/08/16 20:35	1
Heptachlor epoxide	0.00500	U	0.0577	0.00500	ug/L		03/08/16 09:16	03/08/16 20:35	1
Methoxychlor	0.00962	U	0.0577	0.00962	ug/L		03/08/16 09:16	03/08/16 20:35	1
Toxaphene	0.654	U	5.77	0.654	ug/L		03/08/16 09:16	03/08/16 20:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	49		10 - 152	03/08/16 09:16	03/08/16 20:35	1
Tetrachloro-m-xylene	83		57 - 127	03/08/16 09:16	03/08/16 20:35	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:52	1
Aroclor 1221	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:52	1
Aroclor 1232	0.423	U	0.769	0.423	ug/L		03/08/16 09:16	03/08/16 17:52	1
Aroclor 1242	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:52	1
Aroclor 1248	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:52	1
Aroclor 1254	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:52	1
Aroclor 1260	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:52	1
Aroclor 1262	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:52	1
Aroclor 1268	0.106	U	0.577	0.106	ug/L		03/08/16 09:16	03/08/16 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	142		10 - 150	03/08/16 09:16	03/08/16 17:52	1
DCB Decachlorobiphenyl	132		10 - 150	03/08/16 09:16	03/08/16 17:52	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.160	U	2.38	0.160	ug/L		03/07/16 09:20	03/11/16 09:13	1
Bolstar	0.298	U	0.950	0.298	ug/L		03/07/16 09:20	03/11/16 09:13	1
Chlorpyrifos	0.342	U	1.43	0.342	ug/L		03/07/16 09:20	03/11/16 09:13	1
Coumaphos	0.128	U	0.950	0.128	ug/L		03/07/16 09:20	03/11/16 09:13	1
Demeton-O	0.133	U	0.950	0.133	ug/L		03/07/16 09:20	03/11/16 09:13	1
Demeton-S	0.0656	U	1.90	0.0656	ug/L		03/07/16 09:20	03/11/16 09:13	1
Diazinon	0.140	U	0.475	0.140	ug/L		03/07/16 09:20	03/11/16 09:13	1
Dichlorvos	0.154	U	0.475	0.154	ug/L		03/07/16 09:20	03/11/16 09:13	1
Dimethoate	0.427	U	1.43	0.427	ug/L		03/07/16 09:20	03/11/16 09:13	1
Disulfoton	0.306	U	0.950	0.306	ug/L		03/07/16 09:20	03/11/16 09:13	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS140**

**Date Collected: 03/02/16 14:00**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-5**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
EPN	0.142	U	1.14	0.142	ug/L		03/07/16 09:20	03/11/16 09:13	1
Ethoprop	0.168	U	1.43	0.168	ug/L		03/07/16 09:20	03/11/16 09:13	1
Ethyl Parathion	0.137	U	0.950	0.137	ug/L		03/07/16 09:20	03/11/16 09:13	1
Famphur	0.170	U	0.950	0.170	ug/L		03/07/16 09:20	03/11/16 09:13	1
Fensulfothion	0.517	U	2.38	0.517	ug/L		03/07/16 09:20	03/11/16 09:13	1
Fenthion	0.146	U	2.38	0.146	ug/L		03/07/16 09:20	03/11/16 09:13	1
Malathion	0.126	U	1.90	0.126	ug/L		03/07/16 09:20	03/11/16 09:13	1
Merphos	0.165	U	4.75	0.165	ug/L		03/07/16 09:20	03/11/16 09:13	1
Methyl parathion	0.134	U	3.80	0.134	ug/L		03/07/16 09:20	03/11/16 09:13	1
Mevinphos	0.437	U	5.89	0.437	ug/L		03/07/16 09:20	03/11/16 09:13	1
Naled	0.760	U	1.90	0.760	ug/L		03/07/16 09:20	03/11/16 09:13	1
Phorate	0.146	U	1.14	0.146	ug/L		03/07/16 09:20	03/11/16 09:13	1
Ronnel	0.110	U	9.50	0.110	ug/L		03/07/16 09:20	03/11/16 09:13	1
Sulfotepp	0.160	U	1.43	0.160	ug/L		03/07/16 09:20	03/11/16 09:13	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.33	0.118	ug/L		03/07/16 09:20	03/11/16 09:13	1
Thionazin	0.296	U	0.950	0.296	ug/L		03/07/16 09:20	03/11/16 09:13	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/07/16 09:20	03/11/16 09:13	1
Trichloronate	0.230	U	1.43	0.230	ug/L		03/07/16 09:20	03/11/16 09:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	76		49 - 171	03/07/16 09:20	03/11/16 09:13	1
Triphenylphosphate	81		60 - 154	03/07/16 09:20	03/11/16 09:13	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0956	U	4.78	0.0956	ug/L		03/07/16 07:35	03/09/16 01:32	1
Dicamba	0.0813	U	0.478	0.0813	ug/L		03/07/16 07:35	03/09/16 01:32	1
Mecoprop	18.2	U	115	18.2	ug/L		03/07/16 07:35	03/09/16 01:32	1
MCPA	16.3	U	115	16.3	ug/L		03/07/16 07:35	03/09/16 01:32	1
Dichlorprop	0.143	U	0.478	0.143	ug/L		03/07/16 07:35	03/09/16 01:32	1
2,4-D	0.0354	U	0.478	0.0354	ug/L		03/07/16 07:35	03/09/16 01:32	1
Silvex (2,4,5-TP)	0.0593	U	0.239	0.0593	ug/L		03/07/16 07:35	03/09/16 01:32	1
2,4,5-T	0.0593	U	0.239	0.0593	ug/L		03/07/16 07:35	03/09/16 01:32	1
2,4-DB	0.143	U	0.478	0.143	ug/L		03/07/16 07:35	03/09/16 01:32	1
Dinoseb	0.153	U	0.956	0.153	ug/L		03/07/16 07:35	03/09/16 01:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	77		45 - 130	03/07/16 07:35	03/09/16 01:32	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	83.7		0.200	0.101	mg/L		03/07/16 10:00	03/07/16 15:09	1
Magnesium	16.0		0.200	0.0257	mg/L		03/07/16 10:00	03/07/16 15:09	1
Potassium	1.30		0.500	0.375	mg/L		03/07/16 10:00	03/07/16 15:09	1
Silicon	5.58		0.500	0.0707	mg/L		03/07/16 10:00	03/07/16 15:09	1
Sodium	11.5		1.00	0.310	mg/L		03/07/16 10:00	03/07/16 15:09	1
Strontium	0.630		0.00500	0.000700	mg/L		03/07/16 10:00	03/07/16 15:09	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/07/16 10:00	03/07/16 20:18	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS140**

**Date Collected: 03/02/16 14:00**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-5**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.61	U	5.00	1.61	ug/L		03/07/16 10:00	03/07/16 20:18	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/07/16 10:00	03/07/16 20:18	1
<b>Barium</b>	<b>42.5</b>		5.00	0.810	ug/L		03/07/16 10:00	03/07/16 20:18	1
Beryllium	1.24	U	4.00	1.24	ug/L		03/07/16 10:00	03/07/16 20:18	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/07/16 10:00	03/07/16 20:18	1
Chromium	1.40	U	5.00	1.40	ug/L		03/07/16 10:00	03/07/16 20:18	1
Copper	2.00	U	10.0	2.00	ug/L		03/07/16 10:00	03/07/16 20:18	1
Iron	101	U	250	101	ug/L		03/07/16 10:00	03/07/16 20:18	1
Lead	0.733	U	5.00	0.733	ug/L		03/07/16 10:00	03/07/16 20:18	1
Manganese	11.6	U	50.0	11.6	ug/L		03/07/16 10:00	03/08/16 14:20	1
Nickel	2.17	U	5.00	2.17	ug/L		03/07/16 10:00	03/07/16 20:18	1
<b>Selenium</b>	<b>1.08</b>	<b>J</b>	5.00	1.08	ug/L		03/07/16 10:00	03/07/16 20:18	1
Silver	0.941	U	5.00	0.941	ug/L		03/07/16 10:00	03/08/16 14:20	1
Thallium	0.693	U	2.00	0.693	ug/L		03/07/16 10:00	03/07/16 20:18	1
Zinc	3.55	U	25.0	3.55	ug/L		03/07/16 10:00	03/07/16 20:18	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/08/16 10:00	03/08/16 14:44	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>0.549</b>	<b>J</b>	1.00	0.315	mg/L			03/04/16 12:22	1
<b>Chloride</b>	<b>17.5</b>		1.00	0.192	mg/L			03/04/16 12:22	1
<b>Nitrate as N</b>	<b>1.76</b>		0.500	0.103	mg/L			03/04/16 12:22	1
<b>Sulfate</b>	<b>24.9</b>		1.00	0.377	mg/L			03/04/16 12:22	1
<b>Fluoride</b>	<b>0.202</b>		0.100	0.0200	mg/L			03/08/16 10:10	1
Nitrogen, Kjeldahl	0.100	U	0.200	0.100	mg/L		03/14/16 09:22	03/15/16 11:11	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/14/16 09:22	03/15/16 11:11	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.52</b>	<b>HF</b>	0.100	0.100	SU			03/07/16 10:28	1
<b>Total Alkalinity as CaCO3</b>	<b>224</b>		5.00	5.00	mg/L			03/16/16 17:00	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>224</b>		5.00	5.00	mg/L			03/16/16 17:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/16/16 17:00	1
<b>Total Dissolved Solids</b>	<b>345</b>		10.0	10.0	mg/L			03/07/16 14:02	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/04/16 14:20	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1

**Client Sample ID: HCS160**

**Date Collected: 03/02/16 14:30**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/08/16 18:12	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/08/16 18:12	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS160**

**Date Collected: 03/02/16 14:30**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.330	U	1.00	0.330	ug/L			03/08/16 18:12	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/08/16 18:12	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 18:12	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/08/16 18:12	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/08/16 18:12	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/08/16 18:12	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/08/16 18:12	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/08/16 18:12	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/08/16 18:12	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/08/16 18:12	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/08/16 18:12	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/08/16 18:12	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/08/16 18:12	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/08/16 18:12	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/08/16 18:12	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/08/16 18:12	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/08/16 18:12	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/08/16 18:12	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/08/16 18:12	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 18:12	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/08/16 18:12	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/08/16 18:12	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/08/16 18:12	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/08/16 18:12	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/08/16 18:12	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/08/16 18:12	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/08/16 18:12	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 18:12	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/08/16 18:12	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/08/16 18:12	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/08/16 18:12	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/08/16 18:12	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/08/16 18:12	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/08/16 18:12	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/08/16 18:12	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/08/16 18:12	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/08/16 18:12	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/08/16 18:12	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/08/16 18:12	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/08/16 18:12	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/08/16 18:12	1
EDB	0.175	U	1.00	0.175	ug/L			03/08/16 18:12	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/08/16 18:12	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 18:12	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/08/16 18:12	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/08/16 18:12	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/08/16 18:12	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/08/16 18:12	1
Hexane	2.00	U	5.00	2.00	ug/L			03/08/16 18:12	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS160**

**Date Collected: 03/02/16 14:30**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/08/16 18:12	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/08/16 18:12	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/08/16 18:12	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/08/16 18:12	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/08/16 18:12	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/08/16 18:12	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/08/16 18:12	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/08/16 18:12	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/08/16 18:12	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/08/16 18:12	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/08/16 18:12	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/08/16 18:12	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/08/16 18:12	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 18:12	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/08/16 18:12	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/08/16 18:12	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/08/16 18:12	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/08/16 18:12	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/08/16 18:12	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/08/16 18:12	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/08/16 18:12	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/08/16 18:12	1
Styrene	0.200	U	1.00	0.200	ug/L			03/08/16 18:12	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 18:12	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/08/16 18:12	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/08/16 18:12	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/08/16 18:12	1
Toluene	0.495	U	1.00	0.495	ug/L			03/08/16 18:12	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 18:12	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/08/16 18:12	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/08/16 18:12	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/08/16 18:12	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/08/16 18:12	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/08/16 18:12	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/08/16 18:12	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/08/16 18:12	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/08/16 18:12	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/08/16 18:12	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/08/16 18:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/08/16 18:12	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 18:12	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 18:12	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/08/16 18:12	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/08/16 18:12	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/08/16 18:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		70 - 130		03/08/16 18:12	1
Dibromofluoromethane (Surr)	105		69 - 130		03/08/16 18:12	1
1,2-Dichloroethane-d4 (Surr)	84		70 - 140		03/08/16 18:12	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS160**

**Date Collected: 03/02/16 14:30**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		70 - 130		03/08/16 18:12	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/07/16 12:44	03/08/16 14:50	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/07/16 12:44	03/08/16 14:50	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/07/16 12:44	03/08/16 14:50	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/07/16 12:44	03/08/16 14:50	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/07/16 12:44	03/08/16 14:50	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/07/16 12:44	03/08/16 14:50	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/07/16 12:44	03/08/16 14:50	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/07/16 12:44	03/08/16 14:50	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/07/16 12:44	03/08/16 14:50	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/07/16 12:44	03/08/16 14:50	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/07/16 12:44	03/08/16 14:50	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/07/16 12:44	03/08/16 14:50	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/07/16 12:44	03/08/16 14:50	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/07/16 12:44	03/08/16 14:50	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/07/16 12:44	03/08/16 14:50	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/07/16 12:44	03/08/16 14:50	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/07/16 12:44	03/08/16 14:50	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/07/16 12:44	03/08/16 14:50	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/07/16 12:44	03/08/16 14:50	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/07/16 12:44	03/08/16 14:50	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/07/16 12:44	03/08/16 14:50	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/07/16 12:44	03/08/16 14:50	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/07/16 12:44	03/08/16 14:50	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/07/16 12:44	03/08/16 14:50	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/07/16 12:44	03/08/16 14:50	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/07/16 12:44	03/08/16 14:50	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/07/16 12:44	03/08/16 14:50	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/07/16 12:44	03/08/16 14:50	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/07/16 12:44	03/08/16 14:50	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/07/16 12:44	03/08/16 14:50	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/07/16 12:44	03/08/16 14:50	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/07/16 12:44	03/08/16 14:50	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/07/16 12:44	03/08/16 14:50	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/07/16 12:44	03/08/16 14:50	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/07/16 12:44	03/08/16 14:50	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/07/16 12:44	03/08/16 14:50	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/07/16 12:44	03/08/16 14:50	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/07/16 12:44	03/08/16 14:50	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/07/16 12:44	03/08/16 14:50	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/07/16 12:44	03/08/16 14:50	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/07/16 12:44	03/08/16 14:50	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/07/16 12:44	03/08/16 14:50	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/07/16 12:44	03/08/16 14:50	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/07/16 12:44	03/08/16 14:50	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/07/16 12:44	03/08/16 14:50	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS160**

**Date Collected: 03/02/16 14:30**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-6**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/07/16 12:44	03/08/16 14:50	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/07/16 12:44	03/08/16 14:50	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/07/16 12:44	03/08/16 14:50	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/07/16 12:44	03/08/16 14:50	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/07/16 12:44	03/08/16 14:50	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/07/16 12:44	03/08/16 14:50	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/07/16 12:44	03/08/16 14:50	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/07/16 12:44	03/08/16 14:50	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/07/16 12:44	03/08/16 14:50	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/07/16 12:44	03/08/16 14:50	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/07/16 12:44	03/08/16 14:50	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/07/16 12:44	03/08/16 14:50	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/07/16 12:44	03/08/16 14:50	1
Phenol	0.768	U	10.0	0.768	ug/L		03/07/16 12:44	03/08/16 14:50	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/07/16 12:44	03/08/16 14:50	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/07/16 12:44	03/08/16 14:50	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/07/16 12:44	03/08/16 14:50	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/07/16 12:44	03/08/16 14:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	61		23 - 130	03/07/16 12:44	03/08/16 14:50	1
2-Fluorophenol	63		10 - 130	03/07/16 12:44	03/08/16 14:50	1
Nitrobenzene-d5	62		27 - 130	03/07/16 12:44	03/08/16 14:50	1
Phenol-d5	65		10 - 130	03/07/16 12:44	03/08/16 14:50	1
Terphenyl-d14	74		10 - 141	03/07/16 12:44	03/08/16 14:50	1
2,4,6-Tribromophenol	71		18 - 130	03/07/16 12:44	03/08/16 14:50	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	0.00489	U	0.0587	0.00489	ug/L		03/08/16 09:16	03/08/16 21:00	1
4,4'-DDE	0.00489	U	0.0587	0.00489	ug/L		03/08/16 09:16	03/08/16 21:00	1
4,4'-DDT	0.00792	U	0.0587	0.00792	ug/L		03/08/16 09:16	03/08/16 21:00	1
Aldrin	0.00489	U	0.0587	0.00489	ug/L		03/08/16 09:16	03/08/16 21:00	1
alpha-BHC	0.00508	U	0.0587	0.00508	ug/L		03/08/16 09:16	03/08/16 21:00	1
alpha-Chlordane	0.00616	U	0.0587	0.00616	ug/L		03/08/16 09:16	03/08/16 21:00	1
beta-BHC	0.00489	U	0.0587	0.00489	ug/L		03/08/16 09:16	03/08/16 21:00	1
delta-BHC	0.00489	U	0.0587	0.00489	ug/L		03/08/16 09:16	03/08/16 21:00	1
Dieldrin	0.0127	U	0.0587	0.0127	ug/L		03/08/16 09:16	03/08/16 21:00	1
Endosulfan I	0.00489	U	0.0587	0.00489	ug/L		03/08/16 09:16	03/08/16 21:00	1
Endosulfan II	0.00841	U	0.0587	0.00841	ug/L		03/08/16 09:16	03/08/16 21:00	1
Endosulfan sulfate	0.00860	U	0.0587	0.00860	ug/L		03/08/16 09:16	03/08/16 21:00	1
Endrin	0.00753	U	0.0587	0.00753	ug/L		03/08/16 09:16	03/08/16 21:00	1
Endrin aldehyde	0.00489	U	0.0587	0.00489	ug/L		03/08/16 09:16	03/08/16 21:00	1
Endrin ketone	0.00802	U	0.0587	0.00802	ug/L		03/08/16 09:16	03/08/16 21:00	1
gamma-BHC (Lindane)	0.00440	U	0.0587	0.00440	ug/L		03/08/16 09:16	03/08/16 21:00	1
gamma-Chlordane	0.00655	U	0.0587	0.00655	ug/L		03/08/16 09:16	03/08/16 21:00	1
Heptachlor	0.00635	U	0.0587	0.00635	ug/L		03/08/16 09:16	03/08/16 21:00	1
Heptachlor epoxide	0.00508	U	0.0587	0.00508	ug/L		03/08/16 09:16	03/08/16 21:00	1
Methoxychlor	0.00978	U	0.0587	0.00978	ug/L		03/08/16 09:16	03/08/16 21:00	1
Toxaphene	0.665	U	5.87	0.665	ug/L		03/08/16 09:16	03/08/16 21:00	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS160**

**Date Collected: 03/02/16 14:30**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-6**

**Matrix: Water**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	49		10 - 152	03/08/16 09:16	03/08/16 21:00	1
Tetrachloro-m-xylene	85		57 - 127	03/08/16 09:16	03/08/16 21:00	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.108	U	0.587	0.108	ug/L		03/08/16 09:16	03/08/16 18:10	1
Aroclor 1221	0.108	U	0.587	0.108	ug/L		03/08/16 09:16	03/08/16 18:10	1
Aroclor 1232	0.430	U	0.782	0.430	ug/L		03/08/16 09:16	03/08/16 18:10	1
Aroclor 1242	0.108	U	0.587	0.108	ug/L		03/08/16 09:16	03/08/16 18:10	1
Aroclor 1248	0.108	U	0.587	0.108	ug/L		03/08/16 09:16	03/08/16 18:10	1
Aroclor 1254	0.108	U	0.587	0.108	ug/L		03/08/16 09:16	03/08/16 18:10	1
Aroclor 1260	0.108	U	0.587	0.108	ug/L		03/08/16 09:16	03/08/16 18:10	1
Aroclor 1262	0.108	U	0.587	0.108	ug/L		03/08/16 09:16	03/08/16 18:10	1
Aroclor 1268	0.108	U	0.587	0.108	ug/L		03/08/16 09:16	03/08/16 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	146		10 - 150	03/08/16 09:16	03/08/16 18:10	1
DCB Decachlorobiphenyl	137		10 - 150	03/08/16 09:16	03/08/16 18:10	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.159	U	2.37	0.159	ug/L		03/07/16 09:20	03/11/16 09:44	1
Bolstar	0.298	U	0.948	0.298	ug/L		03/07/16 09:20	03/11/16 09:44	1
Chlorpyrifos	0.341	U	1.42	0.341	ug/L		03/07/16 09:20	03/11/16 09:44	1
Coumaphos	0.128	U	0.948	0.128	ug/L		03/07/16 09:20	03/11/16 09:44	1
Demeton-O	0.133	U	0.948	0.133	ug/L		03/07/16 09:20	03/11/16 09:44	1
Demeton-S	0.0654	U	1.90	0.0654	ug/L		03/07/16 09:20	03/11/16 09:44	1
Diazinon	0.139	U	0.474	0.139	ug/L		03/07/16 09:20	03/11/16 09:44	1
Dichlorvos	0.154	U	0.474	0.154	ug/L		03/07/16 09:20	03/11/16 09:44	1
Dimethoate	0.426	U	1.42	0.426	ug/L		03/07/16 09:20	03/11/16 09:44	1
Disulfoton	0.305	U	0.948	0.305	ug/L		03/07/16 09:20	03/11/16 09:44	1
EPN	0.141	U	1.14	0.141	ug/L		03/07/16 09:20	03/11/16 09:44	1
Ethoprop	0.168	U	1.42	0.168	ug/L		03/07/16 09:20	03/11/16 09:44	1
Ethyl Parathion	0.137	U	0.948	0.137	ug/L		03/07/16 09:20	03/11/16 09:44	1
Famphur	0.170	U	0.948	0.170	ug/L		03/07/16 09:20	03/11/16 09:44	1
Fensulfothion	0.516	U	2.37	0.516	ug/L		03/07/16 09:20	03/11/16 09:44	1
Fenthion	0.146	U	2.37	0.146	ug/L		03/07/16 09:20	03/11/16 09:44	1
Malathion	0.126	U	1.90	0.126	ug/L		03/07/16 09:20	03/11/16 09:44	1
Merphos	0.165	U	4.74	0.165	ug/L		03/07/16 09:20	03/11/16 09:44	1
Methyl parathion	0.134	U	3.79	0.134	ug/L		03/07/16 09:20	03/11/16 09:44	1
Mevinphos	0.436	U	5.88	0.436	ug/L		03/07/16 09:20	03/11/16 09:44	1
Naled	0.759	U	1.90	0.759	ug/L		03/07/16 09:20	03/11/16 09:44	1
Phorate	0.146	U	1.14	0.146	ug/L		03/07/16 09:20	03/11/16 09:44	1
Ronnel	0.110	U	9.48	0.110	ug/L		03/07/16 09:20	03/11/16 09:44	1
Sulfotepp	0.159	U	1.42	0.159	ug/L		03/07/16 09:20	03/11/16 09:44	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.32	0.118	ug/L		03/07/16 09:20	03/11/16 09:44	1
Thionazin	0.296	U	0.948	0.296	ug/L		03/07/16 09:20	03/11/16 09:44	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/07/16 09:20	03/11/16 09:44	1
Trichloronate	0.229	U	1.42	0.229	ug/L		03/07/16 09:20	03/11/16 09:44	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS160**

**Date Collected: 03/02/16 14:30**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-6**

**Matrix: Water**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	69		49 - 171	03/07/16 09:20	03/11/16 09:44	1
Triphenylphosphate	75		60 - 154	03/07/16 09:20	03/11/16 09:44	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0955	U	4.78	0.0955	ug/L		03/07/16 07:35	03/09/16 01:52	1
Dicamba	0.0812	U	0.478	0.0812	ug/L		03/07/16 07:35	03/09/16 01:52	1
Mecoprop	18.2	U	115	18.2	ug/L		03/07/16 07:35	03/09/16 01:52	1
MCPA	16.2	U	115	16.2	ug/L		03/07/16 07:35	03/09/16 01:52	1
Dichlorprop	0.143	U	0.478	0.143	ug/L		03/07/16 07:35	03/09/16 01:52	1
2,4-D	0.0354	U	0.478	0.0354	ug/L		03/07/16 07:35	03/09/16 01:52	1
Silvex (2,4,5-TP)	0.0592	U	0.239	0.0592	ug/L		03/07/16 07:35	03/09/16 01:52	1
2,4,5-T	0.0592	U	0.239	0.0592	ug/L		03/07/16 07:35	03/09/16 01:52	1
2,4-DB	0.143	U	0.478	0.143	ug/L		03/07/16 07:35	03/09/16 01:52	1
Dinoseb	0.153	U	0.955	0.153	ug/L		03/07/16 07:35	03/09/16 01:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	84		45 - 130				03/07/16 07:35	03/09/16 01:52	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	85.8		0.200	0.101	mg/L		03/07/16 10:00	03/07/16 15:13	1
Magnesium	16.7		0.200	0.0257	mg/L		03/07/16 10:00	03/07/16 15:13	1
Potassium	1.35		0.500	0.375	mg/L		03/07/16 10:00	03/07/16 15:13	1
Silicon	5.66		0.500	0.0707	mg/L		03/07/16 10:00	03/07/16 15:13	1
Sodium	12.4		1.00	0.310	mg/L		03/07/16 10:00	03/07/16 15:13	1
Strontium	0.651		0.00500	0.000700	mg/L		03/07/16 10:00	03/07/16 15:13	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/07/16 10:00	03/07/16 20:23	1
Antimony	1.61	U	5.00	1.61	ug/L		03/07/16 10:00	03/07/16 20:23	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/07/16 10:00	03/07/16 20:23	1
Barium	43.5		5.00	0.810	ug/L		03/07/16 10:00	03/07/16 20:23	1
Beryllium	1.24	U	4.00	1.24	ug/L		03/07/16 10:00	03/07/16 20:23	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/07/16 10:00	03/07/16 20:23	1
Chromium	1.40	U	5.00	1.40	ug/L		03/07/16 10:00	03/07/16 20:23	1
Copper	2.00	U	10.0	2.00	ug/L		03/07/16 10:00	03/07/16 20:23	1
Iron	101	U	250	101	ug/L		03/07/16 10:00	03/07/16 20:23	1
Lead	0.733	U	5.00	0.733	ug/L		03/07/16 10:00	03/07/16 20:23	1
Manganese	11.6	U	50.0	11.6	ug/L		03/07/16 10:00	03/08/16 14:25	1
Nickel	2.17	U	5.00	2.17	ug/L		03/07/16 10:00	03/07/16 20:23	1
Selenium	1.08	U	5.00	1.08	ug/L		03/07/16 10:00	03/07/16 20:23	1
Silver	0.941	U	5.00	0.941	ug/L		03/07/16 10:00	03/08/16 14:25	1
Thallium	0.693	U	2.00	0.693	ug/L		03/07/16 10:00	03/07/16 20:23	1
Zinc	3.55	U	25.0	3.55	ug/L		03/07/16 10:00	03/07/16 20:23	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/08/16 10:00	03/08/16 14:46	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: HCS160**

**Date Collected: 03/02/16 14:30**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-6**

**Matrix: Water**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.547	J	1.00	0.315	mg/L			03/04/16 12:48	1
Chloride	17.8		1.00	0.192	mg/L			03/04/16 12:48	1
Nitrate as N	1.79		0.500	0.103	mg/L			03/04/16 12:48	1
Sulfate	27.1		1.00	0.377	mg/L			03/04/16 12:48	1
Fluoride	0.209		0.100	0.0200	mg/L			03/08/16 10:10	1
Nitrogen, Kjeldahl	0.100	U	0.200	0.100	mg/L		03/14/16 09:22	03/15/16 11:10	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/14/16 09:22	03/15/16 11:10	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.57	HF	0.100	0.100	SU			03/07/16 10:28	1
Total Alkalinity as CaCO3	227		5.00	5.00	mg/L			03/16/16 17:00	1
Bicarbonate Alkalinity as CaCO3	227		5.00	5.00	mg/L			03/16/16 17:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/16/16 17:00	1
Total Dissolved Solids	347		10.0	10.0	mg/L			03/07/16 14:02	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/04/16 14:20	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1

**Client Sample ID: TB02**

**Date Collected: 03/02/16 00:00**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/08/16 18:37	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/08/16 18:37	1
Benzene	0.330	U	1.00	0.330	ug/L			03/08/16 18:37	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/08/16 18:37	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 18:37	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/08/16 18:37	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/08/16 18:37	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/08/16 18:37	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/08/16 18:37	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/08/16 18:37	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/08/16 18:37	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/08/16 18:37	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/08/16 18:37	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/08/16 18:37	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/08/16 18:37	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/08/16 18:37	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/08/16 18:37	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/08/16 18:37	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/08/16 18:37	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/08/16 18:37	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/08/16 18:37	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 18:37	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/08/16 18:37	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/08/16 18:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: TB02**

**Date Collected: 03/02/16 00:00**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/08/16 18:37	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/08/16 18:37	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/08/16 18:37	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/08/16 18:37	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/08/16 18:37	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 18:37	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/08/16 18:37	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/08/16 18:37	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/08/16 18:37	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/08/16 18:37	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/08/16 18:37	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/08/16 18:37	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/08/16 18:37	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/08/16 18:37	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/08/16 18:37	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/08/16 18:37	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/08/16 18:37	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/08/16 18:37	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/08/16 18:37	1
EDB	0.175	U	1.00	0.175	ug/L			03/08/16 18:37	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/08/16 18:37	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 18:37	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/08/16 18:37	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/08/16 18:37	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/08/16 18:37	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/08/16 18:37	1
Hexane	2.00	U	5.00	2.00	ug/L			03/08/16 18:37	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/08/16 18:37	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/08/16 18:37	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/08/16 18:37	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/08/16 18:37	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/08/16 18:37	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/08/16 18:37	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/08/16 18:37	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/08/16 18:37	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/08/16 18:37	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/08/16 18:37	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/08/16 18:37	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/08/16 18:37	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/08/16 18:37	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 18:37	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/08/16 18:37	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/08/16 18:37	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/08/16 18:37	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/08/16 18:37	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/08/16 18:37	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/08/16 18:37	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/08/16 18:37	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/08/16 18:37	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

**Client Sample ID: TB02**

**Date Collected: 03/02/16 00:00**

**Date Received: 03/04/16 08:10**

**Lab Sample ID: 560-60073-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.200	U	1.00	0.200	ug/L			03/08/16 18:37	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 18:37	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/08/16 18:37	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/08/16 18:37	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/08/16 18:37	1
Toluene	0.495	U	1.00	0.495	ug/L			03/08/16 18:37	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 18:37	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/08/16 18:37	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/08/16 18:37	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/08/16 18:37	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/08/16 18:37	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/08/16 18:37	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/08/16 18:37	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/08/16 18:37	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/08/16 18:37	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/08/16 18:37	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/08/16 18:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/08/16 18:37	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 18:37	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 18:37	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/08/16 18:37	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/08/16 18:37	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/08/16 18:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		70 - 130		03/08/16 18:37	1
Dibromofluoromethane (Surr)	106		69 - 130		03/08/16 18:37	1
1,2-Dichloroethane-d4 (Surr)	84		70 - 140		03/08/16 18:37	1
Toluene-d8 (Surr)	104		70 - 130		03/08/16 18:37	1



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-125820/8

Matrix: Water

Analysis Batch: 125820

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/08/16 15:42	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/08/16 15:42	1
Benzene	0.330	U	1.00	0.330	ug/L			03/08/16 15:42	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/08/16 15:42	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 15:42	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/08/16 15:42	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/08/16 15:42	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/08/16 15:42	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/08/16 15:42	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/08/16 15:42	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/08/16 15:42	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/08/16 15:42	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/08/16 15:42	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/08/16 15:42	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/08/16 15:42	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/08/16 15:42	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/08/16 15:42	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/08/16 15:42	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/08/16 15:42	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/08/16 15:42	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/08/16 15:42	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 15:42	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/08/16 15:42	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/08/16 15:42	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/08/16 15:42	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/08/16 15:42	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/08/16 15:42	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/08/16 15:42	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/08/16 15:42	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/08/16 15:42	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/08/16 15:42	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/08/16 15:42	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/08/16 15:42	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/08/16 15:42	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/08/16 15:42	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/08/16 15:42	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/08/16 15:42	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/08/16 15:42	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/08/16 15:42	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/08/16 15:42	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/08/16 15:42	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/08/16 15:42	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/08/16 15:42	1
EDB	0.175	U	1.00	0.175	ug/L			03/08/16 15:42	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/08/16 15:42	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 15:42	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/08/16 15:42	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/08/16 15:42	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125820/8

Matrix: Water

Analysis Batch: 125820

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/08/16 15:42	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/08/16 15:42	1
Hexane	2.00	U	5.00	2.00	ug/L			03/08/16 15:42	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/08/16 15:42	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/08/16 15:42	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/08/16 15:42	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/08/16 15:42	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/08/16 15:42	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/08/16 15:42	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/08/16 15:42	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/08/16 15:42	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/08/16 15:42	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/08/16 15:42	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/08/16 15:42	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/08/16 15:42	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/08/16 15:42	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/08/16 15:42	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/08/16 15:42	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/08/16 15:42	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/08/16 15:42	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/08/16 15:42	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/08/16 15:42	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/08/16 15:42	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/08/16 15:42	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/08/16 15:42	1
Styrene	0.200	U	1.00	0.200	ug/L			03/08/16 15:42	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 15:42	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/08/16 15:42	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/08/16 15:42	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/08/16 15:42	1
Toluene	0.495	U	1.00	0.495	ug/L			03/08/16 15:42	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/08/16 15:42	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/08/16 15:42	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/08/16 15:42	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/08/16 15:42	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/08/16 15:42	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/08/16 15:42	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/08/16 15:42	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/08/16 15:42	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/08/16 15:42	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/08/16 15:42	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/08/16 15:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/08/16 15:42	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 15:42	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/08/16 15:42	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/08/16 15:42	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/08/16 15:42	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/08/16 15:42	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125820/8

Matrix: Water

Analysis Batch: 125820

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	80		70 - 130		03/08/16 15:42	1
Dibromofluoromethane (Surr)	102		69 - 130		03/08/16 15:42	1
1,2-Dichloroethane-d4 (Surr)	81		70 - 140		03/08/16 15:42	1
Toluene-d8 (Surr)	104		70 - 130		03/08/16 15:42	1

Lab Sample ID: LCS 560-125820/3

Matrix: Water

Analysis Batch: 125820

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	22.28		ug/L		89	60 - 150
Acetonitrile	250	190.6		ug/L		76	52 - 160
Benzene	25.0	25.60		ug/L		102	70 - 130
Benzyl chloride	25.0	32.27		ug/L		129	66 - 153
Bromobenzene	25.0	20.24		ug/L		81	70 - 130
Bromochloromethane	25.0	30.30		ug/L		121	70 - 130
Bromoform	25.0	35.25		ug/L		141	63 - 145
Bromomethane	25.0	24.08		ug/L		96	50 - 146
1,3-Butadiene	25.0	15.97		ug/L		64	40 - 138
2-Butanone (MEK)	25.0	17.67		ug/L		71	68 - 144
Carbon disulfide	25.0	27.11		ug/L		108	52 - 156
Carbon tetrachloride	25.0	25.32		ug/L		101	70 - 138
Chlorobenzene	25.0	28.53		ug/L		114	70 - 130
2-Chloro-1,3-butadiene	25.0	20.78		ug/L		83	69 - 140
Chlorodibromomethane	25.0	30.02		ug/L		120	70 - 137
Chloroethane	25.0	23.93		ug/L		96	54 - 141
Chloroform	25.0	24.41		ug/L		98	70 - 130
1-Chlorohexane	25.0	21.04		ug/L		84	64 - 130
Chloromethane	25.0	20.09		ug/L		80	46 - 142
2-Chlorotoluene	25.0	24.81		ug/L		99	70 - 130
4-Chlorotoluene	25.0	24.84		ug/L		99	70 - 130
cis-1,4-Dichloro-2-butene	25.0	39.11		ug/L		156	10 - 184
cis-1,2-Dichloroethene	25.0	23.90		ug/L		96	70 - 130
cis-1,3-Dichloropropene	25.0	24.86		ug/L		99	70 - 138
Cyclohexane	25.0	24.38		ug/L		98	40 - 141
Cyclohexanone	125	110.1		ug/L		88	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	31.61		ug/L		126	70 - 149
Dibromomethane	25.0	23.92		ug/L		96	70 - 130
1,2-Dichlorobenzene	25.0	25.88		ug/L		104	70 - 130
1,3-Dichlorobenzene	25.0	25.58		ug/L		102	70 - 130
1,4-Dichlorobenzene	25.0	25.88		ug/L		104	70 - 130
Dichlorobromomethane	25.0	23.23		ug/L		93	70 - 130
Dichlorodifluoromethane	25.0	19.33		ug/L		77	10 - 181
1,1-Dichloroethane	25.0	23.27		ug/L		93	70 - 130
1,2-Dichloroethane	25.0	19.78		ug/L		79	70 - 131
1,1-Dichloroethene	25.0	24.76		ug/L		99	70 - 139
1,2-Dichloropropane	25.0	22.63		ug/L		91	70 - 130
1,3-Dichloropropane	25.0	24.28		ug/L		97	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125820/3

Matrix: Water

Analysis Batch: 125820

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	19.40		ug/L		78	65 - 143
1,1-Dichloropropene	25.0	25.32		ug/L		101	70 - 130
1,4-Dioxane	500	662.1		ug/L		132	66 - 150
EDB	25.0	28.67		ug/L		115	70 - 130
Ethyl acetate	50.0	34.15		ug/L		68	59 - 200
Ethylbenzene	25.0	28.66		ug/L		115	70 - 130
Ethylene oxide	100	30.0	U	ug/L		25	10 - 200
Ethyl ether	25.0	23.34		ug/L		93	69 - 136
Ethyl methacrylate	25.0	24.97		ug/L		100	70 - 130
Hexachlorobutadiene	25.0	35.02		ug/L		140	68 - 165
Hexane	25.0	29.42		ug/L		118	10 - 185
2-Hexanone	25.0	20.29		ug/L		81	70 - 138
Iodomethane	25.0	32.12		ug/L		128	64 - 146
Isobutyl alcohol	625	467.9		ug/L		75	27 - 199
Isooctane	25.0	23.54		ug/L		94	10 - 181
Isopropylbenzene	25.0	24.46		ug/L		98	70 - 131
4-Isopropyltoluene	25.0	27.22		ug/L		109	70 - 130
Methacrylonitrile	250	233.9		ug/L		94	70 - 139
Methylene Chloride	25.0	25.99		ug/L		104	70 - 130
Methyl methacrylate	50.0	39.93		ug/L		80	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	20.61		ug/L		82	70 - 138
Methyl tert-butyl ether	25.0	24.26		ug/L		97	70 - 131
m-Xylene & p-Xylene	25.0	28.85		ug/L		115	70 - 139
Naphthalene	25.0	36.62		ug/L		146	70 - 159
n-Butylbenzene	25.0	26.25		ug/L		105	70 - 135
n-Heptane	25.0	18.71		ug/L		75	10 - 186
2-Nitropropane	50.0	37.90		ug/L		76	22 - 173
N-Propylbenzene	25.0	23.78		ug/L		95	70 - 131
1-Octene	25.0	21.26		ug/L		85	10 - 185
o-Xylene	25.0	29.94		ug/L		120	70 - 130
Pentachloroethane	25.0	27.76		ug/L		111	70 - 146
Propionitrile	250	213.0		ug/L		85	70 - 144
sec-Butylbenzene	25.0	26.68		ug/L		107	70 - 134
Styrene	25.0	31.89		ug/L		128	70 - 130
tert-Butylbenzene	25.0	26.28		ug/L		105	70 - 132
1,1,1,2-Tetrachloroethane	25.0	31.17		ug/L		125	70 - 130
1,1,2,2-Tetrachloroethane	25.0	22.88		ug/L		92	70 - 130
Tetrachloroethene	25.0	30.35		ug/L		121	70 - 135
Toluene	25.0	27.53		ug/L		110	70 - 130
trans-1,4-Dichloro-2-butene	25.0	29.32		ug/L		117	37 - 174
trans-1,2-Dichloroethene	25.0	25.53		ug/L		102	70 - 134
trans-1,3-Dichloropropene	25.0	25.02		ug/L		100	70 - 143
1,2,3-Trichlorobenzene	25.0	36.34		ug/L		145	70 - 158
1,2,4-Trichlorobenzene	25.0	31.77		ug/L		127	70 - 157
1,3,5-Trichlorobenzene	25.0	28.50		ug/L		114	70 - 131
1,1,1-Trichloroethane	25.0	23.32		ug/L		93	70 - 130
1,1,2-Trichloroethane	25.0	25.62		ug/L		102	70 - 130
Trichloroethene	25.0	28.53		ug/L		114	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125820/3

Matrix: Water

Analysis Batch: 125820

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	23.18		ug/L		93	39 - 146
1,2,3-Trichloropropane	25.0	23.23		ug/L		93	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	29.32		ug/L		117	27 - 148
1,2,4-Trimethylbenzene	25.0	25.71		ug/L		103	70 - 130
1,3,5-Trimethylbenzene	25.0	25.49		ug/L		102	70 - 131
Vinyl acetate	50.0	38.10		ug/L		76	18 - 200
Vinyl chloride	25.0	23.09		ug/L		92	49 - 140
Xylenes, Total	50.0	58.79		ug/L		118	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	84		70 - 130
Dibromofluoromethane (Surr)	103		69 - 130
1,2-Dichloroethane-d4 (Surr)	81		70 - 140
Toluene-d8 (Surr)	108		70 - 130

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125820

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	5.00	U	25.0	19.31		ug/L		77	32 - 157
Acetonitrile	10.0	U	250	143.5		ug/L		57	10 - 182
Benzene	0.330	U	25.0	25.66		ug/L		103	70 - 130
Benzyl chloride	0.278	U F1	25.0	32.56		ug/L		130	49 - 130
Bromobenzene	0.128	U	25.0	20.58		ug/L		82	69 - 130
Bromochloromethane	0.228	U	25.0	29.86		ug/L		119	70 - 130
Bromoform	0.500	U	25.0	35.50		ug/L		142	57 - 145
Bromomethane	0.392	U	25.0	24.93		ug/L		100	56 - 141
1,3-Butadiene	0.300	U	25.0	15.95		ug/L		64	25 - 196
2-Butanone (MEK)	1.00	U	25.0	15.87		ug/L		63	42 - 142
Carbon disulfide	0.500	U	25.0	26.48		ug/L		106	59 - 164
Carbon tetrachloride	0.251	U	25.0	25.26		ug/L		101	70 - 138
Chlorobenzene	0.136	U	25.0	29.03		ug/L		116	70 - 130
2-Chloro-1,3-butadiene	0.200	U	25.0	20.72		ug/L		83	55 - 144
Chlorodibromomethane	0.223	U	25.0	30.29		ug/L		121	62 - 145
Chloroethane	0.400	U	25.0	21.01		ug/L		84	62 - 142
Chloroform	0.173	U	25.0	24.26		ug/L		97	70 - 130
1-Chlorohexane	0.500	U	25.0	21.07		ug/L		84	64 - 130
Chloromethane	0.390	U	25.0	19.34		ug/L		77	57 - 148
2-Chlorotoluene	0.155	U	25.0	25.03		ug/L		100	70 - 130
4-Chlorotoluene	0.242	U	25.0	25.69		ug/L		103	69 - 130
cis-1,4-Dichloro-2-butene	0.500	U F1	25.0	39.43	F1	ug/L		158	24 - 136
cis-1,2-Dichloroethene	0.121	U	25.0	23.20		ug/L		93	70 - 130
cis-1,3-Dichloropropene	0.146	U	25.0	24.79		ug/L		99	46 - 136
Cyclohexane	1.00	U	25.0	23.62		ug/L		94	46 - 144
Cyclohexanone	5.00	U	125	94.11		ug/L		75	10 - 193
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	30.51		ug/L		122	56 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125820

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	0.165	U	25.0	23.79		ug/L		95	70 - 130
1,2-Dichlorobenzene	0.170	U	25.0	26.36		ug/L		105	70 - 130
1,3-Dichlorobenzene	0.128	U	25.0	25.76		ug/L		103	70 - 130
1,4-Dichlorobenzene	0.200	U	25.0	26.25		ug/L		105	70 - 130
Dichlorobromomethane	0.175	U	25.0	23.47		ug/L		94	70 - 130
Dichlorodifluoromethane	0.429	U	25.0	18.10		ug/L		72	14 - 198
1,1-Dichloroethane	0.168	U	25.0	22.98		ug/L		92	70 - 130
1,2-Dichloroethane	0.172	U	25.0	19.33		ug/L		77	65 - 130
1,1-Dichloroethene	0.300	U	25.0	24.07		ug/L		96	67 - 143
1,2-Dichloropropane	0.173	U	25.0	22.67		ug/L		91	70 - 130
1,3-Dichloropropane	0.146	U	25.0	24.49		ug/L		98	70 - 130
2,2-Dichloropropane	0.335	U	25.0	19.73		ug/L		79	65 - 150
1,1-Dichloropropene	0.185	U	25.0	25.59		ug/L		102	70 - 130
1,4-Dioxane	15.9	U	500	575.8		ug/L		115	20 - 152
EDB	0.175	U	25.0	28.87		ug/L		115	70 - 130
Ethyl acetate	1.00	U	50.0	31.77		ug/L		64	53 - 144
Ethylbenzene	0.200	U	25.0	28.68		ug/L		115	70 - 130
Ethylene oxide	30.0	U	100	49.73	J	ug/L		50	12 - 185
Ethyl ether	0.320	U	25.0	22.89		ug/L		92	67 - 130
Ethyl methacrylate	0.500	U	25.0	24.89		ug/L		100	65 - 130
Hexachlorobutadiene	0.860	U	25.0	33.62		ug/L		134	52 - 143
Hexane	2.00	U	25.0	28.00		ug/L		112	51 - 159
2-Hexanone	0.500	U	25.0	18.81		ug/L		75	56 - 130
Iodomethane	0.223	U	25.0	31.72		ug/L		127	70 - 162
Isobutyl alcohol	5.00	U	625	404.4		ug/L		65	36 - 130
Isooctane	0.500	U	25.0	22.04		ug/L		88	52 - 150
Isopropylbenzene	0.200	U	25.0	25.00		ug/L		100	70 - 130
4-Isopropyltoluene	0.150	U	25.0	27.31		ug/L		109	69 - 130
Methacrylonitrile	2.00	U	250	223.5		ug/L		89	61 - 130
Methylene Chloride	2.00	U	25.0	25.82		ug/L		103	70 - 130
Methyl methacrylate	0.200	U	50.0	39.13		ug/L		78	63 - 130
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	19.33		ug/L		77	54 - 130
Methyl tert-butyl ether	0.200	U	25.0	23.61		ug/L		94	63 - 134
m-Xylene & p-Xylene	0.260	U	25.0	29.41		ug/L		118	67 - 130
Naphthalene	0.200	U	25.0	35.97		ug/L		144	62 - 145
n-Butylbenzene	0.200	U	25.0	26.05		ug/L		104	67 - 130
n-Heptane	0.300	U	25.0	18.55		ug/L		74	55 - 150
2-Nitropropane	1.00	U	50.0	35.09		ug/L		70	22 - 173
N-Propylbenzene	0.106	U	25.0	24.04		ug/L		96	70 - 130
1-Octene	0.440	U	25.0	20.87		ug/L		83	63 - 134
o-Xylene	0.200	U	25.0	29.82		ug/L		119	70 - 130
Pentachloroethane	0.302	U	25.0	28.05		ug/L		112	60 - 130
Propionitrile	2.69	U	250	190.7		ug/L		76	39 - 130
sec-Butylbenzene	0.300	U	25.0	26.44		ug/L		106	67 - 130
Styrene	0.200	U	25.0	32.20		ug/L		129	28 - 150
tert-Butylbenzene	0.200	U	25.0	26.73		ug/L		107	70 - 130
1,1,1,2-Tetrachloroethane	0.209	U F1	25.0	31.31		ug/L		125	70 - 130
1,1,2,2-Tetrachloroethane	0.190	U	25.0	22.87		ug/L		91	66 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125820

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	0.189	U	25.0	30.66		ug/L		123	69 - 130
Toluene	0.495	U	25.0	28.92		ug/L		116	70 - 130
trans-1,4-Dichloro-2-butene	0.500	U	25.0	29.09		ug/L		116	35 - 130
trans-1,2-Dichloroethene	0.200	U	25.0	25.52		ug/L		102	57 - 148
trans-1,3-Dichloropropene	0.200	U	25.0	26.00		ug/L		104	44 - 139
1,2,3-Trichlorobenzene	0.217	U F1	25.0	35.98	F1	ug/L		144	60 - 130
1,2,4-Trichlorobenzene	0.168	U	25.0	31.69		ug/L		127	60 - 142
1,3,5-Trichlorobenzene	0.203	U	25.0	28.10		ug/L		112	66 - 135
1,1,1-Trichloroethane	0.300	U	25.0	23.46		ug/L		94	70 - 133
1,1,2-Trichloroethane	0.173	U	25.0	25.84		ug/L		103	70 - 130
Trichloroethene	0.317	U	25.0	28.44		ug/L		114	70 - 130
Trichlorofluoromethane	0.244	U	25.0	22.93		ug/L		92	64 - 149
1,2,3-Trichloropropane	0.191	U	25.0	23.31		ug/L		93	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	28.53		ug/L		114	47 - 152
1,2,4-Trimethylbenzene	0.200	U	25.0	25.94		ug/L		104	70 - 130
1,3,5-Trimethylbenzene	0.200	U	25.0	25.75		ug/L		103	70 - 130
Vinyl acetate	0.500	U	50.0	37.85		ug/L		76	36 - 171
Vinyl chloride	0.300	U	25.0	22.29		ug/L		89	49 - 158
Xylenes, Total	0.226	U	50.0	59.23		ug/L		118	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	83		70 - 130
Dibromofluoromethane (Surr)	101		69 - 130
1,2-Dichloroethane-d4 (Surr)	79		70 - 140
Toluene-d8 (Surr)	109		70 - 130

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125820

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	5.00	U	25.0	18.13		ug/L		73	32 - 157	6	20
Acetonitrile	10.0	U	250	155.5		ug/L		62	10 - 182	8	20
Benzene	0.330	U	25.0	26.15		ug/L		105	70 - 130	2	20
Benzyl chloride	0.278	U F1	25.0	33.08	F1	ug/L		132	49 - 130	2	20
Bromobenzene	0.128	U	25.0	20.75		ug/L		83	69 - 130	1	20
Bromochloromethane	0.228	U	25.0	30.31		ug/L		121	70 - 130	2	20
Bromoform	0.500	U	25.0	35.94		ug/L		144	57 - 145	1	20
Bromomethane	0.392	U	25.0	24.46		ug/L		98	56 - 141	2	20
1,3-Butadiene	0.300	U	25.0	16.64		ug/L		67	25 - 196	4	20
2-Butanone (MEK)	1.00	U	25.0	15.79		ug/L		63	42 - 142	0	20
Carbon disulfide	0.500	U	25.0	27.36		ug/L		109	59 - 164	3	20
Carbon tetrachloride	0.251	U	25.0	25.24		ug/L		101	70 - 138	0	20
Chlorobenzene	0.136	U	25.0	29.48		ug/L		118	70 - 130	2	20
2-Chloro-1,3-butadiene	0.200	U	25.0	20.50		ug/L		82	55 - 144	1	20
Chlorodibromomethane	0.223	U	25.0	30.80		ug/L		123	62 - 145	2	20
Chloroethane	0.400	U	25.0	24.14		ug/L		97	62 - 142	14	20

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125820

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	0.173	U	25.0	24.70		ug/L		99	70 - 130	2	20
1-Chlorohexane	0.500	U	25.0	20.07		ug/L		80	64 - 130	5	20
Chloromethane	0.390	U	25.0	20.44		ug/L		82	57 - 148	6	20
2-Chlorotoluene	0.155	U	25.0	25.28		ug/L		101	70 - 130	1	20
4-Chlorotoluene	0.242	U	25.0	25.57		ug/L		102	69 - 130	0	20
cis-1,4-Dichloro-2-butene	0.500	U F1	25.0	38.57	F1	ug/L		154	24 - 136	2	20
cis-1,2-Dichloroethene	0.121	U	25.0	24.11		ug/L		96	70 - 130	4	20
cis-1,3-Dichloropropene	0.146	U	25.0	25.47		ug/L		102	46 - 136	3	20
Cyclohexane	1.00	U	25.0	24.62		ug/L		98	46 - 144	4	20
Cyclohexanone	5.00	U	125	90.24		ug/L		72	10 - 193	4	20
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	31.14		ug/L		125	56 - 130	2	20
Dibromomethane	0.165	U	25.0	24.03		ug/L		96	70 - 130	1	20
1,2-Dichlorobenzene	0.170	U	25.0	26.14		ug/L		105	70 - 130	1	20
1,3-Dichlorobenzene	0.128	U	25.0	25.81		ug/L		103	70 - 130	0	20
1,4-Dichlorobenzene	0.200	U	25.0	26.38		ug/L		106	70 - 130	0	20
Dichlorobromomethane	0.175	U	25.0	23.49		ug/L		94	70 - 130	0	20
Dichlorodifluoromethane	0.429	U	25.0	18.43		ug/L		74	14 - 198	2	20
1,1-Dichloroethane	0.168	U	25.0	23.42		ug/L		94	70 - 130	2	20
1,2-Dichloroethane	0.172	U	25.0	19.82		ug/L		79	65 - 130	3	20
1,1-Dichloroethene	0.300	U	25.0	24.88		ug/L		100	67 - 143	3	20
1,2-Dichloropropane	0.173	U	25.0	23.08		ug/L		92	70 - 130	2	20
1,3-Dichloropropane	0.146	U	25.0	25.42		ug/L		102	70 - 130	4	20
2,2-Dichloropropane	0.335	U	25.0	20.13		ug/L		81	65 - 150	2	20
1,1-Dichloropropene	0.185	U	25.0	25.82		ug/L		103	70 - 130	1	20
1,4-Dioxane	15.9	U	500	572.2		ug/L		114	20 - 152	1	20
EDB	0.175	U	25.0	29.92		ug/L		120	70 - 130	4	20
Ethyl acetate	1.00	U	50.0	31.41		ug/L		63	53 - 144	1	20
Ethylbenzene	0.200	U	25.0	29.59		ug/L		118	70 - 130	3	20
Ethylene oxide	30.0	U	100	51.68		ug/L		52	12 - 185	4	20
Ethyl ether	0.320	U	25.0	23.62		ug/L		94	67 - 130	3	20
Ethyl methacrylate	0.500	U	25.0	25.54		ug/L		102	65 - 130	3	20
Hexachlorobutadiene	0.860	U	25.0	33.17		ug/L		133	52 - 143	1	20
Hexane	2.00	U	25.0	28.05		ug/L		112	51 - 159	0	20
2-Hexanone	0.500	U	25.0	19.33		ug/L		77	56 - 130	3	20
Iodomethane	0.223	U	25.0	32.33		ug/L		129	70 - 162	2	20
Isobutyl alcohol	5.00	U	625	432.9		ug/L		69	36 - 130	7	20
Isooctane	0.500	U	25.0	22.73		ug/L		91	52 - 150	3	20
Isopropylbenzene	0.200	U	25.0	24.95		ug/L		100	70 - 130	0	20
4-Isopropyltoluene	0.150	U	25.0	27.30		ug/L		109	69 - 130	0	20
Methacrylonitrile	2.00	U	250	224.5		ug/L		90	61 - 130	0	20
Methylene Chloride	2.00	U	25.0	26.79		ug/L		107	70 - 130	4	20
Methyl methacrylate	0.200	U	50.0	39.67		ug/L		79	63 - 130	1	20
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	20.89		ug/L		84	54 - 130	8	20
Methyl tert-butyl ether	0.200	U	25.0	24.44		ug/L		98	63 - 134	3	20
m-Xylene & p-Xylene	0.260	U	25.0	30.29		ug/L		121	67 - 130	3	20
Naphthalene	0.200	U	25.0	35.80		ug/L		143	62 - 145	0	20
n-Butylbenzene	0.200	U	25.0	26.14		ug/L		105	67 - 130	0	20
n-Heptane	0.300	U	25.0	18.50		ug/L		74	55 - 150	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125820

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Nitropropane	1.00	U	50.0	34.34		ug/L		69	22 - 173	2	20
N-Propylbenzene	0.106	U	25.0	24.15		ug/L		97	70 - 130	0	20
1-Octene	0.440	U	25.0	21.59		ug/L		86	63 - 134	3	
o-Xylene	0.200	U	25.0	30.58		ug/L		122	70 - 130	3	20
Pentachloroethane	0.302	U	25.0	28.55		ug/L		114	60 - 130	2	20
Propionitrile	2.69	U	250	201.6		ug/L		81	39 - 130	6	20
sec-Butylbenzene	0.300	U	25.0	26.43		ug/L		106	67 - 130	0	20
Styrene	0.200	U	25.0	32.99		ug/L		132	28 - 150	2	20
tert-Butylbenzene	0.200	U	25.0	26.81		ug/L		107	70 - 130	0	20
1,1,1,2-Tetrachloroethane	0.209	U F1	25.0	32.68	F1	ug/L		131	70 - 130	4	20
1,1,2,2-Tetrachloroethane	0.190	U	25.0	23.14		ug/L		93	66 - 130	1	20
Tetrachloroethene	0.189	U	25.0	31.56		ug/L		126	69 - 130	3	20
Toluene	0.495	U	25.0	29.34		ug/L		117	70 - 130	1	20
trans-1,4-Dichloro-2-butene	0.500	U	25.0	28.63		ug/L		115	35 - 130	2	20
trans-1,2-Dichloroethene	0.200	U	25.0	25.65		ug/L		103	57 - 148	1	20
trans-1,3-Dichloropropene	0.200	U	25.0	26.73		ug/L		107	44 - 139	3	20
1,2,3-Trichlorobenzene	0.217	U F1	25.0	35.27	F1	ug/L		141	60 - 130	2	20
1,2,4-Trichlorobenzene	0.168	U	25.0	31.41		ug/L		126	60 - 142	1	20
1,3,5-Trichlorobenzene	0.203	U	25.0	28.15		ug/L		113	66 - 135	0	20
1,1,1-Trichloroethane	0.300	U	25.0	23.54		ug/L		94	70 - 133	0	20
1,1,2-Trichloroethane	0.173	U	25.0	26.83		ug/L		107	70 - 130	4	20
Trichloroethene	0.317	U	25.0	28.71		ug/L		115	70 - 130	1	20
Trichlorofluoromethane	0.244	U	25.0	22.53		ug/L		90	64 - 149	2	20
1,2,3-Trichloropropane	0.191	U	25.0	23.07		ug/L		92	70 - 130	1	20
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	29.52		ug/L		118	47 - 152	3	20
1,2,4-Trimethylbenzene	0.200	U	25.0	26.07		ug/L		104	70 - 130	1	20
1,3,5-Trimethylbenzene	0.200	U	25.0	25.59		ug/L		102	70 - 130	1	20
Vinyl acetate	0.500	U	50.0	37.43		ug/L		75	36 - 171	1	20
Vinyl chloride	0.300	U	25.0	23.07		ug/L		92	49 - 158	3	20
Xylenes, Total	0.226	U	50.0	60.87		ug/L		122	70 - 130	3	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	82		70 - 130
Dibromofluoromethane (Surr)	100		69 - 130
1,2-Dichloroethane-d4 (Surr)	78		70 - 140
Toluene-d8 (Surr)	107		70 - 130

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-125782/1-A

Matrix: Water

Analysis Batch: 125807

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125782

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/07/16 12:44	03/08/16 09:43	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/07/16 12:44	03/08/16 09:43	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/07/16 12:44	03/08/16 09:43	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125782/1-A

Matrix: Water

Analysis Batch: 125807

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125782

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/07/16 12:44	03/08/16 09:43	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/07/16 12:44	03/08/16 09:43	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/07/16 12:44	03/08/16 09:43	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/07/16 12:44	03/08/16 09:43	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/07/16 12:44	03/08/16 09:43	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/07/16 12:44	03/08/16 09:43	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/07/16 12:44	03/08/16 09:43	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/07/16 12:44	03/08/16 09:43	1
Bis(2-ethylhexyl) phthalate	10.79	J	20.0	5.00	ug/L		03/07/16 12:44	03/08/16 09:43	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/07/16 12:44	03/08/16 09:43	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/07/16 12:44	03/08/16 09:43	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/07/16 12:44	03/08/16 09:43	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/07/16 12:44	03/08/16 09:43	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/07/16 12:44	03/08/16 09:43	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/07/16 12:44	03/08/16 09:43	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/07/16 12:44	03/08/16 09:43	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/07/16 12:44	03/08/16 09:43	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/07/16 12:44	03/08/16 09:43	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/07/16 12:44	03/08/16 09:43	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/07/16 12:44	03/08/16 09:43	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/07/16 12:44	03/08/16 09:43	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/07/16 12:44	03/08/16 09:43	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/07/16 12:44	03/08/16 09:43	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/07/16 12:44	03/08/16 09:43	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/07/16 12:44	03/08/16 09:43	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/07/16 12:44	03/08/16 09:43	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/07/16 12:44	03/08/16 09:43	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/07/16 12:44	03/08/16 09:43	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/07/16 12:44	03/08/16 09:43	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/07/16 12:44	03/08/16 09:43	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/07/16 12:44	03/08/16 09:43	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/07/16 12:44	03/08/16 09:43	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/07/16 12:44	03/08/16 09:43	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/07/16 12:44	03/08/16 09:43	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/07/16 12:44	03/08/16 09:43	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/07/16 12:44	03/08/16 09:43	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/07/16 12:44	03/08/16 09:43	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/07/16 12:44	03/08/16 09:43	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/07/16 12:44	03/08/16 09:43	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/07/16 12:44	03/08/16 09:43	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/07/16 12:44	03/08/16 09:43	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/07/16 12:44	03/08/16 09:43	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/07/16 12:44	03/08/16 09:43	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/07/16 12:44	03/08/16 09:43	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/07/16 12:44	03/08/16 09:43	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/07/16 12:44	03/08/16 09:43	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/07/16 12:44	03/08/16 09:43	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/07/16 12:44	03/08/16 09:43	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125782/1-A

Matrix: Water

Analysis Batch: 125807

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125782

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/07/16 12:44	03/08/16 09:43	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/07/16 12:44	03/08/16 09:43	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/07/16 12:44	03/08/16 09:43	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/07/16 12:44	03/08/16 09:43	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/07/16 12:44	03/08/16 09:43	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/07/16 12:44	03/08/16 09:43	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/07/16 12:44	03/08/16 09:43	1
Phenol	0.768	U	10.0	0.768	ug/L		03/07/16 12:44	03/08/16 09:43	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/07/16 12:44	03/08/16 09:43	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/07/16 12:44	03/08/16 09:43	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/07/16 12:44	03/08/16 09:43	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/07/16 12:44	03/08/16 09:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	59		23 - 130	03/07/16 12:44	03/08/16 09:43	1
2-Fluorophenol	62		10 - 130	03/07/16 12:44	03/08/16 09:43	1
Nitrobenzene-d5	63		27 - 130	03/07/16 12:44	03/08/16 09:43	1
Phenol-d5	67		10 - 130	03/07/16 12:44	03/08/16 09:43	1
Terphenyl-d14	80		10 - 141	03/07/16 12:44	03/08/16 09:43	1
2,4,6-Tribromophenol	75		18 - 130	03/07/16 12:44	03/08/16 09:43	1

Lab Sample ID: LCS 560-125782/2-A

Matrix: Water

Analysis Batch: 125807

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125782

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	200	156.8		ug/L		78	54 - 130
Acenaphthylene	200	138.9		ug/L		69	54 - 130
Anthracene	200	173.7		ug/L		87	67 - 130
Benzo[a]anthracene	200	163.4		ug/L		82	70 - 130
Benzo[a]pyrene	200	168.9		ug/L		84	70 - 130
Benzo[b]fluoranthene	200	177.2		ug/L		89	69 - 130
Benzo[g,h,i]perylene	200	186.2		ug/L		93	62 - 130
Benzo[k]fluoranthene	200	172.1		ug/L		86	68 - 130
Benzyl alcohol	200	148.1		ug/L		74	52 - 130
Bis(2-chloroethoxy)methane	200	154.4		ug/L		77	55 - 130
Bis(2-chloroethyl)ether	200	141.6		ug/L		71	52 - 130
Bis(2-ethylhexyl) phthalate	200	163.8		ug/L		82	68 - 130
4-Bromophenyl phenyl ether	200	188.4		ug/L		94	69 - 130
Butyl benzyl phthalate	200	158.6		ug/L		79	68 - 130
4-Chloroaniline	200	143.5		ug/L		72	30 - 130
4-Chloro-3-methylphenol	200	165.1		ug/L		83	52 - 130
2-Chloronaphthalene	200	140.8		ug/L		70	51 - 130
2-Chlorophenol	200	151.7		ug/L		76	51 - 130
4-Chlorophenyl phenyl ether	200	153.0		ug/L		77	59 - 130
Chrysene	200	165.5		ug/L		83	70 - 130
Dibenz(a,h)anthracene	200	200.2		ug/L		100	65 - 130
Dibenzofuran	200	160.5		ug/L		80	53 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125782/2-A

Matrix: Water

Analysis Batch: 125807

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125782

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	200	132.1		ug/L		66	43 - 130
1,3-Dichlorobenzene	200	129.1		ug/L		65	40 - 130
1,4-Dichlorobenzene	200	132.5		ug/L		66	42 - 130
3,3'-Dichlorobenzidine	200	186.9		ug/L		93	61 - 130
2,4-Dichlorophenol	200	164.2		ug/L		82	51 - 130
Diethyl phthalate	200	154.8		ug/L		77	59 - 130
2,4-Dimethylphenol	200	162.3		ug/L		81	51 - 130
Dimethyl phthalate	200	149.0		ug/L		75	63 - 130
Di-n-butyl phthalate	200	171.5		ug/L		86	67 - 130
4,6-Dinitro-2-methylphenol	400	336.6		ug/L		84	63 - 130
2,4-Dinitrophenol	400	310.3		ug/L		78	47 - 130
2,4-Dinitrotoluene	200	146.5		ug/L		73	67 - 130
2,6-Dinitrotoluene	200	144.1		ug/L		72	64 - 130
Di-n-octyl phthalate	200	167.3		ug/L		84	70 - 130
Fluoranthene	200	177.5		ug/L		89	65 - 130
Fluorene	200	157.0		ug/L		79	59 - 130
Hexachlorobenzene	200	193.5		ug/L		97	67 - 130
Hexachlorobutadiene	200	144.4		ug/L		72	44 - 130
Hexachlorocyclopentadiene	200	53.37		ug/L		27	10 - 130
Hexachloroethane	200	123.3		ug/L		62	38 - 130
Indeno[1,2,3-cd]pyrene	200	190.7		ug/L		95	66 - 130
Isophorone	200	151.5		ug/L		76	55 - 130
2-Methylnaphthalene	200	155.6		ug/L		78	54 - 130
2-Methylphenol	200	149.1		ug/L		75	47 - 130
3 & 4 Methylphenol	200	161.1		ug/L		81	41 - 130
Naphthalene	200	149.4		ug/L		75	51 - 130
2-Nitroaniline	200	143.1		ug/L		72	60 - 130
3-Nitroaniline	200	143.0		ug/L		71	57 - 130
4-Nitroaniline	200	143.5		ug/L		72	55 - 130
Nitrobenzene	200	147.8		ug/L		74	54 - 130
2-Nitrophenol	200	157.6		ug/L		79	54 - 130
4-Nitrophenol	400	312.4		ug/L		78	34 - 138
N-Nitrosodi-n-propylamine	200	159.6		ug/L		80	45 - 130
N-Nitrosodiphenylamine	400	334.1		ug/L		84	51 - 130
Pentachlorophenol	400	336.6		ug/L		84	55 - 130
Phenanthrene	200	179.1		ug/L		90	67 - 130
Phenol	200	148.8		ug/L		74	47 - 130
Pyrene	200	166.6		ug/L		83	66 - 130
1,2,4-Trichlorobenzene	200	143.4		ug/L		72	49 - 130
2,4,5-Trichlorophenol	200	156.4		ug/L		78	55 - 130
2,4,6-Trichlorophenol	200	155.0		ug/L		77	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	57		23 - 130
2-Fluorophenol	59		10 - 130
Nitrobenzene-d5	61		27 - 130
Phenol-d5	65		10 - 130
Terphenyl-d14	70		10 - 141

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125782/2-A

Matrix: Water

Analysis Batch: 125807

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125782

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	78		18 - 130

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125807

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 125782

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	0.460	U	200	131.5		ug/L		66	54 - 130
Acenaphthylene	0.452	U	200	118.3		ug/L		59	54 - 130
Anthracene	0.700	U	200	154.4		ug/L		77	67 - 130
Benzo[a]anthracene	0.646	U	200	145.6		ug/L		73	70 - 130
Benzo[a]pyrene	0.742	U	200	154.9		ug/L		77	70 - 130
Benzo[b]fluoranthene	0.908	U	200	149.9		ug/L		75	69 - 130
Benzo[g,h,i]perylene	1.10	U	200	159.9		ug/L		80	62 - 130
Benzo[k]fluoranthene	1.49	U	200	158.5		ug/L		79	68 - 130
Benzyl alcohol	0.827	U	200	104.3		ug/L		52	52 - 130
Bis(2-chloroethoxy)methane	0.436	U	200	109.2		ug/L		55	55 - 130
Bis(2-chloroethyl)ether	1.55	U F1	200	95.60	F1	ug/L		48	52 - 130
Bis(2-ethylhexyl) phthalate	5.00	U	200	144.9		ug/L		72	68 - 130
4-Bromophenyl phenyl ether	0.811	U	200	160.2		ug/L		80	69 - 130
Butyl benzyl phthalate	0.816	U	200	141.3		ug/L		71	68 - 130
4-Chloroaniline	0.549	U	200	105.4		ug/L		53	30 - 130
4-Chloro-3-methylphenol	0.586	U	200	132.4		ug/L		66	52 - 130
2-Chloronaphthalene	0.603	U	200	111.5		ug/L		56	51 - 130
2-Chlorophenol	0.729	U	200	102.4		ug/L		51	51 - 130
4-Chlorophenyl phenyl ether	0.529	U	200	132.8		ug/L		66	59 - 130
Chrysene	0.494	U	200	146.5		ug/L		73	70 - 130
Dibenz(a,h)anthracene	0.874	U	200	172.9		ug/L		86	65 - 130
Dibenzofuran	0.485	U	200	136.2		ug/L		68	53 - 130
1,2-Dichlorobenzene	0.775	U	200	98.43		ug/L		49	43 - 130
1,3-Dichlorobenzene	0.491	U	200	97.34		ug/L		49	40 - 130
1,4-Dichlorobenzene	0.815	U	200	99.58		ug/L		50	42 - 130
3,3'-Dichlorobenzidine	0.787	U	200	175.4		ug/L		88	61 - 130
2,4-Dichlorophenol	0.704	U	200	117.8		ug/L		59	51 - 130
Diethyl phthalate	0.666	U	200	138.1		ug/L		69	59 - 130
2,4-Dimethylphenol	0.593	U	200	116.2		ug/L		58	51 - 130
Dimethyl phthalate	0.589	U	200	129.5		ug/L		65	63 - 130
Di-n-butyl phthalate	0.709	U	200	151.8		ug/L		76	67 - 130
4,6-Dinitro-2-methylphenol	0.959	U	400	291.1		ug/L		73	63 - 130
2,4-Dinitrophenol	2.69	U	400	267.0		ug/L		67	47 - 130
2,4-Dinitrotoluene	0.509	U F1	200	124.4	F1	ug/L		62	67 - 130
2,6-Dinitrotoluene	0.762	U F1	200	123.3	F1	ug/L		62	64 - 130
Di-n-octyl phthalate	1.11	U	200	148.2		ug/L		74	70 - 130
Fluoranthene	0.496	U	200	157.9		ug/L		79	65 - 130
Fluorene	0.421	U	200	135.2		ug/L		68	59 - 130
Hexachlorobenzene	0.602	U	200	167.4		ug/L		84	67 - 130
Hexachlorobutadiene	0.716	U	200	111.7		ug/L		56	44 - 130
Hexachlorocyclopentadiene	0.839	U	200	60.63		ug/L		30	10 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125807

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 125782

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachloroethane	0.589	U	200	96.65		ug/L		48	38 - 130
Indeno[1,2,3-cd]pyrene	0.922	U	200	167.3		ug/L		84	66 - 130
Isophorone	0.549	U	200	116.8		ug/L		58	55 - 130
2-Methylnaphthalene	0.702	U	200	119.4		ug/L		60	54 - 130
2-Methylphenol	0.610	U	200	103.5		ug/L		52	47 - 130
3 & 4 Methylphenol	0.763	U	200	113.5		ug/L		57	41 - 130
Naphthalene	0.787	U	200	108.3		ug/L		54	51 - 130
2-Nitroaniline	0.766	U	200	123.0		ug/L		61	60 - 130
3-Nitroaniline	0.512	U	200	124.5		ug/L		62	57 - 130
4-Nitroaniline	0.819	U	200	133.6		ug/L		67	55 - 130
Nitrobenzene	0.587	U	200	108.9		ug/L		54	54 - 130
2-Nitrophenol	0.808	U	200	108.5		ug/L		54	54 - 130
4-Nitrophenol	1.73	U	400	276.8		ug/L		69	34 - 138
N-Nitrosodi-n-propylamine	0.620	U	200	114.5		ug/L		57	45 - 130
N-Nitrosodiphenylamine	1.03	U	400	306.9		ug/L		77	51 - 130
Pentachlorophenol	1.32	U	400	292.3		ug/L		73	55 - 130
Phenanthrene	0.591	U	200	154.5		ug/L		77	67 - 130
Phenol	0.768	U	200	102.4		ug/L		51	47 - 130
Pyrene	0.440	U	200	145.7		ug/L		73	66 - 130
1,2,4-Trichlorobenzene	0.647	U	200	108.4		ug/L		54	49 - 130
2,4,5-Trichlorophenol	0.861	U	200	127.0		ug/L		64	55 - 130
2,4,6-Trichlorophenol	0.658	U	200	125.7		ug/L		63	53 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	46		23 - 130
2-Fluorophenol	41		10 - 130
Nitrobenzene-d5	45		27 - 130
Phenol-d5	47		10 - 130
Terphenyl-d14	63		10 - 141
2,4,6-Tribromophenol	69		18 - 130

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125807

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 125782

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acenaphthene	0.460	U	200	149.4		ug/L		75	54 - 130	13	30
Acenaphthylene	0.452	U	200	130.8		ug/L		65	54 - 130	10	30
Anthracene	0.700	U	200	168.0		ug/L		84	67 - 130	8	30
Benzo[a]anthracene	0.646	U	200	158.1		ug/L		79	70 - 130	8	30
Benzo[a]pyrene	0.742	U	200	160.9		ug/L		80	70 - 130	4	30
Benzo[b]fluoranthene	0.908	U	200	168.2		ug/L		84	69 - 130	11	30
Benzo[g,h,i]perylene	1.10	U	200	172.9		ug/L		86	62 - 130	8	30
Benzo[k]fluoranthene	1.49	U	200	166.0		ug/L		83	68 - 130	5	30
Benzyl alcohol	0.827	U	200	137.9		ug/L		69	52 - 130	28	30
Bis(2-chloroethoxy)methane	0.436	U	200	140.5		ug/L		70	55 - 130	25	30
Bis(2-chloroethyl)ether	1.55	U F1	200	127.3		ug/L		64	52 - 130	28	30
Bis(2-ethylhexyl) phthalate	5.00	U	200	158.2		ug/L		79	68 - 130	9	30

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125807

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 125782

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Bromophenyl phenyl ether	0.811	U	200	177.8		ug/L		89	69 - 130	10	30
Butyl benzyl phthalate	0.816	U	200	155.6		ug/L		78	68 - 130	10	30
4-Chloroaniline	0.549	U	200	122.5		ug/L		61	30 - 130	15	30
4-Chloro-3-methylphenol	0.586	U	200	154.6		ug/L		77	52 - 130	15	30
2-Chloronaphthalene	0.603	U	200	131.4		ug/L		66	51 - 130	16	30
2-Chlorophenol	0.729	U	200	137.0		ug/L		69	51 - 130	29	30
4-Chlorophenyl phenyl ether	0.529	U	200	147.5		ug/L		74	59 - 130	10	30
Chrysene	0.494	U	200	158.7		ug/L		79	70 - 130	8	30
Dibenz(a,h)anthracene	0.874	U	200	190.6		ug/L		95	65 - 130	10	30
Dibenzofuran	0.485	U	200	153.3		ug/L		77	53 - 130	12	30
1,2-Dichlorobenzene	0.775	U	200	118.7		ug/L		59	43 - 130	19	30
1,3-Dichlorobenzene	0.491	U	200	114.4		ug/L		57	40 - 130	16	30
1,4-Dichlorobenzene	0.815	U	200	118.2		ug/L		59	42 - 130	17	30
3,3'-Dichlorobenzidine	0.787	U	200	173.8		ug/L		87	61 - 130	1	30
2,4-Dichlorophenol	0.704	U	200	151.1		ug/L		76	51 - 130	25	30
Diethyl phthalate	0.666	U	200	151.7		ug/L		76	59 - 130	9	30
2,4-Dimethylphenol	0.593	U	200	148.2		ug/L		74	51 - 130	24	30
Dimethyl phthalate	0.589	U	200	145.2		ug/L		73	63 - 130	11	30
Di-n-butyl phthalate	0.709	U	200	165.5		ug/L		83	67 - 130	9	30
4,6-Dinitro-2-methylphenol	0.959	U	400	328.0		ug/L		82	63 - 130	12	30
2,4-Dinitrophenol	2.69	U	400	305.6		ug/L		76	47 - 130	14	30
2,4-Dinitrotoluene	0.509	U F1	200	142.2		ug/L		71	67 - 130	13	30
2,6-Dinitrotoluene	0.762	U F1	200	138.2		ug/L		69	64 - 130	11	30
Di-n-octyl phthalate	1.11	U	200	162.4		ug/L		81	70 - 130	9	30
Fluoranthene	0.496	U	200	170.9		ug/L		85	65 - 130	8	30
Fluorene	0.421	U	200	152.3		ug/L		76	59 - 130	12	30
Hexachlorobenzene	0.602	U	200	187.5		ug/L		94	67 - 130	11	30
Hexachlorobutadiene	0.716	U	200	131.7		ug/L		66	44 - 130	16	30
Hexachlorocyclopentadiene	0.839	U	200	45.15		ug/L		23	10 - 130	29	30
Hexachloroethane	0.589	U	200	112.4		ug/L		56	38 - 130	15	30
Indeno[1,2,3-cd]pyrene	0.922	U	200	181.7		ug/L		91	66 - 130	8	30
Isophorone	0.549	U	200	141.0		ug/L		70	55 - 130	19	30
2-Methylnaphthalene	0.702	U	200	143.7		ug/L		72	54 - 130	18	30
2-Methylphenol	0.610	U	200	136.6		ug/L		68	47 - 130	28	30
3 & 4 Methylphenol	0.763	U	200	147.3		ug/L		74	41 - 130	26	30
Naphthalene	0.787	U	200	134.2		ug/L		67	51 - 130	21	30
2-Nitroaniline	0.766	U	200	134.8		ug/L		67	60 - 130	9	35
3-Nitroaniline	0.512	U	200	137.8		ug/L		69	57 - 130	10	30
4-Nitroaniline	0.819	U	200	136.0		ug/L		68	55 - 130	2	30
Nitrobenzene	0.587	U	200	135.2		ug/L		68	54 - 130	22	30
2-Nitrophenol	0.808	U	200	142.8		ug/L		71	54 - 130	27	30
4-Nitrophenol	1.73	U	400	305.2		ug/L		76	34 - 138	10	30
N-Nitrosodi-n-propylamine	0.620	U	200	145.6		ug/L		73	45 - 130	24	30
N-Nitrosodiphenylamine	1.03	U	400	320.5		ug/L		80	51 - 130	4	30
Pentachlorophenol	1.32	U	400	329.3		ug/L		82	55 - 130	12	30
Phenanthrene	0.591	U	200	173.4		ug/L		87	67 - 130	12	30
Phenol	0.768	U	200	135.1		ug/L		68	47 - 130	28	30
Pyrene	0.440	U	200	163.2		ug/L		82	66 - 130	11	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125807

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 125782

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	0.647	U	200	130.5		ug/L		65	49 - 130	18	30
2,4,5-Trichlorophenol	0.861	U	200	147.3		ug/L		74	55 - 130	15	30
2,4,6-Trichlorophenol	0.658	U	200	143.5		ug/L		72	53 - 130	13	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	57		23 - 130
2-Fluorophenol	55		10 - 130
Nitrobenzene-d5	57		27 - 130
Phenol-d5	61		10 - 130
Terphenyl-d14	70		10 - 141
2,4,6-Tribromophenol	78		18 - 130

## Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 560-125817/1-A

Matrix: Water

Analysis Batch: 125829

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125817

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	0.00504	U	0.0605	0.00504	ug/L		03/08/16 09:16	03/08/16 15:05	1
4,4'-DDE	0.00504	U	0.0605	0.00504	ug/L		03/08/16 09:16	03/08/16 15:05	1
4,4'-DDT	0.00817	U	0.0605	0.00817	ug/L		03/08/16 09:16	03/08/16 15:05	1
Aldrin	0.00504	U	0.0605	0.00504	ug/L		03/08/16 09:16	03/08/16 15:05	1
alpha-BHC	0.00524	U	0.0605	0.00524	ug/L		03/08/16 09:16	03/08/16 15:05	1
alpha-Chlordane	0.00635	U	0.0605	0.00635	ug/L		03/08/16 09:16	03/08/16 15:05	1
beta-BHC	0.00504	U	0.0605	0.00504	ug/L		03/08/16 09:16	03/08/16 15:05	1
delta-BHC	0.00504	U	0.0605	0.00504	ug/L		03/08/16 09:16	03/08/16 15:05	1
Dieldrin	0.0131	U	0.0605	0.0131	ug/L		03/08/16 09:16	03/08/16 15:05	1
Endosulfan I	0.00504	U	0.0605	0.00504	ug/L		03/08/16 09:16	03/08/16 15:05	1
Endosulfan II	0.00867	U	0.0605	0.00867	ug/L		03/08/16 09:16	03/08/16 15:05	1
Endosulfan sulfate	0.00888	U	0.0605	0.00888	ug/L		03/08/16 09:16	03/08/16 15:05	1
Endrin	0.00777	U	0.0605	0.00777	ug/L		03/08/16 09:16	03/08/16 15:05	1
Endrin aldehyde	0.00504	U	0.0605	0.00504	ug/L		03/08/16 09:16	03/08/16 15:05	1
Endrin ketone	0.00827	U	0.0605	0.00827	ug/L		03/08/16 09:16	03/08/16 15:05	1
gamma-BHC (Lindane)	0.00454	U	0.0605	0.00454	ug/L		03/08/16 09:16	03/08/16 15:05	1
gamma-Chlordane	0.00676	U	0.0605	0.00676	ug/L		03/08/16 09:16	03/08/16 15:05	1
Heptachlor	0.00656	U	0.0605	0.00656	ug/L		03/08/16 09:16	03/08/16 15:05	1
Heptachlor epoxide	0.00524	U	0.0605	0.00524	ug/L		03/08/16 09:16	03/08/16 15:05	1
Methoxychlor	0.0101	U	0.0605	0.0101	ug/L		03/08/16 09:16	03/08/16 15:05	1
Toxaphene	0.686	U	6.05	0.686	ug/L		03/08/16 09:16	03/08/16 15:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	45		10 - 152	03/08/16 09:16	03/08/16 15:05	1
Tetrachloro-m-xylene	90		57 - 127	03/08/16 09:16	03/08/16 15:05	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 560-125817/3-A

Matrix: Water

Analysis Batch: 125829

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
4,4'-DDD	0.580	0.5179		ug/L		89	56 - 130
4,4'-DDE	0.580	0.4650		ug/L		80	53 - 130
4,4'-DDT	0.580	0.4891		ug/L		84	50 - 130
Aldrin	0.580	0.5057		ug/L		87	54 - 130
alpha-BHC	0.580	0.5408		ug/L		93	59 - 130
alpha-Chlordane	0.580	0.4831		ug/L		83	51 - 130
beta-BHC	0.580	0.5155		ug/L		89	56 - 130
delta-BHC	0.580	0.5414		ug/L		93	56 - 130
Dieldrin	0.580	0.5208		ug/L		90	58 - 130
Endosulfan I	0.580	0.5229		ug/L		90	39 - 130
Endosulfan II	0.580	0.4775		ug/L		82	44 - 130
Endosulfan sulfate	0.580	0.4729		ug/L		82	52 - 130
Endrin	0.580	0.5282		ug/L		91	62 - 130
Endrin aldehyde	0.580	0.4222		ug/L		73	52 - 130
Endrin ketone	0.580	0.4825		ug/L		83	48 - 130
gamma-BHC (Lindane)	0.580	0.5385		ug/L		93	56 - 130
gamma-Chlordane	0.580	0.5425		ug/L		94	52 - 130
Heptachlor	0.580	0.5246		ug/L		90	57 - 130
Heptachlor epoxide	0.580	0.4564		ug/L		79	53 - 130
Methoxychlor	0.580	0.5141		ug/L		89	57 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	48		10 - 152
Tetrachloro-m-xylene	90		57 - 127

Lab Sample ID: LCS 560-125817/4-A

Matrix: Water

Analysis Batch: 125829

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Toxaphene	11.2	11.25		ug/L		100	51 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	41		10 - 152
Tetrachloro-m-xylene	80		57 - 127

Lab Sample ID: LCS 560-125817/5-A

Matrix: Water

Analysis Batch: 125829

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125817

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	42		10 - 152
Tetrachloro-m-xylene	80		57 - 127

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125829

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
4,4'-DDD	0.00493	U	0.552	0.4366		ug/L		79	56 - 130
4,4'-DDE	0.00493	U	0.552	0.4063		ug/L		74	53 - 130
4,4'-DDT	0.00799	U	0.552	0.3918		ug/L		71	50 - 130
Aldrin	0.00493	U	0.552	0.4206		ug/L		76	54 - 130
alpha-BHC	0.00513	U	0.552	0.4902		ug/L		89	59 - 130
alpha-Chlordane	0.00621	U	0.552	0.3801		ug/L		69	51 - 130
beta-BHC	0.00493	U	0.552	0.4560		ug/L		83	56 - 130
delta-BHC	0.00493	U	0.552	0.4835		ug/L		88	56 - 130
Dieldrin	0.0128	U	0.552	0.4525		ug/L		82	58 - 130
Endosulfan I	0.00493	U	0.552	0.4431		ug/L		80	39 - 130
Endosulfan II	0.00848	U	0.552	0.4150		ug/L		75	44 - 130
Endosulfan sulfate	0.00868	U	0.552	0.3903		ug/L		71	52 - 130
Endrin	0.00759	U	0.552	0.4638		ug/L		84	62 - 130
Endrin aldehyde	0.00493	U	0.552	0.3514		ug/L		64	52 - 130
Endrin ketone	0.00808	U	0.552	0.4209		ug/L		76	48 - 130
gamma-BHC (Lindane)	0.00444	U	0.552	0.4840		ug/L		88	56 - 130
gamma-Chlordane	0.00661	U	0.552	0.4348		ug/L		79	52 - 130
Heptachlor	0.00641	U	0.552	0.4561		ug/L		83	57 - 130
Heptachlor epoxide	0.00513	U	0.552	0.3986		ug/L		72	53 - 130
Methoxychlor	0.00986	U	0.552	0.4425		ug/L		80	57 - 130
<b>Surrogate</b>									
	<b>MS</b>	<b>MS</b>							
	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
DCB Decachlorobiphenyl	34		10 - 152						
Tetrachloro-m-xylene	84		57 - 127						

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125829

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
4,4'-DDD	0.00493	U	0.560	0.4475		ug/L		80	56 - 130	2	30
4,4'-DDE	0.00493	U	0.560	0.4124		ug/L		74	53 - 130	1	30
4,4'-DDT	0.00799	U	0.560	0.4086		ug/L		73	50 - 130	4	30
Aldrin	0.00493	U	0.560	0.4407		ug/L		79	54 - 130	5	30
alpha-BHC	0.00513	U	0.560	0.5020		ug/L		90	59 - 130	2	30
alpha-Chlordane	0.00621	U	0.560	0.3981		ug/L		71	51 - 130	5	30
beta-BHC	0.00493	U	0.560	0.4641		ug/L		83	56 - 130	2	30
delta-BHC	0.00493	U	0.560	0.4953		ug/L		88	56 - 130	2	30
Dieldrin	0.0128	U	0.560	0.4593		ug/L		82	58 - 130	1	30
Endosulfan I	0.00493	U	0.560	0.4553		ug/L		81	39 - 130	3	30
Endosulfan II	0.00848	U	0.560	0.4201		ug/L		75	44 - 130	1	30
Endosulfan sulfate	0.00868	U	0.560	0.4052		ug/L		72	52 - 130	4	30
Endrin	0.00759	U	0.560	0.4682		ug/L		84	62 - 130	1	30
Endrin aldehyde	0.00493	U	0.560	0.3582		ug/L		64	52 - 130	2	30
Endrin ketone	0.00808	U	0.560	0.4269		ug/L		76	48 - 130	1	30
gamma-BHC (Lindane)	0.00444	U	0.560	0.4945		ug/L		88	56 - 130	2	30
gamma-Chlordane	0.00661	U	0.560	0.4502		ug/L		80	52 - 130	3	30
Heptachlor	0.00641	U	0.560	0.4740		ug/L		85	57 - 130	4	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125829

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Heptachlor epoxide	0.00513	U	0.560	0.4336		ug/L		77	53 - 130	6	30
Methoxychlor	0.00986	U	0.560	0.4453		ug/L		79	57 - 130	1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	37		10 - 152
Tetrachloro-m-xylene	85		57 - 127

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 560-125817/1-A

Matrix: Water

Analysis Batch: 125830

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125817

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1221	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1232	0.444	U	0.807	0.444	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1242	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1248	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1254	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1260	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1262	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1268	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	137		10 - 150	03/08/16 09:16	03/08/16 14:57	1
DCB Decachlorobiphenyl	119		10 - 150	03/08/16 09:16	03/08/16 14:57	1

Lab Sample ID: LCS 560-125817/2-A

Matrix: Water

Analysis Batch: 125830

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	11.5	14.10		ug/L		123	50 - 135
Aroclor 1260	11.5	13.44		ug/L		117	50 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	109		10 - 150
DCB Decachlorobiphenyl	104		10 - 150

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125830

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	0.108	U F1	11.2	15.10		ug/L		134	50 - 135
Aroclor 1260	0.108	U F1	11.2	13.11		ug/L		117	50 - 135

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 560-60073-4 MS  
Matrix: Water  
Analysis Batch: 125830

Client Sample ID: HCS130  
Prep Type: Total/NA  
Prep Batch: 125817

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	125		10 - 150
DCB Decachlorobiphenyl	95		10 - 150

Lab Sample ID: 560-60073-4 MSD  
Matrix: Water  
Analysis Batch: 125830

Client Sample ID: HCS130  
Prep Type: Total/NA  
Prep Batch: 125817

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016	0.108	U F1	11.8	17.07	F1	ug/L		145	50 - 135	12	30
Aroclor 1260	0.108	U F1	11.8	17.08	F1	ug/L		145	50 - 135	26	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	132		10 - 150
DCB Decachlorobiphenyl	126		10 - 150

## Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 280-315982/1-A  
Matrix: Water  
Analysis Batch: 316439

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 315982

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.168	U	2.50	0.168	ug/L		03/07/16 09:20	03/10/16 16:58	1
Bolstar	0.314	U	1.00	0.314	ug/L		03/07/16 09:20	03/10/16 16:58	1
Chlorpyrifos	0.360	U	1.50	0.360	ug/L		03/07/16 09:20	03/10/16 16:58	1
Coumaphos	0.135	U	1.00	0.135	ug/L		03/07/16 09:20	03/10/16 16:58	1
Demeton-O	0.140	U	1.00	0.140	ug/L		03/07/16 09:20	03/10/16 16:58	1
Demeton-S	0.0690	U	2.00	0.0690	ug/L		03/07/16 09:20	03/10/16 16:58	1
Diazinon	0.147	U	0.500	0.147	ug/L		03/07/16 09:20	03/10/16 16:58	1
Dichlorvos	0.162	U	0.500	0.162	ug/L		03/07/16 09:20	03/10/16 16:58	1
Dimethoate	0.449	U	1.50	0.449	ug/L		03/07/16 09:20	03/10/16 16:58	1
Disulfoton	0.322	U	1.00	0.322	ug/L		03/07/16 09:20	03/10/16 16:58	1
EPN	0.149	U	1.20	0.149	ug/L		03/07/16 09:20	03/10/16 16:58	1
Ethoprop	0.177	U	1.50	0.177	ug/L		03/07/16 09:20	03/10/16 16:58	1
Ethyl Parathion	0.144	U	1.00	0.144	ug/L		03/07/16 09:20	03/10/16 16:58	1
Famphur	0.179	U	1.00	0.179	ug/L		03/07/16 09:20	03/10/16 16:58	1
Fensulfothion	0.544	U	2.50	0.544	ug/L		03/07/16 09:20	03/10/16 16:58	1
Fenthion	0.154	U	2.50	0.154	ug/L		03/07/16 09:20	03/10/16 16:58	1
Malathion	0.133	U	2.00	0.133	ug/L		03/07/16 09:20	03/10/16 16:58	1
Merphos	0.174	U	5.00	0.174	ug/L		03/07/16 09:20	03/10/16 16:58	1
Methyl parathion	0.141	U	4.00	0.141	ug/L		03/07/16 09:20	03/10/16 16:58	1
Mevinphos	0.460	U	6.20	0.460	ug/L		03/07/16 09:20	03/10/16 16:58	1
Naled	0.800	U	2.00	0.800	ug/L		03/07/16 09:20	03/10/16 16:58	1
Phorate	0.154	U	1.20	0.154	ug/L		03/07/16 09:20	03/10/16 16:58	1
Ronnel	0.116	U	10.0	0.116	ug/L		03/07/16 09:20	03/10/16 16:58	1
Sulfotepp	0.168	U	1.50	0.168	ug/L		03/07/16 09:20	03/10/16 16:58	1
Tetrachlorvinphos (Stirophos)	0.124	U	3.50	0.124	ug/L		03/07/16 09:20	03/10/16 16:58	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: MB 280-315982/1-A

Matrix: Water

Analysis Batch: 316439

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 315982

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thionazin	0.312	U	1.00	0.312	ug/L		03/07/16 09:20	03/10/16 16:58	1
Tokuthion	0.123	U	1.60	0.123	ug/L		03/07/16 09:20	03/10/16 16:58	1
Trichloronate	0.242	U	1.50	0.242	ug/L		03/07/16 09:20	03/10/16 16:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	80		49 - 171	03/07/16 09:20	03/10/16 16:58	1
Triphenylphosphate	89		60 - 154	03/07/16 09:20	03/10/16 16:58	1

Lab Sample ID: LCS 280-315982/2-A

Matrix: Water

Analysis Batch: 316439

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 315982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Azinphos-methyl	8.00	5.488		ug/L		69	35 - 130
Chlorpyrifos	8.00	5.554		ug/L		69	39 - 120
Coumaphos	8.00	5.929		ug/L		74	37 - 134
Diazinon	8.00	5.213		ug/L		65	35 - 120
Dichlorvos	8.00	6.620		ug/L		83	23 - 174
Dimethoate	4.00	2.832		ug/L		71	29 - 116
Disulfoton	8.00	4.715		ug/L		59	36 - 115
EPN	4.00	3.086		ug/L		77	46 - 121
Ethoprop	8.00	5.307		ug/L		66	39 - 129
Ethyl Parathion	4.00	2.989		ug/L		75	40 - 122
Famphur	4.00	3.328		ug/L		83	42 - 130
Fensulfothion	8.00	5.473		ug/L		68	29 - 134
Fenthion	8.00	5.384		ug/L		67	34 - 120
Malathion	4.00	2.388		ug/L		60	39 - 117
Merphos	8.00	3.578	J	ug/L		45	32 - 115
Methyl parathion	8.00	6.184		ug/L		77	42 - 130
Mevinphos	8.00	4.630	J	ug/L		58	22 - 115
Phorate	8.00	4.184		ug/L		52	22 - 115
Ronnel	8.00	5.996	J	ug/L		75	33 - 126
Sulfotepp	4.00	2.729		ug/L		68	33 - 117
Tetrachlorvinphos (Stirophos)	8.00	5.784		ug/L		72	39 - 120
Thionazin	4.00	2.726		ug/L		68	38 - 120
Trichloronate	8.00	5.350		ug/L		67	34 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Chlormefos	80		49 - 171
Triphenylphosphate	83		60 - 154

Lab Sample ID: 560-59988-I-1-B MS

Matrix: Water

Analysis Batch: 316439

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 315982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Azinphos-methyl	0.159	U	7.63	5.078		ug/L		67	35 - 130
Chlorpyrifos	0.342	U	7.63	4.783		ug/L		63	39 - 120

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-59988-I-1-B MS

Matrix: Water

Analysis Batch: 316439

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 315982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Coumaphos	0.128	U	7.63	5.323		ug/L		70	37 - 134
Diazinon	0.140	U	7.63	4.828		ug/L		63	35 - 120
Dichlorvos	0.154	U	7.63	5.350		ug/L		70	23 - 174
Dimethoate	0.426	U	3.81	2.384		ug/L		63	29 - 116
Disulfoton	0.306	U	7.63	4.316		ug/L		57	36 - 115
EPN	0.141	U	3.81	2.704		ug/L		71	46 - 121
Ethoprop	0.168	U	7.63	4.899		ug/L		64	39 - 129
Ethyl Parathion	0.137	U	3.81	2.690		ug/L		71	40 - 122
Famphur	0.170	U	3.81	2.955		ug/L		77	42 - 130
Fensulfothion	0.516	U	7.63	4.870		ug/L		64	29 - 134
Fenthion	0.146	U	7.63	4.830		ug/L		63	34 - 120
Malathion	0.126	U	3.81	2.224		ug/L		58	39 - 117
Merphos	0.165	U	7.63	2.620	J	ug/L		34	32 - 115
Methyl parathion	0.134	U	7.63	5.451		ug/L		71	42 - 130
Mevinphos	0.437	U	7.63	4.028	J	ug/L		53	22 - 115
Phorate	0.146	U	7.63	3.823		ug/L		50	22 - 115
Ronnel	0.110	U	7.63	5.179	J	ug/L		68	33 - 126
Sulfotepp	0.159	U	3.81	2.472		ug/L		65	33 - 117
Tetrachlorvinphos (Stirophos)	0.118	U	7.63	5.349		ug/L		70	39 - 120
Thionazin	0.296	U	3.81	2.465		ug/L		65	38 - 120
Trichloronate	0.230	U	7.63	4.528		ug/L		59	34 - 115

Surrogate	MS %Recovery	MS Qualifier	Limits
Chlormefos	73		49 - 171
Triphenylphosphate	80		60 - 154

Lab Sample ID: 560-59988-J-1-A MSD

Matrix: Water

Analysis Batch: 316439

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 315982

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Azinphos-methyl	0.159	U	7.58	4.768		ug/L		63	35 - 130	6	50
Chlorpyrifos	0.342	U	7.58	4.839		ug/L		64	39 - 120	1	27
Coumaphos	0.128	U	7.58	5.124		ug/L		68	37 - 134	4	50
Diazinon	0.140	U	7.58	4.496		ug/L		59	35 - 120	7	37
Dichlorvos	0.154	U	7.58	5.380		ug/L		71	23 - 174	1	37
Dimethoate	0.426	U	3.79	2.378		ug/L		63	29 - 116	0	49
Disulfoton	0.306	U	7.58	4.199		ug/L		55	36 - 115	3	50
EPN	0.141	U	3.79	2.538		ug/L		67	46 - 121	6	26
Ethoprop	0.168	U	7.58	4.699		ug/L		62	39 - 129	4	27
Ethyl Parathion	0.137	U	3.79	2.606		ug/L		69	40 - 122	3	26
Famphur	0.170	U	3.79	2.743		ug/L		72	42 - 130	7	22
Fensulfothion	0.516	U	7.58	4.627		ug/L		61	29 - 134	5	47
Fenthion	0.146	U	7.58	4.753		ug/L		63	34 - 120	2	27
Malathion	0.126	U	3.79	2.119		ug/L		56	39 - 117	5	25
Merphos	0.165	U	7.58	2.704	J	ug/L		36	32 - 115	3	27
Methyl parathion	0.134	U	7.58	5.266		ug/L		69	42 - 130	3	30
Mevinphos	0.437	U	7.58	3.960	J	ug/L		52	22 - 115	2	34

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-59988-J-1-A MSD

Matrix: Water

Analysis Batch: 316439

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 315982

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phorate	0.146	U	7.58	3.728		ug/L		49	22 - 115	3	33
Ronnel	0.110	U	7.58	5.162	J	ug/L		68	33 - 126	0	25
Sulfotepp	0.159	U	3.79	2.407		ug/L		64	33 - 117	3	32
Tetrachlorvinphos (Stirophos)	0.118	U	7.58	5.003		ug/L		66	39 - 120	7	28
Thionazin	0.296	U	3.79	2.374		ug/L		63	38 - 120	4	25
Trichloronate	0.230	U	7.58	4.748		ug/L		63	34 - 115	5	28

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Chlormefos	74		49 - 171
Triphenylphosphate	76		60 - 154

Lab Sample ID: 560-60019-E-2-B MSD

Matrix: Water

Analysis Batch: 316439

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 315982

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	0.160	U	7.60	4.973		ug/L		65	35 - 130	1	50
Chlorpyrifos	0.342	U	7.60	4.746		ug/L		62	39 - 120	4	27
Coumaphos	0.128	U	7.60	5.195		ug/L		68	37 - 134	1	50
Diazinon	0.140	U	7.60	4.617		ug/L		61	35 - 120	1	37
Dichlorvos	0.154	U	7.60	6.304		ug/L		83	23 - 174	8	37
Dimethoate	0.426	U	3.80	2.420		ug/L		64	29 - 116	2	49
Disulfoton	0.306	U	7.60	4.188		ug/L		55	36 - 115	2	50
EPN	0.142	U	3.80	2.512		ug/L		66	46 - 121	9	26
Ethoprop	0.168	U	7.60	4.874		ug/L		64	39 - 129	3	27
Ethyl Parathion	0.137	U	3.80	2.711		ug/L		71	40 - 122	2	26
Famphur	0.170	U	3.80	2.857		ug/L		75	42 - 130	6	22
Fensulfothion	0.517	U	7.60	4.926		ug/L		65	29 - 134	5	47
Fenthion	0.146	U	7.60	4.859		ug/L		64	34 - 120	1	27
Malathion	0.126	U	3.80	2.225		ug/L		59	39 - 117	3	25
Merphos	0.165	U	7.60	2.736	J	ug/L		36	32 - 115	19	27
Methyl parathion	0.134	U	7.60	5.571		ug/L		73	42 - 130	1	30
Mevinphos	0.437	U	7.60	4.161	J	ug/L		55	22 - 115	4	34
Phorate	0.146	U	7.60	3.775		ug/L		50	22 - 115	3	33
Ronnel	0.110	U	7.60	5.197	J	ug/L		68	33 - 126	4	25
Sulfotepp	0.160	U	3.80	2.421		ug/L		64	33 - 117	3	32
Tetrachlorvinphos (Stirophos)	0.118	U	7.60	5.276		ug/L		69	39 - 120	1	28
Thionazin	0.296	U	3.80	2.485		ug/L		65	38 - 120	2	25
Trichloronate	0.230	U	7.60	4.328		ug/L		57	34 - 115	13	28

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Chlormefos	79		49 - 171
Triphenylphosphate	79		60 - 154

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-60019-F-2-B MS

Matrix: Water

Analysis Batch: 316439

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 315982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Azinphos-methyl	0.160	U	7.63	4.911		ug/L		64	35 - 130
Chlorpyrifos	0.342	U	7.63	4.945		ug/L		65	39 - 120
Coumaphos	0.128	U	7.63	5.266		ug/L		69	37 - 134
Diazinon	0.140	U	7.63	4.675		ug/L		61	35 - 120
Dichlorvos	0.154	U	7.63	6.808		ug/L		89	23 - 174
Dimethoate	0.426	U	3.81	2.474		ug/L		65	29 - 116
Disulfoton	0.306	U	7.63	4.254		ug/L		56	36 - 115
EPN	0.142	U	3.81	2.758		ug/L		72	46 - 121
Ethoprop	0.168	U	7.63	5.032		ug/L		66	39 - 129
Ethyl Parathion	0.137	U	3.81	2.669		ug/L		70	40 - 122
Famphur	0.170	U	3.81	3.043		ug/L		80	42 - 130
Fensulfothion	0.517	U	7.63	5.195		ug/L		68	29 - 134
Fenthion	0.146	U	7.63	4.821		ug/L		63	34 - 120
Malathion	0.126	U	3.81	2.156		ug/L		57	39 - 117
Merphos	0.165	U	7.63	3.300	J	ug/L		43	32 - 115
Methyl parathion	0.134	U	7.63	5.518		ug/L		72	42 - 130
Mevinphos	0.437	U	7.63	4.338	J	ug/L		57	22 - 115
Phorate	0.146	U	7.63	3.874		ug/L		51	22 - 115
Ronnel	0.110	U	7.63	5.401	J	ug/L		71	33 - 126
Sulfotepp	0.160	U	3.81	2.484		ug/L		65	33 - 117
Tetrachlorvinphos (Stirophos)	0.118	U	7.63	5.216		ug/L		68	39 - 120
Thionazin	0.296	U	3.81	2.523		ug/L		66	38 - 120
Trichloronate	0.230	U	7.63	4.940		ug/L		65	34 - 115

Surrogate	MS %Recovery	MS Qualifier	Limits
Chlormefos	80		49 - 171
Triphenylphosphate	79		60 - 154

Lab Sample ID: 560-60051-G-1-A MS

Matrix: Water

Analysis Batch: 316439

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 315982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Azinphos-methyl	0.164	U	7.68	4.306		ug/L		56	35 - 130
Chlorpyrifos	0.351	U	7.68	4.404		ug/L		57	39 - 120
Coumaphos	0.132	U	7.68	4.692		ug/L		61	37 - 134
Diazinon	0.143	U	7.68	4.288		ug/L		56	35 - 120
Dichlorvos	0.158	U	7.68	4.730		ug/L		62	23 - 174
Dimethoate	0.438	U	3.84	1.812		ug/L		47	29 - 116
Disulfoton	0.314	U	7.68	4.126		ug/L		54	36 - 115
EPN	0.145	U	3.84	2.250		ug/L		59	46 - 121
Ethoprop	0.173	U	7.68	4.415		ug/L		58	39 - 129
Ethyl Parathion	0.140	U	3.84	2.372		ug/L		62	40 - 122
Famphur	0.175	U	3.84	2.439		ug/L		64	42 - 130
Fensulfothion	0.530	U	7.68	4.035		ug/L		53	29 - 134
Fenthion	0.150	U	7.68	4.386		ug/L		57	34 - 120
Malathion	0.130	U	3.84	1.969		ug/L		51	39 - 117
Merphos	0.170	U	7.68	2.914	J	ug/L		38	32 - 115

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-60051-G-1-A MS

Matrix: Water

Analysis Batch: 316439

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 315982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl parathion	0.137	U	7.68	4.748		ug/L		62	42 - 130
Mevinphos	0.449	U	7.68	3.400	J	ug/L		44	22 - 115
Phorate	0.150	U	7.68	3.588		ug/L		47	22 - 115
Ronnel	0.113	U	7.68	4.664	J	ug/L		61	33 - 126
Sulfotepp	0.164	U	3.84	2.300		ug/L		60	33 - 117
Tetrachlorvinphos (Stirophos)	0.121	U	7.68	4.635		ug/L		60	39 - 120
Thionazin	0.304	U	3.84	2.147		ug/L		56	38 - 120
Trichloronate	0.236	U	7.68	4.080		ug/L		53	34 - 115

Surrogate	MS %Recovery	MS Qualifier	Limits
Chlormefos	68		49 - 171
Triphenylphosphate	73		60 - 154

Lab Sample ID: 560-60051-H-1-A MSD

Matrix: Water

Analysis Batch: 316439

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 315982

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	0.164	U	7.66	5.212		ug/L		68	35 - 130	19	50
Chlorpyrifos	0.351	U	7.66	5.173		ug/L		68	39 - 120	16	27
Coumaphos	0.132	U	7.66	5.555		ug/L		73	37 - 134	17	50
Diazinon	0.143	U	7.66	4.888		ug/L		64	35 - 120	13	37
Dichlorvos	0.158	U	7.66	6.409		ug/L		84	23 - 174	30	37
Dimethoate	0.438	U	3.83	2.634		ug/L		69	29 - 116	37	49
Disulfoton	0.314	U	7.66	4.437		ug/L		58	36 - 115	7	50
EPN	0.145	U	3.83	2.886		ug/L		75	46 - 121	25	26
Ethoprop	0.173	U	7.66	5.113		ug/L		67	39 - 129	15	27
Ethyl Parathion	0.140	U	3.83	2.800		ug/L		73	40 - 122	17	26
Famphur	0.175	U	3.83	2.959		ug/L		77	42 - 130	19	22
Fensulfothion	0.530	U	7.66	5.618		ug/L		73	29 - 134	33	47
Fenthion	0.150	U	7.66	5.069		ug/L		66	34 - 120	14	27
Malathion	0.130	U	3.83	2.279		ug/L		60	39 - 117	15	25
Merphos	0.170	U	7.66	3.575	J	ug/L		47	32 - 115	20	27
Methyl parathion	0.137	U	7.66	5.892		ug/L		77	42 - 130	21	30
Mevinphos	0.449	U	7.66	4.406	J	ug/L		58	22 - 115	26	34
Phorate	0.150	U	7.66	3.961		ug/L		52	22 - 115	10	33
Ronnel	0.113	U	7.66	5.637	J	ug/L		74	33 - 126	19	25
Sulfotepp	0.164	U	3.83	2.564		ug/L		67	33 - 117	11	32
Tetrachlorvinphos (Stirophos)	0.121	U	7.66	5.544		ug/L		72	39 - 120	18	28
Thionazin	0.304	U	3.83	2.597		ug/L		68	38 - 120	19	25
Trichloronate	0.236	U	7.66	5.131		ug/L		67	34 - 115	23	28

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Chlormefos	78		49 - 171
Triphenylphosphate	85		60 - 154

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 316439

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 315982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Azinphos-methyl	0.160	U	7.59	5.024		ug/L		66	35 - 130
Chlorpyrifos	0.343	U	7.59	4.897		ug/L		65	39 - 120
Coumaphos	0.128	U	7.59	5.352		ug/L		71	37 - 134
Diazinon	0.140	U	7.59	4.887		ug/L		64	35 - 120
Dichlorvos	0.154	U	7.59	6.615		ug/L		87	23 - 174
Dimethoate	0.427	U	3.80	2.546		ug/L		67	29 - 116
Disulfoton	0.306	U	7.59	4.476		ug/L		59	36 - 115
EPN	0.142	U	3.80	2.609		ug/L		69	46 - 121
Ethoprop	0.168	U	7.59	5.027		ug/L		66	39 - 129
Ethyl Parathion	0.137	U	3.80	2.714		ug/L		72	40 - 122
Famphur	0.170	U	3.80	2.965		ug/L		78	42 - 130
Fensulfothion	0.518	U	7.59	5.366		ug/L		71	29 - 134
Fenthion	0.147	U	7.59	4.894		ug/L		64	34 - 120
Malathion	0.127	U	3.80	2.214		ug/L		58	39 - 117
Merphos	0.166	U	7.59	3.041	J	ug/L		40	32 - 115
Methyl parathion	0.134	U	7.59	5.562		ug/L		73	42 - 130
Mevinphos	0.438	U	7.59	4.433	J	ug/L		58	22 - 115
Phorate	0.147	U	7.59	3.891		ug/L		51	22 - 115
Ronnel	0.110	U	7.59	5.270	J	ug/L		69	33 - 126
Sulfotepp	0.160	U	3.80	2.516		ug/L		66	33 - 117
Tetrachlorvinphos (Stirophos)	0.118	U	7.59	5.337		ug/L		70	39 - 120
Thionazin	0.297	U	3.80	2.530		ug/L		67	38 - 120
Trichloronate	0.230	U	7.59	4.519		ug/L		60	34 - 115

Surrogate	MS %Recovery	MS Qualifier	Limits
Chlormefos	91		49 - 171
Triphenylphosphate	85		60 - 154

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 316439

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 315982

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Azinphos-methyl	0.160	U	7.59	5.067		ug/L		67	35 - 130	1	50
Chlorpyrifos	0.343	U	7.59	4.970		ug/L		65	39 - 120	1	27
Coumaphos	0.128	U	7.59	5.345		ug/L		70	37 - 134	0	50
Diazinon	0.140	U	7.59	4.858		ug/L		64	35 - 120	1	37
Dichlorvos	0.154	U	7.59	6.720		ug/L		89	23 - 174	2	37
Dimethoate	0.427	U	3.80	2.572		ug/L		68	29 - 116	1	49
Disulfoton	0.306	U	7.59	4.430		ug/L		58	36 - 115	1	50
EPN	0.142	U	3.80	2.733		ug/L		72	46 - 121	5	26
Ethoprop	0.168	U	7.59	5.101		ug/L		67	39 - 129	1	27
Ethyl Parathion	0.137	U	3.80	2.748		ug/L		72	40 - 122	1	26
Famphur	0.170	U	3.80	2.913		ug/L		77	42 - 130	2	22
Fensulfothion	0.518	U	7.59	5.222		ug/L		69	29 - 134	3	47
Fenthion	0.147	U	7.59	4.938		ug/L		65	34 - 120	1	27
Malathion	0.127	U	3.80	2.237		ug/L		59	39 - 117	1	25
Merphos	0.166	U	7.59	2.752	J	ug/L		36	32 - 115	10	27

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 316439

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 315982

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl parathion	0.134	U	7.59	5.647		ug/L		74	42 - 130	2	30
Mevinphos	0.438	U	7.59	4.418	J	ug/L		58	22 - 115	0	34
Phorate	0.147	U	7.59	3.942		ug/L		52	22 - 115	1	33
Ronnel	0.110	U	7.59	5.375	J	ug/L		71	33 - 126	2	25
Sulfotepp	0.160	U	3.80	2.542		ug/L		67	33 - 117	1	32
Tetrachlorvinphos (Stirophos)	0.118	U	7.59	5.368		ug/L		71	39 - 120	1	28
Thionazin	0.297	U	3.80	2.579		ug/L		68	38 - 120	2	25
Trichloronate	0.230	U	7.59	4.737		ug/L		62	34 - 115	5	28

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Chlormefos	84		49 - 171
Triphenylphosphate	82		60 - 154

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 680-424080/10-A

Matrix: Water

Analysis Batch: 424349

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 424080

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.100	U	5.00	0.100	ug/L		03/07/16 07:35	03/08/16 22:36	1
Dicamba	0.0850	U	0.500	0.0850	ug/L		03/07/16 07:35	03/08/16 22:36	1
Mecoprop	19.0	U	120	19.0	ug/L		03/07/16 07:35	03/08/16 22:36	1
MCPA	17.0	U	120	17.0	ug/L		03/07/16 07:35	03/08/16 22:36	1
Dichlorprop	0.150	U	0.500	0.150	ug/L		03/07/16 07:35	03/08/16 22:36	1
2,4-D	0.0370	U	0.500	0.0370	ug/L		03/07/16 07:35	03/08/16 22:36	1
Silvex (2,4,5-TP)	0.0620	U	0.250	0.0620	ug/L		03/07/16 07:35	03/08/16 22:36	1
2,4,5-T	0.0620	U	0.250	0.0620	ug/L		03/07/16 07:35	03/08/16 22:36	1
2,4-DB	0.150	U	0.500	0.150	ug/L		03/07/16 07:35	03/08/16 22:36	1
Dinoseb	0.160	U	1.00	0.160	ug/L		03/07/16 07:35	03/08/16 22:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	81		45 - 130	03/07/16 07:35	03/08/16 22:36	1

Lab Sample ID: LCS 680-424080/11-A

Matrix: Water

Analysis Batch: 424349

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 424080

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	2.00	1.313	J	ug/L		66	40 - 130
Dicamba	1.00	0.8094		ug/L		81	64 - 130
Mecoprop	200	151.1		ug/L		76	55 - 134
MCPA	200	142.9		ug/L		71	52 - 130
Dichlorprop	2.00	1.628		ug/L		81	52 - 130
2,4-D	2.00	1.606		ug/L		80	55 - 130
Silvex (2,4,5-TP)	0.500	0.4236		ug/L		85	60 - 130
2,4,5-T	0.500	0.4257		ug/L		85	58 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 680-424080/11-A

Matrix: Water

Analysis Batch: 424349

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 424080

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-DB	2.00	1.750		ug/L		88	60 - 147
Dinoseb	2.00	1.475		ug/L		74	14 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid	80		45 - 130

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 424349

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 424080

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	0.0955	U	1.98	1.245	J	ug/L		63	40 - 130
Dicamba	0.0812	U	0.989	0.8278		ug/L		84	64 - 130
Mecoprop	18.1	U	198	151.9		ug/L		77	55 - 134
MCPA	16.2	U	198	137.4		ug/L		70	52 - 130
Dichlorprop	0.143	U	1.98	1.617		ug/L		82	52 - 130
2,4-D	0.0353	U	1.98	1.643		ug/L		83	55 - 130
Silvex (2,4,5-TP)	0.0592	U	0.494	0.4284		ug/L		87	60 - 130
2,4,5-T	0.0592	U	0.494	0.4345		ug/L		88	58 - 130
2,4-DB	0.143	U	1.98	1.663		ug/L		84	60 - 147
Dinoseb	0.153	U	1.98	1.454		ug/L		74	14 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4-Dichlorophenylacetic acid	86		45 - 130

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 424349

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 424080

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Dalapon	0.0955	U	1.84	1.367	J	ug/L		74	40 - 130	9	50
Dicamba	0.0812	U	0.920	0.7931		ug/L		86	64 - 130	4	50
Mecoprop	18.1	U	184	157.4		ug/L		86	55 - 134	4	50
MCPA	16.2	U	184	135.7		ug/L		74	52 - 130	1	50
Dichlorprop	0.143	U	1.84	1.570		ug/L		85	52 - 130	3	50
2,4-D	0.0353	U	1.84	1.627		ug/L		88	55 - 130	1	50
Silvex (2,4,5-TP)	0.0592	U	0.460	0.4380		ug/L		95	60 - 130	2	50
2,4,5-T	0.0592	U	0.460	0.4257		ug/L		93	58 - 130	2	50
2,4-DB	0.143	U	1.84	1.678		ug/L		91	60 - 147	1	50
Dinoseb	0.153	U	1.84	1.337		ug/L		73	14 - 130	8	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4-Dichlorophenylacetic acid	89		45 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 560-125765/1-A

Matrix: Water

Analysis Batch: 125800

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125765

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.101	U	0.200	0.101	mg/L		03/07/16 10:00	03/07/16 14:10	1
Magnesium	0.0257	U	0.200	0.0257	mg/L		03/07/16 10:00	03/07/16 14:10	1
Potassium	0.375	U	0.500	0.375	mg/L		03/07/16 10:00	03/07/16 14:10	1
Silicon	0.0707	U	0.500	0.0707	mg/L		03/07/16 10:00	03/07/16 14:10	1
Sodium	0.310	U	1.00	0.310	mg/L		03/07/16 10:00	03/07/16 14:10	1
Strontium	0.000700	U	0.00500	0.000700	mg/L		03/07/16 10:00	03/07/16 14:10	1

Lab Sample ID: LCS 560-125765/2-A

Matrix: Water

Analysis Batch: 125800

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	50.0	51.60		mg/L		103	80 - 120
Magnesium	50.0	50.48		mg/L		101	80 - 120
Potassium	50.0	49.60		mg/L		99	80 - 120
Silicon	20.0	20.54		mg/L		103	80 - 120
Sodium	50.0	51.55		mg/L		103	80 - 120
Strontium	0.500	0.5050		mg/L		101	80 - 120

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125800

Client Sample ID: HCS130

Prep Type: Dissolved

Prep Batch: 125765

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	86.0		50.0	136.6		mg/L		101	80 - 120
Magnesium	16.7		50.0	66.98		mg/L		101	80 - 120
Potassium	1.35		50.0	51.24		mg/L		100	80 - 120
Silicon	5.66		20.0	26.10		mg/L		102	80 - 120
Sodium	12.5		50.0	64.54		mg/L		104	80 - 120
Strontium	0.655		0.500	1.149		mg/L		99	80 - 120

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125800

Client Sample ID: HCS130

Prep Type: Dissolved

Prep Batch: 125765

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	86.0		50.0	131.8		mg/L		92	80 - 120	4	20
Magnesium	16.7		50.0	65.58		mg/L		98	80 - 120	2	20
Potassium	1.35		50.0	49.67		mg/L		97	80 - 120	3	20
Silicon	5.66		20.0	25.41		mg/L		99	80 - 120	3	20
Sodium	12.5		50.0	62.13		mg/L		99	80 - 120	4	20
Strontium	0.655		0.500	1.117		mg/L		92	80 - 120	3	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 560-125765/1-A  
Matrix: Water  
Analysis Batch: 125813

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 125765

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/07/16 10:00	03/07/16 19:00	1
Antimony	1.61	U	5.00	1.61	ug/L		03/07/16 10:00	03/07/16 19:00	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/07/16 10:00	03/07/16 19:00	1
Barium	0.810	U	5.00	0.810	ug/L		03/07/16 10:00	03/07/16 19:00	1
Beryllium	1.24	U	4.00	1.24	ug/L		03/07/16 10:00	03/07/16 19:00	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/07/16 10:00	03/07/16 19:00	1
Chromium	1.40	U	5.00	1.40	ug/L		03/07/16 10:00	03/07/16 19:00	1
Copper	2.00	U	10.0	2.00	ug/L		03/07/16 10:00	03/07/16 19:00	1
Iron	101	U	250	101	ug/L		03/07/16 10:00	03/07/16 19:00	1
Lead	0.733	U	5.00	0.733	ug/L		03/07/16 10:00	03/07/16 19:00	1
Nickel	2.17	U	5.00	2.17	ug/L		03/07/16 10:00	03/07/16 19:00	1
Selenium	1.08	U	5.00	1.08	ug/L		03/07/16 10:00	03/07/16 19:00	1
Thallium	0.693	U	2.00	0.693	ug/L		03/07/16 10:00	03/07/16 19:00	1
Zinc	3.55	U	25.0	3.55	ug/L		03/07/16 10:00	03/07/16 19:00	1

Lab Sample ID: MB 560-125765/1-A  
Matrix: Water  
Analysis Batch: 125854

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 125765

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	11.6	U	50.0	11.6	ug/L		03/07/16 10:00	03/08/16 13:00	1
Silver	0.941	U	5.00	0.941	ug/L		03/07/16 10:00	03/08/16 13:00	1

Lab Sample ID: LCS 560-125765/2-A  
Matrix: Water  
Analysis Batch: 125813

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 125765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	50000	50270		ug/L		101	80 - 120
Antimony	500	407.1		ug/L		81	80 - 120
Arsenic	500	470.0		ug/L		94	80 - 120
Barium	500	416.0		ug/L		83	80 - 120
Beryllium	500	469.2		ug/L		94	80 - 120
Cadmium	500	404.9		ug/L		81	80 - 120
Chromium	500	432.6		ug/L		87	80 - 120
Copper	500	422.3		ug/L		84	80 - 120
Iron	50000	45430		ug/L		91	80 - 120
Lead	500	406.6		ug/L		81	80 - 120
Nickel	500	427.6		ug/L		86	80 - 120
Selenium	500	462.6		ug/L		93	80 - 120
Thallium	200	165.0		ug/L		83	80 - 120
Zinc	500	437.7		ug/L		88	80 - 120

Lab Sample ID: LCS 560-125765/2-A  
Matrix: Water  
Analysis Batch: 125854

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 125765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	500	496.6		ug/L		99	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125813

Client Sample ID: HCS130

Prep Type: Dissolved

Prep Batch: 125765

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	50.0	U	50000	49950		ug/L		100	80 - 120
Antimony	1.61	U F1	500	404.3		ug/L		81	80 - 120
Arsenic	1.09	U	500	473.0		ug/L		95	80 - 120
Barium	43.9		500	454.6		ug/L		82	80 - 120
Beryllium	1.24	U	500	467.7		ug/L		94	80 - 120
Cadmium	0.854	U F1	500	402.2		ug/L		80	80 - 120
Chromium	1.40	U	500	429.2		ug/L		86	80 - 120
Copper	2.00	U	500	417.5		ug/L		84	80 - 120
Iron	101	U	50000	44500		ug/L		89	80 - 120
Lead	0.733	U F1	500	402.5		ug/L		81	80 - 120
Nickel	2.17	U	500	423.5		ug/L		85	80 - 120
Selenium	1.53	J	500	462.5		ug/L		92	80 - 120
Thallium	0.693	U	200	162.7		ug/L		81	80 - 120
Zinc	3.55	U	500	435.5		ug/L		87	80 - 120

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125854

Client Sample ID: HCS130

Prep Type: Dissolved

Prep Batch: 125765

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	11.6	U F1	5000	6657	F1	ug/L		133	80 - 120
Silver	0.941	U	500	496.8		ug/L		99	80 - 120

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125813

Client Sample ID: HCS130

Prep Type: Dissolved

Prep Batch: 125765

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aluminum	50.0	U	50000	48600		ug/L		97	80 - 120	3	20
Antimony	1.61	U F1	500	395.6	F1	ug/L		79	80 - 120	2	20
Arsenic	1.09	U	500	460.7		ug/L		92	80 - 120	3	20
Barium	43.9		500	442.5		ug/L		80	80 - 120	3	20
Beryllium	1.24	U	500	461.5		ug/L		92	80 - 120	1	20
Cadmium	0.854	U F1	500	393.8	F1	ug/L		79	80 - 120	2	20
Chromium	1.40	U	500	423.2		ug/L		85	80 - 120	1	20
Copper	2.00	U	500	414.1		ug/L		83	80 - 120	1	20
Iron	101	U	50000	43560		ug/L		87	80 - 120	2	20
Lead	0.733	U F1	500	391.8	F1	ug/L		78	80 - 120	3	20
Nickel	2.17	U	500	418.0		ug/L		84	80 - 120	1	20
Selenium	1.53	J	500	450.0		ug/L		90	80 - 120	3	20
Thallium	0.693	U	200	159.6		ug/L		80	80 - 120	2	20
Zinc	3.55	U	500	426.8		ug/L		85	80 - 120	2	20

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125854

Client Sample ID: HCS130

Prep Type: Dissolved

Prep Batch: 125765

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Manganese	11.6	U F1	5000	6484	F1	ug/L		130	80 - 120	3	20
Silver	0.941	U	500	481.2		ug/L		96	80 - 120	3	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 560-125831/5-A

Matrix: Water

Analysis Batch: 125836

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125831

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/08/16 10:00	03/08/16 14:26	1

Lab Sample ID: LCS 560-125831/6-A

Matrix: Water

Analysis Batch: 125836

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125831

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.005200		mg/L	-	104	80 - 120

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125836

Client Sample ID: HCS130

Prep Type: Dissolved

Prep Batch: 125831

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U	0.00500	0.005010		mg/L	-	100	80 - 120

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125836

Client Sample ID: HCS130

Prep Type: Dissolved

Prep Batch: 125831

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000130	U	0.00500	0.004820		mg/L	-	96	80 - 120	4	20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 560-125746/17

Matrix: Water

Analysis Batch: 125746

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L	-		03/04/16 15:24	1
Chloride	0.192	U	1.00	0.192	mg/L	-		03/04/16 15:24	1
Nitrate as N	0.103	U	0.500	0.103	mg/L	-		03/04/16 15:24	1
Sulfate	0.377	U	1.00	0.377	mg/L	-		03/04/16 15:24	1

Lab Sample ID: LCS 560-125746/18

Matrix: Water

Analysis Batch: 125746

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.845		mg/L	-	97	90 - 110
Chloride	10.0	9.660		mg/L	-	97	90 - 110
Nitrate as N	5.00	5.075		mg/L	-	102	90 - 110
Sulfate	20.0	19.01		mg/L	-	95	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125746

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.547	J	5.00	4.778		mg/L		85	80 - 120
Chloride	17.8		10.0	26.11		mg/L		83	80 - 120
Nitrate as N	1.84		5.00	6.460	H	mg/L		92	80 - 120
Sulfate	28.5		20.0	47.06		mg/L		93	80 - 120

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125746

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.547	J	5.00	4.883		mg/L		87	80 - 120	2	20
Chloride	17.8		10.0	26.19		mg/L		83	80 - 120	0	20
Nitrate as N	1.84		5.00	6.552	H	mg/L		94	80 - 120	1	20
Sulfate	28.5		20.0	47.37		mg/L		94	80 - 120	1	20

## Method: 340.2 - Fluoride

Lab Sample ID: MB 560-125856/3

Matrix: Water

Analysis Batch: 125856

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			03/08/16 10:10	1

Lab Sample ID: MB 560-125856/31

Matrix: Water

Analysis Batch: 125856

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			03/08/16 10:10	1

Lab Sample ID: LCS 560-125856/32

Matrix: Water

Analysis Batch: 125856

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.8060		mg/L		101	85 - 115

Lab Sample ID: LCS 560-125856/4

Matrix: Water

Analysis Batch: 125856

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.8030		mg/L		100	85 - 115

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 340.2 - Fluoride (Continued)

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125856

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.184		0.500	0.6790		mg/L		99	75 - 125

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125856

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.184		0.500	0.6800		mg/L		99	75 - 125	0	20

## Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 680-424926/1-A

Matrix: Water

Analysis Batch: 425160

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 424926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.100	U	0.200	0.100	mg/L		03/14/16 09:20	03/15/16 10:23	1

Lab Sample ID: LCS 680-424926/2-A

Matrix: Water

Analysis Batch: 425160

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 424926

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	2.00	2.330		mg/L		117	75 - 125

Lab Sample ID: 680-122652-A-2-C MS

Matrix: Water

Analysis Batch: 425160

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 424926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.621		2.00	2.878		mg/L		113	75 - 125

Lab Sample ID: 680-122652-A-2-D MSD

Matrix: Water

Analysis Batch: 425160

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 424926

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.621		2.00	2.949		mg/L		116	75 - 125	2	40

Lab Sample ID: 680-122652-A-1-C DU

Matrix: Water

Analysis Batch: 425160

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 424926

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrogen, Kjeldahl	0.455		0.6666		mg/L		38	40

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: MB 680-424929/1-A  
Matrix: Water  
Analysis Batch: 425160

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 424929

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.100	U	0.200	0.100	mg/L	-	03/14/16 09:22	03/15/16 10:59	1

Lab Sample ID: LCS 680-424929/2-A  
Matrix: Water  
Analysis Batch: 425160

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 424929

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	2.00	2.170		mg/L	-	109	75 - 125

Lab Sample ID: 560-60073-4 MS  
Matrix: Water  
Analysis Batch: 425160

Client Sample ID: HCS130  
Prep Type: Total/NA  
Prep Batch: 424929

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.112	J F1	2.00	2.415		mg/L	-	115	75 - 125

Lab Sample ID: 560-60073-4 MSD  
Matrix: Water  
Analysis Batch: 425160

Client Sample ID: HCS130  
Prep Type: Total/NA  
Prep Batch: 424929

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.112	J F1	2.00	3.436	F1	mg/L	-	166	75 - 125	35	40

Lab Sample ID: 560-60073-2 DU  
Matrix: Water  
Analysis Batch: 425160

Client Sample ID: HCS120  
Prep Type: Total/NA  
Prep Batch: 424929

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrogen, Kjeldahl	0.100	U	0.100	U	mg/L	-	NC	40

## Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 680-424926/1-A  
Matrix: Water  
Analysis Batch: 425159

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 424926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	03/14/16 09:20	03/15/16 10:23	1

Lab Sample ID: LCS 680-424926/2-A  
Matrix: Water  
Analysis Batch: 425159

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 424926

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	2.159		mg/L	-	108	60 - 140

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 365.4 - Phosphorus, Total (Continued)

Lab Sample ID: 680-122652-A-2-C MS

Matrix: Water

Analysis Batch: 425159

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 424926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	0.202		2.00	2.336		mg/L		107	60 - 140

Lab Sample ID: 680-122652-A-2-D MSD

Matrix: Water

Analysis Batch: 425159

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 424926

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Phosphorus	0.202		2.00	2.384		mg/L		109	60 - 140	2	40

Lab Sample ID: 680-122652-A-1-C DU

Matrix: Water

Analysis Batch: 425159

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 424926

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Phosphorus	0.176		0.1829		mg/L		4	40

Lab Sample ID: MB 680-424929/1-A

Matrix: Water

Analysis Batch: 425159

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 424929

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/14/16 09:22	03/15/16 10:59	1

Lab Sample ID: LCS 680-424929/2-A

Matrix: Water

Analysis Batch: 425159

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 424929

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	2.056		mg/L		103	60 - 140

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 425159

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 424929

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	0.0410	U	2.00	2.034		mg/L		102	60 - 140

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 425159

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 424929

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Phosphorus	0.0410	U	2.00	2.019		mg/L		101	60 - 140	1	40

Lab Sample ID: 560-60073-2 DU

Matrix: Water

Analysis Batch: 425159

Client Sample ID: HCS120

Prep Type: Total/NA

Prep Batch: 424929

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Phosphorus	0.0410	U	0.0410	U	mg/L		NC	40

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 9040C - pH

Lab Sample ID: LCS 560-125775/2

Matrix: Water

Analysis Batch: 125775

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	5.00	5.000		SU		100	98 - 102

Lab Sample ID: 560-60073-4 DU

Matrix: Water

Analysis Batch: 125775

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.28	HF	7.230		SU		0.7	20

## Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 560-125883/4

Matrix: Water

Analysis Batch: 125883

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1

Lab Sample ID: LCS 560-125883/5

Matrix: Water

Analysis Batch: 125883

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	26.19		mg/L		105	80 - 120

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125883

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.07		10.0	10.07		mg/L		90	75 - 125

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125883

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.07		10.0	9.738		mg/L		87	75 - 125	3	20

## Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 560-125884/4

Matrix: Water

Analysis Batch: 125884

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: 9060 - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCS 560-125884/5

Matrix: Water

Analysis Batch: 125884

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	24.00		mg/L		96	80 - 120

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 125884

Client Sample ID: HCS130

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	0.285	U	10.0	9.286		mg/L		93	75 - 125

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 125884

Client Sample ID: HCS130

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	0.285	U	10.0	9.758		mg/L		98	75 - 125	5	20

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 560-126106/1

Matrix: Water

Analysis Batch: 126106

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/16/16 17:00	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/16/16 17:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/16/16 17:00	1

Lab Sample ID: LCS 560-126106/2

Matrix: Water

Analysis Batch: 126106

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	92.11		mg/L		92	85 - 115

Lab Sample ID: 560-60073-4 MS

Matrix: Water

Analysis Batch: 126106

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	224		100	310.7		mg/L		87	75 - 125

Lab Sample ID: 560-60073-4 MSD

Matrix: Water

Analysis Batch: 126106

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	224		100	312.3		mg/L		89	75 - 125	1	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 560-125798/1  
Matrix: Water  
Analysis Batch: 125798

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L	-		03/07/16 14:02	1

Lab Sample ID: LCS 560-125798/2  
Matrix: Water  
Analysis Batch: 125798

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	2250	2196		mg/L	-	98	90 - 110

Lab Sample ID: 560-60073-4 MS  
Matrix: Water  
Analysis Batch: 125798

Client Sample ID: HCS130  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	349		2250	2404		mg/L	-	91	75 - 125

Lab Sample ID: 560-60073-4 MSD  
Matrix: Water  
Analysis Batch: 125798

Client Sample ID: HCS130  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	349		2250	2438		mg/L	-	93	75 - 125	1	20

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 560-125773/1  
Matrix: Water  
Analysis Batch: 125773

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3.00	U	3.00	3.00	mg/L	-		03/04/16 14:20	1

Lab Sample ID: MB 560-125773/25  
Matrix: Water  
Analysis Batch: 125773

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3.00	U	3.00	3.00	mg/L	-		03/04/16 14:20	1

Lab Sample ID: LCS 560-125773/2  
Matrix: Water  
Analysis Batch: 125773

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	194.0		mg/L	-	97	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 560-125773/26

Matrix: Water

Analysis Batch: 125773

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	197.5		mg/L		99	90 - 110

Lab Sample ID: 560-60053-A-1 DU

Matrix: Water

Analysis Batch: 125773

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	3.00	U	3.00	U	mg/L		NC	20

# Certification Summary

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-16
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Laboratory: TestAmerica Denver

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-17
Arizona	State Program	9	AZ0713	12-19-16
Arkansas DEQ	State Program	6	88-0687	06-01-17
California	State Program	9	2513	08-31-16 *
Connecticut	State Program	1	PH-0686	09-30-16
Florida	NELAP	4	E87667	06-30-16 *
Georgia	State Program	4	N/A	01-09-17
Illinois	NELAP	5	200017	04-30-17
Iowa	State Program	7	370	11-30-16
Kansas	NELAP	7	E-10166	07-31-16 *
Louisiana	NELAP	6	02096	06-30-17
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-16
Nevada	State Program	9	CO0026	07-31-17
New Hampshire	NELAP	1	205310	04-28-17
New Jersey	NELAP	2	CO004	06-30-17
New York	NELAP	2	11964	04-01-17
North Carolina (WW/SW)	State Program	4	358	12-31-16
North Dakota	State Program	8	R-034	01-09-17
Oklahoma	State Program	6	8614	08-31-16 *
Oregon	NELAP	10	4025	01-09-17
Pennsylvania	NELAP	3	68-00664	07-31-17
South Carolina	State Program	4	72002001	01-09-17
Texas	NELAP	6	T104704183-15-11	09-30-16
USDA	Federal		P330-13-00369	12-17-16
Utah	NELAP	8	CO00026	07-31-16 *
Virginia	NELAP	3	460232	06-14-17
Washington	State Program	10	C583	08-03-17
West Virginia DEP	State Program	3	354	11-30-16
Wisconsin	State Program	5	999615430	08-31-16 *
Wyoming (UST)	A2LA	8	2907.01	10-31-17

## Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-17
A2LA	ISO/IEC 17025		399.01	02-28-17
Alabama	State Program	4	41450	06-30-17

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

## Laboratory: TestAmerica Savannah (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-104	11-05-16
Arkansas DEQ	State Program	6	88-0692	01-31-17
California	State Program	9	2939	07-31-16 *
Colorado	State Program	8	N/A	12-31-16
Connecticut	State Program	1	PH-0161	03-31-17
Florida	NELAP	4	E87052	06-30-17
GA Dept. of Agriculture	State Program	4	N/A	06-12-17
Georgia	State Program	4	N/A	06-30-17
Georgia	State Program	4	803	06-30-17
Guam	State Program	9	15-005r	04-16-17
Hawaii	State Program	9	N/A	06-30-17
Illinois	NELAP	5	200022	11-30-16
Indiana	State Program	5	N/A	06-30-17
Iowa	State Program	7	353	06-30-17
Kentucky (DW)	State Program	4	90084	12-31-16
Kentucky (UST)	State Program	4	18	06-30-17
Kentucky (WW)	State Program	4	90084	12-31-16
Louisiana	NELAP	6	30690	06-30-17
Louisiana (DW)	NELAP	6	LA160019	12-31-16
Maine	State Program	1	GA00006	09-24-16
Maryland	State Program	3	250	12-31-16
Massachusetts	State Program	1	M-GA006	06-30-17
Michigan	State Program	5	9925	06-30-17
Mississippi	State Program	4	N/A	06-30-16 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-16 *
New Jersey	NELAP	2	GA769	06-30-17
New Mexico	State Program	6	N/A	06-30-17
New York	NELAP	2	10842	03-31-17
North Carolina (DW)	State Program	4	13701	07-31-16 *
North Carolina (WW/SW)	State Program	4	269	12-31-16
Oklahoma	State Program	6	9984	08-31-16
Pennsylvania	NELAP	3	68-00474	06-30-17
Puerto Rico	State Program	2	GA00006	12-31-16
South Carolina	State Program	4	98001	06-30-16 *
Tennessee	State Program	4	TN02961	06-30-16 *
Texas	NELAP	6	T104704185-14-7	11-30-16
USDA	Federal		SAV 3-04	06-11-17
Virginia	NELAP	3	460161	06-14-17
Washington	State Program	10	C805	06-10-16 *
West Virginia (DW)	State Program	3	9950C	12-31-16
West Virginia DEP	State Program	3	094	08-31-16
Wisconsin	State Program	5	999819810	08-31-16
Wyoming	State Program	8	8TMS-L	06-30-16 *

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi



## Method Summary

Client: SWCA, Inc.  
Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1  
SDG: Comal Springs

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CC
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CC
8081B	Organochlorine Pesticides (GC)	SW846	TAL CC
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CC
8141A	Organophosphorous Pesticides (GC)	SW846	TAL DEN
8151A	Herbicides (GC)	SW846	TAL SAV
6010B	Metals (ICP)	SW846	TAL CC
6020	Metals (ICP/MS)	SW846	TAL CC
7470A	Mercury (CVAA)	SW846	TAL CC
300.0	Anions, Ion Chromatography	MCAWW	TAL CC
340.2	Fluoride	MCAWW	TAL CC
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL SAV
365.4	Phosphorus, Total	EPA	TAL SAV
9040C	pH	SW846	TAL CC
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL CC
9060	Organic Carbon, Total (TOC)	SW846	TAL CC
SM 2320B	Alkalinity	SM	TAL CC
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CC
Local Method	General Sub Contract Method	NONE	Weck Lab

### Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NONE = NONE

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Weck Lab = Weck Laboratories, Inc., 14859 East Clark Avenue, City of Industry, CA 917451396

## Sample Summary

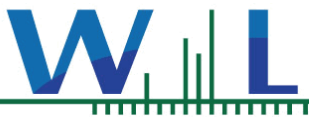
Client: SWCA, Inc.

Project/Site: 2016 Surface Water/Base Flowing

TestAmerica Job ID: 560-60073-1

SDG: Comal Springs

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-60073-1	HCS110	Water	03/02/16 12:37	03/04/16 08:10
560-60073-2	HCS120	Water	03/02/16 13:16	03/04/16 08:10
560-60073-3	FDHCS120	Water	03/02/16 13:16	03/04/16 08:10
560-60073-4	HCS130	Water	03/02/16 11:29	03/04/16 08:10
560-60073-5	HCS140	Water	03/02/16 14:00	03/04/16 08:10
560-60073-6	HCS160	Water	03/02/16 14:30	03/04/16 08:10
560-60073-7	TB02	Water	03/02/16 00:00	03/04/16 08:10



## CERTIFICATE OF ANALYSIS

**Client:** TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Report Date:** 03/31/16 10:25

**Received Date:** 03/05/16 11:00

**Turn Around:** 7 workdays

**Attention:** Lindy Maingot

**Client Project:** 560-60073-1

**Phone:** (210) 344-9751

**Fax:** -

**Work Order(s):** 6C07047

**NELAC #4047-002 ORELAP ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143**

*The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.*

Dear Lindy Maingot :

Enclosed are the results of analyses for samples received 03/05/16 11:00 with the Chain of Custody document. The samples were received in good condition, at 2.2 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

**Case Narrative:**

**Reviewed by:**

Chris Samatmanakit  
Project Manager





TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/05/16 11:00  
**Date Reported:** 03/31/16 10:25

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Sampled by:	Lab ID	Matrix	Date Sampled
HCS110 (560-60073-1)	Client	6C07047-01	Water	03/02/16 10:37
HCS120 (560-60073-2)	Client	6C07047-02	Water	03/02/16 11:16
FDHS120 (560-60073-3)	Client	6C07047-03	Water	03/02/16 11:16
HCS130 (560-60073-4)	Client	6C07047-04	Water	03/02/16 09:29
HCS140 (560-60073-5)	Client	6C07047-05	Water	03/02/16 12:00
HCS160 (560-60073-6)	Client	6C07047-06	Water	03/02/16 12:30

**ANALYSES**

PPCPs - Pharmaceuticals by LC/MSMS-ESI+



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/05/16 11:00  
**Date Reported:** 03/31/16 10:25

**6C07047-01 HCS110 (560-60073-1)**

**Sampled:** 03/02/16 10:37

**Sampled By:** Client

**Matrix:** Water

**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	5.3	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/05/16 11:00  
**Date Reported:** 03/31/16 10:25

**6C07047-02 HCS120 (560-60073-2)****Sampled:** 03/02/16 11:16**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	2.6	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/05/16 11:00  
**Date Reported:** 03/31/16 10:25

**6C07047-03 FDHS120 (560-60073-3)**

**Sampled:** 03/02/16 11:16

**Sampled By:** Client

**Matrix:** Water

**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	3.8	1.0	ng/l	1	03/29/16 16:42	





TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/05/16 11:00  
**Date Reported:** 03/31/16 10:25

**6C07047-04 HCS130 (560-60073-4)****Sampled:** 03/02/16 09:29**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	7.8	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/05/16 11:00  
**Date Reported:** 03/31/16 10:25

**6C07047-05 HCS140 (560-60073-5)****Sampled:** 03/02/16 12:00**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	ND	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/05/16 11:00  
**Date Reported:** 03/31/16 10:25

**6C07047-06 HCS160 (560-60073-6)****Sampled:** 03/02/16 12:30**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

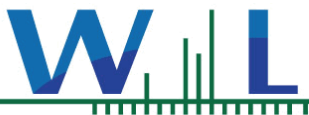
Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	ND	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/05/16 11:00  
**Date Reported:** 03/31/16 10:25

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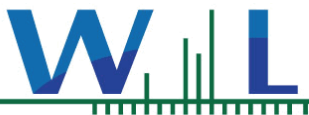
9

10

11

12

## QUALITY CONTROL SECTION

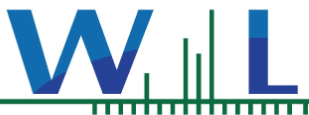


TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/05/16 11:00  
**Date Reported:** 03/31/16 10:25

**PPCPs - Pharmaceuticals by LC/MSMS-ESI+ - Quality Control****Batch W6C1342 - EPA 1694M-ESI+**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Blank (W6C1342-BLK1)</b>				Analyzed: 03/29/16 16:42						
Caffeine	ND	1.0	ng/l							
<b>LCS (W6C1342-BS1)</b>				Analyzed: 03/29/16 16:42						
Caffeine	9.03	1.0	ng/l	10.0		90	55-152			
<b>LCS Dup (W6C1342-BSD1)</b>				Analyzed: 03/29/16 16:42						
Caffeine	9.47	1.0	ng/l	10.0		95	55-152	5	30	
<b>Matrix Spike (W6C1342-MS1)</b>				<b>Source: 6C11056-22</b>		Analyzed: 03/29/16 16:42				
Caffeine	189	1.0	ng/l	10.0	169	195	58-146			MS-02
<b>Matrix Spike Dup (W6C1342-MSD1)</b>				<b>Source: 6C11056-22</b>		Analyzed: 03/29/16 16:42				
Caffeine	172	1.0	ng/l	10.0	169	28	58-146	9	30	MS-02



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/05/16 11:00  
**Date Reported:** 03/31/16 10:25

### Notes and Definitions

<b>MS-02</b>	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
<b>ND</b>	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then not detected at or above the MDL.
<b>NR</b>	Not Reportable
<b>Dil</b>	Dilution
<b>dry</b>	Sample results reported on a dry weight basis
<b>RPD</b>	Relative Percent Difference
<b>% Rec</b>	Percent Recovery
<b>Sub</b>	Subcontracted analysis, original report available upon request
<b>MDL</b>	Method Detection Limit
<b>MDA</b>	Minimum Detectable Activity
<b>MRL</b>	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:	
Relinquished by:	<i>Jennifer Mogelond</i>	Date/Time:	<i>3/3/16 8:00</i>	Received by:	<i>Calvin Adams</i>
Relinquished by:	<i>Calvin Adams</i>	Date/Time:	<i>3-3-16 8:00</i>	Received by:	<i>TACC</i>
Relinquished by:		Date/Time:		Received by:	
Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:			
Custody Seals Intact: Δ Yes   Δ No		<i>0.4°C / 10.7°C, 1.1°C / 1.4°C</i> <i>IP-7</i>			



## Chain of Custody Record



Client Information (Sub Contract Lab)						Lab P/W: Maingot_Lindy		Carrier Tracking No(s):	
Shipping/Receiving						E-Mail: lindy.maingot@testamericainc.com			
Company:						Job #:		COC No: 560-13247.1	
TestAmerica Laboratories, Inc.						Analysis Requested		Page: Page 1 of 1	
Address: 4955 Yarrow Street, City: Anavda State, Zip: CO, 80002						Due Date Requested: 3/16/2016		TAT Requested (days):	
Phone: 303-736-0100(Tel) 303-431-7171(Fax) Email:						PO #:		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Project Name: 2016 Surface Water/Base Flowing						WO #:		Total Number of Containers	
Site:						SSOW#:		Special Instructions/Note:	
Sample Identification - Client ID (Lab ID)						Sample Date		Sample Time	
Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)						Sample Type (C=comp, G=grab)		Field Filtered Sample (Yes or No)	
Preservation Code						Perform MS/MSD (Yes or No)		8141A/3510C (MOD) Standard 8141 list	
HCS110 (560-60073-1)	Central	3/2/16	12:37	Water	X	X	X	X	3
HCS120 (560-60073-2)	Central	3/2/16	13:16	Water	X	X	X	X	3
FHCS120 (560-60073-3)	Central	3/2/16	13:16	Water	X	X	X	X	2
HCS130 (560-60073-4)	Central	3/2/16	11:29	Water	X	X	X	X	3
HCS130 (560-60073-4MS)	Central	3/2/16	11:29	Water	X	X	X	X	3
HCS130 (560-60073-4MSD)	Central	3/2/16	11:29	Water	X	X	X	X	3
HCS140 (560-60073-5)	Central	3/2/16	14:00	Water	X	X	X	X	3
HCS160 (560-60073-6)	Central	3/2/16	14:30	Water	X	X	X	X	3
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
Unconfirmed						Return To Client			
Deliverable Requested: I, II, III, IV, Other (specify)						Disposal By Lab			
Empty Kit Relinquished by:						Archive For Months			
Relinquished by: CLADAMS						Received by: [Signature]			
Date/Time: 3/4/16 10:00						Date/Time: 3-5-16 0830			
Relinquished by:						Received by:			
Relinquished by:						Received by:			
Relinquished by:						Received by:			
Custody Seal No.: A Yes A No						Cooler Temperature(s) °C and Other Remarks: 0.7, 1.8 12.67			
Custody Seals Intact:						Transferred by RP 3-5-16			

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)		Lab P.M. Mailing, Lindy		Carrier Tracking No(s)		COC No. 560-13254.1	
Shipping/Receiving		Phone		E-Mail lindy.mailing@testamericainc.com		Page Page 1 of 1	
Company		Address		Analysis Requested		Job # 560-60073-1	
City		State, Zip		Due Date Requested: 3/16/2016		Preservation Codes:	
Savannah		GA, 31404		TAT Requested (days):		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Ammonia H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Phone		PO #		Project # 56005790		M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Email		WO #		SSOW#		Total Number of Containers	
Project Name 2016 Surface Water/Base Flowing		Site		Sample Date		Special Instructions/Note:	
Sample Identification - Client ID (Lab ID)		Sample Type (C=Comp, G=Grab)		Sample Time		Field Filtered Sample (Yes or No)	
HCS110 (560-60073-1)		Water		12:37		X	
HCS120 (560-60073-2)		Water		13:16		X	
FDHCS120 (560-60073-3)		Water		13:16		X	
HCS130 (560-60073-4)		Water		11:28		X	
HCS130 (560-60073-4MS)		MS		11:28		X	
HCS130 (560-60073-4MSD)		MSD		11:29		X	
HCS140 (560-60073-5)		Water		14:00		X	
HCS160 (560-60073-6)		Water		14:30		X	
Possible Hazard Identification							
Unconfirmed							
Deliverable Requested I, II, III, IV, Other (specify)							
Empty Kit Relinquished by:							
Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by:		3/16/16		10:00		Received by: [Signature]	
Relinquished by:		Date/Time:		Date/Time:		Date/Time:	
Relinquished by:		Date/Time:		Date/Time:		Date/Time:	
Custody Seal No.:		Custody Seal No.:		Custody Seal No.:		Custody Seal No.:	
Custody Seal Intact:		Custody Seal Intact:		Custody Seal Intact:		Custody Seal Intact:	
Δ Yes Δ No		Δ Yes Δ No		Δ Yes Δ No		Δ Yes Δ No	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60073-1

SDG Number: Comal Springs

**Login Number: 60073**

**List Number: 1**

**Creator: Adams, Christi L**

**List Source: TestAmerica Corpus Christi**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60073-1

SDG Number: Comal Springs

**Login Number: 60073**

**List Number: 2**

**Creator: Pottruff, Reed W**

**List Source: TestAmerica Denver**

**List Creation: 03/05/16 11:13 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60073-1

SDG Number: Comal Springs

**Login Number: 60073**

**List Number: 3**

**Creator: Saryou, Sami M**

**List Source: TestAmerica Savannah**

**List Creation: 03/05/16 02:30 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HSM110  
**Sample Number:** AB00553  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/3/16 10:14  
**Receipt Date/Time:** 3/3/16 15:12

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00553-A	E. coli	√	SM 9223B-2004	15	MPN/100 mL		1	46518	3/3/16	16:43	KAB
AB00553-A	E. Coli Holding Time - IDEXX Colilert		NA	6.48	hours		0.00	46517	3/3/16	16:43	KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46518

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

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Philip Pearce  
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**Sample Location:** FDHSM110  
**Sample Number:** AB00554  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/3/16 10:14  
**Receipt Date/Time:** 3/3/16 15:12

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00554-A	E. coli	√	SM 9223B-2004	13	MPN/100 mL		1	46518	3/3/16	16:43	KAB
AB00554-A	E. Coli Holding Time - IDEXX Colilert		NA	6.48	hours		0.00	46517	3/3/16	16:43	KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46518

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

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**Sample Location:** HSM120  
**Sample Number:** AB00555  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/3/16 11:09  
**Receipt Date/Time:** 3/3/16 15:12

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00555-A	E. coli	√	SM 9223B-2004	64	MPN/100 mL		1	46518	3/3/16	16:43	KAB
AB00555-A	E. Coli Holding Time - IDEXX Colilert		NA	5.57	hours		0.00	46517	3/3/16	16:43	KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46518

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



May 05, 2016

Page 1 of 2

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**Sample Location:** HSM130  
**Sample Number:** AB00556  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/3/16 11:39  
**Receipt Date/Time:** 3/3/16 15:12

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00556-A	E. coli	√	SM 9223B-2004	5	MPN/100 mL		1	46518	3/3/16	16:43	KAB
AB00556-A	E. Coli Holding Time - IDEXX Colilert		NA	5.07	hours		0.00	46517	3/3/16	16:43	KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46518

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

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Philip Pearce  
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**Sample Location:** HSM140  
**Sample Number:** AB00557  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/3/16 12:23  
**Receipt Date/Time:** 3/3/16 15:12

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00557-A	E. coli	√	SM 9223B-2004	49	MPN/100 mL		1	46518	3/3/16	16:43	KAB
AB00557-A	E. Coli Holding Time - IDEXX Colilert		NA	4.33	hours		0.00	46517	3/3/16	16:43	KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46518

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

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San Antonio, Tx. 78249

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**Sample Location:** HSM150  
**Sample Number:** AB00558  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/3/16 12:56  
**Receipt Date/Time:** 3/3/16 15:12

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00558-A	E. coli	√	SM 9223B-2004	28	MPN/100 mL		1	46518	3/3/16	16:43	KAB
AB00558-A	E. Coli Holding Time - IDEXX Colilert		NA	3.78	hours		0.00	46517	3/3/16	16:43	KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46518

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HSM160  
**Sample Number:** AB00559  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/3/16 13:21  
**Receipt Date/Time:** 3/3/16 15:12

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00559-A	E. coli	√	SM 9223B-2004	17	MPN/100 mL		1	46518	3/3/16	16:43	KAB
AB00559-A	E. Coli Holding Time - IDEXX Colilert		NA	3.37	hours		0.00	46517	3/3/16	16:43	KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46518

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

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T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

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Fax #: NA

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**Sample Location:** HSM170  
**Sample Number:** AB00560  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/3/16 13:48  
**Receipt Date/Time:** 3/3/16 15:12

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00560-A	E. coli	√	SM 9223B-2004	17	MPN/100 mL		1	46518	3/3/16	16:43	KAB
AB00560-A	E. Coli Holding Time - IDEXX Colilert		NA	2.92	hours		0.00	46517	3/3/16	16:43	KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46518

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-60099-1

Client Project/Site: 2016-Surface Water/Base Flow

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
4/5/2016 2:01:26 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

Review your project  
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*Results relate only to the items tested and the sample(s) as received by the laboratory.*

# Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

### GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
U	Indicates the analyte was analyzed for but not detected.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
H	Sample was prepped or analyzed beyond the specified holding time
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

TestAmerica Corpus Christi

## Definitions/Glossary

Client: SWCA, Inc.

Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

### Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)

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# Case Narrative

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Job ID: 560-60099-1**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

### Job Narrative 560-60099-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/5/2016 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 10 coolers at receipt time were 0.2° C, 0.3° C, 0.5° C, 0.6° C, 0.7° C, 0.8° C, 0.8° C, 0.8° C, 1.0° C and 1.1° C.

#### Receipt Exceptions

560-60099: While logging in the containers, TALS does not provide Amber 1 Liter w/Ascorbic Acid in the list. Logged them in as "Other Client Container-Preserved" and in the pH column, there stated is "w/Ascorbic Acid."

One or more containers for the following samples were received empty. Not sure if these containers were like this during sampling or if they leaked:

560-60099-5-R (1-Liter Amber Unpreserved)  
- 8-F (1-250 Amber w/Sulfuric Acid)

#### GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method 8081: The relative percent deviation (RPD) was outside acceptable limits for Endrin Ketone in the MS/MSD pair associated with sample 560-60099-6. The LCS was within acceptable limits. Therefore, data are reported.

Method 8270: The relative percent deviation (RPD) was outside acceptable limits for 4-Chloroaniline in the MS/MSD pair associated with sample 560-60099-1. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC Semi VOA

Method 8082A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 560-125817 and analytical batch 560-125830 were outside control limits for Aroclor 1016 and Aroclor 1260. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8082A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 560-125855 and analytical batch 560-125926 were outside control limits for Aroclor 1260. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method 6020: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 125813 were outside acceptable limits for Antimony, Cadmium and Lead. The LCS was within acceptable limits. Therefore, data are reported.

Method 6020: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 125854 were outside acceptable limits for Manganese. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

Method 300.0: The following samples were received with less than 2 hrs remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis

## Case Narrative

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

### Job ID: 560-60099-1 (Continued)

#### Laboratory: TestAmerica Corpus Christi (Continued)

within holding time: HSM110 (560-60099-1), FDHSM110 (560-60099-2), HSM120 (560-60099-3) and HSM130 (560-60099-4). Data generated after hold time expires should be flagged accordingly.

Method 9040C: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample(s) has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe. 560-60099-1-8

Method 9060: Insufficient volume of sample ( # 8) was provided; analyst used neat sample and after adj. ph to < 2 run for TOC HSM170 (560-60099-8)

Method 351.2: The matrix spike (MS) recoveries for <183952> were outside control limits for TKN. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with analytical batch 280-316370.3510C 8141A

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

Client Sample ID: HSM110

Lab Sample ID: 560-60099-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	92.4		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	20.5		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.67		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.54		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	16.0		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.660		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	28.2		5.00	0.810	ug/L	1		6020	Dissolved
Manganese	119		50.0	11.6	ug/L	1		6020	Dissolved
Bromide	0.589	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	26.5		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.706	H	0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	32.6		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.227		0.100	0.0200	mg/L	1		340.2	Total/NA
Nitrogen, Kjeldahl	0.591	J	1.00	0.432	mg/L	1		351.2	Total/NA
Total Organic Carbon	0.525	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.376	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.33	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	242		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	242		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	365		10.0	10.0	mg/L	1		SM 2540C	Total/NA

Client Sample ID: FDHSM110

Lab Sample ID: 560-60099-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	89.0		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	19.9		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.60		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.28		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	15.7		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.647		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	28.0		5.00	0.810	ug/L	1		6020	Dissolved
Manganese	112		50.0	11.6	ug/L	1		6020	Dissolved
Bromide	0.593	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	26.6		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.706	H	0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	32.5		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.221		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.508	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.458	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.31	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	239		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	239		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	369		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3.40		3.00	3.00	mg/L	1		SM 2540D	Total/NA

Client Sample ID: HSM120

Lab Sample ID: 560-60099-3

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Client Sample ID: HSM120 (Continued)

## Lab Sample ID: 560-60099-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	12.5	J	20.0	5.00	ug/L	1			8270C	Total/NA
Diethyl phthalate	3.16	J	10.0	0.666	ug/L	1			8270C	Total/NA
Calcium	85.2		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	15.8		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.32		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	4.64		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	9.91		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.470		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	26.6		5.00	0.810	ug/L	1			6020	Dissolved
Bromide	0.548	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	18.1		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.24	H	0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	24.4		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.185		0.100	0.0200	mg/L	1			340.2	Total/NA
Nitrogen, Kjeldahl	0.451	J	1.00	0.432	mg/L	1			351.2	Total/NA
Phosphorus	0.0459	J	0.100	0.0410	mg/L	1			365.4	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.25	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	243		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	243		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	332		10.0	10.0	mg/L	1			SM 2540C	Total/NA

## Client Sample ID: HSM130

## Lab Sample ID: 560-60099-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	96.8		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	17.0		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.39		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	5.55		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	13.2		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.534		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	31.7		5.00	0.810	ug/L	1			6020	Dissolved
Bromide	0.557	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	20.8		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.67	H	0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	27.3		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.191		0.100	0.0200	mg/L	1			340.2	Total/NA
Nitrogen, Kjeldahl	0.506	J	1.00	0.432	mg/L	1			351.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.21	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	248		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	248		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	358		10.0	10.0	mg/L	1			SM 2540C	Total/NA

## Client Sample ID: HSM140

## Lab Sample ID: 560-60099-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	92.5		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	17.3		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.22		0.500	0.375	mg/L	1			6010B	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Client Sample ID: HSM140 (Continued)

## Lab Sample ID: 560-60099-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Silicon	5.16		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	10.3		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.510		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	29.1		5.00	0.810	ug/L	1		6020	Dissolved
Lead	0.737	J	5.00	0.733	ug/L	1		6020	Dissolved
Bromide	0.546	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.25		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.6		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.186		0.100	0.0200	mg/L	1		340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.39	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	251		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	251		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	351		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HSM150

## Lab Sample ID: 560-60099-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	91.3		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	17.0		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.21		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.13		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	10.1		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.500		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	37.5		5.00	0.810	ug/L	1		6020	Dissolved
Bromide	0.549	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.25		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.5		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.193		0.100	0.0200	mg/L	1		340.2	Total/NA
Nitrogen, Kjeldahl	0.467	J	1.00	0.432	mg/L	1		351.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.41	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	247		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	247		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	360		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HSM160

## Lab Sample ID: 560-60099-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	92.7		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	17.5		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.24		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.21		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	10.3		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.507		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	35.1		5.00	0.810	ug/L	1		6020	Dissolved
Chromium	4.14	J	5.00	1.40	ug/L	1		6020	Dissolved
Copper	6.77	J	10.0	2.00	ug/L	1		6020	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Client Sample ID: HSM160 (Continued)

## Lab Sample ID: 560-60099-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Zinc	4.64	J	25.0	3.55	ug/L	1		6020	Dissolved
Bromide	0.547	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.24		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.192		0.100	0.0200	mg/L	1		340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.51	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	245		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	245		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	355		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HSM170

## Lab Sample ID: 560-60099-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	92.7		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	17.5		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.22		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.18		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	10.3		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.506		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	35.1		5.00	0.810	ug/L	1		6020	Dissolved
Bromide	0.549	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.3		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.23		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.6		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.184		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.564	J	1.00	0.285	mg/L	1		9060	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.59	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	230		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	230		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	349		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: Trip Blank

## Lab Sample ID: 560-60099-9

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM110**

**Date Collected: 03/03/16 10:14**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/10/16 15:10	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 15:10	1
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 15:10	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 15:10	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 15:10	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 15:10	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 15:10	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 15:10	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 15:10	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 15:10	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 15:10	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 15:10	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 15:10	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 15:10	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 15:10	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 15:10	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 15:10	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 15:10	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 15:10	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 15:10	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 15:10	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 15:10	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 15:10	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 15:10	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 15:10	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 15:10	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 15:10	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 15:10	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 15:10	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 15:10	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 15:10	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 15:10	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 15:10	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 15:10	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 15:10	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 15:10	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 15:10	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 15:10	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 15:10	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 15:10	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 15:10	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 15:10	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 15:10	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 15:10	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 15:10	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 15:10	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 15:10	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 15:10	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 15:10	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM110**

**Date Collected: 03/03/16 10:14**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 15:10	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 15:10	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 15:10	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 15:10	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 15:10	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 15:10	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 15:10	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 15:10	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 15:10	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 15:10	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 15:10	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 15:10	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 15:10	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 15:10	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 15:10	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 15:10	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 15:10	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 15:10	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 15:10	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 15:10	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 15:10	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 15:10	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 15:10	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 15:10	1
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 15:10	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 15:10	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 15:10	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 15:10	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 15:10	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 15:10	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 15:10	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 15:10	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 15:10	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 15:10	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 15:10	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 15:10	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 15:10	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 15:10	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 15:10	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 15:10	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 15:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 15:10	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 15:10	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 15:10	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 15:10	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 15:10	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 15:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/10/16 15:10	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM110**

**Date Collected: 03/03/16 10:14**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	103		69 - 130		03/10/16 15:10	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 140		03/10/16 15:10	1
Toluene-d8 (Surr)	101		70 - 130		03/10/16 15:10	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/09/16 07:21	03/10/16 08:07	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/09/16 07:21	03/10/16 08:07	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/09/16 07:21	03/10/16 08:07	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/09/16 07:21	03/10/16 08:07	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/09/16 07:21	03/10/16 08:07	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/09/16 07:21	03/10/16 08:07	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/09/16 07:21	03/10/16 08:07	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/09/16 07:21	03/10/16 08:07	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/09/16 07:21	03/10/16 08:07	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/09/16 07:21	03/10/16 08:07	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/09/16 07:21	03/10/16 08:07	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/09/16 07:21	03/10/16 08:07	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/09/16 07:21	03/10/16 08:07	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/09/16 07:21	03/10/16 08:07	1
4-Chloroaniline	0.549	U F2	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 08:07	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/09/16 07:21	03/10/16 08:07	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/09/16 07:21	03/10/16 08:07	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/09/16 07:21	03/10/16 08:07	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/09/16 07:21	03/10/16 08:07	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/09/16 07:21	03/10/16 08:07	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/09/16 07:21	03/10/16 08:07	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/09/16 07:21	03/10/16 08:07	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/09/16 07:21	03/10/16 08:07	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/09/16 07:21	03/10/16 08:07	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/09/16 07:21	03/10/16 08:07	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 08:07	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/09/16 07:21	03/10/16 08:07	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/09/16 07:21	03/10/16 08:07	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/09/16 07:21	03/10/16 08:07	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 08:07	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/09/16 07:21	03/10/16 08:07	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/09/16 07:21	03/10/16 08:07	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/09/16 07:21	03/10/16 08:07	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/09/16 07:21	03/10/16 08:07	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/09/16 07:21	03/10/16 08:07	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/09/16 07:21	03/10/16 08:07	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/09/16 07:21	03/10/16 08:07	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/09/16 07:21	03/10/16 08:07	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/09/16 07:21	03/10/16 08:07	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/09/16 07:21	03/10/16 08:07	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/09/16 07:21	03/10/16 08:07	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 08:07	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/09/16 07:21	03/10/16 08:07	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM110**

**Date Collected: 03/03/16 10:14**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-1**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 08:07	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/09/16 07:21	03/10/16 08:07	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/09/16 07:21	03/10/16 08:07	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/09/16 07:21	03/10/16 08:07	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 08:07	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/09/16 07:21	03/10/16 08:07	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/09/16 07:21	03/10/16 08:07	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/09/16 07:21	03/10/16 08:07	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/09/16 07:21	03/10/16 08:07	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/09/16 07:21	03/10/16 08:07	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/09/16 07:21	03/10/16 08:07	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/09/16 07:21	03/10/16 08:07	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/09/16 07:21	03/10/16 08:07	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/09/16 07:21	03/10/16 08:07	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/09/16 07:21	03/10/16 08:07	1
Phenol	0.768	U	10.0	0.768	ug/L		03/09/16 07:21	03/10/16 08:07	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/09/16 07:21	03/10/16 08:07	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/09/16 07:21	03/10/16 08:07	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/09/16 07:21	03/10/16 08:07	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/09/16 07:21	03/10/16 08:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	73		23 - 130	03/09/16 07:21	03/10/16 08:07	1
2-Fluorophenol	70		10 - 130	03/09/16 07:21	03/10/16 08:07	1
Nitrobenzene-d5	72		27 - 130	03/09/16 07:21	03/10/16 08:07	1
Phenol-d5	75		10 - 130	03/09/16 07:21	03/10/16 08:07	1
Terphenyl-d14	63		10 - 141	03/09/16 07:21	03/10/16 08:07	1
2,4,6-Tribromophenol	75		18 - 130	03/09/16 07:21	03/10/16 08:07	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00483	U	0.0580	0.00483	ug/L		03/08/16 09:16	03/08/16 21:25	1
alpha-BHC	0.00503	U	0.0580	0.00503	ug/L		03/08/16 09:16	03/08/16 21:25	1
alpha-Chlordane	0.00609	U	0.0580	0.00609	ug/L		03/08/16 09:16	03/08/16 21:25	1
beta-BHC	0.00483	U	0.0580	0.00483	ug/L		03/08/16 09:16	03/08/16 21:25	1
4,4'-DDD	0.00483	U	0.0580	0.00483	ug/L		03/08/16 09:16	03/08/16 21:25	1
4,4'-DDE	0.00483	U	0.0580	0.00483	ug/L		03/08/16 09:16	03/08/16 21:25	1
4,4'-DDT	0.00783	U	0.0580	0.00783	ug/L		03/08/16 09:16	03/08/16 21:25	1
delta-BHC	0.00483	U	0.0580	0.00483	ug/L		03/08/16 09:16	03/08/16 21:25	1
Dieldrin	0.0126	U	0.0580	0.0126	ug/L		03/08/16 09:16	03/08/16 21:25	1
Endosulfan I	0.00483	U	0.0580	0.00483	ug/L		03/08/16 09:16	03/08/16 21:25	1
Endosulfan II	0.00831	U	0.0580	0.00831	ug/L		03/08/16 09:16	03/08/16 21:25	1
Endosulfan sulfate	0.00851	U	0.0580	0.00851	ug/L		03/08/16 09:16	03/08/16 21:25	1
Endrin	0.00744	U	0.0580	0.00744	ug/L		03/08/16 09:16	03/08/16 21:25	1
Endrin aldehyde	0.00483	U	0.0580	0.00483	ug/L		03/08/16 09:16	03/08/16 21:25	1
Endrin ketone	0.00793	U	0.0580	0.00793	ug/L		03/08/16 09:16	03/08/16 21:25	1
gamma-BHC (Lindane)	0.00435	U	0.0580	0.00435	ug/L		03/08/16 09:16	03/08/16 21:25	1
gamma-Chlordane	0.00648	U	0.0580	0.00648	ug/L		03/08/16 09:16	03/08/16 21:25	1
Heptachlor	0.00628	U	0.0580	0.00628	ug/L		03/08/16 09:16	03/08/16 21:25	1
Heptachlor epoxide	0.00503	U	0.0580	0.00503	ug/L		03/08/16 09:16	03/08/16 21:25	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM110**

**Date Collected: 03/03/16 10:14**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-1**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	0.00967	U	0.0580	0.00967	ug/L		03/08/16 09:16	03/08/16 21:25	1
Toxaphene	0.657	U	5.80	0.657	ug/L		03/08/16 09:16	03/08/16 21:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	49		10 - 152				03/08/16 09:16	03/08/16 21:25	1
Tetrachloro-m-xylene	82		57 - 127				03/08/16 09:16	03/08/16 21:25	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.580	0.106	ug/L		03/08/16 09:16	03/08/16 18:27	1
Aroclor 1221	0.106	U	0.580	0.106	ug/L		03/08/16 09:16	03/08/16 18:27	1
Aroclor 1232	0.425	U	0.773	0.425	ug/L		03/08/16 09:16	03/08/16 18:27	1
Aroclor 1242	0.106	U	0.580	0.106	ug/L		03/08/16 09:16	03/08/16 18:27	1
Aroclor 1248	0.106	U	0.580	0.106	ug/L		03/08/16 09:16	03/08/16 18:27	1
Aroclor 1254	0.106	U	0.580	0.106	ug/L		03/08/16 09:16	03/08/16 18:27	1
Aroclor 1260	0.106	U	0.580	0.106	ug/L		03/08/16 09:16	03/08/16 18:27	1
Aroclor 1262	0.106	U	0.580	0.106	ug/L		03/08/16 09:16	03/08/16 18:27	1
Aroclor 1268	0.106	U	0.580	0.106	ug/L		03/08/16 09:16	03/08/16 18:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	147		10 - 150				03/08/16 09:16	03/08/16 18:27	1
DCB Decachlorobiphenyl	134		10 - 150				03/08/16 09:16	03/08/16 18:27	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.159	U	2.37	0.159	ug/L		03/09/16 19:25	03/15/16 18:33	1
Bolstar	0.298	U	0.949	0.298	ug/L		03/09/16 19:25	03/15/16 18:33	1
Chlorpyrifos	0.342	U	1.42	0.342	ug/L		03/09/16 19:25	03/15/16 18:33	1
Coumaphos	0.128	U	0.949	0.128	ug/L		03/09/16 19:25	03/15/16 18:33	1
Demeton-O	0.133	U	0.949	0.133	ug/L		03/09/16 19:25	03/15/16 18:33	1
Demeton-S	0.0655	U	1.90	0.0655	ug/L		03/09/16 19:25	03/15/16 18:33	1
Diazinon	0.139	U	0.474	0.139	ug/L		03/09/16 19:25	03/15/16 18:33	1
Dichlorvos	0.154	U	0.474	0.154	ug/L		03/09/16 19:25	03/15/16 18:33	1
Dimethoate	0.426	U	1.42	0.426	ug/L		03/09/16 19:25	03/15/16 18:33	1
Disulfoton	0.306	U	0.949	0.306	ug/L		03/09/16 19:25	03/15/16 18:33	1
EPN	0.141	U	1.14	0.141	ug/L		03/09/16 19:25	03/15/16 18:33	1
Ethoprop	0.168	U	1.42	0.168	ug/L		03/09/16 19:25	03/15/16 18:33	1
Ethyl Parathion	0.137	U	0.949	0.137	ug/L		03/09/16 19:25	03/15/16 18:33	1
Famphur	0.170	U	0.949	0.170	ug/L		03/09/16 19:25	03/15/16 18:33	1
Fensulfothion	0.516	U	2.37	0.516	ug/L		03/09/16 19:25	03/15/16 18:33	1
Fenthion	0.146	U	2.37	0.146	ug/L		03/09/16 19:25	03/15/16 18:33	1
Malathion	0.126	U	1.90	0.126	ug/L		03/09/16 19:25	03/15/16 18:33	1
Merphos	0.165	U	4.74	0.165	ug/L		03/09/16 19:25	03/15/16 18:33	1
Methyl parathion	0.134	U	3.80	0.134	ug/L		03/09/16 19:25	03/15/16 18:33	1
Mevinphos	0.436	U	5.88	0.436	ug/L		03/09/16 19:25	03/15/16 18:33	1
Naled	0.759	U	1.90	0.759	ug/L		03/09/16 19:25	03/15/16 18:33	1
Phorate	0.146	U	1.14	0.146	ug/L		03/09/16 19:25	03/15/16 18:33	1
Ronnel	0.110	U	9.49	0.110	ug/L		03/09/16 19:25	03/15/16 18:33	1
Sulfotepp	0.159	U	1.42	0.159	ug/L		03/09/16 19:25	03/15/16 18:33	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.32	0.118	ug/L		03/09/16 19:25	03/15/16 18:33	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM110**

**Date Collected: 03/03/16 10:14**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-1**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thionazin	0.296	U	0.949	0.296	ug/L		03/09/16 19:25	03/15/16 18:33	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/09/16 19:25	03/15/16 18:33	1
Trichloronate	0.230	U	1.42	0.230	ug/L		03/09/16 19:25	03/15/16 18:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	75		49 - 171				03/09/16 19:25	03/15/16 18:33	1
Triphenylphosphate	87		60 - 154				03/09/16 19:25	03/15/16 18:33	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0951	U	4.75	0.0951	ug/L		03/09/16 07:54	03/11/16 18:44	1
Dicamba	0.0808	U	0.475	0.0808	ug/L		03/09/16 07:54	03/11/16 18:44	1
Mecoprop	18.1	U	114	18.1	ug/L		03/09/16 07:54	03/11/16 18:44	1
MCPA	16.2	U	114	16.2	ug/L		03/09/16 07:54	03/11/16 18:44	1
Dichlorprop	0.143	U	0.475	0.143	ug/L		03/09/16 07:54	03/11/16 18:44	1
2,4-D	0.0352	U	0.475	0.0352	ug/L		03/09/16 07:54	03/11/16 18:44	1
Silvex (2,4,5-TP)	0.0589	U	0.238	0.0589	ug/L		03/09/16 07:54	03/11/16 18:44	1
2,4,5-T	0.0589	U	0.238	0.0589	ug/L		03/09/16 07:54	03/11/16 18:44	1
2,4-DB	0.143	U	0.475	0.143	ug/L		03/09/16 07:54	03/11/16 18:44	1
Dinoseb	0.152	U	0.951	0.152	ug/L		03/09/16 07:54	03/11/16 18:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	81		45 - 130				03/09/16 07:54	03/11/16 18:44	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	92.4		0.200	0.101	mg/L		03/07/16 10:00	03/07/16 15:25	1
Magnesium	20.5		0.200	0.0257	mg/L		03/07/16 10:00	03/07/16 15:25	1
Potassium	1.67		0.500	0.375	mg/L		03/07/16 10:00	03/07/16 15:25	1
Silicon	5.54		0.500	0.0707	mg/L		03/07/16 10:00	03/07/16 15:25	1
Sodium	16.0		1.00	0.310	mg/L		03/07/16 10:00	03/07/16 15:25	1
Strontium	0.660		0.00500	0.000700	mg/L		03/07/16 10:00	03/07/16 15:25	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/07/16 10:00	03/07/16 20:34	1
Antimony	1.61	U	5.00	1.61	ug/L		03/07/16 10:00	03/07/16 20:34	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/07/16 10:00	03/07/16 20:34	1
Barium	28.2		5.00	0.810	ug/L		03/07/16 10:00	03/07/16 20:34	1
Beryllium	1.24	U	4.00	1.24	ug/L		03/07/16 10:00	03/07/16 20:34	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/07/16 10:00	03/07/16 20:34	1
Chromium	1.40	U	5.00	1.40	ug/L		03/07/16 10:00	03/07/16 20:34	1
Copper	2.00	U	10.0	2.00	ug/L		03/07/16 10:00	03/07/16 20:34	1
Iron	101	U	250	101	ug/L		03/07/16 10:00	03/07/16 20:34	1
Lead	0.733	U	5.00	0.733	ug/L		03/07/16 10:00	03/07/16 20:34	1
Manganese	119		50.0	11.6	ug/L		03/07/16 10:00	03/08/16 14:36	1
Nickel	2.17	U	5.00	2.17	ug/L		03/07/16 10:00	03/07/16 20:34	1
Selenium	1.08	U	5.00	1.08	ug/L		03/07/16 10:00	03/07/16 20:34	1
Silver	0.941	U	5.00	0.941	ug/L		03/07/16 10:00	03/08/16 14:36	1
Thallium	0.693	U	2.00	0.693	ug/L		03/07/16 10:00	03/07/16 20:34	1
Zinc	3.55	U	25.0	3.55	ug/L		03/07/16 10:00	03/07/16 20:34	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.

Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/08/16 10:00	03/08/16 14:48	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.589	J	1.00	0.315	mg/L			03/05/16 14:24	1
Chloride	26.5		1.00	0.192	mg/L			03/05/16 14:24	1
Nitrate as N	0.706	H	0.500	0.103	mg/L			03/05/16 14:24	1
Sulfate	32.6		1.00	0.377	mg/L			03/05/16 14:24	1
Fluoride	0.227		0.100	0.0200	mg/L			03/08/16 10:10	1
Nitrogen, Kjeldahl	0.591	J	1.00	0.432	mg/L			03/09/16 11:49	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/15/16 10:30	03/16/16 12:17	1
Total Organic Carbon	0.525	J	1.00	0.285	mg/L			03/08/16 16:13	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.33	HF	0.100	0.100	SU			03/07/16 10:28	1
Total Alkalinity as CaCO3	242		5.00	5.00	mg/L			03/17/16 14:20	1
Bicarbonate Alkalinity as CaCO3	242		5.00	5.00	mg/L			03/17/16 14:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/17/16 14:20	1
Total Dissolved Solids	365		10.0	10.0	mg/L			03/09/16 11:21	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/07/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.376	J	1.00	0.285	mg/L			03/08/16 16:13	1

Client Sample ID: FDHSM110

Date Collected: 03/03/16 10:14

Date Received: 03/05/16 09:45

Lab Sample ID: 560-60099-2

Matrix: Water

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/10/16 15:36	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 15:36	1
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 15:36	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 15:36	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 15:36	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 15:36	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 15:36	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 15:36	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 15:36	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 15:36	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 15:36	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 15:36	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 15:36	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 15:36	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 15:36	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 15:36	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 15:36	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 15:36	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 15:36	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 15:36	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 15:36	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 15:36	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 15:36	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 15:36	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: FDHSM110**

**Lab Sample ID: 560-60099-2**

**Date Collected: 03/03/16 10:14**

**Matrix: Water**

**Date Received: 03/05/16 09:45**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 15:36	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 15:36	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 15:36	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 15:36	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 15:36	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 15:36	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 15:36	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 15:36	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 15:36	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 15:36	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 15:36	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 15:36	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 15:36	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 15:36	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 15:36	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 15:36	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 15:36	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 15:36	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 15:36	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 15:36	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 15:36	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 15:36	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 15:36	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 15:36	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 15:36	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 15:36	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 15:36	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 15:36	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 15:36	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 15:36	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 15:36	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 15:36	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 15:36	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 15:36	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 15:36	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 15:36	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 15:36	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 15:36	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 15:36	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 15:36	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 15:36	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 15:36	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 15:36	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 15:36	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 15:36	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 15:36	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 15:36	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 15:36	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 15:36	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: FDHSM110**

**Lab Sample ID: 560-60099-2**

**Date Collected: 03/03/16 10:14**

**Matrix: Water**

**Date Received: 03/05/16 09:45**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 15:36	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 15:36	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 15:36	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 15:36	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 15:36	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 15:36	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 15:36	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 15:36	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 15:36	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 15:36	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 15:36	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 15:36	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 15:36	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 15:36	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 15:36	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 15:36	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 15:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 15:36	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 15:36	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 15:36	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 15:36	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 15:36	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 15:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/10/16 15:36	1
Dibromofluoromethane (Surr)	101		69 - 130		03/10/16 15:36	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 140		03/10/16 15:36	1
Toluene-d8 (Surr)	101		70 - 130		03/10/16 15:36	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/09/16 07:21	03/10/16 10:15	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/09/16 07:21	03/10/16 10:15	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/09/16 07:21	03/10/16 10:15	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/09/16 07:21	03/10/16 10:15	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/09/16 07:21	03/10/16 10:15	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/09/16 07:21	03/10/16 10:15	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/09/16 07:21	03/10/16 10:15	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/09/16 07:21	03/10/16 10:15	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/09/16 07:21	03/10/16 10:15	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/09/16 07:21	03/10/16 10:15	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/09/16 07:21	03/10/16 10:15	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/09/16 07:21	03/10/16 10:15	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/09/16 07:21	03/10/16 10:15	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/09/16 07:21	03/10/16 10:15	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 10:15	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/09/16 07:21	03/10/16 10:15	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/09/16 07:21	03/10/16 10:15	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/09/16 07:21	03/10/16 10:15	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: FDHSM110**

**Lab Sample ID: 560-60099-2**

**Date Collected: 03/03/16 10:14**

**Matrix: Water**

**Date Received: 03/05/16 09:45**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/09/16 07:21	03/10/16 10:15	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/09/16 07:21	03/10/16 10:15	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/09/16 07:21	03/10/16 10:15	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/09/16 07:21	03/10/16 10:15	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/09/16 07:21	03/10/16 10:15	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/09/16 07:21	03/10/16 10:15	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/09/16 07:21	03/10/16 10:15	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 10:15	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/09/16 07:21	03/10/16 10:15	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/09/16 07:21	03/10/16 10:15	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/09/16 07:21	03/10/16 10:15	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 10:15	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/09/16 07:21	03/10/16 10:15	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/09/16 07:21	03/10/16 10:15	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/09/16 07:21	03/10/16 10:15	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/09/16 07:21	03/10/16 10:15	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/09/16 07:21	03/10/16 10:15	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/09/16 07:21	03/10/16 10:15	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/09/16 07:21	03/10/16 10:15	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/09/16 07:21	03/10/16 10:15	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/09/16 07:21	03/10/16 10:15	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/09/16 07:21	03/10/16 10:15	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/09/16 07:21	03/10/16 10:15	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 10:15	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/09/16 07:21	03/10/16 10:15	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 10:15	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/09/16 07:21	03/10/16 10:15	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/09/16 07:21	03/10/16 10:15	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/09/16 07:21	03/10/16 10:15	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 10:15	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/09/16 07:21	03/10/16 10:15	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/09/16 07:21	03/10/16 10:15	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/09/16 07:21	03/10/16 10:15	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/09/16 07:21	03/10/16 10:15	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/09/16 07:21	03/10/16 10:15	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/09/16 07:21	03/10/16 10:15	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/09/16 07:21	03/10/16 10:15	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/09/16 07:21	03/10/16 10:15	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/09/16 07:21	03/10/16 10:15	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/09/16 07:21	03/10/16 10:15	1
Phenol	0.768	U	10.0	0.768	ug/L		03/09/16 07:21	03/10/16 10:15	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/09/16 07:21	03/10/16 10:15	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/09/16 07:21	03/10/16 10:15	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/09/16 07:21	03/10/16 10:15	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/09/16 07:21	03/10/16 10:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	73		23 - 130	03/09/16 07:21	03/10/16 10:15	1
2-Fluorophenol	71		10 - 130	03/09/16 07:21	03/10/16 10:15	1
Nitrobenzene-d5	72		27 - 130	03/09/16 07:21	03/10/16 10:15	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: FDHSM110**

**Lab Sample ID: 560-60099-2**

**Date Collected: 03/03/16 10:14**

**Matrix: Water**

**Date Received: 03/05/16 09:45**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	75		10 - 130	03/09/16 07:21	03/10/16 10:15	1
Terphenyl-d14	68		10 - 141	03/09/16 07:21	03/10/16 10:15	1
2,4,6-Tribromophenol	78		18 - 130	03/09/16 07:21	03/10/16 10:15	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00474	U	0.0569	0.00474	ug/L		03/08/16 09:16	03/08/16 21:51	1
alpha-BHC	0.00493	U	0.0569	0.00493	ug/L		03/08/16 09:16	03/08/16 21:51	1
alpha-Chlordane	0.00598	U	0.0569	0.00598	ug/L		03/08/16 09:16	03/08/16 21:51	1
beta-BHC	0.00474	U	0.0569	0.00474	ug/L		03/08/16 09:16	03/08/16 21:51	1
4,4'-DDD	0.00474	U	0.0569	0.00474	ug/L		03/08/16 09:16	03/08/16 21:51	1
4,4'-DDE	0.00474	U	0.0569	0.00474	ug/L		03/08/16 09:16	03/08/16 21:51	1
4,4'-DDT	0.00768	U	0.0569	0.00768	ug/L		03/08/16 09:16	03/08/16 21:51	1
delta-BHC	0.00474	U	0.0569	0.00474	ug/L		03/08/16 09:16	03/08/16 21:51	1
Dieldrin	0.0123	U	0.0569	0.0123	ug/L		03/08/16 09:16	03/08/16 21:51	1
Endosulfan I	0.00474	U	0.0569	0.00474	ug/L		03/08/16 09:16	03/08/16 21:51	1
Endosulfan II	0.00816	U	0.0569	0.00816	ug/L		03/08/16 09:16	03/08/16 21:51	1
Endosulfan sulfate	0.00835	U	0.0569	0.00835	ug/L		03/08/16 09:16	03/08/16 21:51	1
Endrin	0.00730	U	0.0569	0.00730	ug/L		03/08/16 09:16	03/08/16 21:51	1
Endrin aldehyde	0.00474	U	0.0569	0.00474	ug/L		03/08/16 09:16	03/08/16 21:51	1
Endrin ketone	0.00778	U	0.0569	0.00778	ug/L		03/08/16 09:16	03/08/16 21:51	1
gamma-BHC (Lindane)	0.00427	U	0.0569	0.00427	ug/L		03/08/16 09:16	03/08/16 21:51	1
gamma-Chlordane	0.00636	U	0.0569	0.00636	ug/L		03/08/16 09:16	03/08/16 21:51	1
Heptachlor	0.00617	U	0.0569	0.00617	ug/L		03/08/16 09:16	03/08/16 21:51	1
Heptachlor epoxide	0.00493	U	0.0569	0.00493	ug/L		03/08/16 09:16	03/08/16 21:51	1
Methoxychlor	0.00949	U	0.0569	0.00949	ug/L		03/08/16 09:16	03/08/16 21:51	1
Toxaphene	0.645	U	5.69	0.645	ug/L		03/08/16 09:16	03/08/16 21:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	50		10 - 152	03/08/16 09:16	03/08/16 21:51	1
Tetrachloro-m-xylene	87		57 - 127	03/08/16 09:16	03/08/16 21:51	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.569	0.104	ug/L		03/08/16 09:16	03/08/16 18:45	1
Aroclor 1221	0.104	U	0.569	0.104	ug/L		03/08/16 09:16	03/08/16 18:45	1
Aroclor 1232	0.417	U	0.759	0.417	ug/L		03/08/16 09:16	03/08/16 18:45	1
Aroclor 1242	0.104	U	0.569	0.104	ug/L		03/08/16 09:16	03/08/16 18:45	1
Aroclor 1248	0.104	U	0.569	0.104	ug/L		03/08/16 09:16	03/08/16 18:45	1
Aroclor 1254	0.104	U	0.569	0.104	ug/L		03/08/16 09:16	03/08/16 18:45	1
Aroclor 1260	0.104	U	0.569	0.104	ug/L		03/08/16 09:16	03/08/16 18:45	1
Aroclor 1262	0.104	U	0.569	0.104	ug/L		03/08/16 09:16	03/08/16 18:45	1
Aroclor 1268	0.104	U	0.569	0.104	ug/L		03/08/16 09:16	03/08/16 18:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	149		10 - 150	03/08/16 09:16	03/08/16 18:45	1
DCB Decachlorobiphenyl	135		10 - 150	03/08/16 09:16	03/08/16 18:45	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: FDHSM110**

**Lab Sample ID: 560-60099-2**

**Date Collected: 03/03/16 10:14**

**Matrix: Water**

**Date Received: 03/05/16 09:45**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.159	U	2.37	0.159	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Bolstar	0.297	U	0.947	0.297	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Chlorpyrifos	0.341	U	1.42	0.341	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Coumaphos	0.128	U	0.947	0.128	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Demeton-O	0.133	U	0.947	0.133	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Demeton-S	0.0654	U	1.89	0.0654	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Diazinon	0.139	U	0.474	0.139	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Dichlorvos	0.153	U	0.474	0.153	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Dimethoate	0.425	U	1.42	0.425	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Disulfoton	0.305	U	0.947	0.305	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
EPN	0.141	U	1.14	0.141	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Ethoprop	0.168	U	1.42	0.168	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Ethyl Parathion	0.136	U	0.947	0.136	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Famphur	0.170	U	0.947	0.170	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Fensulfothion	0.515	U	2.37	0.515	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Fenthion	0.146	U	2.37	0.146	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Malathion	0.126	U	1.89	0.126	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Merphos	0.165	U	4.74	0.165	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Methyl parathion	0.134	U	3.79	0.134	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Mevinphos	0.436	U	5.87	0.436	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Naled	0.758	U	1.89	0.758	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Phorate	0.146	U	1.14	0.146	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Ronnel	0.110	U	9.47	0.110	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Sulfotepp	0.159	U	1.42	0.159	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Tetrachlorvinphos (Stirophos)	0.117	U	3.32	0.117	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Thionazin	0.296	U	0.947	0.296	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Tokuthion	0.117	U	1.52	0.117	ug/L	-	03/09/16 19:25	03/15/16 19:04	1
Trichloronate	0.229	U	1.42	0.229	ug/L	-	03/09/16 19:25	03/15/16 19:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	77		49 - 171	03/09/16 19:25	03/15/16 19:04	1
Triphenylphosphate	89		60 - 154	03/09/16 19:25	03/15/16 19:04	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0952	U	4.76	0.0952	ug/L	-	03/09/16 07:54	03/11/16 20:22	1
Dicamba	0.0809	U	0.476	0.0809	ug/L	-	03/09/16 07:54	03/11/16 20:22	1
Mecoprop	18.1	U	114	18.1	ug/L	-	03/09/16 07:54	03/11/16 20:22	1
MCPA	16.2	U	114	16.2	ug/L	-	03/09/16 07:54	03/11/16 20:22	1
Dichlorprop	0.143	U	0.476	0.143	ug/L	-	03/09/16 07:54	03/11/16 20:22	1
2,4-D	0.0352	U	0.476	0.0352	ug/L	-	03/09/16 07:54	03/11/16 20:22	1
Silvex (2,4,5-TP)	0.0590	U	0.238	0.0590	ug/L	-	03/09/16 07:54	03/11/16 20:22	1
2,4,5-T	0.0590	U	0.238	0.0590	ug/L	-	03/09/16 07:54	03/11/16 20:22	1
2,4-DB	0.143	U	0.476	0.143	ug/L	-	03/09/16 07:54	03/11/16 20:22	1
Dinoseb	0.152	U	0.952	0.152	ug/L	-	03/09/16 07:54	03/11/16 20:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	74		45 - 130	03/09/16 07:54	03/11/16 20:22	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: FDHSM110**

**Lab Sample ID: 560-60099-2**

**Date Collected: 03/03/16 10:14**

**Matrix: Water**

**Date Received: 03/05/16 09:45**

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	89.0		0.200	0.101	mg/L		03/07/16 10:00	03/07/16 15:29	1
Magnesium	19.9		0.200	0.0257	mg/L		03/07/16 10:00	03/07/16 15:29	1
Potassium	1.60		0.500	0.375	mg/L		03/07/16 10:00	03/07/16 15:29	1
Silicon	5.28		0.500	0.0707	mg/L		03/07/16 10:00	03/07/16 15:29	1
Sodium	15.7		1.00	0.310	mg/L		03/07/16 10:00	03/07/16 15:29	1
Strontium	0.647		0.00500	0.000700	mg/L		03/07/16 10:00	03/07/16 15:29	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/07/16 10:00	03/07/16 20:39	1
Antimony	1.61	U	5.00	1.61	ug/L		03/07/16 10:00	03/07/16 20:39	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/07/16 10:00	03/07/16 20:39	1
Barium	28.0		5.00	0.810	ug/L		03/07/16 10:00	03/07/16 20:39	1
Beryllium	1.24	U	4.00	1.24	ug/L		03/07/16 10:00	03/07/16 20:39	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/07/16 10:00	03/07/16 20:39	1
Chromium	1.40	U	5.00	1.40	ug/L		03/07/16 10:00	03/07/16 20:39	1
Copper	2.00	U	10.0	2.00	ug/L		03/07/16 10:00	03/07/16 20:39	1
Iron	101	U	250	101	ug/L		03/07/16 10:00	03/07/16 20:39	1
Lead	0.733	U	5.00	0.733	ug/L		03/07/16 10:00	03/07/16 20:39	1
Manganese	112		50.0	11.6	ug/L		03/07/16 10:00	03/08/16 14:41	1
Nickel	2.17	U	5.00	2.17	ug/L		03/07/16 10:00	03/07/16 20:39	1
Selenium	1.08	U	5.00	1.08	ug/L		03/07/16 10:00	03/07/16 20:39	1
Silver	0.941	U	5.00	0.941	ug/L		03/07/16 10:00	03/08/16 14:41	1
Thallium	0.693	U	2.00	0.693	ug/L		03/07/16 10:00	03/07/16 20:39	1
Zinc	3.55	U	25.0	3.55	ug/L		03/07/16 10:00	03/07/16 20:39	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/08/16 10:00	03/08/16 14:50	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.593	J	1.00	0.315	mg/L			03/05/16 14:50	1
Chloride	26.6		1.00	0.192	mg/L			03/05/16 14:50	1
Nitrate as N	0.706	H	0.500	0.103	mg/L			03/05/16 14:50	1
Sulfate	32.5		1.00	0.377	mg/L			03/05/16 14:50	1
Fluoride	0.221		0.100	0.0200	mg/L			03/08/16 10:10	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/10/16 11:23	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/15/16 10:30	03/16/16 12:18	1
Total Organic Carbon	0.508	J	1.00	0.285	mg/L			03/08/16 16:13	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.31	HF	0.100	0.100	SU			03/07/16 10:28	1
Total Alkalinity as CaCO3	239		5.00	5.00	mg/L			03/17/16 14:20	1
Bicarbonate Alkalinity as CaCO3	239		5.00	5.00	mg/L			03/17/16 14:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/17/16 14:20	1
Total Dissolved Solids	369		10.0	10.0	mg/L			03/09/16 11:21	1
Total Suspended Solids	3.40		3.00	3.00	mg/L			03/07/16 14:25	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: FDHSM110**

**Date Collected: 03/03/16 10:14**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-2**

**Matrix: Water**

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.458	J	1.00	0.285	mg/L			03/08/16 16:13	1

**Client Sample ID: HSM120**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-3**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/10/16 16:01	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 16:01	1
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 16:01	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 16:01	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 16:01	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 16:01	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 16:01	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 16:01	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 16:01	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 16:01	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 16:01	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 16:01	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 16:01	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 16:01	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 16:01	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 16:01	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 16:01	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 16:01	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 16:01	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 16:01	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 16:01	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 16:01	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 16:01	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 16:01	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 16:01	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 16:01	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 16:01	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 16:01	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 16:01	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 16:01	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 16:01	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 16:01	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 16:01	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 16:01	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 16:01	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 16:01	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 16:01	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 16:01	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 16:01	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 16:01	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 16:01	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 16:01	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM120**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-3**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 16:01	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 16:01	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 16:01	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 16:01	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 16:01	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 16:01	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 16:01	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 16:01	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 16:01	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 16:01	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 16:01	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 16:01	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 16:01	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 16:01	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 16:01	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 16:01	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 16:01	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 16:01	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 16:01	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 16:01	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 16:01	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 16:01	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 16:01	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 16:01	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 16:01	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 16:01	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 16:01	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 16:01	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 16:01	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 16:01	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 16:01	1
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 16:01	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 16:01	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 16:01	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 16:01	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 16:01	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 16:01	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 16:01	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 16:01	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 16:01	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 16:01	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 16:01	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 16:01	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 16:01	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 16:01	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 16:01	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 16:01	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 16:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 16:01	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM120**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-3**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 16:01	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 16:01	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 16:01	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 16:01	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 16:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		03/10/16 16:01	1
Dibromofluoromethane (Surr)	105		69 - 130		03/10/16 16:01	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 140		03/10/16 16:01	1
Toluene-d8 (Surr)	100		70 - 130		03/10/16 16:01	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/09/16 07:21	03/10/16 10:41	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/09/16 07:21	03/10/16 10:41	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/09/16 07:21	03/10/16 10:41	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/09/16 07:21	03/10/16 10:41	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/09/16 07:21	03/10/16 10:41	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/09/16 07:21	03/10/16 10:41	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/09/16 07:21	03/10/16 10:41	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/09/16 07:21	03/10/16 10:41	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/09/16 07:21	03/10/16 10:41	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/09/16 07:21	03/10/16 10:41	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/09/16 07:21	03/10/16 10:41	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>12.5</b>	<b>J</b>	20.0	5.00	ug/L		03/09/16 07:21	03/10/16 10:41	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/09/16 07:21	03/10/16 10:41	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/09/16 07:21	03/10/16 10:41	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 10:41	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/09/16 07:21	03/10/16 10:41	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/09/16 07:21	03/10/16 10:41	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/09/16 07:21	03/10/16 10:41	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/09/16 07:21	03/10/16 10:41	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/09/16 07:21	03/10/16 10:41	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/09/16 07:21	03/10/16 10:41	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/09/16 07:21	03/10/16 10:41	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/09/16 07:21	03/10/16 10:41	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/09/16 07:21	03/10/16 10:41	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/09/16 07:21	03/10/16 10:41	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 10:41	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/09/16 07:21	03/10/16 10:41	1
<b>Diethyl phthalate</b>	<b>3.16</b>	<b>J</b>	10.0	0.666	ug/L		03/09/16 07:21	03/10/16 10:41	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/09/16 07:21	03/10/16 10:41	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 10:41	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/09/16 07:21	03/10/16 10:41	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/09/16 07:21	03/10/16 10:41	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/09/16 07:21	03/10/16 10:41	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/09/16 07:21	03/10/16 10:41	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/09/16 07:21	03/10/16 10:41	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/09/16 07:21	03/10/16 10:41	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM120**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-3**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/09/16 07:21	03/10/16 10:41	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/09/16 07:21	03/10/16 10:41	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/09/16 07:21	03/10/16 10:41	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/09/16 07:21	03/10/16 10:41	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/09/16 07:21	03/10/16 10:41	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 10:41	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/09/16 07:21	03/10/16 10:41	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 10:41	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/09/16 07:21	03/10/16 10:41	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/09/16 07:21	03/10/16 10:41	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/09/16 07:21	03/10/16 10:41	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 10:41	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/09/16 07:21	03/10/16 10:41	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/09/16 07:21	03/10/16 10:41	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/09/16 07:21	03/10/16 10:41	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/09/16 07:21	03/10/16 10:41	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/09/16 07:21	03/10/16 10:41	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/09/16 07:21	03/10/16 10:41	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/09/16 07:21	03/10/16 10:41	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/09/16 07:21	03/10/16 10:41	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/09/16 07:21	03/10/16 10:41	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/09/16 07:21	03/10/16 10:41	1
Phenol	0.768	U	10.0	0.768	ug/L		03/09/16 07:21	03/10/16 10:41	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/09/16 07:21	03/10/16 10:41	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/09/16 07:21	03/10/16 10:41	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/09/16 07:21	03/10/16 10:41	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/09/16 07:21	03/10/16 10:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	76		23 - 130	03/09/16 07:21	03/10/16 10:41	1
2-Fluorophenol	72		10 - 130	03/09/16 07:21	03/10/16 10:41	1
Nitrobenzene-d5	73		27 - 130	03/09/16 07:21	03/10/16 10:41	1
Phenol-d5	77		10 - 130	03/09/16 07:21	03/10/16 10:41	1
Terphenyl-d14	79		10 - 141	03/09/16 07:21	03/10/16 10:41	1
2,4,6-Tribromophenol	74		18 - 130	03/09/16 07:21	03/10/16 10:41	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00492	U	0.0590	0.00492	ug/L		03/08/16 09:16	03/08/16 22:16	1
alpha-BHC	0.00511	U	0.0590	0.00511	ug/L		03/08/16 09:16	03/08/16 22:16	1
alpha-Chlordane	0.00619	U	0.0590	0.00619	ug/L		03/08/16 09:16	03/08/16 22:16	1
beta-BHC	0.00492	U	0.0590	0.00492	ug/L		03/08/16 09:16	03/08/16 22:16	1
4,4'-DDD	0.00492	U	0.0590	0.00492	ug/L		03/08/16 09:16	03/08/16 22:16	1
4,4'-DDE	0.00492	U	0.0590	0.00492	ug/L		03/08/16 09:16	03/08/16 22:16	1
4,4'-DDT	0.00796	U	0.0590	0.00796	ug/L		03/08/16 09:16	03/08/16 22:16	1
delta-BHC	0.00492	U	0.0590	0.00492	ug/L		03/08/16 09:16	03/08/16 22:16	1
Dieldrin	0.0128	U	0.0590	0.0128	ug/L		03/08/16 09:16	03/08/16 22:16	1
Endosulfan I	0.00492	U	0.0590	0.00492	ug/L		03/08/16 09:16	03/08/16 22:16	1
Endosulfan II	0.00846	U	0.0590	0.00846	ug/L		03/08/16 09:16	03/08/16 22:16	1
Endosulfan sulfate	0.00865	U	0.0590	0.00865	ug/L		03/08/16 09:16	03/08/16 22:16	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM120**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-3**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	0.00757	U	0.0590	0.00757	ug/L		03/08/16 09:16	03/08/16 22:16	1
Endrin aldehyde	0.00492	U	0.0590	0.00492	ug/L		03/08/16 09:16	03/08/16 22:16	1
Endrin ketone	0.00806	U	0.0590	0.00806	ug/L		03/08/16 09:16	03/08/16 22:16	1
gamma-BHC (Lindane)	0.00442	U	0.0590	0.00442	ug/L		03/08/16 09:16	03/08/16 22:16	1
gamma-Chlordane	0.00659	U	0.0590	0.00659	ug/L		03/08/16 09:16	03/08/16 22:16	1
Heptachlor	0.00639	U	0.0590	0.00639	ug/L		03/08/16 09:16	03/08/16 22:16	1
Heptachlor epoxide	0.00511	U	0.0590	0.00511	ug/L		03/08/16 09:16	03/08/16 22:16	1
Methoxychlor	0.00983	U	0.0590	0.00983	ug/L		03/08/16 09:16	03/08/16 22:16	1
Toxaphene	0.669	U	5.90	0.669	ug/L		03/08/16 09:16	03/08/16 22:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	42		10 - 152				03/08/16 09:16	03/08/16 22:16	1
Tetrachloro-m-xylene	82		57 - 127				03/08/16 09:16	03/08/16 22:16	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.108	U	0.590	0.108	ug/L		03/08/16 09:16	03/08/16 19:02	1
Aroclor 1221	0.108	U	0.590	0.108	ug/L		03/08/16 09:16	03/08/16 19:02	1
Aroclor 1232	0.433	U	0.787	0.433	ug/L		03/08/16 09:16	03/08/16 19:02	1
Aroclor 1242	0.108	U	0.590	0.108	ug/L		03/08/16 09:16	03/08/16 19:02	1
Aroclor 1248	0.108	U	0.590	0.108	ug/L		03/08/16 09:16	03/08/16 19:02	1
Aroclor 1254	0.108	U	0.590	0.108	ug/L		03/08/16 09:16	03/08/16 19:02	1
Aroclor 1260	0.108	U	0.590	0.108	ug/L		03/08/16 09:16	03/08/16 19:02	1
Aroclor 1262	0.108	U	0.590	0.108	ug/L		03/08/16 09:16	03/08/16 19:02	1
Aroclor 1268	0.108	U	0.590	0.108	ug/L		03/08/16 09:16	03/08/16 19:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	147		10 - 150				03/08/16 09:16	03/08/16 19:02	1
DCB Decachlorobiphenyl	122		10 - 150				03/08/16 09:16	03/08/16 19:02	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.160	U	2.38	0.160	ug/L		03/09/16 19:25	03/15/16 19:36	1
Bolstar	0.299	U	0.951	0.299	ug/L		03/09/16 19:25	03/15/16 19:36	1
Chlorpyrifos	0.342	U	1.43	0.342	ug/L		03/09/16 19:25	03/15/16 19:36	1
Coumaphos	0.128	U	0.951	0.128	ug/L		03/09/16 19:25	03/15/16 19:36	1
Demeton-O	0.133	U	0.951	0.133	ug/L		03/09/16 19:25	03/15/16 19:36	1
Demeton-S	0.0656	U	1.90	0.0656	ug/L		03/09/16 19:25	03/15/16 19:36	1
Diazinon	0.140	U	0.475	0.140	ug/L		03/09/16 19:25	03/15/16 19:36	1
Dichlorvos	0.154	U	0.475	0.154	ug/L		03/09/16 19:25	03/15/16 19:36	1
Dimethoate	0.427	U	1.43	0.427	ug/L		03/09/16 19:25	03/15/16 19:36	1
Disulfoton	0.306	U	0.951	0.306	ug/L		03/09/16 19:25	03/15/16 19:36	1
EPN	0.142	U	1.14	0.142	ug/L		03/09/16 19:25	03/15/16 19:36	1
Ethoprop	0.168	U	1.43	0.168	ug/L		03/09/16 19:25	03/15/16 19:36	1
Ethyl Parathion	0.137	U	0.951	0.137	ug/L		03/09/16 19:25	03/15/16 19:36	1
Famphur	0.170	U	0.951	0.170	ug/L		03/09/16 19:25	03/15/16 19:36	1
Fensulfothion	0.517	U	2.38	0.517	ug/L		03/09/16 19:25	03/15/16 19:36	1
Fenthion	0.146	U	2.38	0.146	ug/L		03/09/16 19:25	03/15/16 19:36	1
Malathion	0.126	U	1.90	0.126	ug/L		03/09/16 19:25	03/15/16 19:36	1
Merphos	0.165	U	4.75	0.165	ug/L		03/09/16 19:25	03/15/16 19:36	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM120**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-3**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl parathion	0.134	U	3.80	0.134	ug/L		03/09/16 19:25	03/15/16 19:36	1
Mevinphos	0.437	U	5.89	0.437	ug/L		03/09/16 19:25	03/15/16 19:36	1
Naled	0.761	U	1.90	0.761	ug/L		03/09/16 19:25	03/15/16 19:36	1
Phorate	0.146	U	1.14	0.146	ug/L		03/09/16 19:25	03/15/16 19:36	1
Ronnel	0.110	U	9.51	0.110	ug/L		03/09/16 19:25	03/15/16 19:36	1
Sulfotepp	0.160	U	1.43	0.160	ug/L		03/09/16 19:25	03/15/16 19:36	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.33	0.118	ug/L		03/09/16 19:25	03/15/16 19:36	1
Thionazin	0.297	U	0.951	0.297	ug/L		03/09/16 19:25	03/15/16 19:36	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/09/16 19:25	03/15/16 19:36	1
Trichloronate	0.230	U	1.43	0.230	ug/L		03/09/16 19:25	03/15/16 19:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	74		49 - 171				03/09/16 19:25	03/15/16 19:36	1
Triphenylphosphate	93		60 - 154				03/09/16 19:25	03/15/16 19:36	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0956	U	4.78	0.0956	ug/L		03/09/16 07:54	03/11/16 20:41	1
Dicamba	0.0813	U	0.478	0.0813	ug/L		03/09/16 07:54	03/11/16 20:41	1
Mecoprop	18.2	U	115	18.2	ug/L		03/09/16 07:54	03/11/16 20:41	1
MCPA	16.3	U	115	16.3	ug/L		03/09/16 07:54	03/11/16 20:41	1
Dichlorprop	0.143	U	0.478	0.143	ug/L		03/09/16 07:54	03/11/16 20:41	1
2,4-D	0.0354	U	0.478	0.0354	ug/L		03/09/16 07:54	03/11/16 20:41	1
Silvex (2,4,5-TP)	0.0593	U	0.239	0.0593	ug/L		03/09/16 07:54	03/11/16 20:41	1
2,4,5-T	0.0593	U	0.239	0.0593	ug/L		03/09/16 07:54	03/11/16 20:41	1
2,4-DB	0.143	U	0.478	0.143	ug/L		03/09/16 07:54	03/11/16 20:41	1
Dinoseb	0.153	U	0.956	0.153	ug/L		03/09/16 07:54	03/11/16 20:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	82		45 - 130				03/09/16 07:54	03/11/16 20:41	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	85.2		0.200	0.101	mg/L		03/07/16 10:00	03/07/16 15:33	1
Magnesium	15.8		0.200	0.0257	mg/L		03/07/16 10:00	03/07/16 15:33	1
Potassium	1.32		0.500	0.375	mg/L		03/07/16 10:00	03/07/16 15:33	1
Silicon	4.64		0.500	0.0707	mg/L		03/07/16 10:00	03/07/16 15:33	1
Sodium	9.91		1.00	0.310	mg/L		03/07/16 10:00	03/07/16 15:33	1
Strontium	0.470		0.00500	0.000700	mg/L		03/07/16 10:00	03/07/16 15:33	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/07/16 10:00	03/07/16 20:44	1
Antimony	1.61	U	5.00	1.61	ug/L		03/07/16 10:00	03/07/16 20:44	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/07/16 10:00	03/07/16 20:44	1
Barium	26.6		5.00	0.810	ug/L		03/07/16 10:00	03/07/16 20:44	1
Beryllium	1.24	U	4.00	1.24	ug/L		03/07/16 10:00	03/07/16 20:44	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/07/16 10:00	03/07/16 20:44	1
Chromium	1.40	U	5.00	1.40	ug/L		03/07/16 10:00	03/07/16 20:44	1
Copper	2.00	U	10.0	2.00	ug/L		03/07/16 10:00	03/07/16 20:44	1
Iron	101	U	250	101	ug/L		03/07/16 10:00	03/07/16 20:44	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM120**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-3**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.733	U	5.00	0.733	ug/L		03/07/16 10:00	03/07/16 20:44	1
Manganese	11.6	U	50.0	11.6	ug/L		03/07/16 10:00	03/08/16 14:46	1
Nickel	2.17	U	5.00	2.17	ug/L		03/07/16 10:00	03/07/16 20:44	1
Selenium	1.08	U	5.00	1.08	ug/L		03/07/16 10:00	03/07/16 20:44	1
Silver	0.941	U	5.00	0.941	ug/L		03/07/16 10:00	03/08/16 14:46	1
Thallium	0.693	U	2.00	0.693	ug/L		03/07/16 10:00	03/07/16 20:44	1
Zinc	3.55	U	25.0	3.55	ug/L		03/07/16 10:00	03/07/16 20:44	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/08/16 10:00	03/08/16 14:52	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.548	J	1.00	0.315	mg/L			03/05/16 15:16	1
Chloride	18.1		1.00	0.192	mg/L			03/05/16 15:16	1
Nitrate as N	1.24	H	0.500	0.103	mg/L			03/05/16 15:16	1
Sulfate	24.4		1.00	0.377	mg/L			03/05/16 15:16	1
Fluoride	0.185		0.100	0.0200	mg/L			03/08/16 10:10	1
Nitrogen, Kjeldahl	0.451	J	1.00	0.432	mg/L			03/10/16 11:32	1
Phosphorus	0.0459	J	0.100	0.0410	mg/L		03/15/16 10:30	03/16/16 12:24	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.25	HF	0.100	0.100	SU			03/07/16 10:28	1
Total Alkalinity as CaCO3	243		5.00	5.00	mg/L			03/17/16 14:20	1
Bicarbonate Alkalinity as CaCO3	243		5.00	5.00	mg/L			03/17/16 14:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/17/16 14:20	1
Total Dissolved Solids	332		10.0	10.0	mg/L			03/09/16 11:21	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/07/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1

**Client Sample ID: HSM130**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-4**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/10/16 16:26	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 16:26	1
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 16:26	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 16:26	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 16:26	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 16:26	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 16:26	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 16:26	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 16:26	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 16:26	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM130**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-4**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 16:26	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 16:26	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 16:26	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 16:26	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 16:26	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 16:26	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 16:26	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 16:26	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 16:26	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 16:26	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 16:26	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 16:26	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 16:26	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 16:26	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 16:26	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 16:26	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 16:26	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 16:26	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 16:26	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 16:26	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 16:26	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 16:26	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 16:26	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 16:26	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 16:26	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 16:26	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 16:26	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 16:26	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 16:26	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 16:26	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 16:26	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 16:26	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 16:26	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 16:26	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 16:26	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 16:26	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 16:26	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 16:26	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 16:26	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 16:26	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 16:26	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 16:26	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 16:26	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 16:26	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 16:26	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 16:26	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 16:26	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 16:26	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 16:26	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM130**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-4**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 16:26	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 16:26	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 16:26	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 16:26	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 16:26	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 16:26	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 16:26	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 16:26	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 16:26	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 16:26	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 16:26	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 16:26	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 16:26	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 16:26	1
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 16:26	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 16:26	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 16:26	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 16:26	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 16:26	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 16:26	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 16:26	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 16:26	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 16:26	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 16:26	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 16:26	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 16:26	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 16:26	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 16:26	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 16:26	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 16:26	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 16:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 16:26	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 16:26	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 16:26	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 16:26	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 16:26	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 16:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/10/16 16:26	1
Dibromofluoromethane (Surr)	99		69 - 130		03/10/16 16:26	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		03/10/16 16:26	1
Toluene-d8 (Surr)	100		70 - 130		03/10/16 16:26	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/09/16 07:21	03/10/16 11:07	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/09/16 07:21	03/10/16 11:07	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/09/16 07:21	03/10/16 11:07	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/09/16 07:21	03/10/16 11:07	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM130**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-4**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/09/16 07:21	03/10/16 11:07	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/09/16 07:21	03/10/16 11:07	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/09/16 07:21	03/10/16 11:07	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/09/16 07:21	03/10/16 11:07	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/09/16 07:21	03/10/16 11:07	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/09/16 07:21	03/10/16 11:07	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/09/16 07:21	03/10/16 11:07	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/09/16 07:21	03/10/16 11:07	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/09/16 07:21	03/10/16 11:07	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/09/16 07:21	03/10/16 11:07	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 11:07	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/09/16 07:21	03/10/16 11:07	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/09/16 07:21	03/10/16 11:07	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/09/16 07:21	03/10/16 11:07	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/09/16 07:21	03/10/16 11:07	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/09/16 07:21	03/10/16 11:07	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/09/16 07:21	03/10/16 11:07	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/09/16 07:21	03/10/16 11:07	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/09/16 07:21	03/10/16 11:07	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/09/16 07:21	03/10/16 11:07	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/09/16 07:21	03/10/16 11:07	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 11:07	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/09/16 07:21	03/10/16 11:07	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/09/16 07:21	03/10/16 11:07	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/09/16 07:21	03/10/16 11:07	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 11:07	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/09/16 07:21	03/10/16 11:07	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/09/16 07:21	03/10/16 11:07	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/09/16 07:21	03/10/16 11:07	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/09/16 07:21	03/10/16 11:07	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/09/16 07:21	03/10/16 11:07	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/09/16 07:21	03/10/16 11:07	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/09/16 07:21	03/10/16 11:07	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/09/16 07:21	03/10/16 11:07	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/09/16 07:21	03/10/16 11:07	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/09/16 07:21	03/10/16 11:07	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/09/16 07:21	03/10/16 11:07	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 11:07	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/09/16 07:21	03/10/16 11:07	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 11:07	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/09/16 07:21	03/10/16 11:07	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/09/16 07:21	03/10/16 11:07	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/09/16 07:21	03/10/16 11:07	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 11:07	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/09/16 07:21	03/10/16 11:07	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/09/16 07:21	03/10/16 11:07	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/09/16 07:21	03/10/16 11:07	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/09/16 07:21	03/10/16 11:07	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/09/16 07:21	03/10/16 11:07	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM130**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-4**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/09/16 07:21	03/10/16 11:07	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/09/16 07:21	03/10/16 11:07	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/09/16 07:21	03/10/16 11:07	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/09/16 07:21	03/10/16 11:07	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/09/16 07:21	03/10/16 11:07	1
Phenol	0.768	U	10.0	0.768	ug/L		03/09/16 07:21	03/10/16 11:07	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/09/16 07:21	03/10/16 11:07	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/09/16 07:21	03/10/16 11:07	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/09/16 07:21	03/10/16 11:07	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/09/16 07:21	03/10/16 11:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		23 - 130	03/09/16 07:21	03/10/16 11:07	1
2-Fluorophenol	64		10 - 130	03/09/16 07:21	03/10/16 11:07	1
Nitrobenzene-d5	65		27 - 130	03/09/16 07:21	03/10/16 11:07	1
Phenol-d5	68		10 - 130	03/09/16 07:21	03/10/16 11:07	1
Terphenyl-d14	75		10 - 141	03/09/16 07:21	03/10/16 11:07	1
2,4,6-Tribromophenol	74		18 - 130	03/09/16 07:21	03/10/16 11:07	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00497	U	0.0597	0.00497	ug/L		03/08/16 09:16	03/08/16 22:41	1
alpha-BHC	0.00517	U	0.0597	0.00517	ug/L		03/08/16 09:16	03/08/16 22:41	1
alpha-Chlordane	0.00626	U	0.0597	0.00626	ug/L		03/08/16 09:16	03/08/16 22:41	1
beta-BHC	0.00497	U	0.0597	0.00497	ug/L		03/08/16 09:16	03/08/16 22:41	1
4,4'-DDD	0.00497	U	0.0597	0.00497	ug/L		03/08/16 09:16	03/08/16 22:41	1
4,4'-DDE	0.00497	U	0.0597	0.00497	ug/L		03/08/16 09:16	03/08/16 22:41	1
4,4'-DDT	0.00805	U	0.0597	0.00805	ug/L		03/08/16 09:16	03/08/16 22:41	1
delta-BHC	0.00497	U	0.0597	0.00497	ug/L		03/08/16 09:16	03/08/16 22:41	1
Dieldrin	0.0129	U	0.0597	0.0129	ug/L		03/08/16 09:16	03/08/16 22:41	1
Endosulfan I	0.00497	U	0.0597	0.00497	ug/L		03/08/16 09:16	03/08/16 22:41	1
Endosulfan II	0.00855	U	0.0597	0.00855	ug/L		03/08/16 09:16	03/08/16 22:41	1
Endosulfan sulfate	0.00875	U	0.0597	0.00875	ug/L		03/08/16 09:16	03/08/16 22:41	1
Endrin	0.00766	U	0.0597	0.00766	ug/L		03/08/16 09:16	03/08/16 22:41	1
Endrin aldehyde	0.00497	U	0.0597	0.00497	ug/L		03/08/16 09:16	03/08/16 22:41	1
Endrin ketone	0.00815	U	0.0597	0.00815	ug/L		03/08/16 09:16	03/08/16 22:41	1
gamma-BHC (Lindane)	0.00447	U	0.0597	0.00447	ug/L		03/08/16 09:16	03/08/16 22:41	1
gamma-Chlordane	0.00666	U	0.0597	0.00666	ug/L		03/08/16 09:16	03/08/16 22:41	1
Heptachlor	0.00646	U	0.0597	0.00646	ug/L		03/08/16 09:16	03/08/16 22:41	1
Heptachlor epoxide	0.00517	U	0.0597	0.00517	ug/L		03/08/16 09:16	03/08/16 22:41	1
Methoxychlor	0.00994	U	0.0597	0.00994	ug/L		03/08/16 09:16	03/08/16 22:41	1
Toxaphene	0.676	U	5.97	0.676	ug/L		03/08/16 09:16	03/08/16 22:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	42		10 - 152	03/08/16 09:16	03/08/16 22:41	1
Tetrachloro-m-xylene	82		57 - 127	03/08/16 09:16	03/08/16 22:41	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.109	U	0.597	0.109	ug/L		03/08/16 09:16	03/08/16 19:20	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM130**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-4**

**Matrix: Water**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1221	0.109	U	0.597	0.109	ug/L		03/08/16 09:16	03/08/16 19:20	1
Aroclor 1232	0.438	U	0.795	0.438	ug/L		03/08/16 09:16	03/08/16 19:20	1
Aroclor 1242	0.109	U	0.597	0.109	ug/L		03/08/16 09:16	03/08/16 19:20	1
Aroclor 1248	0.109	U	0.597	0.109	ug/L		03/08/16 09:16	03/08/16 19:20	1
Aroclor 1254	0.109	U	0.597	0.109	ug/L		03/08/16 09:16	03/08/16 19:20	1
Aroclor 1260	0.109	U	0.597	0.109	ug/L		03/08/16 09:16	03/08/16 19:20	1
Aroclor 1262	0.109	U	0.597	0.109	ug/L		03/08/16 09:16	03/08/16 19:20	1
Aroclor 1268	0.109	U	0.597	0.109	ug/L		03/08/16 09:16	03/08/16 19:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	143		10 - 150	03/08/16 09:16	03/08/16 19:20	1
DCB Decachlorobiphenyl	118		10 - 150	03/08/16 09:16	03/08/16 19:20	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.159	U	2.37	0.159	ug/L		03/09/16 19:25	03/15/16 20:07	1
Bolstar	0.298	U	0.948	0.298	ug/L		03/09/16 19:25	03/15/16 20:07	1
Chlorpyrifos	0.341	U	1.42	0.341	ug/L		03/09/16 19:25	03/15/16 20:07	1
Coumaphos	0.128	U	0.948	0.128	ug/L		03/09/16 19:25	03/15/16 20:07	1
Demeton-O	0.133	U	0.948	0.133	ug/L		03/09/16 19:25	03/15/16 20:07	1
Demeton-S	0.0654	U	1.90	0.0654	ug/L		03/09/16 19:25	03/15/16 20:07	1
Diazinon	0.139	U	0.474	0.139	ug/L		03/09/16 19:25	03/15/16 20:07	1
Dichlorvos	0.154	U	0.474	0.154	ug/L		03/09/16 19:25	03/15/16 20:07	1
Dimethoate	0.426	U	1.42	0.426	ug/L		03/09/16 19:25	03/15/16 20:07	1
Disulfoton	0.305	U	0.948	0.305	ug/L		03/09/16 19:25	03/15/16 20:07	1
EPN	0.141	U	1.14	0.141	ug/L		03/09/16 19:25	03/15/16 20:07	1
Ethoprop	0.168	U	1.42	0.168	ug/L		03/09/16 19:25	03/15/16 20:07	1
Ethyl Parathion	0.137	U	0.948	0.137	ug/L		03/09/16 19:25	03/15/16 20:07	1
Famphur	0.170	U	0.948	0.170	ug/L		03/09/16 19:25	03/15/16 20:07	1
Fensulfothion	0.516	U	2.37	0.516	ug/L		03/09/16 19:25	03/15/16 20:07	1
Fenthion	0.146	U	2.37	0.146	ug/L		03/09/16 19:25	03/15/16 20:07	1
Malathion	0.126	U	1.90	0.126	ug/L		03/09/16 19:25	03/15/16 20:07	1
Merphos	0.165	U	4.74	0.165	ug/L		03/09/16 19:25	03/15/16 20:07	1
Methyl parathion	0.134	U	3.79	0.134	ug/L		03/09/16 19:25	03/15/16 20:07	1
Mevinphos	0.436	U	5.88	0.436	ug/L		03/09/16 19:25	03/15/16 20:07	1
Naled	0.759	U	1.90	0.759	ug/L		03/09/16 19:25	03/15/16 20:07	1
Phorate	0.146	U	1.14	0.146	ug/L		03/09/16 19:25	03/15/16 20:07	1
Ronnel	0.110	U	9.48	0.110	ug/L		03/09/16 19:25	03/15/16 20:07	1
Sulfotepp	0.159	U	1.42	0.159	ug/L		03/09/16 19:25	03/15/16 20:07	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.32	0.118	ug/L		03/09/16 19:25	03/15/16 20:07	1
Thionazin	0.296	U	0.948	0.296	ug/L		03/09/16 19:25	03/15/16 20:07	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/09/16 19:25	03/15/16 20:07	1
Trichloronate	0.229	U	1.42	0.229	ug/L		03/09/16 19:25	03/15/16 20:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	77		49 - 171	03/09/16 19:25	03/15/16 20:07	1
Triphenylphosphate	91		60 - 154	03/09/16 19:25	03/15/16 20:07	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM130**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-4**

**Matrix: Water**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0957	U	4.78	0.0957	ug/L	-	03/09/16 07:54	03/11/16 21:01	1
Dicamba	0.0813	U	0.478	0.0813	ug/L	-	03/09/16 07:54	03/11/16 21:01	1
Mecoprop	18.2	U	115	18.2	ug/L	-	03/09/16 07:54	03/11/16 21:01	1
MCPA	16.3	U	115	16.3	ug/L	-	03/09/16 07:54	03/11/16 21:01	1
Dichlorprop	0.144	U	0.478	0.144	ug/L	-	03/09/16 07:54	03/11/16 21:01	1
2,4-D	0.0354	U	0.478	0.0354	ug/L	-	03/09/16 07:54	03/11/16 21:01	1
Silvex (2,4,5-TP)	0.0593	U	0.239	0.0593	ug/L	-	03/09/16 07:54	03/11/16 21:01	1
2,4,5-T	0.0593	U	0.239	0.0593	ug/L	-	03/09/16 07:54	03/11/16 21:01	1
2,4-DB	0.144	U	0.478	0.144	ug/L	-	03/09/16 07:54	03/11/16 21:01	1
Dinoseb	0.153	U	0.957	0.153	ug/L	-	03/09/16 07:54	03/11/16 21:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	76		45 - 130	03/09/16 07:54	03/11/16 21:01	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	96.8		0.200	0.101	mg/L	-	03/07/16 10:00	03/07/16 15:45	1
Magnesium	17.0		0.200	0.0257	mg/L	-	03/07/16 10:00	03/07/16 15:45	1
Potassium	1.39		0.500	0.375	mg/L	-	03/07/16 10:00	03/07/16 15:45	1
Silicon	5.55		0.500	0.0707	mg/L	-	03/07/16 10:00	03/07/16 15:45	1
Sodium	13.2		1.00	0.310	mg/L	-	03/07/16 10:00	03/07/16 15:45	1
Strontium	0.534		0.00500	0.000700	mg/L	-	03/07/16 10:00	03/07/16 15:45	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L	-	03/07/16 10:00	03/07/16 20:49	1
Antimony	1.61	U	5.00	1.61	ug/L	-	03/07/16 10:00	03/07/16 20:49	1
Arsenic	1.09	U	5.00	1.09	ug/L	-	03/07/16 10:00	03/07/16 20:49	1
Barium	31.7		5.00	0.810	ug/L	-	03/07/16 10:00	03/07/16 20:49	1
Beryllium	1.24	U	4.00	1.24	ug/L	-	03/07/16 10:00	03/07/16 20:49	1
Cadmium	0.854	U	2.00	0.854	ug/L	-	03/07/16 10:00	03/07/16 20:49	1
Chromium	1.40	U	5.00	1.40	ug/L	-	03/07/16 10:00	03/07/16 20:49	1
Copper	2.00	U	10.0	2.00	ug/L	-	03/07/16 10:00	03/07/16 20:49	1
Iron	101	U	250	101	ug/L	-	03/07/16 10:00	03/07/16 20:49	1
Lead	0.733	U	5.00	0.733	ug/L	-	03/07/16 10:00	03/07/16 20:49	1
Manganese	11.6	U	50.0	11.6	ug/L	-	03/07/16 10:00	03/08/16 14:51	1
Nickel	2.17	U	5.00	2.17	ug/L	-	03/07/16 10:00	03/07/16 20:49	1
Selenium	1.08	U	5.00	1.08	ug/L	-	03/07/16 10:00	03/07/16 20:49	1
Silver	0.941	U	5.00	0.941	ug/L	-	03/07/16 10:00	03/08/16 14:51	1
Thallium	0.693	U	2.00	0.693	ug/L	-	03/07/16 10:00	03/07/16 20:49	1
Zinc	3.55	U	25.0	3.55	ug/L	-	03/07/16 10:00	03/07/16 20:49	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/08/16 10:00	03/08/16 14:54	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.557	J	1.00	0.315	mg/L	-		03/05/16 15:42	1
Chloride	20.8		1.00	0.192	mg/L	-		03/05/16 15:42	1
Nitrate as N	1.67	H	0.500	0.103	mg/L	-		03/05/16 15:42	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM130**

**Date Collected: 03/03/16 11:09**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-4**

**Matrix: Water**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	27.3		1.00	0.377	mg/L			03/05/16 15:42	1
Fluoride	0.191		0.100	0.0200	mg/L			03/08/16 10:10	1
Nitrogen, Kjeldahl	0.506	J	1.00	0.432	mg/L			03/10/16 11:32	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/15/16 10:30	03/16/16 12:25	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.21	HF	0.100	0.100	SU			03/07/16 10:28	1
Total Alkalinity as CaCO3	248		5.00	5.00	mg/L			03/17/16 14:20	1
Bicarbonate Alkalinity as CaCO3	248		5.00	5.00	mg/L			03/17/16 14:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/17/16 14:20	1
Total Dissolved Solids	358		10.0	10.0	mg/L			03/09/16 11:21	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/07/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1

**Client Sample ID: HSM140**

**Date Collected: 03/03/16 12:23**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/10/16 16:51	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 16:51	1
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 16:51	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 16:51	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 16:51	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 16:51	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 16:51	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 16:51	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 16:51	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 16:51	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 16:51	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 16:51	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 16:51	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 16:51	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 16:51	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 16:51	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 16:51	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 16:51	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 16:51	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 16:51	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 16:51	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 16:51	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 16:51	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 16:51	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 16:51	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 16:51	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 16:51	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM140**

**Date Collected: 03/03/16 12:23**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 16:51	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 16:51	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 16:51	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 16:51	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 16:51	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 16:51	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 16:51	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 16:51	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 16:51	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 16:51	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 16:51	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 16:51	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 16:51	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 16:51	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 16:51	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 16:51	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 16:51	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 16:51	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 16:51	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 16:51	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 16:51	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 16:51	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 16:51	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 16:51	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 16:51	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 16:51	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 16:51	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 16:51	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 16:51	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 16:51	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 16:51	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 16:51	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 16:51	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 16:51	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 16:51	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 16:51	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 16:51	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 16:51	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 16:51	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 16:51	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 16:51	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 16:51	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 16:51	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 16:51	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 16:51	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 16:51	1
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 16:51	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 16:51	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 16:51	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM140**

**Date Collected: 03/03/16 12:23**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 16:51	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 16:51	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 16:51	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 16:51	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 16:51	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 16:51	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 16:51	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 16:51	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 16:51	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 16:51	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 16:51	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 16:51	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 16:51	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 16:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 16:51	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 16:51	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 16:51	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 16:51	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 16:51	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 16:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/10/16 16:51	1
Dibromofluoromethane (Surr)	101		69 - 130		03/10/16 16:51	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		03/10/16 16:51	1
Toluene-d8 (Surr)	101		70 - 130		03/10/16 16:51	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/09/16 07:21	03/10/16 11:32	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/09/16 07:21	03/10/16 11:32	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/09/16 07:21	03/10/16 11:32	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/09/16 07:21	03/10/16 11:32	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/09/16 07:21	03/10/16 11:32	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/09/16 07:21	03/10/16 11:32	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/09/16 07:21	03/10/16 11:32	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/09/16 07:21	03/10/16 11:32	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/09/16 07:21	03/10/16 11:32	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/09/16 07:21	03/10/16 11:32	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/09/16 07:21	03/10/16 11:32	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/09/16 07:21	03/10/16 11:32	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/09/16 07:21	03/10/16 11:32	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/09/16 07:21	03/10/16 11:32	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 11:32	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/09/16 07:21	03/10/16 11:32	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/09/16 07:21	03/10/16 11:32	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/09/16 07:21	03/10/16 11:32	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/09/16 07:21	03/10/16 11:32	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/09/16 07:21	03/10/16 11:32	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/09/16 07:21	03/10/16 11:32	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM140**

**Date Collected: 03/03/16 12:23**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-5**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/09/16 07:21	03/10/16 11:32	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/09/16 07:21	03/10/16 11:32	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/09/16 07:21	03/10/16 11:32	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/09/16 07:21	03/10/16 11:32	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 11:32	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/09/16 07:21	03/10/16 11:32	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/09/16 07:21	03/10/16 11:32	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/09/16 07:21	03/10/16 11:32	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 11:32	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/09/16 07:21	03/10/16 11:32	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/09/16 07:21	03/10/16 11:32	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/09/16 07:21	03/10/16 11:32	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/09/16 07:21	03/10/16 11:32	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/09/16 07:21	03/10/16 11:32	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/09/16 07:21	03/10/16 11:32	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/09/16 07:21	03/10/16 11:32	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/09/16 07:21	03/10/16 11:32	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/09/16 07:21	03/10/16 11:32	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/09/16 07:21	03/10/16 11:32	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/09/16 07:21	03/10/16 11:32	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 11:32	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/09/16 07:21	03/10/16 11:32	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 11:32	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/09/16 07:21	03/10/16 11:32	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/09/16 07:21	03/10/16 11:32	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/09/16 07:21	03/10/16 11:32	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 11:32	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/09/16 07:21	03/10/16 11:32	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/09/16 07:21	03/10/16 11:32	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/09/16 07:21	03/10/16 11:32	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/09/16 07:21	03/10/16 11:32	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/09/16 07:21	03/10/16 11:32	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/09/16 07:21	03/10/16 11:32	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/09/16 07:21	03/10/16 11:32	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/09/16 07:21	03/10/16 11:32	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/09/16 07:21	03/10/16 11:32	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/09/16 07:21	03/10/16 11:32	1
Phenol	0.768	U	10.0	0.768	ug/L		03/09/16 07:21	03/10/16 11:32	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/09/16 07:21	03/10/16 11:32	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/09/16 07:21	03/10/16 11:32	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/09/16 07:21	03/10/16 11:32	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/09/16 07:21	03/10/16 11:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	75		23 - 130	03/09/16 07:21	03/10/16 11:32	1
2-Fluorophenol	74		10 - 130	03/09/16 07:21	03/10/16 11:32	1
Nitrobenzene-d5	74		27 - 130	03/09/16 07:21	03/10/16 11:32	1
Phenol-d5	78		10 - 130	03/09/16 07:21	03/10/16 11:32	1
Terphenyl-d14	79		10 - 141	03/09/16 07:21	03/10/16 11:32	1
2,4,6-Tribromophenol	77		18 - 130	03/09/16 07:21	03/10/16 11:32	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.

TestAmerica Job ID: 560-60099-1

Project/Site: 2016-Surface Water/Base Flow

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00490	U	0.0588	0.00490	ug/L		03/08/16 09:16	03/08/16 23:07	1
alpha-BHC	0.00510	U	0.0588	0.00510	ug/L		03/08/16 09:16	03/08/16 23:07	1
alpha-Chlordane	0.00618	U	0.0588	0.00618	ug/L		03/08/16 09:16	03/08/16 23:07	1
beta-BHC	0.00490	U	0.0588	0.00490	ug/L		03/08/16 09:16	03/08/16 23:07	1
4,4'-DDD	0.00490	U	0.0588	0.00490	ug/L		03/08/16 09:16	03/08/16 23:07	1
4,4'-DDE	0.00490	U	0.0588	0.00490	ug/L		03/08/16 09:16	03/08/16 23:07	1
4,4'-DDT	0.00794	U	0.0588	0.00794	ug/L		03/08/16 09:16	03/08/16 23:07	1
delta-BHC	0.00490	U	0.0588	0.00490	ug/L		03/08/16 09:16	03/08/16 23:07	1
Dieldrin	0.0127	U	0.0588	0.0127	ug/L		03/08/16 09:16	03/08/16 23:07	1
Endosulfan I	0.00490	U	0.0588	0.00490	ug/L		03/08/16 09:16	03/08/16 23:07	1
Endosulfan II	0.00843	U	0.0588	0.00843	ug/L		03/08/16 09:16	03/08/16 23:07	1
Endosulfan sulfate	0.00863	U	0.0588	0.00863	ug/L		03/08/16 09:16	03/08/16 23:07	1
Endrin	0.00755	U	0.0588	0.00755	ug/L		03/08/16 09:16	03/08/16 23:07	1
Endrin aldehyde	0.00490	U	0.0588	0.00490	ug/L		03/08/16 09:16	03/08/16 23:07	1
Endrin ketone	0.00804	U	0.0588	0.00804	ug/L		03/08/16 09:16	03/08/16 23:07	1
gamma-BHC (Lindane)	0.00441	U	0.0588	0.00441	ug/L		03/08/16 09:16	03/08/16 23:07	1
gamma-Chlordane	0.00657	U	0.0588	0.00657	ug/L		03/08/16 09:16	03/08/16 23:07	1
Heptachlor	0.00637	U	0.0588	0.00637	ug/L		03/08/16 09:16	03/08/16 23:07	1
Heptachlor epoxide	0.00510	U	0.0588	0.00510	ug/L		03/08/16 09:16	03/08/16 23:07	1
Methoxychlor	0.00980	U	0.0588	0.00980	ug/L		03/08/16 09:16	03/08/16 23:07	1
Toxaphene	0.667	U	5.88	0.667	ug/L		03/08/16 09:16	03/08/16 23:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	44		10 - 152	03/08/16 09:16	03/08/16 23:07	1
Tetrachloro-m-xylene	85		57 - 127	03/08/16 09:16	03/08/16 23:07	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.108	U	0.588	0.108	ug/L		03/08/16 09:16	03/08/16 19:38	1
Aroclor 1221	0.108	U	0.588	0.108	ug/L		03/08/16 09:16	03/08/16 19:38	1
Aroclor 1232	0.431	U	0.784	0.431	ug/L		03/08/16 09:16	03/08/16 19:38	1
Aroclor 1242	0.108	U	0.588	0.108	ug/L		03/08/16 09:16	03/08/16 19:38	1
Aroclor 1248	0.108	U	0.588	0.108	ug/L		03/08/16 09:16	03/08/16 19:38	1
Aroclor 1254	0.108	U	0.588	0.108	ug/L		03/08/16 09:16	03/08/16 19:38	1
Aroclor 1260	0.108	U	0.588	0.108	ug/L		03/08/16 09:16	03/08/16 19:38	1
Aroclor 1262	0.108	U	0.588	0.108	ug/L		03/08/16 09:16	03/08/16 19:38	1
Aroclor 1268	0.108	U	0.588	0.108	ug/L		03/08/16 09:16	03/08/16 19:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	147		10 - 150	03/08/16 09:16	03/08/16 19:38	1
DCB Decachlorobiphenyl	123		10 - 150	03/08/16 09:16	03/08/16 19:38	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.159	U	2.37	0.159	ug/L		03/09/16 19:25	03/15/16 20:38	1
Bolstar	0.297	U	0.947	0.297	ug/L		03/09/16 19:25	03/15/16 20:38	1
Chlorpyrifos	0.341	U	1.42	0.341	ug/L		03/09/16 19:25	03/15/16 20:38	1
Coumaphos	0.128	U	0.947	0.128	ug/L		03/09/16 19:25	03/15/16 20:38	1
Demeton-O	0.133	U	0.947	0.133	ug/L		03/09/16 19:25	03/15/16 20:38	1
Demeton-S	0.0653	U	1.89	0.0653	ug/L		03/09/16 19:25	03/15/16 20:38	1
Diazinon	0.139	U	0.473	0.139	ug/L		03/09/16 19:25	03/15/16 20:38	1
Dichlorvos	0.153	U	0.473	0.153	ug/L		03/09/16 19:25	03/15/16 20:38	1
Dimethoate	0.425	U	1.42	0.425	ug/L		03/09/16 19:25	03/15/16 20:38	1
Disulfoton	0.305	U	0.947	0.305	ug/L		03/09/16 19:25	03/15/16 20:38	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM140**

**Date Collected: 03/03/16 12:23**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-5**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
EPN	0.141	U	1.14	0.141	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Ethoprop	0.168	U	1.42	0.168	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Ethyl Parathion	0.136	U	0.947	0.136	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Famphur	0.169	U	0.947	0.169	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Fensulfothion	0.515	U	2.37	0.515	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Fenthion	0.146	U	2.37	0.146	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Malathion	0.126	U	1.89	0.126	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Merphos	0.165	U	4.73	0.165	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Methyl parathion	0.133	U	3.79	0.133	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Mevinphos	0.436	U	5.87	0.436	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Naled	0.757	U	1.89	0.757	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Phorate	0.146	U	1.14	0.146	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Ronnel	0.110	U	9.47	0.110	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Sulfotepp	0.159	U	1.42	0.159	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Tetrachlorvinphos (Stirophos)	0.117	U	3.31	0.117	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Thionazin	0.295	U	0.947	0.295	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Tokuthion	0.116	U	1.51	0.116	ug/L	-	03/09/16 19:25	03/15/16 20:38	1
Trichloronate	0.229	U	1.42	0.229	ug/L	-	03/09/16 19:25	03/15/16 20:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	65		49 - 171	03/09/16 19:25	03/15/16 20:38	1
Triphenylphosphate	77		60 - 154	03/09/16 19:25	03/15/16 20:38	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0953	U	4.76	0.0953	ug/L	-	03/09/16 07:54	03/11/16 21:20	1
Dicamba	0.0810	U	0.476	0.0810	ug/L	-	03/09/16 07:54	03/11/16 21:20	1
Mecoprop	18.1	U	114	18.1	ug/L	-	03/09/16 07:54	03/11/16 21:20	1
MCPA	16.2	U	114	16.2	ug/L	-	03/09/16 07:54	03/11/16 21:20	1
Dichlorprop	0.143	U	0.476	0.143	ug/L	-	03/09/16 07:54	03/11/16 21:20	1
2,4-D	0.0353	U	0.476	0.0353	ug/L	-	03/09/16 07:54	03/11/16 21:20	1
Silvex (2,4,5-TP)	0.0591	U	0.238	0.0591	ug/L	-	03/09/16 07:54	03/11/16 21:20	1
2,4,5-T	0.0591	U	0.238	0.0591	ug/L	-	03/09/16 07:54	03/11/16 21:20	1
2,4-DB	0.143	U	0.476	0.143	ug/L	-	03/09/16 07:54	03/11/16 21:20	1
Dinoseb	0.152	U	0.953	0.152	ug/L	-	03/09/16 07:54	03/11/16 21:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	81		45 - 130	03/09/16 07:54	03/11/16 21:20	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	92.5		0.200	0.101	mg/L	-	03/07/16 10:00	03/07/16 15:49	1
Magnesium	17.3		0.200	0.0257	mg/L	-	03/07/16 10:00	03/07/16 15:49	1
Potassium	1.22		0.500	0.375	mg/L	-	03/07/16 10:00	03/07/16 15:49	1
Silicon	5.16		0.500	0.0707	mg/L	-	03/07/16 10:00	03/07/16 15:49	1
Sodium	10.3		1.00	0.310	mg/L	-	03/07/16 10:00	03/07/16 15:49	1
Strontium	0.510		0.00500	0.000700	mg/L	-	03/07/16 10:00	03/07/16 15:49	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L	-	03/07/16 10:00	03/07/16 20:55	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM140**

**Date Collected: 03/03/16 12:23**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-5**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.61	U	5.00	1.61	ug/L		03/07/16 10:00	03/07/16 20:55	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/07/16 10:00	03/07/16 20:55	1
<b>Barium</b>	<b>29.1</b>		5.00	0.810	ug/L		03/07/16 10:00	03/07/16 20:55	1
Beryllium	1.24	U	4.00	1.24	ug/L		03/07/16 10:00	03/07/16 20:55	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/07/16 10:00	03/07/16 20:55	1
Chromium	1.40	U	5.00	1.40	ug/L		03/07/16 10:00	03/07/16 20:55	1
Copper	2.00	U	10.0	2.00	ug/L		03/07/16 10:00	03/07/16 20:55	1
Iron	101	U	250	101	ug/L		03/07/16 10:00	03/07/16 20:55	1
<b>Lead</b>	<b>0.737</b>	<b>J</b>	5.00	0.733	ug/L		03/07/16 10:00	03/07/16 20:55	1
Manganese	11.6	U	50.0	11.6	ug/L		03/07/16 10:00	03/08/16 14:56	1
Nickel	2.17	U	5.00	2.17	ug/L		03/07/16 10:00	03/07/16 20:55	1
Selenium	1.08	U	5.00	1.08	ug/L		03/07/16 10:00	03/07/16 20:55	1
Silver	0.941	U	5.00	0.941	ug/L		03/07/16 10:00	03/08/16 14:56	1
Thallium	0.693	U	2.00	0.693	ug/L		03/07/16 10:00	03/07/16 20:55	1
Zinc	3.55	U	25.0	3.55	ug/L		03/07/16 10:00	03/07/16 20:55	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/08/16 10:00	03/08/16 15:00	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>0.546</b>	<b>J</b>	1.00	0.315	mg/L			03/05/16 11:22	1
<b>Chloride</b>	<b>18.2</b>		1.00	0.192	mg/L			03/05/16 11:22	1
<b>Nitrate as N</b>	<b>1.25</b>		0.500	0.103	mg/L			03/05/16 11:22	1
<b>Sulfate</b>	<b>24.6</b>		1.00	0.377	mg/L			03/05/16 11:22	1
<b>Fluoride</b>	<b>0.186</b>		0.100	0.0200	mg/L			03/08/16 10:10	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/10/16 11:33	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/15/16 10:30	03/16/16 12:21	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.39</b>	<b>HF</b>	0.100	0.100	SU			03/07/16 10:28	1
<b>Total Alkalinity as CaCO3</b>	<b>251</b>		5.00	5.00	mg/L			03/17/16 14:20	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>251</b>		5.00	5.00	mg/L			03/17/16 14:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/17/16 14:20	1
<b>Total Dissolved Solids</b>	<b>351</b>		10.0	10.0	mg/L			03/09/16 11:21	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/07/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1

**Client Sample ID: HSM150**

**Date Collected: 03/03/16 12:56**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/10/16 17:17	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 17:17	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM150**

**Date Collected: 03/03/16 12:56**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 17:17	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 17:17	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 17:17	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 17:17	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 17:17	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 17:17	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 17:17	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 17:17	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 17:17	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 17:17	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 17:17	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 17:17	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 17:17	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 17:17	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 17:17	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 17:17	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 17:17	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 17:17	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 17:17	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 17:17	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 17:17	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 17:17	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 17:17	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 17:17	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 17:17	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 17:17	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 17:17	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 17:17	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 17:17	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 17:17	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 17:17	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 17:17	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 17:17	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 17:17	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 17:17	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 17:17	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 17:17	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 17:17	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 17:17	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 17:17	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 17:17	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 17:17	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 17:17	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 17:17	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 17:17	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 17:17	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 17:17	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 17:17	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 17:17	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM150**

**Date Collected: 03/03/16 12:56**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 17:17	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 17:17	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 17:17	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 17:17	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 17:17	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 17:17	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 17:17	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 17:17	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 17:17	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 17:17	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 17:17	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 17:17	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 17:17	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 17:17	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 17:17	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 17:17	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 17:17	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 17:17	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 17:17	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 17:17	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 17:17	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 17:17	1
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 17:17	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 17:17	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 17:17	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 17:17	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 17:17	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 17:17	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 17:17	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 17:17	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 17:17	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 17:17	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 17:17	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 17:17	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 17:17	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 17:17	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 17:17	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 17:17	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 17:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 17:17	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 17:17	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 17:17	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 17:17	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 17:17	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 17:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/10/16 17:17	1
Dibromofluoromethane (Surr)	104		69 - 130		03/10/16 17:17	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 140		03/10/16 17:17	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM150**

**Date Collected: 03/03/16 12:56**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		03/10/16 17:17	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/09/16 07:21	03/10/16 11:58	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/09/16 07:21	03/10/16 11:58	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/09/16 07:21	03/10/16 11:58	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/09/16 07:21	03/10/16 11:58	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/09/16 07:21	03/10/16 11:58	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/09/16 07:21	03/10/16 11:58	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/09/16 07:21	03/10/16 11:58	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/09/16 07:21	03/10/16 11:58	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/09/16 07:21	03/10/16 11:58	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/09/16 07:21	03/10/16 11:58	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/09/16 07:21	03/10/16 11:58	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/09/16 07:21	03/10/16 11:58	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/09/16 07:21	03/10/16 11:58	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/09/16 07:21	03/10/16 11:58	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 11:58	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/09/16 07:21	03/10/16 11:58	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/09/16 07:21	03/10/16 11:58	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/09/16 07:21	03/10/16 11:58	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/09/16 07:21	03/10/16 11:58	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/09/16 07:21	03/10/16 11:58	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/09/16 07:21	03/10/16 11:58	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/09/16 07:21	03/10/16 11:58	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/09/16 07:21	03/10/16 11:58	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/09/16 07:21	03/10/16 11:58	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/09/16 07:21	03/10/16 11:58	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 11:58	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/09/16 07:21	03/10/16 11:58	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/09/16 07:21	03/10/16 11:58	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/09/16 07:21	03/10/16 11:58	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 11:58	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/09/16 07:21	03/10/16 11:58	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/09/16 07:21	03/10/16 11:58	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/09/16 07:21	03/10/16 11:58	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/09/16 07:21	03/10/16 11:58	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/09/16 07:21	03/10/16 11:58	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/09/16 07:21	03/10/16 11:58	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/09/16 07:21	03/10/16 11:58	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/09/16 07:21	03/10/16 11:58	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/09/16 07:21	03/10/16 11:58	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/09/16 07:21	03/10/16 11:58	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/09/16 07:21	03/10/16 11:58	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 11:58	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/09/16 07:21	03/10/16 11:58	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 11:58	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/09/16 07:21	03/10/16 11:58	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM150**

**Date Collected: 03/03/16 12:56**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-6**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/09/16 07:21	03/10/16 11:58	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/09/16 07:21	03/10/16 11:58	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 11:58	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/09/16 07:21	03/10/16 11:58	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/09/16 07:21	03/10/16 11:58	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/09/16 07:21	03/10/16 11:58	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/09/16 07:21	03/10/16 11:58	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/09/16 07:21	03/10/16 11:58	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/09/16 07:21	03/10/16 11:58	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/09/16 07:21	03/10/16 11:58	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/09/16 07:21	03/10/16 11:58	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/09/16 07:21	03/10/16 11:58	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/09/16 07:21	03/10/16 11:58	1
Phenol	0.768	U	10.0	0.768	ug/L		03/09/16 07:21	03/10/16 11:58	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/09/16 07:21	03/10/16 11:58	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/09/16 07:21	03/10/16 11:58	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/09/16 07:21	03/10/16 11:58	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/09/16 07:21	03/10/16 11:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	95		23 - 130	03/09/16 07:21	03/10/16 11:58	1
2-Fluorophenol	89		10 - 130	03/09/16 07:21	03/10/16 11:58	1
Nitrobenzene-d5	92		27 - 130	03/09/16 07:21	03/10/16 11:58	1
Phenol-d5	95		10 - 130	03/09/16 07:21	03/10/16 11:58	1
Terphenyl-d14	93		10 - 141	03/09/16 07:21	03/10/16 11:58	1
2,4,6-Tribromophenol	96		18 - 130	03/09/16 07:21	03/10/16 11:58	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00487	U	0.0585	0.00487	ug/L		03/09/16 08:46	03/10/16 16:06	1
alpha-BHC	0.00507	U	0.0585	0.00507	ug/L		03/09/16 08:46	03/10/16 16:06	1
alpha-Chlordane	0.00614	U	0.0585	0.00614	ug/L		03/09/16 08:46	03/10/16 16:06	1
beta-BHC	0.00487	U	0.0585	0.00487	ug/L		03/09/16 08:46	03/10/16 16:06	1
4,4'-DDD	0.00487	U	0.0585	0.00487	ug/L		03/09/16 08:46	03/10/16 16:06	1
4,4'-DDE	0.00487	U	0.0585	0.00487	ug/L		03/09/16 08:46	03/10/16 16:06	1
4,4'-DDT	0.00790	U	0.0585	0.00790	ug/L		03/09/16 08:46	03/10/16 16:06	1
delta-BHC	0.00487	U	0.0585	0.00487	ug/L		03/09/16 08:46	03/10/16 16:06	1
Dieldrin	0.0127	U	0.0585	0.0127	ug/L		03/09/16 08:46	03/10/16 16:06	1
Endosulfan I	0.00487	U	0.0585	0.00487	ug/L		03/09/16 08:46	03/10/16 16:06	1
Endosulfan II	0.00838	U	0.0585	0.00838	ug/L		03/09/16 08:46	03/10/16 16:06	1
Endosulfan sulfate	0.00858	U	0.0585	0.00858	ug/L		03/09/16 08:46	03/10/16 16:06	1
Endrin	0.00751	U	0.0585	0.00751	ug/L		03/09/16 08:46	03/10/16 16:06	1
Endrin aldehyde	0.00487	U	0.0585	0.00487	ug/L		03/09/16 08:46	03/10/16 16:06	1
Endrin ketone	0.00799	U F2	0.0585	0.00799	ug/L		03/09/16 08:46	03/10/16 16:06	1
gamma-BHC (Lindane)	0.00439	U	0.0585	0.00439	ug/L		03/09/16 08:46	03/10/16 16:06	1
gamma-Chlordane	0.00653	U	0.0585	0.00653	ug/L		03/09/16 08:46	03/10/16 16:06	1
Heptachlor	0.00634	U	0.0585	0.00634	ug/L		03/09/16 08:46	03/10/16 16:06	1
Heptachlor epoxide	0.00507	U	0.0585	0.00507	ug/L		03/09/16 08:46	03/10/16 16:06	1
Methoxychlor	0.00975	U	0.0585	0.00975	ug/L		03/09/16 08:46	03/10/16 16:06	1
Toxaphene	0.663	U	5.85	0.663	ug/L		03/09/16 08:46	03/10/16 16:06	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM150**

**Date Collected: 03/03/16 12:56**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-6**

**Matrix: Water**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	41		10 - 152	03/09/16 08:46	03/10/16 16:06	1
DCB Decachlorobiphenyl	72		10 - 152	03/09/16 08:46	03/10/16 16:06	1
Tetrachloro-m-xylene	77		57 - 127	03/09/16 08:46	03/10/16 16:06	1
Tetrachloro-m-xylene	75		57 - 127	03/09/16 08:46	03/10/16 16:06	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.107	U	0.585	0.107	ug/L		03/09/16 08:46	03/10/16 13:21	1
Aroclor 1221	0.107	U	0.585	0.107	ug/L		03/09/16 08:46	03/10/16 13:21	1
Aroclor 1232	0.429	U	0.780	0.429	ug/L		03/09/16 08:46	03/10/16 13:21	1
Aroclor 1242	0.107	U	0.585	0.107	ug/L		03/09/16 08:46	03/10/16 13:21	1
Aroclor 1248	0.107	U	0.585	0.107	ug/L		03/09/16 08:46	03/10/16 13:21	1
Aroclor 1254	0.107	U	0.585	0.107	ug/L		03/09/16 08:46	03/10/16 13:21	1
Aroclor 1260	0.107	U F1	0.585	0.107	ug/L		03/09/16 08:46	03/10/16 13:21	1
Aroclor 1262	0.107	U	0.585	0.107	ug/L		03/09/16 08:46	03/10/16 13:21	1
Aroclor 1268	0.107	U	0.585	0.107	ug/L		03/09/16 08:46	03/10/16 13:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	122		10 - 150	03/09/16 08:46	03/10/16 13:21	1
DCB Decachlorobiphenyl	113		10 - 150	03/09/16 08:46	03/10/16 13:21	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.160	U	2.38	0.160	ug/L		03/09/16 19:25	03/15/16 21:10	1
Bolstar	0.299	U	0.951	0.299	ug/L		03/09/16 19:25	03/15/16 21:10	1
Chlorpyrifos	0.342	U	1.43	0.342	ug/L		03/09/16 19:25	03/15/16 21:10	1
Coumaphos	0.128	U	0.951	0.128	ug/L		03/09/16 19:25	03/15/16 21:10	1
Demeton-O	0.133	U	0.951	0.133	ug/L		03/09/16 19:25	03/15/16 21:10	1
Demeton-S	0.0656	U	1.90	0.0656	ug/L		03/09/16 19:25	03/15/16 21:10	1
Diazinon	0.140	U	0.475	0.140	ug/L		03/09/16 19:25	03/15/16 21:10	1
Dichlorvos	0.154	U	0.475	0.154	ug/L		03/09/16 19:25	03/15/16 21:10	1
Dimethoate	0.427	U	1.43	0.427	ug/L		03/09/16 19:25	03/15/16 21:10	1
Disulfoton	0.306	U	0.951	0.306	ug/L		03/09/16 19:25	03/15/16 21:10	1
EPN	0.142	U	1.14	0.142	ug/L		03/09/16 19:25	03/15/16 21:10	1
Ethoprop	0.168	U	1.43	0.168	ug/L		03/09/16 19:25	03/15/16 21:10	1
Ethyl Parathion	0.137	U	0.951	0.137	ug/L		03/09/16 19:25	03/15/16 21:10	1
Famphur	0.170	U	0.951	0.170	ug/L		03/09/16 19:25	03/15/16 21:10	1
Fensulfothion	0.517	U	2.38	0.517	ug/L		03/09/16 19:25	03/15/16 21:10	1
Fenthion	0.146	U	2.38	0.146	ug/L		03/09/16 19:25	03/15/16 21:10	1
Malathion	0.126	U	1.90	0.126	ug/L		03/09/16 19:25	03/15/16 21:10	1
Merphos	0.165	U	4.75	0.165	ug/L		03/09/16 19:25	03/15/16 21:10	1
Methyl parathion	0.134	U	3.80	0.134	ug/L		03/09/16 19:25	03/15/16 21:10	1
Mevinphos	0.437	U	5.89	0.437	ug/L		03/09/16 19:25	03/15/16 21:10	1
Naled	0.761	U	1.90	0.761	ug/L		03/09/16 19:25	03/15/16 21:10	1
Phorate	0.146	U	1.14	0.146	ug/L		03/09/16 19:25	03/15/16 21:10	1
Ronnel	0.110	U	9.51	0.110	ug/L		03/09/16 19:25	03/15/16 21:10	1
Sulfotepp	0.160	U	1.43	0.160	ug/L		03/09/16 19:25	03/15/16 21:10	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.33	0.118	ug/L		03/09/16 19:25	03/15/16 21:10	1
Thionazin	0.297	U	0.951	0.297	ug/L		03/09/16 19:25	03/15/16 21:10	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/09/16 19:25	03/15/16 21:10	1
Trichloronate	0.230	U	1.43	0.230	ug/L		03/09/16 19:25	03/15/16 21:10	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.

TestAmerica Job ID: 560-60099-1

Project/Site: 2016-Surface Water/Base Flow

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	85		49 - 171	03/09/16 19:25	03/15/16 21:10	1
Triphenylphosphate	94		60 - 154	03/09/16 19:25	03/15/16 21:10	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0951	U	4.75	0.0951	ug/L		03/09/16 07:54	03/11/16 21:40	1
Dicamba	0.0808	U	0.475	0.0808	ug/L		03/09/16 07:54	03/11/16 21:40	1
Mecoprop	18.1	U	114	18.1	ug/L		03/09/16 07:54	03/11/16 21:40	1
MCPA	16.2	U	114	16.2	ug/L		03/09/16 07:54	03/11/16 21:40	1
Dichlorprop	0.143	U	0.475	0.143	ug/L		03/09/16 07:54	03/11/16 21:40	1
2,4-D	0.0352	U	0.475	0.0352	ug/L		03/09/16 07:54	03/11/16 21:40	1
Silvex (2,4,5-TP)	0.0589	U	0.238	0.0589	ug/L		03/09/16 07:54	03/11/16 21:40	1
2,4,5-T	0.0589	U	0.238	0.0589	ug/L		03/09/16 07:54	03/11/16 21:40	1
2,4-DB	0.143	U	0.475	0.143	ug/L		03/09/16 07:54	03/11/16 21:40	1
Dinoseb	0.152	U	0.951	0.152	ug/L		03/09/16 07:54	03/11/16 21:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	76		45 - 130	03/09/16 07:54	03/11/16 21:40	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	91.3		0.200	0.101	mg/L		03/07/16 10:00	03/07/16 15:53	1
Magnesium	17.0		0.200	0.0257	mg/L		03/07/16 10:00	03/07/16 15:53	1
Potassium	1.21		0.500	0.375	mg/L		03/07/16 10:00	03/07/16 15:53	1
Silicon	5.13		0.500	0.0707	mg/L		03/07/16 10:00	03/07/16 15:53	1
Sodium	10.1		1.00	0.310	mg/L		03/07/16 10:00	03/07/16 15:53	1
Strontium	0.500		0.00500	0.000700	mg/L		03/07/16 10:00	03/07/16 15:53	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/07/16 10:00	03/07/16 21:25	1
Antimony	1.61	U	5.00	1.61	ug/L		03/07/16 10:00	03/07/16 21:25	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/07/16 10:00	03/07/16 21:25	1
Barium	37.5		5.00	0.810	ug/L		03/07/16 10:00	03/08/16 15:01	1
Beryllium	1.24	U	4.00	1.24	ug/L		03/07/16 10:00	03/07/16 21:25	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/07/16 10:00	03/08/16 15:01	1
Chromium	1.40	U	5.00	1.40	ug/L		03/07/16 10:00	03/07/16 21:25	1
Copper	2.00	U	10.0	2.00	ug/L		03/07/16 10:00	03/07/16 21:25	1
Iron	101	U	250	101	ug/L		03/07/16 10:00	03/07/16 21:25	1
Lead	0.733	U	5.00	0.733	ug/L		03/07/16 10:00	03/07/16 21:25	1
Manganese	11.6	U	50.0	11.6	ug/L		03/07/16 10:00	03/07/16 21:25	1
Nickel	2.17	U	5.00	2.17	ug/L		03/07/16 10:00	03/07/16 21:25	1
Selenium	1.08	U	5.00	1.08	ug/L		03/07/16 10:00	03/07/16 21:25	1
Silver	0.941	U	5.00	0.941	ug/L		03/07/16 10:00	03/08/16 15:01	1
Thallium	0.693	U	2.00	0.693	ug/L		03/07/16 10:00	03/07/16 21:25	1
Zinc	3.55	U	25.0	3.55	ug/L		03/07/16 10:00	03/07/16 21:25	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/08/16 10:00	03/08/16 15:02	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.549	J	1.00	0.315	mg/L			03/05/16 11:48	1
Chloride	18.2		1.00	0.192	mg/L			03/05/16 11:48	1
Nitrate as N	1.25		0.500	0.103	mg/L			03/05/16 11:48	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM150**

**Date Collected: 03/03/16 12:56**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-6**

**Matrix: Water**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	24.5		1.00	0.377	mg/L			03/05/16 11:48	1
Fluoride	0.193		0.100	0.0200	mg/L			03/08/16 10:10	1
Nitrogen, Kjeldahl	0.467	J	1.00	0.432	mg/L			03/10/16 11:34	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/15/16 10:30	03/16/16 12:22	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.41	HF	0.100	0.100	SU			03/07/16 10:28	1
Total Alkalinity as CaCO3	247		5.00	5.00	mg/L			03/17/16 14:20	1
Bicarbonate Alkalinity as CaCO3	247		5.00	5.00	mg/L			03/17/16 14:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/17/16 14:20	1
Total Dissolved Solids	360		10.0	10.0	mg/L			03/09/16 11:21	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/07/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1

**Client Sample ID: HSM160**

**Date Collected: 03/03/16 13:21**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/10/16 17:42	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 17:42	1
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 17:42	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 17:42	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 17:42	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 17:42	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 17:42	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 17:42	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 17:42	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 17:42	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 17:42	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 17:42	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 17:42	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 17:42	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 17:42	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 17:42	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 17:42	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 17:42	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 17:42	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 17:42	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 17:42	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 17:42	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 17:42	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 17:42	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 17:42	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 17:42	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 17:42	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM160**

**Date Collected: 03/03/16 13:21**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 17:42	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 17:42	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 17:42	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 17:42	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 17:42	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 17:42	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 17:42	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 17:42	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 17:42	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 17:42	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 17:42	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 17:42	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 17:42	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 17:42	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 17:42	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 17:42	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 17:42	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 17:42	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 17:42	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 17:42	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 17:42	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 17:42	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 17:42	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 17:42	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 17:42	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 17:42	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 17:42	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 17:42	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 17:42	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 17:42	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 17:42	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 17:42	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 17:42	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 17:42	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 17:42	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 17:42	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 17:42	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 17:42	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 17:42	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 17:42	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 17:42	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 17:42	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 17:42	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 17:42	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 17:42	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 17:42	1
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 17:42	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 17:42	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 17:42	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM160**

**Date Collected: 03/03/16 13:21**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 17:42	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 17:42	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 17:42	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 17:42	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 17:42	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 17:42	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 17:42	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 17:42	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 17:42	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 17:42	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 17:42	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 17:42	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 17:42	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 17:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 17:42	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 17:42	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 17:42	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 17:42	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 17:42	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 17:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/10/16 17:42	1
Dibromofluoromethane (Surr)	104		69 - 130		03/10/16 17:42	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/10/16 17:42	1
Toluene-d8 (Surr)	99		70 - 130		03/10/16 17:42	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/09/16 07:21	03/10/16 12:24	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/09/16 07:21	03/10/16 12:24	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/09/16 07:21	03/10/16 12:24	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/09/16 07:21	03/10/16 12:24	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/09/16 07:21	03/10/16 12:24	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/09/16 07:21	03/10/16 12:24	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/09/16 07:21	03/10/16 12:24	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/09/16 07:21	03/10/16 12:24	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/09/16 07:21	03/10/16 12:24	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/09/16 07:21	03/10/16 12:24	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/09/16 07:21	03/10/16 12:24	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/09/16 07:21	03/10/16 12:24	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/09/16 07:21	03/10/16 12:24	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/09/16 07:21	03/10/16 12:24	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 12:24	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/09/16 07:21	03/10/16 12:24	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/09/16 07:21	03/10/16 12:24	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/09/16 07:21	03/10/16 12:24	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/09/16 07:21	03/10/16 12:24	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/09/16 07:21	03/10/16 12:24	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/09/16 07:21	03/10/16 12:24	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM160**

**Date Collected: 03/03/16 13:21**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-7**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/09/16 07:21	03/10/16 12:24	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/09/16 07:21	03/10/16 12:24	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/09/16 07:21	03/10/16 12:24	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/09/16 07:21	03/10/16 12:24	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 12:24	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/09/16 07:21	03/10/16 12:24	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/09/16 07:21	03/10/16 12:24	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/09/16 07:21	03/10/16 12:24	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 12:24	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/09/16 07:21	03/10/16 12:24	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/09/16 07:21	03/10/16 12:24	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/09/16 07:21	03/10/16 12:24	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/09/16 07:21	03/10/16 12:24	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/09/16 07:21	03/10/16 12:24	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/09/16 07:21	03/10/16 12:24	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/09/16 07:21	03/10/16 12:24	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/09/16 07:21	03/10/16 12:24	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/09/16 07:21	03/10/16 12:24	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/09/16 07:21	03/10/16 12:24	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/09/16 07:21	03/10/16 12:24	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 12:24	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/09/16 07:21	03/10/16 12:24	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 12:24	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/09/16 07:21	03/10/16 12:24	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/09/16 07:21	03/10/16 12:24	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/09/16 07:21	03/10/16 12:24	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 12:24	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/09/16 07:21	03/10/16 12:24	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/09/16 07:21	03/10/16 12:24	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/09/16 07:21	03/10/16 12:24	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/09/16 07:21	03/10/16 12:24	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/09/16 07:21	03/10/16 12:24	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/09/16 07:21	03/10/16 12:24	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/09/16 07:21	03/10/16 12:24	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/09/16 07:21	03/10/16 12:24	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/09/16 07:21	03/10/16 12:24	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/09/16 07:21	03/10/16 12:24	1
Phenol	0.768	U	10.0	0.768	ug/L		03/09/16 07:21	03/10/16 12:24	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/09/16 07:21	03/10/16 12:24	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/09/16 07:21	03/10/16 12:24	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/09/16 07:21	03/10/16 12:24	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/09/16 07:21	03/10/16 12:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	61		23 - 130	03/09/16 07:21	03/10/16 12:24	1
2-Fluorophenol	59		10 - 130	03/09/16 07:21	03/10/16 12:24	1
Nitrobenzene-d5	60		27 - 130	03/09/16 07:21	03/10/16 12:24	1
Phenol-d5	63		10 - 130	03/09/16 07:21	03/10/16 12:24	1
Terphenyl-d14	67		10 - 141	03/09/16 07:21	03/10/16 12:24	1
2,4,6-Tribromophenol	62		18 - 130	03/09/16 07:21	03/10/16 12:24	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.

TestAmerica Job ID: 560-60099-1

Project/Site: 2016-Surface Water/Base Flow

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00482	U	0.0579	0.00482	ug/L		03/09/16 08:46	03/10/16 17:22	1
alpha-BHC	0.00501	U	0.0579	0.00501	ug/L		03/09/16 08:46	03/10/16 17:22	1
alpha-Chlordane	0.00607	U	0.0579	0.00607	ug/L		03/09/16 08:46	03/10/16 17:22	1
beta-BHC	0.00482	U	0.0579	0.00482	ug/L		03/09/16 08:46	03/10/16 17:22	1
4,4'-DDD	0.00482	U	0.0579	0.00482	ug/L		03/09/16 08:46	03/10/16 17:22	1
4,4'-DDE	0.00482	U	0.0579	0.00482	ug/L		03/09/16 08:46	03/10/16 17:22	1
4,4'-DDT	0.00781	U	0.0579	0.00781	ug/L		03/09/16 08:46	03/10/16 17:22	1
delta-BHC	0.00482	U	0.0579	0.00482	ug/L		03/09/16 08:46	03/10/16 17:22	1
Dieldrin	0.0125	U	0.0579	0.0125	ug/L		03/09/16 08:46	03/10/16 17:22	1
Endosulfan I	0.00482	U	0.0579	0.00482	ug/L		03/09/16 08:46	03/10/16 17:22	1
Endosulfan II	0.00829	U	0.0579	0.00829	ug/L		03/09/16 08:46	03/10/16 17:22	1
Endosulfan sulfate	0.00848	U	0.0579	0.00848	ug/L		03/09/16 08:46	03/10/16 17:22	1
Endrin	0.00742	U	0.0579	0.00742	ug/L		03/09/16 08:46	03/10/16 17:22	1
Endrin aldehyde	0.00482	U	0.0579	0.00482	ug/L		03/09/16 08:46	03/10/16 17:22	1
Endrin ketone	0.00791	U	0.0579	0.00791	ug/L		03/09/16 08:46	03/10/16 17:22	1
gamma-BHC (Lindane)	0.00434	U	0.0579	0.00434	ug/L		03/09/16 08:46	03/10/16 17:22	1
gamma-Chlordane	0.00646	U	0.0579	0.00646	ug/L		03/09/16 08:46	03/10/16 17:22	1
Heptachlor	0.00627	U	0.0579	0.00627	ug/L		03/09/16 08:46	03/10/16 17:22	1
Heptachlor epoxide	0.00501	U	0.0579	0.00501	ug/L		03/09/16 08:46	03/10/16 17:22	1
Methoxychlor	0.00964	U	0.0579	0.00964	ug/L		03/09/16 08:46	03/10/16 17:22	1
Toxaphene	0.656	U	5.79	0.656	ug/L		03/09/16 08:46	03/10/16 17:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	45		10 - 152	03/09/16 08:46	03/10/16 17:22	1
DCB Decachlorobiphenyl	72		10 - 152	03/09/16 08:46	03/10/16 17:22	1
Tetrachloro-m-xylene	78		57 - 127	03/09/16 08:46	03/10/16 17:22	1
Tetrachloro-m-xylene	75		57 - 127	03/09/16 08:46	03/10/16 17:22	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.579	0.106	ug/L		03/09/16 08:46	03/10/16 14:13	1
Aroclor 1221	0.106	U	0.579	0.106	ug/L		03/09/16 08:46	03/10/16 14:13	1
Aroclor 1232	0.424	U	0.771	0.424	ug/L		03/09/16 08:46	03/10/16 14:13	1
Aroclor 1242	0.106	U	0.579	0.106	ug/L		03/09/16 08:46	03/10/16 14:13	1
Aroclor 1248	0.106	U	0.579	0.106	ug/L		03/09/16 08:46	03/10/16 14:13	1
Aroclor 1254	0.106	U	0.579	0.106	ug/L		03/09/16 08:46	03/10/16 14:13	1
Aroclor 1260	0.106	U	0.579	0.106	ug/L		03/09/16 08:46	03/10/16 14:13	1
Aroclor 1262	0.106	U	0.579	0.106	ug/L		03/09/16 08:46	03/10/16 14:13	1
Aroclor 1268	0.106	U	0.579	0.106	ug/L		03/09/16 08:46	03/10/16 14:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	120		10 - 150	03/09/16 08:46	03/10/16 14:13	1
DCB Decachlorobiphenyl	103		10 - 150	03/09/16 08:46	03/10/16 14:13	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.160	U	2.38	0.160	ug/L		03/09/16 19:25	03/15/16 21:41	1
Bolstar	0.298	U	0.951	0.298	ug/L		03/09/16 19:25	03/15/16 21:41	1
Chlorpyrifos	0.342	U	1.43	0.342	ug/L		03/09/16 19:25	03/15/16 21:41	1
Coumaphos	0.128	U	0.951	0.128	ug/L		03/09/16 19:25	03/15/16 21:41	1
Demeton-O	0.133	U	0.951	0.133	ug/L		03/09/16 19:25	03/15/16 21:41	1
Demeton-S	0.0656	U	1.90	0.0656	ug/L		03/09/16 19:25	03/15/16 21:41	1
Diazinon	0.140	U	0.475	0.140	ug/L		03/09/16 19:25	03/15/16 21:41	1
Dichlorvos	0.154	U	0.475	0.154	ug/L		03/09/16 19:25	03/15/16 21:41	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM160**

**Date Collected: 03/03/16 13:21**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-7**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	0.427	U	1.43	0.427	ug/L		03/09/16 19:25	03/15/16 21:41	1
Disulfoton	0.306	U	0.951	0.306	ug/L		03/09/16 19:25	03/15/16 21:41	1
EPN	0.142	U	1.14	0.142	ug/L		03/09/16 19:25	03/15/16 21:41	1
Ethoprop	0.168	U	1.43	0.168	ug/L		03/09/16 19:25	03/15/16 21:41	1
Ethyl Parathion	0.137	U	0.951	0.137	ug/L		03/09/16 19:25	03/15/16 21:41	1
Famphur	0.170	U	0.951	0.170	ug/L		03/09/16 19:25	03/15/16 21:41	1
Fensulfothion	0.517	U	2.38	0.517	ug/L		03/09/16 19:25	03/15/16 21:41	1
Fenthion	0.146	U	2.38	0.146	ug/L		03/09/16 19:25	03/15/16 21:41	1
Malathion	0.126	U	1.90	0.126	ug/L		03/09/16 19:25	03/15/16 21:41	1
Merphos	0.165	U	4.75	0.165	ug/L		03/09/16 19:25	03/15/16 21:41	1
Methyl parathion	0.134	U	3.80	0.134	ug/L		03/09/16 19:25	03/15/16 21:41	1
Mevinphos	0.437	U	5.89	0.437	ug/L		03/09/16 19:25	03/15/16 21:41	1
Naled	0.760	U	1.90	0.760	ug/L		03/09/16 19:25	03/15/16 21:41	1
Phorate	0.146	U	1.14	0.146	ug/L		03/09/16 19:25	03/15/16 21:41	1
Ronnel	0.110	U	9.51	0.110	ug/L		03/09/16 19:25	03/15/16 21:41	1
Sulfotepp	0.160	U	1.43	0.160	ug/L		03/09/16 19:25	03/15/16 21:41	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.33	0.118	ug/L		03/09/16 19:25	03/15/16 21:41	1
Thionazin	0.297	U	0.951	0.297	ug/L		03/09/16 19:25	03/15/16 21:41	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/09/16 19:25	03/15/16 21:41	1
Trichloronate	0.230	U	1.43	0.230	ug/L		03/09/16 19:25	03/15/16 21:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	70		49 - 171	03/09/16 19:25	03/15/16 21:41	1
Triphenylphosphate	87		60 - 154	03/09/16 19:25	03/15/16 21:41	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0951	U	4.76	0.0951	ug/L		03/09/16 07:54	03/11/16 22:00	1
Dicamba	0.0809	U	0.476	0.0809	ug/L		03/09/16 07:54	03/11/16 22:00	1
Mecoprop	18.1	U	114	18.1	ug/L		03/09/16 07:54	03/11/16 22:00	1
MCPA	16.2	U	114	16.2	ug/L		03/09/16 07:54	03/11/16 22:00	1
Dichlorprop	0.143	U	0.476	0.143	ug/L		03/09/16 07:54	03/11/16 22:00	1
2,4-D	0.0352	U	0.476	0.0352	ug/L		03/09/16 07:54	03/11/16 22:00	1
Silvex (2,4,5-TP)	0.0590	U	0.238	0.0590	ug/L		03/09/16 07:54	03/11/16 22:00	1
2,4,5-T	0.0590	U	0.238	0.0590	ug/L		03/09/16 07:54	03/11/16 22:00	1
2,4-DB	0.143	U	0.476	0.143	ug/L		03/09/16 07:54	03/11/16 22:00	1
Dinoseb	0.152	U	0.951	0.152	ug/L		03/09/16 07:54	03/11/16 22:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	83		45 - 130	03/09/16 07:54	03/11/16 22:00	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	92.7		0.200	0.101	mg/L		03/07/16 10:00	03/07/16 15:57	1
Magnesium	17.5		0.200	0.0257	mg/L		03/07/16 10:00	03/07/16 15:57	1
Potassium	1.24		0.500	0.375	mg/L		03/07/16 10:00	03/07/16 15:57	1
Silicon	5.21		0.500	0.0707	mg/L		03/07/16 10:00	03/07/16 15:57	1
Sodium	10.3		1.00	0.310	mg/L		03/07/16 10:00	03/07/16 15:57	1
Strontium	0.507		0.00500	0.000700	mg/L		03/07/16 10:00	03/07/16 15:57	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM160**

**Date Collected: 03/03/16 13:21**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-7**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L	-	03/07/16 10:00	03/07/16 21:31	1
Antimony	1.61	U	5.00	1.61	ug/L	-	03/07/16 10:00	03/07/16 21:31	1
Arsenic	1.09	U	5.00	1.09	ug/L	-	03/07/16 10:00	03/07/16 21:31	1
Barium	35.1		5.00	0.810	ug/L	-	03/07/16 10:00	03/08/16 15:07	1
Beryllium	1.24	U	4.00	1.24	ug/L	-	03/07/16 10:00	03/07/16 21:31	1
Cadmium	0.854	U	2.00	0.854	ug/L	-	03/07/16 10:00	03/08/16 15:07	1
Chromium	4.14	J	5.00	1.40	ug/L	-	03/07/16 10:00	03/07/16 21:31	1
Copper	6.77	J	10.0	2.00	ug/L	-	03/07/16 10:00	03/07/16 21:31	1
Iron	101	U	250	101	ug/L	-	03/07/16 10:00	03/07/16 21:31	1
Lead	0.733	U	5.00	0.733	ug/L	-	03/07/16 10:00	03/07/16 21:31	1
Manganese	11.6	U	50.0	11.6	ug/L	-	03/07/16 10:00	03/07/16 21:31	1
Nickel	2.17	U	5.00	2.17	ug/L	-	03/07/16 10:00	03/07/16 21:31	1
Selenium	1.08	U	5.00	1.08	ug/L	-	03/07/16 10:00	03/07/16 21:31	1
Silver	0.941	U	5.00	0.941	ug/L	-	03/07/16 10:00	03/08/16 15:07	1
Thallium	0.693	U	2.00	0.693	ug/L	-	03/07/16 10:00	03/07/16 21:31	1
Zinc	4.64	J	25.0	3.55	ug/L	-	03/07/16 10:00	03/07/16 21:31	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/08/16 10:00	03/08/16 15:04	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.547	J	1.00	0.315	mg/L	-		03/05/16 12:14	1
Chloride	18.2		1.00	0.192	mg/L	-		03/05/16 12:14	1
Nitrate as N	1.24		0.500	0.103	mg/L	-		03/05/16 12:14	1
Sulfate	24.7		1.00	0.377	mg/L	-		03/05/16 12:14	1
Fluoride	0.192		0.100	0.0200	mg/L	-		03/08/16 10:10	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		03/15/16 11:44	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	03/15/16 10:30	03/16/16 12:20	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L	-		03/08/16 16:13	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.51	HF	0.100	0.100	SU	-		03/07/16 10:28	1
Total Alkalinity as CaCO3	245		5.00	5.00	mg/L	-		03/17/16 14:20	1
Bicarbonate Alkalinity as CaCO3	245		5.00	5.00	mg/L	-		03/17/16 14:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		03/17/16 14:20	1
Total Dissolved Solids	355		10.0	10.0	mg/L	-		03/09/16 11:21	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L	-		03/07/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		03/08/16 16:13	1

**Client Sample ID: HSM170**

**Date Collected: 03/03/16 13:48**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-8**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		03/10/16 18:07	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM170**

**Date Collected: 03/03/16 13:48**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-8**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 18:07	1
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 18:07	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 18:07	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 18:07	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 18:07	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 18:07	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 18:07	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 18:07	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 18:07	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 18:07	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 18:07	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 18:07	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 18:07	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 18:07	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 18:07	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 18:07	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 18:07	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 18:07	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 18:07	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 18:07	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 18:07	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 18:07	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 18:07	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 18:07	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 18:07	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 18:07	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 18:07	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 18:07	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 18:07	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 18:07	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 18:07	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 18:07	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 18:07	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 18:07	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 18:07	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 18:07	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 18:07	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 18:07	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 18:07	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 18:07	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 18:07	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 18:07	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 18:07	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 18:07	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 18:07	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 18:07	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 18:07	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 18:07	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 18:07	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM170**

**Date Collected: 03/03/16 13:48**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-8**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 18:07	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 18:07	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 18:07	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 18:07	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 18:07	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 18:07	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 18:07	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 18:07	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 18:07	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 18:07	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 18:07	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 18:07	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 18:07	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 18:07	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 18:07	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 18:07	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 18:07	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 18:07	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 18:07	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 18:07	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 18:07	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 18:07	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 18:07	1
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 18:07	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 18:07	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 18:07	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 18:07	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 18:07	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 18:07	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 18:07	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 18:07	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 18:07	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 18:07	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 18:07	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 18:07	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 18:07	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 18:07	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 18:07	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 18:07	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 18:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 18:07	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 18:07	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 18:07	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 18:07	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 18:07	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 18:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		03/10/16 18:07	1
Dibromofluoromethane (Surr)	105		69 - 130		03/10/16 18:07	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM170**

**Date Collected: 03/03/16 13:48**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-8**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/10/16 18:07	1
Toluene-d8 (Surr)	100		70 - 130		03/10/16 18:07	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/09/16 07:22	03/10/16 12:50	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/09/16 07:22	03/10/16 12:50	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/09/16 07:22	03/10/16 12:50	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/09/16 07:22	03/10/16 12:50	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/09/16 07:22	03/10/16 12:50	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/09/16 07:22	03/10/16 12:50	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/09/16 07:22	03/10/16 12:50	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/09/16 07:22	03/10/16 12:50	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/09/16 07:22	03/10/16 12:50	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/09/16 07:22	03/10/16 12:50	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/09/16 07:22	03/10/16 12:50	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/09/16 07:22	03/10/16 12:50	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/09/16 07:22	03/10/16 12:50	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/09/16 07:22	03/10/16 12:50	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/09/16 07:22	03/10/16 12:50	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/09/16 07:22	03/10/16 12:50	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/09/16 07:22	03/10/16 12:50	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/09/16 07:22	03/10/16 12:50	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/09/16 07:22	03/10/16 12:50	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/09/16 07:22	03/10/16 12:50	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/09/16 07:22	03/10/16 12:50	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/09/16 07:22	03/10/16 12:50	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/09/16 07:22	03/10/16 12:50	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/09/16 07:22	03/10/16 12:50	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/09/16 07:22	03/10/16 12:50	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/09/16 07:22	03/10/16 12:50	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/09/16 07:22	03/10/16 12:50	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/09/16 07:22	03/10/16 12:50	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/09/16 07:22	03/10/16 12:50	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/09/16 07:22	03/10/16 12:50	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/09/16 07:22	03/10/16 12:50	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/09/16 07:22	03/10/16 12:50	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/09/16 07:22	03/10/16 12:50	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/09/16 07:22	03/10/16 12:50	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/09/16 07:22	03/10/16 12:50	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/09/16 07:22	03/10/16 12:50	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/09/16 07:22	03/10/16 12:50	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/09/16 07:22	03/10/16 12:50	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/09/16 07:22	03/10/16 12:50	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/09/16 07:22	03/10/16 12:50	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/09/16 07:22	03/10/16 12:50	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/09/16 07:22	03/10/16 12:50	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/09/16 07:22	03/10/16 12:50	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/09/16 07:22	03/10/16 12:50	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM170**

**Date Collected: 03/03/16 13:48**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-8**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/09/16 07:22	03/10/16 12:50	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/09/16 07:22	03/10/16 12:50	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/09/16 07:22	03/10/16 12:50	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/09/16 07:22	03/10/16 12:50	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/09/16 07:22	03/10/16 12:50	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/09/16 07:22	03/10/16 12:50	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/09/16 07:22	03/10/16 12:50	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/09/16 07:22	03/10/16 12:50	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/09/16 07:22	03/10/16 12:50	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/09/16 07:22	03/10/16 12:50	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/09/16 07:22	03/10/16 12:50	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/09/16 07:22	03/10/16 12:50	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/09/16 07:22	03/10/16 12:50	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/09/16 07:22	03/10/16 12:50	1
Phenol	0.768	U	10.0	0.768	ug/L		03/09/16 07:22	03/10/16 12:50	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/09/16 07:22	03/10/16 12:50	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/09/16 07:22	03/10/16 12:50	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/09/16 07:22	03/10/16 12:50	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/09/16 07:22	03/10/16 12:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	72		23 - 130	03/09/16 07:22	03/10/16 12:50	1
2-Fluorophenol	69		10 - 130	03/09/16 07:22	03/10/16 12:50	1
Nitrobenzene-d5	71		27 - 130	03/09/16 07:22	03/10/16 12:50	1
Phenol-d5	73		10 - 130	03/09/16 07:22	03/10/16 12:50	1
Terphenyl-d14	73		10 - 141	03/09/16 07:22	03/10/16 12:50	1
2,4,6-Tribromophenol	75		18 - 130	03/09/16 07:22	03/10/16 12:50	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00492	U	0.0590	0.00492	ug/L		03/09/16 08:46	03/10/16 17:47	1
alpha-BHC	0.00511	U	0.0590	0.00511	ug/L		03/09/16 08:46	03/10/16 17:47	1
alpha-Chlordane	0.00619	U	0.0590	0.00619	ug/L		03/09/16 08:46	03/10/16 17:47	1
beta-BHC	0.00492	U	0.0590	0.00492	ug/L		03/09/16 08:46	03/10/16 17:47	1
4,4'-DDD	0.00492	U	0.0590	0.00492	ug/L		03/09/16 08:46	03/10/16 17:47	1
4,4'-DDE	0.00492	U	0.0590	0.00492	ug/L		03/09/16 08:46	03/10/16 17:47	1
4,4'-DDT	0.00796	U	0.0590	0.00796	ug/L		03/09/16 08:46	03/10/16 17:47	1
delta-BHC	0.00492	U	0.0590	0.00492	ug/L		03/09/16 08:46	03/10/16 17:47	1
Dieldrin	0.0128	U	0.0590	0.0128	ug/L		03/09/16 08:46	03/10/16 17:47	1
Endosulfan I	0.00492	U	0.0590	0.00492	ug/L		03/09/16 08:46	03/10/16 17:47	1
Endosulfan II	0.00846	U	0.0590	0.00846	ug/L		03/09/16 08:46	03/10/16 17:47	1
Endosulfan sulfate	0.00865	U	0.0590	0.00865	ug/L		03/09/16 08:46	03/10/16 17:47	1
Endrin	0.00757	U	0.0590	0.00757	ug/L		03/09/16 08:46	03/10/16 17:47	1
Endrin aldehyde	0.00492	U	0.0590	0.00492	ug/L		03/09/16 08:46	03/10/16 17:47	1
Endrin ketone	0.00806	U	0.0590	0.00806	ug/L		03/09/16 08:46	03/10/16 17:47	1
gamma-BHC (Lindane)	0.00442	U	0.0590	0.00442	ug/L		03/09/16 08:46	03/10/16 17:47	1
gamma-Chlordane	0.00659	U	0.0590	0.00659	ug/L		03/09/16 08:46	03/10/16 17:47	1
Heptachlor	0.00639	U	0.0590	0.00639	ug/L		03/09/16 08:46	03/10/16 17:47	1
Heptachlor epoxide	0.00511	U	0.0590	0.00511	ug/L		03/09/16 08:46	03/10/16 17:47	1
Methoxychlor	0.00983	U	0.0590	0.00983	ug/L		03/09/16 08:46	03/10/16 17:47	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM170**

**Date Collected: 03/03/16 13:48**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-8**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.669	U	5.90	0.669	ug/L		03/09/16 08:46	03/10/16 17:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	46		10 - 152				03/09/16 08:46	03/10/16 17:47	1
DCB Decachlorobiphenyl	73		10 - 152				03/09/16 08:46	03/10/16 17:47	1
Tetrachloro-m-xylene	77		57 - 127				03/09/16 08:46	03/10/16 17:47	1
Tetrachloro-m-xylene	74		57 - 127				03/09/16 08:46	03/10/16 17:47	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.108	U	0.590	0.108	ug/L		03/09/16 08:46	03/10/16 14:31	1
Aroclor 1221	0.108	U	0.590	0.108	ug/L		03/09/16 08:46	03/10/16 14:31	1
Aroclor 1232	0.433	U	0.787	0.433	ug/L		03/09/16 08:46	03/10/16 14:31	1
Aroclor 1242	0.108	U	0.590	0.108	ug/L		03/09/16 08:46	03/10/16 14:31	1
Aroclor 1248	0.108	U	0.590	0.108	ug/L		03/09/16 08:46	03/10/16 14:31	1
Aroclor 1254	0.108	U	0.590	0.108	ug/L		03/09/16 08:46	03/10/16 14:31	1
Aroclor 1260	0.108	U	0.590	0.108	ug/L		03/09/16 08:46	03/10/16 14:31	1
Aroclor 1262	0.108	U	0.590	0.108	ug/L		03/09/16 08:46	03/10/16 14:31	1
Aroclor 1268	0.108	U	0.590	0.108	ug/L		03/09/16 08:46	03/10/16 14:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	118		10 - 150				03/09/16 08:46	03/10/16 14:31	1
DCB Decachlorobiphenyl	104		10 - 150				03/09/16 08:46	03/10/16 14:31	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.159	U	2.37	0.159	ug/L		03/09/16 19:25	03/15/16 22:13	1
Bolstar	0.298	U	0.949	0.298	ug/L		03/09/16 19:25	03/15/16 22:13	1
Chlorpyrifos	0.342	U	1.42	0.342	ug/L		03/09/16 19:25	03/15/16 22:13	1
Coumaphos	0.128	U	0.949	0.128	ug/L		03/09/16 19:25	03/15/16 22:13	1
Demeton-O	0.133	U	0.949	0.133	ug/L		03/09/16 19:25	03/15/16 22:13	1
Demeton-S	0.0655	U	1.90	0.0655	ug/L		03/09/16 19:25	03/15/16 22:13	1
Diazinon	0.140	U	0.475	0.140	ug/L		03/09/16 19:25	03/15/16 22:13	1
Dichlorvos	0.154	U	0.475	0.154	ug/L		03/09/16 19:25	03/15/16 22:13	1
Dimethoate	0.426	U	1.42	0.426	ug/L		03/09/16 19:25	03/15/16 22:13	1
Disulfoton	0.306	U	0.949	0.306	ug/L		03/09/16 19:25	03/15/16 22:13	1
EPN	0.141	U	1.14	0.141	ug/L		03/09/16 19:25	03/15/16 22:13	1
Ethoprop	0.168	U	1.42	0.168	ug/L		03/09/16 19:25	03/15/16 22:13	1
Ethyl Parathion	0.137	U	0.949	0.137	ug/L		03/09/16 19:25	03/15/16 22:13	1
Famphur	0.170	U	0.949	0.170	ug/L		03/09/16 19:25	03/15/16 22:13	1
Fensulfothion	0.516	U	2.37	0.516	ug/L		03/09/16 19:25	03/15/16 22:13	1
Fenthion	0.146	U	2.37	0.146	ug/L		03/09/16 19:25	03/15/16 22:13	1
Malathion	0.126	U	1.90	0.126	ug/L		03/09/16 19:25	03/15/16 22:13	1
Merphos	0.165	U	4.75	0.165	ug/L		03/09/16 19:25	03/15/16 22:13	1
Methyl parathion	0.134	U	3.80	0.134	ug/L		03/09/16 19:25	03/15/16 22:13	1
Mevinphos	0.437	U	5.89	0.437	ug/L		03/09/16 19:25	03/15/16 22:13	1
Naled	0.759	U	1.90	0.759	ug/L		03/09/16 19:25	03/15/16 22:13	1
Phorate	0.146	U	1.14	0.146	ug/L		03/09/16 19:25	03/15/16 22:13	1
Ronnel	0.110	U	9.49	0.110	ug/L		03/09/16 19:25	03/15/16 22:13	1
Sulfotepp	0.159	U	1.42	0.159	ug/L		03/09/16 19:25	03/15/16 22:13	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM170**

**Date Collected: 03/03/16 13:48**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-8**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachlorvinphos (Stirophos)	0.118	U	3.32	0.118	ug/L		03/09/16 19:25	03/15/16 22:13	1
Thionazin	0.296	U	0.949	0.296	ug/L		03/09/16 19:25	03/15/16 22:13	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/09/16 19:25	03/15/16 22:13	1
Trichloronate	0.230	U	1.42	0.230	ug/L		03/09/16 19:25	03/15/16 22:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	73		49 - 171				03/09/16 19:25	03/15/16 22:13	1
Triphenylphosphate	86		60 - 154				03/09/16 19:25	03/15/16 22:13	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0956	U	4.78	0.0956	ug/L		03/09/16 07:54	03/11/16 22:19	1
Dicamba	0.0813	U	0.478	0.0813	ug/L		03/09/16 07:54	03/11/16 22:19	1
Mecoprop	18.2	U	115	18.2	ug/L		03/09/16 07:54	03/11/16 22:19	1
MCPA	16.3	U	115	16.3	ug/L		03/09/16 07:54	03/11/16 22:19	1
Dichlorprop	0.143	U	0.478	0.143	ug/L		03/09/16 07:54	03/11/16 22:19	1
2,4-D	0.0354	U	0.478	0.0354	ug/L		03/09/16 07:54	03/11/16 22:19	1
Silvex (2,4,5-TP)	0.0593	U	0.239	0.0593	ug/L		03/09/16 07:54	03/11/16 22:19	1
2,4,5-T	0.0593	U	0.239	0.0593	ug/L		03/09/16 07:54	03/11/16 22:19	1
2,4-DB	0.143	U	0.478	0.143	ug/L		03/09/16 07:54	03/11/16 22:19	1
Dinoseb	0.153	U	0.956	0.153	ug/L		03/09/16 07:54	03/11/16 22:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	80		45 - 130				03/09/16 07:54	03/11/16 22:19	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	92.7		0.200	0.101	mg/L		03/07/16 10:00	03/07/16 16:01	1
Magnesium	17.5		0.200	0.0257	mg/L		03/07/16 10:00	03/07/16 16:01	1
Potassium	1.22		0.500	0.375	mg/L		03/07/16 10:00	03/07/16 16:01	1
Silicon	5.18		0.500	0.0707	mg/L		03/07/16 10:00	03/07/16 16:01	1
Sodium	10.3		1.00	0.310	mg/L		03/07/16 10:00	03/07/16 16:01	1
Strontium	0.506		0.00500	0.000700	mg/L		03/07/16 10:00	03/07/16 16:01	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/07/16 10:00	03/07/16 21:36	1
Antimony	1.61	U	5.00	1.61	ug/L		03/07/16 10:00	03/07/16 21:36	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/07/16 10:00	03/07/16 21:36	1
Barium	35.1		5.00	0.810	ug/L		03/07/16 10:00	03/08/16 15:27	1
Beryllium	1.24	U	4.00	1.24	ug/L		03/07/16 10:00	03/07/16 21:36	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/07/16 10:00	03/08/16 15:27	1
Chromium	1.40	U	5.00	1.40	ug/L		03/07/16 10:00	03/07/16 21:36	1
Copper	2.00	U	10.0	2.00	ug/L		03/07/16 10:00	03/07/16 21:36	1
Iron	101	U	250	101	ug/L		03/07/16 10:00	03/07/16 21:36	1
Lead	0.733	U	5.00	0.733	ug/L		03/07/16 10:00	03/07/16 21:36	1
Manganese	11.6	U	50.0	11.6	ug/L		03/07/16 10:00	03/07/16 21:36	1
Nickel	2.17	U	5.00	2.17	ug/L		03/07/16 10:00	03/07/16 21:36	1
Selenium	1.08	U	5.00	1.08	ug/L		03/07/16 10:00	03/07/16 21:36	1
Silver	0.941	U	5.00	0.941	ug/L		03/07/16 10:00	03/08/16 15:27	1
Thallium	0.693	U	2.00	0.693	ug/L		03/07/16 10:00	03/07/16 21:36	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: HSM170**

**Date Collected: 03/03/16 13:48**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-8**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	3.55	U	25.0	3.55	ug/L		03/07/16 10:00	03/07/16 21:36	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/08/16 10:00	03/08/16 15:06	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.549	J	1.00	0.315	mg/L			03/05/16 12:40	1
Chloride	18.3		1.00	0.192	mg/L			03/05/16 12:40	1
Nitrate as N	1.23		0.500	0.103	mg/L			03/05/16 12:40	1
Sulfate	24.6		1.00	0.377	mg/L			03/05/16 12:40	1
Fluoride	0.184		0.100	0.0200	mg/L			03/08/16 10:10	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/15/16 11:56	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/15/16 10:30	03/16/16 12:19	1
Total Organic Carbon	0.564	J	1.00	0.285	mg/L			03/08/16 16:13	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.59	HF	0.100	0.100	SU			03/07/16 10:28	1
Total Alkalinity as CaCO3	230		5.00	5.00	mg/L			03/17/16 14:20	1
Bicarbonate Alkalinity as CaCO3	230		5.00	5.00	mg/L			03/17/16 14:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/17/16 14:20	1
Total Dissolved Solids	349		10.0	10.0	mg/L			03/09/16 11:21	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/07/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1

**Client Sample ID: Trip Blank**

**Date Collected: 03/03/16 00:00**

**Date Received: 03/05/16 09:45**

**Lab Sample ID: 560-60099-9**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/10/16 13:04	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 13:04	1
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 13:04	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 13:04	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 13:04	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 13:04	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 13:04	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 13:04	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 13:04	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 13:04	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 13:04	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 13:04	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 13:04	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 13:04	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 13:04	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 13:04	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 560-60099-9**

**Date Collected: 03/03/16 00:00**

**Matrix: Water**

**Date Received: 03/05/16 09:45**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 13:04	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 13:04	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 13:04	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 13:04	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 13:04	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 13:04	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 13:04	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 13:04	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 13:04	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 13:04	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 13:04	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 13:04	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 13:04	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 13:04	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 13:04	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 13:04	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 13:04	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 13:04	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 13:04	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 13:04	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 13:04	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 13:04	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 13:04	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 13:04	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 13:04	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 13:04	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 13:04	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 13:04	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 13:04	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 13:04	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 13:04	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 13:04	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 13:04	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 13:04	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 13:04	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 13:04	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 13:04	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 13:04	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 13:04	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 13:04	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 13:04	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 13:04	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 13:04	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 13:04	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 13:04	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 13:04	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 13:04	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 13:04	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 13:04	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 560-60099-9**

**Date Collected: 03/03/16 00:00**

**Matrix: Water**

**Date Received: 03/05/16 09:45**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 13:04	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 13:04	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 13:04	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 13:04	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 13:04	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 13:04	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 13:04	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 13:04	1
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 13:04	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 13:04	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 13:04	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 13:04	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 13:04	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 13:04	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 13:04	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 13:04	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 13:04	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 13:04	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 13:04	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 13:04	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 13:04	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 13:04	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 13:04	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 13:04	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 13:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 13:04	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 13:04	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 13:04	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 13:04	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 13:04	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 13:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		03/10/16 13:04	1
Dibromofluoromethane (Surr)	101		69 - 130		03/10/16 13:04	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 140		03/10/16 13:04	1
Toluene-d8 (Surr)	101		70 - 130		03/10/16 13:04	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-125920/8  
Matrix: Water  
Analysis Batch: 125920

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/10/16 12:38	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 12:38	1
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 12:38	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 12:38	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 12:38	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 12:38	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 12:38	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 12:38	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 12:38	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 12:38	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 12:38	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 12:38	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 12:38	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 12:38	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 12:38	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 12:38	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 12:38	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 12:38	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 12:38	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 12:38	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 12:38	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 12:38	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 12:38	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 12:38	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 12:38	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 12:38	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 12:38	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 12:38	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 12:38	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 12:38	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 12:38	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 12:38	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 12:38	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 12:38	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 12:38	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 12:38	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 12:38	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 12:38	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 12:38	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 12:38	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 12:38	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125920/8

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 12:38	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 12:38	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 12:38	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 12:38	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 12:38	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 12:38	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 12:38	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 12:38	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 12:38	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 12:38	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 12:38	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 12:38	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 12:38	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 12:38	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 12:38	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 12:38	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 12:38	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 12:38	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 12:38	1
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 12:38	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 12:38	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 12:38	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 12:38	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 12:38	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 12:38	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 12:38	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 12:38	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 12:38	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 12:38	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 12:38	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 12:38	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 12:38	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 12:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 12:38	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 12:38	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 12:38	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 12:38	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 12:38	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125920/8

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		03/10/16 12:38	1
Dibromofluoromethane (Surr)	102		69 - 130		03/10/16 12:38	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		03/10/16 12:38	1
Toluene-d8 (Surr)	100		70 - 130		03/10/16 12:38	1

Lab Sample ID: LCS 560-125920/3

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	31.04		ug/L		124	60 - 150
Acetonitrile	250	291.4		ug/L		117	52 - 160
Benzene	25.0	26.61		ug/L		106	70 - 130
Benzyl chloride	25.0	26.83		ug/L		107	66 - 153
Bromobenzene	25.0	25.24		ug/L		101	70 - 130
Bromochloromethane	25.0	28.16		ug/L		113	70 - 130
Bromoform	25.0	27.92		ug/L		112	63 - 145
Bromomethane	25.0	30.33		ug/L		121	50 - 146
1,3-Butadiene	25.0	25.90		ug/L		104	40 - 138
2-Butanone (MEK)	25.0	26.90		ug/L		108	68 - 144
Carbon disulfide	25.0	28.44		ug/L		114	52 - 156
Carbon tetrachloride	25.0	28.52		ug/L		114	70 - 138
Chlorobenzene	25.0	26.14		ug/L		105	70 - 130
2-Chloro-1,3-butadiene	25.0	25.22		ug/L		101	69 - 140
Chlorodibromomethane	25.0	26.68		ug/L		107	70 - 137
Chloroethane	25.0	28.21		ug/L		113	54 - 141
Chloroform	25.0	27.10		ug/L		108	70 - 130
1-Chlorohexane	25.0	24.29		ug/L		97	64 - 130
Chloromethane	25.0	26.21		ug/L		105	46 - 142
2-Chlorotoluene	25.0	26.34		ug/L		105	70 - 130
4-Chlorotoluene	25.0	27.11		ug/L		108	70 - 130
cis-1,4-Dichloro-2-butene	25.0	26.29		ug/L		105	10 - 184
cis-1,2-Dichloroethene	25.0	28.33		ug/L		113	70 - 130
cis-1,3-Dichloropropene	25.0	27.16		ug/L		109	70 - 138
Cyclohexane	25.0	27.31		ug/L		109	40 - 141
Cyclohexanone	125	151.4		ug/L		121	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	26.02		ug/L		104	70 - 149
Dibromomethane	25.0	26.65		ug/L		107	70 - 130
1,2-Dichlorobenzene	25.0	26.55		ug/L		106	70 - 130
1,3-Dichlorobenzene	25.0	26.42		ug/L		106	70 - 130
1,4-Dichlorobenzene	25.0	26.61		ug/L		106	70 - 130
Dichlorobromomethane	25.0	26.63		ug/L		107	70 - 130
Dichlorodifluoromethane	25.0	25.71		ug/L		103	10 - 181
1,1-Dichloroethane	25.0	26.66		ug/L		107	70 - 130
1,2-Dichloroethane	25.0	25.98		ug/L		104	70 - 131
1,1-Dichloroethene	25.0	26.99		ug/L		108	70 - 139
1,2-Dichloropropane	25.0	26.84		ug/L		107	70 - 130
1,3-Dichloropropane	25.0	25.87		ug/L		103	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125920/3

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	30.10		ug/L		120	65 - 143
1,1-Dichloropropene	25.0	27.04		ug/L		108	70 - 130
1,4-Dioxane	500	643.1		ug/L		129	66 - 150
EDB	25.0	26.73		ug/L		107	70 - 130
Ethyl acetate	50.0	49.31		ug/L		99	59 - 200
Ethylbenzene	25.0	26.26		ug/L		105	70 - 130
Ethylene oxide	100	94.56		ug/L		95	10 - 200
Ethyl ether	25.0	26.88		ug/L		108	69 - 136
Ethyl methacrylate	25.0	26.74		ug/L		107	70 - 130
Hexachlorobutadiene	25.0	31.75		ug/L		127	68 - 165
Hexane	25.0	30.15		ug/L		121	10 - 185
2-Hexanone	25.0	24.11		ug/L		96	70 - 138
Iodomethane	25.0	29.58		ug/L		118	64 - 146
Isobutyl alcohol	625	676.5		ug/L		108	27 - 199
Isooctane	25.0	28.49		ug/L		114	10 - 181
Isopropylbenzene	25.0	26.68		ug/L		107	70 - 131
4-Isopropyltoluene	25.0	28.06		ug/L		112	70 - 130
Methacrylonitrile	250	249.7		ug/L		100	70 - 139
Methylene Chloride	25.0	25.99		ug/L		104	70 - 130
Methyl methacrylate	50.0	48.16		ug/L		96	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	24.35		ug/L		97	70 - 138
Methyl tert-butyl ether	25.0	26.65		ug/L		107	70 - 131
m-Xylene & p-Xylene	25.0	26.11		ug/L		104	70 - 139
Naphthalene	25.0	26.25		ug/L		105	70 - 159
n-Butylbenzene	25.0	27.71		ug/L		111	70 - 135
n-Heptane	25.0	28.10		ug/L		112	10 - 186
2-Nitropropane	50.0	47.49		ug/L		95	22 - 173
N-Propylbenzene	25.0	26.63		ug/L		107	70 - 131
1-Octene	25.0	28.36		ug/L		113	10 - 185
o-Xylene	25.0	25.98		ug/L		104	70 - 130
Pentachloroethane	25.0	29.42		ug/L		118	70 - 146
Propionitrile	250	267.0		ug/L		107	70 - 144
sec-Butylbenzene	25.0	27.68		ug/L		111	70 - 134
Styrene	25.0	27.34		ug/L		109	70 - 130
tert-Butylbenzene	25.0	27.23		ug/L		109	70 - 132
1,1,1,2-Tetrachloroethane	25.0	27.44		ug/L		110	70 - 130
1,1,2,2-Tetrachloroethane	25.0	26.77		ug/L		107	70 - 130
Tetrachloroethene	25.0	25.75		ug/L		103	70 - 135
Toluene	25.0	26.04		ug/L		104	70 - 130
trans-1,4-Dichloro-2-butene	25.0	25.14		ug/L		101	37 - 174
trans-1,2-Dichloroethene	25.0	28.94		ug/L		116	70 - 134
trans-1,3-Dichloropropene	25.0	26.30		ug/L		105	70 - 143
1,2,3-Trichlorobenzene	25.0	26.85		ug/L		107	70 - 158
1,2,4-Trichlorobenzene	25.0	27.35		ug/L		109	70 - 157
1,3,5-Trichlorobenzene	25.0	27.62		ug/L		110	70 - 131
1,1,1-Trichloroethane	25.0	28.36		ug/L		113	70 - 130
1,1,2-Trichloroethane	25.0	25.57		ug/L		102	70 - 130
Trichloroethene	25.0	26.96		ug/L		108	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125920/3

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	29.27		ug/L		117	39 - 146
1,2,3-Trichloropropane	25.0	26.39		ug/L		106	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	29.34		ug/L		117	27 - 148
1,2,4-Trimethylbenzene	25.0	26.48		ug/L		106	70 - 130
1,3,5-Trimethylbenzene	25.0	26.70		ug/L		107	70 - 131
Vinyl acetate	50.0	50.76		ug/L		102	18 - 200
Vinyl chloride	25.0	27.50		ug/L		110	49 - 140
Xylenes, Total	50.0	52.09		ug/L		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	105		69 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 140
Toluene-d8 (Surr)	99		70 - 130

Lab Sample ID: 560-60105-C-7 MS

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	574		500	1107		ug/L		107	32 - 157
Acetonitrile	200	U	5000	6064		ug/L		121	10 - 182
Benzene	875		500	1379		ug/L		101	70 - 130
Benzyl chloride	5.56	U	500	541.5		ug/L		108	49 - 130
Bromobenzene	2.56	U	500	499.7		ug/L		100	69 - 130
Bromochloromethane	4.56	U	500	561.2		ug/L		112	70 - 130
Bromoform	10.0	U	500	550.6		ug/L		110	57 - 145
Bromomethane	7.84	U	500	580.8		ug/L		116	56 - 141
1,3-Butadiene	6.00	U	500	491.8		ug/L		98	25 - 196
2-Butanone (MEK)	20.0	U	500	606.1		ug/L		121	42 - 142
Carbon disulfide	10.0	U	500	551.9		ug/L		110	59 - 164
Carbon tetrachloride	5.02	U	500	548.6		ug/L		110	70 - 138
Chlorobenzene	2.72	U	500	519.6		ug/L		104	70 - 130
2-Chloro-1,3-butadiene	4.00	U	500	484.5		ug/L		97	55 - 144
Chlorodibromomethane	4.46	U	500	526.6		ug/L		105	62 - 145
Chloroethane	8.00	U	500	548.4		ug/L		110	62 - 142
Chloroform	3.46	U	500	537.6		ug/L		108	70 - 130
1-Chlorohexane	10.0	U	500	483.4		ug/L		97	64 - 130
Chloromethane	7.80	U	500	513.5		ug/L		103	57 - 148
2-Chlorotoluene	3.10	U	500	519.9		ug/L		104	70 - 130
4-Chlorotoluene	4.84	U	500	526.6		ug/L		105	69 - 130
cis-1,4-Dichloro-2-butene	10.0	U	500	519.4		ug/L		104	24 - 136
cis-1,2-Dichloroethene	2.42	U	500	552.1		ug/L		110	70 - 130
cis-1,3-Dichloropropene	2.92	U	500	529.2		ug/L		106	46 - 136
Cyclohexane	42.6		500	587.0		ug/L		109	46 - 144
Cyclohexanone	100	U	2500	2734		ug/L		109	10 - 193
1,2-Dibromo-3-Chloropropane	6.98	U	500	548.2		ug/L		110	56 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60105-C-7 MS

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	3.30	U	500	527.5		ug/L		106	70 - 130
1,2-Dichlorobenzene	3.40	U	500	530.9		ug/L		106	70 - 130
1,3-Dichlorobenzene	2.56	U	500	525.2		ug/L		105	70 - 130
1,4-Dichlorobenzene	4.00	U	500	531.5		ug/L		106	70 - 130
Dichlorobromomethane	3.50	U	500	525.9		ug/L		105	70 - 130
Dichlorodifluoromethane	8.58	U	500	506.7		ug/L		101	14 - 198
1,1-Dichloroethane	3.36	U	500	524.2		ug/L		105	70 - 130
1,2-Dichloroethane	3.44	U	500	536.1		ug/L		107	65 - 130
1,1-Dichloroethene	6.00	U	500	530.4		ug/L		106	67 - 143
1,2-Dichloropropane	3.46	U	500	526.8		ug/L		105	70 - 130
1,3-Dichloropropane	2.92	U	500	518.2		ug/L		104	70 - 130
2,2-Dichloropropane	6.70	U	500	551.0		ug/L		110	65 - 150
1,1-Dichloropropene	3.70	U	500	527.2		ug/L		105	70 - 130
1,4-Dioxane	318	U	10000	12460		ug/L		125	20 - 152
EDB	3.50	U	500	538.8		ug/L		108	70 - 130
Ethyl acetate	20.0	U	1000	985.0		ug/L		99	53 - 144
Ethylbenzene	229		500	740.4		ug/L		102	70 - 130
Ethylene oxide	600	U	2000	1836		ug/L		92	12 - 185
Ethyl ether	6.40	U	500	536.0		ug/L		107	67 - 130
Ethyl methacrylate	10.0	U	500	538.7		ug/L		108	65 - 130
Hexachlorobutadiene	17.2	U	500	699.2		ug/L		140	52 - 143
Hexane	40.0	U	500	592.4		ug/L		118	51 - 159
2-Hexanone	21.6	J	500	492.2		ug/L		94	56 - 130
Iodomethane	4.46	U	500	580.9		ug/L		116	70 - 162
Isobutyl alcohol	100	U	12500	13300		ug/L		106	36 - 130
Isooctane	10.0	U	500	601.1		ug/L		120	52 - 150
Isopropylbenzene	15.0	J	500	537.2		ug/L		104	70 - 130
4-Isopropyltoluene	3.00	U	500	566.2		ug/L		113	69 - 130
Methacrylonitrile	40.0	U	5000	5009		ug/L		100	61 - 130
Methylene Chloride	40.0	U	500	514.3		ug/L		103	70 - 130
Methyl methacrylate	4.00	U	1000	952.3		ug/L		95	63 - 130
4-Methyl-2-pentanone (MIBK)	10.2	U	500	509.5		ug/L		102	54 - 130
Methyl tert-butyl ether	4.00	U	500	526.3		ug/L		105	63 - 134
m-Xylene & p-Xylene	416		500	926.7		ug/L		102	67 - 130
Naphthalene	175		500	752.8		ug/L		116	62 - 145
n-Butylbenzene	14.0	J	500	563.1		ug/L		110	67 - 130
n-Heptane	6.00	U	500	650.4		ug/L		130	55 - 150
2-Nitropropane	20.0	U	1000	943.4		ug/L		94	22 - 173
N-Propylbenzene	26.7		500	548.3		ug/L		104	70 - 130
1-Octene	8.80	U	500	585.1		ug/L		117	63 - 134
o-Xylene	242		500	750.8		ug/L		102	70 - 130
Pentachloroethane	6.04	U	500	569.4		ug/L		114	60 - 130
Propionitrile	53.8	U	5000	5362		ug/L		107	39 - 130
sec-Butylbenzene	6.00	U	500	550.8		ug/L		110	67 - 130
Styrene	4.00	U	500	572.6		ug/L		115	28 - 150
tert-Butylbenzene	4.00	U	500	534.0		ug/L		107	70 - 130
1,1,1,2-Tetrachloroethane	4.18	U	500	539.2		ug/L		108	70 - 130
1,1,2,2-Tetrachloroethane	3.80	U	500	534.3		ug/L		107	66 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60105-C-7 MS

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	3.78	U	500	510.9		ug/L		102	69 - 130
Toluene	1320		500	1770		ug/L		91	70 - 130
trans-1,4-Dichloro-2-butene	10.0	U	500	499.7		ug/L		100	35 - 130
trans-1,2-Dichloroethene	4.00	U	500	558.7		ug/L		112	57 - 148
trans-1,3-Dichloropropene	4.00	U	500	530.4		ug/L		106	44 - 139
1,2,3-Trichlorobenzene	4.34	U	500	574.0		ug/L		115	60 - 130
1,2,4-Trichlorobenzene	3.36	U	500	573.1		ug/L		115	60 - 142
1,3,5-Trichlorobenzene	4.06	U	500	556.8		ug/L		111	66 - 135
1,1,1-Trichloroethane	6.00	U	500	540.8		ug/L		108	70 - 133
1,1,2-Trichloroethane	3.46	U	500	512.8		ug/L		103	70 - 130
Trichloroethene	6.34	U	500	526.8		ug/L		105	70 - 130
Trichlorofluoromethane	4.88	U	500	550.2		ug/L		110	64 - 149
1,2,3-Trichloropropane	3.82	U	500	523.5		ug/L		105	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	8.20	U	500	578.2		ug/L		116	47 - 152
1,2,4-Trimethylbenzene	178		500	702.9		ug/L		105	70 - 130
1,3,5-Trimethylbenzene	41.0		500	564.6		ug/L		105	70 - 130
Vinyl acetate	10.0	U	1000	1085		ug/L		109	36 - 171
Vinyl chloride	6.00	U	500	537.3		ug/L		107	49 - 158
Xylenes, Total	658		1000	1677		ug/L		102	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	105		69 - 130
1,2-Dichloroethane-d4 (Surr)	100		70 - 140
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: 560-60105-C-7 MSD

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	574		500	1045		ug/L		94	32 - 157	6	20
Acetonitrile	200	U	5000	5224		ug/L		104	10 - 182	15	20
Benzene	875		500	1356		ug/L		96	70 - 130	2	20
Benzyl chloride	5.56	U	500	521.3		ug/L		104	49 - 130	4	20
Bromobenzene	2.56	U	500	505.4		ug/L		101	69 - 130	1	20
Bromochloromethane	4.56	U	500	553.3		ug/L		111	70 - 130	1	20
Bromoform	10.0	U	500	544.4		ug/L		109	57 - 145	1	20
Bromomethane	7.84	U	500	578.3		ug/L		116	56 - 141	0	20
1,3-Butadiene	6.00	U	500	480.3		ug/L		96	25 - 196	2	20
2-Butanone (MEK)	20.0	U	500	603.3		ug/L		121	42 - 142	0	20
Carbon disulfide	10.0	U	500	546.8		ug/L		109	59 - 164	1	20
Carbon tetrachloride	5.02	U	500	551.4		ug/L		110	70 - 138	0	20
Chlorobenzene	2.72	U	500	525.1		ug/L		105	70 - 130	1	20
2-Chloro-1,3-butadiene	4.00	U	500	480.9		ug/L		96	55 - 144	1	20
Chlorodibromomethane	4.46	U	500	532.0		ug/L		106	62 - 145	1	20
Chloroethane	8.00	U	500	547.4		ug/L		109	62 - 142	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60105-C-7 MSD

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	3.46	U	500	536.8		ug/L		107	70 - 130	0	20
1-Chlorohexane	10.0	U	500	492.3		ug/L		98	64 - 130	2	20
Chloromethane	7.80	U	500	515.5		ug/L		103	57 - 148	0	20
2-Chlorotoluene	3.10	U	500	527.7		ug/L		106	70 - 130	1	20
4-Chlorotoluene	4.84	U	500	533.9		ug/L		107	69 - 130	1	20
cis-1,4-Dichloro-2-butene	10.0	U	500	521.7		ug/L		104	24 - 136	0	20
cis-1,2-Dichloroethene	2.42	U	500	548.4		ug/L		110	70 - 130	1	20
cis-1,3-Dichloropropene	2.92	U	500	539.8		ug/L		108	46 - 136	2	20
Cyclohexane	42.6		500	589.3		ug/L		109	46 - 144	0	20
Cyclohexanone	100	U	2500	2589		ug/L		104	10 - 193	5	20
1,2-Dibromo-3-Chloropropane	6.98	U	500	542.3		ug/L		108	56 - 130	1	20
Dibromomethane	3.30	U	500	533.5		ug/L		107	70 - 130	1	20
1,2-Dichlorobenzene	3.40	U	500	534.1		ug/L		107	70 - 130	1	20
1,3-Dichlorobenzene	2.56	U	500	528.9		ug/L		106	70 - 130	1	20
1,4-Dichlorobenzene	4.00	U	500	536.4		ug/L		107	70 - 130	1	20
Dichlorobromomethane	3.50	U	500	529.4		ug/L		106	70 - 130	1	20
Dichlorodifluoromethane	8.58	U	500	507.4		ug/L		101	14 - 198	0	20
1,1-Dichloroethane	3.36	U	500	526.9		ug/L		105	70 - 130	1	20
1,2-Dichloroethane	3.44	U	500	536.4		ug/L		107	65 - 130	0	20
1,1-Dichloroethene	6.00	U	500	539.2		ug/L		108	67 - 143	2	20
1,2-Dichloropropane	3.46	U	500	536.1		ug/L		107	70 - 130	2	20
1,3-Dichloropropane	2.92	U	500	518.2		ug/L		104	70 - 130	0	20
2,2-Dichloropropane	6.70	U	500	526.5		ug/L		105	65 - 150	5	20
1,1-Dichloropropene	3.70	U	500	535.4		ug/L		107	70 - 130	2	20
1,4-Dioxane	318	U	10000	11010		ug/L		110	20 - 152	12	20
EDB	3.50	U	500	542.0		ug/L		108	70 - 130	1	20
Ethyl acetate	20.0	U	1000	1005		ug/L		100	53 - 144	2	20
Ethylbenzene	229		500	744.5		ug/L		103	70 - 130	1	20
Ethylene oxide	600	U	2000	1848		ug/L		92	12 - 185	1	20
Ethyl ether	6.40	U	500	529.4		ug/L		106	67 - 130	1	20
Ethyl methacrylate	10.0	U	500	544.7		ug/L		109	65 - 130	1	20
Hexachlorobutadiene	17.2	U	500	667.1		ug/L		133	52 - 143	5	20
Hexane	40.0	U	500	605.0		ug/L		121	51 - 159	2	20
2-Hexanone	21.6	J	500	493.4		ug/L		94	56 - 130	0	20
Iodomethane	4.46	U	500	572.7		ug/L		115	70 - 162	1	20
Isobutyl alcohol	100	U	12500	12340		ug/L		99	36 - 130	7	20
Isooctane	10.0	U	500	596.5		ug/L		119	52 - 150	1	20
Isopropylbenzene	15.0	J	500	543.7		ug/L		106	70 - 130	1	20
4-Isopropyltoluene	3.00	U	500	568.0		ug/L		114	69 - 130	0	20
Methacrylonitrile	40.0	U	5000	4996		ug/L		100	61 - 130	0	20
Methylene Chloride	40.0	U	500	504.4		ug/L		101	70 - 130	2	20
Methyl methacrylate	4.00	U	1000	961.5		ug/L		96	63 - 130	1	20
4-Methyl-2-pentanone (MIBK)	10.2	U	500	494.3		ug/L		99	54 - 130	3	20
Methyl tert-butyl ether	4.00	U	500	522.2		ug/L		104	63 - 134	1	20
m-Xylene & p-Xylene	416		500	915.0		ug/L		100	67 - 130	1	20
Naphthalene	175		500	764.5		ug/L		118	62 - 145	2	20
n-Butylbenzene	14.0	J	500	573.7		ug/L		112	67 - 130	2	20
n-Heptane	6.00	U	500	650.9		ug/L		130	55 - 150	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60105-C-7 MSD

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Nitropropane	20.0	U	1000	931.6		ug/L		93	22 - 173	1	20
N-Propylbenzene	26.7		500	557.1		ug/L		106	70 - 130	2	20
1-Octene	8.80	U	500	569.9		ug/L		114	63 - 134	3	
o-Xylene	242		500	745.2		ug/L		101	70 - 130	1	20
Pentachloroethane	6.04	U	500	558.1		ug/L		112	60 - 130	2	20
Propionitrile	53.8	U	5000	5113		ug/L		102	39 - 130	5	20
sec-Butylbenzene	6.00	U	500	554.1		ug/L		111	67 - 130	1	20
Styrene	4.00	U	500	576.4		ug/L		115	28 - 150	1	20
tert-Butylbenzene	4.00	U	500	534.3		ug/L		107	70 - 130	0	20
1,1,1,2-Tetrachloroethane	4.18	U	500	534.9		ug/L		107	70 - 130	1	20
1,1,2,2-Tetrachloroethane	3.80	U	500	524.1		ug/L		105	66 - 130	2	20
Tetrachloroethene	3.78	U	500	531.3		ug/L		106	69 - 130	4	20
Toluene	1320		500	1733		ug/L		83	70 - 130	2	20
trans-1,4-Dichloro-2-butene	10.0	U	500	496.8		ug/L		99	35 - 130	1	20
trans-1,2-Dichloroethene	4.00	U	500	559.0		ug/L		112	57 - 148	0	20
trans-1,3-Dichloropropene	4.00	U	500	535.3		ug/L		107	44 - 139	1	20
1,2,3-Trichlorobenzene	4.34	U	500	583.5		ug/L		117	60 - 130	2	20
1,2,4-Trichlorobenzene	3.36	U	500	580.7		ug/L		116	60 - 142	1	20
1,3,5-Trichlorobenzene	4.06	U	500	555.0		ug/L		111	66 - 135	0	20
1,1,1-Trichloroethane	6.00	U	500	537.5		ug/L		107	70 - 133	1	20
1,1,2-Trichloroethane	3.46	U	500	514.5		ug/L		103	70 - 130	0	20
Trichloroethene	6.34	U	500	541.1		ug/L		108	70 - 130	3	20
Trichlorofluoromethane	4.88	U	500	554.1		ug/L		111	64 - 149	1	20
1,2,3-Trichloropropane	3.82	U	500	525.6		ug/L		105	70 - 130	0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	8.20	U	500	569.6		ug/L		114	47 - 152	1	20
1,2,4-Trimethylbenzene	178		500	704.9		ug/L		105	70 - 130	0	20
1,3,5-Trimethylbenzene	41.0		500	568.8		ug/L		106	70 - 130	1	20
Vinyl acetate	10.0	U	1000	1018		ug/L		102	36 - 171	6	20
Vinyl chloride	6.00	U	500	532.7		ug/L		107	49 - 158	1	20
Xylenes, Total	658		1000	1660		ug/L		100	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	103		69 - 130
1,2-Dichloroethane-d4 (Surr)	99		70 - 140
Toluene-d8 (Surr)	100		70 - 130

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-125852/1-A

Matrix: Water

Analysis Batch: 125912

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125852

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/09/16 07:21	03/10/16 07:15	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/09/16 07:21	03/10/16 07:15	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/09/16 07:21	03/10/16 07:15	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125852/1-A

Matrix: Water

Analysis Batch: 125912

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125852

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/09/16 07:21	03/10/16 07:15	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/09/16 07:21	03/10/16 07:15	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/09/16 07:21	03/10/16 07:15	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/09/16 07:21	03/10/16 07:15	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/09/16 07:21	03/10/16 07:15	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/09/16 07:21	03/10/16 07:15	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/09/16 07:21	03/10/16 07:15	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/09/16 07:21	03/10/16 07:15	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/09/16 07:21	03/10/16 07:15	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/09/16 07:21	03/10/16 07:15	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/09/16 07:21	03/10/16 07:15	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 07:15	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/09/16 07:21	03/10/16 07:15	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/09/16 07:21	03/10/16 07:15	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/09/16 07:21	03/10/16 07:15	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/09/16 07:21	03/10/16 07:15	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/09/16 07:21	03/10/16 07:15	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/09/16 07:21	03/10/16 07:15	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/09/16 07:21	03/10/16 07:15	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/09/16 07:21	03/10/16 07:15	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/09/16 07:21	03/10/16 07:15	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/09/16 07:21	03/10/16 07:15	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 07:15	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/09/16 07:21	03/10/16 07:15	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/09/16 07:21	03/10/16 07:15	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/09/16 07:21	03/10/16 07:15	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 07:15	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/09/16 07:21	03/10/16 07:15	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/09/16 07:21	03/10/16 07:15	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/09/16 07:21	03/10/16 07:15	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/09/16 07:21	03/10/16 07:15	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/09/16 07:21	03/10/16 07:15	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/09/16 07:21	03/10/16 07:15	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/09/16 07:21	03/10/16 07:15	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/09/16 07:21	03/10/16 07:15	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/09/16 07:21	03/10/16 07:15	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/09/16 07:21	03/10/16 07:15	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/09/16 07:21	03/10/16 07:15	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/09/16 07:21	03/10/16 07:15	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/09/16 07:21	03/10/16 07:15	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/09/16 07:21	03/10/16 07:15	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/09/16 07:21	03/10/16 07:15	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/09/16 07:21	03/10/16 07:15	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/09/16 07:21	03/10/16 07:15	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/09/16 07:21	03/10/16 07:15	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/09/16 07:21	03/10/16 07:15	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/09/16 07:21	03/10/16 07:15	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/09/16 07:21	03/10/16 07:15	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125852/1-A

Matrix: Water

Analysis Batch: 125912

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125852

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/09/16 07:21	03/10/16 07:15	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/09/16 07:21	03/10/16 07:15	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/09/16 07:21	03/10/16 07:15	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/09/16 07:21	03/10/16 07:15	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/09/16 07:21	03/10/16 07:15	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/09/16 07:21	03/10/16 07:15	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/09/16 07:21	03/10/16 07:15	1
Phenol	0.768	U	10.0	0.768	ug/L		03/09/16 07:21	03/10/16 07:15	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/09/16 07:21	03/10/16 07:15	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/09/16 07:21	03/10/16 07:15	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/09/16 07:21	03/10/16 07:15	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/09/16 07:21	03/10/16 07:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	73		23 - 130	03/09/16 07:21	03/10/16 07:15	1
2-Fluorophenol	73		10 - 130	03/09/16 07:21	03/10/16 07:15	1
Nitrobenzene-d5	75		27 - 130	03/09/16 07:21	03/10/16 07:15	1
Phenol-d5	78		10 - 130	03/09/16 07:21	03/10/16 07:15	1
Terphenyl-d14	79		10 - 141	03/09/16 07:21	03/10/16 07:15	1
2,4,6-Tribromophenol	79		18 - 130	03/09/16 07:21	03/10/16 07:15	1

Lab Sample ID: LCS 560-125852/2-A

Matrix: Water

Analysis Batch: 125912

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125852

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	200	188.8		ug/L		94	54 - 130
Acenaphthylene	200	182.6		ug/L		91	54 - 130
Anthracene	200	192.3		ug/L		96	67 - 130
Benzo[a]anthracene	200	187.7		ug/L		94	70 - 130
Benzo[a]pyrene	200	187.8		ug/L		94	70 - 130
Benzo[b]fluoranthene	200	194.8		ug/L		97	69 - 130
Benzo[g,h,i]perylene	200	194.1		ug/L		97	62 - 130
Benzo[k]fluoranthene	200	184.1		ug/L		92	68 - 130
Benzyl alcohol	200	179.1		ug/L		90	52 - 130
Bis(2-chloroethoxy)methane	200	188.3		ug/L		94	55 - 130
Bis(2-chloroethyl)ether	200	178.8		ug/L		89	52 - 130
Bis(2-ethylhexyl) phthalate	200	202.5		ug/L		101	68 - 130
4-Bromophenyl phenyl ether	200	190.0		ug/L		95	69 - 130
Butyl benzyl phthalate	200	192.3		ug/L		96	68 - 130
4-Chloroaniline	200	139.0		ug/L		70	30 - 130
4-Chloro-3-methylphenol	200	193.5		ug/L		97	52 - 130
2-Chloronaphthalene	200	178.0		ug/L		89	51 - 130
2-Chlorophenol	200	174.6		ug/L		87	51 - 130
4-Chlorophenyl phenyl ether	200	186.2		ug/L		93	59 - 130
Chrysene	200	187.8		ug/L		94	70 - 130
Dibenz(a,h)anthracene	200	192.5		ug/L		96	65 - 130
Dibenzofuran	200	185.6		ug/L		93	53 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125852/2-A

Matrix: Water

Analysis Batch: 125912

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125852

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	200	155.1		ug/L		78	43 - 130
1,3-Dichlorobenzene	200	149.4		ug/L		75	40 - 130
1,4-Dichlorobenzene	200	152.1		ug/L		76	42 - 130
3,3'-Dichlorobenzidine	200	191.8		ug/L		96	61 - 130
2,4-Dichlorophenol	200	187.0		ug/L		93	51 - 130
Diethyl phthalate	200	192.0		ug/L		96	59 - 130
2,4-Dimethylphenol	200	183.2		ug/L		92	51 - 130
Dimethyl phthalate	200	193.4		ug/L		97	63 - 130
Di-n-butyl phthalate	200	196.1		ug/L		98	67 - 130
4,6-Dinitro-2-methylphenol	400	369.0		ug/L		92	63 - 130
2,4-Dinitrophenol	400	358.7		ug/L		90	47 - 130
2,4-Dinitrotoluene	200	193.3		ug/L		97	67 - 130
2,6-Dinitrotoluene	200	192.0		ug/L		96	64 - 130
Di-n-octyl phthalate	200	187.3		ug/L		94	70 - 130
Fluoranthene	200	193.1		ug/L		97	65 - 130
Fluorene	200	191.8		ug/L		96	59 - 130
Hexachlorobenzene	200	188.8		ug/L		94	67 - 130
Hexachlorobutadiene	200	156.3		ug/L		78	44 - 130
Hexachlorocyclopentadiene	200	103.0		ug/L		52	10 - 130
Hexachloroethane	200	145.3		ug/L		73	38 - 130
Indeno[1,2,3-cd]pyrene	200	189.4		ug/L		95	66 - 130
Isophorone	200	184.4		ug/L		92	55 - 130
2-Methylnaphthalene	200	178.0		ug/L		89	54 - 130
2-Methylphenol	200	178.6		ug/L		89	47 - 130
3 & 4 Methylphenol	200	183.3		ug/L		92	41 - 130
Naphthalene	200	177.1		ug/L		89	51 - 130
2-Nitroaniline	200	190.3		ug/L		95	60 - 130
3-Nitroaniline	200	190.0		ug/L		95	57 - 130
4-Nitroaniline	200	194.9		ug/L		97	55 - 130
Nitrobenzene	200	178.9		ug/L		89	54 - 130
2-Nitrophenol	200	185.4		ug/L		93	54 - 130
4-Nitrophenol	400	379.2		ug/L		95	34 - 138
N-Nitrosodi-n-propylamine	200	181.6		ug/L		91	45 - 130
N-Nitrosodiphenylamine	400	402.5		ug/L		101	51 - 130
Pentachlorophenol	400	361.5		ug/L		90	55 - 130
Phenanthrene	200	194.8		ug/L		97	67 - 130
Phenol	200	175.6		ug/L		88	47 - 130
Pyrene	200	190.7		ug/L		95	66 - 130
1,2,4-Trichlorobenzene	200	163.5		ug/L		82	49 - 130
2,4,5-Trichlorophenol	200	195.5		ug/L		98	55 - 130
2,4,6-Trichlorophenol	200	191.8		ug/L		96	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	74		23 - 130
2-Fluorophenol	71		10 - 130
Nitrobenzene-d5	79		27 - 130
Phenol-d5	78		10 - 130
Terphenyl-d14	81		10 - 141

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125852/2-A

Matrix: Water

Analysis Batch: 125912

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125852

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	84		18 - 130

Lab Sample ID: 560-60099-1 MS

Matrix: Water

Analysis Batch: 125912

Client Sample ID: HSM110

Prep Type: Total/NA

Prep Batch: 125852

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	0.460	U	200	180.4		ug/L		90	54 - 130
Acenaphthylene	0.452	U	200	174.6		ug/L		87	54 - 130
Anthracene	0.700	U	200	192.3		ug/L		96	67 - 130
Benzo[a]anthracene	0.646	U	200	190.7		ug/L		95	70 - 130
Benzo[a]pyrene	0.742	U	200	193.4		ug/L		97	70 - 130
Benzo[b]fluoranthene	0.908	U	200	199.0		ug/L		99	69 - 130
Benzo[g,h,i]perylene	1.10	U	200	196.8		ug/L		98	62 - 130
Benzo[k]fluoranthene	1.49	U	200	188.1		ug/L		94	68 - 130
Benzyl alcohol	0.827	U	200	171.5		ug/L		86	52 - 130
Bis(2-chloroethoxy)methane	0.436	U	200	178.6		ug/L		89	55 - 130
Bis(2-chloroethyl)ether	1.55	U	200	166.3		ug/L		83	52 - 130
Bis(2-ethylhexyl) phthalate	5.00	U	200	202.5		ug/L		101	68 - 130
4-Bromophenyl phenyl ether	0.811	U	200	189.2		ug/L		95	69 - 130
Butyl benzyl phthalate	0.816	U	200	194.6		ug/L		97	68 - 130
4-Chloroaniline	0.549	U F2	200	101.0		ug/L		51	30 - 130
4-Chloro-3-methylphenol	0.586	U	200	182.0		ug/L		91	52 - 130
2-Chloronaphthalene	0.603	U	200	174.8		ug/L		87	51 - 130
2-Chlorophenol	0.729	U	200	169.3		ug/L		85	51 - 130
4-Chlorophenyl phenyl ether	0.529	U	200	183.3		ug/L		92	59 - 130
Chrysene	0.494	U	200	194.7		ug/L		97	70 - 130
Dibenz(a,h)anthracene	0.874	U	200	195.1		ug/L		98	65 - 130
Dibenzofuran	0.485	U	200	174.6		ug/L		87	53 - 130
1,2-Dichlorobenzene	0.775	U	200	150.1		ug/L		75	43 - 130
1,3-Dichlorobenzene	0.491	U	200	145.6		ug/L		73	40 - 130
1,4-Dichlorobenzene	0.815	U	200	148.4		ug/L		74	42 - 130
3,3'-Dichlorobenzidine	0.787	U	200	140.2		ug/L		70	61 - 130
2,4-Dichlorophenol	0.704	U	200	174.9		ug/L		87	51 - 130
Diethyl phthalate	0.666	U	200	190.3		ug/L		95	59 - 130
2,4-Dimethylphenol	0.593	U	200	171.2		ug/L		86	51 - 130
Dimethyl phthalate	0.589	U	200	188.1		ug/L		94	63 - 130
Di-n-butyl phthalate	0.709	U	200	197.9		ug/L		99	67 - 130
4,6-Dinitro-2-methylphenol	0.959	U	400	367.6		ug/L		92	63 - 130
2,4-Dinitrophenol	2.69	U	400	357.1		ug/L		89	47 - 130
2,4-Dinitrotoluene	0.509	U	200	192.9		ug/L		96	67 - 130
2,6-Dinitrotoluene	0.762	U	200	189.5		ug/L		95	64 - 130
Di-n-octyl phthalate	1.11	U	200	191.9		ug/L		96	70 - 130
Fluoranthene	0.496	U	200	196.5		ug/L		98	65 - 130
Fluorene	0.421	U	200	189.2		ug/L		95	59 - 130
Hexachlorobenzene	0.602	U	200	187.8		ug/L		94	67 - 130
Hexachlorobutadiene	0.716	U	200	153.1		ug/L		77	44 - 130
Hexachlorocyclopentadiene	0.839	U	200	101.5		ug/L		51	10 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60099-1 MS

Matrix: Water

Analysis Batch: 125912

Client Sample ID: HSM110

Prep Type: Total/NA

Prep Batch: 125852

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachloroethane	0.589	U	200	143.9		ug/L		72	38 - 130
Indeno[1,2,3-cd]pyrene	0.922	U	200	191.8		ug/L		96	66 - 130
Isophorone	0.549	U	200	172.8		ug/L		86	55 - 130
2-Methylnaphthalene	0.702	U	200	171.9		ug/L		86	54 - 130
2-Methylphenol	0.610	U	200	169.1		ug/L		85	47 - 130
3 & 4 Methylphenol	0.763	U	200	172.5		ug/L		86	41 - 130
Naphthalene	0.787	U	200	167.1		ug/L		84	51 - 130
2-Nitroaniline	0.766	U	200	174.9		ug/L		87	60 - 130
3-Nitroaniline	0.512	U	200	184.2		ug/L		92	57 - 130
4-Nitroaniline	0.819	U	200	189.6		ug/L		95	55 - 130
Nitrobenzene	0.587	U	200	176.0		ug/L		88	54 - 130
2-Nitrophenol	0.808	U	200	178.4		ug/L		89	54 - 130
4-Nitrophenol	1.73	U	400	374.3		ug/L		94	34 - 138
N-Nitrosodi-n-propylamine	0.620	U	200	174.0		ug/L		87	45 - 130
N-Nitrosodiphenylamine	1.03	U	400	373.3		ug/L		93	51 - 130
Pentachlorophenol	1.32	U	400	360.3		ug/L		90	55 - 130
Phenanthrene	0.591	U	200	195.0		ug/L		98	67 - 130
Phenol	0.768	U	200	164.7		ug/L		82	47 - 130
Pyrene	0.440	U	200	190.6		ug/L		95	66 - 130
1,2,4-Trichlorobenzene	0.647	U	200	158.8		ug/L		79	49 - 130
2,4,5-Trichlorophenol	0.861	U	200	186.2		ug/L		93	55 - 130
2,4,6-Trichlorophenol	0.658	U	200	183.4		ug/L		92	53 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	76		23 - 130
2-Fluorophenol	69		10 - 130
Nitrobenzene-d5	77		27 - 130
Phenol-d5	74		10 - 130
Terphenyl-d14	80		10 - 141
2,4,6-Tribromophenol	86		18 - 130

Lab Sample ID: 560-60099-1 MSD

Matrix: Water

Analysis Batch: 125912

Client Sample ID: HSM110

Prep Type: Total/NA

Prep Batch: 125852

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acenaphthene	0.460	U	200	180.4		ug/L		90	54 - 130	0	30
Acenaphthylene	0.452	U	200	174.9		ug/L		87	54 - 130	0	30
Anthracene	0.700	U	200	191.7		ug/L		96	67 - 130	0	30
Benzo[a]anthracene	0.646	U	200	192.2		ug/L		96	70 - 130	1	30
Benzo[a]pyrene	0.742	U	200	191.6		ug/L		96	70 - 130	1	30
Benzo[b]fluoranthene	0.908	U	200	195.8		ug/L		98	69 - 130	2	30
Benzo[g,h,i]perylene	1.10	U	200	194.1		ug/L		97	62 - 130	1	30
Benzo[k]fluoranthene	1.49	U	200	193.3		ug/L		97	68 - 130	3	30
Benzyl alcohol	0.827	U	200	177.0		ug/L		89	52 - 130	3	30
Bis(2-chloroethoxy)methane	0.436	U	200	177.8		ug/L		89	55 - 130	0	30
Bis(2-chloroethyl)ether	1.55	U	200	174.5		ug/L		87	52 - 130	5	30
Bis(2-ethylhexyl) phthalate	5.00	U	200	205.5		ug/L		103	68 - 130	1	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60099-1 MSD

Matrix: Water

Analysis Batch: 125912

Client Sample ID: HSM110

Prep Type: Total/NA

Prep Batch: 125852

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Bromophenyl phenyl ether	0.811	U	200	188.7		ug/L		94	69 - 130	0	30
Butyl benzyl phthalate	0.816	U	200	200.2		ug/L		100	68 - 130	3	30
4-Chloroaniline	0.549	U F2	200	149.2	F2	ug/L		75	30 - 130	39	30
4-Chloro-3-methylphenol	0.586	U	200	179.6		ug/L		90	52 - 130	1	30
2-Chloronaphthalene	0.603	U	200	173.2		ug/L		87	51 - 130	1	30
2-Chlorophenol	0.729	U	200	170.4		ug/L		85	51 - 130	1	30
4-Chlorophenyl phenyl ether	0.529	U	200	186.3		ug/L		93	59 - 130	2	30
Chrysene	0.494	U	200	195.7		ug/L		98	70 - 130	1	30
Dibenz(a,h)anthracene	0.874	U	200	192.4		ug/L		96	65 - 130	1	30
Dibenzofuran	0.485	U	200	178.8		ug/L		89	53 - 130	2	30
1,2-Dichlorobenzene	0.775	U	200	150.6		ug/L		75	43 - 130	0	30
1,3-Dichlorobenzene	0.491	U	200	146.1		ug/L		73	40 - 130	0	30
1,4-Dichlorobenzene	0.815	U	200	150.0		ug/L		75	42 - 130	1	30
3,3'-Dichlorobenzidine	0.787	U	200	136.8		ug/L		68	61 - 130	2	30
2,4-Dichlorophenol	0.704	U	200	177.0		ug/L		89	51 - 130	1	30
Diethyl phthalate	0.666	U	200	187.7		ug/L		94	59 - 130	1	30
2,4-Dimethylphenol	0.593	U	200	170.1		ug/L		85	51 - 130	1	30
Dimethyl phthalate	0.589	U	200	185.4		ug/L		93	63 - 130	1	30
Di-n-butyl phthalate	0.709	U	200	195.9		ug/L		98	67 - 130	1	30
4,6-Dinitro-2-methylphenol	0.959	U	400	370.6		ug/L		93	63 - 130	1	30
2,4-Dinitrophenol	2.69	U	400	354.6		ug/L		89	47 - 130	1	30
2,4-Dinitrotoluene	0.509	U	200	190.9		ug/L		95	67 - 130	1	30
2,6-Dinitrotoluene	0.762	U	200	187.9		ug/L		94	64 - 130	1	30
Di-n-octyl phthalate	1.11	U	200	191.4		ug/L		96	70 - 130	0	30
Fluoranthene	0.496	U	200	196.2		ug/L		98	65 - 130	0	30
Fluorene	0.421	U	200	185.8		ug/L		93	59 - 130	2	30
Hexachlorobenzene	0.602	U	200	185.7		ug/L		93	67 - 130	1	30
Hexachlorobutadiene	0.716	U	200	150.6		ug/L		75	44 - 130	2	30
Hexachlorocyclopentadiene	0.839	U	200	102.5		ug/L		51	10 - 130	1	30
Hexachloroethane	0.589	U	200	143.8		ug/L		72	38 - 130	0	30
Indeno[1,2,3-cd]pyrene	0.922	U	200	189.6		ug/L		95	66 - 130	1	30
Isophorone	0.549	U	200	173.1		ug/L		87	55 - 130	0	30
2-Methylnaphthalene	0.702	U	200	172.6		ug/L		86	54 - 130	0	30
2-Methylphenol	0.610	U	200	173.4		ug/L		87	47 - 130	2	30
3 & 4 Methylphenol	0.763	U	200	176.7		ug/L		88	41 - 130	2	30
Naphthalene	0.787	U	200	168.1		ug/L		84	51 - 130	1	30
2-Nitroaniline	0.766	U	200	171.7		ug/L		86	60 - 130	2	35
3-Nitroaniline	0.512	U	200	184.9		ug/L		92	57 - 130	0	30
4-Nitroaniline	0.819	U	200	180.3		ug/L		90	55 - 130	5	30
Nitrobenzene	0.587	U	200	175.9		ug/L		88	54 - 130	0	30
2-Nitrophenol	0.808	U	200	179.4		ug/L		90	54 - 130	1	30
4-Nitrophenol	1.73	U	400	373.6		ug/L		93	34 - 138	0	30
N-Nitrosodi-n-propylamine	0.620	U	200	174.0		ug/L		87	45 - 130	0	30
N-Nitrosodiphenylamine	1.03	U	400	368.6		ug/L		92	51 - 130	1	30
Pentachlorophenol	1.32	U	400	355.0		ug/L		89	55 - 130	1	30
Phenanthrene	0.591	U	200	194.3		ug/L		97	67 - 130	0	30
Phenol	0.768	U	200	170.2		ug/L		85	47 - 130	3	30
Pyrene	0.440	U	200	195.1		ug/L		98	66 - 130	2	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60099-1 MSD

Matrix: Water

Analysis Batch: 125912

Client Sample ID: HSM110

Prep Type: Total/NA

Prep Batch: 125852

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	0.647	U	200	157.8		ug/L		79	49 - 130	1	30
2,4,5-Trichlorophenol	0.861	U	200	185.3		ug/L		93	55 - 130	0	30
2,4,6-Trichlorophenol	0.658	U	200	182.7		ug/L		91	53 - 130	0	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	74		23 - 130
2-Fluorophenol	69		10 - 130
Nitrobenzene-d5	76		27 - 130
Phenol-d5	76		10 - 130
Terphenyl-d14	82		10 - 141
2,4,6-Tribromophenol	83		18 - 130

## Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 560-125817/1-A

Matrix: Water

Analysis Batch: 125829

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125817

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00504	U	0.0605	0.00504	ug/L		03/08/16 09:16	03/08/16 15:05	1
alpha-BHC	0.00524	U	0.0605	0.00524	ug/L		03/08/16 09:16	03/08/16 15:05	1
alpha-Chlordane	0.00635	U	0.0605	0.00635	ug/L		03/08/16 09:16	03/08/16 15:05	1
beta-BHC	0.00504	U	0.0605	0.00504	ug/L		03/08/16 09:16	03/08/16 15:05	1
4,4'-DDD	0.00504	U	0.0605	0.00504	ug/L		03/08/16 09:16	03/08/16 15:05	1
4,4'-DDE	0.00504	U	0.0605	0.00504	ug/L		03/08/16 09:16	03/08/16 15:05	1
4,4'-DDT	0.00817	U	0.0605	0.00817	ug/L		03/08/16 09:16	03/08/16 15:05	1
delta-BHC	0.00504	U	0.0605	0.00504	ug/L		03/08/16 09:16	03/08/16 15:05	1
Dieldrin	0.0131	U	0.0605	0.0131	ug/L		03/08/16 09:16	03/08/16 15:05	1
Endosulfan I	0.00504	U	0.0605	0.00504	ug/L		03/08/16 09:16	03/08/16 15:05	1
Endosulfan II	0.00867	U	0.0605	0.00867	ug/L		03/08/16 09:16	03/08/16 15:05	1
Endosulfan sulfate	0.00888	U	0.0605	0.00888	ug/L		03/08/16 09:16	03/08/16 15:05	1
Endrin	0.00777	U	0.0605	0.00777	ug/L		03/08/16 09:16	03/08/16 15:05	1
Endrin aldehyde	0.00504	U	0.0605	0.00504	ug/L		03/08/16 09:16	03/08/16 15:05	1
Endrin ketone	0.00827	U	0.0605	0.00827	ug/L		03/08/16 09:16	03/08/16 15:05	1
gamma-BHC (Lindane)	0.00454	U	0.0605	0.00454	ug/L		03/08/16 09:16	03/08/16 15:05	1
gamma-Chlordane	0.00676	U	0.0605	0.00676	ug/L		03/08/16 09:16	03/08/16 15:05	1
Heptachlor	0.00656	U	0.0605	0.00656	ug/L		03/08/16 09:16	03/08/16 15:05	1
Heptachlor epoxide	0.00524	U	0.0605	0.00524	ug/L		03/08/16 09:16	03/08/16 15:05	1
Methoxychlor	0.0101	U	0.0605	0.0101	ug/L		03/08/16 09:16	03/08/16 15:05	1
Toxaphene	0.686	U	6.05	0.686	ug/L		03/08/16 09:16	03/08/16 15:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	45		10 - 152	03/08/16 09:16	03/08/16 15:05	1
Tetrachloro-m-xylene	90		57 - 127	03/08/16 09:16	03/08/16 15:05	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 560-125817/3-A

Matrix: Water

Analysis Batch: 125829

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aldrin	0.580	0.5057		ug/L		87	54 - 130
alpha-BHC	0.580	0.5408		ug/L		93	59 - 130
alpha-Chlordane	0.580	0.4831		ug/L		83	51 - 130
beta-BHC	0.580	0.5155		ug/L		89	56 - 130
4,4'-DDD	0.580	0.5179		ug/L		89	56 - 130
4,4'-DDE	0.580	0.4650		ug/L		80	53 - 130
4,4'-DDT	0.580	0.4891		ug/L		84	50 - 130
delta-BHC	0.580	0.5414		ug/L		93	56 - 130
Dieldrin	0.580	0.5208		ug/L		90	58 - 130
Endosulfan I	0.580	0.5229		ug/L		90	39 - 130
Endosulfan II	0.580	0.4775		ug/L		82	44 - 130
Endosulfan sulfate	0.580	0.4729		ug/L		82	52 - 130
Endrin	0.580	0.5282		ug/L		91	62 - 130
Endrin aldehyde	0.580	0.4222		ug/L		73	52 - 130
Endrin ketone	0.580	0.4825		ug/L		83	48 - 130
gamma-BHC (Lindane)	0.580	0.5385		ug/L		93	56 - 130
gamma-Chlordane	0.580	0.5425		ug/L		94	52 - 130
Heptachlor	0.580	0.5246		ug/L		90	57 - 130
Heptachlor epoxide	0.580	0.4564		ug/L		79	53 - 130
Methoxychlor	0.580	0.5141		ug/L		89	57 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	48		10 - 152
Tetrachloro-m-xylene	90		57 - 127

Lab Sample ID: LCS 560-125817/4-A

Matrix: Water

Analysis Batch: 125829

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Toxaphene	11.2	11.25		ug/L		100	51 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	41		10 - 152
Tetrachloro-m-xylene	80		57 - 127

Lab Sample ID: LCS 560-125817/5-A

Matrix: Water

Analysis Batch: 125829

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125817

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	42		10 - 152
Tetrachloro-m-xylene	80		57 - 127

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-60073-M-4-D MS

Matrix: Water

Analysis Batch: 125829

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aldrin	0.00493	U	0.552	0.4206		ug/L		76	54 - 130
alpha-BHC	0.00513	U	0.552	0.4902		ug/L		89	59 - 130
alpha-Chlordane	0.00621	U	0.552	0.3801		ug/L		69	51 - 130
beta-BHC	0.00493	U	0.552	0.4560		ug/L		83	56 - 130
4,4'-DDD	0.00493	U	0.552	0.4366		ug/L		79	56 - 130
4,4'-DDE	0.00493	U	0.552	0.4063		ug/L		74	53 - 130
4,4'-DDT	0.00799	U	0.552	0.3918		ug/L		71	50 - 130
delta-BHC	0.00493	U	0.552	0.4835		ug/L		88	56 - 130
Dieldrin	0.0128	U	0.552	0.4525		ug/L		82	58 - 130
Endosulfan I	0.00493	U	0.552	0.4431		ug/L		80	39 - 130
Endosulfan II	0.00848	U	0.552	0.4150		ug/L		75	44 - 130
Endosulfan sulfate	0.00868	U	0.552	0.3903		ug/L		71	52 - 130
Endrin	0.00759	U	0.552	0.4638		ug/L		84	62 - 130
Endrin aldehyde	0.00493	U	0.552	0.3514		ug/L		64	52 - 130
Endrin ketone	0.00808	U	0.552	0.4209		ug/L		76	48 - 130
gamma-BHC (Lindane)	0.00444	U	0.552	0.4840		ug/L		88	56 - 130
gamma-Chlordane	0.00661	U	0.552	0.4348		ug/L		79	52 - 130
Heptachlor	0.00641	U	0.552	0.4561		ug/L		83	57 - 130
Heptachlor epoxide	0.00513	U	0.552	0.3986		ug/L		72	53 - 130
Methoxychlor	0.00986	U	0.552	0.4425		ug/L		80	57 - 130
<b>MS MS</b>									
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
DCB Decachlorobiphenyl	34		10 - 152						
Tetrachloro-m-xylene	84		57 - 127						

Lab Sample ID: 560-60073-M-4-E MSD

Matrix: Water

Analysis Batch: 125829

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aldrin	0.00493	U	0.560	0.4407		ug/L		79	54 - 130	5	30
alpha-BHC	0.00513	U	0.560	0.5020		ug/L		90	59 - 130	2	30
alpha-Chlordane	0.00621	U	0.560	0.3981		ug/L		71	51 - 130	5	30
beta-BHC	0.00493	U	0.560	0.4641		ug/L		83	56 - 130	2	30
4,4'-DDD	0.00493	U	0.560	0.4475		ug/L		80	56 - 130	2	30
4,4'-DDE	0.00493	U	0.560	0.4124		ug/L		74	53 - 130	1	30
4,4'-DDT	0.00799	U	0.560	0.4086		ug/L		73	50 - 130	4	30
delta-BHC	0.00493	U	0.560	0.4953		ug/L		88	56 - 130	2	30
Dieldrin	0.0128	U	0.560	0.4593		ug/L		82	58 - 130	1	30
Endosulfan I	0.00493	U	0.560	0.4553		ug/L		81	39 - 130	3	30
Endosulfan II	0.00848	U	0.560	0.4201		ug/L		75	44 - 130	1	30
Endosulfan sulfate	0.00868	U	0.560	0.4052		ug/L		72	52 - 130	4	30
Endrin	0.00759	U	0.560	0.4682		ug/L		84	62 - 130	1	30
Endrin aldehyde	0.00493	U	0.560	0.3582		ug/L		64	52 - 130	2	30
Endrin ketone	0.00808	U	0.560	0.4269		ug/L		76	48 - 130	1	30
gamma-BHC (Lindane)	0.00444	U	0.560	0.4945		ug/L		88	56 - 130	2	30
gamma-Chlordane	0.00661	U	0.560	0.4502		ug/L		80	52 - 130	3	30
Heptachlor	0.00641	U	0.560	0.4740		ug/L		85	57 - 130	4	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-60073-M-4-E MSD

Matrix: Water

Analysis Batch: 125829

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Heptachlor epoxide	0.00513	U	0.560	0.4336		ug/L		77	53 - 130	6	30
Methoxychlor	0.00986	U	0.560	0.4453		ug/L		79	57 - 130	1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	37		10 - 152
Tetrachloro-m-xylene	85		57 - 127

Lab Sample ID: MB 560-125855/1-A

Matrix: Water

Analysis Batch: 125925

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125855

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00490	U	0.0588	0.00490	ug/L		03/09/16 08:46	03/10/16 14:24	1
alpha-BHC	0.00510	U	0.0588	0.00510	ug/L		03/09/16 08:46	03/10/16 14:24	1
alpha-Chlordane	0.00618	U	0.0588	0.00618	ug/L		03/09/16 08:46	03/10/16 14:24	1
beta-BHC	0.00490	U	0.0588	0.00490	ug/L		03/09/16 08:46	03/10/16 14:24	1
4,4'-DDD	0.00490	U	0.0588	0.00490	ug/L		03/09/16 08:46	03/10/16 14:24	1
4,4'-DDE	0.00490	U	0.0588	0.00490	ug/L		03/09/16 08:46	03/10/16 14:24	1
4,4'-DDT	0.00794	U	0.0588	0.00794	ug/L		03/09/16 08:46	03/10/16 14:24	1
delta-BHC	0.00490	U	0.0588	0.00490	ug/L		03/09/16 08:46	03/10/16 14:24	1
Dieldrin	0.0127	U	0.0588	0.0127	ug/L		03/09/16 08:46	03/10/16 14:24	1
Endosulfan I	0.00490	U	0.0588	0.00490	ug/L		03/09/16 08:46	03/10/16 14:24	1
Endosulfan II	0.00843	U	0.0588	0.00843	ug/L		03/09/16 08:46	03/10/16 14:24	1
Endosulfan sulfate	0.00863	U	0.0588	0.00863	ug/L		03/09/16 08:46	03/10/16 14:24	1
Endrin	0.00755	U	0.0588	0.00755	ug/L		03/09/16 08:46	03/10/16 14:24	1
Endrin aldehyde	0.00490	U	0.0588	0.00490	ug/L		03/09/16 08:46	03/10/16 14:24	1
Endrin ketone	0.00804	U	0.0588	0.00804	ug/L		03/09/16 08:46	03/10/16 14:24	1
gamma-BHC (Lindane)	0.00441	U	0.0588	0.00441	ug/L		03/09/16 08:46	03/10/16 14:24	1
gamma-Chlordane	0.00657	U	0.0588	0.00657	ug/L		03/09/16 08:46	03/10/16 14:24	1
Heptachlor	0.00637	U	0.0588	0.00637	ug/L		03/09/16 08:46	03/10/16 14:24	1
Heptachlor epoxide	0.00510	U	0.0588	0.00510	ug/L		03/09/16 08:46	03/10/16 14:24	1
Methoxychlor	0.00980	U	0.0588	0.00980	ug/L		03/09/16 08:46	03/10/16 14:24	1
Toxaphene	0.667	U	5.88	0.667	ug/L		03/09/16 08:46	03/10/16 14:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	30		10 - 152	03/09/16 08:46	03/10/16 14:24	1
DCB Decachlorobiphenyl	55		10 - 152	03/09/16 08:46	03/10/16 14:24	1
Tetrachloro-m-xylene	75		57 - 127	03/09/16 08:46	03/10/16 14:24	1
Tetrachloro-m-xylene	74		57 - 127	03/09/16 08:46	03/10/16 14:24	1

Lab Sample ID: LCS 560-125855/3-A

Matrix: Water

Analysis Batch: 125925

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125855

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.583	0.3864		ug/L		66	54 - 130
alpha-BHC	0.583	0.4588		ug/L		79	59 - 130
alpha-Chlordane	0.583	0.3524		ug/L		60	51 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 560-125855/3-A

Matrix: Water

Analysis Batch: 125925

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125855

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
beta-BHC	0.583	0.4239		ug/L		73	56 - 130
4,4'-DDD	0.583	0.3969		ug/L		68	56 - 130
4,4'-DDE	0.583	0.3723		ug/L		64	53 - 130
4,4'-DDT	0.583	0.3587		ug/L		62	50 - 130
delta-BHC	0.583	0.4487		ug/L		77	56 - 130
Dieldrin	0.583	0.4143		ug/L		71	58 - 130
Endosulfan I	0.583	0.4058		ug/L		70	39 - 130
Endosulfan II	0.583	0.3775		ug/L		65	44 - 130
Endosulfan sulfate	0.583	0.3590		ug/L		62	52 - 130
Endrin	0.583	0.4149		ug/L		71	62 - 130
Endrin aldehyde	0.583	0.3330		ug/L		57	52 - 130
Endrin ketone	0.583	0.3833		ug/L		66	48 - 130
gamma-BHC (Lindane)	0.583	0.4491		ug/L		77	56 - 130
gamma-Chlordane	0.583	0.3932		ug/L		67	52 - 130
Heptachlor	0.583	0.4215		ug/L		72	57 - 130
Heptachlor epoxide	0.583	0.4002		ug/L		69	53 - 130
Methoxychlor	0.583	0.3955		ug/L		68	57 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	35		10 - 152
DCB Decachlorobiphenyl	62		10 - 152
Tetrachloro-m-xylene	77		57 - 127
Tetrachloro-m-xylene	74		57 - 127

Lab Sample ID: LCS 560-125855/4-A

Matrix: Water

Analysis Batch: 125925

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125855

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toxaphene	11.4	8.977		ug/L		79	51 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	32		10 - 152
DCB Decachlorobiphenyl	57		10 - 152
Tetrachloro-m-xylene	69		57 - 127
Tetrachloro-m-xylene	66		57 - 127

Lab Sample ID: LCS 560-125855/5-A

Matrix: Water

Analysis Batch: 125925

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125855

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	36		10 - 152
DCB Decachlorobiphenyl	65		10 - 152
Tetrachloro-m-xylene	74		57 - 127
Tetrachloro-m-xylene	72		57 - 127

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-60099-6 MS

Matrix: Water

Analysis Batch: 125925

Client Sample ID: HSM150

Prep Type: Total/NA

Prep Batch: 125855

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aldrin	0.00487	U	0.571	0.4267		ug/L		75	54 - 130
alpha-BHC	0.00507	U	0.571	0.4759		ug/L		83	59 - 130
alpha-Chlordane	0.00614	U	0.571	0.4002		ug/L		70	51 - 130
beta-BHC	0.00487	U	0.571	0.4379		ug/L		77	56 - 130
4,4'-DDD	0.00487	U	0.571	0.4188		ug/L		73	56 - 130
4,4'-DDE	0.00487	U	0.571	0.3808		ug/L		67	53 - 130
4,4'-DDT	0.00790	U	0.571	0.3977		ug/L		70	50 - 130
delta-BHC	0.00487	U	0.571	0.4657		ug/L		81	56 - 130
Dieldrin	0.0127	U	0.571	0.4249		ug/L		74	58 - 130
Endosulfan I	0.00487	U	0.571	0.4301		ug/L		75	39 - 130
Endosulfan II	0.00838	U	0.571	0.3857		ug/L		67	44 - 130
Endosulfan sulfate	0.00858	U	0.571	0.3804		ug/L		67	52 - 130
Endrin	0.00751	U	0.571	0.4341		ug/L		76	62 - 130
Endrin aldehyde	0.00487	U	0.571	0.3321		ug/L		58	52 - 130
Endrin ketone	0.00799	U F2	0.571	0.3934		ug/L		69	48 - 130
gamma-BHC (Lindane)	0.00439	U	0.571	0.4647		ug/L		81	56 - 130
gamma-Chlordane	0.00653	U	0.571	0.4205		ug/L		74	52 - 130
Heptachlor	0.00634	U	0.571	0.4479		ug/L		78	57 - 130
Heptachlor epoxide	0.00507	U	0.571	0.4009		ug/L		70	53 - 130
Methoxychlor	0.00975	U	0.571	0.4111		ug/L		72	57 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
DCB Decachlorobiphenyl	41		10 - 152						
DCB Decachlorobiphenyl	72		10 - 152						
Tetrachloro-m-xylene	80		57 - 127						
Tetrachloro-m-xylene	76		57 - 127						

Lab Sample ID: 560-60099-6 MSD

Matrix: Water

Analysis Batch: 125925

Client Sample ID: HSM150

Prep Type: Total/NA

Prep Batch: 125855

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aldrin	0.00487	U	0.563	0.4248		ug/L		75	54 - 130	0	30
alpha-BHC	0.00507	U	0.563	0.4693		ug/L		83	59 - 130	1	30
alpha-Chlordane	0.00614	U	0.563	0.3999		ug/L		71	51 - 130	0	30
beta-BHC	0.00487	U	0.563	0.4293		ug/L		76	56 - 130	2	30
4,4'-DDD	0.00487	U	0.563	0.4127		ug/L		73	56 - 130	1	30
4,4'-DDE	0.00487	U	0.563	0.3737		ug/L		66	53 - 130	2	30
4,4'-DDT	0.00790	U	0.563	0.3970		ug/L		70	50 - 130	0	30
delta-BHC	0.00487	U	0.563	0.4574		ug/L		81	56 - 130	2	30
Dieldrin	0.0127	U	0.563	0.4166		ug/L		74	58 - 130	2	30
Endosulfan I	0.00487	U	0.563	0.4246		ug/L		75	39 - 130	1	30
Endosulfan II	0.00838	U	0.563	0.3796		ug/L		67	44 - 130	2	30
Endosulfan sulfate	0.00858	U	0.563	0.3749		ug/L		67	52 - 130	1	30
Endrin	0.00751	U	0.563	0.4215		ug/L		75	62 - 130	3	30
Endrin aldehyde	0.00487	U	0.563	0.3255		ug/L		58	52 - 130	2	30
Endrin ketone	0.00799	U F2	0.563	0.3881		ug/L		69	48 - 130	1	30
gamma-BHC (Lindane)	0.00439	U	0.563	0.4564		ug/L		81	56 - 130	2	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-60099-6 MSD

Matrix: Water

Analysis Batch: 125925

Client Sample ID: HSM150

Prep Type: Total/NA

Prep Batch: 125855

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
gamma-Chlordane	0.00653	U	0.563	0.4139		ug/L		73	52 - 130	2	30
Heptachlor	0.00634	U	0.563	0.4415		ug/L		78	57 - 130	1	30
Heptachlor epoxide	0.00507	U	0.563	0.4046		ug/L		72	53 - 130	1	30
Methoxychlor	0.00975	U	0.563	0.3984		ug/L		71	57 - 130	3	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	41		10 - 152
DCB Decachlorobiphenyl	72		10 - 152
Tetrachloro-m-xylene	78		57 - 127
Tetrachloro-m-xylene	76		57 - 127

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 560-125817/1-A

Matrix: Water

Analysis Batch: 125830

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125817

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1221	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1232	0.444	U	0.807	0.444	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1242	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1248	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1254	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1260	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1262	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1
Aroclor 1268	0.111	U	0.605	0.111	ug/L		03/08/16 09:16	03/08/16 14:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	137		10 - 150	03/08/16 09:16	03/08/16 14:57	1
DCB Decachlorobiphenyl	119		10 - 150	03/08/16 09:16	03/08/16 14:57	1

Lab Sample ID: LCS 560-125817/2-A

Matrix: Water

Analysis Batch: 125830

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	11.5	14.10		ug/L		123	50 - 135
Aroclor 1260	11.5	13.44		ug/L		117	50 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	109		10 - 150
DCB Decachlorobiphenyl	104		10 - 150

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 560-60073-M-4-B MS

Matrix: Water

Analysis Batch: 125830

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aroclor 1016	0.108	U F1	11.2	15.10		ug/L		134	50 - 135
Aroclor 1260	0.108	U F1	11.2	13.11		ug/L		117	50 - 135
Surrogate	%Recovery	Qualifier	Limits	MS	MS				
Tetrachloro-m-xylene	125		10 - 150						
DCB Decachlorobiphenyl	95		10 - 150						

Lab Sample ID: 560-60073-M-4-C MSD

Matrix: Water

Analysis Batch: 125830

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 125817

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aroclor 1016	0.108	U F1	11.8	17.07	F1	ug/L		145	50 - 135	12	30
Aroclor 1260	0.108	U F1	11.8	17.08	F1	ug/L		145	50 - 135	26	30
Surrogate	%Recovery	Qualifier	Limits	MSD	MSD						
Tetrachloro-m-xylene	132		10 - 150								
DCB Decachlorobiphenyl	126		10 - 150								

Lab Sample ID: MB 560-125855/1-A

Matrix: Water

Analysis Batch: 125926

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125855

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.108	U	0.588	0.108	ug/L		03/09/16 08:46	03/10/16 12:46	1
Aroclor 1221	0.108	U	0.588	0.108	ug/L		03/09/16 08:46	03/10/16 12:46	1
Aroclor 1232	0.431	U	0.784	0.431	ug/L		03/09/16 08:46	03/10/16 12:46	1
Aroclor 1242	0.108	U	0.588	0.108	ug/L		03/09/16 08:46	03/10/16 12:46	1
Aroclor 1248	0.108	U	0.588	0.108	ug/L		03/09/16 08:46	03/10/16 12:46	1
Aroclor 1254	0.108	U	0.588	0.108	ug/L		03/09/16 08:46	03/10/16 12:46	1
Aroclor 1260	0.108	U	0.588	0.108	ug/L		03/09/16 08:46	03/10/16 12:46	1
Aroclor 1262	0.108	U	0.588	0.108	ug/L		03/09/16 08:46	03/10/16 12:46	1
Aroclor 1268	0.108	U	0.588	0.108	ug/L		03/09/16 08:46	03/10/16 12:46	1
Surrogate	%Recovery	Qualifier	Limits	MB	MB		Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	113		10 - 150				03/09/16 08:46	03/10/16 12:46	1
DCB Decachlorobiphenyl	81		10 - 150				03/09/16 08:46	03/10/16 12:46	1

Lab Sample ID: LCS 560-125855/2-A

Matrix: Water

Analysis Batch: 125926

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125855

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor 1016	11.3	12.99		ug/L		115	50 - 135
Aroclor 1260	11.3	11.02		ug/L		98	50 - 135

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 560-125855/2-A

Matrix: Water

Analysis Batch: 125926

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125855

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	99		10 - 150
DCB Decachlorobiphenyl	84		10 - 150

Lab Sample ID: 560-60099-6 MS

Matrix: Water

Analysis Batch: 125926

Client Sample ID: HSM150

Prep Type: Total/NA

Prep Batch: 125855

	Sample	Sample	Spike	MS	MS					
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Aroclor 1016	0.107	U	11.2	12.95		ug/L		116	50 - 135	
Aroclor 1260	0.107	U F1	11.2	12.75		ug/L		114	50 - 135	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
Tetrachloro-m-xylene	110		10 - 150							
DCB Decachlorobiphenyl	96		10 - 150							

Lab Sample ID: 560-60099-6 MSD

Matrix: Water

Analysis Batch: 125926

Client Sample ID: HSM150

Prep Type: Total/NA

Prep Batch: 125855

	Sample	Sample	Spike	MSD	MSD						
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aroclor 1016	0.107	U	11.0	14.12		ug/L		128	50 - 135	9	30
Aroclor 1260	0.107	U F1	11.0	15.33	F1	ug/L		139	50 - 135	18	30
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
Tetrachloro-m-xylene	122		10 - 150								
DCB Decachlorobiphenyl	117		10 - 150								

## Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 280-316370/1-A

Matrix: Water

Analysis Batch: 316908

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 316370

	MB	MB								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
Azinphos-methyl	0.168	U	2.50	0.168	ug/L		03/09/16 19:25	03/15/16 16:58	1	
Bolstar	0.314	U	1.00	0.314	ug/L		03/09/16 19:25	03/15/16 16:58	1	
Chlorpyrifos	0.360	U	1.50	0.360	ug/L		03/09/16 19:25	03/15/16 16:58	1	
Coumaphos	0.135	U	1.00	0.135	ug/L		03/09/16 19:25	03/15/16 16:58	1	
Demeton-O	0.140	U	1.00	0.140	ug/L		03/09/16 19:25	03/15/16 16:58	1	
Demeton-S	0.0690	U	2.00	0.0690	ug/L		03/09/16 19:25	03/15/16 16:58	1	
Diazinon	0.147	U	0.500	0.147	ug/L		03/09/16 19:25	03/15/16 16:58	1	
Dichlorvos	0.162	U	0.500	0.162	ug/L		03/09/16 19:25	03/15/16 16:58	1	
Dimethoate	0.449	U	1.50	0.449	ug/L		03/09/16 19:25	03/15/16 16:58	1	
Disulfoton	0.322	U	1.00	0.322	ug/L		03/09/16 19:25	03/15/16 16:58	1	
EPN	0.149	U	1.20	0.149	ug/L		03/09/16 19:25	03/15/16 16:58	1	
Ethoprop	0.177	U	1.50	0.177	ug/L		03/09/16 19:25	03/15/16 16:58	1	
Ethyl Parathion	0.144	U	1.00	0.144	ug/L		03/09/16 19:25	03/15/16 16:58	1	

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: MB 280-316370/1-A

Matrix: Water

Analysis Batch: 316908

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 316370

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Famphur	0.179	U	1.00	0.179	ug/L		03/09/16 19:25	03/15/16 16:58	1
Fensulfothion	0.544	U	2.50	0.544	ug/L		03/09/16 19:25	03/15/16 16:58	1
Fenthion	0.154	U	2.50	0.154	ug/L		03/09/16 19:25	03/15/16 16:58	1
Malathion	0.133	U	2.00	0.133	ug/L		03/09/16 19:25	03/15/16 16:58	1
Merphos	0.174	U	5.00	0.174	ug/L		03/09/16 19:25	03/15/16 16:58	1
Methyl parathion	0.141	U	4.00	0.141	ug/L		03/09/16 19:25	03/15/16 16:58	1
Mevinphos	0.460	U	6.20	0.460	ug/L		03/09/16 19:25	03/15/16 16:58	1
Naled	0.800	U	2.00	0.800	ug/L		03/09/16 19:25	03/15/16 16:58	1
Phorate	0.154	U	1.20	0.154	ug/L		03/09/16 19:25	03/15/16 16:58	1
Ronnel	0.116	U	10.0	0.116	ug/L		03/09/16 19:25	03/15/16 16:58	1
Sulfotepp	0.168	U	1.50	0.168	ug/L		03/09/16 19:25	03/15/16 16:58	1
Tetrachlorvinphos (Stirophos)	0.124	U	3.50	0.124	ug/L		03/09/16 19:25	03/15/16 16:58	1
Thionazin	0.312	U	1.00	0.312	ug/L		03/09/16 19:25	03/15/16 16:58	1
Tokuthion	0.123	U	1.60	0.123	ug/L		03/09/16 19:25	03/15/16 16:58	1
Trichloronate	0.242	U	1.50	0.242	ug/L		03/09/16 19:25	03/15/16 16:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	80		49 - 171	03/09/16 19:25	03/15/16 16:58	1
Triphenylphosphate	99		60 - 154	03/09/16 19:25	03/15/16 16:58	1

Lab Sample ID: LCS 280-316370/2-A

Matrix: Water

Analysis Batch: 316908

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 316370

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	8.00	5.744		ug/L		72	35 - 130
Chlorpyrifos	8.00	5.396		ug/L		67	39 - 120
Coumaphos	8.00	6.411		ug/L		80	37 - 134
Diazinon	8.00	5.157		ug/L		64	35 - 120
Dichlorvos	8.00	5.641		ug/L		71	23 - 174
Dimethoate	4.00	2.256		ug/L		56	29 - 116
Disulfoton	8.00	5.437		ug/L		68	36 - 115
EPN	4.00	3.148		ug/L		79	46 - 121
Ethoprop	8.00	5.484		ug/L		69	39 - 129
Ethyl Parathion	4.00	2.993		ug/L		75	40 - 122
Famphur	4.00	3.395		ug/L		85	42 - 130
Fensulfothion	8.00	4.969		ug/L		62	29 - 134
Fenthion	8.00	5.480		ug/L		68	34 - 120
Malathion	4.00	2.606		ug/L		65	39 - 117
Merphos	8.00	4.120	J	ug/L		51	32 - 115
Methyl parathion	8.00	5.852		ug/L		73	42 - 130
Mevinphos	8.00	4.370	J	ug/L		55	22 - 115
Phorate	8.00	4.717		ug/L		59	22 - 115
Ronnel	8.00	6.046	J	ug/L		76	33 - 126
Sulfotepp	4.00	2.915		ug/L		73	33 - 117
Tetrachlorvinphos (Stirophos)	8.00	6.021		ug/L		75	39 - 120
Thionazin	4.00	2.644		ug/L		66	38 - 120
Trichloronate	8.00	5.440		ug/L		68	34 - 115

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.

TestAmerica Job ID: 560-60099-1

Project/Site: 2016-Surface Water/Base Flow

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Chlormefos	79		49 - 171
Triphenylphosphate	86		60 - 154

Lab Sample ID: LCSD 280-316370/3-A

Matrix: Water

Analysis Batch: 316908

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 316370

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	8.00	5.508		ug/L		69	35 - 130	4	50
Chlorpyrifos	8.00	5.110		ug/L		64	39 - 120	5	27
Coumaphos	8.00	5.918		ug/L		74	37 - 134	8	50
Diazinon	8.00	5.033		ug/L		63	35 - 120	2	37
Dichlorvos	8.00	5.904		ug/L		74	23 - 174	5	37
Dimethoate	4.00	2.653		ug/L		66	29 - 116	16	49
Disulfoton	8.00	5.621		ug/L		70	36 - 115	3	50
EPN	4.00	2.962		ug/L		74	46 - 121	6	26
Ethoprop	8.00	5.424		ug/L		68	39 - 129	1	27
Ethyl Parathion	4.00	2.845		ug/L		71	40 - 122	5	26
Famphur	4.00	3.225		ug/L		81	42 - 130	5	22
Fensulfothion	8.00	5.537		ug/L		69	29 - 134	11	47
Fenthion	8.00	5.273		ug/L		66	34 - 120	4	27
Malathion	4.00	2.434		ug/L		61	39 - 117	7	25
Merphos	8.00	3.601	J	ug/L		45	32 - 115	13	27
Methyl parathion	8.00	5.532		ug/L		69	42 - 130	6	30
Mevinphos	8.00	4.948	J	ug/L		62	22 - 115	12	34
Phorate	8.00	4.750		ug/L		59	22 - 115	1	33
Ronnel	8.00	5.583	J	ug/L		70	33 - 126	8	25
Sulfotepp	4.00	2.930		ug/L		73	33 - 117	1	32
Tetrachlorvinphos (Stirophos)	8.00	5.690		ug/L		71	39 - 120	6	28
Thionazin	4.00	2.726		ug/L		68	38 - 120	3	25
Trichloronate	8.00	5.031		ug/L		63	34 - 115	8	28

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
Chlormefos	88		49 - 171
Triphenylphosphate	83		60 - 154

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 680-424379/18-A

Matrix: Water

Analysis Batch: 424753

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 424379

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.100	U	5.00	0.100	ug/L		03/09/16 07:54	03/11/16 15:08	1
Dicamba	0.0850	U	0.500	0.0850	ug/L		03/09/16 07:54	03/11/16 15:08	1
Mecoprop	19.0	U	120	19.0	ug/L		03/09/16 07:54	03/11/16 15:08	1
MCPA	17.0	U	120	17.0	ug/L		03/09/16 07:54	03/11/16 15:08	1
Dichlorprop	0.150	U	0.500	0.150	ug/L		03/09/16 07:54	03/11/16 15:08	1
2,4-D	0.0370	U	0.500	0.0370	ug/L		03/09/16 07:54	03/11/16 15:08	1
Silvex (2,4,5-TP)	0.0620	U	0.250	0.0620	ug/L		03/09/16 07:54	03/11/16 15:08	1
2,4,5-T	0.0620	U	0.250	0.0620	ug/L		03/09/16 07:54	03/11/16 15:08	1
2,4-DB	0.150	U	0.500	0.150	ug/L		03/09/16 07:54	03/11/16 15:08	1
Dinoseb	0.160	U	1.00	0.160	ug/L		03/09/16 07:54	03/11/16 15:08	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: MB 680-424379/18-A

Matrix: Water

Analysis Batch: 424753

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 424379

Surrogate	MB MB %Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	81		45 - 130	03/09/16 07:54	03/11/16 15:08	1

Lab Sample ID: LCS 680-424379/19-A

Matrix: Water

Analysis Batch: 424753

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 424379

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	2.00	1.501	J	ug/L		75	40 - 130
Dicamba	1.00	0.8543		ug/L		85	64 - 130
Mecoprop	200	159.0		ug/L		80	55 - 134
MCPA	200	149.8		ug/L		75	52 - 130
Dichlorprop	2.00	1.776		ug/L		89	52 - 130
2,4-D	2.00	1.711		ug/L		86	55 - 130
Silvex (2,4,5-TP)	0.500	0.4606		ug/L		92	60 - 130
2,4,5-T	0.500	0.4628		ug/L		93	58 - 130
2,4-DB	2.00	1.790		ug/L		90	60 - 147
Dinoseb	2.00	1.368		ug/L		68	14 - 130

Surrogate	LCS LCS %Recovery	Qualifier	Limits
2,4-Dichlorophenylacetic acid	83		45 - 130

Lab Sample ID: 680-122708-D-1-A MS

Matrix: Water

Analysis Batch: 424753

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 424379

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	0.0982	U	2.03	1.393	J	ug/L		69	40 - 130
Dicamba	0.0835	U	1.02	0.9210		ug/L		91	64 - 130
Mecoprop	18.7	U	203	158.3		ug/L		78	55 - 134
MCPA	16.7	U	203	153.2		ug/L		75	52 - 130
Dichlorprop	0.147	U	2.03	1.814		ug/L		89	52 - 130
2,4-D	0.0363	U	2.03	1.797		ug/L		88	55 - 130
Silvex (2,4,5-TP)	0.0609	U	0.508	0.4822		ug/L		95	60 - 130
2,4,5-T	0.0609	U	0.508	0.4823		ug/L		95	58 - 130
2,4-DB	0.147	U	2.03	2.013		ug/L		99	60 - 147
Dinoseb	0.157	U	2.03	1.840		ug/L		91	14 - 130

Surrogate	MS MS %Recovery	Qualifier	Limits
2,4-Dichlorophenylacetic acid	91		45 - 130

Lab Sample ID: 680-122708-D-1-B MSD

Matrix: Water

Analysis Batch: 424753

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 424379

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dalapon	0.0982	U	2.12	1.658	J	ug/L		78	40 - 130	17	50
Dicamba	0.0835	U	1.06	1.024		ug/L		97	64 - 130	11	50

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: 680-122708-D-1-B MSD

Matrix: Water

Analysis Batch: 424753

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 424379

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mecoprop	18.7	U	212	181.3		ug/L		86	55 - 134	14	50
MCPA	16.7	U	212	169.7		ug/L		80	52 - 130	10	50
Dichlorprop	0.147	U	2.12	1.986		ug/L		94	52 - 130	9	50
2,4-D	0.0363	U	2.12	1.990		ug/L		94	55 - 130	10	50
Silvex (2,4,5-TP)	0.0609	U	0.529	0.5360		ug/L		101	60 - 130	11	50
2,4,5-T	0.0609	U	0.529	0.5363		ug/L		101	58 - 130	11	50
2,4-DB	0.147	U	2.12	2.318		ug/L		110	60 - 147	14	50
Dinoseb	0.157	U	2.12	2.160		ug/L		102	14 - 130	16	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4-Dichlorophenylacetic acid	96		45 - 130

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 560-125765/1-A

Matrix: Water

Analysis Batch: 125816

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125765

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.101	U	0.200	0.101	mg/L		03/07/16 10:00	03/07/16 14:10	1
Magnesium	0.0257	U	0.200	0.0257	mg/L		03/07/16 10:00	03/07/16 14:10	1
Potassium	0.375	U	0.500	0.375	mg/L		03/07/16 10:00	03/07/16 14:10	1
Silicon	0.0707	U	0.500	0.0707	mg/L		03/07/16 10:00	03/07/16 14:10	1
Sodium	0.310	U	1.00	0.310	mg/L		03/07/16 10:00	03/07/16 14:10	1
Strontium	0.000700	U	0.00500	0.000700	mg/L		03/07/16 10:00	03/07/16 14:10	1

Lab Sample ID: LCS 560-125765/2-A

Matrix: Water

Analysis Batch: 125816

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	50.0	51.60		mg/L		103	80 - 120
Magnesium	50.0	50.48		mg/L		101	80 - 120
Potassium	50.0	49.60		mg/L		99	80 - 120
Silicon	20.0	20.54		mg/L		103	80 - 120
Sodium	50.0	51.55		mg/L		103	80 - 120
Strontium	0.500	0.5050		mg/L		101	80 - 120

Lab Sample ID: 560-60073-A-4-B MS

Matrix: Water

Analysis Batch: 125816

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 125765

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	86.0		50.0	136.6		mg/L		101	80 - 120
Magnesium	16.7		50.0	66.98		mg/L		101	80 - 120
Potassium	1.35		50.0	51.24		mg/L		100	80 - 120
Silicon	5.66		20.0	26.10		mg/L		102	80 - 120
Sodium	12.5		50.0	64.54		mg/L		104	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 560-60073-A-4-B MS

Matrix: Water

Analysis Batch: 125816

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 125765

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Strontium	0.655		0.500	1.149		mg/L		99	80 - 120

Lab Sample ID: 560-60073-A-4-C MSD

Matrix: Water

Analysis Batch: 125816

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 125765

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Calcium	86.0		50.0	131.8		mg/L		92	80 - 120	4	20
Magnesium	16.7		50.0	65.58		mg/L		98	80 - 120	2	20
Potassium	1.35		50.0	49.67		mg/L		97	80 - 120	3	20
Silicon	5.66		20.0	25.41		mg/L		99	80 - 120	3	20
Sodium	12.5		50.0	62.13		mg/L		99	80 - 120	4	20
Strontium	0.655		0.500	1.117		mg/L		92	80 - 120	3	20

## Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 560-125765/1-A

Matrix: Water

Analysis Batch: 125813

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125765

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/07/16 10:00	03/07/16 19:00	1
Antimony	1.61	U	5.00	1.61	ug/L		03/07/16 10:00	03/07/16 19:00	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/07/16 10:00	03/07/16 19:00	1
Barium	0.810	U	5.00	0.810	ug/L		03/07/16 10:00	03/07/16 19:00	1
Beryllium	1.24	U	4.00	1.24	ug/L		03/07/16 10:00	03/07/16 19:00	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/07/16 10:00	03/07/16 19:00	1
Chromium	1.40	U	5.00	1.40	ug/L		03/07/16 10:00	03/07/16 19:00	1
Copper	2.00	U	10.0	2.00	ug/L		03/07/16 10:00	03/07/16 19:00	1
Iron	101	U	250	101	ug/L		03/07/16 10:00	03/07/16 19:00	1
Lead	0.733	U	5.00	0.733	ug/L		03/07/16 10:00	03/07/16 19:00	1
Nickel	2.17	U	5.00	2.17	ug/L		03/07/16 10:00	03/07/16 19:00	1
Selenium	1.08	U	5.00	1.08	ug/L		03/07/16 10:00	03/07/16 19:00	1
Thallium	0.693	U	2.00	0.693	ug/L		03/07/16 10:00	03/07/16 19:00	1
Zinc	3.55	U	25.0	3.55	ug/L		03/07/16 10:00	03/07/16 19:00	1

Lab Sample ID: MB 560-125765/1-A

Matrix: Water

Analysis Batch: 125854

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125765

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	11.6	U	50.0	11.6	ug/L		03/07/16 10:00	03/08/16 13:00	1
Silver	0.941	U	5.00	0.941	ug/L		03/07/16 10:00	03/08/16 13:00	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 560-125765/2-A

Matrix: Water

Analysis Batch: 125813

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aluminum	50000	50270		ug/L		101	80 - 120
Antimony	500	407.1		ug/L		81	80 - 120
Arsenic	500	470.0		ug/L		94	80 - 120
Barium	500	416.0		ug/L		83	80 - 120
Beryllium	500	469.2		ug/L		94	80 - 120
Cadmium	500	404.9		ug/L		81	80 - 120
Chromium	500	432.6		ug/L		87	80 - 120
Copper	500	422.3		ug/L		84	80 - 120
Iron	50000	45430		ug/L		91	80 - 120
Lead	500	406.6		ug/L		81	80 - 120
Nickel	500	427.6		ug/L		86	80 - 120
Selenium	500	462.6		ug/L		93	80 - 120
Thallium	200	165.0		ug/L		83	80 - 120
Zinc	500	437.7		ug/L		88	80 - 120

Lab Sample ID: LCS 560-125765/2-A

Matrix: Water

Analysis Batch: 125854

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aluminum	50000	63270		ug/L		127	80 - 120
Silver	500	496.6		ug/L		99	80 - 120

Lab Sample ID: 560-60073-A-4-B MS

Matrix: Water

Analysis Batch: 125813

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 125765

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aluminum	50.0	U	50000	49950		ug/L		100	80 - 120
Antimony	1.61	U F1	500	404.3		ug/L		81	80 - 120
Arsenic	1.09	U	500	473.0		ug/L		95	80 - 120
Barium	43.9		500	454.6		ug/L		82	80 - 120
Beryllium	1.24	U	500	467.7		ug/L		94	80 - 120
Cadmium	0.854	U F1	500	402.2		ug/L		80	80 - 120
Chromium	1.40	U	500	429.2		ug/L		86	80 - 120
Copper	2.00	U	500	417.5		ug/L		84	80 - 120
Iron	101	U	50000	44500		ug/L		89	80 - 120
Lead	0.733	U F1	500	402.5		ug/L		81	80 - 120
Nickel	2.17	U	500	423.5		ug/L		85	80 - 120
Selenium	1.53	J	500	462.5		ug/L		92	80 - 120
Thallium	0.693	U	200	162.7		ug/L		81	80 - 120
Zinc	3.55	U	500	435.5		ug/L		87	80 - 120

Lab Sample ID: 560-60073-A-4-B MS

Matrix: Water

Analysis Batch: 125854

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 125765

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Manganese	11.6	U F1	5000	6657	F1	ug/L		133	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 560-60073-A-4-B MS

Matrix: Water

Analysis Batch: 125854

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 125765

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	0.941	U	500	496.8		ug/L		99	80 - 120

Lab Sample ID: 560-60073-A-4-C MSD

Matrix: Water

Analysis Batch: 125813

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 125765

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aluminum	50.0	U	50000	48600		ug/L		97	80 - 120	3	20
Antimony	1.61	U F1	500	395.6	F1	ug/L		79	80 - 120	2	20
Arsenic	1.09	U	500	460.7		ug/L		92	80 - 120	3	20
Barium	43.9		500	442.5		ug/L		80	80 - 120	3	20
Beryllium	1.24	U	500	461.5		ug/L		92	80 - 120	1	20
Cadmium	0.854	U F1	500	393.8	F1	ug/L		79	80 - 120	2	20
Chromium	1.40	U	500	423.2		ug/L		85	80 - 120	1	20
Copper	2.00	U	500	414.1		ug/L		83	80 - 120	1	20
Iron	101	U	50000	43560		ug/L		87	80 - 120	2	20
Lead	0.733	U F1	500	391.8	F1	ug/L		78	80 - 120	3	20
Nickel	2.17	U	500	418.0		ug/L		84	80 - 120	1	20
Selenium	1.53	J	500	450.0		ug/L		90	80 - 120	3	20
Thallium	0.693	U	200	159.6		ug/L		80	80 - 120	2	20
Zinc	3.55	U	500	426.8		ug/L		85	80 - 120	2	20

Lab Sample ID: 560-60073-A-4-C MSD

Matrix: Water

Analysis Batch: 125854

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 125765

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Manganese	11.6	U F1	5000	6484	F1	ug/L		130	80 - 120	3	20
Silver	0.941	U	500	481.2		ug/L		96	80 - 120	3	20

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 560-125831/5-A

Matrix: Water

Analysis Batch: 125836

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125831

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/08/16 10:00	03/08/16 14:26	1

Lab Sample ID: LCS 560-125831/6-A

Matrix: Water

Analysis Batch: 125836

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125831

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.005200		mg/L		104	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 560-60073-A-4-E MS

Matrix: Water

Analysis Batch: 125836

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 125831

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U	0.00500	0.005010		mg/L		100	80 - 120

Lab Sample ID: 560-60073-A-4-F MSD

Matrix: Water

Analysis Batch: 125836

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 125831

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000130	U	0.00500	0.004820		mg/L		96	80 - 120	4	20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 560-125755/9

Matrix: Water

Analysis Batch: 125755

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L			03/05/16 13:32	1
Chloride	0.192	U	1.00	0.192	mg/L			03/05/16 13:32	1
Nitrate as N	0.103	U	0.500	0.103	mg/L			03/05/16 13:32	1
Sulfate	0.377	U	1.00	0.377	mg/L			03/05/16 13:32	1

Lab Sample ID: LCS 560-125755/10

Matrix: Water

Analysis Batch: 125755

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.854		mg/L		97	90 - 110
Chloride	10.0	9.810		mg/L		98	90 - 110
Nitrate as N	5.00	5.083		mg/L		102	90 - 110
Sulfate	20.0	19.28		mg/L		96	90 - 110

Lab Sample ID: 560-60099-4 MS

Matrix: Water

Analysis Batch: 125755

Client Sample ID: HSM130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.557	J	5.00	4.979		mg/L		88	80 - 120
Chloride	20.8		10.0	29.11		mg/L		84	80 - 120
Nitrate as N	1.67	H	5.00	6.498		mg/L		97	80 - 120
Sulfate	27.3		20.0	46.81		mg/L		98	80 - 120

Lab Sample ID: 560-60099-4 MSD

Matrix: Water

Analysis Batch: 125755

Client Sample ID: HSM130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.557	J	5.00	5.090		mg/L		91	80 - 120	2	20
Chloride	20.8		10.0	29.27		mg/L		85	80 - 120	1	20
Nitrate as N	1.67	H	5.00	6.565		mg/L		98	80 - 120	1	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 560-60099-4 MSD

Matrix: Water

Analysis Batch: 125755

Client Sample ID: HSM130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	27.3		20.0	47.56		mg/L		101	80 - 120	2	20

## Method: 340.2 - Fluoride

Lab Sample ID: MB 560-125856/31

Matrix: Water

Analysis Batch: 125856

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			03/08/16 10:10	1

Lab Sample ID: LCS 560-125856/32

Matrix: Water

Analysis Batch: 125856

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.8060		mg/L		101	85 - 115

Lab Sample ID: 560-60073-D-4 MS

Matrix: Water

Analysis Batch: 125856

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.184		0.500	0.6790		mg/L		99	75 - 125

Lab Sample ID: 560-60073-D-4 MSD

Matrix: Water

Analysis Batch: 125856

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.184		0.500	0.6800		mg/L		99	75 - 125	0	20

## Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 600-183952/10

Matrix: Water

Analysis Batch: 183952

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/09/16 11:36	1

Lab Sample ID: LCS 600-183952/11

Matrix: Water

Analysis Batch: 183952

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	10.13		mg/L		101	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: 600-127177-B-3 MS

Matrix: Water

Analysis Batch: 183952

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	1.66	F1	10.0	10.48	F1	mg/L		88	90 - 110

Lab Sample ID: 600-127177-B-3 MSD

Matrix: Water

Analysis Batch: 183952

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	1.66	F1	10.0	10.77		mg/L		91	90 - 110	3	20

Lab Sample ID: MB 600-184046/10

Matrix: Water

Analysis Batch: 184046

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/10/16 11:21	1

Lab Sample ID: LCS 600-184046/11

Matrix: Water

Analysis Batch: 184046

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	9.788		mg/L		98	90 - 110

Lab Sample ID: 560-60099-2 MS

Matrix: Water

Analysis Batch: 184046

Client Sample ID: FDHSM110

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	9.572		mg/L		96	90 - 110

Lab Sample ID: 560-60099-2 MSD

Matrix: Water

Analysis Batch: 184046

Client Sample ID: FDHSM110

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U	10.0	9.794		mg/L		98	90 - 110	2	20

Lab Sample ID: MB 600-184322/16

Matrix: Water

Analysis Batch: 184322

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/15/16 11:43	1

Lab Sample ID: LCS 600-184322/17

Matrix: Water

Analysis Batch: 184322

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	9.663		mg/L		97	90 - 110

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

Lab Sample ID: 560-60099-7 MS

Matrix: Water

Analysis Batch: 184322

Client Sample ID: HSM160

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	10.57		mg/L		106	90 - 110

Lab Sample ID: 560-60099-7 MSD

Matrix: Water

Analysis Batch: 184322

Client Sample ID: HSM160

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U	10.0	10.05		mg/L		101	90 - 110	5	20

## Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 680-425138/1-A

Matrix: Water

Analysis Batch: 425369

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 425138

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/15/16 10:30	03/16/16 12:07	1

Lab Sample ID: LCS 680-425138/2-A

Matrix: Water

Analysis Batch: 425369

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 425138

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	2.259		mg/L		113	60 - 140

Lab Sample ID: 680-122693-G-1-B MS ^10

Matrix: Water

Analysis Batch: 425369

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 425138

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	4.53		2.00	6.407		mg/L		94	60 - 140

Lab Sample ID: 680-122693-G-1-C MSD ^10

Matrix: Water

Analysis Batch: 425369

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 425138

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phosphorus	4.53		2.00	6.341		mg/L		91	60 - 140	1	40

Lab Sample ID: 680-122701-E-1-B DU ^10

Matrix: Water

Analysis Batch: 425369

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 425138

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Phosphorus	8.44		8.654		mg/L		2	40

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 9040C - pH

Lab Sample ID: LCS 560-125775/2

Matrix: Water

Analysis Batch: 125775

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	5.00	5.000		SU		100	98 - 102

Lab Sample ID: 560-60073-E-4 DU

Matrix: Water

Analysis Batch: 125775

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.28		7.230		SU		0.7	20

## Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 560-125883/4

Matrix: Water

Analysis Batch: 125883

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1

Lab Sample ID: LCS 560-125883/5

Matrix: Water

Analysis Batch: 125883

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	26.19		mg/L		105	80 - 120

Lab Sample ID: 560-60073-I-4 MS

Matrix: Water

Analysis Batch: 125883

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.07		10.0	10.07		mg/L		90	75 - 125

Lab Sample ID: 560-60073-I-4 MSD

Matrix: Water

Analysis Batch: 125883

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.07		10.0	9.738		mg/L		87	75 - 125	3	20

## Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 560-125884/4

Matrix: Water

Analysis Batch: 125884

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/08/16 16:13	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: 9060 - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCS 560-125884/5

Matrix: Water

Analysis Batch: 125884

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	24.00		mg/L		96	80 - 120

Lab Sample ID: 560-60073-H-4 MS

Matrix: Water

Analysis Batch: 125884

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	0.285	U	10.0	9.286		mg/L		93	75 - 125

Lab Sample ID: 560-60073-H-4 MSD

Matrix: Water

Analysis Batch: 125884

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	0.285	U	10.0	9.758		mg/L		98	75 - 125	5	20

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 560-126123/1

Matrix: Water

Analysis Batch: 126123

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/17/16 14:20	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/17/16 14:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/17/16 14:20	1

Lab Sample ID: LCS 560-126123/2

Matrix: Water

Analysis Batch: 126123

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	97.77		mg/L		98	85 - 115

Lab Sample ID: 560-60099-1 MS

Matrix: Water

Analysis Batch: 126123

Client Sample ID: HSM110

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	242		100	342.4		mg/L		101	75 - 125

Lab Sample ID: 560-60099-1 MSD

Matrix: Water

Analysis Batch: 126123

Client Sample ID: HSM110

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	242		100	340.0		mg/L		98	75 - 125	1	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 560-125869/1

Matrix: Water

Analysis Batch: 125869

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L	-		03/09/16 11:21	1

Lab Sample ID: LCS 560-125869/2

Matrix: Water

Analysis Batch: 125869

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	2250	2132		mg/L	-	95	90 - 110

Lab Sample ID: 560-60099-8 MS

Matrix: Water

Analysis Batch: 125869

Client Sample ID: HSM170

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	349		2250	2410		mg/L	-	92	75 - 125

Lab Sample ID: 560-60099-8 MSD

Matrix: Water

Analysis Batch: 125869

Client Sample ID: HSM170

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	349		2250	2406		mg/L	-	91	75 - 125	0	20

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 560-125792/1

Matrix: Water

Analysis Batch: 125792

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3.00	U	3.00	3.00	mg/L	-		03/07/16 14:25	1

Lab Sample ID: LCS 560-125792/2

Matrix: Water

Analysis Batch: 125792

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	194.5		mg/L	-	97	90 - 110

Lab Sample ID: 560-60097-A-2 DU

Matrix: Water

Analysis Batch: 125792

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	190		189.0		mg/L	-	0.5	20

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-16
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Laboratory: TestAmerica Denver

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-16
Arizona	State Program	9	AZ0713	12-19-16
Arkansas DEQ	State Program	6	88-0687	06-01-16
California	State Program	9	2513	08-31-16
Connecticut	State Program	1	PH-0686	09-30-16
Florida	NELAP	4	E87667	06-30-16
Georgia	State Program	4	N/A	01-09-17
Illinois	NELAP	5	200017	04-30-16
Iowa	State Program	7	370	11-30-16
Kansas	NELAP	7	E-10166	04-30-16
Louisiana	NELAP	6	02096	06-30-16
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-16
Nevada	State Program	9	CO0026	07-31-16
New Hampshire	NELAP	1	205310	04-28-16
New Jersey	NELAP	2	CO004	06-30-16
New York	NELAP	2	11964	04-01-16
North Carolina (WW/SW)	State Program	4	358	12-31-16
North Dakota	State Program	8	R-034	01-09-16 *
Oklahoma	State Program	6	8614	08-31-16
Oregon	NELAP	10	4025	01-09-17
Pennsylvania	NELAP	3	68-00664	07-31-16
South Carolina	State Program	4	72002001	01-09-16 *
Texas	NELAP	6	T104704183-15-11	09-30-16
USDA	Federal		P330-13-00202	07-02-16
Utah	NELAP	8	CO00026	07-31-16
Virginia	NELAP	3	460232	06-14-16
Washington	State Program	10	C583	08-03-16
West Virginia DEP	State Program	3	354	11-30-16
Wisconsin	State Program	5	999615430	08-31-16
Wyoming (UST)	A2LA	8	2907.01	10-31-17

## Laboratory: TestAmerica Houston

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	15-045-0	08-04-16
Louisiana	NELAP	6	01967	06-30-16
Oklahoma	State Program	6	2015-050	08-31-16
Texas	NELAP	6	T104704223-15-18	10-31-16

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Laboratory: TestAmerica Houston (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
USDA	Federal		P330-14-00192	06-06-17

## Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-17
A2LA	ISO/IEC 17025		399.01	02-28-17
Alabama	State Program	4	41450	06-30-16
Alaska (UST)	State Program	10	UST-104	11-05-16
Arkansas DEQ	State Program	6	88-0692	01-31-17
California	State Program	9	2939	07-31-16
Colorado	State Program	8	N/A	12-31-16
Connecticut	State Program	1	PH-0161	03-31-17
Florida	NELAP	4	E87052	06-30-16
GA Dept. of Agriculture	State Program	4	N/A	06-12-17
Georgia	State Program	4	803	06-30-16
Guam	State Program	9	15-005r	04-16-16 *
Hawaii	State Program	9	N/A	06-30-16
Illinois	NELAP	5	200022	11-30-16
Indiana	State Program	5	N/A	06-30-16
Iowa	State Program	7	353	06-30-17
Kentucky (DW)	State Program	4	90084	12-31-16
Kentucky (UST)	State Program	4	18	06-30-16
Kentucky (WW)	State Program	4	90084	12-31-16
Louisiana	NELAP	6	30690	06-30-16
Louisiana (DW)	NELAP	6	LA160019	12-31-16
Maine	State Program	1	GA00006	09-24-16
Maryland	State Program	3	250	12-31-16
Massachusetts	State Program	1	M-GA006	06-30-16
Michigan	State Program	5	9925	06-30-16
Mississippi	State Program	4	N/A	06-30-16
Nebraska	State Program	7	TestAmerica-Savannah	06-30-16
New Jersey	NELAP	2	GA769	06-30-16
New Mexico	State Program	6	N/A	06-30-16
New York	NELAP	2	10842	03-31-17
North Carolina (DW)	State Program	4	13701	07-31-16
North Carolina (WW/SW)	State Program	4	269	12-31-16
Oklahoma	State Program	6	9984	08-31-16
Pennsylvania	NELAP	3	68-00474	06-30-16
Puerto Rico	State Program	2	GA00006	12-31-16
South Carolina	State Program	4	98001	06-30-16
Tennessee	State Program	4	TN02961	06-30-16
Texas	NELAP	6	T104704185-14-7	11-30-16
USDA	Federal		SAV 3-04	06-11-17
Virginia	NELAP	3	460161	06-14-16
Washington	State Program	10	C805	06-10-16
West Virginia (DW)	State Program	3	9950C	12-31-16
West Virginia DEP	State Program	3	094	06-30-16

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

## Laboratory: TestAmerica Savannah (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999819810	08-31-16
Wyoming	State Program	8	8TMS-L	06-30-16

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# Method Summary

Client: SWCA, Inc.  
Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CC
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CC
8081B	Organochlorine Pesticides (GC)	SW846	TAL CC
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CC
8141A	Organophosphorous Pesticides (GC)	SW846	TAL DEN
8151A	Herbicides (GC)	SW846	TAL SAV
6010B	Metals (ICP)	SW846	TAL CC
6020	Metals (ICP/MS)	SW846	TAL CC
7470A	Mercury (CVAA)	SW846	TAL CC
300.0	Anions, Ion Chromatography	MCAWW	TAL CC
340.2	Fluoride	MCAWW	TAL CC
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL HOU
365.4	Phosphorus, Total	EPA	TAL SAV
9040C	pH	SW846	TAL CC
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL CC
9060	Organic Carbon, Total (TOC)	SW846	TAL CC
SM 2320B	Alkalinity	SM	TAL CC
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CC
Local Method	General Sub Contract Method	NONE	Weck Lab

## Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NONE = NONE

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Weck Lab = Weck Laboratories, Inc., 14859 East Clark Avenue, City of Industry, CA 917451396

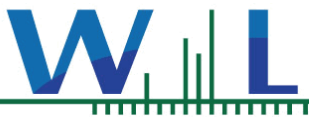
# Sample Summary

Client: SWCA, Inc.

Project/Site: 2016-Surface Water/Base Flow

TestAmerica Job ID: 560-60099-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-60099-1	HSM110	Water	03/03/16 10:14	03/05/16 09:45
560-60099-2	FDHSM110	Water	03/03/16 10:14	03/05/16 09:45
560-60099-3	HSM120	Water	03/03/16 11:09	03/05/16 09:45
560-60099-4	HSM130	Water	03/03/16 11:09	03/05/16 09:45
560-60099-5	HSM140	Water	03/03/16 12:23	03/05/16 09:45
560-60099-6	HSM150	Water	03/03/16 12:56	03/05/16 09:45
560-60099-7	HSM160	Water	03/03/16 13:21	03/05/16 09:45
560-60099-8	HSM170	Water	03/03/16 13:48	03/05/16 09:45
560-60099-9	Trip Blank	Water	03/03/16 00:00	03/05/16 09:45



## CERTIFICATE OF ANALYSIS

**Client:** TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Report Date:** 03/31/16 10:32

**Received Date:** 03/08/16 09:00

**Turn Around:** 7 workdays

**Attention:** Lindy Maingot

**Client Project:** 560-60099-1

**Phone:** (210) 344-9751

**Fax:** -

**Work Order(s):** 6C08017

**NELAC #4047-002 ORELAP ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143**

*The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.*

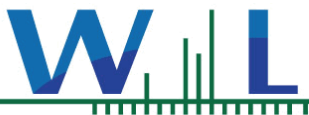
Dear Lindy Maingot :

Enclosed are the results of analyses for samples received 03/08/16 09:00 with the Chain of Custody document. The samples were received in good condition, at 2.4 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

**Case Narrative:****Reviewed by:**

Chris Samatmanakit  
Project Manager





TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/08/16 09:00  
**Date Reported:** 03/31/16 10:32

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Sampled by:	Lab ID	Matrix	Date Sampled
HSM110 (560-60099-1)	Client	6C08017-01	Water	03/03/16 10:14
FDHSM110 (560-60099-2)	Client	6C08017-02	Water	03/03/16 10:14
HSM120 (560-60099-3)	Client	6C08017-03	Water	03/03/16 11:09
HSM130 (560-60099-4)	Client	6C08017-04	Water	03/03/16 11:09
HSM140 (560-60099-5)	Client	6C08017-05	Water	03/03/16 12:23
HSM150 (560-60099-6)	Client	6C08017-06	Water	03/03/16 12:56
HSM160 (560-60099-7)	Client	6C08017-07	Water	03/03/16 13:21
HSM170 (560-60099-8)	Client	6C08017-08	Water	03/03/16 13:48

**ANALYSES**

PPCPs - Pharmaceuticals by LC/MSMS-ESI+



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/08/16 09:00  
**Date Reported:** 03/31/16 10:32

**6C08017-01 HSM110 (560-60099-1)**

**Sampled:** 03/03/16 10:14

**Sampled By:** Client

**Matrix:** Water

**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	23	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/08/16 09:00  
**Date Reported:** 03/31/16 10:32

**6C08017-02 FDHSM110 (560-60099-2)**

**Sampled:** 03/03/16 10:14

**Sampled By:** Client

**Matrix:** Water

**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	2.6	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/08/16 09:00  
**Date Reported:** 03/31/16 10:32

**6C08017-03 HSM120 (560-60099-3)**

**Sampled:** 03/03/16 11:09

**Sampled By:** Client

**Matrix:** Water

**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	15	1.0	ng/l	1	03/29/16 16:42	





TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/08/16 09:00  
**Date Reported:** 03/31/16 10:32

**6C08017-04 HSM130 (560-60099-4)****Sampled:** 03/03/16 11:09**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	ND	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/08/16 09:00  
**Date Reported:** 03/31/16 10:32

**6C08017-05 HSM140 (560-60099-5)**

**Sampled:** 03/03/16 12:23

**Sampled By:** Client

**Matrix:** Water

**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	ND	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/08/16 09:00  
**Date Reported:** 03/31/16 10:32

**6C08017-06 HSM150 (560-60099-6)**

**Sampled:** 03/03/16 12:56

**Sampled By:** Client

**Matrix:** Water

**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	ND	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/08/16 09:00  
**Date Reported:** 03/31/16 10:32

**6C08017-07 HSM160 (560-60099-7)**

**Sampled:** 03/03/16 13:21

**Sampled By:** Client

**Matrix:** Water

**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	ND	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/08/16 09:00  
**Date Reported:** 03/31/16 10:32

**6C08017-08 HSM170 (560-60099-8)**

**Sampled:** 03/03/16 13:48

**Sampled By:** Client

**Matrix:** Water

**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

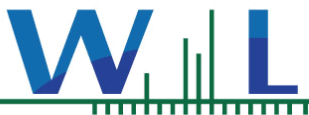
Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	ND	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/08/16 09:00  
**Date Reported:** 03/31/16 10:32

## QUALITY CONTROL SECTION



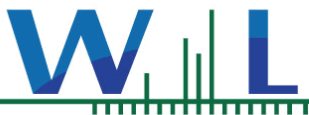
TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/08/16 09:00  
**Date Reported:** 03/31/16 10:32

**PPCPs - Pharmaceuticals by LC/MSMS-ESI+ - Quality Control****Batch W6C1342 - EPA 1694M-ESI+**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Blank (W6C1342-BLK1)</b>				Analyzed: 03/29/16 16:42						
Caffeine	ND	1.0	ng/l							
<b>LCS (W6C1342-BS1)</b>				Analyzed: 03/29/16 16:42						
Caffeine	9.03	1.0	ng/l	10.0		90	55-152			
<b>LCS Dup (W6C1342-BSD1)</b>				Analyzed: 03/29/16 16:42						
Caffeine	9.47	1.0	ng/l	10.0		95	55-152	5	30	
<b>Matrix Spike (W6C1342-MS1)</b>				<b>Source: 6C11056-22</b>		Analyzed: 03/29/16 16:42				
Caffeine	189	1.0	ng/l	10.0	169	195	58-146			MS-02
<b>Matrix Spike Dup (W6C1342-MSD1)</b>				<b>Source: 6C11056-22</b>		Analyzed: 03/29/16 16:42				
Caffeine	172	1.0	ng/l	10.0	169	28	58-146	9	30	MS-02





TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/08/16 09:00  
**Date Reported:** 03/31/16 10:32

### Notes and Definitions

<b>MS-02</b>	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
<b>ND</b>	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then not detected at or above the MDL.
<b>NR</b>	Not Reportable
<b>Dil</b>	Dilution
<b>dry</b>	Sample results reported on a dry weight basis
<b>RPD</b>	Relative Percent Difference
<b>% Rec</b>	Percent Recovery
<b>Sub</b>	Subcontracted analysis, original report available upon request
<b>MDL</b>	Method Detection Limit
<b>MDA</b>	Minimum Detectable Activity
<b>MRL</b>	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

Phone (713) 690-4444 Fax (713) 690-5646

## Chain of Custody Record



# TestAmerica

## THE LEADER IN ENVIRONMENTAL TESTING

[illegible][illegible]

## Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)		Lab PM:		Carrier Tracking No(s):		IOC No:	
Client Contact: Shipping/Receiving		Maingot, Lindy				560-13267.1	
Company: TestAmerica Laboratories, Inc.		E-Mail: lindy.maingot@testamerica.com				Page: Page 1 of 1	
Address: 4955 Yarrow Street, City: Arvada State, Zip: CO, 80002		Due Date Requested: 3/17/2016		Analysis Requested		Job #: 560-60099-1	
Phone: 303-736-0100(Tel) 303-431-7171(Fax)		TAT Requested (days):				Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)	
Email: Project Name: 2016-Surface Water/Base Flow		PO #:				Total Number of containers	
Site: SSOW#:		WO #:				Special Instructions/Note:	
Project #: 56005790		Field Filtered Sample (Yes or No)		8141A/3610C (MOD) Standard 8141 list			
Sample Identification - Client ID (Lab ID)		Perform MS/MSD (Yes or No)					
Sample Date		Sample Time		Sample Type (C=Comp, G=Grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, Acid)	
Sample Date		Sample Time		Sample Type (C=Comp, G=Grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, Acid)	
HSM110 (560-60099-1)	3/3/16	10:14	Central	Water	X		
FDHSM110 (560-60099-2)	3/3/16	10:14	Central	Water	X		
HSM120 (560-60099-3)	3/3/16	11:09	Central	Water	X		
HSM130 (560-60099-4)	3/3/16	11:09	Central	Water	X		
HSM140 (560-60099-5)	3/3/16	12:23	Central	Water	X		
HSM150 (560-60099-6)	3/3/16	12:56	Central	Water	X		
HSM160 (560-60099-7)	3/3/16	13:21	Central	Water	X		
HSM170 (560-60099-8)	3/3/16	13:48	Central	Water	X		
Possible Hazard Identification							
Unconfirmed							
Deliverable Requested: I, II, III, IV, Other (specify)							
Empty Kit Relinquished by:							
Relinquished by: CLADAMS							
Relinquished by:							
Relinquished by:							
Custody Seal No.: Δ Yes Δ No							
Cooler Temperature(s) °C and Other Remarks: 1.6, 18-0.2 IP#7 Transferred by DW 3/18/16							

## Chain of Custody Record



# Les Américains

117-12062-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000-1001-1002-1003-1004-1005-1006-1007-1008-1009-1010-1011-1012-1013-1014-1015-1016-1017-1018-1019-1020-1021-1022-1023-1024-1025-1026-1027-1028-1029-1030-1031-1032-1033-1034-1035-1036-1037-1038-1039-1040-1041-1042-1043-1044-1045-1046-1047-1048-1049-1050-1051-1052-1053-1054-1055-1056-1057-1058-1059-1060-1061-1062-1063-1064-1065-1066-1067-1068-1069-1070-1071-1072-1073-1074-1075-1076-1077-1078-1079-1080-1081-1082-1083-1084-1085-1086-1087-1088-1089-1090-1091-1092-1093-1094-1095-1096-1097-1098-1099-1100-1101-1102-1103-1104-1105-1106-1107-1108-1109-1110-1111-1112-1113-1114-1115-1116-1117-1118-1119-1120-1121-1122-1123-1124-1125-1126-1127-1128-1129-1130-1131-1132-1133-1134-1135-1136-1137-1138-1139-1140-1141-1142-1143-1144-1145-1146-1147-1148-1149-1150-1151-1152-1153-1154-1155-1156-1157-1158-1159-1160-1161-1162-1163-1164-1165-1166-1167-1168-1169-1170-1171-1172-1173-1174-1175-1176-1177-1178-1179-1180-1181-1182-1183-1184-1185-1186-1187-1188-1189-1190-1191-1192-1193-1194-1195-1196-1197-1198-1199-1200-1201-1202-1203-1204-120

Client Information (Sub Contract Lab)					
Company		Lab PM		Carrier Tracking No(s)	
Client Contact		Shipping/Receiving		COC No:	
Address		Phone		580-13269 1	
City		E-Mail		Page:	
State Zip		lindy.maingot@testamericainc.com		Page 1 of 1	
TX, 77040				Job #	
Phone				580-60099-1	
Email				Preservation Codes:	
Project Name				M - Hexane A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO <sub>4</sub> F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Site				Total Number of Containers	
Analysis Requested					
Due Date Requested: 3/17/2016					
TAT Requested (days):					
PO #					
WO #					
Project # 58005790					
SSOW#					
Sample Identification - Client ID (Lab ID)					
HSM110 (580-60099-1)	3/3/16	10:14 Central	Water	X	1
FDSHM110 (580-60099-2)	3/3/16	10:14 Central	Water	X	1
HSM120 (580-60099-3)	3/3/16	11:09 Central	Water	X	1
HSM130 (580-60099-4)	3/3/16	11:09 Central	Water	X	1
HSM140 (580-60099-5)	3/3/16	12:23 Central	Water	X	1
HSM150 (580-60099-6)	3/3/16	12:56 Central	Water	X	1
HSM160 (580-60099-7)	3/3/16	13:21 Central	Water	X	1
HSM170 (580-60099-8)	3/3/16	13:48 Central	Water	X	1
Special Instructions/Note:					
580-60099 Chain of Custody					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Dispose By Lab <input type="checkbox"/> Archive For Months					
Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)					
Empty Kit Relinquished by:					
Relinquished by					
Relinquished by					
Relinquished by					
Custody Seals Intact: A Yes A No					
Custody Seal No.					

TestAmerica Houston

Loc: 560

## Sample Receipt Checklist

60099

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

Date/Time Received: 16 MAR 8 10:02

JOB NUMBER: \_\_\_\_\_

CLIENT: TA Corpus

UNPACKED BY: \_\_\_\_\_

CARRIER/DRIVER: Felby SDCustody Seal Present: ☒ YES ☐ NONumber of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
<u>BW</u>	Y / N	Y / N	<u>2.3</u>	<u>550</u>	<u>-0.5</u>	<u>1.8</u>
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NOLABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YESBase samples are >pH 12: ☐ YES ☐ NOAcid preserved are <pH 2: ☐ YES ☐ NO

pH paper Lot # \_\_\_\_\_

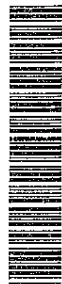
VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		

COMMENTS:

7756/003 27 913

## Chain of Custody Record



TestAmerica  
THE QUALITY OF THE SERVICE WE PROVIDE

Client Information (Sub Contract Lab)		Sampler	Lab PM: Mangot, Lindy	Carrier Tracking No(s):	COC No: 560-13270.1				
Shipping/Receiving		Phone	E-Mail: lindy.mangot@testamericainc.com		Page 1 of 1				
Company:		Job # 560-60099-1							
TestAmerica Laboratories, Inc.		Analysis Requested							
Address: 5102 LaRoche Avenue, Savannah, GA, 31404		Due Date Requested: 3/17/2016	Preservation Codes:						
City: Savannah		TAT Requested (days):	A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:						
State, Zip: GA, 31404		PO #	M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)						
Phone: 912-354-7858(Tel) 912-352-0165(Fax)		WO #							
Email:		Project # 56005790							
Project Name 2016-Surface Water/Base Flow		SSOW#							
Site:									
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Seawater, On-water, etc.)	Field Filtered Sample (Yes or No)	365.4/Digest, P. Hotlik	815A/8161A, AP (MOD) Routine List	Total Number of Containers	Special Instructions/Note:
HSM110 (560-60099-1)	3/3/16	10:14 Central	Water	Water	X	X		3	
FDHSM110 (560-60099-2)	3/3/16	10:14 Central	Water	Water	X	X		3	
HSM120 (560-60099-3)	3/3/16	11:09 Central	Water	Water	X	X		3	
HSM130 (560-60099-4)	3/3/16	11:09 Central	Water	Water	X	X		3	
HSM140 (560-60099-5)	3/3/16	12:23 Central	Water	Water	X	X		3	
HSM150 (560-60099-6)	3/3/16	12:56 Central	Water	Water	X	X		3	
HSM160 (560-60099-7)	3/3/16	13:21 Central	Water	Water	X	X		3	
HSM170 (560-60099-8)	3/3/16	13:46 Central	Water	Water	X	X		3	
Possible Hazard Identification									
Unconfirmed									
Deliverable Requested: I, II, III, IV, Other (specify)									
Empty Kit Relinquished by									
Relinquished by									
Relinquished by									
Relinquished by									
Custody Seals Intact: Δ Yes Δ No									

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
☐ Return To Client ☐ Disposal By Lab ☐ Archive For \_\_\_\_\_ Months

Special Instructions/QC Requirements

Time: \_\_\_\_\_ Date: \_\_\_\_\_

Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Cooler Temperature(s) °C and Other Remarks: 0.3/0.7 1.1/1.5



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60099-1

**Login Number: 60099**

**List Source: TestAmerica Corpus Christi**

**List Number: 1**

**Creator: Adams, Christi L**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Refer to Job Narrative for details.
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60099-1

**Login Number: 60099**

**List Number: 3**

**Creator: White, Denise E**

**List Source: TestAmerica Denver**

**List Creation: 03/08/16 12:57 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60099-1

**Login Number: 60099**

**List Number: 2**

**Creator: Jackson, Falynn E**

**List Source: TestAmerica Houston**

**List Creation: 03/08/16 11:41 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60099-1

**Login Number: 60099**

**List Number: 4**

**Creator: Murray, Thomas J**

**List Source: TestAmerica Savannah**

**List Creation: 03/08/16 04:00 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Received ltr amber with no sample , no breakage, cap not loose.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

This analytical report is intended exclusively for the individual or entity to which it is addressed. Recipient is not authorized to print or copy this report, except in full without written approval of the laboratory. If you have received this report in error, please notify the San Antonio River Authority.

**Sample Location:** HCS 110  
**Sample Number:** AB04499  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/8/16 09:58  
**Receipt Date/Time:** 9/8/16 13:57

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04499-A	E. coli	√	SM 9223B-2004	96	MPN/100 mL		1	48875	9/8/16	15:11	HH/MSR/KAB
AB04499-A	E. Coli Holding Time - IDEXX Colilert		NA	5.22	hours		0.00	48874	9/8/16	15:11	HH/MSR/KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-48875

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/13/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



September 13, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HCS 120  
**Sample Number:** AB04500  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/8/16 10:31  
**Receipt Date/Time:** 9/8/16 13:57

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04500-A	E. coli	√	SM 9223B-2004	25	MPN/100 mL		1	48875	9/8/16	15:11	HH/MSR/KAB
AB04500-A	E. Coli Holding Time - IDEXX Colilert		NA	4.67	hours		0.00	48874	9/8/16	15:11	HH/MSR/KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-48875

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/13/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** FDHCS 120  
**Sample Number:** AB04501  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/8/16 10:31  
**Receipt Date/Time:** 9/8/16 13:57

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04501-A	E. coli	√	SM 9223B-2004	26	MPN/100 mL		1	48875	9/8/16	15:11	HH/MSR/KAB
AB04501-A	E. Coli Holding Time - IDEXX Colilert		NA	4.67	hours		0.00	48874	9/8/16	15:11	HH/MSR/KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

Environmental Sciences Department Laboratory  
ANALYTICAL REPORT



September 13, 2016

Page 2 of 2

QC ANALYTICAL RESULTS

QC Batch Name: E\_COLI\_QUANTITRAY-48875

Acceptance Criteria

QC Analyte Name

Initial Blank for E. coli

Result

Absent

Units

Qualifier

Lower

---

Target

Absent

Upper

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/13/2016

Date

A - Outside upper acceptance criteria  
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T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

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**Sample Location:** HCS 130  
**Sample Number:** AB04502  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/8/16 09:12  
**Receipt Date/Time:** 9/8/16 13:57

**CASE NARRATIVE**

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04502-A	E. coli	√	SM 9223B-2004	75	MPN/100 mL		1	48875	9/8/16	15:11	HH/MSR/KAB
AB04502-A	E. Coli Holding Time - IDEXX Colilert		NA	5.98	hours		0.00	48874	9/8/16	15:11	HH/MSR/KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

Environmental Sciences Department Laboratory  
ANALYTICAL REPORT



September 13, 2016

Page 2 of 2

QC ANALYTICAL RESULTS

QC Batch Name: E\_COLI\_QUANTITRAY-48875

Acceptance Criteria

QC Analyte Name

Initial Blank for E. coli

Result

Absent

Units

Qualifier

Lower

---

Target

Absent

Upper

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/13/2016

Date

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T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
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**Environmental Sciences Department Laboratory**  
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September 13, 2016

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**Sample Location:** HCS 140  
**Sample Number:** AB04503  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/8/16 11:09  
**Receipt Date/Time:** 9/8/16 13:57

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04503-A	E. coli	√	SM 9223B-2004	71	MPN/100 mL		1	48875	9/8/16	15:11	HH/MSR/KAB
AB04503-A	E. Coli Holding Time - IDEXX Colilert		NA	4.03	hours		0.00	48874	9/8/16	15:11	HH/MSR/KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-48875

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/13/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
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**Sample Location:** HCS 160  
**Sample Number:** AB04504  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/8/16 11:38  
**Receipt Date/Time:** 9/8/16 13:57

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04504-A	E. coli	√	SM 9223B-2004	48	MPN/100 mL		1	48875	9/8/16	15:11	HH/MSR/KAB
AB04504-A	E. Coli Holding Time - IDEXX Colilert		NA	3.55	hours		0.00	48874	9/8/16	15:11	HH/MSR/KAB

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-48875

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/13/2016

Date

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D - Outside lower acceptance criteria  
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H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

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## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



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**Sample Location:** HSM 110  
**Sample Number:** AB04524  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/9/16 09:57  
**Receipt Date/Time:** 9/9/16 15:34

### CASE NARRATIVE

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04524-A	E. coli	√	SM 9223B-2004	89	MPN/100 mL		1	48895	9/9/16	16:43	CKK/MSR/MD
AB04524-A	E. Coli Holding Time - IDEXX Colilert		NA	6.77	hours		0.00	48894	9/9/16	16:43	CKK/MSR/MD

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-48895

**QC Analyte Name**

Initial Blank for E. coli

Log Range for E. coli

**Result**

Absent

0.3128

**Units**

**Qualifier**

**Lower**

---

0.0

**Acceptance Criteria**

**Target**

Absent

---

**Upper**

---

0.5



Jeanette Hernandez  
Water Quality Planner / QAO

9/13/2016

Date

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T - Microbiological Controls were unacceptable

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--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



September 13, 2016

Page 1 of 2

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**Sample Location:** FDHSM 110  
**Sample Number:** AB04525  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/9/16 09:57  
**Receipt Date/Time:** 9/9/16 15:34

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04525-A	E. coli	√	SM 9223B-2004	91	MPN/100 mL		1	48895	9/9/16	16:43	CKK/MSR/MD
AB04525-A	E. Coli Holding Time - IDEXX Colilert		NA	6.77	hours		0.00	48894	9/9/16	16:43	CKK/MSR/MD

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-48895

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/13/2016

Date

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## Environmental Sciences Department Laboratory

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**Sample Location:** HSM 120  
**Sample Number:** AB04526  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/9/16 10:52  
**Receipt Date/Time:** 9/9/16 15:34

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04526-A	E. coli	√	SM 9223B-2004	86	MPN/100 mL		1	48895	9/9/16	16:43	CKK/MSR/MD
AB04526-A	E. Coli Holding Time - IDEXX Colilert		NA	5.85	hours		0.00	48894	9/9/16	16:43	CKK/MSR/MD

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-48895

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



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Water Quality Planner / QAO

9/13/2016

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## Environmental Sciences Department Laboratory

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**Sample Location:** HSM 130  
**Sample Number:** AB04527  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/9/16 11:26  
**Receipt Date/Time:** 9/9/16 15:34

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04527-A	E. coli	√	SM 9223B-2004	41	MPN/100 mL		1	48895	9/9/16	16:43	CKK/MSR/MD
AB04527-A	E. Coli Holding Time - IDEXX Colilert		NA	5.28	hours		0.00	48894	9/9/16	16:43	CKK/MSR/MD

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-48895

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



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9/13/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

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## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



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**Sample Location:** HSM 140  
**Sample Number:** AB04528  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/9/16 11:56  
**Receipt Date/Time:** 9/9/16 15:34

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04528-A	E. coli	√	SM 9223B-2004	56	MPN/100 mL		1	48895	9/9/16	16:43	CKK/MSR/MD
AB04528-A	E. Coli Holding Time - IDEXX Colilert		NA	4.78	hours		0.00	48894	9/9/16	16:43	CKK/MSR/MD

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-48895

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/13/2016

Date

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**Sample Location:** HSM 150  
**Sample Number:** AB04529  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/9/16 13:00  
**Receipt Date/Time:** 9/9/16 15:34

**CASE NARRATIVE**

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04529-A	E. coli	√	SM 9223B-2004	37	MPN/100 mL		1	48895	9/9/16	16:43	CKK/MSR/MD
AB04529-A	E. Coli Holding Time - IDEXX Colilert		NA	3.72	hours		0.00	48894	9/9/16	16:43	CKK/MSR/MD

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-48895

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/13/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



September 13, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

This analytical report is intended exclusively for the individual or entity to which it is addressed. Recipient is not authorized to print or copy this report, except in full without written approval of the laboratory. If you have received this report in error, please notify the San Antonio River Authority.

**Sample Location:** HSM 160  
**Sample Number:** AB04530  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/9/16 13:34  
**Receipt Date/Time:** 9/9/16 15:34

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04530-A	E. coli	√	SM 9223B-2004	29	MPN/100 mL		1	48895	9/9/16	16:43	CKK/MSR/MD
AB04530-A	E. Coli Holding Time - IDEXX Colilert		NA	3.15	hours		0.00	48894	9/9/16	16:43	CKK/MSR/MD

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-48895

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/13/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



September 13, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HSM 170  
**Sample Number:** AB04531  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/9/16 14:06  
**Receipt Date/Time:** 9/9/16 15:34

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04531-A	E. coli	√	SM 9223B-2004	49	MPN/100 mL		1	48895	9/9/16	16:43	CKK/MSR/MD
AB04531-A	E. Coli Holding Time - IDEXX Colilert		NA	2.62	hours		0.00	48894	9/9/16	16:43	CKK/MSR/MD

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 13, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-48895

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/13/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-63683-1

Client Project/Site: Comal Springs  
Revision: 1

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
10/26/2016 3:13:05 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

Review your project  
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Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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# Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

## Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

TestAmerica Corpus Christi

## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

### Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

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# Case Narrative

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Job ID: 560-63683-1**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

### Job Narrative 560-63683-1

#### **Revised Report 1 10-19-2016**

The client requested a change for the units for 8260 and 6020. No other changes were made.

#### **Receipt**

The samples were received on 9/9/2016 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 7 coolers at receipt time were 0.5° C, 0.8° C, 0.9° C, 1.0° C, 2.1° C, 2.3° C and 2.7° C.

#### **GC/MS VOA**

Method 8260: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 131652 were outside acceptable limits for Ethylene oxide. The LCS was within acceptable limits. Therefore, data are reported.

Method 8260: The relative percent deviation (RPD) was outside acceptable limits for Napthalene in the MS/MSD pair associated with batch 131652. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### **GC/MS Semi VOA**

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### **GC Semi VOA**

The continuing calibration verification (CCV) associated with batch 280-345779 recovered outside acceptance criteria, low biased, for Naled. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

CCV1 (front) OK (back) Ethoprop -17% AVE=10.8

MB, LCS, LCSD, 560-63683-1, -2, -3, -4

CCV2 (front) Dichlorvos +20% EPN -20% Naled -60% AVE=8.5 (back) Azinphos-methyl -23% EPN -18% Dichlorvos +22% Naled -64% Trichloronate -18% AVE=12.7

560-63683-5, -6, 560-63698-2, -3, -4, -5, -6, -7, -8

CCV3 (front) Dichlorvos +20% Naled -50% AVE=8.5 (back) Azinphos-methyl -16% Dimethoate -16% Ethoprop -18% Methyl parathion -17% Naled -56% AVE=12.7

Method 8151: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 449637 were outside acceptable limits for Dalapon. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **Metals**

Method 6010B: The method blank for preparation batch 560-131669 and analytical batch 560-131706 contained Sr above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 6020: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 131750 were outside acceptable limits for Aluminum. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **General Chemistry**

Method 9040C: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe: HCS110 (560-63683-1), HCS120 (560-63683-2), FDHCS120 (560-63683-3), HCS130 (560-63683-4), HCS140 (560-63683-5) and HCS160 (560-63683-6).



## Case Narrative

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

### Job ID: 560-63683-1 (Continued)

#### Laboratory: TestAmerica Corpus Christi (Continued)

Method 351.2: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 196723 were outside acceptable limits for Kjeldahl Nitrogen. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method 3510C: 8141 LCS\_00104 was not verified prior to use. LCS is in the process of verification.

HCS110 (560-63683-1), HCS120 (560-63683-2), FDHCS120 (560-63683-3), HCS130 (560-63683-4), HCS130 (560-63683-4[MS]), HCS130 (560-63683-4[MSD]), HCS140 (560-63683-5) and HCS160 (560-63683-6)

Batch: 342098

Method: 3510C/8141A

Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 280-344652.

3510C 8141A

344652

Method 3510C: The following samples were spiked with a unverified standards.

8141 Surr\_00079 & 8141 LCS\_000112

HCS110 (560-63683-1), HCS120 (560-63683-2), FDHCS120 (560-63683-3), HCS130 (560-63683-4), HCS140 (560-63683-5) and HCS160 (560-63683-6)

preparation batch 280-344652.

3510C 8141A

344652

Method 3510C: The following samples was re-prepared outside of preparation holding time due to LCS Failure.

HCS110 (560-63683-1), HCS120 (560-63683-2), FDHCS120 (560-63683-3), HCS130 (560-63683-4), HCS140 (560-63683-5) and HCS160 (560-63683-6).

preparation batch 280-344652.

3510C 8141A

344652

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Client Sample ID: HCS110

## Lab Sample ID: 560-63683-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	5.52	J	20.0	5.00	ug/L	1			8270C	Total/NA
Calcium	81.3		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	16.8		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.65		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	4.98		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	12.3		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.736		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	0.0601		0.00500	0.000810	mg/L	1			6020	Dissolved
Bromide	0.459	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	19.3		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.53		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	26.1		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.209		0.100	0.0200	mg/L	1			340.2	Total/NA
Total Organic Carbon	0.294	J	1.00	0.285	mg/L	1			9060	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.0	HF	0.1	0.1	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	227		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	227		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	346		10.0	10.0	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	4.80		2.00	2.00	mg/L	1			SM 2540D	Total/NA

## Client Sample ID: HCS120

## Lab Sample ID: 560-63683-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	79.0		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	15.5		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.36		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	5.23		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	11.1		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.644		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	0.0561		0.00500	0.000810	mg/L	1			6020	Dissolved
Bromide	0.462	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	18.8		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.86		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	25.3		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.203		0.100	0.0200	mg/L	1			340.2	Total/NA
Dissolved Organic Carbon	0.488	J	1.00	0.285	mg/L	1			9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.2	HF	0.1	0.1	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	224		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	224		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	339		10.0	10.0	mg/L	1			SM 2540C	Total/NA

## Client Sample ID: FDHCS120

## Lab Sample ID: 560-63683-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	82.4		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	16.0		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.45		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	5.44		0.500	0.0707	mg/L	1			6010B	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Client Sample ID: FDHCS120 (Continued)

## Lab Sample ID: 560-63683-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Sodium	11.9		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.675		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	0.0588		0.00500	0.000810	mg/L	1			6020	Dissolved
Bromide	0.458	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	18.8		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.87		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	25.2		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.206		0.100	0.0200	mg/L	1			340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.1	HF	0.1	0.1	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	223		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	223		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	341		10.0	10.0	mg/L	1			SM 2540C	Total/NA

## Client Sample ID: HCS130

## Lab Sample ID: 560-63683-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	83.3		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	16.0		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.45		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	5.37		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	12.2		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.640		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	0.0547		0.00500	0.000810	mg/L	1			6020	Dissolved
Bromide	0.460	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	18.7		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.92		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	28.3		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.196		0.100	0.0200	mg/L	1			340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.1	HF	0.1	0.1	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	223		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	223		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	348		10.0	10.0	mg/L	1			SM 2540C	Total/NA

## Client Sample ID: HCS140

## Lab Sample ID: 560-63683-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Di-n-butyl phthalate	2.20	J	10.0	0.709	ug/L	1			8270C	Total/NA
Calcium	84.3		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	15.7		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.44		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	5.40		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	11.9		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.651		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	0.0578		0.00500	0.000810	mg/L	1			6020	Dissolved
Bromide	0.458	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	18.4		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.83		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	24.8		1.00	0.377	mg/L	1			300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Client Sample ID: HCS140 (Continued)

## Lab Sample ID: 560-63683-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Fluoride	0.189		0.100	0.0200	mg/L	1			340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	227		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	227		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	334		10.0	10.0	mg/L	1			SM 2540C	Total/NA

## Client Sample ID: HCS160

## Lab Sample ID: 560-63683-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	10.1	J	20.0	5.00	ug/L	1			8270C	Total/NA
Di-n-butyl phthalate	2.48	J	10.0	0.709	ug/L	1			8270C	Total/NA
Calcium	83.7		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	15.9		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.47		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	5.37		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	12.5		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.648		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	0.0578		0.00500	0.000810	mg/L	1			6020	Dissolved
Mercury	0.000302	J	0.00200	0.000130	mg/L	1			7470A	Dissolved
Bromide	0.459	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	18.7		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.87		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	27.3		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.178		0.100	0.0200	mg/L	1			340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	226		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	226		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	361		10.0	10.0	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	2.00		2.00	2.00	mg/L	1			SM 2540D	Total/NA

## Client Sample ID: TB11

## Lab Sample ID: 560-63683-7

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS110**

**Date Collected: 09/08/16 09:58**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/09/16 15:46	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/09/16 15:46	1
Benzene	0.330	U	1.00	0.330	ug/L			09/09/16 15:46	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/09/16 15:46	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 15:46	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/09/16 15:46	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/09/16 15:46	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/09/16 15:46	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/09/16 15:46	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/09/16 15:46	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/09/16 15:46	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/09/16 15:46	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/09/16 15:46	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/09/16 15:46	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/09/16 15:46	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/09/16 15:46	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/09/16 15:46	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/09/16 15:46	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/09/16 15:46	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/09/16 15:46	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/09/16 15:46	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 15:46	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/09/16 15:46	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/09/16 15:46	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/09/16 15:46	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/09/16 15:46	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/09/16 15:46	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/09/16 15:46	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/09/16 15:46	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 15:46	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/09/16 15:46	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/09/16 15:46	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/09/16 15:46	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/09/16 15:46	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/09/16 15:46	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/09/16 15:46	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/09/16 15:46	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/09/16 15:46	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/09/16 15:46	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/09/16 15:46	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/09/16 15:46	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/09/16 15:46	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/09/16 15:46	1
EDB	0.175	U	1.00	0.175	ug/L			09/09/16 15:46	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/09/16 15:46	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 15:46	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/09/16 15:46	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/09/16 15:46	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/09/16 15:46	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS110**

**Date Collected: 09/08/16 09:58**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/09/16 15:46	1
Hexane	2.00	U	5.00	2.00	ug/L			09/09/16 15:46	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/09/16 15:46	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/09/16 15:46	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/09/16 15:46	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/09/16 15:46	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/09/16 15:46	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/09/16 15:46	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/09/16 15:46	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/09/16 15:46	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/09/16 15:46	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/09/16 15:46	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/09/16 15:46	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/09/16 15:46	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/09/16 15:46	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 15:46	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/09/16 15:46	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/09/16 15:46	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/09/16 15:46	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/09/16 15:46	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/09/16 15:46	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/09/16 15:46	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/09/16 15:46	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/09/16 15:46	1
Styrene	0.200	U	1.00	0.200	ug/L			09/09/16 15:46	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 15:46	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/09/16 15:46	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/09/16 15:46	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/09/16 15:46	1
Toluene	0.495	U	1.00	0.495	ug/L			09/09/16 15:46	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 15:46	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/09/16 15:46	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/09/16 15:46	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/09/16 15:46	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/09/16 15:46	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/09/16 15:46	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/09/16 15:46	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/09/16 15:46	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/09/16 15:46	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/09/16 15:46	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/09/16 15:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/09/16 15:46	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 15:46	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 15:46	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/09/16 15:46	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/09/16 15:46	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/09/16 15:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130		09/09/16 15:46	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS110**

**Date Collected: 09/08/16 09:58**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	97		69 - 130		09/09/16 15:46	1
1,2-Dichloroethane-d4 (Surr)	89		70 - 140		09/09/16 15:46	1
Toluene-d8 (Surr)	105		70 - 130		09/09/16 15:46	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/12/16 14:00	09/13/16 09:50	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/12/16 14:00	09/13/16 09:50	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/12/16 14:00	09/13/16 09:50	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/12/16 14:00	09/13/16 09:50	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/12/16 14:00	09/13/16 09:50	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/12/16 14:00	09/13/16 09:50	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/12/16 14:00	09/13/16 09:50	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/12/16 14:00	09/13/16 09:50	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/12/16 14:00	09/13/16 09:50	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/12/16 14:00	09/13/16 09:50	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/12/16 14:00	09/13/16 09:50	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>5.52</b>	<b>J</b>	20.0	5.00	ug/L		09/12/16 14:00	09/13/16 09:50	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/12/16 14:00	09/13/16 09:50	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/12/16 14:00	09/13/16 09:50	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/12/16 14:00	09/13/16 09:50	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/12/16 14:00	09/13/16 09:50	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/12/16 14:00	09/13/16 09:50	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/12/16 14:00	09/13/16 09:50	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/12/16 14:00	09/13/16 09:50	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/12/16 14:00	09/13/16 09:50	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/12/16 14:00	09/13/16 09:50	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/12/16 14:00	09/13/16 09:50	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/12/16 14:00	09/13/16 09:50	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/12/16 14:00	09/13/16 09:50	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/12/16 14:00	09/13/16 09:50	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/12/16 14:00	09/13/16 09:50	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/12/16 14:00	09/13/16 09:50	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/12/16 14:00	09/13/16 09:50	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/12/16 14:00	09/13/16 09:50	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/12/16 14:00	09/13/16 09:50	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/12/16 14:00	09/13/16 09:50	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/12/16 14:00	09/13/16 09:50	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/12/16 14:00	09/13/16 09:50	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/12/16 14:00	09/13/16 09:50	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/12/16 14:00	09/13/16 09:50	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/12/16 14:00	09/13/16 09:50	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/12/16 14:00	09/13/16 09:50	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/12/16 14:00	09/13/16 09:50	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/12/16 14:00	09/13/16 09:50	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/12/16 14:00	09/13/16 09:50	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/12/16 14:00	09/13/16 09:50	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/12/16 14:00	09/13/16 09:50	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/12/16 14:00	09/13/16 09:50	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS110**

**Date Collected: 09/08/16 09:58**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-1**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	0.549	U	10.0	0.549	ug/L		09/12/16 14:00	09/13/16 09:50	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/12/16 14:00	09/13/16 09:50	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/12/16 14:00	09/13/16 09:50	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/12/16 14:00	09/13/16 09:50	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/12/16 14:00	09/13/16 09:50	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/12/16 14:00	09/13/16 09:50	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/12/16 14:00	09/13/16 09:50	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/12/16 14:00	09/13/16 09:50	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/12/16 14:00	09/13/16 09:50	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/12/16 14:00	09/13/16 09:50	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/12/16 14:00	09/13/16 09:50	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/12/16 14:00	09/13/16 09:50	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/12/16 14:00	09/13/16 09:50	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/12/16 14:00	09/13/16 09:50	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/12/16 14:00	09/13/16 09:50	1
Phenol	0.768	U	10.0	0.768	ug/L		09/12/16 14:00	09/13/16 09:50	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/12/16 14:00	09/13/16 09:50	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/12/16 14:00	09/13/16 09:50	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/12/16 14:00	09/13/16 09:50	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/12/16 14:00	09/13/16 09:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	76		23 - 130	09/12/16 14:00	09/13/16 09:50	1
2-Fluorophenol	80		10 - 130	09/12/16 14:00	09/13/16 09:50	1
Nitrobenzene-d5	79		27 - 130	09/12/16 14:00	09/13/16 09:50	1
Phenol-d5	83		10 - 130	09/12/16 14:00	09/13/16 09:50	1
Terphenyl-d14	86		10 - 141	09/12/16 14:00	09/13/16 09:50	1
2,4,6-Tribromophenol	82		18 - 130	09/12/16 14:00	09/13/16 09:50	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 17:53	1
alpha-BHC	0.00488	U	0.0563	0.00488	ug/L		09/12/16 09:01	09/12/16 17:53	1
alpha-Chlordane	0.00591	U	0.0563	0.00591	ug/L		09/12/16 09:01	09/12/16 17:53	1
beta-BHC	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 17:53	1
4,4'-DDD	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 17:53	1
4,4'-DDE	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 17:53	1
4,4'-DDT	0.00760	U	0.0563	0.00760	ug/L		09/12/16 09:01	09/12/16 17:53	1
delta-BHC	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 17:53	1
Dieldrin	0.0122	U	0.0563	0.0122	ug/L		09/12/16 09:01	09/12/16 17:53	1
Endosulfan I	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 17:53	1
Endosulfan II	0.00807	U	0.0563	0.00807	ug/L		09/12/16 09:01	09/12/16 17:53	1
Endosulfan sulfate	0.00826	U	0.0563	0.00826	ug/L		09/12/16 09:01	09/12/16 17:53	1
Endrin	0.00723	U	0.0563	0.00723	ug/L		09/12/16 09:01	09/12/16 17:53	1
Endrin aldehyde	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 17:53	1
Endrin ketone	0.00769	U	0.0563	0.00769	ug/L		09/12/16 09:01	09/12/16 17:53	1
gamma-BHC (Lindane)	0.00422	U	0.0563	0.00422	ug/L		09/12/16 09:01	09/12/16 17:53	1
gamma-Chlordane	0.00629	U	0.0563	0.00629	ug/L		09/12/16 09:01	09/12/16 17:53	1
Heptachlor	0.00610	U	0.0563	0.00610	ug/L		09/12/16 09:01	09/12/16 17:53	1
Heptachlor epoxide	0.00488	U	0.0563	0.00488	ug/L		09/12/16 09:01	09/12/16 17:53	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS110**

**Date Collected: 09/08/16 09:58**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-1**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	0.00938	U	0.0563	0.00938	ug/L		09/12/16 09:01	09/12/16 17:53	1
Toxaphene	0.638	U	5.63	0.638	ug/L		09/12/16 09:01	09/12/16 17:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	50		10 - 152	09/12/16 09:01	09/12/16 17:53	1
DCB Decachlorobiphenyl	57		10 - 152	09/12/16 09:01	09/12/16 17:53	1
Tetrachloro-m-xylene	60		57 - 127	09/12/16 09:01	09/12/16 17:53	1
Tetrachloro-m-xylene	60		57 - 127	09/12/16 09:01	09/12/16 17:53	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.563	0.103	ug/L		09/12/16 09:01	09/12/16 15:38	1
Aroclor 1221	0.103	U	0.563	0.103	ug/L		09/12/16 09:01	09/12/16 15:38	1
Aroclor 1232	0.413	U	0.751	0.413	ug/L		09/12/16 09:01	09/12/16 15:38	1
Aroclor 1242	0.103	U	0.563	0.103	ug/L		09/12/16 09:01	09/12/16 15:38	1
Aroclor 1248	0.103	U	0.563	0.103	ug/L		09/12/16 09:01	09/12/16 15:38	1
Aroclor 1254	0.103	U	0.563	0.103	ug/L		09/12/16 09:01	09/12/16 15:38	1
Aroclor 1260	0.103	U	0.563	0.103	ug/L		09/12/16 09:01	09/12/16 15:38	1
Aroclor 1262	0.103	U	0.563	0.103	ug/L		09/12/16 09:01	09/12/16 15:38	1
Aroclor 1268	0.103	U	0.563	0.103	ug/L		09/12/16 09:01	09/12/16 15:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	78		10 - 150	09/12/16 09:01	09/12/16 15:38	1
DCB Decachlorobiphenyl	58		10 - 150	09/12/16 09:01	09/12/16 15:38	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0954	U	4.77	0.0954	ug/L		09/13/16 07:52	09/14/16 20:35	1
Dicamba	0.0811	U	0.477	0.0811	ug/L		09/13/16 07:52	09/14/16 20:35	1
Mecoprop	18.1	U	114	18.1	ug/L		09/13/16 07:52	09/14/16 20:35	1
MCPA	16.2	U	114	16.2	ug/L		09/13/16 07:52	09/14/16 20:35	1
Dichlorprop	0.143	U	0.477	0.143	ug/L		09/13/16 07:52	09/14/16 20:35	1
2,4-D	0.0353	U	0.477	0.0353	ug/L		09/13/16 07:52	09/14/16 20:35	1
Silvex (2,4,5-TP)	0.0591	U	0.238	0.0591	ug/L		09/13/16 07:52	09/14/16 20:35	1
2,4,5-T	0.0591	U	0.238	0.0591	ug/L		09/13/16 07:52	09/14/16 20:35	1
2,4-DB	0.143	U	0.477	0.143	ug/L		09/13/16 07:52	09/14/16 20:35	1
Dinoseb	0.153	U	0.954	0.153	ug/L		09/13/16 07:52	09/14/16 20:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	87		45 - 130	09/13/16 07:52	09/14/16 20:35	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	81.3		0.200	0.101	mg/L		09/09/16 12:45	09/12/16 13:53	1
Magnesium	16.8		0.200	0.0257	mg/L		09/09/16 12:45	09/12/16 13:53	1
Potassium	1.65		0.500	0.375	mg/L		09/09/16 12:45	09/12/16 13:53	1
Silicon	4.98		0.500	0.0707	mg/L		09/09/16 12:45	09/12/16 13:53	1
Sodium	12.3		1.00	0.310	mg/L		09/09/16 12:45	09/12/16 13:53	1
Strontium	0.736		0.00500	0.000700	mg/L		09/09/16 12:45	09/12/16 13:53	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS110**

**Date Collected: 09/08/16 09:58**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-1**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Barium	0.0601		0.00500	0.000810	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Chromium	0.00140	U	0.00500	0.00140	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Copper	0.00200	U	0.0100	0.00200	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Iron	0.101	U	0.250	0.101	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Lead	0.000733	U	0.00500	0.000733	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Manganese	0.0116	U	0.0500	0.0116	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Selenium	0.00108	U	0.00500	0.00108	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Silver	0.000941	U	0.00500	0.000941	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	-	09/09/16 12:45	09/13/16 15:17	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	-	09/09/16 12:45	09/13/16 15:17	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	09/14/16 10:15	09/14/16 15:04	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.459	J	1.00	0.315	mg/L	-		09/09/16 15:45	1
Chloride	19.3		1.00	0.192	mg/L	-		09/09/16 15:45	1
Nitrate as N	1.53		0.500	0.103	mg/L	-		09/09/16 15:45	1
Sulfate	26.1		1.00	0.377	mg/L	-		09/09/16 15:45	1
Fluoride	0.209		0.100	0.0200	mg/L	-		09/16/16 11:45	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		09/13/16 12:36	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	09/19/16 10:46	09/20/16 14:21	1
Total Organic Carbon	0.294	J	1.00	0.285	mg/L	-		09/15/16 12:51	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.0	HF	0.1	0.1	SU	-		09/09/16 14:25	1
Total Alkalinity as CaCO3	227		5.00	5.00	mg/L	-		09/14/16 14:22	1
Bicarbonate Alkalinity as CaCO3	227		5.00	5.00	mg/L	-		09/14/16 14:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		09/14/16 14:22	1
Total Dissolved Solids	346		10.0	10.0	mg/L	-		09/14/16 09:35	1
Total Suspended Solids	4.80		2.00	2.00	mg/L	-		09/09/16 14:10	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/20/16 12:38	1

**Client Sample ID: HCS120**

**Date Collected: 09/08/16 10:31**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-2**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		09/09/16 16:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS120**

**Lab Sample ID: 560-63683-2**

**Date Collected: 09/08/16 10:31**

**Matrix: Water**

**Date Received: 09/09/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/09/16 16:11	1
Benzene	0.330	U	1.00	0.330	ug/L			09/09/16 16:11	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/09/16 16:11	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 16:11	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/09/16 16:11	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/09/16 16:11	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/09/16 16:11	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/09/16 16:11	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/09/16 16:11	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/09/16 16:11	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/09/16 16:11	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/09/16 16:11	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/09/16 16:11	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/09/16 16:11	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/09/16 16:11	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/09/16 16:11	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/09/16 16:11	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/09/16 16:11	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/09/16 16:11	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/09/16 16:11	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 16:11	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/09/16 16:11	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/09/16 16:11	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/09/16 16:11	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/09/16 16:11	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/09/16 16:11	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/09/16 16:11	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/09/16 16:11	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 16:11	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/09/16 16:11	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/09/16 16:11	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/09/16 16:11	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/09/16 16:11	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/09/16 16:11	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/09/16 16:11	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/09/16 16:11	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/09/16 16:11	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/09/16 16:11	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/09/16 16:11	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/09/16 16:11	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/09/16 16:11	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/09/16 16:11	1
EDB	0.175	U	1.00	0.175	ug/L			09/09/16 16:11	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/09/16 16:11	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 16:11	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/09/16 16:11	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/09/16 16:11	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/09/16 16:11	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/09/16 16:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS120**

**Lab Sample ID: 560-63683-2**

**Date Collected: 09/08/16 10:31**

**Matrix: Water**

**Date Received: 09/09/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			09/09/16 16:11	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/09/16 16:11	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/09/16 16:11	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/09/16 16:11	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/09/16 16:11	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/09/16 16:11	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/09/16 16:11	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/09/16 16:11	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/09/16 16:11	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/09/16 16:11	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/09/16 16:11	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/09/16 16:11	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/09/16 16:11	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/09/16 16:11	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 16:11	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/09/16 16:11	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/09/16 16:11	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/09/16 16:11	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/09/16 16:11	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/09/16 16:11	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/09/16 16:11	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/09/16 16:11	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/09/16 16:11	1
Styrene	0.200	U	1.00	0.200	ug/L			09/09/16 16:11	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 16:11	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/09/16 16:11	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/09/16 16:11	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/09/16 16:11	1
Toluene	0.495	U	1.00	0.495	ug/L			09/09/16 16:11	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 16:11	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/09/16 16:11	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/09/16 16:11	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/09/16 16:11	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/09/16 16:11	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/09/16 16:11	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/09/16 16:11	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/09/16 16:11	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/09/16 16:11	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/09/16 16:11	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/09/16 16:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/09/16 16:11	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 16:11	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 16:11	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/09/16 16:11	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/09/16 16:11	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/09/16 16:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130		09/09/16 16:11	1
Dibromofluoromethane (Surr)	97		69 - 130		09/09/16 16:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS120**

**Date Collected: 09/08/16 10:31**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-2**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 140		09/09/16 16:11	1
Toluene-d8 (Surr)	105		70 - 130		09/09/16 16:11	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/12/16 14:00	09/13/16 10:16	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/12/16 14:00	09/13/16 10:16	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/12/16 14:00	09/13/16 10:16	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/12/16 14:00	09/13/16 10:16	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/12/16 14:00	09/13/16 10:16	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/12/16 14:00	09/13/16 10:16	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/12/16 14:00	09/13/16 10:16	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/12/16 14:00	09/13/16 10:16	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/12/16 14:00	09/13/16 10:16	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/12/16 14:00	09/13/16 10:16	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/12/16 14:00	09/13/16 10:16	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/12/16 14:00	09/13/16 10:16	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/12/16 14:00	09/13/16 10:16	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/12/16 14:00	09/13/16 10:16	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/12/16 14:00	09/13/16 10:16	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/12/16 14:00	09/13/16 10:16	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/12/16 14:00	09/13/16 10:16	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/12/16 14:00	09/13/16 10:16	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/12/16 14:00	09/13/16 10:16	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/12/16 14:00	09/13/16 10:16	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/12/16 14:00	09/13/16 10:16	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/12/16 14:00	09/13/16 10:16	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/12/16 14:00	09/13/16 10:16	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/12/16 14:00	09/13/16 10:16	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/12/16 14:00	09/13/16 10:16	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/12/16 14:00	09/13/16 10:16	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/12/16 14:00	09/13/16 10:16	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/12/16 14:00	09/13/16 10:16	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/12/16 14:00	09/13/16 10:16	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/12/16 14:00	09/13/16 10:16	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/12/16 14:00	09/13/16 10:16	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/12/16 14:00	09/13/16 10:16	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/12/16 14:00	09/13/16 10:16	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/12/16 14:00	09/13/16 10:16	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/12/16 14:00	09/13/16 10:16	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/12/16 14:00	09/13/16 10:16	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/12/16 14:00	09/13/16 10:16	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/12/16 14:00	09/13/16 10:16	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/12/16 14:00	09/13/16 10:16	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/12/16 14:00	09/13/16 10:16	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/12/16 14:00	09/13/16 10:16	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/12/16 14:00	09/13/16 10:16	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/12/16 14:00	09/13/16 10:16	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/12/16 14:00	09/13/16 10:16	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS120**

**Date Collected: 09/08/16 10:31**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-2**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/12/16 14:00	09/13/16 10:16	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/12/16 14:00	09/13/16 10:16	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/12/16 14:00	09/13/16 10:16	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/12/16 14:00	09/13/16 10:16	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/12/16 14:00	09/13/16 10:16	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/12/16 14:00	09/13/16 10:16	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/12/16 14:00	09/13/16 10:16	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/12/16 14:00	09/13/16 10:16	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/12/16 14:00	09/13/16 10:16	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/12/16 14:00	09/13/16 10:16	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/12/16 14:00	09/13/16 10:16	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/12/16 14:00	09/13/16 10:16	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/12/16 14:00	09/13/16 10:16	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/12/16 14:00	09/13/16 10:16	1
Phenol	0.768	U	10.0	0.768	ug/L		09/12/16 14:00	09/13/16 10:16	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/12/16 14:00	09/13/16 10:16	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/12/16 14:00	09/13/16 10:16	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/12/16 14:00	09/13/16 10:16	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/12/16 14:00	09/13/16 10:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	70		23 - 130	09/12/16 14:00	09/13/16 10:16	1
2-Fluorophenol	70		10 - 130	09/12/16 14:00	09/13/16 10:16	1
Nitrobenzene-d5	70		27 - 130	09/12/16 14:00	09/13/16 10:16	1
Phenol-d5	74		10 - 130	09/12/16 14:00	09/13/16 10:16	1
Terphenyl-d14	83		10 - 141	09/12/16 14:00	09/13/16 10:16	1
2,4,6-Tribromophenol	77		18 - 130	09/12/16 14:00	09/13/16 10:16	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00478	U	0.0574	0.00478	ug/L		09/12/16 09:01	09/12/16 18:14	1
alpha-BHC	0.00497	U	0.0574	0.00497	ug/L		09/12/16 09:01	09/12/16 18:14	1
alpha-Chlordane	0.00602	U	0.0574	0.00602	ug/L		09/12/16 09:01	09/12/16 18:14	1
beta-BHC	0.00478	U	0.0574	0.00478	ug/L		09/12/16 09:01	09/12/16 18:14	1
4,4'-DDD	0.00478	U	0.0574	0.00478	ug/L		09/12/16 09:01	09/12/16 18:14	1
4,4'-DDE	0.00478	U	0.0574	0.00478	ug/L		09/12/16 09:01	09/12/16 18:14	1
4,4'-DDT	0.00775	U	0.0574	0.00775	ug/L		09/12/16 09:01	09/12/16 18:14	1
delta-BHC	0.00478	U	0.0574	0.00478	ug/L		09/12/16 09:01	09/12/16 18:14	1
Dieldrin	0.0124	U	0.0574	0.0124	ug/L		09/12/16 09:01	09/12/16 18:14	1
Endosulfan I	0.00478	U	0.0574	0.00478	ug/L		09/12/16 09:01	09/12/16 18:14	1
Endosulfan II	0.00822	U	0.0574	0.00822	ug/L		09/12/16 09:01	09/12/16 18:14	1
Endosulfan sulfate	0.00842	U	0.0574	0.00842	ug/L		09/12/16 09:01	09/12/16 18:14	1
Endrin	0.00736	U	0.0574	0.00736	ug/L		09/12/16 09:01	09/12/16 18:14	1
Endrin aldehyde	0.00478	U	0.0574	0.00478	ug/L		09/12/16 09:01	09/12/16 18:14	1
Endrin ketone	0.00784	U	0.0574	0.00784	ug/L		09/12/16 09:01	09/12/16 18:14	1
gamma-BHC (Lindane)	0.00430	U	0.0574	0.00430	ug/L		09/12/16 09:01	09/12/16 18:14	1
gamma-Chlordane	0.00641	U	0.0574	0.00641	ug/L		09/12/16 09:01	09/12/16 18:14	1
Heptachlor	0.00622	U	0.0574	0.00622	ug/L		09/12/16 09:01	09/12/16 18:14	1
Heptachlor epoxide	0.00497	U	0.0574	0.00497	ug/L		09/12/16 09:01	09/12/16 18:14	1
Methoxychlor	0.00956	U	0.0574	0.00956	ug/L		09/12/16 09:01	09/12/16 18:14	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS120**

**Date Collected: 09/08/16 10:31**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-2**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.650	U	5.74	0.650	ug/L	-	09/12/16 09:01	09/12/16 18:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	75		10 - 152				09/12/16 09:01	09/12/16 18:14	1
DCB Decachlorobiphenyl	78		10 - 152				09/12/16 09:01	09/12/16 18:14	1
Tetrachloro-m-xylene	87		57 - 127				09/12/16 09:01	09/12/16 18:14	1
Tetrachloro-m-xylene	80		57 - 127				09/12/16 09:01	09/12/16 18:14	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 15:55	1
Aroclor 1221	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 15:55	1
Aroclor 1232	0.421	U	0.765	0.421	ug/L	-	09/12/16 09:01	09/12/16 15:55	1
Aroclor 1242	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 15:55	1
Aroclor 1248	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 15:55	1
Aroclor 1254	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 15:55	1
Aroclor 1260	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 15:55	1
Aroclor 1262	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 15:55	1
Aroclor 1268	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 15:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	103		10 - 150				09/12/16 09:01	09/12/16 15:55	1
DCB Decachlorobiphenyl	83		10 - 150				09/12/16 09:01	09/12/16 15:55	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0955	U	4.78	0.0955	ug/L	-	09/13/16 07:52	09/14/16 20:55	1
Dicamba	0.0812	U	0.478	0.0812	ug/L	-	09/13/16 07:52	09/14/16 20:55	1
Mecoprop	18.2	U	115	18.2	ug/L	-	09/13/16 07:52	09/14/16 20:55	1
MCPA	16.2	U	115	16.2	ug/L	-	09/13/16 07:52	09/14/16 20:55	1
Dichlorprop	0.143	U	0.478	0.143	ug/L	-	09/13/16 07:52	09/14/16 20:55	1
2,4-D	0.0353	U	0.478	0.0353	ug/L	-	09/13/16 07:52	09/14/16 20:55	1
Silvex (2,4,5-TP)	0.0592	U	0.239	0.0592	ug/L	-	09/13/16 07:52	09/14/16 20:55	1
2,4,5-T	0.0592	U	0.239	0.0592	ug/L	-	09/13/16 07:52	09/14/16 20:55	1
2,4-DB	0.143	U	0.478	0.143	ug/L	-	09/13/16 07:52	09/14/16 20:55	1
Dinoseb	0.153	U	0.955	0.153	ug/L	-	09/13/16 07:52	09/14/16 20:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	88		45 - 130				09/13/16 07:52	09/14/16 20:55	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	79.0		0.200	0.101	mg/L	-	09/09/16 12:45	09/12/16 13:56	1
Magnesium	15.5		0.200	0.0257	mg/L	-	09/09/16 12:45	09/12/16 13:56	1
Potassium	1.36		0.500	0.375	mg/L	-	09/09/16 12:45	09/12/16 13:56	1
Silicon	5.23		0.500	0.0707	mg/L	-	09/09/16 12:45	09/12/16 13:56	1
Sodium	11.1		1.00	0.310	mg/L	-	09/09/16 12:45	09/12/16 13:56	1
Strontium	0.644		0.00500	0.000700	mg/L	-	09/09/16 12:45	09/12/16 13:56	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS120**

**Date Collected: 09/08/16 10:31**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-2**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Barium	0.0561		0.00500	0.000810	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Chromium	0.00140	U	0.00500	0.00140	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Copper	0.00200	U	0.0100	0.00200	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Iron	0.101	U	0.250	0.101	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Lead	0.000733	U	0.00500	0.000733	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Manganese	0.0116	U	0.0500	0.0116	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Selenium	0.00108	U	0.00500	0.00108	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Silver	0.000941	U	0.00500	0.000941	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	-	09/09/16 12:45	09/13/16 15:22	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	-	09/09/16 12:45	09/13/16 15:22	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	09/14/16 10:15	09/14/16 15:09	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.462	J	1.00	0.315	mg/L	-		09/09/16 16:11	1
Chloride	18.8		1.00	0.192	mg/L	-		09/09/16 16:11	1
Nitrate as N	1.86		0.500	0.103	mg/L	-		09/09/16 16:11	1
Sulfate	25.3		1.00	0.377	mg/L	-		09/09/16 16:11	1
Fluoride	0.203		0.100	0.0200	mg/L	-		09/16/16 11:45	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		09/13/16 12:36	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	09/19/16 10:46	09/20/16 14:22	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/19/16 11:12	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2	HF	0.1	0.1	SU	-		09/09/16 14:25	1
Total Alkalinity as CaCO3	224		5.00	5.00	mg/L	-		09/14/16 14:22	1
Bicarbonate Alkalinity as CaCO3	224		5.00	5.00	mg/L	-		09/14/16 14:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		09/14/16 14:22	1
Total Dissolved Solids	339		10.0	10.0	mg/L	-		09/14/16 09:35	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L	-		09/09/16 14:10	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.488	J	1.00	0.285	mg/L	-		09/20/16 12:38	1

**Client Sample ID: FDHCS120**

**Date Collected: 09/08/16 10:31**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-3**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		09/09/16 16:36	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-63683-3**

**Date Collected: 09/08/16 10:31**

**Matrix: Water**

**Date Received: 09/09/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/09/16 16:36	1
Benzene	0.330	U	1.00	0.330	ug/L			09/09/16 16:36	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/09/16 16:36	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 16:36	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/09/16 16:36	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/09/16 16:36	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/09/16 16:36	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/09/16 16:36	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/09/16 16:36	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/09/16 16:36	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/09/16 16:36	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/09/16 16:36	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/09/16 16:36	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/09/16 16:36	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/09/16 16:36	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/09/16 16:36	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/09/16 16:36	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/09/16 16:36	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/09/16 16:36	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/09/16 16:36	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 16:36	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/09/16 16:36	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/09/16 16:36	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/09/16 16:36	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/09/16 16:36	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/09/16 16:36	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/09/16 16:36	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/09/16 16:36	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 16:36	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/09/16 16:36	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/09/16 16:36	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/09/16 16:36	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/09/16 16:36	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/09/16 16:36	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/09/16 16:36	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/09/16 16:36	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/09/16 16:36	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/09/16 16:36	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/09/16 16:36	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/09/16 16:36	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/09/16 16:36	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/09/16 16:36	1
EDB	0.175	U	1.00	0.175	ug/L			09/09/16 16:36	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/09/16 16:36	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 16:36	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/09/16 16:36	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/09/16 16:36	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/09/16 16:36	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/09/16 16:36	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-63683-3**

**Date Collected: 09/08/16 10:31**

**Matrix: Water**

**Date Received: 09/09/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			09/09/16 16:36	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/09/16 16:36	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/09/16 16:36	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/09/16 16:36	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/09/16 16:36	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/09/16 16:36	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/09/16 16:36	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/09/16 16:36	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/09/16 16:36	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/09/16 16:36	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/09/16 16:36	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/09/16 16:36	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/09/16 16:36	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/09/16 16:36	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 16:36	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/09/16 16:36	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/09/16 16:36	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/09/16 16:36	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/09/16 16:36	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/09/16 16:36	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/09/16 16:36	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/09/16 16:36	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/09/16 16:36	1
Styrene	0.200	U	1.00	0.200	ug/L			09/09/16 16:36	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 16:36	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/09/16 16:36	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/09/16 16:36	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/09/16 16:36	1
Toluene	0.495	U	1.00	0.495	ug/L			09/09/16 16:36	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 16:36	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/09/16 16:36	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/09/16 16:36	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/09/16 16:36	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/09/16 16:36	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/09/16 16:36	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/09/16 16:36	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/09/16 16:36	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/09/16 16:36	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/09/16 16:36	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/09/16 16:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/09/16 16:36	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 16:36	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 16:36	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/09/16 16:36	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/09/16 16:36	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/09/16 16:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130		09/09/16 16:36	1
Dibromofluoromethane (Surr)	95		69 - 130		09/09/16 16:36	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-63683-3**

**Date Collected: 09/08/16 10:31**

**Matrix: Water**

**Date Received: 09/09/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 140		09/09/16 16:36	1
Toluene-d8 (Surr)	104		70 - 130		09/09/16 16:36	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/12/16 14:00	09/13/16 10:42	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/12/16 14:00	09/13/16 10:42	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/12/16 14:00	09/13/16 10:42	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/12/16 14:00	09/13/16 10:42	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/12/16 14:00	09/13/16 10:42	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/12/16 14:00	09/13/16 10:42	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/12/16 14:00	09/13/16 10:42	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/12/16 14:00	09/13/16 10:42	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/12/16 14:00	09/13/16 10:42	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/12/16 14:00	09/13/16 10:42	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/12/16 14:00	09/13/16 10:42	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/12/16 14:00	09/13/16 10:42	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/12/16 14:00	09/13/16 10:42	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/12/16 14:00	09/13/16 10:42	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/12/16 14:00	09/13/16 10:42	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/12/16 14:00	09/13/16 10:42	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/12/16 14:00	09/13/16 10:42	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/12/16 14:00	09/13/16 10:42	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/12/16 14:00	09/13/16 10:42	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/12/16 14:00	09/13/16 10:42	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/12/16 14:00	09/13/16 10:42	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/12/16 14:00	09/13/16 10:42	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/12/16 14:00	09/13/16 10:42	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/12/16 14:00	09/13/16 10:42	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/12/16 14:00	09/13/16 10:42	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/12/16 14:00	09/13/16 10:42	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/12/16 14:00	09/13/16 10:42	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/12/16 14:00	09/13/16 10:42	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/12/16 14:00	09/13/16 10:42	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/12/16 14:00	09/13/16 10:42	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/12/16 14:00	09/13/16 10:42	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/12/16 14:00	09/13/16 10:42	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/12/16 14:00	09/13/16 10:42	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/12/16 14:00	09/13/16 10:42	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/12/16 14:00	09/13/16 10:42	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/12/16 14:00	09/13/16 10:42	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/12/16 14:00	09/13/16 10:42	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/12/16 14:00	09/13/16 10:42	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/12/16 14:00	09/13/16 10:42	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/12/16 14:00	09/13/16 10:42	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/12/16 14:00	09/13/16 10:42	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/12/16 14:00	09/13/16 10:42	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/12/16 14:00	09/13/16 10:42	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/12/16 14:00	09/13/16 10:42	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-63683-3**

**Date Collected: 09/08/16 10:31**

**Matrix: Water**

**Date Received: 09/09/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/12/16 14:00	09/13/16 10:42	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/12/16 14:00	09/13/16 10:42	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/12/16 14:00	09/13/16 10:42	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/12/16 14:00	09/13/16 10:42	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/12/16 14:00	09/13/16 10:42	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/12/16 14:00	09/13/16 10:42	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/12/16 14:00	09/13/16 10:42	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/12/16 14:00	09/13/16 10:42	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/12/16 14:00	09/13/16 10:42	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/12/16 14:00	09/13/16 10:42	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/12/16 14:00	09/13/16 10:42	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/12/16 14:00	09/13/16 10:42	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/12/16 14:00	09/13/16 10:42	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/12/16 14:00	09/13/16 10:42	1
Phenol	0.768	U	10.0	0.768	ug/L		09/12/16 14:00	09/13/16 10:42	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/12/16 14:00	09/13/16 10:42	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/12/16 14:00	09/13/16 10:42	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/12/16 14:00	09/13/16 10:42	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/12/16 14:00	09/13/16 10:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		23 - 130	09/12/16 14:00	09/13/16 10:42	1
2-Fluorophenol	65		10 - 130	09/12/16 14:00	09/13/16 10:42	1
Nitrobenzene-d5	66		27 - 130	09/12/16 14:00	09/13/16 10:42	1
Phenol-d5	69		10 - 130	09/12/16 14:00	09/13/16 10:42	1
Terphenyl-d14	78		10 - 141	09/12/16 14:00	09/13/16 10:42	1
2,4,6-Tribromophenol	68		18 - 130	09/12/16 14:00	09/13/16 10:42	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 18:35	1
alpha-BHC	0.00488	U	0.0563	0.00488	ug/L		09/12/16 09:01	09/12/16 18:35	1
alpha-Chlordane	0.00591	U	0.0563	0.00591	ug/L		09/12/16 09:01	09/12/16 18:35	1
beta-BHC	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 18:35	1
4,4'-DDD	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 18:35	1
4,4'-DDE	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 18:35	1
4,4'-DDT	0.00760	U	0.0563	0.00760	ug/L		09/12/16 09:01	09/12/16 18:35	1
delta-BHC	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 18:35	1
Dieldrin	0.0122	U	0.0563	0.0122	ug/L		09/12/16 09:01	09/12/16 18:35	1
Endosulfan I	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 18:35	1
Endosulfan II	0.00807	U	0.0563	0.00807	ug/L		09/12/16 09:01	09/12/16 18:35	1
Endosulfan sulfate	0.00826	U	0.0563	0.00826	ug/L		09/12/16 09:01	09/12/16 18:35	1
Endrin	0.00723	U	0.0563	0.00723	ug/L		09/12/16 09:01	09/12/16 18:35	1
Endrin aldehyde	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 18:35	1
Endrin ketone	0.00769	U	0.0563	0.00769	ug/L		09/12/16 09:01	09/12/16 18:35	1
gamma-BHC (Lindane)	0.00422	U	0.0563	0.00422	ug/L		09/12/16 09:01	09/12/16 18:35	1
gamma-Chlordane	0.00629	U	0.0563	0.00629	ug/L		09/12/16 09:01	09/12/16 18:35	1
Heptachlor	0.00610	U	0.0563	0.00610	ug/L		09/12/16 09:01	09/12/16 18:35	1
Heptachlor epoxide	0.00488	U	0.0563	0.00488	ug/L		09/12/16 09:01	09/12/16 18:35	1
Methoxychlor	0.00938	U	0.0563	0.00938	ug/L		09/12/16 09:01	09/12/16 18:35	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-63683-3**

**Date Collected: 09/08/16 10:31**

**Matrix: Water**

**Date Received: 09/09/16 08:00**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.638	U	5.63	0.638	ug/L	-	09/12/16 09:01	09/12/16 18:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	71		10 - 152				09/12/16 09:01	09/12/16 18:35	1
DCB Decachlorobiphenyl	76		10 - 152				09/12/16 09:01	09/12/16 18:35	1
Tetrachloro-m-xylene	84		57 - 127				09/12/16 09:01	09/12/16 18:35	1
Tetrachloro-m-xylene	79		57 - 127				09/12/16 09:01	09/12/16 18:35	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:13	1
Aroclor 1221	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:13	1
Aroclor 1232	0.413	U	0.751	0.413	ug/L	-	09/12/16 09:01	09/12/16 16:13	1
Aroclor 1242	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:13	1
Aroclor 1248	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:13	1
Aroclor 1254	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:13	1
Aroclor 1260	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:13	1
Aroclor 1262	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:13	1
Aroclor 1268	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	108		10 - 150				09/12/16 09:01	09/12/16 16:13	1
DCB Decachlorobiphenyl	88		10 - 150				09/12/16 09:01	09/12/16 16:13	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0953	U	4.77	0.0953	ug/L	-	09/13/16 07:52	09/14/16 21:14	1
Dicamba	0.0810	U	0.477	0.0810	ug/L	-	09/13/16 07:52	09/14/16 21:14	1
Mecoprop	18.1	U	114	18.1	ug/L	-	09/13/16 07:52	09/14/16 21:14	1
MCPA	16.2	U	114	16.2	ug/L	-	09/13/16 07:52	09/14/16 21:14	1
Dichlorprop	0.143	U	0.477	0.143	ug/L	-	09/13/16 07:52	09/14/16 21:14	1
2,4-D	0.0353	U	0.477	0.0353	ug/L	-	09/13/16 07:52	09/14/16 21:14	1
Silvex (2,4,5-TP)	0.0591	U	0.238	0.0591	ug/L	-	09/13/16 07:52	09/14/16 21:14	1
2,4,5-T	0.0591	U	0.238	0.0591	ug/L	-	09/13/16 07:52	09/14/16 21:14	1
2,4-DB	0.143	U	0.477	0.143	ug/L	-	09/13/16 07:52	09/14/16 21:14	1
Dinoseb	0.152	U	0.953	0.152	ug/L	-	09/13/16 07:52	09/14/16 21:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	87		45 - 130				09/13/16 07:52	09/14/16 21:14	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	82.4		0.200	0.101	mg/L	-	09/09/16 12:45	09/12/16 14:00	1
Magnesium	16.0		0.200	0.0257	mg/L	-	09/09/16 12:45	09/12/16 14:00	1
Potassium	1.45		0.500	0.375	mg/L	-	09/09/16 12:45	09/12/16 14:00	1
Silicon	5.44		0.500	0.0707	mg/L	-	09/09/16 12:45	09/12/16 14:00	1
Sodium	11.9		1.00	0.310	mg/L	-	09/09/16 12:45	09/12/16 14:00	1
Strontium	0.675		0.00500	0.000700	mg/L	-	09/09/16 12:45	09/12/16 14:00	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-63683-3**

**Date Collected: 09/08/16 10:31**

**Matrix: Water**

**Date Received: 09/09/16 08:00**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Barium	0.0588		0.00500	0.000810	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Chromium	0.00140	U	0.00500	0.00140	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Copper	0.00200	U	0.0100	0.00200	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Iron	0.101	U	0.250	0.101	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Lead	0.000733	U	0.00500	0.000733	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Manganese	0.0116	U	0.0500	0.0116	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Selenium	0.00108	U	0.00500	0.00108	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Silver	0.000941	U	0.00500	0.000941	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	-	09/09/16 12:45	09/13/16 15:27	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	-	09/09/16 12:45	09/13/16 15:27	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	09/14/16 10:15	09/14/16 15:12	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.458	J	1.00	0.315	mg/L	-		09/09/16 16:37	1
Chloride	18.8		1.00	0.192	mg/L	-		09/09/16 16:37	1
Nitrate as N	1.87		0.500	0.103	mg/L	-		09/09/16 16:37	1
Sulfate	25.2		1.00	0.377	mg/L	-		09/09/16 16:37	1
Fluoride	0.206		0.100	0.0200	mg/L	-		09/16/16 11:45	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		09/13/16 12:40	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	09/19/16 10:46	09/20/16 14:23	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/15/16 12:51	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.1	HF	0.1	0.1	SU	-		09/09/16 14:25	1
Total Alkalinity as CaCO3	223		5.00	5.00	mg/L	-		09/14/16 14:22	1
Bicarbonate Alkalinity as CaCO3	223		5.00	5.00	mg/L	-		09/14/16 14:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		09/14/16 14:22	1
Total Dissolved Solids	341		10.0	10.0	mg/L	-		09/14/16 09:35	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L	-		09/09/16 14:10	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/20/16 12:38	1

**Client Sample ID: HCS130**

**Lab Sample ID: 560-63683-4**

**Date Collected: 09/08/16 09:12**

**Matrix: Water**

**Date Received: 09/09/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		09/09/16 11:51	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS130**

**Date Collected: 09/08/16 09:12**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-4**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/09/16 11:51	1
Benzene	0.330	U	1.00	0.330	ug/L			09/09/16 11:51	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/09/16 11:51	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 11:51	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/09/16 11:51	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/09/16 11:51	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/09/16 11:51	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/09/16 11:51	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/09/16 11:51	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/09/16 11:51	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/09/16 11:51	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/09/16 11:51	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/09/16 11:51	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/09/16 11:51	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/09/16 11:51	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/09/16 11:51	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/09/16 11:51	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/09/16 11:51	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/09/16 11:51	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/09/16 11:51	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 11:51	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/09/16 11:51	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/09/16 11:51	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/09/16 11:51	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/09/16 11:51	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/09/16 11:51	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/09/16 11:51	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/09/16 11:51	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 11:51	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/09/16 11:51	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/09/16 11:51	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/09/16 11:51	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/09/16 11:51	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/09/16 11:51	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/09/16 11:51	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/09/16 11:51	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/09/16 11:51	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/09/16 11:51	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/09/16 11:51	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/09/16 11:51	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/09/16 11:51	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/09/16 11:51	1
EDB	0.175	U	1.00	0.175	ug/L			09/09/16 11:51	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/09/16 11:51	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 11:51	1
Ethylene oxide	30.0	U F1	50.0	30.0	ug/L			09/09/16 11:51	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/09/16 11:51	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/09/16 11:51	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/09/16 11:51	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS130**

**Date Collected: 09/08/16 09:12**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-4**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			09/09/16 11:51	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/09/16 11:51	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/09/16 11:51	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/09/16 11:51	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/09/16 11:51	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/09/16 11:51	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/09/16 11:51	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/09/16 11:51	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/09/16 11:51	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/09/16 11:51	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/09/16 11:51	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/09/16 11:51	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/09/16 11:51	1
Naphthalene	0.200	U F2	5.00	0.200	ug/L			09/09/16 11:51	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 11:51	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/09/16 11:51	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/09/16 11:51	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/09/16 11:51	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/09/16 11:51	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/09/16 11:51	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/09/16 11:51	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/09/16 11:51	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/09/16 11:51	1
Styrene	0.200	U	1.00	0.200	ug/L			09/09/16 11:51	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 11:51	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/09/16 11:51	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/09/16 11:51	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/09/16 11:51	1
Toluene	0.495	U	1.00	0.495	ug/L			09/09/16 11:51	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 11:51	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/09/16 11:51	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/09/16 11:51	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/09/16 11:51	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/09/16 11:51	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/09/16 11:51	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/09/16 11:51	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/09/16 11:51	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/09/16 11:51	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/09/16 11:51	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/09/16 11:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/09/16 11:51	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 11:51	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 11:51	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/09/16 11:51	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/09/16 11:51	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/09/16 11:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130		09/09/16 11:51	1
Dibromofluoromethane (Surr)	96		69 - 130		09/09/16 11:51	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS130**

**Date Collected: 09/08/16 09:12**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-4**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 140		09/09/16 11:51	1
Toluene-d8 (Surr)	106		70 - 130		09/09/16 11:51	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/12/16 14:00	09/13/16 11:07	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/12/16 14:00	09/13/16 11:07	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/12/16 14:00	09/13/16 11:07	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/12/16 14:00	09/13/16 11:07	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/12/16 14:00	09/13/16 11:07	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/12/16 14:00	09/13/16 11:07	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/12/16 14:00	09/13/16 11:07	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/12/16 14:00	09/13/16 11:07	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/12/16 14:00	09/13/16 11:07	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/12/16 14:00	09/13/16 11:07	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/12/16 14:00	09/13/16 11:07	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/12/16 14:00	09/13/16 11:07	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/12/16 14:00	09/13/16 11:07	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/12/16 14:00	09/13/16 11:07	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/12/16 14:00	09/13/16 11:07	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/12/16 14:00	09/13/16 11:07	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/12/16 14:00	09/13/16 11:07	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/12/16 14:00	09/13/16 11:07	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/12/16 14:00	09/13/16 11:07	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/12/16 14:00	09/13/16 11:07	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/12/16 14:00	09/13/16 11:07	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/12/16 14:00	09/13/16 11:07	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/12/16 14:00	09/13/16 11:07	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/12/16 14:00	09/13/16 11:07	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/12/16 14:00	09/13/16 11:07	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/12/16 14:00	09/13/16 11:07	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/12/16 14:00	09/13/16 11:07	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/12/16 14:00	09/13/16 11:07	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/12/16 14:00	09/13/16 11:07	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/12/16 14:00	09/13/16 11:07	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/12/16 14:00	09/13/16 11:07	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/12/16 14:00	09/13/16 11:07	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/12/16 14:00	09/13/16 11:07	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/12/16 14:00	09/13/16 11:07	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/12/16 14:00	09/13/16 11:07	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/12/16 14:00	09/13/16 11:07	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/12/16 14:00	09/13/16 11:07	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/12/16 14:00	09/13/16 11:07	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/12/16 14:00	09/13/16 11:07	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/12/16 14:00	09/13/16 11:07	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/12/16 14:00	09/13/16 11:07	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/12/16 14:00	09/13/16 11:07	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/12/16 14:00	09/13/16 11:07	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/12/16 14:00	09/13/16 11:07	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS130**

**Date Collected: 09/08/16 09:12**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-4**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/12/16 14:00	09/13/16 11:07	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/12/16 14:00	09/13/16 11:07	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/12/16 14:00	09/13/16 11:07	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/12/16 14:00	09/13/16 11:07	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/12/16 14:00	09/13/16 11:07	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/12/16 14:00	09/13/16 11:07	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/12/16 14:00	09/13/16 11:07	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/12/16 14:00	09/13/16 11:07	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/12/16 14:00	09/13/16 11:07	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/12/16 14:00	09/13/16 11:07	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/12/16 14:00	09/13/16 11:07	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/12/16 14:00	09/13/16 11:07	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/12/16 14:00	09/13/16 11:07	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/12/16 14:00	09/13/16 11:07	1
Phenol	0.768	U	10.0	0.768	ug/L		09/12/16 14:00	09/13/16 11:07	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/12/16 14:00	09/13/16 11:07	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/12/16 14:00	09/13/16 11:07	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/12/16 14:00	09/13/16 11:07	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/12/16 14:00	09/13/16 11:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		23 - 130	09/12/16 14:00	09/13/16 11:07	1
2-Fluorophenol	68		10 - 130	09/12/16 14:00	09/13/16 11:07	1
Nitrobenzene-d5	69		27 - 130	09/12/16 14:00	09/13/16 11:07	1
Phenol-d5	69		10 - 130	09/12/16 14:00	09/13/16 11:07	1
Terphenyl-d14	64		10 - 141	09/12/16 14:00	09/13/16 11:07	1
2,4,6-Tribromophenol	72		18 - 130	09/12/16 14:00	09/13/16 11:07	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00468	U	0.0561	0.00468	ug/L		09/12/16 09:01	09/12/16 18:57	1
alpha-BHC	0.00487	U	0.0561	0.00487	ug/L		09/12/16 09:01	09/12/16 18:57	1
alpha-Chlordane	0.00590	U	0.0561	0.00590	ug/L		09/12/16 09:01	09/12/16 18:57	1
beta-BHC	0.00468	U	0.0561	0.00468	ug/L		09/12/16 09:01	09/12/16 18:57	1
4,4'-DDD	0.00468	U	0.0561	0.00468	ug/L		09/12/16 09:01	09/12/16 18:57	1
4,4'-DDE	0.00468	U	0.0561	0.00468	ug/L		09/12/16 09:01	09/12/16 18:57	1
4,4'-DDT	0.00758	U	0.0561	0.00758	ug/L		09/12/16 09:01	09/12/16 18:57	1
delta-BHC	0.00468	U	0.0561	0.00468	ug/L		09/12/16 09:01	09/12/16 18:57	1
Dieldrin	0.0122	U	0.0561	0.0122	ug/L		09/12/16 09:01	09/12/16 18:57	1
Endosulfan I	0.00468	U	0.0561	0.00468	ug/L		09/12/16 09:01	09/12/16 18:57	1
Endosulfan II	0.00805	U	0.0561	0.00805	ug/L		09/12/16 09:01	09/12/16 18:57	1
Endosulfan sulfate	0.00824	U	0.0561	0.00824	ug/L		09/12/16 09:01	09/12/16 18:57	1
Endrin	0.00721	U	0.0561	0.00721	ug/L		09/12/16 09:01	09/12/16 18:57	1
Endrin aldehyde	0.00468	U	0.0561	0.00468	ug/L		09/12/16 09:01	09/12/16 18:57	1
Endrin ketone	0.00767	U	0.0561	0.00767	ug/L		09/12/16 09:01	09/12/16 18:57	1
gamma-BHC (Lindane)	0.00421	U	0.0561	0.00421	ug/L		09/12/16 09:01	09/12/16 18:57	1
gamma-Chlordane	0.00627	U	0.0561	0.00627	ug/L		09/12/16 09:01	09/12/16 18:57	1
Heptachlor	0.00608	U	0.0561	0.00608	ug/L		09/12/16 09:01	09/12/16 18:57	1
Heptachlor epoxide	0.00487	U	0.0561	0.00487	ug/L		09/12/16 09:01	09/12/16 18:57	1
Methoxychlor	0.00936	U	0.0561	0.00936	ug/L		09/12/16 09:01	09/12/16 18:57	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS130**

**Date Collected: 09/08/16 09:12**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-4**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.636	U	5.61	0.636	ug/L	-	09/12/16 09:01	09/12/16 18:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	74		10 - 152				09/12/16 09:01	09/12/16 18:57	1
DCB Decachlorobiphenyl	81		10 - 152				09/12/16 09:01	09/12/16 18:57	1
Tetrachloro-m-xylene	87		57 - 127				09/12/16 09:01	09/12/16 18:57	1
Tetrachloro-m-xylene	84		57 - 127				09/12/16 09:01	09/12/16 18:57	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.561	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:31	1
Aroclor 1221	0.103	U	0.561	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:31	1
Aroclor 1232	0.412	U	0.749	0.412	ug/L	-	09/12/16 09:01	09/12/16 16:31	1
Aroclor 1242	0.103	U	0.561	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:31	1
Aroclor 1248	0.103	U	0.561	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:31	1
Aroclor 1254	0.103	U	0.561	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:31	1
Aroclor 1260	0.103	U	0.561	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:31	1
Aroclor 1262	0.103	U	0.561	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:31	1
Aroclor 1268	0.103	U	0.561	0.103	ug/L	-	09/12/16 09:01	09/12/16 16:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	109		10 - 150				09/12/16 09:01	09/12/16 16:31	1
DCB Decachlorobiphenyl	88		10 - 150				09/12/16 09:01	09/12/16 16:31	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0952	U F1	4.76	0.0952	ug/L	-	09/13/16 07:52	09/14/16 21:34	1
Dicamba	0.0810	U	0.476	0.0810	ug/L	-	09/13/16 07:52	09/14/16 21:34	1
Mecoprop	18.1	U	114	18.1	ug/L	-	09/13/16 07:52	09/14/16 21:34	1
MCPA	16.2	U	114	16.2	ug/L	-	09/13/16 07:52	09/14/16 21:34	1
Dichlorprop	0.143	U	0.476	0.143	ug/L	-	09/13/16 07:52	09/14/16 21:34	1
2,4-D	0.0352	U	0.476	0.0352	ug/L	-	09/13/16 07:52	09/14/16 21:34	1
Silvex (2,4,5-TP)	0.0590	U	0.238	0.0590	ug/L	-	09/13/16 07:52	09/14/16 21:34	1
2,4,5-T	0.0590	U	0.238	0.0590	ug/L	-	09/13/16 07:52	09/14/16 21:34	1
2,4-DB	0.143	U	0.476	0.143	ug/L	-	09/13/16 07:52	09/14/16 21:34	1
Dinoseb	0.152	U	0.952	0.152	ug/L	-	09/13/16 07:52	09/14/16 21:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	95		45 - 130				09/13/16 07:52	09/14/16 21:34	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	83.3		0.200	0.101	mg/L	-	09/09/16 12:45	09/12/16 13:38	1
Magnesium	16.0		0.200	0.0257	mg/L	-	09/09/16 12:45	09/12/16 13:38	1
Potassium	1.45		0.500	0.375	mg/L	-	09/09/16 12:45	09/12/16 13:38	1
Silicon	5.37		0.500	0.0707	mg/L	-	09/09/16 12:45	09/12/16 13:38	1
Sodium	12.2		1.00	0.310	mg/L	-	09/09/16 12:45	09/12/16 13:38	1
Strontium	0.640		0.00500	0.000700	mg/L	-	09/09/16 12:45	09/12/16 13:38	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS130**

**Date Collected: 09/08/16 09:12**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-4**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U F1	0.100	0.0500	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Barium	0.0547		0.00500	0.000810	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Chromium	0.00140	U	0.00500	0.00140	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Copper	0.00200	U	0.0100	0.00200	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Iron	0.101	U	0.250	0.101	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Lead	0.000733	U	0.00500	0.000733	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Manganese	0.0116	U	0.0500	0.0116	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Selenium	0.00108	U	0.00500	0.00108	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Silver	0.000941	U	0.00500	0.000941	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	-	09/09/16 12:45	09/13/16 14:24	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	-	09/09/16 12:45	09/13/16 14:24	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	09/12/16 10:00	09/12/16 16:33	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.460	J	1.00	0.315	mg/L	-		09/09/16 17:03	1
Chloride	18.7		1.00	0.192	mg/L	-		09/09/16 17:03	1
Nitrate as N	1.92		0.500	0.103	mg/L	-		09/09/16 17:03	1
Sulfate	28.3		1.00	0.377	mg/L	-		09/09/16 17:03	1
Fluoride	0.196		0.100	0.0200	mg/L	-		09/16/16 11:45	1
Nitrogen, Kjeldahl	0.432	U F1	1.00	0.432	mg/L	-		09/13/16 12:37	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	09/19/16 10:46	09/20/16 14:15	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/15/16 12:51	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.1	HF	0.1	0.1	SU	-		09/09/16 14:25	1
Total Alkalinity as CaCO3	223		5.00	5.00	mg/L	-		09/14/16 14:22	1
Bicarbonate Alkalinity as CaCO3	223		5.00	5.00	mg/L	-		09/14/16 14:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		09/14/16 14:22	1
Total Dissolved Solids	348		10.0	10.0	mg/L	-		09/14/16 09:35	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L	-		09/09/16 14:10	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/20/16 12:38	1

**Client Sample ID: HCS140**

**Date Collected: 09/08/16 11:09**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		09/09/16 14:55	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS140**

**Date Collected: 09/08/16 11:09**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/09/16 14:55	1
Benzene	0.330	U	1.00	0.330	ug/L			09/09/16 14:55	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/09/16 14:55	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 14:55	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/09/16 14:55	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/09/16 14:55	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/09/16 14:55	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/09/16 14:55	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/09/16 14:55	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/09/16 14:55	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/09/16 14:55	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/09/16 14:55	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/09/16 14:55	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/09/16 14:55	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/09/16 14:55	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/09/16 14:55	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/09/16 14:55	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/09/16 14:55	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/09/16 14:55	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/09/16 14:55	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 14:55	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/09/16 14:55	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/09/16 14:55	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/09/16 14:55	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/09/16 14:55	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/09/16 14:55	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/09/16 14:55	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/09/16 14:55	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 14:55	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/09/16 14:55	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/09/16 14:55	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/09/16 14:55	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/09/16 14:55	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/09/16 14:55	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/09/16 14:55	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/09/16 14:55	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/09/16 14:55	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/09/16 14:55	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/09/16 14:55	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/09/16 14:55	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/09/16 14:55	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/09/16 14:55	1
EDB	0.175	U	1.00	0.175	ug/L			09/09/16 14:55	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/09/16 14:55	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 14:55	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/09/16 14:55	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/09/16 14:55	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/09/16 14:55	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/09/16 14:55	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS140**

**Date Collected: 09/08/16 11:09**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			09/09/16 14:55	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/09/16 14:55	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/09/16 14:55	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/09/16 14:55	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/09/16 14:55	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/09/16 14:55	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/09/16 14:55	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/09/16 14:55	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/09/16 14:55	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/09/16 14:55	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/09/16 14:55	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/09/16 14:55	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/09/16 14:55	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/09/16 14:55	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 14:55	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/09/16 14:55	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/09/16 14:55	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/09/16 14:55	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/09/16 14:55	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/09/16 14:55	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/09/16 14:55	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/09/16 14:55	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/09/16 14:55	1
Styrene	0.200	U	1.00	0.200	ug/L			09/09/16 14:55	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 14:55	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/09/16 14:55	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/09/16 14:55	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/09/16 14:55	1
Toluene	0.495	U	1.00	0.495	ug/L			09/09/16 14:55	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 14:55	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/09/16 14:55	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/09/16 14:55	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/09/16 14:55	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/09/16 14:55	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/09/16 14:55	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/09/16 14:55	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/09/16 14:55	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/09/16 14:55	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/09/16 14:55	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/09/16 14:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/09/16 14:55	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 14:55	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 14:55	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/09/16 14:55	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/09/16 14:55	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/09/16 14:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 130		09/09/16 14:55	1
Dibromofluoromethane (Surr)	97		69 - 130		09/09/16 14:55	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS140**

**Date Collected: 09/08/16 11:09**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 140		09/09/16 14:55	1
Toluene-d8 (Surr)	105		70 - 130		09/09/16 14:55	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/12/16 14:00	09/13/16 11:33	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/12/16 14:00	09/13/16 11:33	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/12/16 14:00	09/13/16 11:33	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/12/16 14:00	09/13/16 11:33	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/12/16 14:00	09/13/16 11:33	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/12/16 14:00	09/13/16 11:33	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/12/16 14:00	09/13/16 11:33	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/12/16 14:00	09/13/16 11:33	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/12/16 14:00	09/13/16 11:33	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/12/16 14:00	09/13/16 11:33	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/12/16 14:00	09/13/16 11:33	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/12/16 14:00	09/13/16 11:33	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/12/16 14:00	09/13/16 11:33	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/12/16 14:00	09/13/16 11:33	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/12/16 14:00	09/13/16 11:33	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/12/16 14:00	09/13/16 11:33	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/12/16 14:00	09/13/16 11:33	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/12/16 14:00	09/13/16 11:33	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/12/16 14:00	09/13/16 11:33	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/12/16 14:00	09/13/16 11:33	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/12/16 14:00	09/13/16 11:33	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/12/16 14:00	09/13/16 11:33	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/12/16 14:00	09/13/16 11:33	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/12/16 14:00	09/13/16 11:33	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/12/16 14:00	09/13/16 11:33	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/12/16 14:00	09/13/16 11:33	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/12/16 14:00	09/13/16 11:33	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/12/16 14:00	09/13/16 11:33	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/12/16 14:00	09/13/16 11:33	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/12/16 14:00	09/13/16 11:33	1
Di-n-butyl phthalate	2.20	J	10.0	0.709	ug/L		09/12/16 14:00	09/13/16 11:33	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/12/16 14:00	09/13/16 11:33	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/12/16 14:00	09/13/16 11:33	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/12/16 14:00	09/13/16 11:33	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/12/16 14:00	09/13/16 11:33	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/12/16 14:00	09/13/16 11:33	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/12/16 14:00	09/13/16 11:33	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/12/16 14:00	09/13/16 11:33	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/12/16 14:00	09/13/16 11:33	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/12/16 14:00	09/13/16 11:33	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/12/16 14:00	09/13/16 11:33	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/12/16 14:00	09/13/16 11:33	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/12/16 14:00	09/13/16 11:33	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/12/16 14:00	09/13/16 11:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS140**

**Date Collected: 09/08/16 11:09**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-5**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/12/16 14:00	09/13/16 11:33	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/12/16 14:00	09/13/16 11:33	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/12/16 14:00	09/13/16 11:33	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/12/16 14:00	09/13/16 11:33	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/12/16 14:00	09/13/16 11:33	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/12/16 14:00	09/13/16 11:33	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/12/16 14:00	09/13/16 11:33	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/12/16 14:00	09/13/16 11:33	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/12/16 14:00	09/13/16 11:33	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/12/16 14:00	09/13/16 11:33	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/12/16 14:00	09/13/16 11:33	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/12/16 14:00	09/13/16 11:33	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/12/16 14:00	09/13/16 11:33	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/12/16 14:00	09/13/16 11:33	1
Phenol	0.768	U	10.0	0.768	ug/L		09/12/16 14:00	09/13/16 11:33	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/12/16 14:00	09/13/16 11:33	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/12/16 14:00	09/13/16 11:33	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/12/16 14:00	09/13/16 11:33	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/12/16 14:00	09/13/16 11:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	59		23 - 130	09/12/16 14:00	09/13/16 11:33	1
2-Fluorophenol	56		10 - 130	09/12/16 14:00	09/13/16 11:33	1
Nitrobenzene-d5	60		27 - 130	09/12/16 14:00	09/13/16 11:33	1
Phenol-d5	61		10 - 130	09/12/16 14:00	09/13/16 11:33	1
Terphenyl-d14	87		10 - 141	09/12/16 14:00	09/13/16 11:33	1
2,4,6-Tribromophenol	71		18 - 130	09/12/16 14:00	09/13/16 11:33	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00478	U	0.0574	0.00478	ug/L		09/12/16 09:01	09/12/16 20:01	1
alpha-BHC	0.00497	U	0.0574	0.00497	ug/L		09/12/16 09:01	09/12/16 20:01	1
alpha-Chlordane	0.00602	U	0.0574	0.00602	ug/L		09/12/16 09:01	09/12/16 20:01	1
beta-BHC	0.00478	U	0.0574	0.00478	ug/L		09/12/16 09:01	09/12/16 20:01	1
4,4'-DDD	0.00478	U	0.0574	0.00478	ug/L		09/12/16 09:01	09/12/16 20:01	1
4,4'-DDE	0.00478	U	0.0574	0.00478	ug/L		09/12/16 09:01	09/12/16 20:01	1
4,4'-DDT	0.00775	U	0.0574	0.00775	ug/L		09/12/16 09:01	09/12/16 20:01	1
delta-BHC	0.00478	U	0.0574	0.00478	ug/L		09/12/16 09:01	09/12/16 20:01	1
Dieldrin	0.0124	U	0.0574	0.0124	ug/L		09/12/16 09:01	09/12/16 20:01	1
Endosulfan I	0.00478	U	0.0574	0.00478	ug/L		09/12/16 09:01	09/12/16 20:01	1
Endosulfan II	0.00822	U	0.0574	0.00822	ug/L		09/12/16 09:01	09/12/16 20:01	1
Endosulfan sulfate	0.00842	U	0.0574	0.00842	ug/L		09/12/16 09:01	09/12/16 20:01	1
Endrin	0.00736	U	0.0574	0.00736	ug/L		09/12/16 09:01	09/12/16 20:01	1
Endrin aldehyde	0.00478	U	0.0574	0.00478	ug/L		09/12/16 09:01	09/12/16 20:01	1
Endrin ketone	0.00784	U	0.0574	0.00784	ug/L		09/12/16 09:01	09/12/16 20:01	1
gamma-BHC (Lindane)	0.00430	U	0.0574	0.00430	ug/L		09/12/16 09:01	09/12/16 20:01	1
gamma-Chlordane	0.00641	U	0.0574	0.00641	ug/L		09/12/16 09:01	09/12/16 20:01	1
Heptachlor	0.00622	U	0.0574	0.00622	ug/L		09/12/16 09:01	09/12/16 20:01	1
Heptachlor epoxide	0.00497	U	0.0574	0.00497	ug/L		09/12/16 09:01	09/12/16 20:01	1
Methoxychlor	0.00956	U	0.0574	0.00956	ug/L		09/12/16 09:01	09/12/16 20:01	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS140**

**Date Collected: 09/08/16 11:09**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-5**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.650	U	5.74	0.650	ug/L	-	09/12/16 09:01	09/12/16 20:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	69		10 - 152				09/12/16 09:01	09/12/16 20:01	1
DCB Decachlorobiphenyl	71		10 - 152				09/12/16 09:01	09/12/16 20:01	1
Tetrachloro-m-xylene	82		57 - 127				09/12/16 09:01	09/12/16 20:01	1
Tetrachloro-m-xylene	77		57 - 127				09/12/16 09:01	09/12/16 20:01	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:23	1
Aroclor 1221	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:23	1
Aroclor 1232	0.421	U	0.765	0.421	ug/L	-	09/12/16 09:01	09/12/16 17:23	1
Aroclor 1242	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:23	1
Aroclor 1248	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:23	1
Aroclor 1254	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:23	1
Aroclor 1260	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:23	1
Aroclor 1262	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:23	1
Aroclor 1268	0.105	U	0.574	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	104		10 - 150				09/12/16 09:01	09/12/16 17:23	1
DCB Decachlorobiphenyl	82		10 - 150				09/12/16 09:01	09/12/16 17:23	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0947	U	4.73	0.0947	ug/L	-	09/13/16 07:52	09/14/16 21:53	1
Dicamba	0.0805	U	0.473	0.0805	ug/L	-	09/13/16 07:52	09/14/16 21:53	1
Mecoprop	18.0	U	114	18.0	ug/L	-	09/13/16 07:52	09/14/16 21:53	1
MCPA	16.1	U	114	16.1	ug/L	-	09/13/16 07:52	09/14/16 21:53	1
Dichlorprop	0.142	U	0.473	0.142	ug/L	-	09/13/16 07:52	09/14/16 21:53	1
2,4-D	0.0350	U	0.473	0.0350	ug/L	-	09/13/16 07:52	09/14/16 21:53	1
Silvex (2,4,5-TP)	0.0587	U	0.237	0.0587	ug/L	-	09/13/16 07:52	09/14/16 21:53	1
2,4,5-T	0.0587	U	0.237	0.0587	ug/L	-	09/13/16 07:52	09/14/16 21:53	1
2,4-DB	0.142	U	0.473	0.142	ug/L	-	09/13/16 07:52	09/14/16 21:53	1
Dinoseb	0.151	U	0.947	0.151	ug/L	-	09/13/16 07:52	09/14/16 21:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	88		45 - 130				09/13/16 07:52	09/14/16 21:53	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	84.3		0.200	0.101	mg/L	-	09/09/16 12:45	09/12/16 14:04	1
Magnesium	15.7		0.200	0.0257	mg/L	-	09/09/16 12:45	09/12/16 14:04	1
Potassium	1.44		0.500	0.375	mg/L	-	09/09/16 12:45	09/12/16 14:04	1
Silicon	5.40		0.500	0.0707	mg/L	-	09/09/16 12:45	09/12/16 14:04	1
Sodium	11.9		1.00	0.310	mg/L	-	09/09/16 12:45	09/12/16 14:04	1
Strontium	0.651		0.00500	0.000700	mg/L	-	09/09/16 12:45	09/12/16 14:04	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS140**

**Date Collected: 09/08/16 11:09**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-5**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Barium	0.0578		0.00500	0.000810	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Chromium	0.00140	U	0.00500	0.00140	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Copper	0.00200	U	0.0100	0.00200	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Iron	0.101	U	0.250	0.101	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Lead	0.000733	U	0.00500	0.000733	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Manganese	0.0116	U	0.0500	0.0116	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Selenium	0.00108	U	0.00500	0.00108	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Silver	0.000941	U	0.00500	0.000941	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	-	09/09/16 12:45	09/13/16 15:32	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	-	09/09/16 12:45	09/13/16 15:32	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	09/14/16 10:15	09/14/16 15:15	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.458	J	1.00	0.315	mg/L	-		09/09/16 18:21	1
Chloride	18.4		1.00	0.192	mg/L	-		09/09/16 18:21	1
Nitrate as N	1.83		0.500	0.103	mg/L	-		09/09/16 18:21	1
Sulfate	24.8		1.00	0.377	mg/L	-		09/09/16 18:21	1
Fluoride	0.189		0.100	0.0200	mg/L	-		09/16/16 11:45	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		09/13/16 12:41	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	09/19/16 10:46	09/20/16 14:24	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/19/16 11:12	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1	0.1	SU	-		09/09/16 14:25	1
Total Alkalinity as CaCO3	227		5.00	5.00	mg/L	-		09/14/16 14:22	1
Bicarbonate Alkalinity as CaCO3	227		5.00	5.00	mg/L	-		09/14/16 14:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		09/14/16 14:22	1
Total Dissolved Solids	334		10.0	10.0	mg/L	-		09/14/16 09:35	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L	-		09/09/16 14:10	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/20/16 12:38	1

**Client Sample ID: HCS160**

**Date Collected: 09/08/16 11:38**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		09/09/16 15:20	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS160**

**Date Collected: 09/08/16 11:38**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/09/16 15:20	1
Benzene	0.330	U	1.00	0.330	ug/L			09/09/16 15:20	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/09/16 15:20	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 15:20	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/09/16 15:20	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/09/16 15:20	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/09/16 15:20	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/09/16 15:20	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/09/16 15:20	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/09/16 15:20	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/09/16 15:20	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/09/16 15:20	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/09/16 15:20	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/09/16 15:20	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/09/16 15:20	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/09/16 15:20	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/09/16 15:20	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/09/16 15:20	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/09/16 15:20	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/09/16 15:20	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 15:20	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/09/16 15:20	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/09/16 15:20	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/09/16 15:20	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/09/16 15:20	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/09/16 15:20	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/09/16 15:20	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/09/16 15:20	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 15:20	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/09/16 15:20	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/09/16 15:20	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/09/16 15:20	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/09/16 15:20	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/09/16 15:20	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/09/16 15:20	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/09/16 15:20	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/09/16 15:20	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/09/16 15:20	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/09/16 15:20	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/09/16 15:20	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/09/16 15:20	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/09/16 15:20	1
EDB	0.175	U	1.00	0.175	ug/L			09/09/16 15:20	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/09/16 15:20	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 15:20	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/09/16 15:20	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/09/16 15:20	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/09/16 15:20	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/09/16 15:20	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS160**

**Date Collected: 09/08/16 11:38**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			09/09/16 15:20	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/09/16 15:20	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/09/16 15:20	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/09/16 15:20	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/09/16 15:20	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/09/16 15:20	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/09/16 15:20	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/09/16 15:20	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/09/16 15:20	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/09/16 15:20	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/09/16 15:20	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/09/16 15:20	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/09/16 15:20	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/09/16 15:20	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 15:20	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/09/16 15:20	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/09/16 15:20	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/09/16 15:20	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/09/16 15:20	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/09/16 15:20	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/09/16 15:20	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/09/16 15:20	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/09/16 15:20	1
Styrene	0.200	U	1.00	0.200	ug/L			09/09/16 15:20	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 15:20	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/09/16 15:20	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/09/16 15:20	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/09/16 15:20	1
Toluene	0.495	U	1.00	0.495	ug/L			09/09/16 15:20	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 15:20	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/09/16 15:20	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/09/16 15:20	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/09/16 15:20	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/09/16 15:20	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/09/16 15:20	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/09/16 15:20	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/09/16 15:20	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/09/16 15:20	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/09/16 15:20	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/09/16 15:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/09/16 15:20	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 15:20	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 15:20	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/09/16 15:20	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/09/16 15:20	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/09/16 15:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		70 - 130		09/09/16 15:20	1
Dibromofluoromethane (Surr)	96		69 - 130		09/09/16 15:20	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS160**

**Date Collected: 09/08/16 11:38**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 140		09/09/16 15:20	1
Toluene-d8 (Surr)	105		70 - 130		09/09/16 15:20	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/12/16 14:00	09/13/16 11:59	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/12/16 14:00	09/13/16 11:59	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/12/16 14:00	09/13/16 11:59	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/12/16 14:00	09/13/16 11:59	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/12/16 14:00	09/13/16 11:59	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/12/16 14:00	09/13/16 11:59	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/12/16 14:00	09/13/16 11:59	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/12/16 14:00	09/13/16 11:59	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/12/16 14:00	09/13/16 11:59	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/12/16 14:00	09/13/16 11:59	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/12/16 14:00	09/13/16 11:59	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>10.1</b>	<b>J</b>	20.0	5.00	ug/L		09/12/16 14:00	09/13/16 11:59	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/12/16 14:00	09/13/16 11:59	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/12/16 14:00	09/13/16 11:59	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/12/16 14:00	09/13/16 11:59	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/12/16 14:00	09/13/16 11:59	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/12/16 14:00	09/13/16 11:59	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/12/16 14:00	09/13/16 11:59	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/12/16 14:00	09/13/16 11:59	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/12/16 14:00	09/13/16 11:59	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/12/16 14:00	09/13/16 11:59	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/12/16 14:00	09/13/16 11:59	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/12/16 14:00	09/13/16 11:59	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/12/16 14:00	09/13/16 11:59	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/12/16 14:00	09/13/16 11:59	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/12/16 14:00	09/13/16 11:59	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/12/16 14:00	09/13/16 11:59	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/12/16 14:00	09/13/16 11:59	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/12/16 14:00	09/13/16 11:59	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/12/16 14:00	09/13/16 11:59	1
<b>Di-n-butyl phthalate</b>	<b>2.48</b>	<b>J</b>	10.0	0.709	ug/L		09/12/16 14:00	09/13/16 11:59	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/12/16 14:00	09/13/16 11:59	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/12/16 14:00	09/13/16 11:59	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/12/16 14:00	09/13/16 11:59	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/12/16 14:00	09/13/16 11:59	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/12/16 14:00	09/13/16 11:59	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/12/16 14:00	09/13/16 11:59	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/12/16 14:00	09/13/16 11:59	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/12/16 14:00	09/13/16 11:59	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/12/16 14:00	09/13/16 11:59	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/12/16 14:00	09/13/16 11:59	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/12/16 14:00	09/13/16 11:59	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/12/16 14:00	09/13/16 11:59	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/12/16 14:00	09/13/16 11:59	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS160**

**Date Collected: 09/08/16 11:38**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-6**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/12/16 14:00	09/13/16 11:59	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/12/16 14:00	09/13/16 11:59	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/12/16 14:00	09/13/16 11:59	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/12/16 14:00	09/13/16 11:59	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/12/16 14:00	09/13/16 11:59	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/12/16 14:00	09/13/16 11:59	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/12/16 14:00	09/13/16 11:59	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/12/16 14:00	09/13/16 11:59	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/12/16 14:00	09/13/16 11:59	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/12/16 14:00	09/13/16 11:59	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/12/16 14:00	09/13/16 11:59	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/12/16 14:00	09/13/16 11:59	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/12/16 14:00	09/13/16 11:59	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/12/16 14:00	09/13/16 11:59	1
Phenol	0.768	U	10.0	0.768	ug/L		09/12/16 14:00	09/13/16 11:59	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/12/16 14:00	09/13/16 11:59	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/12/16 14:00	09/13/16 11:59	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/12/16 14:00	09/13/16 11:59	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/12/16 14:00	09/13/16 11:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	79		23 - 130	09/12/16 14:00	09/13/16 11:59	1
2-Fluorophenol	79		10 - 130	09/12/16 14:00	09/13/16 11:59	1
Nitrobenzene-d5	79		27 - 130	09/12/16 14:00	09/13/16 11:59	1
Phenol-d5	82		10 - 130	09/12/16 14:00	09/13/16 11:59	1
Terphenyl-d14	82		10 - 141	09/12/16 14:00	09/13/16 11:59	1
2,4,6-Tribromophenol	86		18 - 130	09/12/16 14:00	09/13/16 11:59	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00479	U	0.0575	0.00479	ug/L		09/12/16 09:01	09/12/16 20:22	1
alpha-BHC	0.00499	U	0.0575	0.00499	ug/L		09/12/16 09:01	09/12/16 20:22	1
alpha-Chlordane	0.00604	U	0.0575	0.00604	ug/L		09/12/16 09:01	09/12/16 20:22	1
beta-BHC	0.00479	U	0.0575	0.00479	ug/L		09/12/16 09:01	09/12/16 20:22	1
4,4'-DDD	0.00479	U	0.0575	0.00479	ug/L		09/12/16 09:01	09/12/16 20:22	1
4,4'-DDE	0.00479	U	0.0575	0.00479	ug/L		09/12/16 09:01	09/12/16 20:22	1
4,4'-DDT	0.00777	U	0.0575	0.00777	ug/L		09/12/16 09:01	09/12/16 20:22	1
delta-BHC	0.00479	U	0.0575	0.00479	ug/L		09/12/16 09:01	09/12/16 20:22	1
Dieldrin	0.0125	U	0.0575	0.0125	ug/L		09/12/16 09:01	09/12/16 20:22	1
Endosulfan I	0.00479	U	0.0575	0.00479	ug/L		09/12/16 09:01	09/12/16 20:22	1
Endosulfan II	0.00825	U	0.0575	0.00825	ug/L		09/12/16 09:01	09/12/16 20:22	1
Endosulfan sulfate	0.00844	U	0.0575	0.00844	ug/L		09/12/16 09:01	09/12/16 20:22	1
Endrin	0.00738	U	0.0575	0.00738	ug/L		09/12/16 09:01	09/12/16 20:22	1
Endrin aldehyde	0.00479	U	0.0575	0.00479	ug/L		09/12/16 09:01	09/12/16 20:22	1
Endrin ketone	0.00786	U	0.0575	0.00786	ug/L		09/12/16 09:01	09/12/16 20:22	1
gamma-BHC (Lindane)	0.00432	U	0.0575	0.00432	ug/L		09/12/16 09:01	09/12/16 20:22	1
gamma-Chlordane	0.00642	U	0.0575	0.00642	ug/L		09/12/16 09:01	09/12/16 20:22	1
Heptachlor	0.00623	U	0.0575	0.00623	ug/L		09/12/16 09:01	09/12/16 20:22	1
Heptachlor epoxide	0.00499	U	0.0575	0.00499	ug/L		09/12/16 09:01	09/12/16 20:22	1
Methoxychlor	0.00959	U	0.0575	0.00959	ug/L		09/12/16 09:01	09/12/16 20:22	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS160**

**Date Collected: 09/08/16 11:38**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-6**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.652	U	5.75	0.652	ug/L	-	09/12/16 09:01	09/12/16 20:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	71		10 - 152				09/12/16 09:01	09/12/16 20:22	1
DCB Decachlorobiphenyl	70		10 - 152				09/12/16 09:01	09/12/16 20:22	1
Tetrachloro-m-xylene	87		57 - 127				09/12/16 09:01	09/12/16 20:22	1
Tetrachloro-m-xylene	78		57 - 127				09/12/16 09:01	09/12/16 20:22	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.575	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:41	1
Aroclor 1221	0.105	U	0.575	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:41	1
Aroclor 1232	0.422	U	0.767	0.422	ug/L	-	09/12/16 09:01	09/12/16 17:41	1
Aroclor 1242	0.105	U	0.575	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:41	1
Aroclor 1248	0.105	U	0.575	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:41	1
Aroclor 1254	0.105	U	0.575	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:41	1
Aroclor 1260	0.105	U	0.575	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:41	1
Aroclor 1262	0.105	U	0.575	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:41	1
Aroclor 1268	0.105	U	0.575	0.105	ug/L	-	09/12/16 09:01	09/12/16 17:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	108		10 - 150				09/12/16 09:01	09/12/16 17:41	1
DCB Decachlorobiphenyl	84		10 - 150				09/12/16 09:01	09/12/16 17:41	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0982	U	4.91	0.0982	ug/L	-	09/13/16 07:52	09/15/16 02:27	1
Dicamba	0.0835	U	0.491	0.0835	ug/L	-	09/13/16 07:52	09/15/16 02:27	1
Mecoprop	18.7	U	118	18.7	ug/L	-	09/13/16 07:52	09/15/16 02:27	1
MCPA	16.7	U	118	16.7	ug/L	-	09/13/16 07:52	09/15/16 02:27	1
Dichlorprop	0.147	U	0.491	0.147	ug/L	-	09/13/16 07:52	09/15/16 02:27	1
2,4-D	0.0363	U	0.491	0.0363	ug/L	-	09/13/16 07:52	09/15/16 02:27	1
Silvex (2,4,5-TP)	0.0609	U	0.245	0.0609	ug/L	-	09/13/16 07:52	09/15/16 02:27	1
2,4,5-T	0.0609	U	0.245	0.0609	ug/L	-	09/13/16 07:52	09/15/16 02:27	1
2,4-DB	0.147	U	0.491	0.147	ug/L	-	09/13/16 07:52	09/15/16 02:27	1
Dinoseb	0.157	U	0.982	0.157	ug/L	-	09/13/16 07:52	09/15/16 02:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	90		45 - 130				09/13/16 07:52	09/15/16 02:27	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	83.7		0.200	0.101	mg/L	-	09/09/16 12:45	09/12/16 14:08	1
Magnesium	15.9		0.200	0.0257	mg/L	-	09/09/16 12:45	09/12/16 14:08	1
Potassium	1.47		0.500	0.375	mg/L	-	09/09/16 12:45	09/12/16 14:08	1
Silicon	5.37		0.500	0.0707	mg/L	-	09/09/16 12:45	09/12/16 14:08	1
Sodium	12.5		1.00	0.310	mg/L	-	09/09/16 12:45	09/12/16 14:08	1
Strontium	0.648		0.00500	0.000700	mg/L	-	09/09/16 12:45	09/12/16 14:08	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: HCS160**

**Date Collected: 09/08/16 11:38**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-6**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Barium	0.0578		0.00500	0.000810	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Chromium	0.00140	U	0.00500	0.00140	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Copper	0.00200	U	0.0100	0.00200	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Iron	0.101	U	0.250	0.101	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Lead	0.000733	U	0.00500	0.000733	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Manganese	0.0116	U	0.0500	0.0116	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Selenium	0.00108	U	0.00500	0.00108	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Silver	0.000941	U	0.00500	0.000941	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	-	09/09/16 12:45	09/13/16 16:23	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	-	09/09/16 12:45	09/13/16 16:23	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000302	J	0.00200	0.000130	mg/L	-	09/12/16 10:00	09/12/16 16:23	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.459	J	1.00	0.315	mg/L	-		09/09/16 18:47	1
Chloride	18.7		1.00	0.192	mg/L	-		09/09/16 18:47	1
Nitrate as N	1.87		0.500	0.103	mg/L	-		09/09/16 18:47	1
Sulfate	27.3		1.00	0.377	mg/L	-		09/09/16 18:47	1
Fluoride	0.178		0.100	0.0200	mg/L	-		09/16/16 11:45	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		09/13/16 12:42	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	09/19/16 10:46	09/20/16 14:25	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/19/16 11:12	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1	0.1	SU	-		09/09/16 14:25	1
Total Alkalinity as CaCO3	226		5.00	5.00	mg/L	-		09/14/16 14:22	1
Bicarbonate Alkalinity as CaCO3	226		5.00	5.00	mg/L	-		09/14/16 14:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		09/14/16 14:22	1
Total Dissolved Solids	361		10.0	10.0	mg/L	-		09/14/16 09:35	1
Total Suspended Solids	2.00		2.00	2.00	mg/L	-		09/09/16 14:10	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/20/16 12:38	1

**Client Sample ID: TB11**

**Date Collected: 09/08/16 00:00**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		09/09/16 12:16	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: TB11**

**Lab Sample ID: 560-63683-7**

**Date Collected: 09/08/16 00:00**

**Matrix: Water**

**Date Received: 09/09/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/09/16 12:16	1
Benzene	0.330	U	1.00	0.330	ug/L			09/09/16 12:16	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/09/16 12:16	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 12:16	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/09/16 12:16	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/09/16 12:16	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/09/16 12:16	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/09/16 12:16	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/09/16 12:16	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/09/16 12:16	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/09/16 12:16	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/09/16 12:16	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/09/16 12:16	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/09/16 12:16	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/09/16 12:16	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/09/16 12:16	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/09/16 12:16	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/09/16 12:16	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/09/16 12:16	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/09/16 12:16	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 12:16	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/09/16 12:16	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/09/16 12:16	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/09/16 12:16	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/09/16 12:16	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/09/16 12:16	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/09/16 12:16	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/09/16 12:16	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 12:16	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/09/16 12:16	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/09/16 12:16	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/09/16 12:16	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/09/16 12:16	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/09/16 12:16	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/09/16 12:16	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/09/16 12:16	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/09/16 12:16	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/09/16 12:16	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/09/16 12:16	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/09/16 12:16	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/09/16 12:16	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/09/16 12:16	1
EDB	0.175	U	1.00	0.175	ug/L			09/09/16 12:16	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/09/16 12:16	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 12:16	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/09/16 12:16	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/09/16 12:16	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/09/16 12:16	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/09/16 12:16	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: TB11**

**Lab Sample ID: 560-63683-7**

**Date Collected: 09/08/16 00:00**

**Matrix: Water**

**Date Received: 09/09/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			09/09/16 12:16	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/09/16 12:16	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/09/16 12:16	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/09/16 12:16	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/09/16 12:16	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/09/16 12:16	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/09/16 12:16	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/09/16 12:16	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/09/16 12:16	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/09/16 12:16	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/09/16 12:16	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/09/16 12:16	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/09/16 12:16	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/09/16 12:16	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 12:16	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/09/16 12:16	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/09/16 12:16	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/09/16 12:16	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/09/16 12:16	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/09/16 12:16	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/09/16 12:16	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/09/16 12:16	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/09/16 12:16	1
Styrene	0.200	U	1.00	0.200	ug/L			09/09/16 12:16	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 12:16	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/09/16 12:16	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/09/16 12:16	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/09/16 12:16	1
Toluene	0.495	U	1.00	0.495	ug/L			09/09/16 12:16	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 12:16	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/09/16 12:16	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/09/16 12:16	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/09/16 12:16	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/09/16 12:16	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/09/16 12:16	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/09/16 12:16	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/09/16 12:16	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/09/16 12:16	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/09/16 12:16	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/09/16 12:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/09/16 12:16	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 12:16	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 12:16	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/09/16 12:16	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/09/16 12:16	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/09/16 12:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130		09/09/16 12:16	1
Dibromofluoromethane (Surr)	95		69 - 130		09/09/16 12:16	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

**Client Sample ID: TB11**

**Date Collected: 09/08/16 00:00**

**Date Received: 09/09/16 08:00**

**Lab Sample ID: 560-63683-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 140		09/09/16 12:16	1
Toluene-d8 (Surr)	104		70 - 130		09/09/16 12:16	1

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-131652/6

Matrix: Water

Analysis Batch: 131652

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/09/16 11:26	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/09/16 11:26	1
Benzene	0.330	U	1.00	0.330	ug/L			09/09/16 11:26	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/09/16 11:26	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 11:26	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/09/16 11:26	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/09/16 11:26	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/09/16 11:26	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/09/16 11:26	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/09/16 11:26	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/09/16 11:26	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/09/16 11:26	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/09/16 11:26	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/09/16 11:26	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/09/16 11:26	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/09/16 11:26	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/09/16 11:26	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/09/16 11:26	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/09/16 11:26	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/09/16 11:26	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/09/16 11:26	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 11:26	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/09/16 11:26	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/09/16 11:26	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/09/16 11:26	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/09/16 11:26	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/09/16 11:26	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/09/16 11:26	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/09/16 11:26	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/09/16 11:26	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/09/16 11:26	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/09/16 11:26	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/09/16 11:26	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/09/16 11:26	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/09/16 11:26	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/09/16 11:26	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/09/16 11:26	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/09/16 11:26	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/09/16 11:26	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/09/16 11:26	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/09/16 11:26	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/09/16 11:26	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/09/16 11:26	1
EDB	0.175	U	1.00	0.175	ug/L			09/09/16 11:26	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/09/16 11:26	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 11:26	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/09/16 11:26	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/09/16 11:26	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-131652/6

Matrix: Water

Analysis Batch: 131652

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/09/16 11:26	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/09/16 11:26	1
Hexane	2.00	U	5.00	2.00	ug/L			09/09/16 11:26	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/09/16 11:26	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/09/16 11:26	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/09/16 11:26	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/09/16 11:26	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/09/16 11:26	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/09/16 11:26	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/09/16 11:26	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/09/16 11:26	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/09/16 11:26	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/09/16 11:26	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/09/16 11:26	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/09/16 11:26	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/09/16 11:26	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/09/16 11:26	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/09/16 11:26	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/09/16 11:26	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/09/16 11:26	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/09/16 11:26	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/09/16 11:26	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/09/16 11:26	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/09/16 11:26	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/09/16 11:26	1
Styrene	0.200	U	1.00	0.200	ug/L			09/09/16 11:26	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 11:26	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/09/16 11:26	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/09/16 11:26	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/09/16 11:26	1
Toluene	0.495	U	1.00	0.495	ug/L			09/09/16 11:26	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/09/16 11:26	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/09/16 11:26	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/09/16 11:26	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/09/16 11:26	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/09/16 11:26	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/09/16 11:26	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/09/16 11:26	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/09/16 11:26	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/09/16 11:26	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/09/16 11:26	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/09/16 11:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/09/16 11:26	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 11:26	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/09/16 11:26	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/09/16 11:26	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/09/16 11:26	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/09/16 11:26	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-131652/6

Matrix: Water

Analysis Batch: 131652

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130		09/09/16 11:26	1
Dibromofluoromethane (Surr)	95		69 - 130		09/09/16 11:26	1
1,2-Dichloroethane-d4 (Surr)	85		70 - 140		09/09/16 11:26	1
Toluene-d8 (Surr)	104		70 - 130		09/09/16 11:26	1

Lab Sample ID: LCS 560-131652/3

Matrix: Water

Analysis Batch: 131652

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	20.62		ug/L		82	60 - 150
Acetonitrile	250	199.5		ug/L		80	52 - 160
Benzene	25.0	25.80		ug/L		103	70 - 130
Benzyl chloride	25.0	31.59		ug/L		126	66 - 153
Bromobenzene	25.0	23.85		ug/L		95	70 - 130
Bromochloromethane	25.0	28.43		ug/L		114	70 - 130
Bromoform	25.0	32.13		ug/L		129	63 - 145
Bromomethane	25.0	23.16		ug/L		93	50 - 146
1,3-Butadiene	25.0	18.16		ug/L		73	40 - 138
2-Butanone (MEK)	25.0	23.18		ug/L		93	68 - 144
Carbon disulfide	25.0	24.79		ug/L		99	52 - 156
Carbon tetrachloride	25.0	25.75		ug/L		103	70 - 138
Chlorobenzene	25.0	28.17		ug/L		113	70 - 130
2-Chloro-1,3-butadiene	25.0	22.94		ug/L		92	69 - 140
Chlorodibromomethane	25.0	26.96		ug/L		108	70 - 137
Chloroethane	25.0	21.91		ug/L		88	54 - 141
Chloroform	25.0	24.88		ug/L		100	70 - 130
1-Chlorohexane	25.0	24.97		ug/L		100	64 - 130
Chloromethane	25.0	18.38		ug/L		74	46 - 142
2-Chlorotoluene	25.0	26.27		ug/L		105	70 - 130
4-Chlorotoluene	25.0	26.01		ug/L		104	70 - 130
cis-1,4-Dichloro-2-butene	25.0	26.98		ug/L		108	10 - 184
cis-1,2-Dichloroethene	25.0	23.95		ug/L		96	70 - 130
cis-1,3-Dichloropropene	25.0	25.97		ug/L		104	70 - 138
Cyclohexane	25.0	23.87		ug/L		95	40 - 141
Cyclohexanone	125	160.6		ug/L		129	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	30.89		ug/L		124	70 - 149
Dibromomethane	25.0	26.55		ug/L		106	70 - 130
1,2-Dichlorobenzene	25.0	27.19		ug/L		109	70 - 130
1,3-Dichlorobenzene	25.0	26.85		ug/L		107	70 - 130
1,4-Dichlorobenzene	25.0	25.98		ug/L		104	70 - 130
Dichlorobromomethane	25.0	25.96		ug/L		104	70 - 130
Dichlorodifluoromethane	25.0	16.98		ug/L		68	10 - 181
1,1-Dichloroethane	25.0	23.35		ug/L		93	70 - 130
1,2-Dichloroethane	25.0	21.87		ug/L		87	70 - 131
1,1-Dichloroethene	25.0	22.74		ug/L		91	70 - 139
1,2-Dichloropropane	25.0	25.65		ug/L		103	70 - 130
1,3-Dichloropropane	25.0	26.32		ug/L		105	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-131652/3

Matrix: Water

Analysis Batch: 131652

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	27.32		ug/L		109	65 - 145
1,1-Dichloropropene	25.0	24.74		ug/L		99	70 - 130
1,4-Dioxane	500	623.8		ug/L		125	66 - 150
EDB	25.0	28.26		ug/L		113	70 - 130
Ethyl acetate	50.0	45.26		ug/L		91	59 - 200
Ethylbenzene	25.0	27.90		ug/L		112	70 - 130
Ethylene oxide	100	67.60		ug/L		68	10 - 200
Ethyl ether	25.0	22.92		ug/L		92	69 - 136
Ethyl methacrylate	25.0	27.60		ug/L		110	70 - 130
Hexachlorobutadiene	25.0	33.29		ug/L		133	68 - 165
Hexane	25.0	26.79		ug/L		107	10 - 185
2-Hexanone	25.0	25.30		ug/L		101	70 - 138
Iodomethane	25.0	29.00		ug/L		116	64 - 146
Isobutyl alcohol	625	582.9		ug/L		93	27 - 199
Isooctane	25.0	24.95		ug/L		100	10 - 181
Isopropylbenzene	25.0	26.05		ug/L		104	70 - 131
4-Isopropyltoluene	25.0	25.53		ug/L		102	70 - 130
Methacrylonitrile	250	257.1		ug/L		103	70 - 139
Methylene Chloride	25.0	24.41		ug/L		98	70 - 130
Methyl methacrylate	50.0	52.69		ug/L		105	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	24.58		ug/L		98	70 - 138
Methyl tert-butyl ether	25.0	24.79		ug/L		99	70 - 131
m-Xylene & p-Xylene	25.0	27.43		ug/L		110	70 - 139
Naphthalene	25.0	32.67		ug/L		131	70 - 159
n-Butylbenzene	25.0	26.62		ug/L		106	70 - 135
n-Heptane	25.0	23.87		ug/L		95	10 - 186
2-Nitropropane	50.0	52.84		ug/L		106	22 - 173
N-Propylbenzene	25.0	25.66		ug/L		103	70 - 131
1-Octene	25.0	26.62		ug/L		106	10 - 185
o-Xylene	25.0	27.23		ug/L		109	70 - 130
Pentachloroethane	25.0	29.28		ug/L		117	70 - 146
Propionitrile	250	240.2		ug/L		96	70 - 144
sec-Butylbenzene	25.0	26.03		ug/L		104	70 - 134
Styrene	25.0	28.04		ug/L		112	70 - 130
tert-Butylbenzene	25.0	25.96		ug/L		104	70 - 132
1,1,1,2-Tetrachloroethane	25.0	27.89		ug/L		112	65 - 130
1,1,2,2-Tetrachloroethane	25.0	24.29		ug/L		97	65 - 130
Tetrachloroethene	25.0	29.78		ug/L		119	70 - 135
Toluene	25.0	27.68		ug/L		111	70 - 130
trans-1,4-Dichloro-2-butene	25.0	22.33		ug/L		89	37 - 174
trans-1,2-Dichloroethene	25.0	23.90		ug/L		96	70 - 134
trans-1,3-Dichloropropene	25.0	25.33		ug/L		101	70 - 143
1,2,3-Trichlorobenzene	25.0	32.06		ug/L		128	70 - 158
1,2,4-Trichlorobenzene	25.0	29.79		ug/L		119	70 - 157
1,3,5-Trichlorobenzene	25.0	30.45		ug/L		122	70 - 131
1,1,1-Trichloroethane	25.0	25.11		ug/L		100	65 - 130
1,1,2-Trichloroethane	25.0	27.67		ug/L		111	70 - 130
Trichloroethene	25.0	29.27		ug/L		117	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-131652/3

Matrix: Water

Analysis Batch: 131652

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	25.27		ug/L		101	39 - 146
1,2,3-Trichloropropane	25.0	25.32		ug/L		101	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	27.87		ug/L		111	27 - 148
1,2,4-Trimethylbenzene	25.0	25.88		ug/L		104	70 - 130
1,3,5-Trimethylbenzene	25.0	25.74		ug/L		103	70 - 131
Vinyl acetate	50.0	45.78		ug/L		92	18 - 200
Vinyl chloride	25.0	20.77		ug/L		83	49 - 140
Xylenes, Total	50.0	54.67		ug/L		109	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
Dibromofluoromethane (Surr)	99		69 - 130
1,2-Dichloroethane-d4 (Surr)	85		70 - 140
Toluene-d8 (Surr)	104		70 - 130

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131652

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	5.00	U	25.0	20.43		ug/L		82	32 - 157
Acetonitrile	10.0	U	250	259.2		ug/L		104	10 - 182
Benzene	0.330	U	25.0	24.00		ug/L		96	70 - 130
Benzyl chloride	0.278	U	25.0	27.86		ug/L		111	49 - 130
Bromobenzene	0.128	U	25.0	21.14		ug/L		85	69 - 130
Bromochloromethane	0.228	U	25.0	26.90		ug/L		108	70 - 130
Bromoform	0.500	U	25.0	29.58		ug/L		118	57 - 145
Bromomethane	0.392	U	25.0	21.96		ug/L		88	56 - 141
1,3-Butadiene	0.300	U	25.0	16.04		ug/L		64	25 - 196
2-Butanone (MEK)	1.00	U	25.0	21.18		ug/L		85	42 - 142
Carbon disulfide	0.500	U	25.0	23.18		ug/L		93	59 - 164
Carbon tetrachloride	0.251	U	25.0	24.44		ug/L		98	70 - 138
Chlorobenzene	0.136	U	25.0	26.40		ug/L		106	70 - 130
2-Chloro-1,3-butadiene	0.200	U	25.0	21.70		ug/L		87	55 - 144
Chlorodibromomethane	0.223	U	25.0	24.91		ug/L		100	62 - 145
Chloroethane	0.400	U	25.0	20.48		ug/L		82	62 - 142
Chloroform	0.173	U	25.0	23.74		ug/L		95	70 - 130
1-Chlorohexane	0.500	U	25.0	23.72		ug/L		95	64 - 130
Chloromethane	0.390	U	25.0	16.20		ug/L		65	57 - 148
2-Chlorotoluene	0.155	U	25.0	23.17		ug/L		93	70 - 130
4-Chlorotoluene	0.242	U	25.0	23.33		ug/L		93	69 - 130
cis-1,4-Dichloro-2-butene	0.500	U	25.0	24.64		ug/L		99	24 - 136
cis-1,2-Dichloroethene	0.121	U	25.0	22.99		ug/L		92	70 - 130
cis-1,3-Dichloropropene	0.146	U	25.0	23.66		ug/L		95	46 - 136
Cyclohexane	1.00	U	25.0	22.38		ug/L		90	46 - 144
Cyclohexanone	5.00	U	125	88.58		ug/L		71	10 - 193
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	24.72		ug/L		99	56 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131652

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	0.165	U	25.0	24.57		ug/L		98	70 - 130
1,2-Dichlorobenzene	0.170	U	25.0	23.67		ug/L		95	70 - 130
1,3-Dichlorobenzene	0.128	U	25.0	23.54		ug/L		94	70 - 130
1,4-Dichlorobenzene	0.200	U	25.0	23.51		ug/L		94	70 - 130
Dichlorobromomethane	0.175	U	25.0	24.03		ug/L		96	70 - 130
Dichlorodifluoromethane	0.429	U	25.0	13.83		ug/L		55	14 - 198
1,1-Dichloroethane	0.168	U	25.0	22.14		ug/L		89	70 - 130
1,2-Dichloroethane	0.172	U	25.0	20.65		ug/L		83	65 - 130
1,1-Dichloroethene	0.300	U	25.0	21.46		ug/L		86	67 - 143
1,2-Dichloropropane	0.173	U	25.0	23.60		ug/L		94	70 - 130
1,3-Dichloropropane	0.146	U	25.0	24.20		ug/L		97	70 - 130
2,2-Dichloropropane	0.335	U	25.0	28.07		ug/L		112	65 - 150
1,1-Dichloropropene	0.185	U	25.0	23.22		ug/L		93	70 - 130
1,4-Dioxane	15.9	U	500	468.8		ug/L		94	20 - 152
EDB	0.175	U	25.0	26.56		ug/L		106	70 - 130
Ethyl acetate	1.00	U	50.0	41.20		ug/L		82	53 - 144
Ethylbenzene	0.200	U	25.0	25.98		ug/L		104	70 - 130
Ethylene oxide	30.0	U F1	100	37.51	J	ug/L		38	12 - 185
Ethyl ether	0.320	U	25.0	21.71		ug/L		87	67 - 130
Ethyl methacrylate	0.500	U	25.0	25.14		ug/L		101	65 - 130
Hexachlorobutadiene	0.860	U	25.0	24.99		ug/L		100	52 - 143
Hexane	2.00	U	25.0	25.03		ug/L		100	51 - 159
2-Hexanone	0.500	U	25.0	20.58		ug/L		82	56 - 130
Iodomethane	0.223	U	25.0	27.30		ug/L		109	70 - 162
Isobutyl alcohol	5.00	U	625	528.7		ug/L		85	36 - 130
Isooctane	0.500	U	25.0	22.74		ug/L		91	52 - 150
Isopropylbenzene	0.200	U	25.0	23.11		ug/L		92	70 - 130
4-Isopropyltoluene	0.150	U	25.0	22.85		ug/L		91	69 - 130
Methacrylonitrile	2.00	U	250	244.8		ug/L		98	61 - 130
Methylene Chloride	2.00	U	25.0	22.78		ug/L		91	70 - 130
Methyl methacrylate	0.200	U	50.0	48.72		ug/L		97	63 - 130
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	20.88		ug/L		84	54 - 130
Methyl tert-butyl ether	0.200	U	25.0	23.17		ug/L		93	63 - 134
m-Xylene & p-Xylene	0.260	U	25.0	26.19		ug/L		105	67 - 130
Naphthalene	0.200	U F2	25.0	21.46		ug/L		86	62 - 145
n-Butylbenzene	0.200	U	25.0	23.59		ug/L		94	67 - 130
n-Heptane	0.300	U	25.0	22.15		ug/L		89	55 - 150
2-Nitropropane	1.00	U	50.0	47.61		ug/L		95	22 - 173
N-Propylbenzene	0.106	U	25.0	22.81		ug/L		91	70 - 130
1-Octene	0.440	U	25.0	24.41		ug/L		98	63 - 134
o-Xylene	0.200	U	25.0	25.40		ug/L		102	70 - 130
Pentachloroethane	0.302	U	25.0	25.99		ug/L		104	60 - 130
Propionitrile	2.69	U	250	227.1		ug/L		91	39 - 130
sec-Butylbenzene	0.300	U	25.0	23.44		ug/L		94	67 - 130
Styrene	0.200	U	25.0	25.89		ug/L		104	28 - 150
tert-Butylbenzene	0.200	U	25.0	23.21		ug/L		93	70 - 130
1,1,1,2-Tetrachloroethane	0.209	U	25.0	26.12		ug/L		104	65 - 130
1,1,2,2-Tetrachloroethane	0.190	U	25.0	22.06		ug/L		88	65 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131652

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	0.189	U	25.0	27.26		ug/L		109	69 - 130
Toluene	0.495	U	25.0	25.68		ug/L		103	70 - 130
trans-1,4-Dichloro-2-butene	0.500	U	25.0	20.38		ug/L		82	35 - 130
trans-1,2-Dichloroethene	0.200	U	25.0	22.82		ug/L		91	57 - 148
trans-1,3-Dichloropropene	0.200	U	25.0	23.37		ug/L		93	44 - 139
1,2,3-Trichlorobenzene	0.217	U	25.0	22.90		ug/L		92	60 - 130
1,2,4-Trichlorobenzene	0.168	U	25.0	23.32		ug/L		93	60 - 142
1,3,5-Trichlorobenzene	0.203	U	25.0	25.64		ug/L		103	66 - 135
1,1,1-Trichloroethane	0.300	U	25.0	23.88		ug/L		96	65 - 133
1,1,2-Trichloroethane	0.173	U	25.0	26.01		ug/L		104	70 - 130
Trichloroethene	0.317	U	25.0	27.35		ug/L		109	70 - 130
Trichlorofluoromethane	0.244	U	25.0	24.03		ug/L		96	64 - 149
1,2,3-Trichloropropane	0.191	U	25.0	23.29		ug/L		93	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	26.66		ug/L		107	47 - 152
1,2,4-Trimethylbenzene	0.200	U	25.0	22.75		ug/L		91	70 - 130
1,3,5-Trimethylbenzene	0.200	U	25.0	22.85		ug/L		91	70 - 130
Vinyl acetate	0.500	U	50.0	41.61		ug/L		83	36 - 171
Vinyl chloride	0.300	U	25.0	18.68		ug/L		75	49 - 158
Xylenes, Total	0.200	U	50.0	51.59		ug/L		103	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
Dibromofluoromethane (Surr)	100		69 - 130
1,2-Dichloroethane-d4 (Surr)	87		70 - 140
Toluene-d8 (Surr)	104		70 - 130

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131652

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	5.00	U	25.0	19.64		ug/L		79	32 - 157	4	20
Acetonitrile	10.0	U	250	226.9		ug/L		91	10 - 182	13	20
Benzene	0.330	U	25.0	24.26		ug/L		97	70 - 130	1	20
Benzyl chloride	0.278	U	25.0	28.44		ug/L		114	49 - 130	2	20
Bromobenzene	0.128	U	25.0	22.05		ug/L		88	69 - 130	4	20
Bromochloromethane	0.228	U	25.0	26.74		ug/L		107	70 - 130	1	20
Bromoform	0.500	U	25.0	30.36		ug/L		121	57 - 145	3	20
Bromomethane	0.392	U	25.0	23.70		ug/L		95	56 - 141	8	20
1,3-Butadiene	0.300	U	25.0	16.75		ug/L		67	25 - 196	4	20
2-Butanone (MEK)	1.00	U	25.0	18.51		ug/L		74	42 - 142	13	20
Carbon disulfide	0.500	U	25.0	23.12		ug/L		92	59 - 164	0	20
Carbon tetrachloride	0.251	U	25.0	24.89		ug/L		100	70 - 138	2	20
Chlorobenzene	0.136	U	25.0	26.64		ug/L		107	70 - 130	1	20
2-Chloro-1,3-butadiene	0.200	U	25.0	21.88		ug/L		88	55 - 144	1	20
Chlorodibromomethane	0.223	U	25.0	25.25		ug/L		101	62 - 145	1	20
Chloroethane	0.400	U	25.0	21.16		ug/L		85	62 - 142	3	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131652

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	0.173	U	25.0	23.83		ug/L		95	70 - 130	0	20
1-Chlorohexane	0.500	U	25.0	22.63		ug/L		91	64 - 130	5	20
Chloromethane	0.390	U	25.0	16.94		ug/L		68	57 - 148	4	20
2-Chlorotoluene	0.155	U	25.0	24.19		ug/L		97	70 - 130	4	20
4-Chlorotoluene	0.242	U	25.0	24.15		ug/L		97	69 - 130	3	20
cis-1,4-Dichloro-2-butene	0.500	U	25.0	25.50		ug/L		102	24 - 136	3	20
cis-1,2-Dichloroethene	0.121	U	25.0	23.22		ug/L		93	70 - 130	1	20
cis-1,3-Dichloropropene	0.146	U	25.0	24.17		ug/L		97	46 - 136	2	20
Cyclohexane	1.00	U	25.0	22.36		ug/L		89	46 - 144	0	20
Cyclohexanone	5.00	U	125	81.58		ug/L		65	10 - 193	8	20
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	26.49		ug/L		106	56 - 130	7	20
Dibromomethane	0.165	U	25.0	24.86		ug/L		99	70 - 130	1	20
1,2-Dichlorobenzene	0.170	U	25.0	25.16		ug/L		101	70 - 130	6	20
1,3-Dichlorobenzene	0.128	U	25.0	25.12		ug/L		100	70 - 130	7	20
1,4-Dichlorobenzene	0.200	U	25.0	24.00		ug/L		96	70 - 130	2	20
Dichlorobromomethane	0.175	U	25.0	24.61		ug/L		98	70 - 130	2	20
Dichlorodifluoromethane	0.429	U	25.0	13.08		ug/L		52	14 - 198	6	20
1,1-Dichloroethane	0.168	U	25.0	22.12		ug/L		88	70 - 130	0	20
1,2-Dichloroethane	0.172	U	25.0	20.93		ug/L		84	65 - 130	1	20
1,1-Dichloroethene	0.300	U	25.0	21.28		ug/L		85	67 - 143	1	20
1,2-Dichloropropane	0.173	U	25.0	23.57		ug/L		94	70 - 130	0	20
1,3-Dichloropropane	0.146	U	25.0	24.60		ug/L		98	70 - 130	2	20
2,2-Dichloropropane	0.335	U	25.0	29.56		ug/L		118	65 - 150	5	20
1,1-Dichloropropene	0.185	U	25.0	23.62		ug/L		94	70 - 130	2	20
1,4-Dioxane	15.9	U	500	398.5		ug/L		80	20 - 152	16	20
EDB	0.175	U	25.0	26.51		ug/L		106	70 - 130	0	20
Ethyl acetate	1.00	U	50.0	40.23		ug/L		80	53 - 144	2	20
Ethylbenzene	0.200	U	25.0	26.38		ug/L		106	70 - 130	2	20
Ethylene oxide	30.0	U F1	100	30.0	U F1	ug/L		0	12 - 185	NC	20
Ethyl ether	0.320	U	25.0	21.76		ug/L		87	67 - 130	0	20
Ethyl methacrylate	0.500	U	25.0	25.29		ug/L		101	65 - 130	1	20
Hexachlorobutadiene	0.860	U	25.0	27.11		ug/L		108	52 - 143	8	20
Hexane	2.00	U	25.0	24.57		ug/L		98	51 - 159	2	20
2-Hexanone	0.500	U	25.0	20.56		ug/L		82	56 - 130	0	20
Iodomethane	0.223	U	25.0	27.63		ug/L		111	70 - 162	1	20
Isobutyl alcohol	5.00	U	625	499.9		ug/L		80	36 - 130	6	20
Isooctane	0.500	U	25.0	23.72		ug/L		95	52 - 150	4	20
Isopropylbenzene	0.200	U	25.0	24.23		ug/L		97	70 - 130	5	20
4-Isopropyltoluene	0.150	U	25.0	23.64		ug/L		95	69 - 130	3	20
Methacrylonitrile	2.00	U	250	242.5		ug/L		97	61 - 130	1	20
Methylene Chloride	2.00	U	25.0	22.87		ug/L		91	70 - 130	0	20
Methyl methacrylate	0.200	U	50.0	49.35		ug/L		99	63 - 130	1	20
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	20.41		ug/L		82	54 - 130	2	20
Methyl tert-butyl ether	0.200	U	25.0	23.61		ug/L		94	63 - 134	2	20
m-Xylene & p-Xylene	0.260	U	25.0	26.25		ug/L		105	67 - 130	0	20
Naphthalene	0.200	U F2	25.0	26.95	F2	ug/L		108	62 - 145	23	20
n-Butylbenzene	0.200	U	25.0	24.49		ug/L		98	67 - 130	4	20
n-Heptane	0.300	U	25.0	21.96		ug/L		88	55 - 150	1	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131652

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Nitropropane	1.00	U	50.0	47.49		ug/L		95	22 - 173	0	20
N-Propylbenzene	0.106	U	25.0	23.67		ug/L		95	70 - 130	4	20
1-Octene	0.440	U	25.0	24.86		ug/L		99	63 - 134	2	
o-Xylene	0.200	U	25.0	26.06		ug/L		104	70 - 130	3	20
Pentachloroethane	0.302	U	25.0	27.28		ug/L		109	60 - 130	5	20
Propionitrile	2.69	U	250	214.1		ug/L		86	39 - 130	6	20
sec-Butylbenzene	0.300	U	25.0	23.78		ug/L		95	67 - 130	1	20
Styrene	0.200	U	25.0	26.38		ug/L		106	28 - 150	2	20
tert-Butylbenzene	0.200	U	25.0	23.84		ug/L		95	70 - 130	3	20
1,1,1,2-Tetrachloroethane	0.209	U	25.0	27.43		ug/L		110	65 - 130	5	20
1,1,2,2-Tetrachloroethane	0.190	U	25.0	22.35		ug/L		89	65 - 130	1	20
Tetrachloroethene	0.189	U	25.0	27.55		ug/L		110	69 - 130	1	20
Toluene	0.495	U	25.0	25.87		ug/L		103	70 - 130	1	20
trans-1,4-Dichloro-2-butene	0.500	U	25.0	20.40		ug/L		82	35 - 130	0	20
trans-1,2-Dichloroethene	0.200	U	25.0	22.96		ug/L		92	57 - 148	1	20
trans-1,3-Dichloropropene	0.200	U	25.0	23.74		ug/L		95	44 - 139	2	20
1,2,3-Trichlorobenzene	0.217	U	25.0	27.60		ug/L		110	60 - 130	19	20
1,2,4-Trichlorobenzene	0.168	U	25.0	26.84		ug/L		107	60 - 142	14	20
1,3,5-Trichlorobenzene	0.203	U	25.0	28.18		ug/L		113	66 - 135	9	20
1,1,1-Trichloroethane	0.300	U	25.0	24.70		ug/L		99	65 - 133	3	20
1,1,2-Trichloroethane	0.173	U	25.0	26.04		ug/L		104	70 - 130	0	20
Trichloroethene	0.317	U	25.0	27.59		ug/L		110	70 - 130	1	20
Trichlorofluoromethane	0.244	U	25.0	24.44		ug/L		98	64 - 149	2	20
1,2,3-Trichloropropane	0.191	U	25.0	23.36		ug/L		93	70 - 130	0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	26.54		ug/L		106	47 - 152	0	20
1,2,4-Trimethylbenzene	0.200	U	25.0	24.01		ug/L		96	70 - 130	5	20
1,3,5-Trimethylbenzene	0.200	U	25.0	24.11		ug/L		96	70 - 130	5	20
Vinyl acetate	0.500	U	50.0	42.07		ug/L		84	36 - 171	1	20
Vinyl chloride	0.300	U	25.0	19.46		ug/L		78	49 - 158	4	20
Xylenes, Total	0.200	U	50.0	52.31		ug/L		105	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		70 - 130
Dibromofluoromethane (Surr)	99		69 - 130
1,2-Dichloroethane-d4 (Surr)	87		70 - 140
Toluene-d8 (Surr)	104		70 - 130

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-131704/1-A

Matrix: Water

Analysis Batch: 131714

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131704

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/12/16 14:00	09/13/16 08:59	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/12/16 14:00	09/13/16 08:59	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/12/16 14:00	09/13/16 08:59	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-131704/1-A

Matrix: Water

Analysis Batch: 131714

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131704

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/12/16 14:00	09/13/16 08:59	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/12/16 14:00	09/13/16 08:59	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/12/16 14:00	09/13/16 08:59	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/12/16 14:00	09/13/16 08:59	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/12/16 14:00	09/13/16 08:59	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/12/16 14:00	09/13/16 08:59	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/12/16 14:00	09/13/16 08:59	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/12/16 14:00	09/13/16 08:59	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/12/16 14:00	09/13/16 08:59	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/12/16 14:00	09/13/16 08:59	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/12/16 14:00	09/13/16 08:59	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/12/16 14:00	09/13/16 08:59	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/12/16 14:00	09/13/16 08:59	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/12/16 14:00	09/13/16 08:59	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/12/16 14:00	09/13/16 08:59	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/12/16 14:00	09/13/16 08:59	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/12/16 14:00	09/13/16 08:59	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/12/16 14:00	09/13/16 08:59	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/12/16 14:00	09/13/16 08:59	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/12/16 14:00	09/13/16 08:59	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/12/16 14:00	09/13/16 08:59	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/12/16 14:00	09/13/16 08:59	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/12/16 14:00	09/13/16 08:59	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/12/16 14:00	09/13/16 08:59	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/12/16 14:00	09/13/16 08:59	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/12/16 14:00	09/13/16 08:59	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/12/16 14:00	09/13/16 08:59	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/12/16 14:00	09/13/16 08:59	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/12/16 14:00	09/13/16 08:59	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/12/16 14:00	09/13/16 08:59	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/12/16 14:00	09/13/16 08:59	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/12/16 14:00	09/13/16 08:59	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/12/16 14:00	09/13/16 08:59	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/12/16 14:00	09/13/16 08:59	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/12/16 14:00	09/13/16 08:59	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/12/16 14:00	09/13/16 08:59	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/12/16 14:00	09/13/16 08:59	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/12/16 14:00	09/13/16 08:59	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/12/16 14:00	09/13/16 08:59	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/12/16 14:00	09/13/16 08:59	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/12/16 14:00	09/13/16 08:59	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/12/16 14:00	09/13/16 08:59	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/12/16 14:00	09/13/16 08:59	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/12/16 14:00	09/13/16 08:59	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/12/16 14:00	09/13/16 08:59	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/12/16 14:00	09/13/16 08:59	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/12/16 14:00	09/13/16 08:59	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/12/16 14:00	09/13/16 08:59	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-131704/1-A

Matrix: Water

Analysis Batch: 131714

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131704

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/12/16 14:00	09/13/16 08:59	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/12/16 14:00	09/13/16 08:59	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/12/16 14:00	09/13/16 08:59	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/12/16 14:00	09/13/16 08:59	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/12/16 14:00	09/13/16 08:59	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/12/16 14:00	09/13/16 08:59	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/12/16 14:00	09/13/16 08:59	1
Phenol	0.768	U	10.0	0.768	ug/L		09/12/16 14:00	09/13/16 08:59	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/12/16 14:00	09/13/16 08:59	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/12/16 14:00	09/13/16 08:59	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/12/16 14:00	09/13/16 08:59	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/12/16 14:00	09/13/16 08:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	80		23 - 130	09/12/16 14:00	09/13/16 08:59	1
2-Fluorophenol	79		10 - 130	09/12/16 14:00	09/13/16 08:59	1
Nitrobenzene-d5	82		27 - 130	09/12/16 14:00	09/13/16 08:59	1
Phenol-d5	86		10 - 130	09/12/16 14:00	09/13/16 08:59	1
Terphenyl-d14	88		10 - 141	09/12/16 14:00	09/13/16 08:59	1
2,4,6-Tribromophenol	85		18 - 130	09/12/16 14:00	09/13/16 08:59	1

Lab Sample ID: LCS 560-131704/2-A

Matrix: Water

Analysis Batch: 131714

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131704

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	200	178.1		ug/L		89	54 - 130
Acenaphthylene	200	170.2		ug/L		85	54 - 130
Anthracene	200	180.5		ug/L		90	67 - 130
Benzo[a]anthracene	200	191.0		ug/L		95	70 - 130
Benzo[a]pyrene	200	195.5		ug/L		98	70 - 130
Benzo[b]fluoranthene	200	204.9		ug/L		102	69 - 130
Benzo[g,h,i]perylene	200	187.5		ug/L		94	62 - 130
Benzo[k]fluoranthene	200	192.4		ug/L		96	68 - 130
Benzyl alcohol	200	183.0		ug/L		92	52 - 130
Bis(2-chloroethoxy)methane	200	191.4		ug/L		96	55 - 130
Bis(2-chloroethyl)ether	200	177.5		ug/L		89	52 - 130
Bis(2-ethylhexyl) phthalate	200	187.8		ug/L		94	68 - 130
4-Bromophenyl phenyl ether	200	192.4		ug/L		96	69 - 130
Butyl benzyl phthalate	200	197.0		ug/L		99	68 - 130
4-Chloroaniline	200	131.4		ug/L		66	30 - 130
4-Chloro-3-methylphenol	200	190.4		ug/L		95	52 - 130
2-Chloronaphthalene	200	175.6		ug/L		88	51 - 130
2-Chlorophenol	200	173.0		ug/L		87	51 - 130
4-Chlorophenyl phenyl ether	200	198.9		ug/L		99	59 - 130
Chrysene	200	193.4		ug/L		97	70 - 130
Dibenz(a,h)anthracene	200	180.6		ug/L		90	65 - 130
Dibenzofuran	200	195.7		ug/L		98	53 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-131704/2-A

Matrix: Water

Analysis Batch: 131714

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131704

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	200	144.3		ug/L		72	43 - 130
1,3-Dichlorobenzene	200	141.3		ug/L		71	40 - 130
1,4-Dichlorobenzene	200	142.3		ug/L		71	42 - 130
3,3'-Dichlorobenzidine	200	167.0		ug/L		84	61 - 130
2,4-Dichlorophenol	200	185.4		ug/L		93	51 - 130
Diethyl phthalate	200	192.1		ug/L		96	59 - 130
2,4-Dimethylphenol	200	179.2		ug/L		90	51 - 130
Dimethyl phthalate	200	202.3		ug/L		101	63 - 130
Di-n-butyl phthalate	200	189.3		ug/L		95	67 - 130
4,6-Dinitro-2-methylphenol	400	381.4		ug/L		95	63 - 130
2,4-Dinitrophenol	400	387.4		ug/L		97	47 - 130
2,4-Dinitrotoluene	200	203.6		ug/L		102	67 - 130
2,6-Dinitrotoluene	200	195.0		ug/L		98	64 - 130
Di-n-octyl phthalate	200	181.8		ug/L		91	70 - 130
Fluoranthene	200	212.5		ug/L		106	65 - 130
Fluorene	200	186.7		ug/L		93	59 - 130
Hexachlorobenzene	200	192.5		ug/L		96	67 - 130
Hexachlorobutadiene	200	149.9		ug/L		75	44 - 130
Hexachlorocyclopentadiene	200	113.6		ug/L		57	10 - 130
Hexachloroethane	200	138.1		ug/L		69	38 - 130
Indeno[1,2,3-cd]pyrene	200	176.5		ug/L		88	66 - 130
Isophorone	200	185.1		ug/L		93	55 - 130
2-Methylnaphthalene	200	162.6		ug/L		81	54 - 130
2-Methylphenol	200	182.2		ug/L		91	47 - 130
3 & 4 Methylphenol	200	190.2		ug/L		95	41 - 130
Naphthalene	200	168.1		ug/L		84	51 - 130
2-Nitroaniline	200	192.7		ug/L		96	60 - 130
3-Nitroaniline	200	193.2		ug/L		97	57 - 130
4-Nitroaniline	200	188.8		ug/L		94	55 - 130
Nitrobenzene	200	179.6		ug/L		90	54 - 130
2-Nitrophenol	200	185.8		ug/L		93	54 - 130
4-Nitrophenol	400	408.5		ug/L		102	34 - 138
N-Nitrosodi-n-propylamine	200	197.7		ug/L		99	45 - 130
N-Nitrosodiphenylamine	200	172.8		ug/L		86	51 - 130
Pentachlorophenol	400	368.7		ug/L		92	55 - 130
Phenanthrene	200	182.4		ug/L		91	67 - 130
Phenol	200	176.0		ug/L		88	47 - 130
Pyrene	200	194.7		ug/L		97	66 - 130
1,2,4-Trichlorobenzene	200	154.6		ug/L		77	49 - 130
2,4,5-Trichlorophenol	200	191.8		ug/L		96	55 - 130
2,4,6-Trichlorophenol	200	191.3		ug/L		96	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	75		23 - 130
2-Fluorophenol	75		10 - 130
Nitrobenzene-d5	79		27 - 130
Phenol-d5	80		10 - 130
Terphenyl-d14	85		10 - 141

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-131704/2-A

Matrix: Water

Analysis Batch: 131714

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131704

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	88		18 - 130

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131714

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 131704

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	0.460	U	200	166.6		ug/L		83	54 - 130
Acenaphthylene	0.452	U	200	161.0		ug/L		80	54 - 130
Anthracene	0.700	U	200	182.1		ug/L		91	67 - 130
Benzo[a]anthracene	0.646	U	200	192.8		ug/L		96	70 - 130
Benzo[a]pyrene	0.742	U	200	190.7		ug/L		95	70 - 130
Benzo[b]fluoranthene	0.908	U	200	191.8		ug/L		96	69 - 130
Benzo[g,h,i]perylene	1.10	U	200	186.1		ug/L		93	62 - 130
Benzo[k]fluoranthene	1.49	U	200	195.8		ug/L		98	68 - 130
Benzyl alcohol	0.827	U	200	167.7		ug/L		84	52 - 130
Bis(2-chloroethoxy)methane	0.436	U	200	172.5		ug/L		86	55 - 130
Bis(2-chloroethyl)ether	1.55	U	200	160.8		ug/L		80	52 - 130
Bis(2-ethylhexyl) phthalate	5.00	U	200	186.3		ug/L		93	68 - 130
4-Bromophenyl phenyl ether	0.811	U	200	185.4		ug/L		93	69 - 130
Butyl benzyl phthalate	0.816	U	200	196.8		ug/L		98	68 - 130
4-Chloroaniline	0.549	U	200	111.1		ug/L		56	30 - 130
4-Chloro-3-methylphenol	0.586	U	200	176.6		ug/L		88	52 - 130
2-Chloronaphthalene	0.603	U	200	163.2		ug/L		82	51 - 130
2-Chlorophenol	0.729	U	200	155.8		ug/L		78	51 - 130
4-Chlorophenyl phenyl ether	0.529	U	200	183.4		ug/L		92	59 - 130
Chrysene	0.494	U	200	199.7		ug/L		100	70 - 130
Dibenz(a,h)anthracene	0.874	U	200	178.0		ug/L		89	65 - 130
Dibenzofuran	0.485	U	200	181.9		ug/L		91	53 - 130
1,2-Dichlorobenzene	0.775	U	200	132.4		ug/L		66	43 - 130
1,3-Dichlorobenzene	0.491	U	200	130.5		ug/L		65	40 - 130
1,4-Dichlorobenzene	0.815	U	200	133.9		ug/L		67	42 - 130
3,3'-Dichlorobenzidine	0.787	U	200	146.3		ug/L		73	61 - 130
2,4-Dichlorophenol	0.704	U	200	168.4		ug/L		84	51 - 130
Diethyl phthalate	0.666	U	200	187.3		ug/L		94	59 - 130
2,4-Dimethylphenol	0.593	U	200	164.2		ug/L		82	51 - 130
Dimethyl phthalate	0.589	U	200	195.7		ug/L		98	63 - 130
Di-n-butyl phthalate	0.709	U	200	186.1		ug/L		93	67 - 130
4,6-Dinitro-2-methylphenol	0.959	U	400	380.3		ug/L		95	63 - 130
2,4-Dinitrophenol	2.69	U	400	375.1		ug/L		94	47 - 130
2,4-Dinitrotoluene	0.509	U	200	199.9		ug/L		100	67 - 130
2,6-Dinitrotoluene	0.762	U	200	186.9		ug/L		93	64 - 130
Di-n-octyl phthalate	1.11	U	200	187.8		ug/L		94	70 - 130
Fluoranthene	0.496	U	200	207.8		ug/L		104	65 - 130
Fluorene	0.421	U	200	179.1		ug/L		90	59 - 130
Hexachlorobenzene	0.602	U	200	184.6		ug/L		92	67 - 130
Hexachlorobutadiene	0.716	U	200	138.4		ug/L		69	44 - 130
Hexachlorocyclopentadiene	0.839	U	200	103.6		ug/L		52	10 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131714

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 131704

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachloroethane	0.589	U	200	128.7		ug/L		64	38 - 130
Indeno[1,2,3-cd]pyrene	0.922	U	200	175.0		ug/L		88	66 - 130
Isophorone	0.549	U	200	171.4		ug/L		86	55 - 130
2-Methylnaphthalene	0.702	U	200	152.5		ug/L		76	54 - 130
2-Methylphenol	0.610	U	200	164.6		ug/L		82	47 - 130
3 & 4 Methylphenol	0.763	U	200	170.1		ug/L		85	41 - 130
Naphthalene	0.787	U	200	153.2		ug/L		77	51 - 130
2-Nitroaniline	0.766	U	200	177.8		ug/L		89	60 - 130
3-Nitroaniline	0.512	U	200	187.5		ug/L		94	57 - 130
4-Nitroaniline	0.819	U	200	180.0		ug/L		90	55 - 130
Nitrobenzene	0.587	U	200	161.9		ug/L		81	54 - 130
2-Nitrophenol	0.808	U	200	171.2		ug/L		86	54 - 130
4-Nitrophenol	1.73	U	400	398.6		ug/L		100	34 - 138
N-Nitrosodi-n-propylamine	0.620	U	200	176.9		ug/L		88	45 - 130
N-Nitrosodiphenylamine	1.03	U	200	168.3		ug/L		84	51 - 130
Pentachlorophenol	1.32	U	400	368.2		ug/L		92	55 - 130
Phenanthrene	0.591	U	200	184.0		ug/L		92	67 - 130
Phenol	0.768	U	200	158.4		ug/L		79	47 - 130
Pyrene	0.440	U	200	197.7		ug/L		99	66 - 130
1,2,4-Trichlorobenzene	0.647	U	200	145.0		ug/L		72	49 - 130
2,4,5-Trichlorophenol	0.861	U	200	177.7		ug/L		89	55 - 130
2,4,6-Trichlorophenol	0.658	U	200	174.1		ug/L		87	53 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	68		23 - 130
2-Fluorophenol	68		10 - 130
Nitrobenzene-d5	72		27 - 130
Phenol-d5	73		10 - 130
Terphenyl-d14	86		10 - 141
2,4,6-Tribromophenol	86		18 - 130

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131714

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 131704

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acenaphthene	0.460	U	200	156.4		ug/L		78	54 - 130	6	30
Acenaphthylene	0.452	U	200	154.1		ug/L		77	54 - 130	4	30
Anthracene	0.700	U	200	163.0		ug/L		81	67 - 130	11	30
Benzo[a]anthracene	0.646	U	200	174.4		ug/L		87	70 - 130	10	30
Benzo[a]pyrene	0.742	U	200	177.4		ug/L		89	70 - 130	7	30
Benzo[b]fluoranthene	0.908	U	200	179.9		ug/L		90	69 - 130	6	30
Benzo[g,h,i]perylene	1.10	U	200	167.9		ug/L		84	62 - 130	10	30
Benzo[k]fluoranthene	1.49	U	200	171.7		ug/L		86	68 - 130	13	30
Benzyl alcohol	0.827	U	200	162.7		ug/L		81	52 - 130	3	30
Bis(2-chloroethoxy)methane	0.436	U	200	165.6		ug/L		83	55 - 130	4	30
Bis(2-chloroethyl)ether	1.55	U	200	156.9		ug/L		78	52 - 130	2	30
Bis(2-ethylhexyl) phthalate	5.00	U	200	171.4		ug/L		86	68 - 130	8	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131714

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 131704

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Bromophenyl phenyl ether	0.811	U	200	164.3		ug/L		82	69 - 130	12	30
Butyl benzyl phthalate	0.816	U	200	179.8		ug/L		90	68 - 130	9	30
4-Chloroaniline	0.549	U	200	123.4		ug/L		62	30 - 130	10	30
4-Chloro-3-methylphenol	0.586	U	200	163.2		ug/L		82	52 - 130	8	30
2-Chloronaphthalene	0.603	U	200	153.2		ug/L		77	51 - 130	6	30
2-Chlorophenol	0.729	U	200	153.4		ug/L		77	51 - 130	2	30
4-Chlorophenyl phenyl ether	0.529	U	200	169.2		ug/L		85	59 - 130	8	30
Chrysene	0.494	U	200	176.2		ug/L		88	70 - 130	13	30
Dibenz(a,h)anthracene	0.874	U	200	162.3		ug/L		81	65 - 130	9	30
Dibenzofuran	0.485	U	200	165.4		ug/L		83	53 - 130	10	30
1,2-Dichlorobenzene	0.775	U	200	118.7		ug/L		59	43 - 130	11	30
1,3-Dichlorobenzene	0.491	U	200	113.1		ug/L		57	40 - 130	14	30
1,4-Dichlorobenzene	0.815	U	200	114.8		ug/L		57	42 - 130	15	30
3,3'-Dichlorobenzidine	0.787	U	200	151.9		ug/L		76	61 - 130	4	30
2,4-Dichlorophenol	0.704	U	200	159.0		ug/L		79	51 - 130	6	30
Diethyl phthalate	0.666	U	200	171.2		ug/L		86	59 - 130	9	30
2,4-Dimethylphenol	0.593	U	200	157.8		ug/L		79	51 - 130	4	30
Dimethyl phthalate	0.589	U	200	175.1		ug/L		88	63 - 130	11	30
Di-n-butyl phthalate	0.709	U	200	167.6		ug/L		84	67 - 130	10	30
4,6-Dinitro-2-methylphenol	0.959	U	400	337.8		ug/L		84	63 - 130	12	30
2,4-Dinitrophenol	2.69	U	400	346.0		ug/L		87	47 - 130	8	30
2,4-Dinitrotoluene	0.509	U	200	177.7		ug/L		89	67 - 130	12	30
2,6-Dinitrotoluene	0.762	U	200	171.1		ug/L		86	64 - 130	9	30
Di-n-octyl phthalate	1.11	U	200	169.4		ug/L		85	70 - 130	10	30
Fluoranthene	0.496	U	200	182.1		ug/L		91	65 - 130	13	30
Fluorene	0.421	U	200	164.0		ug/L		82	59 - 130	9	30
Hexachlorobenzene	0.602	U	200	167.1		ug/L		84	67 - 130	10	30
Hexachlorobutadiene	0.716	U	200	116.0		ug/L		58	44 - 130	18	30
Hexachlorocyclopentadiene	0.839	U	200	112.2		ug/L		56	10 - 130	8	30
Hexachloroethane	0.589	U	200	105.6		ug/L		53	38 - 130	20	30
Indeno[1,2,3-cd]pyrene	0.922	U	200	161.3		ug/L		81	66 - 130	8	30
Isophorone	0.549	U	200	160.7		ug/L		80	55 - 130	6	30
2-Methylnaphthalene	0.702	U	200	139.0		ug/L		70	54 - 130	9	30
2-Methylphenol	0.610	U	200	158.7		ug/L		79	47 - 130	4	30
3 & 4 Methylphenol	0.763	U	200	162.8		ug/L		81	41 - 130	4	30
Naphthalene	0.787	U	200	141.8		ug/L		71	51 - 130	8	30
2-Nitroaniline	0.766	U	200	166.6		ug/L		83	60 - 130	6	35
3-Nitroaniline	0.512	U	200	174.7		ug/L		87	57 - 130	7	30
4-Nitroaniline	0.819	U	200	171.6		ug/L		86	55 - 130	5	30
Nitrobenzene	0.587	U	200	155.7		ug/L		78	54 - 130	4	30
2-Nitrophenol	0.808	U	200	155.4		ug/L		78	54 - 130	10	30
4-Nitrophenol	1.73	U	400	358.9		ug/L		90	34 - 138	10	30
N-Nitrosodi-n-propylamine	0.620	U	200	166.2		ug/L		83	45 - 130	6	30
N-Nitrosodiphenylamine	1.03	U	200	154.1		ug/L		77	51 - 130	9	30
Pentachlorophenol	1.32	U	400	327.0		ug/L		82	55 - 130	12	30
Phenanthrene	0.591	U	200	161.3		ug/L		81	67 - 130	13	30
Phenol	0.768	U	200	155.4		ug/L		78	47 - 130	2	30
Pyrene	0.440	U	200	179.4		ug/L		90	66 - 130	10	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131714

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 131704

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	0.647	U	200	128.2		ug/L		64	49 - 130	12	30
2,4,5-Trichlorophenol	0.861	U	200	167.4		ug/L		84	55 - 130	6	30
2,4,6-Trichlorophenol	0.658	U	200	165.8		ug/L		83	53 - 130	5	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	69		23 - 130
2-Fluorophenol	68		10 - 130
Nitrobenzene-d5	78		27 - 130
Phenol-d5	73		10 - 130
Terphenyl-d14	79		10 - 141
2,4,6-Tribromophenol	79		18 - 130

## Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 560-131684/1-A

Matrix: Water

Analysis Batch: 131697

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131684

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00500	U	0.0600	0.00500	ug/L		09/12/16 09:01	09/12/16 15:03	1
alpha-BHC	0.00520	U	0.0600	0.00520	ug/L		09/12/16 09:01	09/12/16 15:03	1
alpha-Chlordane	0.00630	U	0.0600	0.00630	ug/L		09/12/16 09:01	09/12/16 15:03	1
beta-BHC	0.00500	U	0.0600	0.00500	ug/L		09/12/16 09:01	09/12/16 15:03	1
4,4'-DDD	0.00500	U	0.0600	0.00500	ug/L		09/12/16 09:01	09/12/16 15:03	1
4,4'-DDE	0.00500	U	0.0600	0.00500	ug/L		09/12/16 09:01	09/12/16 15:03	1
4,4'-DDT	0.00810	U	0.0600	0.00810	ug/L		09/12/16 09:01	09/12/16 15:03	1
delta-BHC	0.00500	U	0.0600	0.00500	ug/L		09/12/16 09:01	09/12/16 15:03	1
Dieldrin	0.0130	U	0.0600	0.0130	ug/L		09/12/16 09:01	09/12/16 15:03	1
Endosulfan I	0.00500	U	0.0600	0.00500	ug/L		09/12/16 09:01	09/12/16 15:03	1
Endosulfan II	0.00860	U	0.0600	0.00860	ug/L		09/12/16 09:01	09/12/16 15:03	1
Endosulfan sulfate	0.00880	U	0.0600	0.00880	ug/L		09/12/16 09:01	09/12/16 15:03	1
Endrin	0.00770	U	0.0600	0.00770	ug/L		09/12/16 09:01	09/12/16 15:03	1
Endrin aldehyde	0.00500	U	0.0600	0.00500	ug/L		09/12/16 09:01	09/12/16 15:03	1
Endrin ketone	0.00820	U	0.0600	0.00820	ug/L		09/12/16 09:01	09/12/16 15:03	1
gamma-BHC (Lindane)	0.00450	U	0.0600	0.00450	ug/L		09/12/16 09:01	09/12/16 15:03	1
gamma-Chlordane	0.00670	U	0.0600	0.00670	ug/L		09/12/16 09:01	09/12/16 15:03	1
Heptachlor	0.00650	U	0.0600	0.00650	ug/L		09/12/16 09:01	09/12/16 15:03	1
Heptachlor epoxide	0.00520	U	0.0600	0.00520	ug/L		09/12/16 09:01	09/12/16 15:03	1
Methoxychlor	0.0100	U	0.0600	0.0100	ug/L		09/12/16 09:01	09/12/16 15:03	1
Toxaphene	0.680	U	6.00	0.680	ug/L		09/12/16 09:01	09/12/16 15:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	45		10 - 152	09/12/16 09:01	09/12/16 15:03	1
DCB Decachlorobiphenyl	52		10 - 152	09/12/16 09:01	09/12/16 15:03	1
Tetrachloro-m-xylene	74		57 - 127	09/12/16 09:01	09/12/16 15:03	1
Tetrachloro-m-xylene	77		57 - 127	09/12/16 09:01	09/12/16 15:03	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 560-131684/3-A

Matrix: Water

Analysis Batch: 131697

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aldrin	0.571	0.4490		ug/L		79	54 - 130
alpha-BHC	0.571	0.4903		ug/L		86	59 - 130
alpha-Chlordane	0.571	0.4337		ug/L		76	51 - 130
beta-BHC	0.571	0.4422		ug/L		77	56 - 130
4,4'-DDD	0.571	0.4319		ug/L		76	56 - 130
4,4'-DDE	0.571	0.4354		ug/L		76	53 - 130
4,4'-DDT	0.571	0.4325		ug/L		76	50 - 130
delta-BHC	0.571	0.4698		ug/L		82	56 - 130
Dieldrin	0.571	0.4442		ug/L		78	58 - 130
Endosulfan I	0.571	0.3227		ug/L		56	39 - 130
Endosulfan II	0.571	0.3504		ug/L		61	44 - 130
Endosulfan sulfate	0.571	0.3858		ug/L		68	52 - 130
Endrin	0.571	0.4072		ug/L		71	62 - 130
Endrin aldehyde	0.571	0.3799		ug/L		66	52 - 130
Endrin ketone	0.571	0.4114		ug/L		72	48 - 130
gamma-BHC (Lindane)	0.571	0.4831		ug/L		85	56 - 130
gamma-Chlordane	0.571	0.4391		ug/L		77	52 - 130
Heptachlor	0.571	0.4666		ug/L		82	57 - 130
Heptachlor epoxide	0.571	0.4068		ug/L		71	53 - 130
Methoxychlor	0.571	0.4121		ug/L		72	57 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	63		10 - 152
Tetrachloro-m-xylene	84		57 - 127

Lab Sample ID: LCS 560-131684/6-A

Matrix: Water

Analysis Batch: 131697

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Toxaphene	11.4	9.474		ug/L		83	51 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	61		10 - 152
Tetrachloro-m-xylene	73		57 - 127

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131697

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aldrin	0.00468	U	0.532	0.4277		ug/L		80	54 - 130
alpha-BHC	0.00487	U	0.532	0.4693		ug/L		88	59 - 130
alpha-Chlordane	0.00590	U	0.532	0.4164		ug/L		78	51 - 130
beta-BHC	0.00468	U	0.532	0.4232		ug/L		80	56 - 130
4,4'-DDD	0.00468	U	0.532	0.4177		ug/L		79	56 - 130
4,4'-DDE	0.00468	U	0.532	0.4192		ug/L		79	53 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131697

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDT	0.00758	U	0.532	0.4096		ug/L		77	50 - 130
delta-BHC	0.00468	U	0.532	0.4519		ug/L		85	56 - 130
Dieldrin	0.0122	U	0.532	0.4281		ug/L		80	58 - 130
Endosulfan I	0.00468	U	0.532	0.3061		ug/L		58	39 - 130
Endosulfan II	0.00805	U	0.532	0.3319		ug/L		62	44 - 130
Endosulfan sulfate	0.00824	U	0.532	0.3526		ug/L		66	52 - 130
Endrin	0.00721	U	0.532	0.3628		ug/L		68	62 - 130
Endrin aldehyde	0.00468	U	0.532	0.3883		ug/L		73	52 - 130
Endrin ketone	0.00767	U	0.532	0.4029		ug/L		76	48 - 130
gamma-BHC (Lindane)	0.00421	U	0.532	0.4621		ug/L		87	56 - 130
gamma-Chlordane	0.00627	U	0.532	0.4168		ug/L		78	52 - 130
Heptachlor	0.00608	U	0.532	0.4469		ug/L		84	57 - 130
Heptachlor epoxide	0.00487	U	0.532	0.3980		ug/L		75	53 - 130
Methoxychlor	0.00936	U	0.532	0.3938		ug/L		74	57 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl	72		10 - 152
DCB Decachlorobiphenyl	74		10 - 152
Tetrachloro-m-xylene	84		57 - 127
Tetrachloro-m-xylene	77		57 - 127

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131697

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aldrin	0.00468	U	0.545	0.4450		ug/L		82	54 - 130	4	30
alpha-BHC	0.00487	U	0.545	0.4972		ug/L		91	59 - 130	6	30
alpha-Chlordane	0.00590	U	0.545	0.4340		ug/L		80	51 - 130	4	30
beta-BHC	0.00468	U	0.545	0.4467		ug/L		82	56 - 130	5	30
4,4'-DDD	0.00468	U	0.545	0.4371		ug/L		80	56 - 130	5	30
4,4'-DDE	0.00468	U	0.545	0.4355		ug/L		80	53 - 130	4	30
4,4'-DDT	0.00758	U	0.545	0.4219		ug/L		77	50 - 130	3	30
delta-BHC	0.00468	U	0.545	0.4782		ug/L		88	56 - 130	6	30
Dieldrin	0.0122	U	0.545	0.4474		ug/L		82	58 - 130	4	30
Endosulfan I	0.00468	U	0.545	0.3219		ug/L		59	39 - 130	5	30
Endosulfan II	0.00805	U	0.545	0.3431		ug/L		63	44 - 130	3	30
Endosulfan sulfate	0.00824	U	0.545	0.3564		ug/L		65	52 - 130	1	30
Endrin	0.00721	U	0.545	0.3972		ug/L		73	62 - 130	4	30
Endrin aldehyde	0.00468	U	0.545	0.4119		ug/L		76	52 - 130	6	30
Endrin ketone	0.00767	U	0.545	0.4517		ug/L		83	48 - 130	11	30
gamma-BHC (Lindane)	0.00421	U	0.545	0.4878		ug/L		90	56 - 130	5	30
gamma-Chlordane	0.00627	U	0.545	0.4321		ug/L		79	52 - 130	4	30
Heptachlor	0.00608	U	0.545	0.4658		ug/L		85	57 - 130	4	30
Heptachlor epoxide	0.00487	U	0.545	0.4113		ug/L		75	53 - 130	2	30
Methoxychlor	0.00936	U	0.545	0.4143		ug/L		76	57 - 130	10	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131697

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 131684

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	72		10 - 152
DCB Decachlorobiphenyl	73		10 - 152
Tetrachloro-m-xylene	84		57 - 127
Tetrachloro-m-xylene	77		57 - 127

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 560-131684/1-A

Matrix: Water

Analysis Batch: 131698

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131684

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1221	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1232	0.440	U	0.800	0.440	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1242	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1248	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1254	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1260	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1262	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1268	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	102		10 - 150	09/12/16 09:01	09/12/16 15:03	1
DCB Decachlorobiphenyl	56		10 - 150	09/12/16 09:01	09/12/16 15:03	1

Lab Sample ID: LCS 560-131684/2-A

Matrix: Water

Analysis Batch: 131698

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor 1016	11.4	13.65		ug/L		119	50 - 135
Aroclor 1260	11.4	11.64		ug/L		102	50 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	112		10 - 150
DCB Decachlorobiphenyl	84		10 - 150

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131698

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aroclor 1016	0.103	U	10.8	13.04		ug/L		121	50 - 135
Aroclor 1260	0.103	U	10.8	11.78		ug/L		109	50 - 135

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131698

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 131684

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	112		10 - 150
DCB Decachlorobiphenyl	91		10 - 150

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131698

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016	0.103	U	10.8	12.44		ug/L		116	50 - 135	5	30
Aroclor 1260	0.103	U	10.8	11.48		ug/L		107	50 - 135	3	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	105		10 - 150
DCB Decachlorobiphenyl	87		10 - 150

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 680-449379/15-A

Matrix: Water

Analysis Batch: 449637

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 449379

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.100	U	5.00	0.100	ug/L		09/13/16 07:52	09/14/16 19:17	1
Dicamba	0.0850	U	0.500	0.0850	ug/L		09/13/16 07:52	09/14/16 19:17	1
Mecoprop	19.0	U	120	19.0	ug/L		09/13/16 07:52	09/14/16 19:17	1
MCPA	17.0	U	120	17.0	ug/L		09/13/16 07:52	09/14/16 19:17	1
Dichlorprop	0.150	U	0.500	0.150	ug/L		09/13/16 07:52	09/14/16 19:17	1
2,4-D	0.0370	U	0.500	0.0370	ug/L		09/13/16 07:52	09/14/16 19:17	1
Silvex (2,4,5-TP)	0.0620	U	0.250	0.0620	ug/L		09/13/16 07:52	09/14/16 19:17	1
2,4,5-T	0.0620	U	0.250	0.0620	ug/L		09/13/16 07:52	09/14/16 19:17	1
2,4-DB	0.150	U	0.500	0.150	ug/L		09/13/16 07:52	09/14/16 19:17	1
Dinoseb	0.160	U	1.00	0.160	ug/L		09/13/16 07:52	09/14/16 19:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	79		45 - 130	09/13/16 07:52	09/14/16 19:17	1

Lab Sample ID: LCS 680-449379/16-A

Matrix: Water

Analysis Batch: 449637

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 449379

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	2.00	1.184	J p	ug/L		59	40 - 130
Dicamba	1.00	0.8260		ug/L		83	64 - 130
Mecoprop	200	163.9		ug/L		82	55 - 134
MCPA	200	162.0		ug/L		81	52 - 130
Dichlorprop	2.00	1.647		ug/L		82	52 - 130
2,4-D	2.00	1.622		ug/L		81	55 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 680-449379/16-A

Matrix: Water

Analysis Batch: 449637

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 449379

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silvex (2,4,5-TP)	0.500	0.4627		ug/L		93	60 - 130
2,4,5-T	0.500	0.3862		ug/L		77	58 - 130
2,4-DB	2.00	1.670		ug/L		83	60 - 147
Dinoseb	2.00	0.7352	J	ug/L		37	14 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid	81		45 - 130

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 449637

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 449379

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	0.0952	U F1	1.98	1.324	J p	ug/L		67	40 - 130
Dicamba	0.0810	U	0.992	0.8930		ug/L		90	64 - 130
Mecoprop	18.1	U	198	151.7		ug/L		76	55 - 134
MCPA	16.2	U	198	182.6		ug/L		92	52 - 130
Dichlorprop	0.143	U	1.98	1.988		ug/L		100	52 - 130
2,4-D	0.0352	U	1.98	1.842		ug/L		93	55 - 130
Silvex (2,4,5-TP)	0.0590	U	0.496	0.5632		ug/L		113	60 - 130
2,4,5-T	0.0590	U	0.496	0.4251		ug/L		86	58 - 130
2,4-DB	0.143	U	1.98	1.982		ug/L		100	60 - 147
Dinoseb	0.152	U	1.98	0.6498	J	ug/L		33	14 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4-Dichlorophenylacetic acid	96		45 - 130

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 449637

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 449379

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dalapon	0.0952	U F1	1.98	1.323	J p	ug/L		67	40 - 130	0	50
Dicamba	0.0810	U	0.988	0.8989		ug/L		91	64 - 130	1	50
Mecoprop	18.1	U	198	152.6		ug/L		77	55 - 134	1	50
MCPA	16.2	U	198	197.4		ug/L		100	52 - 130	8	50
Dichlorprop	0.143	U	1.98	1.979		ug/L		100	52 - 130	0	50
2,4-D	0.0352	U	1.98	1.760		ug/L		89	55 - 130	5	50
Silvex (2,4,5-TP)	0.0590	U	0.494	0.5522		ug/L		112	60 - 130	2	50
2,4,5-T	0.0590	U	0.494	0.4264		ug/L		86	58 - 130	0	50
2,4-DB	0.143	U	1.98	1.884		ug/L		95	60 - 147	5	50
Dinoseb	0.152	U	1.98	0.8272	J	ug/L		42	14 - 130	24	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4-Dichlorophenylacetic acid	95		45 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 560-131669/1-A

Matrix: Water

Analysis Batch: 131706

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131669

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.101	U	0.200	0.101	mg/L		09/09/16 12:45	09/12/16 13:22	1
Magnesium	0.0257	U	0.200	0.0257	mg/L		09/09/16 12:45	09/12/16 13:22	1
Potassium	0.375	U	0.500	0.375	mg/L		09/09/16 12:45	09/12/16 13:22	1
Silicon	0.0707	U	0.500	0.0707	mg/L		09/09/16 12:45	09/12/16 13:22	1
Sodium	0.310	U	1.00	0.310	mg/L		09/09/16 12:45	09/12/16 13:22	1
Strontium	0.0008200	J	0.00500	0.000700	mg/L		09/09/16 12:45	09/12/16 13:22	1

Lab Sample ID: LCS 560-131669/2-A

Matrix: Water

Analysis Batch: 131706

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131669

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	25.0	24.44		mg/L		98	80 - 120
Magnesium	25.0	24.04		mg/L		96	80 - 120
Potassium	25.0	24.73		mg/L		99	80 - 120
Silicon	10.0	9.477		mg/L		95	80 - 120
Sodium	25.0	24.70		mg/L		99	80 - 120
Strontium	0.250	0.2449		mg/L		98	80 - 120

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131706

Client Sample ID: HCS130

Prep Type: Dissolved

Prep Batch: 131669

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	83.3		25.0	107.3		mg/L		96	80 - 120
Magnesium	16.0		25.0	40.32		mg/L		97	80 - 120
Potassium	1.45		25.0	26.85		mg/L		102	80 - 120
Silicon	5.37		10.0	15.06		mg/L		97	80 - 120
Sodium	12.2		25.0	37.10		mg/L		100	80 - 120
Strontium	0.640		0.250	0.8821		mg/L		97	80 - 120

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131706

Client Sample ID: HCS130

Prep Type: Dissolved

Prep Batch: 131669

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	83.3		25.0	105.4		mg/L		88	80 - 120	2	20
Magnesium	16.0		25.0	40.42		mg/L		98	80 - 120	0	20
Potassium	1.45		25.0	27.00		mg/L		102	80 - 120	1	20
Silicon	5.37		10.0	14.92		mg/L		95	80 - 120	1	20
Sodium	12.2		25.0	37.14		mg/L		100	80 - 120	0	20
Strontium	0.640		0.250	0.8726		mg/L		93	80 - 120	1	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 560-131670/1-A  
Matrix: Water  
Analysis Batch: 131750

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 131670

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/09/16 12:45	09/13/16 14:09	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/09/16 12:45	09/13/16 14:09	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/09/16 12:45	09/13/16 14:09	1
Barium	0.000810	U	0.00500	0.000810	mg/L		09/09/16 12:45	09/13/16 14:09	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/09/16 12:45	09/13/16 14:09	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/09/16 12:45	09/13/16 14:09	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/09/16 12:45	09/13/16 14:09	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/09/16 12:45	09/13/16 14:09	1
Iron	0.101	U	0.250	0.101	mg/L		09/09/16 12:45	09/13/16 14:09	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/09/16 12:45	09/13/16 14:09	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/09/16 12:45	09/13/16 14:09	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/09/16 12:45	09/13/16 14:09	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/09/16 12:45	09/13/16 14:09	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/09/16 12:45	09/13/16 14:09	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/09/16 12:45	09/13/16 14:09	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/09/16 12:45	09/13/16 14:09	1

Lab Sample ID: LCS 560-131670/2-A  
Matrix: Water  
Analysis Batch: 131750

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 131670

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.2477		mg/L		99	80 - 120
Arsenic	0.250	0.2399		mg/L		96	80 - 120
Barium	0.250	0.2524		mg/L		101	80 - 120
Beryllium	0.250	0.2317		mg/L		93	80 - 120
Cadmium	0.250	0.2443		mg/L		98	80 - 120
Chromium	0.250	0.2327		mg/L		93	80 - 120
Copper	0.250	0.2295		mg/L		92	80 - 120
Iron	25.0	23.21		mg/L		93	80 - 120
Lead	0.250	0.2335		mg/L		93	80 - 120
Manganese	2.50	2.313		mg/L		93	80 - 120
Nickel	0.250	0.2320		mg/L		93	80 - 120
Selenium	0.250	0.2373		mg/L		95	80 - 120
Silver	0.250	0.2306		mg/L		92	80 - 120
Thallium	0.100	0.09400		mg/L		94	80 - 120
Zinc	0.250	0.2261		mg/L		90	80 - 120

Lab Sample ID: LCS 560-131670/2-A  
Matrix: Water  
Analysis Batch: 131811

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 131670

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	25.0	22.35		mg/L		89	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131750

Client Sample ID: HCS130

Prep Type: Dissolved

Prep Batch: 131670

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	0.0500	U F1	25.0	19.48	F1	mg/L		78	80 - 120
Antimony	0.00161	U	0.250	0.2514		mg/L		101	80 - 120
Arsenic	0.00109	U	0.250	0.2508		mg/L		100	80 - 120
Barium	0.0547		0.250	0.3141		mg/L		104	80 - 120
Beryllium	0.00124	U	0.250	0.2366		mg/L		95	80 - 120
Cadmium	0.000854	U	0.250	0.2506		mg/L		100	80 - 120
Chromium	0.00140	U	0.250	0.2408		mg/L		96	80 - 120
Copper	0.00200	U	0.250	0.2317		mg/L		93	80 - 120
Iron	0.101	U	25.0	23.68		mg/L		95	80 - 120
Lead	0.000733	U	0.250	0.2305		mg/L		92	80 - 120
Manganese	0.0116	U	2.50	2.391		mg/L		96	80 - 120
Nickel	0.00217	U	0.250	0.2378		mg/L		95	80 - 120
Selenium	0.00108	U	0.250	0.2484		mg/L		99	80 - 120
Silver	0.000941	U	0.250	0.2370		mg/L		95	80 - 120
Thallium	0.000693	U	0.100	0.09400		mg/L		94	80 - 120
Zinc	0.00355	U	0.250	0.2318		mg/L		93	80 - 120

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131750

Client Sample ID: HCS130

Prep Type: Dissolved

Prep Batch: 131670

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aluminum	0.0500	U F1	25.0	19.92		mg/L		80	80 - 120	2	20
Antimony	0.00161	U	0.250	0.2577		mg/L		103	80 - 120	2	20
Arsenic	0.00109	U	0.250	0.2547		mg/L		102	80 - 120	2	20
Barium	0.0547		0.250	0.3200		mg/L		106	80 - 120	2	20
Beryllium	0.00124	U	0.250	0.2383		mg/L		95	80 - 120	1	20
Cadmium	0.000854	U	0.250	0.2564		mg/L		103	80 - 120	2	20
Chromium	0.00140	U	0.250	0.2450		mg/L		98	80 - 120	2	20
Copper	0.00200	U	0.250	0.2365		mg/L		95	80 - 120	2	20
Iron	0.101	U	25.0	23.97		mg/L		96	80 - 120	1	20
Lead	0.000733	U	0.250	0.2405		mg/L		96	80 - 120	4	20
Manganese	0.0116	U	2.50	2.419		mg/L		97	80 - 120	1	20
Nickel	0.00217	U	0.250	0.2372		mg/L		95	80 - 120	0	20
Selenium	0.00108	U	0.250	0.2498		mg/L		100	80 - 120	1	20
Silver	0.000941	U	0.250	0.2420		mg/L		97	80 - 120	2	20
Thallium	0.000693	U	0.100	0.09689		mg/L		97	80 - 120	3	20
Zinc	0.00355	U	0.250	0.2318		mg/L		93	80 - 120	0	20

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 560-131711/28-A

Matrix: Water

Analysis Batch: 131713

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131711

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/12/16 10:00	09/12/16 16:29	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: MB 560-131711/4-A  
Matrix: Water  
Analysis Batch: 131713

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 131711

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	09/12/16 10:00	09/12/16 15:33	1

Lab Sample ID: LCS 560-131711/29-A  
Matrix: Water  
Analysis Batch: 131713

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 131711

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.004830		mg/L	-	97	80 - 120

Lab Sample ID: LCS 560-131711/5-A  
Matrix: Water  
Analysis Batch: 131713

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 131711

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.004800		mg/L	-	96	80 - 120

Lab Sample ID: MB 560-131821/4-A  
Matrix: Water  
Analysis Batch: 131810

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 131821

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	09/14/16 10:15	09/14/16 15:00	1

Lab Sample ID: LCS 560-131821/5-A  
Matrix: Water  
Analysis Batch: 131810

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 131821

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.005460		mg/L	-	109	80 - 120

Lab Sample ID: 560-63683-4 MS  
Matrix: Water  
Analysis Batch: 131713

Client Sample ID: HCS130  
Prep Type: Dissolved  
Prep Batch: 131711

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U	0.00500	0.004240		mg/L	-	85	80 - 120

Lab Sample ID: 560-63683-4 MSD  
Matrix: Water  
Analysis Batch: 131713

Client Sample ID: HCS130  
Prep Type: Dissolved  
Prep Batch: 131711

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000130	U	0.00500	0.004280		mg/L	-	86	80 - 120	1	20

Lab Sample ID: 560-63683-1 MS  
Matrix: Water  
Analysis Batch: 131810

Client Sample ID: HCS110  
Prep Type: Dissolved  
Prep Batch: 131821

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U	0.00500	0.005410		mg/L	-	108	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

Lab Sample ID: 560-63683-1 MSD

Matrix: Water

Analysis Batch: 131810

Client Sample ID: HCS110

Prep Type: Dissolved

Prep Batch: 131821

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000130	U	0.00500	0.005240		mg/L		105	80 - 120	3	20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 560-131676/4

Matrix: Water

Analysis Batch: 131676

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L			09/09/16 13:35	1
Chloride	0.192	U	1.00	0.192	mg/L			09/09/16 13:35	1
Nitrate as N	0.103	U	0.500	0.103	mg/L			09/09/16 13:35	1
Sulfate	0.377	U	1.00	0.377	mg/L			09/09/16 13:35	1

Lab Sample ID: LCS 560-131676/5

Matrix: Water

Analysis Batch: 131676

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.843		mg/L		97	90 - 110
Chloride	10.0	10.58		mg/L		106	90 - 110
Nitrate as N	5.00	5.083		mg/L		102	90 - 110
Sulfate	20.0	20.77		mg/L		104	90 - 110

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131676

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.460	J	5.00	4.801		mg/L		87	80 - 120
Chloride	18.7		10.0	27.46		mg/L		88	80 - 120
Nitrate as N	1.92		5.00	6.779		mg/L		97	80 - 120
Sulfate	28.3		20.0	46.76		mg/L		93	80 - 120

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131676

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.460	J	5.00	4.831		mg/L		87	80 - 120	1	20
Chloride	18.7		10.0	27.48		mg/L		88	80 - 120	0	20
Nitrate as N	1.92		5.00	6.813		mg/L		98	80 - 120	1	20
Sulfate	28.3		20.0	46.95		mg/L		93	80 - 120	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 340.2 - Fluoride

Lab Sample ID: MB 560-131914/3

Matrix: Water

Analysis Batch: 131914

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L	-		09/16/16 11:45	1

Lab Sample ID: MB 560-131914/31

Matrix: Water

Analysis Batch: 131914

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L	-		09/16/16 11:45	1

Lab Sample ID: LCS 560-131914/32

Matrix: Water

Analysis Batch: 131914

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.8020		mg/L	-	100	85 - 115

Lab Sample ID: LCS 560-131914/4

Matrix: Water

Analysis Batch: 131914

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.8030		mg/L	-	100	85 - 115

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131914

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.196		0.500	0.6920		mg/L	-	99	75 - 125

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131914

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.196		0.500	0.6940		mg/L	-	100	75 - 125	0	20

## Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 600-196723/10

Matrix: Water

Analysis Batch: 196723

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		09/13/16 12:23	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: LCS 600-196723/11

Matrix: Water

Analysis Batch: 196723

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	10.29		mg/L		103	90 - 110

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 196723

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U F1	10.0	9.335		mg/L		93	90 - 110

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 196723

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U F1	10.0	8.809	F1	mg/L		88	90 - 110	6	20

## Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 680-450160/1-A

Matrix: Water

Analysis Batch: 450430

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 450160

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		09/19/16 10:46	09/20/16 14:13	1

Lab Sample ID: LCS 680-450160/2-A

Matrix: Water

Analysis Batch: 450430

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 450160

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	2.010		mg/L		101	60 - 140

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 450430

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 450160

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	0.0410	U	2.00	1.880		mg/L		94	60 - 140

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 450430

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 450160

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phosphorus	0.0410	U	2.00	1.950		mg/L		98	60 - 140	4	40

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 9040C - pH

Lab Sample ID: LCS 560-131674/2

Matrix: Water

Analysis Batch: 131674

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	5.00	5.0		SU		101	98 - 102

Lab Sample ID: 560-63683-1 DU

Matrix: Water

Analysis Batch: 131674

Client Sample ID: HCS110

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.0	HF	7.1		SU		0.6	20

## Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 560-131862/4

Matrix: Water

Analysis Batch: 131862

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			09/15/16 12:51	1

Lab Sample ID: LCS 560-131862/5

Matrix: Water

Analysis Batch: 131862

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	24.64		mg/L		99	80 - 120

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131862

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	0.285	U	10.0	10.63		mg/L		106	75 - 125

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131862

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	0.285	U	10.0	10.41		mg/L		104	75 - 125	2	20

Lab Sample ID: MB 560-131966/4

Matrix: Water

Analysis Batch: 131966

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			09/19/16 11:12	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: 9060 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCS 560-131966/5

Matrix: Water

Analysis Batch: 131966

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	25.89		mg/L		104	80 - 120

Lab Sample ID: 560-63683-2 MS

Matrix: Water

Analysis Batch: 131966

Client Sample ID: HCS120

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	0.285	U	10.0	9.732		mg/L		97	75 - 125

Lab Sample ID: 560-63683-2 MSD

Matrix: Water

Analysis Batch: 131966

Client Sample ID: HCS120

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	0.285	U	10.0	9.606		mg/L		96	75 - 125	1	20

## Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 560-131992/1-A

Matrix: Water

Analysis Batch: 131994

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			09/20/16 12:38	1

Lab Sample ID: LCS 560-131992/2-A

Matrix: Water

Analysis Batch: 131994

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	24.62		mg/L		98	80 - 120

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131994

Client Sample ID: HCS130

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	0.285	U	10.0	10.24		mg/L		102	75 - 125

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131994

Client Sample ID: HCS130

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	0.285	U	10.0	10.26		mg/L		103	75 - 125	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 560-131798/1

Matrix: Water

Analysis Batch: 131798

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/14/16 14:22	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/14/16 14:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/14/16 14:22	1

Lab Sample ID: LCS 560-131798/16

Matrix: Water

Analysis Batch: 131798

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	94.47		mg/L		94	85 - 115

Lab Sample ID: LCS 560-131798/2

Matrix: Water

Analysis Batch: 131798

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	94.07		mg/L		94	85 - 115

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131798

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	223		100	316.8		mg/L		94	75 - 125

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131798

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Total Alkalinity as CaCO3	223		100	311.6		mg/L		88	75 - 125	2	20

Lab Sample ID: 560-63683-6 MS

Matrix: Water

Analysis Batch: 131798

Client Sample ID: HCS160

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	226		100	314.0		mg/L		88	75 - 125

Lab Sample ID: 560-63683-6 MSD

Matrix: Water

Analysis Batch: 131798

Client Sample ID: HCS160

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Total Alkalinity as CaCO3	226		100	316.0		mg/L		90	75 - 125	1	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 560-131784/1

Matrix: Water

Analysis Batch: 131784

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L	-		09/14/16 09:35	1

Lab Sample ID: LCS 560-131784/2

Matrix: Water

Analysis Batch: 131784

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	2250	2068		mg/L	-	92	90 - 110

Lab Sample ID: 560-63683-4 MS

Matrix: Water

Analysis Batch: 131784

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	348		2250	2402		mg/L	-	91	75 - 125

Lab Sample ID: 560-63683-4 MSD

Matrix: Water

Analysis Batch: 131784

Client Sample ID: HCS130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	348		2250	2378		mg/L	-	90	75 - 125	1	20

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 560-131681/1

Matrix: Water

Analysis Batch: 131681

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.00	U	2.00	2.00	mg/L	-		09/09/16 14:10	1

Lab Sample ID: MB 560-131681/25

Matrix: Water

Analysis Batch: 131681

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.00	U	2.00	2.00	mg/L	-		09/09/16 14:10	1

Lab Sample ID: LCS 560-131681/2

Matrix: Water

Analysis Batch: 131681

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	199.0		mg/L	-	100	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 560-131681/26

Matrix: Water

Analysis Batch: 131681

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	196.5		mg/L		98	90 - 110

Lab Sample ID: 560-63666-B-1 DU

Matrix: Water

Analysis Batch: 131681

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	4.20		4.200		mg/L		0	20

# Certification Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-17
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Laboratory: TestAmerica Houston

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	16-046-0	08-04-17
Louisiana	NELAP	6	01967	06-30-17
Oklahoma	State Program	6	2015-050	08-31-17
Texas	NELAP	6	T104704223-16-19	10-31-16 *
USDA	Federal		P330-14-00192	06-06-17

## Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-17
A2LA	ISO/IEC 17025		399.01	02-28-17
Alabama	State Program	4	41450	06-30-17
Alaska (UST)	State Program	10	UST-104	11-05-16
Arkansas DEQ	State Program	6	88-0692	01-31-17
California	State Program	9	2939	07-31-16 *
Colorado	State Program	8	N/A	12-31-16
Connecticut	State Program	1	PH-0161	03-31-17
Florida	NELAP	4	E87052	06-30-17
GA Dept. of Agriculture	State Program	4	N/A	06-12-17
Georgia	State Program	4	N/A	06-30-17
Georgia	State Program	4	803	06-30-17
Guam	State Program	9	15-005r	04-16-17
Hawaii	State Program	9	N/A	06-30-17
Illinois	NELAP	5	200022	11-30-16
Indiana	State Program	5	N/A	06-30-17
Iowa	State Program	7	353	06-30-17
Kentucky (DW)	State Program	4	90084	12-31-16
Kentucky (UST)	State Program	4	18	06-30-17
Kentucky (WW)	State Program	4	90084	12-31-16
Louisiana	NELAP	6	30690	06-30-17
Louisiana (DW)	NELAP	6	LA160019	12-31-16
Maine	State Program	1	GA00006	09-24-18
Maryland	State Program	3	250	12-31-16
Massachusetts	State Program	1	M-GA006	06-30-17
Michigan	State Program	5	9925	06-30-17
Mississippi	State Program	4	N/A	06-30-16 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-17
New Jersey	NELAP	2	GA769	06-30-17
New Mexico	State Program	6	N/A	06-30-17
New York	NELAP	2	10842	03-31-17
North Carolina (DW)	State Program	4	13701	07-31-17

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi



# Certification Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

## Laboratory: TestAmerica Savannah (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-16
Oklahoma	State Program	6	9984	08-31-17
Pennsylvania	NELAP	3	68-00474	06-30-17
Puerto Rico	State Program	2	GA00006	12-31-16
South Carolina	State Program	4	98001	06-30-17
Tennessee	State Program	4	TN02961	06-30-17
Texas	NELAP	6	T104704185-15-8	11-30-16
USDA	Federal		SAV 3-04	06-11-17
Virginia	NELAP	3	460161	06-14-17
Washington	State Program	10	C805	06-10-17
West Virginia (DW)	State Program	3	9950C	12-31-16
West Virginia DEP	State Program	3	094	08-31-16 *
Wisconsin	State Program	5	999819810	08-31-17
Wyoming	State Program	8	8TMS-L	06-30-16 *

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Method Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CC
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CC
8081B	Organochlorine Pesticides (GC)	SW846	TAL CC
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CC
8151A	Herbicides (GC)	SW846	TAL SAV
6010B	Metals (ICP)	SW846	TAL CC
6020	Metals (ICP/MS)	SW846	TAL CC
7470A	Mercury (CVAA)	SW846	TAL CC
300.0	Anions, Ion Chromatography	MCAWW	TAL CC
340.2	Fluoride	MCAWW	TAL CC
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL HOU
365.4	Phosphorus, Total	EPA	TAL SAV
9040C	pH	SW846	TAL CC
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL CC
9060	Organic Carbon, Total (TOC)	SW846	TAL CC
SM 2320B	Alkalinity	SM	TAL CC
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CC

## Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

# Sample Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-63683-1	HCS110	Water	09/08/16 09:58	09/09/16 08:00
560-63683-2	HCS120	Water	09/08/16 10:31	09/09/16 08:00
560-63683-3	FDHCS120	Water	09/08/16 10:31	09/09/16 08:00
560-63683-4	HCS130	Water	09/08/16 09:12	09/09/16 08:00
560-63683-5	HCS140	Water	09/08/16 11:09	09/09/16 08:00
560-63683-6	HCS160	Water	09/08/16 11:38	09/09/16 08:00
560-63683-7	TB11	Water	09/08/16 00:00	09/09/16 08:00

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica  
THE LEADER IN ENVI  
Loc: 560  
63683

Client Information		Lab PVI: MainGot, Lindy		Carrier Tracking No(s):		COC No: 560-21329-2716.1																	
Client Contact: Jennifer Moreland		E-Mail: lindy.maingot@testamericainc.com				Page: 1 of 1																	
Company: SWCA, Inc.						Job #:																	
Address: 6200 UTSA Boulevard Suite 102		Due Date Requested:		Analysis Requested																			
City: San Antonio		TAT Requested (days):																					
State, Zip: TX, 78249		PO #: 27122.01																					
Phone: 210-877-2847(Tel)		WO #: 56005790																					
Email: JMoreland@swca.com		Project #: 56005790																					
Project Name: EAA Sampling		SSOW#:																					
Site: Comal Springs																							
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=air)	Field Filtered Sample (Yes or No)	8141A - OP, Pesticides, Custom List (DENVER)	8081B, 8082A	8270C - SVOCs, Custom List	SUBCONTRACT - Caffeine (WEEK)	2320B, 2540C, 2540D, 300, 340.2, 9040C	9060 - Total Organic Carbon	8260B - VOCs, Custom List	351.2 NP - TKN (HOUSTON)	8151A - Herbicides (SAVANNAH)	355.4 - Phosphorus (SAVANNAH)	6010B, 6020, 7470A	9060 Diss - Dissolved Organic Carbon	Total Number of containers	Special Instructions/Note:				
HCS110	9/8/16	0958	G	Water		N	X	X	X	X	X	X	X	X	X	X	X	22	Metals, DOC field filtered				
HCS120	9/8/16	1031	G	Water		N	X	X	X	X	X	X	X	X	X	X	X	22	Metals, DOC field filtered				
FDHCS120	9/8/16	1031	G	Water		N	X	X	X	X	X	X	X	X	X	X	X	22	Metals, DOC field filtered				
HCS130	9/8/16	0912	G	Water		N	X	X	X	X	X	X	X	X	X	X	X	22	Metals, DOC field filtered				
MSMSDHCS130	9/8/16	0912	G	Water		Y	X	X	X	X	X	X	X	X	X	X	X	22	Metals, DOC field filtered				
HCS140	9/8/16	1109	G	Water		N	X	X	X	X	X	X	X	X	X	X	X	22	Metals, DOC field filtered				
HCS160	9/8/16	1138	G	Water		N	X	X	X	X	X	X	X	X	X	X	X	22	Metals, DOC field filtered				
TBA1	9/8/16			Water	N	N												2					
<div>Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)</div> <div>Sample Disposal (A fee may be assessed) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab</div> <div>Special Instructions/QC Requirements:</div> <div>560-63683 Chain of Custody</div> <div>Barcode</div>																							
Empty Kit Relinquished by:		Date:		Time:		Received by:		Date/Time:		Company:		Received by:		Date/Time:		Company:		Received by:		Date/Time:		Company:	
Relinquished by:		9/8/16		1310		SWCA		9-8-16		1310		SWCA		9-8-16		SWCA		9-8-16		SWCA		9-8-16	
Relinquished by:		9-8-16		1310		SWCA		9-8-16		1310		SWCA		9-8-16		SWCA		9-8-16		SWCA		9-8-16	
Relinquished by:		9-8-16		1310		SWCA		9-8-16		1310		SWCA		9-8-16		SWCA		9-8-16		SWCA		9-8-16	
Custody Seal No.:		Obs. 9, 2.8, 2.2, 2.4, 1.0, 1.1		CS. 8, 12, 7.2, 1.2, 3.5, 9.1, 1.0																			

TestAmerica Corpus Christi  
1733 N Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING



Client Information (Sub Contract Lab)		Lab PM		Carrier Tracking No(s)		COC No			
Client Contact: Shipping/Receiving		Maingol, Lindy				560-14129-1			
Company: TestAmerica Laboratories, Inc.		E-Mail: lindy.maingol@testamericainc.com				Page 1 of 1			
Address: 4955 Yarrow Street, City: Arvada State, Zip: CO, 80002 Phone: 303-736-0100(Tel) 303-431-7171(Fax) Email: Project Name: Cornal Springs Site:		Due Date Requested: 9/21/2016 TAT Requested (days): PO #: WO #: Project #: 56005790 SSOW#:		Analysis Requested		Job #: 560-63683-1			
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/soil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	814A/3610C (MOD) Standard 8141 list	Total Number of Containers	Special Instructions/Note:
HCS110 (560-63683-1)	9/8/16	09:53 Central		Water	X		X	2	
HCS120 (560-63683-2)	9/8/16	10:31 Central		Water	X		X	2	
FDHCS120 (560-63683-3)	9/8/16	10:31 Central		Water	X		X	2	
HCS130 (560-63683-4)	9/8/16	09:12 Central		Water	X		X	2	
HCS130 (560-63683-4MS)	9/8/16	09:12 Central	MS	Water	X		X	2	
HCS130 (560-63683-4MSD)	9/8/16	09:12 Central	MSD	Water	X		X	2	
HCS140 (560-63683-5)	9/8/16	11:09 Central		Water	X		X	2	
HCS160 (560-63683-6)	9/8/16	11:38 Central		Water	X		X	2	
Possible Hazard Identification									
Unconfirmed									
Deliverable Requested: I, II, III, IV, Other (specify)									
Primary Deliverable Rank: 2									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)									
Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months									
Special Instructions/QC Requirements:									
Empty Kit Relinquished by:									
Date:									
Relinquished by: <i>Coy Etha</i>									
Date: 9-9-16 1700									
Relinquished by:									
Date/Time:									
Relinquished by:									
Date/Time:									
Custody Seal No:									
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No									
Cooler Temperature(s) °C and Other Remarks 5.3, 1.6 IR 50.0 RP 9-10-16									



TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

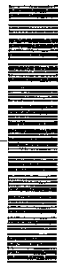
TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)		Lab PM: Mainiot, Lindy		Carrier Tracking No(s):	
Shipping/Receiving		E-Mail: lindy.mainiot@testamericainc.com		Page 1 of 1	
Company: TestAmerica Laboratories, Inc.		Address: 6310 Rothway Street, Houston, TX, 77040		Job #: 560-63683-1	
Phone: 713-690-4444(Tel) 713-690-5646(Fax)		PO #: 56005790		Preservation Codes:	
Email:		Project Name: Comal Springs		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Site		SSOW#:		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecalhydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)	
Due Date Requested: 9/21/2016		TAT Requested (days):		Analysis Requested	
City: Houston		State, Zip: TX, 77040		560-63683 Chain of Custody	
Sample Date		Sample Time		Sample Type (C=Comp, G=grab)	
Sample Date		Sample Time		Matrix (W=water, S=solid, O=wasteoil, BT=tissue, A=air)	
Sample Date		Sample Time		Preservation Code	
Sample Date		Sample Time		Field Filtered Sample (Yes or No)	
Sample Date		Sample Time		Perform MS/MSD (Yes or No)	
Sample Date		Sample Time		3512, NP	
Sample Date		Sample Time		Total Number of Containers	
HCS110 (560-63683-1)	9/8/16	09:53	Central	Water	1
HCS120 (560-63683-2)	9/8/16	10:31	Central	Water	1
FHCS120 (560-63683-3)	9/8/16	10:31	Central	Water	1
HCS130 (560-63683-4)	9/8/16	09:12	Central	Water	1
HCS130 (560-63683-4MS)	9/8/16	09:12	Central	Water	1
HCS130 (560-63683-4MSD)	9/8/16	09:12	Central	Water	1
HCS140 (560-63683-5)	9/8/16	11:09	Central	Water	1
HCS160 (560-63683-6)	9/8/16	11:38	Central	Water	1
Possible Hazard Identification					
Unconfirmed					
Deliverable Requested: I, II, III, IV, Other (specify)					
Primary Deliverable Rank: 2					
Empty Kit Relinquished by:					
Relinquished by: Coy 588a					
Relinquished by:					
Relinquished by:					
Custody Seals Intact: Δ Yes Δ No					
Custody Seal No.:					
Date: 9-9-16 1700					
Company: TACC					
Received by: [Signature]					
Received by:					
Received by:					
Cooler Temperature(s) °C and Other Remarks					

[illegible]

## Chain of Custody Record



# TestAmerica

Figure 1. The effect of the concentration of the inhibitor on the polymerization of  $\alpha$ -methylstyrene in the presence of  $\text{SnCl}_4$  at  $0^\circ\text{C}$ .

Client Information (Sub Contract Lab)		Lab PM		Carrier Tracking No(s)		COC No															
Client Contact		Mailing		Lindy		560-141311															
Shipping/Receiving		E-Mail		lindy.maingot@testamerica.com		Page 1 of 1															
Company		TestAmerica Laboratories, Inc.		Job #		560-63683-1															
Address		5102 LaRoche Avenue,		Analysis Requested		Preservation Codes:															
City		Savannah				A - HCL M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - (TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-S X - EDTA Y - EDTA Z - other (specify)															
State, Zip		GA, 31404				Other:															
Phone		912-354-7858(Tel) 912-352-0165(Fax)																			
Email																					
Project Name		Cornal Springs																			
Site																					
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (V=water, S=solid, D=dew, W=oil, B=trace, A=air)		Field Filtered Sample (Yes or No)		Performance MS/MS (Yes or No)		0161A/8161A AP (MOD) Routine List		065.4/Digest, P, HotBik		Total Number of Containers		Special Instructions/Note:	
HCS110 (560-63683-1)	9/8/16	09:53	Central	Water																	
HCS120 (560-63683-2)	9/8/16	10:31	Central	Water																	
FDHCS120 (560-63683-3)	9/8/16	10:31	Central	Water																	
HCS130 (560-63683-4)	9/8/16	08:12	Central	Water																	
HCS130 (560-63683-4MS)	9/8/16	09:12	Central	Water			MS														
HCS130 (560-63683-4MSD)	9/8/16	09:12	Central	Water			MSD														
HCS140 (560-63683-5)	9/8/16	11:09	Central	Water																	
HCS160 (560-63683-6)	9/8/16	11:38	Central	Water																	
Possible Hazard Identification																					
Unconfirmed																					
Deliverable Requested: I, II, III, IV, Other (specify)																					
Primary Deliverable Rank: 2																					
Empty Kit Relinquished by																					
Relinquished by																					
Relinquished by																					
Relinquished by																					
Custody Seal No.:																					
Custody Seal Intact.																					
Cooler Temperature(s) °C and Other Remarks:																					

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63683-1

Login Number: 63683

List Source: TestAmerica Corpus Christi

List Number: 1

Creator: Escalona-Garcia, Jose A

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63683-1

**Login Number: 63683**

**List Number: 3**

**Creator: Crafton, Tommie S**

**List Source: TestAmerica Houston**

**List Creation: 09/10/16 11:20 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63683-1

**Login Number: 63683**

**List Number: 4**

**Creator: Crafton, Tommie S**

**List Source: TestAmerica Houston**

**List Creation: 09/10/16 11:25 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63683-1

**Login Number: 63683**

**List Number: 2**

**Creator: Flanagan, Naomi V**

**List Source: TestAmerica Savannah**

**List Creation: 09/10/16 12:16 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-63683-2

Client Project/Site: Comal Springs

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
10/27/2016 2:03:09 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-2

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-2

**Job ID: 560-63683-2**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

**Job Narrative**  
**560-63683-2**

## Comments

No additional comments.

## Receipt

The samples were received on 9/9/2016 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 7 coolers at receipt time were 0.5° C, 0.8° C, 0.9° C, 1.0° C, 2.1° C, 2.3° C and 2.7° C.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



# Certification Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-2

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-17
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Method Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-2

Method	Method Description	Protocol	Laboratory
Local Method	General Sub Contract Method	NONE	Weck Lab

**Protocol References:**

NONE = NONE

**Laboratory References:**

Weck Lab = Weck Laboratories, Inc., 14859 East Clark Avenue, City of Industry, CA 917451396

## Sample Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63683-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-63683-1	HCS110	Water	09/08/16 09:58	09/09/16 08:00
560-63683-2	HCS120	Water	09/08/16 10:31	09/09/16 08:00
560-63683-3	FDHCS120	Water	09/08/16 10:31	09/09/16 08:00
560-63683-4	HCS130	Water	09/08/16 09:12	09/09/16 08:00
560-63683-5	HCS140	Water	09/08/16 11:09	09/09/16 08:00
560-63683-6	HCS160	Water	09/08/16 11:38	09/09/16 08:00

Work Orders: 6113062

Project: 560-63683-1

Attn: Lindy Maingot

Client: TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

Report Date: 10/27/2016

Received Date: 9/13/2016

Turnaround Time: 6 workdays

Phones: (210) 344-9751

Fax: -

P.O. #:

DoD-ELAP #L15-366 • ELAP-CA #1132 • EPA-UCMR #CA00211 • HW-DOH # • ISO 17025 #L15-365 • LACSD #10143 • NELAP-OR  
#4047 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

*This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.*

Dear Lindy Maingot,

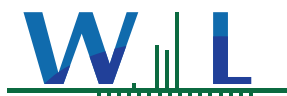
Enclosed are the results of analyses for samples received 9/13/16 with the Chain-of-Custody document. The samples were received in good condition, at 2.3 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Reviewed by:



Chris Samatmanakit  
Project Manager





WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63683-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:16

## Sample Summary

Sample ID	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
HCS110 (560-63683-1)	Client	6I13062-01	Water	09/08/16 07:58	
HCS120 (560-63683-2)	Client	6I13062-02	Water	09/08/16 08:31	
FDHCS120 (560-63683-3)	Client	6I13062-03	Water	09/08/16 08:31	
HCS130 (560-63683-4)	Client	6I13062-04	Water	09/08/16 07:12	
HCS140 (560-63683-5)	Client	6I13062-05	Water	09/08/16 09:09	
HCS160 (560-63683-6)	Client	6I13062-06	Water	09/08/16 09:38	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63683-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:16

## Sample Results

Sample: HCS110 (560-63683-1)

Sampled: 09/08/16 7:58 by Client

6I13062-01 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0276	<b>Prepared:</b> 10/06/16 11:56	<b>Analyst:</b> agu			
Caffeine .....	ND	5.0	ng/l	1	10/21/16 19:26	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63683-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:16

## Sample Results

(Continued)

Sample: HCS120 (560-63683-2)

Sampled: 09/08/16 8:31 by Client

6I13062-02 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0276	<b>Prepared:</b> 10/06/16 11:56	<b>Analyst:</b> agu			
Caffeine .....	ND	5.0	ng/l	1	10/21/16 19:33	





WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63683-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:16

## Sample Results

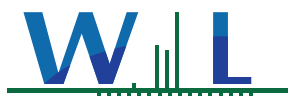
(Continued)

Sample: FDHCS120 (560-63683-3)

Sampled: 09/08/16 8:31 by Client

6I13062-03 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0276	<b>Prepared:</b> 10/06/16 11:56	<b>Analyst:</b> agu			
<b>Caffeine</b> .....	<b>15</b>	5.0	ng/l	1	10/21/16 19:40	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63683-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:16

## Sample Results

(Continued)

Sample: HCS130 (560-63683-4)

Sampled: 09/08/16 7:12 by Client

6I13062-04 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0276	<b>Prepared:</b> 10/06/16 11:56	<b>Analyst:</b> agu			
<b>Caffeine</b> .....	<b>15</b>	5.0	ng/l	1	10/21/16 19:47	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63683-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:16

## Sample Results

(Continued)

Sample: HCS140 (560-63683-5)

Sampled: 09/08/16 9:09 by Client

6I13062-05 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0276	<b>Prepared:</b> 10/06/16 11:56	<b>Analyst:</b> agu			
Caffeine .....	ND	5.0	ng/l	1	10/21/16 19:54	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63683-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:16

## Sample Results

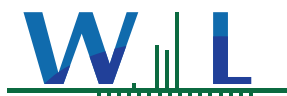
(Continued)

Sample: HCS160 (560-63683-6)

Sampled: 09/08/16 9:38 by Client

6I13062-06 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0276	<b>Prepared:</b> 10/06/16 11:56	<b>Analyst:</b> agu			
Caffeine .....	ND	5.0	ng/l	1	10/21/16 20:01	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63683-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

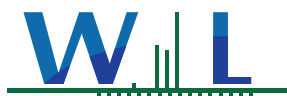
**Reported:**

10/27/2016 09:16

## Quality Control Results

PPCPs - Pharmaceuticals by LC/MSMS-ESI+

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>Batch: W6J0276 - EPA 1694M-ESI+</b>										
<b>Blank (W6J0276-BLK1)</b>				<b>Prepared: 10/06/16 Analyzed: 10/21/16</b>						
Caffeine .....	ND	5.0	ng/l							
<b>LCS (W6J0276-BS1)</b>				<b>Prepared: 10/06/16 Analyzed: 10/21/16</b>						
Caffeine .....	3.43	5.0	ng/l	5.00		69	55-152			
<b>Matrix Spike (W6J0276-MS1)</b>				<b>Source: 6I13062-04 Prepared: 10/06/16 Analyzed: 10/26/16</b>						
Caffeine .....	29.6	5.0	ng/l	5.00	15.4	282	58-146			MS-05
<b>Matrix Spike Dup (W6J0276-MSD1)</b>				<b>Source: 6I13062-04 Prepared: 10/06/16 Analyzed: 10/26/16</b>						
Caffeine .....	20.7	5.0	ng/l	5.00	15.4	105	58-146	35	30	MS-05



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63683-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:16

## Notes and Definitions

Item	Definition
MS-05	The spike recovery and/or RPD were outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica  
THE LEADER IN ENVI  
Loc: 560  
63683

Client Information		Lab PVI: MainGot, Lindy		Carrier Tracking No(s):		COC No: 560-21329-2716.1													
Client Contact: Jennifer Moreland		E-Mail: lindy.maingot@testamericainc.com				Page: 1 of 1													
Company: SWCA, Inc.						Job #:													
Address: 6200 UTSA Boulevard Suite 102		Due Date Requested:		Analysis Requested															
City: San Antonio		TAT Requested (days):																	
State, Zip: TX, 78249		PO #: 27122.01																	
Phone: 210-877-2847(Tel)		WO #: 56005790																	
Email: JMoreland@swca.com		Project #: EAA Sampling																	
Site: Comal Springs		SOW#:																	
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=air)	Field Filtered Sample (Yes or No)	8141A - OP, Pesticides, Custom List (DENVER)	8081B, 8082A	8270C - SVOCs, Custom List	SUBCONTRACT - Caffeine (WEEK)	2320B, 2540C, 2540D, 300, 340.2, 9040C	9060 - Total Organic Carbon	8260B - VOCs, Custom List	351.2 NP - TKN (HOUSTON)	8151A - Herbicides (SAVANNAH)	355.4 - Phosphorus (SAVANNAH)	6010B, 6020, 7470A	9060 Diss - Dissolved Organic Carbon	Total Number of Containers	Special Instructions/Note:
HCS110	9/8/16	0958	G	Water		N	X	X	X	X	X	X	X	X	X	X	X	22	Metals, DOC field filtered
HCS120	9/8/16	1031	G	Water		N	X	X	X	X	X	X	X	X	X	X	X	22	Metals, DOC field filtered
FDHCS120	9/8/16	1031	G	Water		N	X	X	X	X	X	X	X	X	X	X	X	22	Metals, DOC field filtered
HCS130	9/8/16	0912	G	Water		N	X	X	X	X	X	X	X	X	X	X	X	22	Metals, DOC field filtered
MSMSDHCS130	9/8/16	0912	G	Water		Y	X	X	X	X	X	X	X	X	X	X	X	22	Metals, DOC field filtered
HCS140	9/8/16	1109	G	Water		N	X	X	X	X	X	X	X	X	X	X	X	22	Metals, DOC field filtered
HCS160	9/8/16	1138	G	Water		N	X	X	X	X	X	X	X	X	X	X	X	22	Metals, DOC field filtered
TBA1	9/8/16			Water	N	N												2	
<div>Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)</div> <div>Empty Kit Relinquished by: _____ Date: _____ Relinquished by: _____ Date: 9/8/16 1310 Company: SWCA Relinquished by: _____ Date: 9-8-16 1310 Company: _____ Relinquished by: _____ Date: _____ Company: _____</div> <div>Custody Seal No.: _____ Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.: _____</div>																			



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63683-2

Login Number: 63683

List Source: TestAmerica Corpus Christi

List Number: 1

Creator: Escalona-Garcia, Jose A

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-64579-1

Client Project/Site: EAA Sampling

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
11/15/2016 12:12:06 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



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[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1  
2  
3  
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10  
11

## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

### Qualifiers

#### GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

**Job ID: 560-64579-1**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

### Job Narrative 560-64579-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/25/2016 8:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.3° C.

#### GC Semi VOA

Method 8141A: The Triphenylphosphate surrogate recovery for the following sample in preparation batch 280-349084 and analytical batch 280-350765 was outside acceptance limits (low biased) on the back/confirmation column: HSM120 (560-64579-3). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control.

Method 8141A: Surrogate Chlormefos recovery for the following sample in preparation batch 280-349084 and analytical batch 280-350765 was outside control limits: HSM150 (560-64579-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8141A: The continuing calibration verification (CCV) for Dimethoate associated with analytical batch 280-350765 recovered above the upper control limit on the back/confirmation column. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported from the front/primary column which is in control.

(CCV 280-350765/45)

CCV2 (front) OK (back) OK

560-64578-5, -6, 560-64579-1, -2, -3, -4, -5, -6, -7, -8

CCV3 (front) OK (back) Dimethoate +17%

Method 8141A, 8141B: The initial calibration verification (ICV) for Dichlorvos, Mevinphos and Azinphos-methyl associated with analytical batch 280-350765 recovered outside the control limit on one column. The samples associated with this ICV were non-detects for the affected analytes; therefore, the data have been reported from the column which is in control.

ICV (front) Dichlorvos +20% (back) Mevinphos -16% Azinphos-methyl +17%

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Detection Summary

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

**Client Sample ID: HSM110**

**Lab Sample ID: 560-64579-1**

No Detections.

**Client Sample ID: FDHSM110**

**Lab Sample ID: 560-64579-2**

No Detections.

**Client Sample ID: HSM120**

**Lab Sample ID: 560-64579-3**

No Detections.

**Client Sample ID: HSM130**

**Lab Sample ID: 560-64579-4**

No Detections.

**Client Sample ID: HSM140**

**Lab Sample ID: 560-64579-5**

No Detections.

**Client Sample ID: HSM150**

**Lab Sample ID: 560-64579-6**

No Detections.

**Client Sample ID: HSM160**

**Lab Sample ID: 560-64579-7**

No Detections.

**Client Sample ID: HSM170**

**Lab Sample ID: 560-64579-8**

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

**Client Sample ID: HSM110**

**Date Collected: 10/24/16 12:16**

**Date Received: 10/25/16 08:55**

**Lab Sample ID: 560-64579-1**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00237	0.000159	mg/L		10/31/16 20:29	11/11/16 06:12	1
Bolstar	0.000298	U	0.000948	0.000298	mg/L		10/31/16 20:29	11/11/16 06:12	1
Chlorpyrifos	0.000341	U	0.00142	0.000341	mg/L		10/31/16 20:29	11/11/16 06:12	1
Coumaphos	0.000128	U	0.000948	0.000128	mg/L		10/31/16 20:29	11/11/16 06:12	1
Demeton-O	0.000133	U	0.000948	0.000133	mg/L		10/31/16 20:29	11/11/16 06:12	1
Demeton-S	0.0000654	U	0.00190	0.0000654	mg/L		10/31/16 20:29	11/11/16 06:12	1
Diazinon	0.000139	U	0.000474	0.000139	mg/L		10/31/16 20:29	11/11/16 06:12	1
Demeton, Total	0.000198	U	0.00284	0.000198	mg/L		10/31/16 20:29	11/11/16 06:12	1
Dichlorvos	0.000154	U	0.000474	0.000154	mg/L		10/31/16 20:29	11/11/16 06:12	1
Dimethoate	0.000426	U	0.00142	0.000426	mg/L		10/31/16 20:29	11/11/16 06:12	1
Disulfoton	0.000305	U	0.000948	0.000305	mg/L		10/31/16 20:29	11/11/16 06:12	1
EPN	0.000141	U	0.00114	0.000141	mg/L		10/31/16 20:29	11/11/16 06:12	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		10/31/16 20:29	11/11/16 06:12	1
Ethyl Parathion	0.000136	U	0.000948	0.000136	mg/L		10/31/16 20:29	11/11/16 06:12	1
Famphur	0.000170	U	0.000948	0.000170	mg/L		10/31/16 20:29	11/11/16 06:12	1
Fensulfothion	0.000516	U	0.00237	0.000516	mg/L		10/31/16 20:29	11/11/16 06:12	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		10/31/16 20:29	11/11/16 06:12	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		10/31/16 20:29	11/11/16 06:12	1
Merphos	0.000165	U	0.00474	0.000165	mg/L		10/31/16 20:29	11/11/16 06:12	1
Methyl parathion	0.000134	U	0.00379	0.000134	mg/L		10/31/16 20:29	11/11/16 06:12	1
Mevinphos	0.000436	U	0.00588	0.000436	mg/L		10/31/16 20:29	11/11/16 06:12	1
Naled	0.000758	U	0.00190	0.000758	mg/L		10/31/16 20:29	11/11/16 06:12	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		10/31/16 20:29	11/11/16 06:12	1
Ronnel	0.000110	U	0.00948	0.000110	mg/L		10/31/16 20:29	11/11/16 06:12	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		10/31/16 20:29	11/11/16 06:12	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00332	0.000118	mg/L		10/31/16 20:29	11/11/16 06:12	1
Thionazin	0.000296	U	0.000948	0.000296	mg/L		10/31/16 20:29	11/11/16 06:12	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		10/31/16 20:29	11/11/16 06:12	1
Trichloronate	0.000229	U	0.00142	0.000229	mg/L		10/31/16 20:29	11/11/16 06:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	57		49 - 171	10/31/16 20:29	11/11/16 06:12	1
Triphenylphosphate	78		60 - 154	10/31/16 20:29	11/11/16 06:12	1

**Client Sample ID: FDHSM110**

**Date Collected: 10/24/16 12:16**

**Date Received: 10/25/16 08:55**

**Lab Sample ID: 560-64579-2**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00237	0.000160	mg/L		10/31/16 20:29	11/11/16 06:43	1
Bolstar	0.000298	U	0.000950	0.000298	mg/L		10/31/16 20:29	11/11/16 06:43	1
Chlorpyrifos	0.000342	U	0.00142	0.000342	mg/L		10/31/16 20:29	11/11/16 06:43	1
Coumaphos	0.000128	U	0.000950	0.000128	mg/L		10/31/16 20:29	11/11/16 06:43	1
Demeton-O	0.000133	U	0.000950	0.000133	mg/L		10/31/16 20:29	11/11/16 06:43	1
Demeton-S	0.0000655	U	0.00190	0.0000655	mg/L		10/31/16 20:29	11/11/16 06:43	1
Diazinon	0.000140	U	0.000475	0.000140	mg/L		10/31/16 20:29	11/11/16 06:43	1
Demeton, Total	0.000198	U	0.00285	0.000198	mg/L		10/31/16 20:29	11/11/16 06:43	1
Dichlorvos	0.000154	U	0.000475	0.000154	mg/L		10/31/16 20:29	11/11/16 06:43	1
Dimethoate	0.000426	U	0.00142	0.000426	mg/L		10/31/16 20:29	11/11/16 06:43	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

**Client Sample ID: FDHSM110**

**Lab Sample ID: 560-64579-2**

**Date Collected: 10/24/16 12:16**

**Matrix: Water**

**Date Received: 10/25/16 08:55**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	0.000306	U	0.000950	0.000306	mg/L		10/31/16 20:29	11/11/16 06:43	1
EPN	0.000141	U	0.00114	0.000141	mg/L		10/31/16 20:29	11/11/16 06:43	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		10/31/16 20:29	11/11/16 06:43	1
Ethyl Parathion	0.000137	U	0.000950	0.000137	mg/L		10/31/16 20:29	11/11/16 06:43	1
Famphur	0.000170	U	0.000950	0.000170	mg/L		10/31/16 20:29	11/11/16 06:43	1
Fensulfothion	0.000517	U	0.00237	0.000517	mg/L		10/31/16 20:29	11/11/16 06:43	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		10/31/16 20:29	11/11/16 06:43	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		10/31/16 20:29	11/11/16 06:43	1
Merphos	0.000165	U	0.00475	0.000165	mg/L		10/31/16 20:29	11/11/16 06:43	1
Methyl parathion	0.000134	U	0.00380	0.000134	mg/L		10/31/16 20:29	11/11/16 06:43	1
Mevinphos	0.000437	U	0.00589	0.000437	mg/L		10/31/16 20:29	11/11/16 06:43	1
Naled	0.000760	U	0.00190	0.000760	mg/L		10/31/16 20:29	11/11/16 06:43	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		10/31/16 20:29	11/11/16 06:43	1
Ronnel	0.000110	U	0.00950	0.000110	mg/L		10/31/16 20:29	11/11/16 06:43	1
Sulfotepp	0.000160	U	0.00142	0.000160	mg/L		10/31/16 20:29	11/11/16 06:43	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00332	0.000118	mg/L		10/31/16 20:29	11/11/16 06:43	1
Thionazin	0.000296	U	0.000950	0.000296	mg/L		10/31/16 20:29	11/11/16 06:43	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		10/31/16 20:29	11/11/16 06:43	1
Trichloronate	0.000230	U	0.00142	0.000230	mg/L		10/31/16 20:29	11/11/16 06:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	72		49 - 171	10/31/16 20:29	11/11/16 06:43	1
Triphenylphosphate	86		60 - 154	10/31/16 20:29	11/11/16 06:43	1

**Client Sample ID: HSM120**

**Lab Sample ID: 560-64579-3**

**Date Collected: 10/24/16 12:34**

**Matrix: Water**

**Date Received: 10/25/16 08:55**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00237	0.000159	mg/L		10/31/16 20:29	11/11/16 07:14	1
Bolstar	0.000297	U	0.000947	0.000297	mg/L		10/31/16 20:29	11/11/16 07:14	1
Chlorpyrifos	0.000341	U	0.00142	0.000341	mg/L		10/31/16 20:29	11/11/16 07:14	1
Coumaphos	0.000128	U	0.000947	0.000128	mg/L		10/31/16 20:29	11/11/16 07:14	1
Demeton-O	0.000133	U	0.000947	0.000133	mg/L		10/31/16 20:29	11/11/16 07:14	1
Demeton-S	0.0000653	U	0.00189	0.0000653	mg/L		10/31/16 20:29	11/11/16 07:14	1
Diazinon	0.000139	U	0.000474	0.000139	mg/L		10/31/16 20:29	11/11/16 07:14	1
Demeton, Total	0.000198	U	0.00284	0.000198	mg/L		10/31/16 20:29	11/11/16 07:14	1
Dichlorvos	0.000153	U	0.000474	0.000153	mg/L		10/31/16 20:29	11/11/16 07:14	1
Dimethoate	0.000425	U	0.00142	0.000425	mg/L		10/31/16 20:29	11/11/16 07:14	1
Disulfoton	0.000305	U	0.000947	0.000305	mg/L		10/31/16 20:29	11/11/16 07:14	1
EPN	0.000141	U	0.00114	0.000141	mg/L		10/31/16 20:29	11/11/16 07:14	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		10/31/16 20:29	11/11/16 07:14	1
Ethyl Parathion	0.000136	U	0.000947	0.000136	mg/L		10/31/16 20:29	11/11/16 07:14	1
Famphur	0.000170	U	0.000947	0.000170	mg/L		10/31/16 20:29	11/11/16 07:14	1
Fensulfothion	0.000515	U	0.00237	0.000515	mg/L		10/31/16 20:29	11/11/16 07:14	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		10/31/16 20:29	11/11/16 07:14	1
Malathion	0.000126	U	0.00189	0.000126	mg/L		10/31/16 20:29	11/11/16 07:14	1
Merphos	0.000165	U	0.00474	0.000165	mg/L		10/31/16 20:29	11/11/16 07:14	1
Methyl parathion	0.000134	U	0.00379	0.000134	mg/L		10/31/16 20:29	11/11/16 07:14	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

**Client Sample ID: HSM120**

**Lab Sample ID: 560-64579-3**

**Date Collected: 10/24/16 12:34**

**Matrix: Water**

**Date Received: 10/25/16 08:55**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mevinphos	0.000436	U	0.00587	0.000436	mg/L		10/31/16 20:29	11/11/16 07:14	1
Naled	0.000758	U	0.00189	0.000758	mg/L		10/31/16 20:29	11/11/16 07:14	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		10/31/16 20:29	11/11/16 07:14	1
Ronnel	0.000110	U	0.00947	0.000110	mg/L		10/31/16 20:29	11/11/16 07:14	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		10/31/16 20:29	11/11/16 07:14	1
Tetrachlorvinphos (Stirophos)	0.000117	U	0.00331	0.000117	mg/L		10/31/16 20:29	11/11/16 07:14	1
Thionazin	0.000295	U	0.000947	0.000295	mg/L		10/31/16 20:29	11/11/16 07:14	1
Tokuthion	0.000116	U	0.00152	0.000116	mg/L		10/31/16 20:29	11/11/16 07:14	1
Trichloronate	0.000229	U	0.00142	0.000229	mg/L		10/31/16 20:29	11/11/16 07:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	57		49 - 171				10/31/16 20:29	11/11/16 07:14	1
Triphenylphosphate	70		60 - 154				10/31/16 20:29	11/11/16 07:14	1

**Client Sample ID: HSM130**

**Lab Sample ID: 560-64579-4**

**Date Collected: 10/24/16 12:45**

**Matrix: Water**

**Date Received: 10/25/16 08:55**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00239	0.000160	mg/L		10/31/16 20:29	11/11/16 07:46	1
Bolstar	0.000300	U	0.000955	0.000300	mg/L		10/31/16 20:29	11/11/16 07:46	1
Chlorpyrifos	0.000344	U	0.00143	0.000344	mg/L		10/31/16 20:29	11/11/16 07:46	1
Coumaphos	0.000129	U	0.000955	0.000129	mg/L		10/31/16 20:29	11/11/16 07:46	1
Demeton-O	0.000134	U	0.000955	0.000134	mg/L		10/31/16 20:29	11/11/16 07:46	1
Demeton-S	0.0000659	U	0.00191	0.0000659	mg/L		10/31/16 20:29	11/11/16 07:46	1
Diazinon	0.000140	U	0.000478	0.000140	mg/L		10/31/16 20:29	11/11/16 07:46	1
Demeton, Total	0.000200	U	0.00287	0.000200	mg/L		10/31/16 20:29	11/11/16 07:46	1
Dichlorvos	0.000155	U	0.000478	0.000155	mg/L		10/31/16 20:29	11/11/16 07:46	1
Dimethoate	0.000429	U	0.00143	0.000429	mg/L		10/31/16 20:29	11/11/16 07:46	1
Disulfoton	0.000308	U	0.000955	0.000308	mg/L		10/31/16 20:29	11/11/16 07:46	1
EPN	0.000142	U	0.00115	0.000142	mg/L		10/31/16 20:29	11/11/16 07:46	1
Ethoprop	0.000169	U	0.00143	0.000169	mg/L		10/31/16 20:29	11/11/16 07:46	1
Ethyl Parathion	0.000138	U	0.000955	0.000138	mg/L		10/31/16 20:29	11/11/16 07:46	1
Famphur	0.000171	U	0.000955	0.000171	mg/L		10/31/16 20:29	11/11/16 07:46	1
Fensulfothion	0.000520	U	0.00239	0.000520	mg/L		10/31/16 20:29	11/11/16 07:46	1
Fenthion	0.000147	U	0.00239	0.000147	mg/L		10/31/16 20:29	11/11/16 07:46	1
Malathion	0.000127	U	0.00191	0.000127	mg/L		10/31/16 20:29	11/11/16 07:46	1
Merphos	0.000166	U	0.00478	0.000166	mg/L		10/31/16 20:29	11/11/16 07:46	1
Methyl parathion	0.000135	U	0.00382	0.000135	mg/L		10/31/16 20:29	11/11/16 07:46	1
Mevinphos	0.000439	U	0.00592	0.000439	mg/L		10/31/16 20:29	11/11/16 07:46	1
Naled	0.000764	U	0.00191	0.000764	mg/L		10/31/16 20:29	11/11/16 07:46	1
Phorate	0.000147	U	0.00115	0.000147	mg/L		10/31/16 20:29	11/11/16 07:46	1
Ronnel	0.000111	U	0.00955	0.000111	mg/L		10/31/16 20:29	11/11/16 07:46	1
Sulfotepp	0.000160	U	0.00143	0.000160	mg/L		10/31/16 20:29	11/11/16 07:46	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00334	0.000118	mg/L		10/31/16 20:29	11/11/16 07:46	1
Thionazin	0.000298	U	0.000955	0.000298	mg/L		10/31/16 20:29	11/11/16 07:46	1
Tokuthion	0.000117	U	0.00153	0.000117	mg/L		10/31/16 20:29	11/11/16 07:46	1
Trichloronate	0.000231	U	0.00143	0.000231	mg/L		10/31/16 20:29	11/11/16 07:46	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

**Client Sample ID: HSM130**

**Date Collected: 10/24/16 12:45**

**Date Received: 10/25/16 08:55**

**Lab Sample ID: 560-64579-4**

**Matrix: Water**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	70		49 - 171	10/31/16 20:29	11/11/16 07:46	1
Triphenylphosphate	87		60 - 154	10/31/16 20:29	11/11/16 07:46	1

**Client Sample ID: HSM140**

**Date Collected: 10/24/16 13:02**

**Date Received: 10/25/16 08:55**

**Lab Sample ID: 560-64579-5**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000161	U	0.00239	0.000161	mg/L		10/31/16 20:29	11/11/16 08:17	1
Bolstar	0.000301	U	0.000958	0.000301	mg/L		10/31/16 20:29	11/11/16 08:17	1
Chlorpyrifos	0.000345	U	0.00144	0.000345	mg/L		10/31/16 20:29	11/11/16 08:17	1
Coumaphos	0.000129	U	0.000958	0.000129	mg/L		10/31/16 20:29	11/11/16 08:17	1
Demeton-O	0.000134	U	0.000958	0.000134	mg/L		10/31/16 20:29	11/11/16 08:17	1
Demeton-S	0.0000661	U	0.00192	0.0000661	mg/L		10/31/16 20:29	11/11/16 08:17	1
Diazinon	0.000141	U	0.000479	0.000141	mg/L		10/31/16 20:29	11/11/16 08:17	1
Demeton, Total	0.000200	U	0.00287	0.000200	mg/L		10/31/16 20:29	11/11/16 08:17	1
Dichlorvos	0.000155	U	0.000479	0.000155	mg/L		10/31/16 20:29	11/11/16 08:17	1
Dimethoate	0.000430	U	0.00144	0.000430	mg/L		10/31/16 20:29	11/11/16 08:17	1
Disulfoton	0.000308	U	0.000958	0.000308	mg/L		10/31/16 20:29	11/11/16 08:17	1
EPN	0.000143	U	0.00115	0.000143	mg/L		10/31/16 20:29	11/11/16 08:17	1
Ethoprop	0.000169	U	0.00144	0.000169	mg/L		10/31/16 20:29	11/11/16 08:17	1
Ethyl Parathion	0.000138	U	0.000958	0.000138	mg/L		10/31/16 20:29	11/11/16 08:17	1
Famphur	0.000171	U	0.000958	0.000171	mg/L		10/31/16 20:29	11/11/16 08:17	1
Fensulfothion	0.000521	U	0.00239	0.000521	mg/L		10/31/16 20:29	11/11/16 08:17	1
Fenthion	0.000147	U	0.00239	0.000147	mg/L		10/31/16 20:29	11/11/16 08:17	1
Malathion	0.000127	U	0.00192	0.000127	mg/L		10/31/16 20:29	11/11/16 08:17	1
Merphos	0.000167	U	0.00479	0.000167	mg/L		10/31/16 20:29	11/11/16 08:17	1
Methyl parathion	0.000135	U	0.00383	0.000135	mg/L		10/31/16 20:29	11/11/16 08:17	1
Mevinphos	0.000440	U	0.00594	0.000440	mg/L		10/31/16 20:29	11/11/16 08:17	1
Naled	0.000766	U	0.00192	0.000766	mg/L		10/31/16 20:29	11/11/16 08:17	1
Phorate	0.000147	U	0.00115	0.000147	mg/L		10/31/16 20:29	11/11/16 08:17	1
Ronnel	0.000111	U	0.00958	0.000111	mg/L		10/31/16 20:29	11/11/16 08:17	1
Sulfotepp	0.000161	U	0.00144	0.000161	mg/L		10/31/16 20:29	11/11/16 08:17	1
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00335	0.000119	mg/L		10/31/16 20:29	11/11/16 08:17	1
Thionazin	0.000299	U	0.000958	0.000299	mg/L		10/31/16 20:29	11/11/16 08:17	1
Tokuthion	0.000118	U	0.00153	0.000118	mg/L		10/31/16 20:29	11/11/16 08:17	1
Trichloronate	0.000232	U	0.00144	0.000232	mg/L		10/31/16 20:29	11/11/16 08:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	63		49 - 171				10/31/16 20:29	11/11/16 08:17	1
Triphenylphosphate	73		60 - 154				10/31/16 20:29	11/11/16 08:17	1

**Client Sample ID: HSM150**

**Date Collected: 10/24/16 13:17**

**Date Received: 10/25/16 08:55**

**Lab Sample ID: 560-64579-6**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00238	0.000160	mg/L		10/31/16 20:29	11/11/16 08:48	1
Bolstar	0.000299	U	0.000952	0.000299	mg/L		10/31/16 20:29	11/11/16 08:48	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

**Client Sample ID: HSM150**

**Lab Sample ID: 560-64579-6**

**Date Collected: 10/24/16 13:17**

**Matrix: Water**

**Date Received: 10/25/16 08:55**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorpyrifos	0.000343	U	0.00143	0.000343	mg/L		10/31/16 20:29	11/11/16 08:48	1
Coumaphos	0.000129	U	0.000952	0.000129	mg/L		10/31/16 20:29	11/11/16 08:48	1
Demeton-O	0.000133	U	0.000952	0.000133	mg/L		10/31/16 20:29	11/11/16 08:48	1
Demeton-S	0.0000657	U	0.00190	0.0000657	mg/L		10/31/16 20:29	11/11/16 08:48	1
Diazinon	0.000140	U	0.000476	0.000140	mg/L		10/31/16 20:29	11/11/16 08:48	1
Demeton, Total	0.000199	U	0.00286	0.000199	mg/L		10/31/16 20:29	11/11/16 08:48	1
Dichlorvos	0.000154	U	0.000476	0.000154	mg/L		10/31/16 20:29	11/11/16 08:48	1
Dimethoate	0.000428	U	0.00143	0.000428	mg/L		10/31/16 20:29	11/11/16 08:48	1
Disulfoton	0.000307	U	0.000952	0.000307	mg/L		10/31/16 20:29	11/11/16 08:48	1
EPN	0.000142	U	0.00114	0.000142	mg/L		10/31/16 20:29	11/11/16 08:48	1
Ethoprop	0.000169	U	0.00143	0.000169	mg/L		10/31/16 20:29	11/11/16 08:48	1
Ethyl Parathion	0.000137	U	0.000952	0.000137	mg/L		10/31/16 20:29	11/11/16 08:48	1
Famphur	0.000170	U	0.000952	0.000170	mg/L		10/31/16 20:29	11/11/16 08:48	1
Fensulfothion	0.000518	U	0.00238	0.000518	mg/L		10/31/16 20:29	11/11/16 08:48	1
Fenthion	0.000147	U	0.00238	0.000147	mg/L		10/31/16 20:29	11/11/16 08:48	1
Malathion	0.000127	U	0.00190	0.000127	mg/L		10/31/16 20:29	11/11/16 08:48	1
Merphos	0.000166	U	0.00476	0.000166	mg/L		10/31/16 20:29	11/11/16 08:48	1
Methyl parathion	0.000134	U	0.00381	0.000134	mg/L		10/31/16 20:29	11/11/16 08:48	1
Mevinphos	0.000438	U	0.00590	0.000438	mg/L		10/31/16 20:29	11/11/16 08:48	1
Naled	0.000762	U	0.00190	0.000762	mg/L		10/31/16 20:29	11/11/16 08:48	1
Phorate	0.000147	U	0.00114	0.000147	mg/L		10/31/16 20:29	11/11/16 08:48	1
Ronnel	0.000110	U	0.00952	0.000110	mg/L		10/31/16 20:29	11/11/16 08:48	1
Sulfotepp	0.000160	U	0.00143	0.000160	mg/L		10/31/16 20:29	11/11/16 08:48	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00333	0.000118	mg/L		10/31/16 20:29	11/11/16 08:48	1
Thionazin	0.000297	U	0.000952	0.000297	mg/L		10/31/16 20:29	11/11/16 08:48	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		10/31/16 20:29	11/11/16 08:48	1
Trichloronate	0.000230	U	0.00143	0.000230	mg/L		10/31/16 20:29	11/11/16 08:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	38	X	49 - 171				10/31/16 20:29	11/11/16 08:48	1
Triphenylphosphate	76		60 - 154				10/31/16 20:29	11/11/16 08:48	1

**Client Sample ID: HSM160**

**Lab Sample ID: 560-64579-7**

**Date Collected: 10/24/16 13:36**

**Matrix: Water**

**Date Received: 10/25/16 08:55**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00236	0.000159	mg/L		10/31/16 20:29	11/11/16 09:20	1
Bolstar	0.000297	U	0.000945	0.000297	mg/L		10/31/16 20:29	11/11/16 09:20	1
Chlorpyrifos	0.000340	U	0.00142	0.000340	mg/L		10/31/16 20:29	11/11/16 09:20	1
Coumaphos	0.000128	U	0.000945	0.000128	mg/L		10/31/16 20:29	11/11/16 09:20	1
Demeton-O	0.000132	U	0.000945	0.000132	mg/L		10/31/16 20:29	11/11/16 09:20	1
Demeton-S	0.0000652	U	0.00189	0.0000652	mg/L		10/31/16 20:29	11/11/16 09:20	1
Diazinon	0.000139	U	0.000472	0.000139	mg/L		10/31/16 20:29	11/11/16 09:20	1
Demeton, Total	0.000197	U	0.00283	0.000197	mg/L		10/31/16 20:29	11/11/16 09:20	1
Dichlorvos	0.000153	U	0.000472	0.000153	mg/L		10/31/16 20:29	11/11/16 09:20	1
Dimethoate	0.000424	U	0.00142	0.000424	mg/L		10/31/16 20:29	11/11/16 09:20	1
Disulfoton	0.000304	U	0.000945	0.000304	mg/L		10/31/16 20:29	11/11/16 09:20	1
EPN	0.000141	U	0.00113	0.000141	mg/L		10/31/16 20:29	11/11/16 09:20	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

Client Sample ID: HSM160

Lab Sample ID: 560-64579-7

Date Collected: 10/24/16 13:36

Matrix: Water

Date Received: 10/25/16 08:55

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethoprop	0.000167	U	0.00142	0.000167	mg/L		10/31/16 20:29	11/11/16 09:20	1
Ethyl Parathion	0.000136	U	0.000945	0.000136	mg/L		10/31/16 20:29	11/11/16 09:20	1
Famphur	0.000169	U	0.000945	0.000169	mg/L		10/31/16 20:29	11/11/16 09:20	1
Fensulfothion	0.000514	U	0.00236	0.000514	mg/L		10/31/16 20:29	11/11/16 09:20	1
Fenthion	0.000146	U	0.00236	0.000146	mg/L		10/31/16 20:29	11/11/16 09:20	1
Malathion	0.000126	U	0.00189	0.000126	mg/L		10/31/16 20:29	11/11/16 09:20	1
Merphos	0.000164	U	0.00472	0.000164	mg/L		10/31/16 20:29	11/11/16 09:20	1
Methyl parathion	0.000133	U	0.00378	0.000133	mg/L		10/31/16 20:29	11/11/16 09:20	1
Mevinphos	0.000435	U	0.00586	0.000435	mg/L		10/31/16 20:29	11/11/16 09:20	1
Naled	0.000756	U	0.00189	0.000756	mg/L		10/31/16 20:29	11/11/16 09:20	1
Phorate	0.000146	U	0.00113	0.000146	mg/L		10/31/16 20:29	11/11/16 09:20	1
Ronnel	0.000110	U	0.00945	0.000110	mg/L		10/31/16 20:29	11/11/16 09:20	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		10/31/16 20:29	11/11/16 09:20	1
Tetrachlorvinphos (Stirophos)	0.000117	U	0.00331	0.000117	mg/L		10/31/16 20:29	11/11/16 09:20	1
Thionazin	0.000295	U	0.000945	0.000295	mg/L		10/31/16 20:29	11/11/16 09:20	1
Tokuthion	0.000116	U	0.00151	0.000116	mg/L		10/31/16 20:29	11/11/16 09:20	1
Trichloronate	0.000229	U	0.00142	0.000229	mg/L		10/31/16 20:29	11/11/16 09:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	61		49 - 171	10/31/16 20:29	11/11/16 09:20	1
Triphenylphosphate	80		60 - 154	10/31/16 20:29	11/11/16 09:20	1

Client Sample ID: HSM170

Lab Sample ID: 560-64579-8

Date Collected: 10/24/16 13:53

Matrix: Water

Date Received: 10/25/16 08:55

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000161	U	0.00239	0.000161	mg/L		10/31/16 20:29	11/11/16 09:51	1
Bolstar	0.000300	U	0.000957	0.000300	mg/L		10/31/16 20:29	11/11/16 09:51	1
Chlorpyrifos	0.000344	U	0.00144	0.000344	mg/L		10/31/16 20:29	11/11/16 09:51	1
Coumaphos	0.000129	U	0.000957	0.000129	mg/L		10/31/16 20:29	11/11/16 09:51	1
Demeton-O	0.000134	U	0.000957	0.000134	mg/L		10/31/16 20:29	11/11/16 09:51	1
Demeton-S	0.0000660	U	0.00191	0.0000660	mg/L		10/31/16 20:29	11/11/16 09:51	1
Diazinon	0.000141	U	0.000478	0.000141	mg/L		10/31/16 20:29	11/11/16 09:51	1
Demeton, Total	0.000200	U	0.00287	0.000200	mg/L		10/31/16 20:29	11/11/16 09:51	1
Dichlorvos	0.000155	U	0.000478	0.000155	mg/L		10/31/16 20:29	11/11/16 09:51	1
Dimethoate	0.000430	U	0.00144	0.000430	mg/L		10/31/16 20:29	11/11/16 09:51	1
Disulfoton	0.000308	U	0.000957	0.000308	mg/L		10/31/16 20:29	11/11/16 09:51	1
EPN	0.000143	U	0.00115	0.000143	mg/L		10/31/16 20:29	11/11/16 09:51	1
Ethoprop	0.000169	U	0.00144	0.000169	mg/L		10/31/16 20:29	11/11/16 09:51	1
Ethyl Parathion	0.000138	U	0.000957	0.000138	mg/L		10/31/16 20:29	11/11/16 09:51	1
Famphur	0.000171	U	0.000957	0.000171	mg/L		10/31/16 20:29	11/11/16 09:51	1
Fensulfothion	0.000521	U	0.00239	0.000521	mg/L		10/31/16 20:29	11/11/16 09:51	1
Fenthion	0.000147	U	0.00239	0.000147	mg/L		10/31/16 20:29	11/11/16 09:51	1
Malathion	0.000127	U	0.00191	0.000127	mg/L		10/31/16 20:29	11/11/16 09:51	1
Merphos	0.000167	U	0.00478	0.000167	mg/L		10/31/16 20:29	11/11/16 09:51	1
Methyl parathion	0.000135	U	0.00383	0.000135	mg/L		10/31/16 20:29	11/11/16 09:51	1
Mevinphos	0.000440	U	0.00593	0.000440	mg/L		10/31/16 20:29	11/11/16 09:51	1
Naled	0.000766	U	0.00191	0.000766	mg/L		10/31/16 20:29	11/11/16 09:51	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

**Client Sample ID: HSM170**

**Lab Sample ID: 560-64579-8**

**Date Collected: 10/24/16 13:53**

**Matrix: Water**

**Date Received: 10/25/16 08:55**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	0.000147	U	0.00115	0.000147	mg/L		10/31/16 20:29	11/11/16 09:51	1
Ronnel	0.000111	U	0.00957	0.000111	mg/L		10/31/16 20:29	11/11/16 09:51	1
Sulfotepp	0.000161	U	0.00144	0.000161	mg/L		10/31/16 20:29	11/11/16 09:51	1
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00335	0.000119	mg/L		10/31/16 20:29	11/11/16 09:51	1
Thionazin	0.000299	U	0.000957	0.000299	mg/L		10/31/16 20:29	11/11/16 09:51	1
Tokuthion	0.000118	U	0.00153	0.000118	mg/L		10/31/16 20:29	11/11/16 09:51	1
Trichloronate	0.000232	U	0.00144	0.000232	mg/L		10/31/16 20:29	11/11/16 09:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	61		49 - 171				10/31/16 20:29	11/11/16 09:51	1
Triphenylphosphate	77		60 - 154				10/31/16 20:29	11/11/16 09:51	1

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

## Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 280-349084/1-A

Matrix: Water

Analysis Batch: 350765

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 349084

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000168	U	0.00250	0.000168	mg/L		10/31/16 20:29	11/10/16 19:45	1
Bolstar	0.000314	U	0.00100	0.000314	mg/L		10/31/16 20:29	11/10/16 19:45	1
Chlorpyrifos	0.000360	U	0.00150	0.000360	mg/L		10/31/16 20:29	11/10/16 19:45	1
Coumaphos	0.000135	U	0.00100	0.000135	mg/L		10/31/16 20:29	11/10/16 19:45	1
Demeton-O	0.000140	U	0.00100	0.000140	mg/L		10/31/16 20:29	11/10/16 19:45	1
Demeton-S	0.0000690	U	0.00200	0.0000690	mg/L		10/31/16 20:29	11/10/16 19:45	1
Diazinon	0.000147	U	0.000500	0.000147	mg/L		10/31/16 20:29	11/10/16 19:45	1
Demeton, Total	0.000209	U	0.00300	0.000209	mg/L		10/31/16 20:29	11/10/16 19:45	1
Dichlorvos	0.000162	U	0.000500	0.000162	mg/L		10/31/16 20:29	11/10/16 19:45	1
Dimethoate	0.000449	U	0.00150	0.000449	mg/L		10/31/16 20:29	11/10/16 19:45	1
Disulfoton	0.000322	U	0.00100	0.000322	mg/L		10/31/16 20:29	11/10/16 19:45	1
EPN	0.000149	U	0.00120	0.000149	mg/L		10/31/16 20:29	11/10/16 19:45	1
Ethoprop	0.000177	U	0.00150	0.000177	mg/L		10/31/16 20:29	11/10/16 19:45	1
Ethyl Parathion	0.000144	U	0.00100	0.000144	mg/L		10/31/16 20:29	11/10/16 19:45	1
Famphur	0.000179	U	0.00100	0.000179	mg/L		10/31/16 20:29	11/10/16 19:45	1
Fensulfothion	0.000544	U	0.00250	0.000544	mg/L		10/31/16 20:29	11/10/16 19:45	1
Fenthion	0.000154	U	0.00250	0.000154	mg/L		10/31/16 20:29	11/10/16 19:45	1
Malathion	0.000133	U	0.00200	0.000133	mg/L		10/31/16 20:29	11/10/16 19:45	1
Merphos	0.000174	U	0.00500	0.000174	mg/L		10/31/16 20:29	11/10/16 19:45	1
Methyl parathion	0.000141	U	0.00400	0.000141	mg/L		10/31/16 20:29	11/10/16 19:45	1
Mevinphos	0.000460	U	0.00620	0.000460	mg/L		10/31/16 20:29	11/10/16 19:45	1
Naled	0.000800	U	0.00200	0.000800	mg/L		10/31/16 20:29	11/10/16 19:45	1
Phorate	0.000154	U	0.00120	0.000154	mg/L		10/31/16 20:29	11/10/16 19:45	1
Ronnel	0.000116	U	0.0100	0.000116	mg/L		10/31/16 20:29	11/10/16 19:45	1
Sulfotepp	0.000168	U	0.00150	0.000168	mg/L		10/31/16 20:29	11/10/16 19:45	1
Tetrachlorvinphos (Stirophos)	0.000124	U	0.00350	0.000124	mg/L		10/31/16 20:29	11/10/16 19:45	1
Thionazin	0.000312	U	0.00100	0.000312	mg/L		10/31/16 20:29	11/10/16 19:45	1
Tokuthion	0.000123	U	0.00160	0.000123	mg/L		10/31/16 20:29	11/10/16 19:45	1
Trichloronate	0.000242	U	0.00150	0.000242	mg/L		10/31/16 20:29	11/10/16 19:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	62		49 - 171	10/31/16 20:29	11/10/16 19:45	1
Triphenylphosphate	83		60 - 154	10/31/16 20:29	11/10/16 19:45	1

Lab Sample ID: LCS 280-349084/2-A

Matrix: Water

Analysis Batch: 350765

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 349084

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	0.00400	0.003854		mg/L		96	59 - 115
Chlorpyrifos	0.00400	0.003604		mg/L		90	54 - 115
Coumaphos	0.00400	0.004142		mg/L		104	63 - 118
Diazinon	0.00400	0.003811		mg/L		95	47 - 115
Demeton, Total	0.00400	0.003058		mg/L		76	44 - 115
Dichlorvos	0.00400	0.003457		mg/L		86	53 - 128
Dimethoate	0.00400	0.002866		mg/L		72	42 - 115
Disulfoton	0.00400	0.003294		mg/L		82	45 - 115
EPN	0.00400	0.003450		mg/L		86	56 - 115

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCS 280-349084/2-A

Matrix: Water

Analysis Batch: 350765

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 349084

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethoprop	0.00400	0.003766		mg/L		94	50 - 115
Ethyl Parathion	0.00400	0.003474		mg/L		87	55 - 115
Famphur	0.00400	0.003551		mg/L		89	62 - 115
Fensulfothion	0.00400	0.003141		mg/L		79	50 - 115
Fenthion	0.00400	0.003325		mg/L		83	55 - 115
Malathion	0.00400	0.003174		mg/L		79	52 - 115
Merphos	0.00400	0.003558	J	mg/L		89	31 - 115
Methyl parathion	0.00400	0.003446	J	mg/L		86	58 - 115
Mevinphos	0.00400	0.003089	J	mg/L		77	42 - 115
Phorate	0.00400	0.002905		mg/L		73	40 - 115
Ronnel	0.00400	0.003771	J	mg/L		94	55 - 115
Sulfotepp	0.00400	0.003563		mg/L		89	53 - 115
Tetrachlorvinphos (Stirophos)	0.00400	0.003567		mg/L		89	54 - 115
Thionazin	0.00400	0.003374		mg/L		84	54 - 115
Trichloronate	0.00400	0.003657		mg/L		91	48 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Chlormefos	73		49 - 171
Triphenylphosphate	85		60 - 154

Lab Sample ID: 560-64578-A-4-A MS

Matrix: Water

Analysis Batch: 350765

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 349084

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	0.000159	U	0.00384	0.003678		mg/L		96	59 - 115
Chlorpyrifos	0.000342	U	0.00384	0.002608		mg/L		68	54 - 115
Coumaphos	0.000128	U	0.00384	0.003803		mg/L		99	63 - 118
Diazinon	0.000140	U	0.00384	0.003365		mg/L		88	47 - 115
Demeton, Total	0.000198	U F1	0.00384	0.001261	J F1	mg/L		33	44 - 115
Dichlorvos	0.000154	U	0.00384	0.003329		mg/L		87	53 - 128
Dimethoate	0.000426	U	0.00384	0.002996		mg/L		78	42 - 115
Disulfoton	0.000306	U	0.00384	0.002014		mg/L		52	45 - 115
EPN	0.000141	U	0.00384	0.002892		mg/L		75	56 - 115
Ethoprop	0.000168	U	0.00384	0.003495		mg/L		91	50 - 115
Ethyl Parathion	0.000137	U	0.00384	0.003030		mg/L		79	55 - 115
Famphur	0.000170	U	0.00384	0.003148		mg/L		82	62 - 115
Fensulfothion	0.000516	U	0.00384	0.003288		mg/L		86	50 - 115
Fenthion	0.000146	U	0.00384	0.002594		mg/L		68	55 - 115
Malathion	0.000126	U	0.00384	0.002860		mg/L		74	52 - 115
Merphos	0.000165	U	0.00384	0.002883	J	mg/L		75	31 - 115
Methyl parathion	0.000134	U	0.00384	0.003323	J	mg/L		87	58 - 115
Mevinphos	0.000437	U	0.00384	0.002911	J	mg/L		76	42 - 115
Phorate	0.000146	U	0.00384	0.002150		mg/L		56	40 - 115
Ronnel	0.000110	U	0.00384	0.002923	J	mg/L		76	55 - 115
Sulfotepp	0.000159	U	0.00384	0.003233		mg/L		84	53 - 115
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00384	0.003372		mg/L		88	54 - 115
Thionazin	0.000296	U	0.00384	0.003136		mg/L		82	54 - 115

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-64578-A-4-A MS

Matrix: Water

Analysis Batch: 350765

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 349084

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichloronate	0.000230	U	0.00384	0.002520		mg/L		66	48 - 115
<b>Surrogate</b>	<b>MS %Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
Chlormefos	69		49 - 171						
Triphenylphosphate	81		60 - 154						

Lab Sample ID: 560-64578-B-4-B MSD

Matrix: Water

Analysis Batch: 350765

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 349084

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	0.000159	U	0.00380	0.003874		mg/L		102	59 - 115	5	20
Chlorpyrifos	0.000342	U	0.00380	0.003146		mg/L		83	54 - 115	19	24
Coumaphos	0.000128	U	0.00380	0.003835		mg/L		101	63 - 118	1	20
Diazinon	0.000140	U	0.00380	0.003188		mg/L		84	47 - 115	5	37
Demeton, Total	0.000198	U F1	0.00380	0.001556	J F1	mg/L		41	44 - 115	21	38
Dichlorvos	0.000154	U	0.00380	0.003090		mg/L		81	53 - 128	7	37
Dimethoate	0.000426	U	0.00380	0.002854		mg/L		75	42 - 115	5	38
Disulfoton	0.000306	U	0.00380	0.002105		mg/L		55	45 - 115	4	31
EPN	0.000141	U	0.00380	0.002926		mg/L		77	56 - 115	1	20
Ethoprop	0.000168	U	0.00380	0.003559		mg/L		94	50 - 115	2	29
Ethyl Parathion	0.000137	U	0.00380	0.003233		mg/L		85	55 - 115	6	20
Famphur	0.000170	U	0.00380	0.003552		mg/L		93	62 - 115	12	20
Fensulfothion	0.000516	U	0.00380	0.003403		mg/L		89	50 - 115	3	27
Fenthion	0.000146	U	0.00380	0.002828		mg/L		74	55 - 115	9	22
Malathion	0.000126	U	0.00380	0.003117		mg/L		82	52 - 115	9	20
Merphos	0.000165	U	0.00380	0.003061	J	mg/L		80	31 - 115	6	25
Methyl parathion	0.000134	U	0.00380	0.003389	J	mg/L		89	58 - 115	2	20
Mevinphos	0.000437	U	0.00380	0.002837	J	mg/L		75	42 - 115	3	27
Phorate	0.000146	U	0.00380	0.002192		mg/L		58	40 - 115	2	32
Ronnel	0.000110	U	0.00380	0.002944	J	mg/L		77	55 - 115	1	28
Sulfotepp	0.000159	U	0.00380	0.002997		mg/L		79	53 - 115	8	27
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00380	0.003510		mg/L		92	54 - 115	4	20
Thionazin	0.000296	U	0.00380	0.003103		mg/L		82	54 - 115	1	27
Trichloronate	0.000230	U	0.00380	0.003228		mg/L		85	48 - 115	25	26
<b>Surrogate</b>	<b>MSD %Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
Chlormefos	65		49 - 171								
Triphenylphosphate	85		60 - 154								

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-17
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Laboratory: TestAmerica Denver

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-17
Arizona	State Program	9	AZ0713	12-19-16
Arkansas DEQ	State Program	6	88-0687	06-01-17
California	State Program	9	2513	08-31-16 *
Connecticut	State Program	1	PH-0686	09-30-18
Florida	NELAP	4	E87667	06-30-17
Georgia	State Program	4	N/A	01-09-17
Illinois	NELAP	5	200017	04-30-17
Iowa	State Program	7	370	11-30-16
Kansas	NELAP	7	E-10166	04-30-17
Louisiana	NELAP	6	02096	06-30-17
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-16
Nevada	State Program	9	CO0026	07-31-17
New Hampshire	NELAP	1	205310	04-28-17
New Jersey	NELAP	2	CO004	06-30-17
New York	NELAP	2	11964	04-01-17
North Carolina (WW/SW)	State Program	4	358	12-31-16
North Dakota	State Program	8	R-034	01-09-17
Oklahoma	State Program	6	8614	08-31-17
Oregon	NELAP	10	4025	01-09-17
Pennsylvania	NELAP	3	68-00664	07-31-17
South Carolina	State Program	4	72002001	01-09-17
Texas	NELAP	6	T104704183-15-11	09-30-17
USDA	Federal		P330-13-00369	12-17-16
Utah	NELAP	8	CO00026	07-31-17
Virginia	NELAP	3	460232	06-14-17
Washington	State Program	10	C583	08-02-17
West Virginia DEP	State Program	3	354	11-30-16
Wisconsin	State Program	5	999615430	08-31-17
Wyoming (UST)	A2LA	8	2907.01	10-31-17

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

## Method Summary

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

Method	Method Description	Protocol	Laboratory
8141A	Organophosphorous Pesticides (GC)	SW846	TAL DEN

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

## Sample Summary

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64579-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-64579-1	HSM110	Water	10/24/16 12:16	10/25/16 08:55
560-64579-2	FDHSM110	Water	10/24/16 12:16	10/25/16 08:55
560-64579-3	HSM120	Water	10/24/16 12:34	10/25/16 08:55
560-64579-4	HSM130	Water	10/24/16 12:45	10/25/16 08:55
560-64579-5	HSM140	Water	10/24/16 13:02	10/25/16 08:55
560-64579-6	HSM150	Water	10/24/16 13:17	10/25/16 08:55
560-64579-7	HSM160	Water	10/24/16 13:36	10/25/16 08:55
560-64579-8	HSM170	Water	10/24/16 13:53	10/25/16 08:55

1733 North Padre Island Drive  
Corpus Christi, TX 78408  
(361) 289-2673 FAX (361) 289-2471

## Chain-of-Custody Record



560-64579 Chain of Custody

Customer Information				Project Information				Analyses / Method Requested															
P.O.				Project Name				A. Pesticides by 8141 (Denver)															
W.O.				Lab Number				B.															
Company				Bill To				C.															
Send Report To:				Invoice Attn				D.															
Address:				Address:																			
City/State/Zip				City/State/Zip																			
Phone				Phone																			
Fax				Fax																			
Sx No.	Sample Description	Sample Date	Sample Time	Sample Matrix	Container Type	Preservative	No. of Bottles	A	B	C	D	E	F	G	H	I	J	K	L	Comments			
1	HSM110	10/24/16	1216	NPL	1L Amber Glass	None	2																
2	FDHSM110		1216																				
3	HSM120		1234																				
4	HSM130		1245																				
5	HSM140		1302																				
6	HSM150		1317																				
7	HSM160		1336																				
8	HSM170		1353																				
9																							
10																							
Sampler Name: Jennifer Moreland				Shipment Method:				Required Turnaround:															
Relinquished by:				Date: 10/24/16				Relinquished by:				Date: 10-24-16				Date:							
Company Name:				Time: 1520				Company Name:				Company Name:				Time:							
Received by:				Date: 10-24-16				Received by:				Date: 10-24-16				Date:							
Company Name:				Time: 15:20				Company Name:				Company Name:				Time:							

San Antonio



561

7.9, 0.3 IPS (+0.0 transud 9PL 10-25-16

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64579-1

Login Number: 64579

List Source: TestAmerica Corpus Christi

List Number: 1

Creator: Escalona-Garcia, Jose A

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-63698-1

Client Project/Site: San Marcos Springs

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
10/26/2016 4:07:21 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

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[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

### GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

## Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio

TestAmerica Corpus Christi

## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

### Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Job ID: 560-63698-1**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

### Job Narrative 560-63698-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 9/10/2016 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 8 coolers at receipt time were 0.0° C, 0.1° C, 0.1° C, 0.3° C, 0.4° C, 0.5° C, 0.6° C and 0.8° C.

#### GC/MS VOA

Method 8260B: The laboratory control sample (LCS) for analytical batch 560-131686 recovered outside control limits for the following analytes: Chloromethane and Butadiene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 560-131686 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method 8270C: The method blank for preparation batch 560-131740 and analytical batch 560-131758 contained Di-n-butyl phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

Method 8151: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with sample 560-63698-8 were outside acceptable limits for Dalapon. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method 6010: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 131706 were outside acceptable limits for Calcium. The LCS was within acceptable limits. Therefore, data are reported/

Method 6020: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 131750 were outside acceptable limits for Aluminum. The LCS was within acceptable limits. Therefore, data are reported/

No additional analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

Method 9040C: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples have been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe. 560-63698-1-8

Method 351.2: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with sample 560-63698-7 were outside acceptable limits for Kjeldahl Nitrogen. The LCS was within acceptable limits. Therefore, data are reported.

Method 351.2 : The relative percent deviation (RPD) was outside acceptable limits for Kjeldahl Nitrogen in the MS/MSD pair associated with sample 560-63698-7. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Case Narrative

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

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### Job ID: 560-63698-1 (Continued)

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#### Laboratory: TestAmerica Corpus Christi (Continued)

##### Organic Prep

Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 560-131740.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

Client Sample ID: HSM110

Lab Sample ID: 560-63698-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Di-n-butyl phthalate	3.66	J B	10.0	0.709	ug/L	1			8270C	Total/NA
Calcium	89.1		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	19.3		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.93		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	5.52		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	16.0		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.659		0.00500	0.000700	mg/L	1			6010B	Dissolved
Arsenic	0.00129	J	0.00500	0.00109	mg/L	1			6020	Dissolved
Barium	0.0417		0.00500	0.000810	mg/L	1			6020	Dissolved
Manganese	0.275		0.0500	0.0116	mg/L	1			6020	Dissolved
Bromide	0.508	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	27.9		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	0.585		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	30.3		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.227		0.100	0.0200	mg/L	1			340.2	Total/NA
Phosphorus	0.0635	J	0.100	0.0410	mg/L	1			365.4	Total/NA
Total Organic Carbon	0.443	J	1.00	0.285	mg/L	1			9060	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.1	HF	0.1	0.1	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	251		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	251		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	352		10.0	10.0	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	2.20		2.00	2.00	mg/L	1			SM 2540D	Total/NA

Client Sample ID: FDHSM110

Lab Sample ID: 560-63698-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Di-n-butyl phthalate	2.18	J B	10.0	0.709	ug/L	1			8270C	Total/NA
Calcium	88.8		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	19.2		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.88		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	5.47		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	16.4		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.663		0.00500	0.000700	mg/L	1			6010B	Dissolved
Arsenic	0.00152	J	0.00500	0.00109	mg/L	1			6020	Dissolved
Barium	0.0427		0.00500	0.000810	mg/L	1			6020	Dissolved
Chromium	0.0115		0.00500	0.00140	mg/L	1			6020	Dissolved
Copper	0.0334		0.0100	0.00200	mg/L	1			6020	Dissolved
Lead	0.00289	J	0.00500	0.000733	mg/L	1			6020	Dissolved
Manganese	0.275		0.0500	0.0116	mg/L	1			6020	Dissolved
Bromide	0.509	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	27.9		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	0.587		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	30.4		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.232		0.100	0.0200	mg/L	1			340.2	Total/NA
Phosphorus	0.0456	J	0.100	0.0410	mg/L	1			365.4	Total/NA
Total Organic Carbon	0.524	J	1.00	0.285	mg/L	1			9060	Total/NA
Dissolved Organic Carbon	0.296	J	1.00	0.285	mg/L	1			9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.2	HF	0.1	0.1	SU	1			9040C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Client Sample ID: FDHSM110 (Continued)

## Lab Sample ID: 560-63698-2

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Alkalinity as CaCO <sub>3</sub>	252		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO <sub>3</sub>	252		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	356		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HSM120

## Lab Sample ID: 560-63698-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	6.04	J	20.0	5.00	ug/L	1		8270C	Total/NA
Calcium	89.4		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	16.5		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.39		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.12		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.0		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.505		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0382		0.00500	0.000810	mg/L	1		6020	Dissolved
Selenium	0.00165	J	0.00500	0.00108	mg/L	1		6020	Dissolved
Bromide	0.457	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.9		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.30		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.2		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.193		0.100	0.0200	mg/L	1		340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.2	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO <sub>3</sub>	256		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO <sub>3</sub>	256		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	323		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HSM130

## Lab Sample ID: 560-63698-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	11.3	J	20.0	5.00	ug/L	1		8270C	Total/NA
Di-n-butyl phthalate	2.30	J B	10.0	0.709	ug/L	1		8270C	Total/NA
Calcium	97.1		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	16.6		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.62		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.75		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	13.9		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.555		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0422		0.00500	0.000810	mg/L	1		6020	Dissolved
Selenium	0.00130	J	0.00500	0.00108	mg/L	1		6020	Dissolved
Bromide	0.461	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	21.5		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.68		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	27.4		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.202		0.100	0.0200	mg/L	1		340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.2	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO <sub>3</sub>	248		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO <sub>3</sub>	248		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	350		10.0	10.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Client Sample ID: HSM140

## Lab Sample ID: 560-63698-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	92.3		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	17.1		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.47		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.33		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.6		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.533		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0369		0.00500	0.000810	mg/L	1		6020	Dissolved
Selenium	0.00184	J	0.00500	0.00108	mg/L	1		6020	Dissolved
Bromide	0.453	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	19.1		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.21		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.4		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.193		0.100	0.0200	mg/L	1		340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	248		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	248		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	338		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HSM150

## Lab Sample ID: 560-63698-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	91.0		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	16.7		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.39		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.25		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.4		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.525		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0388		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.456	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	19.0		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.21		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.2		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.193		0.100	0.0200	mg/L	1		340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	245		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	245		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	336		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HSM160

## Lab Sample ID: 560-63698-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	90.2		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	16.7		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.43		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.18		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.5		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.526		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0385		0.00500	0.000810	mg/L	1		6020	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



# Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Client Sample ID: HSM160 (Continued)

## Lab Sample ID: 560-63698-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromide	0.456	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	19.0		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.19		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.3		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.193		0.100	0.0200	mg/L	1		340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	251		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	251		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	364		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.20		2.00	2.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HSM170

## Lab Sample ID: 560-63698-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	19.0	J	20.0	5.00	ug/L	1		8270C	Total/NA
Di-n-butyl phthalate	2.11	J B	10.0	0.709	ug/L	1		8270C	Total/NA
Calcium	88.9		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	16.5		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.36		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.11		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.4		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.518		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0377		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.455	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	19.1		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.18		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.4		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.178		0.100	0.0200	mg/L	1		340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	248		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	248		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	370		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.20		2.00	2.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: TB12

## Lab Sample ID: 560-63698-9

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM110**

**Date Collected: 09/09/16 09:57**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/12/16 13:37	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/12/16 13:37	1
Benzene	0.330	U	1.00	0.330	ug/L			09/12/16 13:37	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/12/16 13:37	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 13:37	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/12/16 13:37	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/12/16 13:37	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/12/16 13:37	1
1,3-Butadiene	0.300	U *	2.00	0.300	ug/L			09/12/16 13:37	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/12/16 13:37	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/12/16 13:37	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/12/16 13:37	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/12/16 13:37	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/12/16 13:37	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/12/16 13:37	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/12/16 13:37	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/12/16 13:37	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/12/16 13:37	1
Chloromethane	0.390	U *	5.00	0.390	ug/L			09/12/16 13:37	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/12/16 13:37	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/12/16 13:37	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 13:37	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/12/16 13:37	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/12/16 13:37	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/12/16 13:37	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/12/16 13:37	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/12/16 13:37	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/12/16 13:37	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/12/16 13:37	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 13:37	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/12/16 13:37	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/12/16 13:37	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/12/16 13:37	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/12/16 13:37	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/12/16 13:37	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/12/16 13:37	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/12/16 13:37	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/12/16 13:37	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/12/16 13:37	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/12/16 13:37	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/12/16 13:37	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/12/16 13:37	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/12/16 13:37	1
EDB	0.175	U	1.00	0.175	ug/L			09/12/16 13:37	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/12/16 13:37	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 13:37	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/12/16 13:37	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/12/16 13:37	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/12/16 13:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM110**

**Date Collected: 09/09/16 09:57**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/12/16 13:37	1
Hexane	2.00	U	5.00	2.00	ug/L			09/12/16 13:37	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/12/16 13:37	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/12/16 13:37	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/12/16 13:37	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/12/16 13:37	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/12/16 13:37	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/12/16 13:37	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/12/16 13:37	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/12/16 13:37	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/12/16 13:37	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/12/16 13:37	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/12/16 13:37	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/12/16 13:37	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/12/16 13:37	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 13:37	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/12/16 13:37	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/12/16 13:37	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/12/16 13:37	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/12/16 13:37	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/12/16 13:37	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/12/16 13:37	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/12/16 13:37	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/12/16 13:37	1
Styrene	0.200	U	1.00	0.200	ug/L			09/12/16 13:37	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 13:37	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/12/16 13:37	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/12/16 13:37	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/12/16 13:37	1
Toluene	0.495	U	1.00	0.495	ug/L			09/12/16 13:37	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 13:37	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/12/16 13:37	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/12/16 13:37	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/12/16 13:37	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/12/16 13:37	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/12/16 13:37	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/12/16 13:37	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/12/16 13:37	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/12/16 13:37	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/12/16 13:37	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/12/16 13:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/12/16 13:37	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 13:37	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 13:37	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/12/16 13:37	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/12/16 13:37	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/12/16 13:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130		09/12/16 13:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM110**

**Date Collected: 09/09/16 09:57**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	101		69 - 130		09/12/16 13:37	1
1,2-Dichloroethane-d4 (Surr)	114		70 - 140		09/12/16 13:37	1
Toluene-d8 (Surr)	94		70 - 130		09/12/16 13:37	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/13/16 14:00	09/14/16 10:27	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/13/16 14:00	09/14/16 10:27	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/13/16 14:00	09/14/16 10:27	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/13/16 14:00	09/14/16 10:27	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/13/16 14:00	09/14/16 10:27	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/13/16 14:00	09/14/16 10:27	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/13/16 14:00	09/14/16 10:27	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/13/16 14:00	09/14/16 10:27	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/13/16 14:00	09/14/16 10:27	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/13/16 14:00	09/14/16 10:27	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/13/16 14:00	09/14/16 10:27	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/13/16 14:00	09/14/16 10:27	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/13/16 14:00	09/14/16 10:27	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/13/16 14:00	09/14/16 10:27	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 10:27	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/13/16 14:00	09/14/16 10:27	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/13/16 14:00	09/14/16 10:27	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/13/16 14:00	09/14/16 10:27	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/13/16 14:00	09/14/16 10:27	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/13/16 14:00	09/14/16 10:27	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/13/16 14:00	09/14/16 10:27	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/13/16 14:00	09/14/16 10:27	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/13/16 14:00	09/14/16 10:27	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/13/16 14:00	09/14/16 10:27	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/13/16 14:00	09/14/16 10:27	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 10:27	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/13/16 14:00	09/14/16 10:27	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/13/16 14:00	09/14/16 10:27	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/13/16 14:00	09/14/16 10:27	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 10:27	1
Di-n-butyl phthalate	3.66	J B	10.0	0.709	ug/L		09/13/16 14:00	09/14/16 10:27	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/13/16 14:00	09/14/16 10:27	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/13/16 14:00	09/14/16 10:27	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/13/16 14:00	09/14/16 10:27	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/13/16 14:00	09/14/16 10:27	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/13/16 14:00	09/14/16 10:27	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/13/16 14:00	09/14/16 10:27	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/13/16 14:00	09/14/16 10:27	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/13/16 14:00	09/14/16 10:27	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/13/16 14:00	09/14/16 10:27	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/13/16 14:00	09/14/16 10:27	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 10:27	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/13/16 14:00	09/14/16 10:27	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM110**

**Date Collected: 09/09/16 09:57**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-1**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 10:27	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/13/16 14:00	09/14/16 10:27	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/13/16 14:00	09/14/16 10:27	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/13/16 14:00	09/14/16 10:27	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 10:27	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/13/16 14:00	09/14/16 10:27	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/13/16 14:00	09/14/16 10:27	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/13/16 14:00	09/14/16 10:27	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/13/16 14:00	09/14/16 10:27	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/13/16 14:00	09/14/16 10:27	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/13/16 14:00	09/14/16 10:27	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/13/16 14:00	09/14/16 10:27	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/13/16 14:00	09/14/16 10:27	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/13/16 14:00	09/14/16 10:27	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/13/16 14:00	09/14/16 10:27	1
Phenol	0.768	U	10.0	0.768	ug/L		09/13/16 14:00	09/14/16 10:27	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/13/16 14:00	09/14/16 10:27	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/13/16 14:00	09/14/16 10:27	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/13/16 14:00	09/14/16 10:27	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/13/16 14:00	09/14/16 10:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	76		23 - 130	09/13/16 14:00	09/14/16 10:27	1
2-Fluorophenol	75		10 - 130	09/13/16 14:00	09/14/16 10:27	1
Nitrobenzene-d5	77		27 - 130	09/13/16 14:00	09/14/16 10:27	1
Phenol-d5	79		10 - 130	09/13/16 14:00	09/14/16 10:27	1
Terphenyl-d14	79		10 - 141	09/13/16 14:00	09/14/16 10:27	1
2,4,6-Tribromophenol	80		18 - 130	09/13/16 14:00	09/14/16 10:27	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00493	U	0.0592	0.00493	ug/L		09/12/16 09:01	09/12/16 20:43	1
alpha-BHC	0.00513	U	0.0592	0.00513	ug/L		09/12/16 09:01	09/12/16 20:43	1
alpha-Chlordane	0.00621	U	0.0592	0.00621	ug/L		09/12/16 09:01	09/12/16 20:43	1
beta-BHC	0.00493	U	0.0592	0.00493	ug/L		09/12/16 09:01	09/12/16 20:43	1
4,4'-DDD	0.00493	U	0.0592	0.00493	ug/L		09/12/16 09:01	09/12/16 20:43	1
4,4'-DDE	0.00493	U	0.0592	0.00493	ug/L		09/12/16 09:01	09/12/16 20:43	1
4,4'-DDT	0.00799	U	0.0592	0.00799	ug/L		09/12/16 09:01	09/12/16 20:43	1
delta-BHC	0.00493	U	0.0592	0.00493	ug/L		09/12/16 09:01	09/12/16 20:43	1
Dieldrin	0.0128	U	0.0592	0.0128	ug/L		09/12/16 09:01	09/12/16 20:43	1
Endosulfan I	0.00493	U	0.0592	0.00493	ug/L		09/12/16 09:01	09/12/16 20:43	1
Endosulfan II	0.00848	U	0.0592	0.00848	ug/L		09/12/16 09:01	09/12/16 20:43	1
Endosulfan sulfate	0.00868	U	0.0592	0.00868	ug/L		09/12/16 09:01	09/12/16 20:43	1
Endrin	0.00759	U	0.0592	0.00759	ug/L		09/12/16 09:01	09/12/16 20:43	1
Endrin aldehyde	0.00493	U	0.0592	0.00493	ug/L		09/12/16 09:01	09/12/16 20:43	1
Endrin ketone	0.00808	U	0.0592	0.00808	ug/L		09/12/16 09:01	09/12/16 20:43	1
gamma-BHC (Lindane)	0.00444	U	0.0592	0.00444	ug/L		09/12/16 09:01	09/12/16 20:43	1
gamma-Chlordane	0.00661	U	0.0592	0.00661	ug/L		09/12/16 09:01	09/12/16 20:43	1
Heptachlor	0.00641	U	0.0592	0.00641	ug/L		09/12/16 09:01	09/12/16 20:43	1
Heptachlor epoxide	0.00513	U	0.0592	0.00513	ug/L		09/12/16 09:01	09/12/16 20:43	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM110**

**Date Collected: 09/09/16 09:57**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-1**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	0.00986	U	0.0592	0.00986	ug/L		09/12/16 09:01	09/12/16 20:43	1
Toxaphene	0.670	U	5.92	0.670	ug/L		09/12/16 09:01	09/12/16 20:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	67		10 - 152				09/12/16 09:01	09/12/16 20:43	1
DCB Decachlorobiphenyl	69		10 - 152				09/12/16 09:01	09/12/16 20:43	1
Tetrachloro-m-xylene	85		57 - 127				09/12/16 09:01	09/12/16 20:43	1
Tetrachloro-m-xylene	81		57 - 127				09/12/16 09:01	09/12/16 20:43	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.108	U	0.592	0.108	ug/L		09/12/16 09:01	09/12/16 17:58	1
Aroclor 1221	0.108	U	0.592	0.108	ug/L		09/12/16 09:01	09/12/16 17:58	1
Aroclor 1232	0.434	U	0.789	0.434	ug/L		09/12/16 09:01	09/12/16 17:58	1
Aroclor 1242	0.108	U	0.592	0.108	ug/L		09/12/16 09:01	09/12/16 17:58	1
Aroclor 1248	0.108	U	0.592	0.108	ug/L		09/12/16 09:01	09/12/16 17:58	1
Aroclor 1254	0.108	U	0.592	0.108	ug/L		09/12/16 09:01	09/12/16 17:58	1
Aroclor 1260	0.108	U	0.592	0.108	ug/L		09/12/16 09:01	09/12/16 17:58	1
Aroclor 1262	0.108	U	0.592	0.108	ug/L		09/12/16 09:01	09/12/16 17:58	1
Aroclor 1268	0.108	U	0.592	0.108	ug/L		09/12/16 09:01	09/12/16 17:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	115		10 - 150				09/12/16 09:01	09/12/16 17:58	1
DCB Decachlorobiphenyl	87		10 - 150				09/12/16 09:01	09/12/16 17:58	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0947	U	4.74	0.0947	ug/L		09/14/16 08:02	09/16/16 18:20	1
Dicamba	0.0805	U	0.474	0.0805	ug/L		09/14/16 08:02	09/16/16 18:20	1
Mecoprop	18.0	U	114	18.0	ug/L		09/14/16 08:02	09/16/16 18:20	1
MCPA	16.1	U	114	16.1	ug/L		09/14/16 08:02	09/16/16 18:20	1
Dichlorprop	0.142	U	0.474	0.142	ug/L		09/14/16 08:02	09/16/16 18:20	1
2,4-D	0.0350	U	0.474	0.0350	ug/L		09/14/16 08:02	09/16/16 18:20	1
Silvex (2,4,5-TP)	0.0587	U	0.237	0.0587	ug/L		09/14/16 08:02	09/16/16 18:20	1
2,4,5-T	0.0587	U	0.237	0.0587	ug/L		09/14/16 08:02	09/16/16 18:20	1
2,4-DB	0.142	U	0.474	0.142	ug/L		09/14/16 08:02	09/16/16 18:20	1
Dinoseb	0.152	U	0.947	0.152	ug/L		09/14/16 08:02	09/16/16 18:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	86		45 - 130				09/14/16 08:02	09/16/16 18:20	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	89.1		0.200	0.101	mg/L		09/12/16 09:15	09/12/16 14:58	1
Magnesium	19.3		0.200	0.0257	mg/L		09/12/16 09:15	09/12/16 14:58	1
Potassium	1.93		0.500	0.375	mg/L		09/12/16 09:15	09/12/16 14:58	1
Silicon	5.52		0.500	0.0707	mg/L		09/12/16 09:15	09/12/16 14:58	1
Sodium	16.0		1.00	0.310	mg/L		09/12/16 09:15	09/12/16 14:58	1
Strontium	0.659		0.00500	0.000700	mg/L		09/12/16 09:15	09/12/16 14:58	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM110**

**Date Collected: 09/09/16 09:57**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-1**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
<b>Arsenic</b>	<b>0.00129</b>	<b>J</b>	0.00500	0.00109	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
<b>Barium</b>	<b>0.0417</b>		0.00500	0.000810	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
Chromium	0.00140	U	0.00500	0.00140	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
Copper	0.00200	U	0.0100	0.00200	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
Iron	0.101	U	0.250	0.101	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
Lead	0.000733	U	0.00500	0.000733	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
<b>Manganese</b>	<b>0.275</b>		0.0500	0.0116	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
Selenium	0.00108	U	0.00500	0.00108	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
Silver	0.000941	U	0.00500	0.000941	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	—	09/12/16 09:15	09/13/16 17:46	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	—	09/12/16 09:15	09/13/16 17:46	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	—	09/12/16 10:00	09/12/16 16:53	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>0.508</b>	<b>J</b>	1.00	0.315	mg/L	—		09/10/16 16:21	1
<b>Chloride</b>	<b>27.9</b>		1.00	0.192	mg/L	—		09/10/16 16:21	1
<b>Nitrate as N</b>	<b>0.585</b>		0.500	0.103	mg/L	—		09/10/16 16:21	1
<b>Sulfate</b>	<b>30.3</b>		1.00	0.377	mg/L	—		09/10/16 16:21	1
<b>Fluoride</b>	<b>0.227</b>		0.100	0.0200	mg/L	—		09/16/16 11:45	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	—		09/20/16 11:57	1
<b>Phosphorus</b>	<b>0.0635</b>	<b>J</b>	0.100	0.0410	mg/L	—	09/20/16 08:57	09/21/16 11:51	1
<b>Total Organic Carbon</b>	<b>0.443</b>	<b>J</b>	1.00	0.285	mg/L	—		09/19/16 11:12	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.1</b>	<b>HF</b>	0.1	0.1	SU	—		09/13/16 09:12	1
<b>Total Alkalinity as CaCO3</b>	<b>251</b>		5.00	5.00	mg/L	—		09/16/16 12:45	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>251</b>		5.00	5.00	mg/L	—		09/16/16 12:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	—		09/16/16 12:45	1
<b>Total Dissolved Solids</b>	<b>352</b>		10.0	10.0	mg/L	—		09/14/16 09:35	1
<b>Total Suspended Solids</b>	<b>2.20</b>		2.00	2.00	mg/L	—		09/12/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	—		09/20/16 12:38	1

**Client Sample ID: FDHSM110**

**Date Collected: 09/09/16 09:57**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-2**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	—		09/12/16 14:02	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: FDHSM110**

**Lab Sample ID: 560-63698-2**

**Date Collected: 09/09/16 09:57**

**Matrix: Water**

**Date Received: 09/10/16 09:45**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/12/16 14:02	1
Benzene	0.330	U	1.00	0.330	ug/L			09/12/16 14:02	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/12/16 14:02	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 14:02	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/12/16 14:02	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/12/16 14:02	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/12/16 14:02	1
1,3-Butadiene	0.300	U *	2.00	0.300	ug/L			09/12/16 14:02	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/12/16 14:02	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/12/16 14:02	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/12/16 14:02	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/12/16 14:02	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/12/16 14:02	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/12/16 14:02	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/12/16 14:02	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/12/16 14:02	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/12/16 14:02	1
Chloromethane	0.390	U *	5.00	0.390	ug/L			09/12/16 14:02	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/12/16 14:02	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/12/16 14:02	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 14:02	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/12/16 14:02	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/12/16 14:02	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/12/16 14:02	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/12/16 14:02	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/12/16 14:02	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/12/16 14:02	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/12/16 14:02	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 14:02	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/12/16 14:02	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/12/16 14:02	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/12/16 14:02	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/12/16 14:02	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/12/16 14:02	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/12/16 14:02	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/12/16 14:02	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/12/16 14:02	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/12/16 14:02	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/12/16 14:02	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/12/16 14:02	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/12/16 14:02	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/12/16 14:02	1
EDB	0.175	U	1.00	0.175	ug/L			09/12/16 14:02	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/12/16 14:02	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 14:02	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/12/16 14:02	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/12/16 14:02	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/12/16 14:02	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/12/16 14:02	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: FDHSM110**

**Lab Sample ID: 560-63698-2**

**Date Collected: 09/09/16 09:57**

**Matrix: Water**

**Date Received: 09/10/16 09:45**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			09/12/16 14:02	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/12/16 14:02	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/12/16 14:02	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/12/16 14:02	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/12/16 14:02	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/12/16 14:02	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/12/16 14:02	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/12/16 14:02	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/12/16 14:02	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/12/16 14:02	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/12/16 14:02	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/12/16 14:02	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/12/16 14:02	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/12/16 14:02	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 14:02	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/12/16 14:02	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/12/16 14:02	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/12/16 14:02	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/12/16 14:02	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/12/16 14:02	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/12/16 14:02	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/12/16 14:02	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/12/16 14:02	1
Styrene	0.200	U	1.00	0.200	ug/L			09/12/16 14:02	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 14:02	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/12/16 14:02	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/12/16 14:02	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/12/16 14:02	1
Toluene	0.495	U	1.00	0.495	ug/L			09/12/16 14:02	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 14:02	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/12/16 14:02	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/12/16 14:02	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/12/16 14:02	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/12/16 14:02	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/12/16 14:02	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/12/16 14:02	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/12/16 14:02	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/12/16 14:02	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/12/16 14:02	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/12/16 14:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/12/16 14:02	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 14:02	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 14:02	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/12/16 14:02	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/12/16 14:02	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/12/16 14:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130		09/12/16 14:02	1
Dibromofluoromethane (Surr)	103		69 - 130		09/12/16 14:02	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: FDHSM110**

**Lab Sample ID: 560-63698-2**

**Date Collected: 09/09/16 09:57**

**Matrix: Water**

**Date Received: 09/10/16 09:45**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 140		09/12/16 14:02	1
Toluene-d8 (Surr)	95		70 - 130		09/12/16 14:02	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/13/16 14:00	09/14/16 10:52	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/13/16 14:00	09/14/16 10:52	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/13/16 14:00	09/14/16 10:52	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/13/16 14:00	09/14/16 10:52	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/13/16 14:00	09/14/16 10:52	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/13/16 14:00	09/14/16 10:52	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/13/16 14:00	09/14/16 10:52	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/13/16 14:00	09/14/16 10:52	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/13/16 14:00	09/14/16 10:52	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/13/16 14:00	09/14/16 10:52	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/13/16 14:00	09/14/16 10:52	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/13/16 14:00	09/14/16 10:52	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/13/16 14:00	09/14/16 10:52	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/13/16 14:00	09/14/16 10:52	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 10:52	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/13/16 14:00	09/14/16 10:52	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/13/16 14:00	09/14/16 10:52	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/13/16 14:00	09/14/16 10:52	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/13/16 14:00	09/14/16 10:52	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/13/16 14:00	09/14/16 10:52	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/13/16 14:00	09/14/16 10:52	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/13/16 14:00	09/14/16 10:52	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/13/16 14:00	09/14/16 10:52	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/13/16 14:00	09/14/16 10:52	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/13/16 14:00	09/14/16 10:52	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 10:52	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/13/16 14:00	09/14/16 10:52	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/13/16 14:00	09/14/16 10:52	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/13/16 14:00	09/14/16 10:52	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 10:52	1
Di-n-butyl phthalate	2.18	J B	10.0	0.709	ug/L		09/13/16 14:00	09/14/16 10:52	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/13/16 14:00	09/14/16 10:52	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/13/16 14:00	09/14/16 10:52	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/13/16 14:00	09/14/16 10:52	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/13/16 14:00	09/14/16 10:52	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/13/16 14:00	09/14/16 10:52	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/13/16 14:00	09/14/16 10:52	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/13/16 14:00	09/14/16 10:52	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/13/16 14:00	09/14/16 10:52	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/13/16 14:00	09/14/16 10:52	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/13/16 14:00	09/14/16 10:52	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 10:52	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/13/16 14:00	09/14/16 10:52	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 10:52	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: FDHSM110**

**Lab Sample ID: 560-63698-2**

**Date Collected: 09/09/16 09:57**

**Matrix: Water**

**Date Received: 09/10/16 09:45**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/13/16 14:00	09/14/16 10:52	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/13/16 14:00	09/14/16 10:52	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/13/16 14:00	09/14/16 10:52	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 10:52	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/13/16 14:00	09/14/16 10:52	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/13/16 14:00	09/14/16 10:52	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/13/16 14:00	09/14/16 10:52	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/13/16 14:00	09/14/16 10:52	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/13/16 14:00	09/14/16 10:52	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/13/16 14:00	09/14/16 10:52	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/13/16 14:00	09/14/16 10:52	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/13/16 14:00	09/14/16 10:52	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/13/16 14:00	09/14/16 10:52	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/13/16 14:00	09/14/16 10:52	1
Phenol	0.768	U	10.0	0.768	ug/L		09/13/16 14:00	09/14/16 10:52	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/13/16 14:00	09/14/16 10:52	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/13/16 14:00	09/14/16 10:52	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/13/16 14:00	09/14/16 10:52	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/13/16 14:00	09/14/16 10:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	78		23 - 130	09/13/16 14:00	09/14/16 10:52	1
2-Fluorophenol	76		10 - 130	09/13/16 14:00	09/14/16 10:52	1
Nitrobenzene-d5	76		27 - 130	09/13/16 14:00	09/14/16 10:52	1
Phenol-d5	80		10 - 130	09/13/16 14:00	09/14/16 10:52	1
Terphenyl-d14	85		10 - 141	09/13/16 14:00	09/14/16 10:52	1
2,4,6-Tribromophenol	81		18 - 130	09/13/16 14:00	09/14/16 10:52	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00470	U	0.0565	0.00470	ug/L		09/12/16 09:01	09/12/16 21:05	1
alpha-BHC	0.00489	U	0.0565	0.00489	ug/L		09/12/16 09:01	09/12/16 21:05	1
alpha-Chlordane	0.00593	U	0.0565	0.00593	ug/L		09/12/16 09:01	09/12/16 21:05	1
beta-BHC	0.00470	U	0.0565	0.00470	ug/L		09/12/16 09:01	09/12/16 21:05	1
4,4'-DDD	0.00470	U	0.0565	0.00470	ug/L		09/12/16 09:01	09/12/16 21:05	1
4,4'-DDE	0.00470	U	0.0565	0.00470	ug/L		09/12/16 09:01	09/12/16 21:05	1
4,4'-DDT	0.00762	U	0.0565	0.00762	ug/L		09/12/16 09:01	09/12/16 21:05	1
delta-BHC	0.00470	U	0.0565	0.00470	ug/L		09/12/16 09:01	09/12/16 21:05	1
Dieldrin	0.0122	U	0.0565	0.0122	ug/L		09/12/16 09:01	09/12/16 21:05	1
Endosulfan I	0.00470	U	0.0565	0.00470	ug/L		09/12/16 09:01	09/12/16 21:05	1
Endosulfan II	0.00809	U	0.0565	0.00809	ug/L		09/12/16 09:01	09/12/16 21:05	1
Endosulfan sulfate	0.00828	U	0.0565	0.00828	ug/L		09/12/16 09:01	09/12/16 21:05	1
Endrin	0.00724	U	0.0565	0.00724	ug/L		09/12/16 09:01	09/12/16 21:05	1
Endrin aldehyde	0.00470	U	0.0565	0.00470	ug/L		09/12/16 09:01	09/12/16 21:05	1
Endrin ketone	0.00772	U	0.0565	0.00772	ug/L		09/12/16 09:01	09/12/16 21:05	1
gamma-BHC (Lindane)	0.00423	U	0.0565	0.00423	ug/L		09/12/16 09:01	09/12/16 21:05	1
gamma-Chlordane	0.00630	U	0.0565	0.00630	ug/L		09/12/16 09:01	09/12/16 21:05	1
Heptachlor	0.00612	U	0.0565	0.00612	ug/L		09/12/16 09:01	09/12/16 21:05	1
Heptachlor epoxide	0.00489	U	0.0565	0.00489	ug/L		09/12/16 09:01	09/12/16 21:05	1
Methoxychlor	0.00941	U	0.0565	0.00941	ug/L		09/12/16 09:01	09/12/16 21:05	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: FDHSM110**

**Lab Sample ID: 560-63698-2**

**Date Collected: 09/09/16 09:57**

**Matrix: Water**

**Date Received: 09/10/16 09:45**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.640	U	5.65	0.640	ug/L	-	09/12/16 09:01	09/12/16 21:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	64		10 - 152				09/12/16 09:01	09/12/16 21:05	1
DCB Decachlorobiphenyl	68		10 - 152				09/12/16 09:01	09/12/16 21:05	1
Tetrachloro-m-xylene	82		57 - 127				09/12/16 09:01	09/12/16 21:05	1
Tetrachloro-m-xylene	78		57 - 127				09/12/16 09:01	09/12/16 21:05	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.565	0.103	ug/L	-	09/12/16 09:01	09/12/16 18:16	1
Aroclor 1221	0.103	U	0.565	0.103	ug/L	-	09/12/16 09:01	09/12/16 18:16	1
Aroclor 1232	0.414	U	0.753	0.414	ug/L	-	09/12/16 09:01	09/12/16 18:16	1
Aroclor 1242	0.103	U	0.565	0.103	ug/L	-	09/12/16 09:01	09/12/16 18:16	1
Aroclor 1248	0.103	U	0.565	0.103	ug/L	-	09/12/16 09:01	09/12/16 18:16	1
Aroclor 1254	0.103	U	0.565	0.103	ug/L	-	09/12/16 09:01	09/12/16 18:16	1
Aroclor 1260	0.103	U	0.565	0.103	ug/L	-	09/12/16 09:01	09/12/16 18:16	1
Aroclor 1262	0.103	U	0.565	0.103	ug/L	-	09/12/16 09:01	09/12/16 18:16	1
Aroclor 1268	0.103	U	0.565	0.103	ug/L	-	09/12/16 09:01	09/12/16 18:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	101		10 - 150				09/12/16 09:01	09/12/16 18:16	1
DCB Decachlorobiphenyl	76		10 - 150				09/12/16 09:01	09/12/16 18:16	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0950	U	4.75	0.0950	ug/L	-	09/14/16 08:02	09/16/16 18:39	1
Dicamba	0.0808	U	0.475	0.0808	ug/L	-	09/14/16 08:02	09/16/16 18:39	1
Mecoprop	18.1	U	114	18.1	ug/L	-	09/14/16 08:02	09/16/16 18:39	1
MCPA	16.2	U	114	16.2	ug/L	-	09/14/16 08:02	09/16/16 18:39	1
Dichlorprop	0.143	U	0.475	0.143	ug/L	-	09/14/16 08:02	09/16/16 18:39	1
2,4-D	0.0352	U	0.475	0.0352	ug/L	-	09/14/16 08:02	09/16/16 18:39	1
Silvex (2,4,5-TP)	0.0589	U	0.238	0.0589	ug/L	-	09/14/16 08:02	09/16/16 18:39	1
2,4,5-T	0.0589	U	0.238	0.0589	ug/L	-	09/14/16 08:02	09/16/16 18:39	1
2,4-DB	0.143	U	0.475	0.143	ug/L	-	09/14/16 08:02	09/16/16 18:39	1
Dinoseb	0.152	U	0.950	0.152	ug/L	-	09/14/16 08:02	09/16/16 18:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	82		45 - 130				09/14/16 08:02	09/16/16 18:39	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	88.8		0.200	0.101	mg/L	-	09/12/16 09:15	09/12/16 15:09	1
Magnesium	19.2		0.200	0.0257	mg/L	-	09/12/16 09:15	09/12/16 15:09	1
Potassium	1.88		0.500	0.375	mg/L	-	09/12/16 09:15	09/12/16 15:09	1
Silicon	5.47		0.500	0.0707	mg/L	-	09/12/16 09:15	09/12/16 15:09	1
Sodium	16.4		1.00	0.310	mg/L	-	09/12/16 09:15	09/12/16 15:09	1
Strontium	0.663		0.00500	0.000700	mg/L	-	09/12/16 09:15	09/12/16 15:09	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: FDHSM110**

**Date Collected: 09/09/16 09:57**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-2**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
<b>Arsenic</b>	<b>0.00152</b>	<b>J</b>	0.00500	0.00109	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
<b>Barium</b>	<b>0.0427</b>		0.00500	0.000810	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
<b>Chromium</b>	<b>0.0115</b>		0.00500	0.00140	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
<b>Copper</b>	<b>0.0334</b>		0.0100	0.00200	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
Iron	0.101	U	0.250	0.101	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
<b>Lead</b>	<b>0.00289</b>	<b>J</b>	0.00500	0.000733	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
<b>Manganese</b>	<b>0.275</b>		0.0500	0.0116	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
Selenium	0.00108	U	0.00500	0.00108	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
Silver	0.000941	U	0.00500	0.000941	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	-	09/12/16 09:15	09/13/16 17:51	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	-	09/12/16 09:15	09/13/16 17:51	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	09/12/16 10:00	09/12/16 16:55	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>0.509</b>	<b>J</b>	1.00	0.315	mg/L	-		09/10/16 16:47	1
<b>Chloride</b>	<b>27.9</b>		1.00	0.192	mg/L	-		09/10/16 16:47	1
<b>Nitrate as N</b>	<b>0.587</b>		0.500	0.103	mg/L	-		09/10/16 16:47	1
<b>Sulfate</b>	<b>30.4</b>		1.00	0.377	mg/L	-		09/10/16 16:47	1
<b>Fluoride</b>	<b>0.232</b>		0.100	0.0200	mg/L	-		09/16/16 11:45	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		09/20/16 12:03	1
<b>Phosphorus</b>	<b>0.0456</b>	<b>J</b>	0.100	0.0410	mg/L	-	09/20/16 08:57	09/21/16 11:52	1
<b>Total Organic Carbon</b>	<b>0.524</b>	<b>J</b>	1.00	0.285	mg/L	-		09/15/16 12:51	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.2</b>	<b>HF</b>	0.1	0.1	SU	-		09/13/16 09:12	1
<b>Total Alkalinity as CaCO3</b>	<b>252</b>		5.00	5.00	mg/L	-		09/16/16 12:45	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>252</b>		5.00	5.00	mg/L	-		09/16/16 12:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		09/16/16 12:45	1
<b>Total Dissolved Solids</b>	<b>356</b>		10.0	10.0	mg/L	-		09/14/16 09:35	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L	-		09/12/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Dissolved Organic Carbon</b>	<b>0.296</b>	<b>J</b>	1.00	0.285	mg/L	-		09/20/16 12:38	1

**Client Sample ID: HSM120**

**Date Collected: 09/09/16 10:52**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-3**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		09/12/16 14:27	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM120**

**Date Collected: 09/09/16 10:52**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-3**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/12/16 14:27	1
Benzene	0.330	U	1.00	0.330	ug/L			09/12/16 14:27	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/12/16 14:27	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 14:27	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/12/16 14:27	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/12/16 14:27	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/12/16 14:27	1
1,3-Butadiene	0.300	U *	2.00	0.300	ug/L			09/12/16 14:27	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/12/16 14:27	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/12/16 14:27	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/12/16 14:27	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/12/16 14:27	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/12/16 14:27	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/12/16 14:27	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/12/16 14:27	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/12/16 14:27	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/12/16 14:27	1
Chloromethane	0.390	U *	5.00	0.390	ug/L			09/12/16 14:27	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/12/16 14:27	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/12/16 14:27	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 14:27	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/12/16 14:27	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/12/16 14:27	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/12/16 14:27	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/12/16 14:27	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/12/16 14:27	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/12/16 14:27	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/12/16 14:27	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 14:27	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/12/16 14:27	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/12/16 14:27	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/12/16 14:27	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/12/16 14:27	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/12/16 14:27	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/12/16 14:27	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/12/16 14:27	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/12/16 14:27	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/12/16 14:27	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/12/16 14:27	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/12/16 14:27	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/12/16 14:27	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/12/16 14:27	1
EDB	0.175	U	1.00	0.175	ug/L			09/12/16 14:27	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/12/16 14:27	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 14:27	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/12/16 14:27	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/12/16 14:27	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/12/16 14:27	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/12/16 14:27	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM120**

**Date Collected: 09/09/16 10:52**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-3**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			09/12/16 14:27	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/12/16 14:27	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/12/16 14:27	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/12/16 14:27	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/12/16 14:27	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/12/16 14:27	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/12/16 14:27	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/12/16 14:27	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/12/16 14:27	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/12/16 14:27	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/12/16 14:27	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/12/16 14:27	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/12/16 14:27	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/12/16 14:27	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 14:27	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/12/16 14:27	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/12/16 14:27	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/12/16 14:27	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/12/16 14:27	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/12/16 14:27	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/12/16 14:27	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/12/16 14:27	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/12/16 14:27	1
Styrene	0.200	U	1.00	0.200	ug/L			09/12/16 14:27	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 14:27	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/12/16 14:27	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/12/16 14:27	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/12/16 14:27	1
Toluene	0.495	U	1.00	0.495	ug/L			09/12/16 14:27	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 14:27	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/12/16 14:27	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/12/16 14:27	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/12/16 14:27	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/12/16 14:27	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/12/16 14:27	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/12/16 14:27	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/12/16 14:27	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/12/16 14:27	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/12/16 14:27	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/12/16 14:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/12/16 14:27	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 14:27	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 14:27	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/12/16 14:27	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/12/16 14:27	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/12/16 14:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130		09/12/16 14:27	1
Dibromofluoromethane (Surr)	103		69 - 130		09/12/16 14:27	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM120**

**Date Collected: 09/09/16 10:52**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-3**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 140		09/12/16 14:27	1
Toluene-d8 (Surr)	96		70 - 130		09/12/16 14:27	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/13/16 14:00	09/14/16 11:18	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/13/16 14:00	09/14/16 11:18	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/13/16 14:00	09/14/16 11:18	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/13/16 14:00	09/14/16 11:18	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/13/16 14:00	09/14/16 11:18	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/13/16 14:00	09/14/16 11:18	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/13/16 14:00	09/14/16 11:18	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/13/16 14:00	09/14/16 11:18	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/13/16 14:00	09/14/16 11:18	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/13/16 14:00	09/14/16 11:18	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/13/16 14:00	09/14/16 11:18	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>6.04</b>	<b>J</b>	20.0	5.00	ug/L		09/13/16 14:00	09/14/16 11:18	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/13/16 14:00	09/14/16 11:18	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/13/16 14:00	09/14/16 11:18	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 11:18	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/13/16 14:00	09/14/16 11:18	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/13/16 14:00	09/14/16 11:18	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/13/16 14:00	09/14/16 11:18	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/13/16 14:00	09/14/16 11:18	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/13/16 14:00	09/14/16 11:18	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/13/16 14:00	09/14/16 11:18	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/13/16 14:00	09/14/16 11:18	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/13/16 14:00	09/14/16 11:18	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/13/16 14:00	09/14/16 11:18	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/13/16 14:00	09/14/16 11:18	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 11:18	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/13/16 14:00	09/14/16 11:18	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/13/16 14:00	09/14/16 11:18	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/13/16 14:00	09/14/16 11:18	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 11:18	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/13/16 14:00	09/14/16 11:18	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/13/16 14:00	09/14/16 11:18	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/13/16 14:00	09/14/16 11:18	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/13/16 14:00	09/14/16 11:18	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/13/16 14:00	09/14/16 11:18	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/13/16 14:00	09/14/16 11:18	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/13/16 14:00	09/14/16 11:18	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/13/16 14:00	09/14/16 11:18	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/13/16 14:00	09/14/16 11:18	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/13/16 14:00	09/14/16 11:18	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/13/16 14:00	09/14/16 11:18	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 11:18	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/13/16 14:00	09/14/16 11:18	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 11:18	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM120**

**Date Collected: 09/09/16 10:52**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-3**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/13/16 14:00	09/14/16 11:18	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/13/16 14:00	09/14/16 11:18	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/13/16 14:00	09/14/16 11:18	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 11:18	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/13/16 14:00	09/14/16 11:18	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/13/16 14:00	09/14/16 11:18	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/13/16 14:00	09/14/16 11:18	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/13/16 14:00	09/14/16 11:18	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/13/16 14:00	09/14/16 11:18	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/13/16 14:00	09/14/16 11:18	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/13/16 14:00	09/14/16 11:18	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/13/16 14:00	09/14/16 11:18	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/13/16 14:00	09/14/16 11:18	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/13/16 14:00	09/14/16 11:18	1
Phenol	0.768	U	10.0	0.768	ug/L		09/13/16 14:00	09/14/16 11:18	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/13/16 14:00	09/14/16 11:18	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/13/16 14:00	09/14/16 11:18	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/13/16 14:00	09/14/16 11:18	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/13/16 14:00	09/14/16 11:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	60		23 - 130	09/13/16 14:00	09/14/16 11:18	1
2-Fluorophenol	61		10 - 130	09/13/16 14:00	09/14/16 11:18	1
Nitrobenzene-d5	62		27 - 130	09/13/16 14:00	09/14/16 11:18	1
Phenol-d5	62		10 - 130	09/13/16 14:00	09/14/16 11:18	1
Terphenyl-d14	76		10 - 141	09/13/16 14:00	09/14/16 11:18	1
2,4,6-Tribromophenol	70		18 - 130	09/13/16 14:00	09/14/16 11:18	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00481	U	0.0577	0.00481	ug/L		09/12/16 09:01	09/12/16 21:26	1
alpha-BHC	0.00500	U	0.0577	0.00500	ug/L		09/12/16 09:01	09/12/16 21:26	1
alpha-Chlordane	0.00606	U	0.0577	0.00606	ug/L		09/12/16 09:01	09/12/16 21:26	1
beta-BHC	0.00481	U	0.0577	0.00481	ug/L		09/12/16 09:01	09/12/16 21:26	1
4,4'-DDD	0.00481	U	0.0577	0.00481	ug/L		09/12/16 09:01	09/12/16 21:26	1
4,4'-DDE	0.00481	U	0.0577	0.00481	ug/L		09/12/16 09:01	09/12/16 21:26	1
4,4'-DDT	0.00779	U	0.0577	0.00779	ug/L		09/12/16 09:01	09/12/16 21:26	1
delta-BHC	0.00481	U	0.0577	0.00481	ug/L		09/12/16 09:01	09/12/16 21:26	1
Dieldrin	0.0125	U	0.0577	0.0125	ug/L		09/12/16 09:01	09/12/16 21:26	1
Endosulfan I	0.00481	U	0.0577	0.00481	ug/L		09/12/16 09:01	09/12/16 21:26	1
Endosulfan II	0.00827	U	0.0577	0.00827	ug/L		09/12/16 09:01	09/12/16 21:26	1
Endosulfan sulfate	0.00846	U	0.0577	0.00846	ug/L		09/12/16 09:01	09/12/16 21:26	1
Endrin	0.00740	U	0.0577	0.00740	ug/L		09/12/16 09:01	09/12/16 21:26	1
Endrin aldehyde	0.00481	U	0.0577	0.00481	ug/L		09/12/16 09:01	09/12/16 21:26	1
Endrin ketone	0.00788	U	0.0577	0.00788	ug/L		09/12/16 09:01	09/12/16 21:26	1
gamma-BHC (Lindane)	0.00433	U	0.0577	0.00433	ug/L		09/12/16 09:01	09/12/16 21:26	1
gamma-Chlordane	0.00644	U	0.0577	0.00644	ug/L		09/12/16 09:01	09/12/16 21:26	1
Heptachlor	0.00625	U	0.0577	0.00625	ug/L		09/12/16 09:01	09/12/16 21:26	1
Heptachlor epoxide	0.00500	U	0.0577	0.00500	ug/L		09/12/16 09:01	09/12/16 21:26	1
Methoxychlor	0.00962	U	0.0577	0.00962	ug/L		09/12/16 09:01	09/12/16 21:26	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM120**

**Date Collected: 09/09/16 10:52**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-3**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.654	U	5.77	0.654	ug/L	-	09/12/16 09:01	09/12/16 21:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	71		10 - 152				09/12/16 09:01	09/12/16 21:26	1
DCB Decachlorobiphenyl	67		10 - 152				09/12/16 09:01	09/12/16 21:26	1
Tetrachloro-m-xylene	86		57 - 127				09/12/16 09:01	09/12/16 21:26	1
Tetrachloro-m-xylene	73		57 - 127				09/12/16 09:01	09/12/16 21:26	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 18:33	1
Aroclor 1221	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 18:33	1
Aroclor 1232	0.423	U	0.769	0.423	ug/L	-	09/12/16 09:01	09/12/16 18:33	1
Aroclor 1242	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 18:33	1
Aroclor 1248	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 18:33	1
Aroclor 1254	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 18:33	1
Aroclor 1260	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 18:33	1
Aroclor 1262	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 18:33	1
Aroclor 1268	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 18:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	113		10 - 150				09/12/16 09:01	09/12/16 18:33	1
DCB Decachlorobiphenyl	90		10 - 150				09/12/16 09:01	09/12/16 18:33	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0947	U	4.74	0.0947	ug/L	-	09/14/16 08:02	09/16/16 18:59	1
Dicamba	0.0805	U	0.474	0.0805	ug/L	-	09/14/16 08:02	09/16/16 18:59	1
Mecoprop	18.0	U	114	18.0	ug/L	-	09/14/16 08:02	09/16/16 18:59	1
MCPA	16.1	U	114	16.1	ug/L	-	09/14/16 08:02	09/16/16 18:59	1
Dichlorprop	0.142	U	0.474	0.142	ug/L	-	09/14/16 08:02	09/16/16 18:59	1
2,4-D	0.0351	U	0.474	0.0351	ug/L	-	09/14/16 08:02	09/16/16 18:59	1
Silvex (2,4,5-TP)	0.0587	U	0.237	0.0587	ug/L	-	09/14/16 08:02	09/16/16 18:59	1
2,4,5-T	0.0587	U	0.237	0.0587	ug/L	-	09/14/16 08:02	09/16/16 18:59	1
2,4-DB	0.142	U	0.474	0.142	ug/L	-	09/14/16 08:02	09/16/16 18:59	1
Dinoseb	0.152	U	0.947	0.152	ug/L	-	09/14/16 08:02	09/16/16 18:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	88		45 - 130				09/14/16 08:02	09/16/16 18:59	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	89.4		0.200	0.101	mg/L	-	09/12/16 09:15	09/12/16 15:13	1
Magnesium	16.5		0.200	0.0257	mg/L	-	09/12/16 09:15	09/12/16 15:13	1
Potassium	1.39		0.500	0.375	mg/L	-	09/12/16 09:15	09/12/16 15:13	1
Silicon	5.12		0.500	0.0707	mg/L	-	09/12/16 09:15	09/12/16 15:13	1
Sodium	11.0		1.00	0.310	mg/L	-	09/12/16 09:15	09/12/16 15:13	1
Strontium	0.505		0.00500	0.000700	mg/L	-	09/12/16 09:15	09/12/16 15:13	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM120**

**Date Collected: 09/09/16 10:52**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-3**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Barium	0.0382		0.00500	0.000810	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Chromium	0.00140	U	0.00500	0.00140	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Copper	0.00200	U	0.0100	0.00200	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Iron	0.101	U	0.250	0.101	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Lead	0.000733	U	0.00500	0.000733	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Manganese	0.0116	U	0.0500	0.0116	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Selenium	0.00165	J	0.00500	0.00108	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Silver	0.000941	U	0.00500	0.000941	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	-	09/12/16 09:15	09/13/16 17:56	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	-	09/12/16 09:15	09/13/16 17:56	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	09/12/16 10:00	09/12/16 16:57	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.457	J	1.00	0.315	mg/L	-		09/10/16 17:13	1
Chloride	18.9		1.00	0.192	mg/L	-		09/10/16 17:13	1
Nitrate as N	1.30		0.500	0.103	mg/L	-		09/10/16 17:13	1
Sulfate	24.2		1.00	0.377	mg/L	-		09/10/16 17:13	1
Fluoride	0.193		0.100	0.0200	mg/L	-		09/16/16 11:45	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		09/20/16 12:05	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	09/20/16 08:57	09/21/16 11:46	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/15/16 12:51	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2	HF	0.1	0.1	SU	-		09/13/16 09:12	1
Total Alkalinity as CaCO3	256		5.00	5.00	mg/L	-		09/16/16 12:45	1
Bicarbonate Alkalinity as CaCO3	256		5.00	5.00	mg/L	-		09/16/16 12:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		09/16/16 12:45	1
Total Dissolved Solids	323		10.0	10.0	mg/L	-		09/14/16 09:35	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L	-		09/12/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/20/16 12:38	1

**Client Sample ID: HSM130**

**Date Collected: 09/09/16 11:26**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-4**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		09/12/16 14:53	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM130**

**Date Collected: 09/09/16 11:26**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-4**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/12/16 14:53	1
Benzene	0.330	U	1.00	0.330	ug/L			09/12/16 14:53	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/12/16 14:53	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 14:53	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/12/16 14:53	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/12/16 14:53	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/12/16 14:53	1
1,3-Butadiene	0.300	U *	2.00	0.300	ug/L			09/12/16 14:53	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/12/16 14:53	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/12/16 14:53	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/12/16 14:53	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/12/16 14:53	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/12/16 14:53	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/12/16 14:53	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/12/16 14:53	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/12/16 14:53	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/12/16 14:53	1
Chloromethane	0.390	U *	5.00	0.390	ug/L			09/12/16 14:53	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/12/16 14:53	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/12/16 14:53	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 14:53	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/12/16 14:53	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/12/16 14:53	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/12/16 14:53	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/12/16 14:53	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/12/16 14:53	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/12/16 14:53	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/12/16 14:53	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 14:53	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/12/16 14:53	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/12/16 14:53	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/12/16 14:53	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/12/16 14:53	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/12/16 14:53	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/12/16 14:53	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/12/16 14:53	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/12/16 14:53	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/12/16 14:53	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/12/16 14:53	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/12/16 14:53	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/12/16 14:53	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/12/16 14:53	1
EDB	0.175	U	1.00	0.175	ug/L			09/12/16 14:53	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/12/16 14:53	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 14:53	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/12/16 14:53	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/12/16 14:53	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/12/16 14:53	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/12/16 14:53	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM130**

**Date Collected: 09/09/16 11:26**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-4**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			09/12/16 14:53	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/12/16 14:53	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/12/16 14:53	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/12/16 14:53	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/12/16 14:53	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/12/16 14:53	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/12/16 14:53	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/12/16 14:53	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/12/16 14:53	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/12/16 14:53	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/12/16 14:53	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/12/16 14:53	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/12/16 14:53	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/12/16 14:53	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 14:53	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/12/16 14:53	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/12/16 14:53	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/12/16 14:53	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/12/16 14:53	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/12/16 14:53	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/12/16 14:53	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/12/16 14:53	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/12/16 14:53	1
Styrene	0.200	U	1.00	0.200	ug/L			09/12/16 14:53	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 14:53	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/12/16 14:53	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/12/16 14:53	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/12/16 14:53	1
Toluene	0.495	U	1.00	0.495	ug/L			09/12/16 14:53	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 14:53	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/12/16 14:53	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/12/16 14:53	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/12/16 14:53	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/12/16 14:53	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/12/16 14:53	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/12/16 14:53	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/12/16 14:53	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/12/16 14:53	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/12/16 14:53	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/12/16 14:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/12/16 14:53	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 14:53	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 14:53	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/12/16 14:53	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/12/16 14:53	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/12/16 14:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130		09/12/16 14:53	1
Dibromofluoromethane (Surr)	103		69 - 130		09/12/16 14:53	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM130**

**Date Collected: 09/09/16 11:26**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-4**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 140		09/12/16 14:53	1
Toluene-d8 (Surr)	94		70 - 130		09/12/16 14:53	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/13/16 14:00	09/14/16 11:44	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/13/16 14:00	09/14/16 11:44	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/13/16 14:00	09/14/16 11:44	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/13/16 14:00	09/14/16 11:44	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/13/16 14:00	09/14/16 11:44	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/13/16 14:00	09/14/16 11:44	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/13/16 14:00	09/14/16 11:44	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/13/16 14:00	09/14/16 11:44	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/13/16 14:00	09/14/16 11:44	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/13/16 14:00	09/14/16 11:44	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/13/16 14:00	09/14/16 11:44	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>11.3</b>	<b>J</b>	20.0	5.00	ug/L		09/13/16 14:00	09/14/16 11:44	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/13/16 14:00	09/14/16 11:44	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/13/16 14:00	09/14/16 11:44	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 11:44	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/13/16 14:00	09/14/16 11:44	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/13/16 14:00	09/14/16 11:44	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/13/16 14:00	09/14/16 11:44	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/13/16 14:00	09/14/16 11:44	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/13/16 14:00	09/14/16 11:44	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/13/16 14:00	09/14/16 11:44	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/13/16 14:00	09/14/16 11:44	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/13/16 14:00	09/14/16 11:44	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/13/16 14:00	09/14/16 11:44	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/13/16 14:00	09/14/16 11:44	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 11:44	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/13/16 14:00	09/14/16 11:44	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/13/16 14:00	09/14/16 11:44	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/13/16 14:00	09/14/16 11:44	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 11:44	1
<b>Di-n-butyl phthalate</b>	<b>2.30</b>	<b>J B</b>	10.0	0.709	ug/L		09/13/16 14:00	09/14/16 11:44	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/13/16 14:00	09/14/16 11:44	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/13/16 14:00	09/14/16 11:44	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/13/16 14:00	09/14/16 11:44	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/13/16 14:00	09/14/16 11:44	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/13/16 14:00	09/14/16 11:44	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/13/16 14:00	09/14/16 11:44	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/13/16 14:00	09/14/16 11:44	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/13/16 14:00	09/14/16 11:44	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/13/16 14:00	09/14/16 11:44	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/13/16 14:00	09/14/16 11:44	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 11:44	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/13/16 14:00	09/14/16 11:44	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 11:44	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM130**

**Date Collected: 09/09/16 11:26**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-4**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/13/16 14:00	09/14/16 11:44	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/13/16 14:00	09/14/16 11:44	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/13/16 14:00	09/14/16 11:44	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 11:44	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/13/16 14:00	09/14/16 11:44	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/13/16 14:00	09/14/16 11:44	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/13/16 14:00	09/14/16 11:44	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/13/16 14:00	09/14/16 11:44	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/13/16 14:00	09/14/16 11:44	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/13/16 14:00	09/14/16 11:44	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/13/16 14:00	09/14/16 11:44	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/13/16 14:00	09/14/16 11:44	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/13/16 14:00	09/14/16 11:44	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/13/16 14:00	09/14/16 11:44	1
Phenol	0.768	U	10.0	0.768	ug/L		09/13/16 14:00	09/14/16 11:44	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/13/16 14:00	09/14/16 11:44	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/13/16 14:00	09/14/16 11:44	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/13/16 14:00	09/14/16 11:44	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/13/16 14:00	09/14/16 11:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		23 - 130	09/13/16 14:00	09/14/16 11:44	1
2-Fluorophenol	69		10 - 130	09/13/16 14:00	09/14/16 11:44	1
Nitrobenzene-d5	67		27 - 130	09/13/16 14:00	09/14/16 11:44	1
Phenol-d5	71		10 - 130	09/13/16 14:00	09/14/16 11:44	1
Terphenyl-d14	83		10 - 141	09/13/16 14:00	09/14/16 11:44	1
2,4,6-Tribromophenol	75		18 - 130	09/13/16 14:00	09/14/16 11:44	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00473	U	0.0568	0.00473	ug/L		09/12/16 09:01	09/12/16 21:47	1
alpha-BHC	0.00492	U	0.0568	0.00492	ug/L		09/12/16 09:01	09/12/16 21:47	1
alpha-Chlordane	0.00596	U	0.0568	0.00596	ug/L		09/12/16 09:01	09/12/16 21:47	1
beta-BHC	0.00473	U	0.0568	0.00473	ug/L		09/12/16 09:01	09/12/16 21:47	1
4,4'-DDD	0.00473	U	0.0568	0.00473	ug/L		09/12/16 09:01	09/12/16 21:47	1
4,4'-DDE	0.00473	U	0.0568	0.00473	ug/L		09/12/16 09:01	09/12/16 21:47	1
4,4'-DDT	0.00766	U	0.0568	0.00766	ug/L		09/12/16 09:01	09/12/16 21:47	1
delta-BHC	0.00473	U	0.0568	0.00473	ug/L		09/12/16 09:01	09/12/16 21:47	1
Dieldrin	0.0123	U	0.0568	0.0123	ug/L		09/12/16 09:01	09/12/16 21:47	1
Endosulfan I	0.00473	U	0.0568	0.00473	ug/L		09/12/16 09:01	09/12/16 21:47	1
Endosulfan II	0.00814	U	0.0568	0.00814	ug/L		09/12/16 09:01	09/12/16 21:47	1
Endosulfan sulfate	0.00832	U	0.0568	0.00832	ug/L		09/12/16 09:01	09/12/16 21:47	1
Endrin	0.00728	U	0.0568	0.00728	ug/L		09/12/16 09:01	09/12/16 21:47	1
Endrin aldehyde	0.00473	U	0.0568	0.00473	ug/L		09/12/16 09:01	09/12/16 21:47	1
Endrin ketone	0.00776	U	0.0568	0.00776	ug/L		09/12/16 09:01	09/12/16 21:47	1
gamma-BHC (Lindane)	0.00426	U	0.0568	0.00426	ug/L		09/12/16 09:01	09/12/16 21:47	1
gamma-Chlordane	0.00634	U	0.0568	0.00634	ug/L		09/12/16 09:01	09/12/16 21:47	1
Heptachlor	0.00615	U	0.0568	0.00615	ug/L		09/12/16 09:01	09/12/16 21:47	1
Heptachlor epoxide	0.00492	U	0.0568	0.00492	ug/L		09/12/16 09:01	09/12/16 21:47	1
Methoxychlor	0.00946	U	0.0568	0.00946	ug/L		09/12/16 09:01	09/12/16 21:47	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM130**

**Date Collected: 09/09/16 11:26**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-4**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.643	U	5.68	0.643	ug/L	-	09/12/16 09:01	09/12/16 21:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	78		10 - 152				09/12/16 09:01	09/12/16 21:47	1
DCB Decachlorobiphenyl	73		10 - 152				09/12/16 09:01	09/12/16 21:47	1
Tetrachloro-m-xylene	92		57 - 127				09/12/16 09:01	09/12/16 21:47	1
Tetrachloro-m-xylene	79		57 - 127				09/12/16 09:01	09/12/16 21:47	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.568	0.104	ug/L	-	09/12/16 09:01	09/12/16 18:51	1
Aroclor 1221	0.104	U	0.568	0.104	ug/L	-	09/12/16 09:01	09/12/16 18:51	1
Aroclor 1232	0.416	U	0.757	0.416	ug/L	-	09/12/16 09:01	09/12/16 18:51	1
Aroclor 1242	0.104	U	0.568	0.104	ug/L	-	09/12/16 09:01	09/12/16 18:51	1
Aroclor 1248	0.104	U	0.568	0.104	ug/L	-	09/12/16 09:01	09/12/16 18:51	1
Aroclor 1254	0.104	U	0.568	0.104	ug/L	-	09/12/16 09:01	09/12/16 18:51	1
Aroclor 1260	0.104	U	0.568	0.104	ug/L	-	09/12/16 09:01	09/12/16 18:51	1
Aroclor 1262	0.104	U	0.568	0.104	ug/L	-	09/12/16 09:01	09/12/16 18:51	1
Aroclor 1268	0.104	U	0.568	0.104	ug/L	-	09/12/16 09:01	09/12/16 18:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	104		10 - 150				09/12/16 09:01	09/12/16 18:51	1
DCB Decachlorobiphenyl	85		10 - 150				09/12/16 09:01	09/12/16 18:51	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0952	U	4.76	0.0952	ug/L	-	09/14/16 08:02	09/16/16 19:19	1
Dicamba	0.0810	U	0.476	0.0810	ug/L	-	09/14/16 08:02	09/16/16 19:19	1
Mecoprop	18.1	U	114	18.1	ug/L	-	09/14/16 08:02	09/16/16 19:19	1
MCPA	16.2	U	114	16.2	ug/L	-	09/14/16 08:02	09/16/16 19:19	1
Dichlorprop	0.143	U	0.476	0.143	ug/L	-	09/14/16 08:02	09/16/16 19:19	1
2,4-D	0.0352	U	0.476	0.0352	ug/L	-	09/14/16 08:02	09/16/16 19:19	1
Silvex (2,4,5-TP)	0.0590	U	0.238	0.0590	ug/L	-	09/14/16 08:02	09/16/16 19:19	1
2,4,5-T	0.0590	U	0.238	0.0590	ug/L	-	09/14/16 08:02	09/16/16 19:19	1
2,4-DB	0.143	U	0.476	0.143	ug/L	-	09/14/16 08:02	09/16/16 19:19	1
Dinoseb	0.152	U	0.952	0.152	ug/L	-	09/14/16 08:02	09/16/16 19:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	81		45 - 130				09/14/16 08:02	09/16/16 19:19	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	97.1		0.200	0.101	mg/L	-	09/12/16 09:15	09/12/16 15:17	1
Magnesium	16.6		0.200	0.0257	mg/L	-	09/12/16 09:15	09/12/16 15:17	1
Potassium	1.62		0.500	0.375	mg/L	-	09/12/16 09:15	09/12/16 15:17	1
Silicon	5.75		0.500	0.0707	mg/L	-	09/12/16 09:15	09/12/16 15:17	1
Sodium	13.9		1.00	0.310	mg/L	-	09/12/16 09:15	09/12/16 15:17	1
Strontium	0.555		0.00500	0.000700	mg/L	-	09/12/16 09:15	09/12/16 15:17	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM130**

**Date Collected: 09/09/16 11:26**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-4**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Barium	0.0422		0.00500	0.000810	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Chromium	0.00140	U	0.00500	0.00140	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Copper	0.00200	U	0.0100	0.00200	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Iron	0.101	U	0.250	0.101	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Lead	0.000733	U	0.00500	0.000733	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Manganese	0.0116	U	0.0500	0.0116	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Selenium	0.00130	J	0.00500	0.00108	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Silver	0.000941	U	0.00500	0.000941	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	-	09/12/16 09:15	09/13/16 18:01	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	-	09/12/16 09:15	09/13/16 18:01	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	09/12/16 10:00	09/12/16 16:59	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.461	J	1.00	0.315	mg/L	-		09/10/16 17:39	1
Chloride	21.5		1.00	0.192	mg/L	-		09/10/16 17:39	1
Nitrate as N	1.68		0.500	0.103	mg/L	-		09/10/16 17:39	1
Sulfate	27.4		1.00	0.377	mg/L	-		09/10/16 17:39	1
Fluoride	0.202		0.100	0.0200	mg/L	-		09/16/16 11:45	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		09/20/16 12:06	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	09/20/16 08:57	09/21/16 11:50	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/19/16 11:12	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2	HF	0.1	0.1	SU	-		09/13/16 09:12	1
Total Alkalinity as CaCO3	248		5.00	5.00	mg/L	-		09/16/16 12:45	1
Bicarbonate Alkalinity as CaCO3	248		5.00	5.00	mg/L	-		09/16/16 12:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		09/16/16 12:45	1
Total Dissolved Solids	350		10.0	10.0	mg/L	-		09/14/16 09:35	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L	-		09/12/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/20/16 12:38	1

**Client Sample ID: HSM140**

**Date Collected: 09/09/16 11:56**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		09/12/16 17:24	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM140**

**Date Collected: 09/09/16 11:56**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/12/16 17:24	1
Benzene	0.330	U	1.00	0.330	ug/L			09/12/16 17:24	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/12/16 17:24	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 17:24	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/12/16 17:24	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/12/16 17:24	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/12/16 17:24	1
1,3-Butadiene	0.300	U *	2.00	0.300	ug/L			09/12/16 17:24	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/12/16 17:24	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/12/16 17:24	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/12/16 17:24	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/12/16 17:24	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/12/16 17:24	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/12/16 17:24	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/12/16 17:24	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/12/16 17:24	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/12/16 17:24	1
Chloromethane	0.390	U *	5.00	0.390	ug/L			09/12/16 17:24	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/12/16 17:24	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/12/16 17:24	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 17:24	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/12/16 17:24	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/12/16 17:24	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/12/16 17:24	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/12/16 17:24	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/12/16 17:24	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/12/16 17:24	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/12/16 17:24	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 17:24	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/12/16 17:24	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/12/16 17:24	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/12/16 17:24	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/12/16 17:24	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/12/16 17:24	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/12/16 17:24	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/12/16 17:24	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/12/16 17:24	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/12/16 17:24	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/12/16 17:24	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/12/16 17:24	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/12/16 17:24	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/12/16 17:24	1
EDB	0.175	U	1.00	0.175	ug/L			09/12/16 17:24	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/12/16 17:24	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 17:24	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/12/16 17:24	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/12/16 17:24	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/12/16 17:24	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/12/16 17:24	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM140**

**Date Collected: 09/09/16 11:56**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			09/12/16 17:24	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/12/16 17:24	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/12/16 17:24	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/12/16 17:24	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/12/16 17:24	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/12/16 17:24	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/12/16 17:24	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/12/16 17:24	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/12/16 17:24	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/12/16 17:24	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/12/16 17:24	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/12/16 17:24	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/12/16 17:24	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/12/16 17:24	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 17:24	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/12/16 17:24	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/12/16 17:24	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/12/16 17:24	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/12/16 17:24	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/12/16 17:24	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/12/16 17:24	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/12/16 17:24	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/12/16 17:24	1
Styrene	0.200	U	1.00	0.200	ug/L			09/12/16 17:24	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 17:24	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/12/16 17:24	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/12/16 17:24	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/12/16 17:24	1
Toluene	0.495	U	1.00	0.495	ug/L			09/12/16 17:24	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 17:24	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/12/16 17:24	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/12/16 17:24	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/12/16 17:24	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/12/16 17:24	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/12/16 17:24	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/12/16 17:24	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/12/16 17:24	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/12/16 17:24	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/12/16 17:24	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/12/16 17:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/12/16 17:24	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 17:24	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 17:24	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/12/16 17:24	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/12/16 17:24	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/12/16 17:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130		09/12/16 17:24	1
Dibromofluoromethane (Surr)	104		69 - 130		09/12/16 17:24	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM140**

**Date Collected: 09/09/16 11:56**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 140		09/12/16 17:24	1
Toluene-d8 (Surr)	95		70 - 130		09/12/16 17:24	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/13/16 14:00	09/14/16 12:10	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/13/16 14:00	09/14/16 12:10	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/13/16 14:00	09/14/16 12:10	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/13/16 14:00	09/14/16 12:10	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/13/16 14:00	09/14/16 12:10	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/13/16 14:00	09/14/16 12:10	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/13/16 14:00	09/14/16 12:10	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/13/16 14:00	09/14/16 12:10	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/13/16 14:00	09/14/16 12:10	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/13/16 14:00	09/14/16 12:10	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/13/16 14:00	09/14/16 12:10	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/13/16 14:00	09/14/16 12:10	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/13/16 14:00	09/14/16 12:10	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/13/16 14:00	09/14/16 12:10	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 12:10	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/13/16 14:00	09/14/16 12:10	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/13/16 14:00	09/14/16 12:10	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/13/16 14:00	09/14/16 12:10	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/13/16 14:00	09/14/16 12:10	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/13/16 14:00	09/14/16 12:10	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/13/16 14:00	09/14/16 12:10	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/13/16 14:00	09/14/16 12:10	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/13/16 14:00	09/14/16 12:10	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/13/16 14:00	09/14/16 12:10	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/13/16 14:00	09/14/16 12:10	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 12:10	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/13/16 14:00	09/14/16 12:10	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/13/16 14:00	09/14/16 12:10	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/13/16 14:00	09/14/16 12:10	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 12:10	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/13/16 14:00	09/14/16 12:10	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/13/16 14:00	09/14/16 12:10	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/13/16 14:00	09/14/16 12:10	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/13/16 14:00	09/14/16 12:10	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/13/16 14:00	09/14/16 12:10	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/13/16 14:00	09/14/16 12:10	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/13/16 14:00	09/14/16 12:10	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/13/16 14:00	09/14/16 12:10	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/13/16 14:00	09/14/16 12:10	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/13/16 14:00	09/14/16 12:10	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/13/16 14:00	09/14/16 12:10	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 12:10	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/13/16 14:00	09/14/16 12:10	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 12:10	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM140**

**Date Collected: 09/09/16 11:56**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-5**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/13/16 14:00	09/14/16 12:10	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/13/16 14:00	09/14/16 12:10	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/13/16 14:00	09/14/16 12:10	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 12:10	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/13/16 14:00	09/14/16 12:10	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/13/16 14:00	09/14/16 12:10	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/13/16 14:00	09/14/16 12:10	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/13/16 14:00	09/14/16 12:10	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/13/16 14:00	09/14/16 12:10	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/13/16 14:00	09/14/16 12:10	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/13/16 14:00	09/14/16 12:10	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/13/16 14:00	09/14/16 12:10	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/13/16 14:00	09/14/16 12:10	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/13/16 14:00	09/14/16 12:10	1
Phenol	0.768	U	10.0	0.768	ug/L		09/13/16 14:00	09/14/16 12:10	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/13/16 14:00	09/14/16 12:10	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/13/16 14:00	09/14/16 12:10	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/13/16 14:00	09/14/16 12:10	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/13/16 14:00	09/14/16 12:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	69		23 - 130	09/13/16 14:00	09/14/16 12:10	1
2-Fluorophenol	67		10 - 130	09/13/16 14:00	09/14/16 12:10	1
Nitrobenzene-d5	69		27 - 130	09/13/16 14:00	09/14/16 12:10	1
Phenol-d5	70		10 - 130	09/13/16 14:00	09/14/16 12:10	1
Terphenyl-d14	79		10 - 141	09/13/16 14:00	09/14/16 12:10	1
2,4,6-Tribromophenol	75		18 - 130	09/13/16 14:00	09/14/16 12:10	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00474	U	0.0569	0.00474	ug/L		09/12/16 09:01	09/12/16 22:08	1
alpha-BHC	0.00493	U	0.0569	0.00493	ug/L		09/12/16 09:01	09/12/16 22:08	1
alpha-Chlordane	0.00598	U	0.0569	0.00598	ug/L		09/12/16 09:01	09/12/16 22:08	1
beta-BHC	0.00474	U	0.0569	0.00474	ug/L		09/12/16 09:01	09/12/16 22:08	1
4,4'-DDD	0.00474	U	0.0569	0.00474	ug/L		09/12/16 09:01	09/12/16 22:08	1
4,4'-DDE	0.00474	U	0.0569	0.00474	ug/L		09/12/16 09:01	09/12/16 22:08	1
4,4'-DDT	0.00768	U	0.0569	0.00768	ug/L		09/12/16 09:01	09/12/16 22:08	1
delta-BHC	0.00474	U	0.0569	0.00474	ug/L		09/12/16 09:01	09/12/16 22:08	1
Dieldrin	0.0123	U	0.0569	0.0123	ug/L		09/12/16 09:01	09/12/16 22:08	1
Endosulfan I	0.00474	U	0.0569	0.00474	ug/L		09/12/16 09:01	09/12/16 22:08	1
Endosulfan II	0.00816	U	0.0569	0.00816	ug/L		09/12/16 09:01	09/12/16 22:08	1
Endosulfan sulfate	0.00835	U	0.0569	0.00835	ug/L		09/12/16 09:01	09/12/16 22:08	1
Endrin	0.00730	U	0.0569	0.00730	ug/L		09/12/16 09:01	09/12/16 22:08	1
Endrin aldehyde	0.00474	U	0.0569	0.00474	ug/L		09/12/16 09:01	09/12/16 22:08	1
Endrin ketone	0.00778	U	0.0569	0.00778	ug/L		09/12/16 09:01	09/12/16 22:08	1
gamma-BHC (Lindane)	0.00427	U	0.0569	0.00427	ug/L		09/12/16 09:01	09/12/16 22:08	1
gamma-Chlordane	0.00636	U	0.0569	0.00636	ug/L		09/12/16 09:01	09/12/16 22:08	1
Heptachlor	0.00617	U	0.0569	0.00617	ug/L		09/12/16 09:01	09/12/16 22:08	1
Heptachlor epoxide	0.00493	U	0.0569	0.00493	ug/L		09/12/16 09:01	09/12/16 22:08	1
Methoxychlor	0.00949	U	0.0569	0.00949	ug/L		09/12/16 09:01	09/12/16 22:08	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM140**

**Date Collected: 09/09/16 11:56**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-5**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.645	U	5.69	0.645	ug/L	-	09/12/16 09:01	09/12/16 22:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	64		10 - 152				09/12/16 09:01	09/12/16 22:08	1
DCB Decachlorobiphenyl	73		10 - 152				09/12/16 09:01	09/12/16 22:08	1
Tetrachloro-m-xylene	79		57 - 127				09/12/16 09:01	09/12/16 22:08	1
Tetrachloro-m-xylene	82		57 - 127				09/12/16 09:01	09/12/16 22:08	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.569	0.104	ug/L	-	09/12/16 09:01	09/12/16 19:08	1
Aroclor 1221	0.104	U	0.569	0.104	ug/L	-	09/12/16 09:01	09/12/16 19:08	1
Aroclor 1232	0.417	U	0.759	0.417	ug/L	-	09/12/16 09:01	09/12/16 19:08	1
Aroclor 1242	0.104	U	0.569	0.104	ug/L	-	09/12/16 09:01	09/12/16 19:08	1
Aroclor 1248	0.104	U	0.569	0.104	ug/L	-	09/12/16 09:01	09/12/16 19:08	1
Aroclor 1254	0.104	U	0.569	0.104	ug/L	-	09/12/16 09:01	09/12/16 19:08	1
Aroclor 1260	0.104	U	0.569	0.104	ug/L	-	09/12/16 09:01	09/12/16 19:08	1
Aroclor 1262	0.104	U	0.569	0.104	ug/L	-	09/12/16 09:01	09/12/16 19:08	1
Aroclor 1268	0.104	U	0.569	0.104	ug/L	-	09/12/16 09:01	09/12/16 19:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	113		10 - 150				09/12/16 09:01	09/12/16 19:08	1
DCB Decachlorobiphenyl	87		10 - 150				09/12/16 09:01	09/12/16 19:08	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0953	U	4.77	0.0953	ug/L	-	09/14/16 08:02	09/16/16 19:38	1
Dicamba	0.0810	U	0.477	0.0810	ug/L	-	09/14/16 08:02	09/16/16 19:38	1
Mecoprop	18.1	U	114	18.1	ug/L	-	09/14/16 08:02	09/16/16 19:38	1
MCPA	16.2	U	114	16.2	ug/L	-	09/14/16 08:02	09/16/16 19:38	1
Dichlorprop	0.143	U	0.477	0.143	ug/L	-	09/14/16 08:02	09/16/16 19:38	1
2,4-D	0.0353	U	0.477	0.0353	ug/L	-	09/14/16 08:02	09/16/16 19:38	1
Silvex (2,4,5-TP)	0.0591	U	0.238	0.0591	ug/L	-	09/14/16 08:02	09/16/16 19:38	1
2,4,5-T	0.0591	U	0.238	0.0591	ug/L	-	09/14/16 08:02	09/16/16 19:38	1
2,4-DB	0.143	U	0.477	0.143	ug/L	-	09/14/16 08:02	09/16/16 19:38	1
Dinoseb	0.153	U	0.953	0.153	ug/L	-	09/14/16 08:02	09/16/16 19:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	87		45 - 130				09/14/16 08:02	09/16/16 19:38	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	92.3		0.200	0.101	mg/L	-	09/12/16 09:15	09/12/16 15:21	1
Magnesium	17.1		0.200	0.0257	mg/L	-	09/12/16 09:15	09/12/16 15:21	1
Potassium	1.47		0.500	0.375	mg/L	-	09/12/16 09:15	09/12/16 15:21	1
Silicon	5.33		0.500	0.0707	mg/L	-	09/12/16 09:15	09/12/16 15:21	1
Sodium	11.6		1.00	0.310	mg/L	-	09/12/16 09:15	09/12/16 15:21	1
Strontium	0.533		0.00500	0.000700	mg/L	-	09/12/16 09:15	09/12/16 15:21	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM140**

**Date Collected: 09/09/16 11:56**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-5**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Barium	0.0369		0.00500	0.000810	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Chromium	0.00140	U	0.00500	0.00140	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Copper	0.00200	U	0.0100	0.00200	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Iron	0.101	U	0.250	0.101	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Lead	0.000733	U	0.00500	0.000733	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Manganese	0.0116	U	0.0500	0.0116	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Selenium	0.00184	J	0.00500	0.00108	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Silver	0.000941	U	0.00500	0.000941	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	-	09/12/16 09:15	09/13/16 18:06	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	-	09/12/16 09:15	09/13/16 18:06	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	09/12/16 10:00	09/12/16 17:01	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.453	J	1.00	0.315	mg/L	-		09/10/16 18:05	1
Chloride	19.1		1.00	0.192	mg/L	-		09/10/16 18:05	1
Nitrate as N	1.21		0.500	0.103	mg/L	-		09/10/16 18:05	1
Sulfate	24.4		1.00	0.377	mg/L	-		09/10/16 18:05	1
Fluoride	0.193		0.100	0.0200	mg/L	-		09/16/16 11:45	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		09/20/16 12:07	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	09/20/16 08:57	09/21/16 11:53	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/19/16 11:12	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3	HF	0.1	0.1	SU	-		09/13/16 09:12	1
Total Alkalinity as CaCO3	248		5.00	5.00	mg/L	-		09/16/16 12:45	1
Bicarbonate Alkalinity as CaCO3	248		5.00	5.00	mg/L	-		09/16/16 12:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		09/16/16 12:45	1
Total Dissolved Solids	338		10.0	10.0	mg/L	-		09/14/16 09:35	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L	-		09/12/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/20/16 12:38	1

**Client Sample ID: HSM150**

**Date Collected: 09/09/16 13:00**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		09/12/16 15:43	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM150**

**Date Collected: 09/09/16 13:00**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/12/16 15:43	1
Benzene	0.330	U	1.00	0.330	ug/L			09/12/16 15:43	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/12/16 15:43	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 15:43	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/12/16 15:43	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/12/16 15:43	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/12/16 15:43	1
1,3-Butadiene	0.300	U *	2.00	0.300	ug/L			09/12/16 15:43	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/12/16 15:43	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/12/16 15:43	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/12/16 15:43	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/12/16 15:43	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/12/16 15:43	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/12/16 15:43	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/12/16 15:43	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/12/16 15:43	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/12/16 15:43	1
Chloromethane	0.390	U *	5.00	0.390	ug/L			09/12/16 15:43	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/12/16 15:43	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/12/16 15:43	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 15:43	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/12/16 15:43	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/12/16 15:43	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/12/16 15:43	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/12/16 15:43	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/12/16 15:43	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/12/16 15:43	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/12/16 15:43	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 15:43	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/12/16 15:43	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/12/16 15:43	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/12/16 15:43	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/12/16 15:43	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/12/16 15:43	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/12/16 15:43	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/12/16 15:43	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/12/16 15:43	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/12/16 15:43	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/12/16 15:43	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/12/16 15:43	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/12/16 15:43	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/12/16 15:43	1
EDB	0.175	U	1.00	0.175	ug/L			09/12/16 15:43	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/12/16 15:43	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 15:43	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/12/16 15:43	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/12/16 15:43	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/12/16 15:43	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/12/16 15:43	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM150**

**Date Collected: 09/09/16 13:00**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			09/12/16 15:43	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/12/16 15:43	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/12/16 15:43	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/12/16 15:43	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/12/16 15:43	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/12/16 15:43	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/12/16 15:43	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/12/16 15:43	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/12/16 15:43	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/12/16 15:43	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/12/16 15:43	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/12/16 15:43	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/12/16 15:43	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/12/16 15:43	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 15:43	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/12/16 15:43	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/12/16 15:43	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/12/16 15:43	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/12/16 15:43	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/12/16 15:43	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/12/16 15:43	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/12/16 15:43	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/12/16 15:43	1
Styrene	0.200	U	1.00	0.200	ug/L			09/12/16 15:43	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 15:43	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/12/16 15:43	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/12/16 15:43	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/12/16 15:43	1
Toluene	0.495	U	1.00	0.495	ug/L			09/12/16 15:43	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 15:43	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/12/16 15:43	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/12/16 15:43	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/12/16 15:43	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/12/16 15:43	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/12/16 15:43	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/12/16 15:43	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/12/16 15:43	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/12/16 15:43	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/12/16 15:43	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/12/16 15:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/12/16 15:43	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 15:43	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 15:43	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/12/16 15:43	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/12/16 15:43	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/12/16 15:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130		09/12/16 15:43	1
Dibromofluoromethane (Surr)	104		69 - 130		09/12/16 15:43	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM150**

**Date Collected: 09/09/16 13:00**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		70 - 140		09/12/16 15:43	1
Toluene-d8 (Surr)	96		70 - 130		09/12/16 15:43	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/13/16 14:00	09/14/16 12:36	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/13/16 14:00	09/14/16 12:36	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/13/16 14:00	09/14/16 12:36	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/13/16 14:00	09/14/16 12:36	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/13/16 14:00	09/14/16 12:36	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/13/16 14:00	09/14/16 12:36	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/13/16 14:00	09/14/16 12:36	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/13/16 14:00	09/14/16 12:36	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/13/16 14:00	09/14/16 12:36	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/13/16 14:00	09/14/16 12:36	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/13/16 14:00	09/14/16 12:36	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/13/16 14:00	09/14/16 12:36	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/13/16 14:00	09/14/16 12:36	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/13/16 14:00	09/14/16 12:36	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 12:36	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/13/16 14:00	09/14/16 12:36	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/13/16 14:00	09/14/16 12:36	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/13/16 14:00	09/14/16 12:36	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/13/16 14:00	09/14/16 12:36	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/13/16 14:00	09/14/16 12:36	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/13/16 14:00	09/14/16 12:36	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/13/16 14:00	09/14/16 12:36	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/13/16 14:00	09/14/16 12:36	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/13/16 14:00	09/14/16 12:36	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/13/16 14:00	09/14/16 12:36	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 12:36	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/13/16 14:00	09/14/16 12:36	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/13/16 14:00	09/14/16 12:36	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/13/16 14:00	09/14/16 12:36	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 12:36	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/13/16 14:00	09/14/16 12:36	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/13/16 14:00	09/14/16 12:36	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/13/16 14:00	09/14/16 12:36	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/13/16 14:00	09/14/16 12:36	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/13/16 14:00	09/14/16 12:36	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/13/16 14:00	09/14/16 12:36	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/13/16 14:00	09/14/16 12:36	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/13/16 14:00	09/14/16 12:36	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/13/16 14:00	09/14/16 12:36	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/13/16 14:00	09/14/16 12:36	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/13/16 14:00	09/14/16 12:36	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 12:36	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/13/16 14:00	09/14/16 12:36	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 12:36	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM150**

**Date Collected: 09/09/16 13:00**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-6**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/13/16 14:00	09/14/16 12:36	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/13/16 14:00	09/14/16 12:36	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/13/16 14:00	09/14/16 12:36	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 12:36	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/13/16 14:00	09/14/16 12:36	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/13/16 14:00	09/14/16 12:36	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/13/16 14:00	09/14/16 12:36	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/13/16 14:00	09/14/16 12:36	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/13/16 14:00	09/14/16 12:36	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/13/16 14:00	09/14/16 12:36	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/13/16 14:00	09/14/16 12:36	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/13/16 14:00	09/14/16 12:36	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/13/16 14:00	09/14/16 12:36	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/13/16 14:00	09/14/16 12:36	1
Phenol	0.768	U	10.0	0.768	ug/L		09/13/16 14:00	09/14/16 12:36	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/13/16 14:00	09/14/16 12:36	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/13/16 14:00	09/14/16 12:36	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/13/16 14:00	09/14/16 12:36	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/13/16 14:00	09/14/16 12:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		23 - 130	09/13/16 14:00	09/14/16 12:36	1
2-Fluorophenol	63		10 - 130	09/13/16 14:00	09/14/16 12:36	1
Nitrobenzene-d5	64		27 - 130	09/13/16 14:00	09/14/16 12:36	1
Phenol-d5	65		10 - 130	09/13/16 14:00	09/14/16 12:36	1
Terphenyl-d14	68		10 - 141	09/13/16 14:00	09/14/16 12:36	1
2,4,6-Tribromophenol	69		18 - 130	09/13/16 14:00	09/14/16 12:36	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00481	U	0.0577	0.00481	ug/L		09/12/16 09:01	09/12/16 22:30	1
alpha-BHC	0.00500	U	0.0577	0.00500	ug/L		09/12/16 09:01	09/12/16 22:30	1
alpha-Chlordane	0.00606	U	0.0577	0.00606	ug/L		09/12/16 09:01	09/12/16 22:30	1
beta-BHC	0.00481	U	0.0577	0.00481	ug/L		09/12/16 09:01	09/12/16 22:30	1
4,4'-DDD	0.00481	U	0.0577	0.00481	ug/L		09/12/16 09:01	09/12/16 22:30	1
4,4'-DDE	0.00481	U	0.0577	0.00481	ug/L		09/12/16 09:01	09/12/16 22:30	1
4,4'-DDT	0.00779	U	0.0577	0.00779	ug/L		09/12/16 09:01	09/12/16 22:30	1
delta-BHC	0.00481	U	0.0577	0.00481	ug/L		09/12/16 09:01	09/12/16 22:30	1
Dieldrin	0.0125	U	0.0577	0.0125	ug/L		09/12/16 09:01	09/12/16 22:30	1
Endosulfan I	0.00481	U	0.0577	0.00481	ug/L		09/12/16 09:01	09/12/16 22:30	1
Endosulfan II	0.00827	U	0.0577	0.00827	ug/L		09/12/16 09:01	09/12/16 22:30	1
Endosulfan sulfate	0.00846	U	0.0577	0.00846	ug/L		09/12/16 09:01	09/12/16 22:30	1
Endrin	0.00740	U	0.0577	0.00740	ug/L		09/12/16 09:01	09/12/16 22:30	1
Endrin aldehyde	0.00481	U	0.0577	0.00481	ug/L		09/12/16 09:01	09/12/16 22:30	1
Endrin ketone	0.00788	U	0.0577	0.00788	ug/L		09/12/16 09:01	09/12/16 22:30	1
gamma-BHC (Lindane)	0.00433	U	0.0577	0.00433	ug/L		09/12/16 09:01	09/12/16 22:30	1
gamma-Chlordane	0.00644	U	0.0577	0.00644	ug/L		09/12/16 09:01	09/12/16 22:30	1
Heptachlor	0.00625	U	0.0577	0.00625	ug/L		09/12/16 09:01	09/12/16 22:30	1
Heptachlor epoxide	0.00500	U	0.0577	0.00500	ug/L		09/12/16 09:01	09/12/16 22:30	1
Methoxychlor	0.00962	U	0.0577	0.00962	ug/L		09/12/16 09:01	09/12/16 22:30	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM150**

**Date Collected: 09/09/16 13:00**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-6**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.654	U	5.77	0.654	ug/L	-	09/12/16 09:01	09/12/16 22:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	66		10 - 152				09/12/16 09:01	09/12/16 22:30	1
DCB Decachlorobiphenyl	77		10 - 152				09/12/16 09:01	09/12/16 22:30	1
Tetrachloro-m-xylene	80		57 - 127				09/12/16 09:01	09/12/16 22:30	1
Tetrachloro-m-xylene	84		57 - 127				09/12/16 09:01	09/12/16 22:30	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 19:26	1
Aroclor 1221	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 19:26	1
Aroclor 1232	0.423	U	0.769	0.423	ug/L	-	09/12/16 09:01	09/12/16 19:26	1
Aroclor 1242	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 19:26	1
Aroclor 1248	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 19:26	1
Aroclor 1254	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 19:26	1
Aroclor 1260	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 19:26	1
Aroclor 1262	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 19:26	1
Aroclor 1268	0.106	U	0.577	0.106	ug/L	-	09/12/16 09:01	09/12/16 19:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	116		10 - 150				09/12/16 09:01	09/12/16 19:26	1
DCB Decachlorobiphenyl	91		10 - 150				09/12/16 09:01	09/12/16 19:26	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0947	U	4.74	0.0947	ug/L	-	09/14/16 08:02	09/16/16 19:58	1
Dicamba	0.0805	U	0.474	0.0805	ug/L	-	09/14/16 08:02	09/16/16 19:58	1
Mecoprop	18.0	U	114	18.0	ug/L	-	09/14/16 08:02	09/16/16 19:58	1
MCPA	16.1	U	114	16.1	ug/L	-	09/14/16 08:02	09/16/16 19:58	1
Dichlorprop	0.142	U	0.474	0.142	ug/L	-	09/14/16 08:02	09/16/16 19:58	1
2,4-D	0.0351	U	0.474	0.0351	ug/L	-	09/14/16 08:02	09/16/16 19:58	1
Silvex (2,4,5-TP)	0.0587	U	0.237	0.0587	ug/L	-	09/14/16 08:02	09/16/16 19:58	1
2,4,5-T	0.0587	U	0.237	0.0587	ug/L	-	09/14/16 08:02	09/16/16 19:58	1
2,4-DB	0.142	U	0.474	0.142	ug/L	-	09/14/16 08:02	09/16/16 19:58	1
Dinoseb	0.152	U	0.947	0.152	ug/L	-	09/14/16 08:02	09/16/16 19:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	85		45 - 130				09/14/16 08:02	09/16/16 19:58	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	91.0		0.200	0.101	mg/L	-	09/12/16 09:15	09/12/16 15:25	1
Magnesium	16.7		0.200	0.0257	mg/L	-	09/12/16 09:15	09/12/16 15:25	1
Potassium	1.39		0.500	0.375	mg/L	-	09/12/16 09:15	09/12/16 15:25	1
Silicon	5.25		0.500	0.0707	mg/L	-	09/12/16 09:15	09/12/16 15:25	1
Sodium	11.4		1.00	0.310	mg/L	-	09/12/16 09:15	09/12/16 15:25	1
Strontium	0.525		0.00500	0.000700	mg/L	-	09/12/16 09:15	09/12/16 15:25	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM150**

**Date Collected: 09/09/16 13:00**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-6**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Barium	0.0388		0.00500	0.000810	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Chromium	0.00140	U	0.00500	0.00140	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Copper	0.00200	U	0.0100	0.00200	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Iron	0.101	U	0.250	0.101	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Lead	0.000733	U	0.00500	0.000733	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Manganese	0.0116	U	0.0500	0.0116	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Selenium	0.00108	U	0.00500	0.00108	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Silver	0.000941	U	0.00500	0.000941	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	-	09/12/16 09:15	09/13/16 18:11	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	-	09/12/16 09:15	09/13/16 18:11	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	09/12/16 10:00	09/12/16 17:03	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.456	J	1.00	0.315	mg/L	-		09/10/16 18:31	1
Chloride	19.0		1.00	0.192	mg/L	-		09/10/16 18:31	1
Nitrate as N	1.21		0.500	0.103	mg/L	-		09/10/16 18:31	1
Sulfate	24.2		1.00	0.377	mg/L	-		09/10/16 18:31	1
Fluoride	0.193		0.100	0.0200	mg/L	-		09/16/16 11:45	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		09/20/16 12:08	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	09/20/16 08:57	09/21/16 11:56	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/19/16 11:12	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1	0.1	SU	-		09/13/16 09:12	1
Total Alkalinity as CaCO3	245		5.00	5.00	mg/L	-		09/16/16 12:45	1
Bicarbonate Alkalinity as CaCO3	245		5.00	5.00	mg/L	-		09/16/16 12:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		09/16/16 12:45	1
Total Dissolved Solids	336		10.0	10.0	mg/L	-		09/14/16 09:35	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L	-		09/12/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/20/16 12:38	1

**Client Sample ID: HSM160**

**Date Collected: 09/09/16 13:34**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		09/12/16 16:08	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM160**

**Date Collected: 09/09/16 13:34**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/12/16 16:08	1
Benzene	0.330	U	1.00	0.330	ug/L			09/12/16 16:08	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/12/16 16:08	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 16:08	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/12/16 16:08	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/12/16 16:08	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/12/16 16:08	1
1,3-Butadiene	0.300	U *	2.00	0.300	ug/L			09/12/16 16:08	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/12/16 16:08	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/12/16 16:08	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/12/16 16:08	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/12/16 16:08	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/12/16 16:08	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/12/16 16:08	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/12/16 16:08	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/12/16 16:08	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/12/16 16:08	1
Chloromethane	0.390	U *	5.00	0.390	ug/L			09/12/16 16:08	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/12/16 16:08	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/12/16 16:08	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 16:08	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/12/16 16:08	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/12/16 16:08	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/12/16 16:08	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/12/16 16:08	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/12/16 16:08	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/12/16 16:08	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/12/16 16:08	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 16:08	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/12/16 16:08	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/12/16 16:08	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/12/16 16:08	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/12/16 16:08	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/12/16 16:08	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/12/16 16:08	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/12/16 16:08	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/12/16 16:08	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/12/16 16:08	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/12/16 16:08	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/12/16 16:08	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/12/16 16:08	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/12/16 16:08	1
EDB	0.175	U	1.00	0.175	ug/L			09/12/16 16:08	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/12/16 16:08	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 16:08	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/12/16 16:08	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/12/16 16:08	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/12/16 16:08	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/12/16 16:08	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM160**

**Date Collected: 09/09/16 13:34**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			09/12/16 16:08	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/12/16 16:08	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/12/16 16:08	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/12/16 16:08	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/12/16 16:08	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/12/16 16:08	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/12/16 16:08	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/12/16 16:08	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/12/16 16:08	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/12/16 16:08	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/12/16 16:08	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/12/16 16:08	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/12/16 16:08	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/12/16 16:08	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 16:08	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/12/16 16:08	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/12/16 16:08	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/12/16 16:08	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/12/16 16:08	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/12/16 16:08	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/12/16 16:08	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/12/16 16:08	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/12/16 16:08	1
Styrene	0.200	U	1.00	0.200	ug/L			09/12/16 16:08	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 16:08	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/12/16 16:08	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/12/16 16:08	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/12/16 16:08	1
Toluene	0.495	U	1.00	0.495	ug/L			09/12/16 16:08	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 16:08	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/12/16 16:08	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/12/16 16:08	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/12/16 16:08	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/12/16 16:08	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/12/16 16:08	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/12/16 16:08	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/12/16 16:08	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/12/16 16:08	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/12/16 16:08	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/12/16 16:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/12/16 16:08	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 16:08	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 16:08	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/12/16 16:08	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/12/16 16:08	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/12/16 16:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130		09/12/16 16:08	1
Dibromofluoromethane (Surr)	103		69 - 130		09/12/16 16:08	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM160**

**Date Collected: 09/09/16 13:34**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 140		09/12/16 16:08	1
Toluene-d8 (Surr)	95		70 - 130		09/12/16 16:08	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/13/16 14:00	09/14/16 13:01	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/13/16 14:00	09/14/16 13:01	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/13/16 14:00	09/14/16 13:01	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/13/16 14:00	09/14/16 13:01	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/13/16 14:00	09/14/16 13:01	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/13/16 14:00	09/14/16 13:01	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/13/16 14:00	09/14/16 13:01	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/13/16 14:00	09/14/16 13:01	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/13/16 14:00	09/14/16 13:01	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/13/16 14:00	09/14/16 13:01	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/13/16 14:00	09/14/16 13:01	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/13/16 14:00	09/14/16 13:01	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/13/16 14:00	09/14/16 13:01	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/13/16 14:00	09/14/16 13:01	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 13:01	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/13/16 14:00	09/14/16 13:01	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/13/16 14:00	09/14/16 13:01	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/13/16 14:00	09/14/16 13:01	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/13/16 14:00	09/14/16 13:01	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/13/16 14:00	09/14/16 13:01	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/13/16 14:00	09/14/16 13:01	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/13/16 14:00	09/14/16 13:01	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/13/16 14:00	09/14/16 13:01	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/13/16 14:00	09/14/16 13:01	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/13/16 14:00	09/14/16 13:01	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 13:01	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/13/16 14:00	09/14/16 13:01	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/13/16 14:00	09/14/16 13:01	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/13/16 14:00	09/14/16 13:01	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 13:01	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/13/16 14:00	09/14/16 13:01	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/13/16 14:00	09/14/16 13:01	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/13/16 14:00	09/14/16 13:01	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/13/16 14:00	09/14/16 13:01	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/13/16 14:00	09/14/16 13:01	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/13/16 14:00	09/14/16 13:01	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/13/16 14:00	09/14/16 13:01	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/13/16 14:00	09/14/16 13:01	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/13/16 14:00	09/14/16 13:01	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/13/16 14:00	09/14/16 13:01	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/13/16 14:00	09/14/16 13:01	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 13:01	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/13/16 14:00	09/14/16 13:01	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 13:01	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM160**

**Date Collected: 09/09/16 13:34**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-7**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/13/16 14:00	09/14/16 13:01	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/13/16 14:00	09/14/16 13:01	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/13/16 14:00	09/14/16 13:01	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 13:01	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/13/16 14:00	09/14/16 13:01	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/13/16 14:00	09/14/16 13:01	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/13/16 14:00	09/14/16 13:01	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/13/16 14:00	09/14/16 13:01	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/13/16 14:00	09/14/16 13:01	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/13/16 14:00	09/14/16 13:01	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/13/16 14:00	09/14/16 13:01	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/13/16 14:00	09/14/16 13:01	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/13/16 14:00	09/14/16 13:01	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/13/16 14:00	09/14/16 13:01	1
Phenol	0.768	U	10.0	0.768	ug/L		09/13/16 14:00	09/14/16 13:01	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/13/16 14:00	09/14/16 13:01	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/13/16 14:00	09/14/16 13:01	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/13/16 14:00	09/14/16 13:01	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/13/16 14:00	09/14/16 13:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		23 - 130	09/13/16 14:00	09/14/16 13:01	1
2-Fluorophenol	72		10 - 130	09/13/16 14:00	09/14/16 13:01	1
Nitrobenzene-d5	75		27 - 130	09/13/16 14:00	09/14/16 13:01	1
Phenol-d5	76		10 - 130	09/13/16 14:00	09/14/16 13:01	1
Terphenyl-d14	85		10 - 141	09/13/16 14:00	09/14/16 13:01	1
2,4,6-Tribromophenol	78		18 - 130	09/13/16 14:00	09/14/16 13:01	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00489	U	0.0587	0.00489	ug/L		09/12/16 09:01	09/12/16 22:51	1
alpha-BHC	0.00508	U	0.0587	0.00508	ug/L		09/12/16 09:01	09/12/16 22:51	1
alpha-Chlordane	0.00616	U	0.0587	0.00616	ug/L		09/12/16 09:01	09/12/16 22:51	1
beta-BHC	0.00489	U	0.0587	0.00489	ug/L		09/12/16 09:01	09/12/16 22:51	1
4,4'-DDD	0.00489	U	0.0587	0.00489	ug/L		09/12/16 09:01	09/12/16 22:51	1
4,4'-DDE	0.00489	U	0.0587	0.00489	ug/L		09/12/16 09:01	09/12/16 22:51	1
4,4'-DDT	0.00792	U	0.0587	0.00792	ug/L		09/12/16 09:01	09/12/16 22:51	1
delta-BHC	0.00489	U	0.0587	0.00489	ug/L		09/12/16 09:01	09/12/16 22:51	1
Dieldrin	0.0127	U	0.0587	0.0127	ug/L		09/12/16 09:01	09/12/16 22:51	1
Endosulfan I	0.00489	U	0.0587	0.00489	ug/L		09/12/16 09:01	09/12/16 22:51	1
Endosulfan II	0.00841	U	0.0587	0.00841	ug/L		09/12/16 09:01	09/12/16 22:51	1
Endosulfan sulfate	0.00860	U	0.0587	0.00860	ug/L		09/12/16 09:01	09/12/16 22:51	1
Endrin	0.00753	U	0.0587	0.00753	ug/L		09/12/16 09:01	09/12/16 22:51	1
Endrin aldehyde	0.00489	U	0.0587	0.00489	ug/L		09/12/16 09:01	09/12/16 22:51	1
Endrin ketone	0.00802	U	0.0587	0.00802	ug/L		09/12/16 09:01	09/12/16 22:51	1
gamma-BHC (Lindane)	0.00440	U	0.0587	0.00440	ug/L		09/12/16 09:01	09/12/16 22:51	1
gamma-Chlordane	0.00655	U	0.0587	0.00655	ug/L		09/12/16 09:01	09/12/16 22:51	1
Heptachlor	0.00635	U	0.0587	0.00635	ug/L		09/12/16 09:01	09/12/16 22:51	1
Heptachlor epoxide	0.00508	U	0.0587	0.00508	ug/L		09/12/16 09:01	09/12/16 22:51	1
Methoxychlor	0.00978	U	0.0587	0.00978	ug/L		09/12/16 09:01	09/12/16 22:51	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM160**

**Date Collected: 09/09/16 13:34**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-7**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.665	U	5.87	0.665	ug/L	-	09/12/16 09:01	09/12/16 22:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	66		10 - 152				09/12/16 09:01	09/12/16 22:51	1
DCB Decachlorobiphenyl	72		10 - 152				09/12/16 09:01	09/12/16 22:51	1
Tetrachloro-m-xylene	81		57 - 127				09/12/16 09:01	09/12/16 22:51	1
Tetrachloro-m-xylene	79		57 - 127				09/12/16 09:01	09/12/16 22:51	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.108	U	0.587	0.108	ug/L	-	09/12/16 09:01	09/12/16 19:43	1
Aroclor 1221	0.108	U	0.587	0.108	ug/L	-	09/12/16 09:01	09/12/16 19:43	1
Aroclor 1232	0.430	U	0.782	0.430	ug/L	-	09/12/16 09:01	09/12/16 19:43	1
Aroclor 1242	0.108	U	0.587	0.108	ug/L	-	09/12/16 09:01	09/12/16 19:43	1
Aroclor 1248	0.108	U	0.587	0.108	ug/L	-	09/12/16 09:01	09/12/16 19:43	1
Aroclor 1254	0.108	U	0.587	0.108	ug/L	-	09/12/16 09:01	09/12/16 19:43	1
Aroclor 1260	0.108	U	0.587	0.108	ug/L	-	09/12/16 09:01	09/12/16 19:43	1
Aroclor 1262	0.108	U	0.587	0.108	ug/L	-	09/12/16 09:01	09/12/16 19:43	1
Aroclor 1268	0.108	U	0.587	0.108	ug/L	-	09/12/16 09:01	09/12/16 19:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	105		10 - 150				09/12/16 09:01	09/12/16 19:43	1
DCB Decachlorobiphenyl	82		10 - 150				09/12/16 09:01	09/12/16 19:43	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0957	U	4.78	0.0957	ug/L	-	09/14/16 08:02	09/16/16 20:17	1
Dicamba	0.0813	U	0.478	0.0813	ug/L	-	09/14/16 08:02	09/16/16 20:17	1
Mecoprop	18.2	U	115	18.2	ug/L	-	09/14/16 08:02	09/16/16 20:17	1
MCPA	16.3	U	115	16.3	ug/L	-	09/14/16 08:02	09/16/16 20:17	1
Dichlorprop	0.144	U	0.478	0.144	ug/L	-	09/14/16 08:02	09/16/16 20:17	1
2,4-D	0.0354	U	0.478	0.0354	ug/L	-	09/14/16 08:02	09/16/16 20:17	1
Silvex (2,4,5-TP)	0.0593	U	0.239	0.0593	ug/L	-	09/14/16 08:02	09/16/16 20:17	1
2,4,5-T	0.0593	U	0.239	0.0593	ug/L	-	09/14/16 08:02	09/16/16 20:17	1
2,4-DB	0.144	U	0.478	0.144	ug/L	-	09/14/16 08:02	09/16/16 20:17	1
Dinoseb	0.153	U	0.957	0.153	ug/L	-	09/14/16 08:02	09/16/16 20:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	82		45 - 130				09/14/16 08:02	09/16/16 20:17	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	90.2		0.200	0.101	mg/L	-	09/12/16 09:15	09/12/16 15:29	1
Magnesium	16.7		0.200	0.0257	mg/L	-	09/12/16 09:15	09/12/16 15:29	1
Potassium	1.43		0.500	0.375	mg/L	-	09/12/16 09:15	09/12/16 15:29	1
Silicon	5.18		0.500	0.0707	mg/L	-	09/12/16 09:15	09/12/16 15:29	1
Sodium	11.5		1.00	0.310	mg/L	-	09/12/16 09:15	09/12/16 15:29	1
Strontium	0.526		0.00500	0.000700	mg/L	-	09/12/16 09:15	09/12/16 15:29	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM160**

**Date Collected: 09/09/16 13:34**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-7**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Barium	0.0385		0.00500	0.000810	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Chromium	0.00140	U	0.00500	0.00140	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Copper	0.00200	U	0.0100	0.00200	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Iron	0.101	U	0.250	0.101	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Lead	0.000733	U	0.00500	0.000733	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Manganese	0.0116	U	0.0500	0.0116	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Selenium	0.00108	U	0.00500	0.00108	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Silver	0.000941	U	0.00500	0.000941	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	-	09/12/16 09:15	09/13/16 18:17	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	-	09/12/16 09:15	09/13/16 18:17	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	09/12/16 10:00	09/12/16 17:05	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.456	J	1.00	0.315	mg/L	-		09/10/16 18:57	1
Chloride	19.0		1.00	0.192	mg/L	-		09/10/16 18:57	1
Nitrate as N	1.19		0.500	0.103	mg/L	-		09/10/16 18:57	1
Sulfate	24.3		1.00	0.377	mg/L	-		09/10/16 18:57	1
Fluoride	0.193		0.100	0.0200	mg/L	-		09/16/16 11:45	1
Nitrogen, Kjeldahl	0.432	U F2 F1	1.00	0.432	mg/L	-		09/20/16 12:09	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	09/20/16 08:57	09/21/16 11:49	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/19/16 11:12	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1	0.1	SU	-		09/13/16 09:12	1
Total Alkalinity as CaCO3	251		5.00	5.00	mg/L	-		09/16/16 12:45	1
Bicarbonate Alkalinity as CaCO3	251		5.00	5.00	mg/L	-		09/16/16 12:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		09/16/16 12:45	1
Total Dissolved Solids	364		10.0	10.0	mg/L	-		09/14/16 09:35	1
Total Suspended Solids	2.20		2.00	2.00	mg/L	-		09/12/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/20/16 12:38	1

**Client Sample ID: HSM170**

**Date Collected: 09/09/16 14:06**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-8**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		09/12/16 16:33	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM170**

**Date Collected: 09/09/16 14:06**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-8**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/12/16 16:33	1
Benzene	0.330	U	1.00	0.330	ug/L			09/12/16 16:33	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/12/16 16:33	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 16:33	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/12/16 16:33	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/12/16 16:33	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/12/16 16:33	1
1,3-Butadiene	0.300	U *	2.00	0.300	ug/L			09/12/16 16:33	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/12/16 16:33	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/12/16 16:33	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/12/16 16:33	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/12/16 16:33	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/12/16 16:33	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/12/16 16:33	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/12/16 16:33	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/12/16 16:33	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/12/16 16:33	1
Chloromethane	0.390	U *	5.00	0.390	ug/L			09/12/16 16:33	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/12/16 16:33	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/12/16 16:33	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 16:33	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/12/16 16:33	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/12/16 16:33	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/12/16 16:33	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/12/16 16:33	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/12/16 16:33	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/12/16 16:33	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/12/16 16:33	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 16:33	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/12/16 16:33	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/12/16 16:33	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/12/16 16:33	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/12/16 16:33	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/12/16 16:33	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/12/16 16:33	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/12/16 16:33	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/12/16 16:33	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/12/16 16:33	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/12/16 16:33	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/12/16 16:33	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/12/16 16:33	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/12/16 16:33	1
EDB	0.175	U	1.00	0.175	ug/L			09/12/16 16:33	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/12/16 16:33	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 16:33	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/12/16 16:33	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/12/16 16:33	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/12/16 16:33	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/12/16 16:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM170**

**Date Collected: 09/09/16 14:06**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-8**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			09/12/16 16:33	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/12/16 16:33	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/12/16 16:33	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/12/16 16:33	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/12/16 16:33	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/12/16 16:33	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/12/16 16:33	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/12/16 16:33	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/12/16 16:33	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/12/16 16:33	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/12/16 16:33	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/12/16 16:33	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/12/16 16:33	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/12/16 16:33	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 16:33	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/12/16 16:33	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/12/16 16:33	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/12/16 16:33	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/12/16 16:33	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/12/16 16:33	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/12/16 16:33	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/12/16 16:33	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/12/16 16:33	1
Styrene	0.200	U	1.00	0.200	ug/L			09/12/16 16:33	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 16:33	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/12/16 16:33	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/12/16 16:33	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/12/16 16:33	1
Toluene	0.495	U	1.00	0.495	ug/L			09/12/16 16:33	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 16:33	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/12/16 16:33	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/12/16 16:33	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/12/16 16:33	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/12/16 16:33	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/12/16 16:33	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/12/16 16:33	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/12/16 16:33	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/12/16 16:33	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/12/16 16:33	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/12/16 16:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/12/16 16:33	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 16:33	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 16:33	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/12/16 16:33	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/12/16 16:33	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/12/16 16:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130		09/12/16 16:33	1
Dibromofluoromethane (Surr)	105		69 - 130		09/12/16 16:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM170**

**Date Collected: 09/09/16 14:06**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-8**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 140		09/12/16 16:33	1
Toluene-d8 (Surr)	95		70 - 130		09/12/16 16:33	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/13/16 14:00	09/14/16 13:27	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/13/16 14:00	09/14/16 13:27	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/13/16 14:00	09/14/16 13:27	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/13/16 14:00	09/14/16 13:27	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/13/16 14:00	09/14/16 13:27	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/13/16 14:00	09/14/16 13:27	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/13/16 14:00	09/14/16 13:27	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/13/16 14:00	09/14/16 13:27	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/13/16 14:00	09/14/16 13:27	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/13/16 14:00	09/14/16 13:27	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/13/16 14:00	09/14/16 13:27	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>19.0</b>	<b>J</b>	20.0	5.00	ug/L		09/13/16 14:00	09/14/16 13:27	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/13/16 14:00	09/14/16 13:27	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/13/16 14:00	09/14/16 13:27	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 13:27	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/13/16 14:00	09/14/16 13:27	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/13/16 14:00	09/14/16 13:27	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/13/16 14:00	09/14/16 13:27	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/13/16 14:00	09/14/16 13:27	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/13/16 14:00	09/14/16 13:27	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/13/16 14:00	09/14/16 13:27	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/13/16 14:00	09/14/16 13:27	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/13/16 14:00	09/14/16 13:27	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/13/16 14:00	09/14/16 13:27	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/13/16 14:00	09/14/16 13:27	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 13:27	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/13/16 14:00	09/14/16 13:27	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/13/16 14:00	09/14/16 13:27	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/13/16 14:00	09/14/16 13:27	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 13:27	1
<b>Di-n-butyl phthalate</b>	<b>2.11</b>	<b>J B</b>	10.0	0.709	ug/L		09/13/16 14:00	09/14/16 13:27	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/13/16 14:00	09/14/16 13:27	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/13/16 14:00	09/14/16 13:27	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/13/16 14:00	09/14/16 13:27	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/13/16 14:00	09/14/16 13:27	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/13/16 14:00	09/14/16 13:27	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/13/16 14:00	09/14/16 13:27	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/13/16 14:00	09/14/16 13:27	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/13/16 14:00	09/14/16 13:27	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/13/16 14:00	09/14/16 13:27	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/13/16 14:00	09/14/16 13:27	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 13:27	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/13/16 14:00	09/14/16 13:27	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 13:27	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM170**

**Date Collected: 09/09/16 14:06**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-8**

**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/13/16 14:00	09/14/16 13:27	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/13/16 14:00	09/14/16 13:27	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/13/16 14:00	09/14/16 13:27	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 13:27	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/13/16 14:00	09/14/16 13:27	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/13/16 14:00	09/14/16 13:27	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/13/16 14:00	09/14/16 13:27	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/13/16 14:00	09/14/16 13:27	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/13/16 14:00	09/14/16 13:27	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/13/16 14:00	09/14/16 13:27	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/13/16 14:00	09/14/16 13:27	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/13/16 14:00	09/14/16 13:27	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/13/16 14:00	09/14/16 13:27	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/13/16 14:00	09/14/16 13:27	1
Phenol	0.768	U	10.0	0.768	ug/L		09/13/16 14:00	09/14/16 13:27	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/13/16 14:00	09/14/16 13:27	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/13/16 14:00	09/14/16 13:27	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/13/16 14:00	09/14/16 13:27	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/13/16 14:00	09/14/16 13:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	79		23 - 130	09/13/16 14:00	09/14/16 13:27	1
2-Fluorophenol	78		10 - 130	09/13/16 14:00	09/14/16 13:27	1
Nitrobenzene-d5	78		27 - 130	09/13/16 14:00	09/14/16 13:27	1
Phenol-d5	81		10 - 130	09/13/16 14:00	09/14/16 13:27	1
Terphenyl-d14	87		10 - 141	09/13/16 14:00	09/14/16 13:27	1
2,4,6-Tribromophenol	82		18 - 130	09/13/16 14:00	09/14/16 13:27	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 23:12	1
alpha-BHC	0.00488	U	0.0563	0.00488	ug/L		09/12/16 09:01	09/12/16 23:12	1
alpha-Chlordane	0.00591	U	0.0563	0.00591	ug/L		09/12/16 09:01	09/12/16 23:12	1
beta-BHC	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 23:12	1
4,4'-DDD	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 23:12	1
4,4'-DDE	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 23:12	1
4,4'-DDT	0.00760	U	0.0563	0.00760	ug/L		09/12/16 09:01	09/12/16 23:12	1
delta-BHC	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 23:12	1
Dieldrin	0.0122	U	0.0563	0.0122	ug/L		09/12/16 09:01	09/12/16 23:12	1
Endosulfan I	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 23:12	1
Endosulfan II	0.00807	U	0.0563	0.00807	ug/L		09/12/16 09:01	09/12/16 23:12	1
Endosulfan sulfate	0.00826	U	0.0563	0.00826	ug/L		09/12/16 09:01	09/12/16 23:12	1
Endrin	0.00723	U	0.0563	0.00723	ug/L		09/12/16 09:01	09/12/16 23:12	1
Endrin aldehyde	0.00469	U	0.0563	0.00469	ug/L		09/12/16 09:01	09/12/16 23:12	1
Endrin ketone	0.00769	U	0.0563	0.00769	ug/L		09/12/16 09:01	09/12/16 23:12	1
gamma-BHC (Lindane)	0.00422	U	0.0563	0.00422	ug/L		09/12/16 09:01	09/12/16 23:12	1
gamma-Chlordane	0.00629	U	0.0563	0.00629	ug/L		09/12/16 09:01	09/12/16 23:12	1
Heptachlor	0.00610	U	0.0563	0.00610	ug/L		09/12/16 09:01	09/12/16 23:12	1
Heptachlor epoxide	0.00488	U	0.0563	0.00488	ug/L		09/12/16 09:01	09/12/16 23:12	1
Methoxychlor	0.00938	U	0.0563	0.00938	ug/L		09/12/16 09:01	09/12/16 23:12	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM170**

**Date Collected: 09/09/16 14:06**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-8**

**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.638	U	5.63	0.638	ug/L	-	09/12/16 09:01	09/12/16 23:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	70		10 - 152				09/12/16 09:01	09/12/16 23:12	1
DCB Decachlorobiphenyl	73		10 - 152				09/12/16 09:01	09/12/16 23:12	1
Tetrachloro-m-xylene	88		57 - 127				09/12/16 09:01	09/12/16 23:12	1
Tetrachloro-m-xylene	81		57 - 127				09/12/16 09:01	09/12/16 23:12	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 20:01	1
Aroclor 1221	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 20:01	1
Aroclor 1232	0.413	U	0.751	0.413	ug/L	-	09/12/16 09:01	09/12/16 20:01	1
Aroclor 1242	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 20:01	1
Aroclor 1248	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 20:01	1
Aroclor 1254	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 20:01	1
Aroclor 1260	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 20:01	1
Aroclor 1262	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 20:01	1
Aroclor 1268	0.103	U	0.563	0.103	ug/L	-	09/12/16 09:01	09/12/16 20:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	105		10 - 150				09/12/16 09:01	09/12/16 20:01	1
DCB Decachlorobiphenyl	82		10 - 150				09/12/16 09:01	09/12/16 20:01	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0984	U F1	4.92	0.0984	ug/L	-	09/14/16 08:02	09/16/16 20:37	1
Dicamba	0.0836	U	0.492	0.0836	ug/L	-	09/14/16 08:02	09/16/16 20:37	1
Mecoprop	18.7	U	118	18.7	ug/L	-	09/14/16 08:02	09/16/16 20:37	1
MCPA	16.7	U	118	16.7	ug/L	-	09/14/16 08:02	09/16/16 20:37	1
Dichlorprop	0.148	U	0.492	0.148	ug/L	-	09/14/16 08:02	09/16/16 20:37	1
2,4-D	0.0364	U	0.492	0.0364	ug/L	-	09/14/16 08:02	09/16/16 20:37	1
Silvex (2,4,5-TP)	0.0610	U	0.246	0.0610	ug/L	-	09/14/16 08:02	09/16/16 20:37	1
2,4,5-T	0.0610	U	0.246	0.0610	ug/L	-	09/14/16 08:02	09/16/16 20:37	1
2,4-DB	0.148	U	0.492	0.148	ug/L	-	09/14/16 08:02	09/16/16 20:37	1
Dinoseb	0.157	U	0.984	0.157	ug/L	-	09/14/16 08:02	09/16/16 20:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	100		45 - 130				09/14/16 08:02	09/16/16 20:37	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	88.9		0.200	0.101	mg/L	-	09/12/16 09:15	09/12/16 15:32	1
Magnesium	16.5		0.200	0.0257	mg/L	-	09/12/16 09:15	09/12/16 15:32	1
Potassium	1.36		0.500	0.375	mg/L	-	09/12/16 09:15	09/12/16 15:32	1
Silicon	5.11		0.500	0.0707	mg/L	-	09/12/16 09:15	09/12/16 15:32	1
Sodium	11.4		1.00	0.310	mg/L	-	09/12/16 09:15	09/12/16 15:32	1
Strontium	0.518		0.00500	0.000700	mg/L	-	09/12/16 09:15	09/12/16 15:32	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: HSM170**

**Date Collected: 09/09/16 14:06**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-8**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Barium	0.0377		0.00500	0.000810	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Chromium	0.00140	U	0.00500	0.00140	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Copper	0.00200	U	0.0100	0.00200	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Iron	0.101	U	0.250	0.101	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Lead	0.000733	U	0.00500	0.000733	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Manganese	0.0116	U	0.0500	0.0116	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Selenium	0.00108	U	0.00500	0.00108	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Silver	0.000941	U	0.00500	0.000941	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	-	09/12/16 09:15	09/13/16 18:22	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	-	09/12/16 09:15	09/13/16 18:22	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-		09/14/16 15:17	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.455	J	1.00	0.315	mg/L	-		09/10/16 20:15	1
Chloride	19.1		1.00	0.192	mg/L	-		09/10/16 20:15	1
Nitrate as N	1.18		0.500	0.103	mg/L	-		09/10/16 20:15	1
Sulfate	24.4		1.00	0.377	mg/L	-		09/10/16 20:15	1
Fluoride	0.178		0.100	0.0200	mg/L	-		09/16/16 11:45	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		09/20/16 12:12	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	09/20/16 08:57	09/21/16 11:54	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/19/16 11:12	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1	0.1	SU	-		09/13/16 09:12	1
Total Alkalinity as CaCO3	248		5.00	5.00	mg/L	-		09/16/16 12:45	1
Bicarbonate Alkalinity as CaCO3	248		5.00	5.00	mg/L	-		09/16/16 12:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		09/16/16 12:45	1
Total Dissolved Solids	370		10.0	10.0	mg/L	-		09/14/16 09:35	1
Total Suspended Solids	4.20		2.00	2.00	mg/L	-		09/12/16 14:25	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/20/16 12:38	1

**Client Sample ID: TB12**

**Date Collected: 09/09/16 00:00**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-9**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		09/12/16 16:58	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: TB12**

**Date Collected: 09/09/16 00:00**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-9**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/12/16 16:58	1
Benzene	0.330	U	1.00	0.330	ug/L			09/12/16 16:58	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/12/16 16:58	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 16:58	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/12/16 16:58	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/12/16 16:58	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/12/16 16:58	1
1,3-Butadiene	0.300	U *	2.00	0.300	ug/L			09/12/16 16:58	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/12/16 16:58	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/12/16 16:58	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/12/16 16:58	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/12/16 16:58	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/12/16 16:58	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/12/16 16:58	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/12/16 16:58	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/12/16 16:58	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/12/16 16:58	1
Chloromethane	0.390	U *	5.00	0.390	ug/L			09/12/16 16:58	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/12/16 16:58	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/12/16 16:58	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 16:58	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/12/16 16:58	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/12/16 16:58	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/12/16 16:58	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/12/16 16:58	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/12/16 16:58	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/12/16 16:58	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/12/16 16:58	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 16:58	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/12/16 16:58	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/12/16 16:58	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/12/16 16:58	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/12/16 16:58	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/12/16 16:58	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/12/16 16:58	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/12/16 16:58	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/12/16 16:58	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/12/16 16:58	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/12/16 16:58	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/12/16 16:58	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/12/16 16:58	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/12/16 16:58	1
EDB	0.175	U	1.00	0.175	ug/L			09/12/16 16:58	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/12/16 16:58	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 16:58	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/12/16 16:58	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/12/16 16:58	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/12/16 16:58	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/12/16 16:58	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: TB12**

**Date Collected: 09/09/16 00:00**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-9**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			09/12/16 16:58	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/12/16 16:58	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/12/16 16:58	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/12/16 16:58	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/12/16 16:58	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/12/16 16:58	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/12/16 16:58	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/12/16 16:58	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/12/16 16:58	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/12/16 16:58	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/12/16 16:58	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/12/16 16:58	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/12/16 16:58	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/12/16 16:58	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 16:58	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/12/16 16:58	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/12/16 16:58	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/12/16 16:58	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/12/16 16:58	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/12/16 16:58	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/12/16 16:58	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/12/16 16:58	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/12/16 16:58	1
Styrene	0.200	U	1.00	0.200	ug/L			09/12/16 16:58	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 16:58	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/12/16 16:58	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/12/16 16:58	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/12/16 16:58	1
Toluene	0.495	U	1.00	0.495	ug/L			09/12/16 16:58	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 16:58	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/12/16 16:58	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/12/16 16:58	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/12/16 16:58	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/12/16 16:58	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/12/16 16:58	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/12/16 16:58	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/12/16 16:58	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/12/16 16:58	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/12/16 16:58	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/12/16 16:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/12/16 16:58	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 16:58	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 16:58	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/12/16 16:58	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/12/16 16:58	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/12/16 16:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130		09/12/16 16:58	1
Dibromofluoromethane (Surr)	103		69 - 130		09/12/16 16:58	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

**Client Sample ID: TB12**

**Date Collected: 09/09/16 00:00**

**Date Received: 09/10/16 09:45**

**Lab Sample ID: 560-63698-9**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 140		09/12/16 16:58	1
Toluene-d8 (Surr)	94		70 - 130		09/12/16 16:58	1

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-131686/6  
Matrix: Water  
Analysis Batch: 131686

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/12/16 11:56	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/12/16 11:56	1
Benzene	0.330	U	1.00	0.330	ug/L			09/12/16 11:56	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/12/16 11:56	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 11:56	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/12/16 11:56	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/12/16 11:56	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/12/16 11:56	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/12/16 11:56	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/12/16 11:56	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/12/16 11:56	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/12/16 11:56	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/12/16 11:56	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/12/16 11:56	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/12/16 11:56	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/12/16 11:56	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/12/16 11:56	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/12/16 11:56	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/12/16 11:56	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/12/16 11:56	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/12/16 11:56	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 11:56	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/12/16 11:56	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/12/16 11:56	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/12/16 11:56	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/12/16 11:56	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/12/16 11:56	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/12/16 11:56	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/12/16 11:56	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/12/16 11:56	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/12/16 11:56	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/12/16 11:56	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/12/16 11:56	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/12/16 11:56	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/12/16 11:56	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/12/16 11:56	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/12/16 11:56	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/12/16 11:56	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/12/16 11:56	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/12/16 11:56	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/12/16 11:56	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/12/16 11:56	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/12/16 11:56	1
EDB	0.175	U	1.00	0.175	ug/L			09/12/16 11:56	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/12/16 11:56	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 11:56	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/12/16 11:56	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/12/16 11:56	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-131686/6

Matrix: Water

Analysis Batch: 131686

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/12/16 11:56	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/12/16 11:56	1
Hexane	2.00	U	5.00	2.00	ug/L			09/12/16 11:56	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/12/16 11:56	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/12/16 11:56	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/12/16 11:56	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/12/16 11:56	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/12/16 11:56	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/12/16 11:56	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/12/16 11:56	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/12/16 11:56	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/12/16 11:56	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/12/16 11:56	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/12/16 11:56	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/12/16 11:56	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/12/16 11:56	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/12/16 11:56	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/12/16 11:56	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/12/16 11:56	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/12/16 11:56	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/12/16 11:56	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/12/16 11:56	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/12/16 11:56	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/12/16 11:56	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/12/16 11:56	1
Styrene	0.200	U	1.00	0.200	ug/L			09/12/16 11:56	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 11:56	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/12/16 11:56	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/12/16 11:56	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/12/16 11:56	1
Toluene	0.495	U	1.00	0.495	ug/L			09/12/16 11:56	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/12/16 11:56	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/12/16 11:56	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/12/16 11:56	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/12/16 11:56	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/12/16 11:56	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/12/16 11:56	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/12/16 11:56	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/12/16 11:56	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/12/16 11:56	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/12/16 11:56	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/12/16 11:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/12/16 11:56	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 11:56	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/12/16 11:56	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/12/16 11:56	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/12/16 11:56	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/12/16 11:56	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-131686/6

Matrix: Water

Analysis Batch: 131686

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130		09/12/16 11:56	1
Dibromofluoromethane (Surr)	102		69 - 130		09/12/16 11:56	1
1,2-Dichloroethane-d4 (Surr)	111		70 - 140		09/12/16 11:56	1
Toluene-d8 (Surr)	96		70 - 130		09/12/16 11:56	1

Lab Sample ID: LCS 560-131686/3

Matrix: Water

Analysis Batch: 131686

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	28.59		ug/L		114	60 - 150
Acetonitrile	250	253.3		ug/L		101	52 - 160
Benzene	25.0	27.21		ug/L		109	70 - 130
Benzyl chloride	25.0	17.66		ug/L		71	66 - 153
Bromobenzene	25.0	26.91		ug/L		108	70 - 130
Bromochloromethane	25.0	25.68		ug/L		103	70 - 130
Bromoform	25.0	23.28		ug/L		93	63 - 145
Bromomethane	25.0	28.06		ug/L		112	50 - 146
1,3-Butadiene	25.0	36.62	*	ug/L		146	40 - 138
2-Butanone (MEK)	25.0	25.86		ug/L		103	68 - 144
Carbon disulfide	25.0	26.65		ug/L		107	52 - 156
Carbon tetrachloride	25.0	26.64		ug/L		107	70 - 138
Chlorobenzene	25.0	24.00		ug/L		96	70 - 130
2-Chloro-1,3-butadiene	25.0	28.68		ug/L		115	69 - 140
Chlorodibromomethane	25.0	22.20		ug/L		89	70 - 137
Chloroethane	25.0	29.57		ug/L		118	54 - 141
Chloroform	25.0	27.42		ug/L		110	70 - 130
1-Chlorohexane	25.0	28.39		ug/L		114	64 - 130
Chloromethane	25.0	35.83	*	ug/L		143	46 - 142
2-Chlorotoluene	25.0	24.70		ug/L		99	70 - 130
4-Chlorotoluene	25.0	25.88		ug/L		104	70 - 130
cis-1,4-Dichloro-2-butene	25.0	13.20		ug/L		53	10 - 184
cis-1,2-Dichloroethene	25.0	28.83		ug/L		115	70 - 130
cis-1,3-Dichloropropene	25.0	27.29		ug/L		109	70 - 138
Cyclohexane	25.0	29.58		ug/L		118	40 - 141
Cyclohexanone	125	140.3		ug/L		112	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	22.27		ug/L		89	70 - 149
Dibromomethane	25.0	25.88		ug/L		104	70 - 130
1,2-Dichlorobenzene	25.0	24.03		ug/L		96	70 - 130
1,3-Dichlorobenzene	25.0	23.75		ug/L		95	70 - 130
1,4-Dichlorobenzene	25.0	24.81		ug/L		99	70 - 130
Dichlorobromomethane	25.0	26.91		ug/L		108	70 - 130
Dichlorodifluoromethane	25.0	25.64		ug/L		103	10 - 181
1,1-Dichloroethane	25.0	27.88		ug/L		112	70 - 130
1,2-Dichloroethane	25.0	28.33		ug/L		113	70 - 131
1,1-Dichloroethene	25.0	29.67		ug/L		119	70 - 139
1,2-Dichloropropane	25.0	30.09		ug/L		120	70 - 130
1,3-Dichloropropane	25.0	25.78		ug/L		103	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-131686/3

Matrix: Water

Analysis Batch: 131686

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	22.15		ug/L		89	65 - 145
1,1-Dichloropropene	25.0	28.26		ug/L		113	70 - 130
1,4-Dioxane	500	566.4		ug/L		113	66 - 150
EDB	25.0	24.71		ug/L		99	70 - 130
Ethyl acetate	50.0	54.83		ug/L		110	59 - 200
Ethylbenzene	25.0	23.86		ug/L		95	70 - 130
Ethylene oxide	100	154.8		ug/L		155	10 - 200
Ethyl ether	25.0	27.76		ug/L		111	69 - 136
Ethyl methacrylate	25.0	23.92		ug/L		96	70 - 130
Hexachlorobutadiene	25.0	22.66		ug/L		91	68 - 165
Hexane	25.0	25.98		ug/L		104	10 - 185
2-Hexanone	25.0	27.70		ug/L		111	70 - 138
Iodomethane	25.0	25.52		ug/L		102	64 - 146
Isobutyl alcohol	625	692.6		ug/L		111	27 - 199
Isooctane	25.0	28.02		ug/L		112	10 - 181
Isopropylbenzene	25.0	26.54		ug/L		106	70 - 131
4-Isopropyltoluene	25.0	24.86		ug/L		99	70 - 130
Methacrylonitrile	250	283.2		ug/L		113	70 - 139
Methylene Chloride	25.0	24.89		ug/L		100	70 - 130
Methyl methacrylate	50.0	54.09		ug/L		108	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	27.56		ug/L		110	70 - 138
Methyl tert-butyl ether	25.0	25.94		ug/L		104	70 - 131
m-Xylene & p-Xylene	25.0	23.44		ug/L		94	70 - 139
Naphthalene	25.0	22.81		ug/L		91	70 - 159
n-Butylbenzene	25.0	25.55		ug/L		102	70 - 135
n-Heptane	25.0	32.48		ug/L		130	10 - 186
2-Nitropropane	50.0	61.29		ug/L		123	22 - 173
N-Propylbenzene	25.0	27.19		ug/L		109	70 - 131
1-Octene	25.0	29.74		ug/L		119	10 - 185
o-Xylene	25.0	22.58		ug/L		90	70 - 130
Pentachloroethane	25.0	27.91		ug/L		112	70 - 146
Propionitrile	250	299.6		ug/L		120	70 - 144
sec-Butylbenzene	25.0	25.56		ug/L		102	70 - 134
Styrene	25.0	22.20		ug/L		89	70 - 130
tert-Butylbenzene	25.0	25.36		ug/L		101	70 - 132
1,1,1,2-Tetrachloroethane	25.0	22.53		ug/L		90	65 - 130
1,1,2,2-Tetrachloroethane	25.0	27.36		ug/L		109	65 - 130
Tetrachloroethene	25.0	21.43		ug/L		86	70 - 135
Toluene	25.0	25.07		ug/L		100	70 - 130
trans-1,4-Dichloro-2-butene	25.0	16.66		ug/L		67	37 - 174
trans-1,2-Dichloroethene	25.0	31.45		ug/L		126	70 - 134
trans-1,3-Dichloropropene	25.0	22.40		ug/L		90	70 - 143
1,2,3-Trichlorobenzene	25.0	22.19		ug/L		89	70 - 158
1,2,4-Trichlorobenzene	25.0	22.49		ug/L		90	70 - 157
1,3,5-Trichlorobenzene	25.0	21.86		ug/L		87	70 - 131
1,1,1-Trichloroethane	25.0	26.22		ug/L		105	65 - 130
1,1,2-Trichloroethane	25.0	25.39		ug/L		102	70 - 130
Trichloroethene	25.0	25.51		ug/L		102	70 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-131686/3

Matrix: Water

Analysis Batch: 131686

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	31.43		ug/L		126	39 - 146
1,2,3-Trichloropropane	25.0	27.23		ug/L		109	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.75		ug/L		107	27 - 148
1,2,4-Trimethylbenzene	25.0	25.23		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	25.0	25.67		ug/L		103	70 - 131
Vinyl acetate	50.0	63.50		ug/L		127	18 - 200
Vinyl chloride	25.0	33.64		ug/L		135	49 - 140
Xylenes, Total	50.0	46.02		ug/L		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
Dibromofluoromethane (Surr)	102		69 - 130
1,2-Dichloroethane-d4 (Surr)	111		70 - 140
Toluene-d8 (Surr)	97		70 - 130

Lab Sample ID: 560-63710-B-1 MS

Matrix: Water

Analysis Batch: 131686

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	5.00	U	25.0	26.61		ug/L		106	32 - 157
Acetonitrile	10.0	U	25.0	223.5		ug/L		89	10 - 182
Benzene	0.330	U	25.0	27.95		ug/L		112	70 - 130
Benzyl chloride	0.278	U	25.0	14.82		ug/L		59	49 - 130
Bromobenzene	0.128	U	25.0	26.78		ug/L		107	69 - 130
Bromochloromethane	0.228	U	25.0	26.39		ug/L		106	70 - 130
Bromoform	0.500	U	25.0	22.54		ug/L		90	57 - 145
Bromomethane	0.392	U	25.0	28.74		ug/L		115	56 - 141
1,3-Butadiene	0.300	U *	25.0	33.20		ug/L		133	25 - 196
2-Butanone (MEK)	1.00	U	25.0	24.33		ug/L		97	42 - 142
Carbon disulfide	0.500	U	25.0	26.28		ug/L		105	59 - 164
Carbon tetrachloride	0.251	U	25.0	25.52		ug/L		102	70 - 138
Chlorobenzene	0.136	U	25.0	24.32		ug/L		97	70 - 130
2-Chloro-1,3-butadiene	0.200	U	25.0	29.72		ug/L		119	55 - 144
Chlorodibromomethane	0.223	U	25.0	22.11		ug/L		88	62 - 145
Chloroethane	0.400	U	25.0	32.85		ug/L		131	62 - 142
Chloroform	0.173	U	25.0	27.56		ug/L		110	70 - 130
1-Chlorohexane	0.500	U	25.0	28.78		ug/L		115	64 - 130
Chloromethane	0.390	U *	25.0	32.72		ug/L		131	57 - 148
2-Chlorotoluene	0.155	U	25.0	24.87		ug/L		99	70 - 130
4-Chlorotoluene	0.242	U	25.0	24.88		ug/L		100	69 - 130
cis-1,4-Dichloro-2-butene	0.500	U	25.0	14.07		ug/L		56	24 - 136
cis-1,2-Dichloroethene	0.121	U	25.0	29.32		ug/L		117	70 - 130
cis-1,3-Dichloropropene	0.146	U	25.0	26.09		ug/L		104	46 - 136
Cyclohexane	1.00	U	25.0	29.08		ug/L		116	46 - 144
Cyclohexanone	5.00	U	125	96.71		ug/L		77	10 - 193
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	20.58		ug/L		82	56 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63710-B-1 MS

Matrix: Water

Analysis Batch: 131686

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	0.165	U	25.0	26.35		ug/L		105	70 - 130
1,2-Dichlorobenzene	0.170	U	25.0	23.92		ug/L		96	70 - 130
1,3-Dichlorobenzene	0.128	U	25.0	23.61		ug/L		94	70 - 130
1,4-Dichlorobenzene	0.200	U	25.0	24.31		ug/L		97	70 - 130
Dichlorobromomethane	0.175	U	25.0	26.88		ug/L		108	70 - 130
Dichlorodifluoromethane	0.429	U	25.0	19.38		ug/L		78	14 - 198
1,1-Dichloroethane	0.168	U	25.0	28.22		ug/L		113	70 - 130
1,2-Dichloroethane	0.172	U	25.0	28.57		ug/L		114	65 - 130
1,1-Dichloroethene	0.300	U	25.0	29.34		ug/L		117	67 - 143
1,2-Dichloropropane	0.173	U	25.0	30.60		ug/L		122	70 - 130
1,3-Dichloropropane	0.146	U	25.0	26.00		ug/L		104	70 - 130
2,2-Dichloropropane	0.335	U	25.0	20.33		ug/L		81	65 - 150
1,1-Dichloropropene	0.185	U	25.0	28.45		ug/L		114	70 - 130
1,4-Dioxane	15.9	U	500	307.6		ug/L		62	20 - 152
EDB	0.175	U	25.0	24.17		ug/L		97	70 - 130
Ethyl acetate	1.00	U	50.0	61.34		ug/L		123	53 - 144
Ethylbenzene	0.200	U	25.0	24.41		ug/L		98	70 - 130
Ethylene oxide	30.0	U	100	34.67	J	ug/L		35	12 - 185
Ethyl ether	0.320	U	25.0	27.85		ug/L		111	67 - 130
Ethyl methacrylate	0.500	U	25.0	24.00		ug/L		96	65 - 130
Hexachlorobutadiene	0.860	U	25.0	21.09		ug/L		84	52 - 143
Hexane	2.00	U	25.0	25.06		ug/L		100	51 - 159
2-Hexanone	0.500	U	25.0	25.16		ug/L		101	56 - 130
Iodomethane	0.223	U	25.0	25.55		ug/L		102	70 - 162
Isobutyl alcohol	5.00	U	625	559.4		ug/L		89	36 - 130
Isooctane	0.500	U	25.0	26.74		ug/L		107	52 - 150
Isopropylbenzene	0.200	U	25.0	26.55		ug/L		106	70 - 130
4-Isopropyltoluene	0.150	U	25.0	24.81		ug/L		99	69 - 130
Methacrylonitrile	2.00	U	250	283.8		ug/L		114	61 - 130
Methylene Chloride	2.00	U	25.0	24.80		ug/L		99	70 - 130
Methyl methacrylate	0.200	U	50.0	53.82		ug/L		108	63 - 130
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	24.94		ug/L		100	54 - 130
Methyl tert-butyl ether	0.200	U	25.0	26.09		ug/L		104	63 - 134
m-Xylene & p-Xylene	0.260	U	25.0	23.85		ug/L		95	67 - 130
Naphthalene	0.200	U	25.0	22.16		ug/L		89	62 - 145
n-Butylbenzene	0.200	U	25.0	25.19		ug/L		101	67 - 130
n-Heptane	0.300	U	25.0	33.00		ug/L		132	55 - 150
2-Nitropropane	1.00	U	50.0	51.49		ug/L		103	22 - 173
N-Propylbenzene	0.106	U	25.0	26.89		ug/L		108	70 - 130
1-Octene	0.440	U	25.0	28.59		ug/L		114	63 - 134
o-Xylene	0.200	U	25.0	22.95		ug/L		92	70 - 130
Pentachloroethane	0.302	U	25.0	26.17		ug/L		105	60 - 130
Propionitrile	2.69	U	250	264.0		ug/L		106	39 - 130
sec-Butylbenzene	0.300	U	25.0	25.46		ug/L		102	67 - 130
Styrene	0.200	U	25.0	22.54		ug/L		90	28 - 150
tert-Butylbenzene	0.200	U	25.0	24.95		ug/L		100	70 - 130
1,1,1,2-Tetrachloroethane	0.209	U	25.0	22.35		ug/L		89	65 - 130
1,1,2,2-Tetrachloroethane	0.190	U	25.0	27.14		ug/L		109	65 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63710-B-1 MS

Matrix: Water

Analysis Batch: 131686

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	0.189	U	25.0	21.21		ug/L		85	69 - 130
Toluene	0.495	U	25.0	25.09		ug/L		100	70 - 130
trans-1,4-Dichloro-2-butene	0.500	U	25.0	17.54		ug/L		70	35 - 130
trans-1,2-Dichloroethene	0.200	U	25.0	32.17		ug/L		129	57 - 148
trans-1,3-Dichloropropene	0.200	U	25.0	21.48		ug/L		86	44 - 139
1,2,3-Trichlorobenzene	0.217	U	25.0	21.66		ug/L		87	60 - 130
1,2,4-Trichlorobenzene	0.168	U	25.0	21.64		ug/L		87	60 - 142
1,3,5-Trichlorobenzene	0.203	U	25.0	21.56		ug/L		86	66 - 135
1,1,1-Trichloroethane	0.300	U	25.0	25.76		ug/L		103	65 - 133
1,1,2-Trichloroethane	0.173	U	25.0	25.35		ug/L		101	70 - 130
Trichloroethene	0.317	U	25.0	25.23		ug/L		101	70 - 130
Trichlorofluoromethane	0.244	U	25.0	30.11		ug/L		120	64 - 149
1,2,3-Trichloropropane	0.191	U	25.0	25.87		ug/L		103	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	26.98		ug/L		108	47 - 152
1,2,4-Trimethylbenzene	0.200	U	25.0	25.32		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	0.200	U	25.0	25.68		ug/L		103	70 - 130
Vinyl acetate	0.500	U	50.0	59.74		ug/L		119	36 - 171
Vinyl chloride	0.300	U	25.0	32.43		ug/L		130	49 - 158
Xylenes, Total	0.200	U	50.0	46.80		ug/L		94	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
Dibromofluoromethane (Surr)	101		69 - 130
1,2-Dichloroethane-d4 (Surr)	109		70 - 140
Toluene-d8 (Surr)	96		70 - 130

Lab Sample ID: 560-63710-D-1 MSD

Matrix: Water

Analysis Batch: 131686

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	5.00	U	25.0	24.79		ug/L		99	32 - 157	7	20
Acetonitrile	10.0	U	250	216.9		ug/L		87	10 - 182	3	20
Benzene	0.330	U	25.0	27.49		ug/L		110	70 - 130	2	20
Benzyl chloride	0.278	U	25.0	14.20		ug/L		57	49 - 130	4	20
Bromobenzene	0.128	U	25.0	27.16		ug/L		109	69 - 130	1	20
Bromochloromethane	0.228	U	25.0	26.62		ug/L		106	70 - 130	1	20
Bromoform	0.500	U	25.0	22.56		ug/L		90	57 - 145	0	20
Bromomethane	0.392	U	25.0	26.87		ug/L		107	56 - 141	7	20
1,3-Butadiene	0.300	U *	25.0	32.89		ug/L		132	25 - 196	1	20
2-Butanone (MEK)	1.00	U	25.0	22.29		ug/L		89	42 - 142	9	20
Carbon disulfide	0.500	U	25.0	26.25		ug/L		105	59 - 164	0	20
Carbon tetrachloride	0.251	U	25.0	26.19		ug/L		105	70 - 138	3	20
Chlorobenzene	0.136	U	25.0	23.43		ug/L		94	70 - 130	4	20
2-Chloro-1,3-butadiene	0.200	U	25.0	29.75		ug/L		119	55 - 144	0	20
Chlorodibromomethane	0.223	U	25.0	21.65		ug/L		87	62 - 145	2	20
Chloroethane	0.400	U	25.0	28.96		ug/L		116	62 - 142	13	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63710-D-1 MSD

Matrix: Water

Analysis Batch: 131686

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	0.173	U	25.0	27.99		ug/L		112	70 - 130	2	20
1-Chlorohexane	0.500	U	25.0	28.83		ug/L		115	64 - 130	0	20
Chloromethane	0.390	U *	25.0	32.27		ug/L		129	57 - 148	1	20
2-Chlorotoluene	0.155	U	25.0	24.45		ug/L		98	70 - 130	2	20
4-Chlorotoluene	0.242	U	25.0	24.73		ug/L		99	69 - 130	1	20
cis-1,4-Dichloro-2-butene	0.500	U	25.0	13.95		ug/L		56	24 - 136	1	20
cis-1,2-Dichloroethene	0.121	U	25.0	29.80		ug/L		119	70 - 130	2	20
cis-1,3-Dichloropropene	0.146	U	25.0	26.38		ug/L		106	46 - 136	1	20
Cyclohexane	1.00	U	25.0	29.74		ug/L		119	46 - 144	2	20
Cyclohexanone	5.00	U	125	93.43		ug/L		75	10 - 193	3	20
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	20.84		ug/L		83	56 - 130	1	20
Dibromomethane	0.165	U	25.0	26.12		ug/L		104	70 - 130	1	20
1,2-Dichlorobenzene	0.170	U	25.0	23.91		ug/L		96	70 - 130	0	20
1,3-Dichlorobenzene	0.128	U	25.0	23.57		ug/L		94	70 - 130	0	20
1,4-Dichlorobenzene	0.200	U	25.0	24.60		ug/L		98	70 - 130	1	20
Dichlorobromomethane	0.175	U	25.0	26.21		ug/L		105	70 - 130	3	20
Dichlorodifluoromethane	0.429	U	25.0	19.71		ug/L		79	14 - 198	2	20
1,1-Dichloroethane	0.168	U	25.0	28.60		ug/L		114	70 - 130	1	20
1,2-Dichloroethane	0.172	U	25.0	28.15		ug/L		113	65 - 130	1	20
1,1-Dichloroethene	0.300	U	25.0	29.64		ug/L		119	67 - 143	1	20
1,2-Dichloropropane	0.173	U	25.0	30.11		ug/L		120	70 - 130	2	20
1,3-Dichloropropane	0.146	U	25.0	25.31		ug/L		101	70 - 130	3	20
2,2-Dichloropropane	0.335	U	25.0	21.85		ug/L		87	65 - 150	7	20
1,1-Dichloropropene	0.185	U	25.0	28.51		ug/L		114	70 - 130	0	20
1,4-Dioxane	15.9	U	500	371.1		ug/L		74	20 - 152	19	20
EDB	0.175	U	25.0	24.23		ug/L		97	70 - 130	0	20
Ethyl acetate	1.00	U	50.0	59.19		ug/L		118	53 - 144	4	20
Ethylbenzene	0.200	U	25.0	23.80		ug/L		95	70 - 130	3	20
Ethylene oxide	30.0	U	100	30.0	U F1	ug/L		0	12 - 185	NC	20
Ethyl ether	0.320	U	25.0	28.45		ug/L		114	67 - 130	2	20
Ethyl methacrylate	0.500	U	25.0	23.87		ug/L		95	65 - 130	1	20
Hexachlorobutadiene	0.860	U	25.0	22.34		ug/L		89	52 - 143	6	20
Hexane	2.00	U	25.0	26.10		ug/L		104	51 - 159	4	20
2-Hexanone	0.500	U	25.0	25.07		ug/L		100	56 - 130	0	20
Iodomethane	0.223	U	25.0	25.98		ug/L		104	70 - 162	2	20
Isobutyl alcohol	5.00	U	625	527.2		ug/L		84	36 - 130	6	20
Isooctane	0.500	U	25.0	28.40		ug/L		114	52 - 150	6	20
Isopropylbenzene	0.200	U	25.0	26.13		ug/L		105	70 - 130	2	20
4-Isopropyltoluene	0.150	U	25.0	24.48		ug/L		98	69 - 130	1	20
Methacrylonitrile	2.00	U	250	276.4		ug/L		111	61 - 130	3	20
Methylene Chloride	2.00	U	25.0	25.01		ug/L		100	70 - 130	1	20
Methyl methacrylate	0.200	U	50.0	52.64		ug/L		105	63 - 130	2	20
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	25.24		ug/L		101	54 - 130	1	20
Methyl tert-butyl ether	0.200	U	25.0	26.26		ug/L		105	63 - 134	1	20
m-Xylene & p-Xylene	0.260	U	25.0	23.14		ug/L		93	67 - 130	3	20
Naphthalene	0.200	U	25.0	22.49		ug/L		90	62 - 145	1	20
n-Butylbenzene	0.200	U	25.0	25.18		ug/L		101	67 - 130	0	20
n-Heptane	0.300	U	25.0	31.95		ug/L		128	55 - 150	3	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63710-D-1 MSD

Matrix: Water

Analysis Batch: 131686

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Nitropropane	1.00	U	50.0	51.88		ug/L		104	22 - 173	1	20
N-Propylbenzene	0.106	U	25.0	26.96		ug/L		108	70 - 130	0	20
1-Octene	0.440	U	25.0	29.17		ug/L		117	63 - 134	2	
o-Xylene	0.200	U	25.0	22.72		ug/L		91	70 - 130	1	20
Pentachloroethane	0.302	U	25.0	25.53		ug/L		102	60 - 130	2	20
Propionitrile	2.69	U	250	259.1		ug/L		104	39 - 130	2	20
sec-Butylbenzene	0.300	U	25.0	25.29		ug/L		101	67 - 130	1	20
Styrene	0.200	U	25.0	22.28		ug/L		89	28 - 150	1	20
tert-Butylbenzene	0.200	U	25.0	24.96		ug/L		100	70 - 130	0	20
1,1,1,2-Tetrachloroethane	0.209	U	25.0	21.86		ug/L		87	65 - 130	2	20
1,1,2,2-Tetrachloroethane	0.190	U	25.0	27.24		ug/L		109	65 - 130	0	20
Tetrachloroethene	0.189	U	25.0	21.12		ug/L		84	69 - 130	0	20
Toluene	0.495	U	25.0	25.01		ug/L		100	70 - 130	0	20
trans-1,4-Dichloro-2-butene	0.500	U	25.0	16.59		ug/L		66	35 - 130	6	20
trans-1,2-Dichloroethene	0.200	U	25.0	31.99		ug/L		128	57 - 148	1	20
trans-1,3-Dichloropropene	0.200	U	25.0	21.51		ug/L		86	44 - 139	0	20
1,2,3-Trichlorobenzene	0.217	U	25.0	21.64		ug/L		87	60 - 130	0	20
1,2,4-Trichlorobenzene	0.168	U	25.0	21.79		ug/L		87	60 - 142	1	20
1,3,5-Trichlorobenzene	0.203	U	25.0	21.72		ug/L		87	66 - 135	1	20
1,1,1-Trichloroethane	0.300	U	25.0	25.92		ug/L		104	65 - 133	1	20
1,1,2-Trichloroethane	0.173	U	25.0	24.56		ug/L		98	70 - 130	3	20
Trichloroethene	0.317	U	25.0	25.65		ug/L		103	70 - 130	2	20
Trichlorofluoromethane	0.244	U	25.0	30.13		ug/L		121	64 - 149	0	20
1,2,3-Trichloropropane	0.191	U	25.0	25.22		ug/L		101	70 - 130	3	20
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	27.51		ug/L		110	47 - 152	2	20
1,2,4-Trimethylbenzene	0.200	U	25.0	24.95		ug/L		100	70 - 130	1	20
1,3,5-Trimethylbenzene	0.200	U	25.0	25.21		ug/L		101	70 - 130	2	20
Vinyl acetate	0.500	U	50.0	60.34		ug/L		121	36 - 171	1	20
Vinyl chloride	0.300	U	25.0	31.63		ug/L		127	49 - 158	2	20
Xylenes, Total	0.200	U	50.0	45.86		ug/L		92	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
Dibromofluoromethane (Surr)	102		69 - 130
1,2-Dichloroethane-d4 (Surr)	111		70 - 140
Toluene-d8 (Surr)	95		70 - 130

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-131740/1-A

Matrix: Water

Analysis Batch: 131758

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131740

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/13/16 14:00	09/14/16 09:36	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/13/16 14:00	09/14/16 09:36	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/13/16 14:00	09/14/16 09:36	1

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-131740/1-A

Matrix: Water

Analysis Batch: 131758

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131740

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/13/16 14:00	09/14/16 09:36	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/13/16 14:00	09/14/16 09:36	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/13/16 14:00	09/14/16 09:36	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/13/16 14:00	09/14/16 09:36	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/13/16 14:00	09/14/16 09:36	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/13/16 14:00	09/14/16 09:36	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/13/16 14:00	09/14/16 09:36	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/13/16 14:00	09/14/16 09:36	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/13/16 14:00	09/14/16 09:36	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/13/16 14:00	09/14/16 09:36	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/13/16 14:00	09/14/16 09:36	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 09:36	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/13/16 14:00	09/14/16 09:36	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/13/16 14:00	09/14/16 09:36	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/13/16 14:00	09/14/16 09:36	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/13/16 14:00	09/14/16 09:36	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/13/16 14:00	09/14/16 09:36	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/13/16 14:00	09/14/16 09:36	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/13/16 14:00	09/14/16 09:36	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/13/16 14:00	09/14/16 09:36	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/13/16 14:00	09/14/16 09:36	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/13/16 14:00	09/14/16 09:36	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 09:36	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/13/16 14:00	09/14/16 09:36	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/13/16 14:00	09/14/16 09:36	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/13/16 14:00	09/14/16 09:36	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 09:36	1
Di-n-butyl phthalate	3.858	J	10.0	0.709	ug/L		09/13/16 14:00	09/14/16 09:36	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/13/16 14:00	09/14/16 09:36	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/13/16 14:00	09/14/16 09:36	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/13/16 14:00	09/14/16 09:36	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/13/16 14:00	09/14/16 09:36	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/13/16 14:00	09/14/16 09:36	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/13/16 14:00	09/14/16 09:36	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/13/16 14:00	09/14/16 09:36	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/13/16 14:00	09/14/16 09:36	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/13/16 14:00	09/14/16 09:36	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/13/16 14:00	09/14/16 09:36	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/13/16 14:00	09/14/16 09:36	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/13/16 14:00	09/14/16 09:36	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/13/16 14:00	09/14/16 09:36	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/13/16 14:00	09/14/16 09:36	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/13/16 14:00	09/14/16 09:36	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/13/16 14:00	09/14/16 09:36	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/13/16 14:00	09/14/16 09:36	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/13/16 14:00	09/14/16 09:36	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/13/16 14:00	09/14/16 09:36	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/13/16 14:00	09/14/16 09:36	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-131740/1-A

Matrix: Water

Analysis Batch: 131758

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131740

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/13/16 14:00	09/14/16 09:36	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/13/16 14:00	09/14/16 09:36	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/13/16 14:00	09/14/16 09:36	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/13/16 14:00	09/14/16 09:36	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/13/16 14:00	09/14/16 09:36	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/13/16 14:00	09/14/16 09:36	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/13/16 14:00	09/14/16 09:36	1
Phenol	0.768	U	10.0	0.768	ug/L		09/13/16 14:00	09/14/16 09:36	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/13/16 14:00	09/14/16 09:36	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/13/16 14:00	09/14/16 09:36	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/13/16 14:00	09/14/16 09:36	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/13/16 14:00	09/14/16 09:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	80		23 - 130	09/13/16 14:00	09/14/16 09:36	1
2-Fluorophenol	84		10 - 130	09/13/16 14:00	09/14/16 09:36	1
Nitrobenzene-d5	83		27 - 130	09/13/16 14:00	09/14/16 09:36	1
Phenol-d5	87		10 - 130	09/13/16 14:00	09/14/16 09:36	1
Terphenyl-d14	95		10 - 141	09/13/16 14:00	09/14/16 09:36	1
2,4,6-Tribromophenol	86		18 - 130	09/13/16 14:00	09/14/16 09:36	1

Lab Sample ID: LCS 560-131740/2-A

Matrix: Water

Analysis Batch: 131758

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131740

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	200	167.8		ug/L		84	54 - 130
Acenaphthylene	200	164.0		ug/L		82	54 - 130
Anthracene	200	182.3		ug/L		91	67 - 130
Benzo[a]anthracene	200	187.4		ug/L		94	70 - 130
Benzo[a]pyrene	200	188.8		ug/L		94	70 - 130
Benzo[b]fluoranthene	200	199.3		ug/L		100	69 - 130
Benzo[g,h,i]perylene	200	162.2		ug/L		81	62 - 130
Benzo[k]fluoranthene	200	186.4		ug/L		93	68 - 130
Benzyl alcohol	200	182.7		ug/L		91	52 - 130
Bis(2-chloroethoxy)methane	200	197.5		ug/L		99	55 - 130
Bis(2-chloroethyl)ether	200	175.4		ug/L		88	52 - 130
Bis(2-ethylhexyl) phthalate	200	183.4		ug/L		92	68 - 130
4-Bromophenyl phenyl ether	200	192.2		ug/L		96	69 - 130
Butyl benzyl phthalate	200	191.5		ug/L		96	68 - 130
4-Chloroaniline	200	141.6		ug/L		71	30 - 130
4-Chloro-3-methylphenol	200	200.9		ug/L		100	52 - 130
2-Chloronaphthalene	200	162.3		ug/L		81	51 - 130
2-Chlorophenol	200	174.6		ug/L		87	51 - 130
4-Chlorophenyl phenyl ether	200	184.6		ug/L		92	59 - 130
Chrysene	200	192.5		ug/L		96	70 - 130
Dibenz(a,h)anthracene	200	161.0		ug/L		80	65 - 130
Dibenzofuran	200	188.9		ug/L		94	53 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-131740/2-A

Matrix: Water

Analysis Batch: 131758

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131740

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	200	126.0		ug/L		63	43 - 130
1,3-Dichlorobenzene	200	122.0		ug/L		61	40 - 130
1,4-Dichlorobenzene	200	125.3		ug/L		63	42 - 130
3,3'-Dichlorobenzidine	200	151.9		ug/L		76	61 - 130
2,4-Dichlorophenol	200	191.9		ug/L		96	51 - 130
Diethyl phthalate	200	186.3		ug/L		93	59 - 130
2,4-Dimethylphenol	200	186.9		ug/L		93	51 - 130
Dimethyl phthalate	200	197.6		ug/L		99	63 - 130
Di-n-butyl phthalate	200	189.5		ug/L		95	67 - 130
4,6-Dinitro-2-methylphenol	400	382.3		ug/L		96	63 - 130
2,4-Dinitrophenol	400	365.5		ug/L		91	47 - 130
2,4-Dinitrotoluene	200	194.5		ug/L		97	67 - 130
2,6-Dinitrotoluene	200	194.4		ug/L		97	64 - 130
Di-n-octyl phthalate	200	183.3		ug/L		92	70 - 130
Fluoranthene	200	206.5		ug/L		103	65 - 130
Fluorene	200	179.0		ug/L		90	59 - 130
Hexachlorobenzene	200	191.8		ug/L		96	67 - 130
Hexachlorobutadiene	200	132.9		ug/L		66	44 - 130
Hexachlorocyclopentadiene	200	77.64		ug/L		39	10 - 130
Hexachloroethane	200	121.2		ug/L		61	38 - 130
Indeno[1,2,3-cd]pyrene	200	158.0		ug/L		79	66 - 130
Isophorone	200	193.8		ug/L		97	55 - 130
2-Methylnaphthalene	200	154.8		ug/L		77	54 - 130
2-Methylphenol	200	180.6		ug/L		90	47 - 130
3 & 4 Methylphenol	200	191.1		ug/L		96	41 - 130
Naphthalene	200	159.0		ug/L		79	51 - 130
2-Nitroaniline	200	185.4		ug/L		93	60 - 130
3-Nitroaniline	200	191.0		ug/L		96	57 - 130
4-Nitroaniline	200	180.2		ug/L		90	55 - 130
Nitrobenzene	200	184.5		ug/L		92	54 - 130
2-Nitrophenol	200	190.5		ug/L		95	54 - 130
4-Nitrophenol	400	387.1		ug/L		97	34 - 138
N-Nitrosodi-n-propylamine	200	190.3		ug/L		95	45 - 130
N-Nitrosodiphenylamine	200	175.2		ug/L		88	51 - 130
Pentachlorophenol	400	364.0		ug/L		91	55 - 130
Phenanthrene	200	183.9		ug/L		92	67 - 130
Phenol	200	177.1		ug/L		89	47 - 130
Pyrene	200	190.9		ug/L		95	66 - 130
1,2,4-Trichlorobenzene	200	138.7		ug/L		69	49 - 130
2,4,5-Trichlorophenol	200	193.7		ug/L		97	55 - 130
2,4,6-Trichlorophenol	200	189.4		ug/L		95	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	72		23 - 130
2-Fluorophenol	75		10 - 130
Nitrobenzene-d5	93		27 - 130
Phenol-d5	82		10 - 130
Terphenyl-d14	81		10 - 141

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-131740/2-A  
Matrix: Water  
Analysis Batch: 131758

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 131740

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	88		18 - 130

## Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 560-131684/1-A  
Matrix: Water  
Analysis Batch: 131697

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 131684

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00500	U	0.0600	0.00500	ug/L		09/12/16 09:01	09/12/16 15:03	1
alpha-BHC	0.00520	U	0.0600	0.00520	ug/L		09/12/16 09:01	09/12/16 15:03	1
alpha-Chlordane	0.00630	U	0.0600	0.00630	ug/L		09/12/16 09:01	09/12/16 15:03	1
beta-BHC	0.00500	U	0.0600	0.00500	ug/L		09/12/16 09:01	09/12/16 15:03	1
4,4'-DDD	0.00500	U	0.0600	0.00500	ug/L		09/12/16 09:01	09/12/16 15:03	1
4,4'-DDE	0.00500	U	0.0600	0.00500	ug/L		09/12/16 09:01	09/12/16 15:03	1
4,4'-DDT	0.00810	U	0.0600	0.00810	ug/L		09/12/16 09:01	09/12/16 15:03	1
delta-BHC	0.00500	U	0.0600	0.00500	ug/L		09/12/16 09:01	09/12/16 15:03	1
Dieldrin	0.0130	U	0.0600	0.0130	ug/L		09/12/16 09:01	09/12/16 15:03	1
Endosulfan I	0.00500	U	0.0600	0.00500	ug/L		09/12/16 09:01	09/12/16 15:03	1
Endosulfan II	0.00860	U	0.0600	0.00860	ug/L		09/12/16 09:01	09/12/16 15:03	1
Endosulfan sulfate	0.00880	U	0.0600	0.00880	ug/L		09/12/16 09:01	09/12/16 15:03	1
Endrin	0.00770	U	0.0600	0.00770	ug/L		09/12/16 09:01	09/12/16 15:03	1
Endrin aldehyde	0.00500	U	0.0600	0.00500	ug/L		09/12/16 09:01	09/12/16 15:03	1
Endrin ketone	0.00820	U	0.0600	0.00820	ug/L		09/12/16 09:01	09/12/16 15:03	1
gamma-BHC (Lindane)	0.00450	U	0.0600	0.00450	ug/L		09/12/16 09:01	09/12/16 15:03	1
gamma-Chlordane	0.00670	U	0.0600	0.00670	ug/L		09/12/16 09:01	09/12/16 15:03	1
Heptachlor	0.00650	U	0.0600	0.00650	ug/L		09/12/16 09:01	09/12/16 15:03	1
Heptachlor epoxide	0.00520	U	0.0600	0.00520	ug/L		09/12/16 09:01	09/12/16 15:03	1
Methoxychlor	0.0100	U	0.0600	0.0100	ug/L		09/12/16 09:01	09/12/16 15:03	1
Toxaphene	0.680	U	6.00	0.680	ug/L		09/12/16 09:01	09/12/16 15:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	45		10 - 152	09/12/16 09:01	09/12/16 15:03	1
DCB Decachlorobiphenyl	52		10 - 152	09/12/16 09:01	09/12/16 15:03	1
Tetrachloro-m-xylene	74		57 - 127	09/12/16 09:01	09/12/16 15:03	1
Tetrachloro-m-xylene	77		57 - 127	09/12/16 09:01	09/12/16 15:03	1

Lab Sample ID: LCS 560-131684/3-A  
Matrix: Water  
Analysis Batch: 131697

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 131684

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.571	0.4490		ug/L		79	54 - 130
alpha-BHC	0.571	0.4903		ug/L		86	59 - 130
alpha-Chlordane	0.571	0.4337		ug/L		76	51 - 130
beta-BHC	0.571	0.4422		ug/L		77	56 - 130
4,4'-DDD	0.571	0.4319		ug/L		76	56 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 560-131684/3-A

Matrix: Water

Analysis Batch: 131697

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDE	0.571	0.4354		ug/L		76	53 - 130
4,4'-DDT	0.571	0.4325		ug/L		76	50 - 130
delta-BHC	0.571	0.4698		ug/L		82	56 - 130
Dieldrin	0.571	0.4442		ug/L		78	58 - 130
Endosulfan I	0.571	0.3227		ug/L		56	39 - 130
Endosulfan II	0.571	0.3504		ug/L		61	44 - 130
Endosulfan sulfate	0.571	0.3858		ug/L		68	52 - 130
Endrin	0.571	0.4072		ug/L		71	62 - 130
Endrin aldehyde	0.571	0.3799		ug/L		66	52 - 130
Endrin ketone	0.571	0.4114		ug/L		72	48 - 130
gamma-BHC (Lindane)	0.571	0.4831		ug/L		85	56 - 130
gamma-Chlordane	0.571	0.4391		ug/L		77	52 - 130
Heptachlor	0.571	0.4666		ug/L		82	57 - 130
Heptachlor epoxide	0.571	0.4068		ug/L		71	53 - 130
Methoxychlor	0.571	0.4121		ug/L		72	57 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	63		10 - 152
Tetrachloro-m-xylene	84		57 - 127

Lab Sample ID: LCS 560-131684/6-A

Matrix: Water

Analysis Batch: 131697

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toxaphene	11.4	9.474		ug/L		83	51 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	61		10 - 152
Tetrachloro-m-xylene	73		57 - 127

Lab Sample ID: 560-63683-E-4-B MSD

Matrix: Water

Analysis Batch: 131697

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin	0.00468	U	0.545	0.4450		ug/L		82	54 - 130	4	30
alpha-BHC	0.00487	U	0.545	0.4972		ug/L		91	59 - 130	6	30
alpha-Chlordane	0.00590	U	0.545	0.4340		ug/L		80	51 - 130	4	30
beta-BHC	0.00468	U	0.545	0.4467		ug/L		82	56 - 130	5	30
4,4'-DDD	0.00468	U	0.545	0.4371		ug/L		80	56 - 130	5	30
4,4'-DDE	0.00468	U	0.545	0.4355		ug/L		80	53 - 130	4	30
4,4'-DDT	0.00758	U	0.545	0.4219		ug/L		77	50 - 130	3	30
delta-BHC	0.00468	U	0.545	0.4782		ug/L		88	56 - 130	6	30
Dieldrin	0.0122	U	0.545	0.4474		ug/L		82	58 - 130	4	30
Endosulfan I	0.00468	U	0.545	0.3219		ug/L		59	39 - 130	5	30
Endosulfan II	0.00805	U	0.545	0.3431		ug/L		63	44 - 130	3	30
Endosulfan sulfate	0.00824	U	0.545	0.3564		ug/L		65	52 - 130	1	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-63683-E-4-B MSD

Matrix: Water

Analysis Batch: 131697

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Endrin	0.00721	U	0.545	0.3972		ug/L		73	62 - 130	4	30
Endrin aldehyde	0.00468	U	0.545	0.4119		ug/L		76	52 - 130	6	30
Endrin ketone	0.00767	U	0.545	0.4517		ug/L		83	48 - 130	11	30
gamma-BHC (Lindane)	0.00421	U	0.545	0.4878		ug/L		90	56 - 130	5	30
gamma-Chlordane	0.00627	U	0.545	0.4321		ug/L		79	52 - 130	4	30
Heptachlor	0.00608	U	0.545	0.4658		ug/L		85	57 - 130	4	30
Heptachlor epoxide	0.00487	U	0.545	0.4113		ug/L		75	53 - 130	2	30
Methoxychlor	0.00936	U	0.545	0.4143		ug/L		76	57 - 130	10	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	72		10 - 152
DCB Decachlorobiphenyl	73		10 - 152
Tetrachloro-m-xylene	84		57 - 127
Tetrachloro-m-xylene	77		57 - 127

Lab Sample ID: 560-63683-F-4-A MS

Matrix: Water

Analysis Batch: 131697

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.00468	U	0.532	0.4277		ug/L		80	54 - 130
alpha-BHC	0.00487	U	0.532	0.4693		ug/L		88	59 - 130
alpha-Chlordane	0.00590	U	0.532	0.4164		ug/L		78	51 - 130
beta-BHC	0.00468	U	0.532	0.4232		ug/L		80	56 - 130
4,4'-DDD	0.00468	U	0.532	0.4177		ug/L		79	56 - 130
4,4'-DDE	0.00468	U	0.532	0.4192		ug/L		79	53 - 130
4,4'-DDT	0.00758	U	0.532	0.4096		ug/L		77	50 - 130
delta-BHC	0.00468	U	0.532	0.4519		ug/L		85	56 - 130
Dieldrin	0.0122	U	0.532	0.4281		ug/L		80	58 - 130
Endosulfan I	0.00468	U	0.532	0.3061		ug/L		58	39 - 130
Endosulfan II	0.00805	U	0.532	0.3319		ug/L		62	44 - 130
Endosulfan sulfate	0.00824	U	0.532	0.3526		ug/L		66	52 - 130
Endrin	0.00721	U	0.532	0.3628		ug/L		68	62 - 130
Endrin aldehyde	0.00468	U	0.532	0.3883		ug/L		73	52 - 130
Endrin ketone	0.00767	U	0.532	0.4029		ug/L		76	48 - 130
gamma-BHC (Lindane)	0.00421	U	0.532	0.4621		ug/L		87	56 - 130
gamma-Chlordane	0.00627	U	0.532	0.4168		ug/L		78	52 - 130
Heptachlor	0.00608	U	0.532	0.4469		ug/L		84	57 - 130
Heptachlor epoxide	0.00487	U	0.532	0.3980		ug/L		75	53 - 130
Methoxychlor	0.00936	U	0.532	0.3938		ug/L		74	57 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl	72		10 - 152
DCB Decachlorobiphenyl	74		10 - 152
Tetrachloro-m-xylene	84		57 - 127
Tetrachloro-m-xylene	77		57 - 127

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 560-131684/1-A

Matrix: Water

Analysis Batch: 131698

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131684

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1221	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1232	0.440	U	0.800	0.440	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1242	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1248	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1254	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1260	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1262	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1
Aroclor 1268	0.110	U	0.600	0.110	ug/L		09/12/16 09:01	09/12/16 15:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	102		10 - 150	09/12/16 09:01	09/12/16 15:03	1
DCB Decachlorobiphenyl	56		10 - 150	09/12/16 09:01	09/12/16 15:03	1

Lab Sample ID: LCS 560-131684/2-A

Matrix: Water

Analysis Batch: 131698

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor 1016	11.4	13.65		ug/L		119	50 - 135
Aroclor 1260	11.4	11.64		ug/L		102	50 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	112		10 - 150
DCB Decachlorobiphenyl	84		10 - 150

Lab Sample ID: 560-63683-D-4-A MSD

Matrix: Water

Analysis Batch: 131698

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aroclor 1016	0.103	U	10.8	12.44		ug/L		116	50 - 135	5	30
Aroclor 1260	0.103	U	10.8	11.48		ug/L		107	50 - 135	3	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	105		10 - 150
DCB Decachlorobiphenyl	87		10 - 150

Lab Sample ID: 560-63683-E-4-A MS

Matrix: Water

Analysis Batch: 131698

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 131684

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aroclor 1016	0.103	U	10.8	13.04		ug/L		121	50 - 135
Aroclor 1260	0.103	U	10.8	11.78		ug/L		109	50 - 135

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 560-63683-E-4-A MS

Matrix: Water

Analysis Batch: 131698

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 131684

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	112		10 - 150
DCB Decachlorobiphenyl	91		10 - 150

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 680-449539/11-A

Matrix: Water

Analysis Batch: 450024

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 449539

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.100	U	5.00	0.100	ug/L		09/14/16 08:02	09/16/16 17:21	1
Dicamba	0.0850	U	0.500	0.0850	ug/L		09/14/16 08:02	09/16/16 17:21	1
Mecoprop	19.0	U	120	19.0	ug/L		09/14/16 08:02	09/16/16 17:21	1
MCPA	17.0	U	120	17.0	ug/L		09/14/16 08:02	09/16/16 17:21	1
Dichlorprop	0.150	U	0.500	0.150	ug/L		09/14/16 08:02	09/16/16 17:21	1
2,4-D	0.0370	U	0.500	0.0370	ug/L		09/14/16 08:02	09/16/16 17:21	1
Silvex (2,4,5-TP)	0.0620	U	0.250	0.0620	ug/L		09/14/16 08:02	09/16/16 17:21	1
2,4,5-T	0.0620	U	0.250	0.0620	ug/L		09/14/16 08:02	09/16/16 17:21	1
2,4-DB	0.150	U	0.500	0.150	ug/L		09/14/16 08:02	09/16/16 17:21	1
Dinoseb	0.160	U	1.00	0.160	ug/L		09/14/16 08:02	09/16/16 17:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	80		45 - 130	09/14/16 08:02	09/16/16 17:21	1

Lab Sample ID: LCS 680-449539/12-A

Matrix: Water

Analysis Batch: 450024

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 449539

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Dalapon	2.00	1.350	J p	ug/L		67	40 - 130
Dicamba	1.00	0.8669		ug/L		87	64 - 130
Mecoprop	200	168.1		ug/L		84	55 - 134
MCPA	200	162.7		ug/L		81	52 - 130
Dichlorprop	2.00	1.802		ug/L		90	52 - 130
2,4-D	2.00	1.685		ug/L		84	55 - 130
Silvex (2,4,5-TP)	0.500	0.4558		ug/L		91	60 - 130
2,4,5-T	0.500	0.4228		ug/L		85	58 - 130
2,4-DB	2.00	1.820		ug/L		91	60 - 147
Dinoseb	2.00	1.441		ug/L		72	14 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid	84		45 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: 560-63698-8 MS

Matrix: Water

Analysis Batch: 450024

Client Sample ID: HSM170

Prep Type: Total/NA

Prep Batch: 449539

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Dalapon	0.0984	U F1	1.96	1.323	J p	ug/L		68	40 - 130
Dicamba	0.0836	U	0.979	0.8808		ug/L		90	64 - 130
Mecoprop	18.7	U	196	151.4		ug/L		77	55 - 134
MCPA	16.7	U	196	151.5		ug/L		77	52 - 130
Dichlorprop	0.148	U	1.96	1.744		ug/L		89	52 - 130
2,4-D	0.0364	U	1.96	1.631		ug/L		83	55 - 130
Silvex (2,4,5-TP)	0.0610	U	0.489	0.4946		ug/L		101	60 - 130
2,4,5-T	0.0610	U	0.489	0.4025		ug/L		82	58 - 130
2,4-DB	0.148	U	1.96	1.848		ug/L		94	60 - 147
Dinoseb	0.157	U	1.96	1.105		ug/L		56	14 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4-Dichlorophenylacetic acid	90		45 - 130

Lab Sample ID: 560-63698-8 MSD

Matrix: Water

Analysis Batch: 450024

Client Sample ID: HSM170

Prep Type: Total/NA

Prep Batch: 449539

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Dalapon	0.0984	U F1	1.83	1.081	J p	ug/L		59	40 - 130	20	50
Dicamba	0.0836	U	0.914	0.8011		ug/L		88	64 - 130	9	50
Mecoprop	18.7	U	183	142.0		ug/L		78	55 - 134	6	50
MCPA	16.7	U	183	151.9		ug/L		83	52 - 130	0	50
Dichlorprop	0.148	U	1.83	1.667		ug/L		91	52 - 130	5	50
2,4-D	0.0364	U	1.83	1.640		ug/L		90	55 - 130	1	50
Silvex (2,4,5-TP)	0.0610	U	0.457	0.4706		ug/L		103	60 - 130	5	50
2,4,5-T	0.0610	U	0.457	0.4046		ug/L		89	58 - 130	1	50
2,4-DB	0.148	U	1.83	1.729		ug/L		95	60 - 147	7	50
Dinoseb	0.157	U	1.83	1.214		ug/L		66	14 - 130	9	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4-Dichlorophenylacetic acid	89		45 - 130

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 560-131688/1-A

Matrix: Water

Analysis Batch: 131706

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131688

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.101	U	0.200	0.101	mg/L		09/12/16 09:15	09/12/16 14:12	1
Magnesium	0.0257	U	0.200	0.0257	mg/L		09/12/16 09:15	09/12/16 14:12	1
Potassium	0.375	U	0.500	0.375	mg/L		09/12/16 09:15	09/12/16 14:12	1
Silicon	0.0707	U	0.500	0.0707	mg/L		09/12/16 09:15	09/12/16 14:12	1
Sodium	0.310	U	1.00	0.310	mg/L		09/12/16 09:15	09/12/16 14:12	1
Strontium	0.000700	U	0.00500	0.000700	mg/L		09/12/16 09:15	09/12/16 14:12	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 560-131688/2-A

Matrix: Water

Analysis Batch: 131706

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131688

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	25.0	23.10		mg/L		92	80 - 120
Magnesium	25.0	23.05		mg/L		92	80 - 120
Potassium	25.0	23.62		mg/L		94	80 - 120
Silicon	10.0	9.269		mg/L		93	80 - 120
Sodium	25.0	23.74		mg/L		95	80 - 120
Strontium	0.250	0.2340		mg/L		94	80 - 120

Lab Sample ID: 560-63693-D-1-B MS

Matrix: Water

Analysis Batch: 131706

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 131688

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Calcium	88.3	F1	25.0	107.6	F1	mg/L		77	80 - 120
Magnesium	20.2		25.0	43.27		mg/L		92	80 - 120
Potassium	1.55		25.0	25.82		mg/L		97	80 - 120
Silicon	4.92		10.0	14.17		mg/L		93	80 - 120
Sodium	19.9		25.0	43.10		mg/L		93	80 - 120
Strontium	0.709		0.250	0.9220		mg/L		85	80 - 120

Lab Sample ID: 560-63693-D-1-C MSD

Matrix: Water

Analysis Batch: 131706

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 131688

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Calcium	88.3	F1	25.0	109.7		mg/L		86	80 - 120	2	20
Magnesium	20.2		25.0	43.12		mg/L		92	80 - 120	0	20
Potassium	1.55		25.0	25.34		mg/L		95	80 - 120	2	20
Silicon	4.92		10.0	13.99		mg/L		91	80 - 120	1	20
Sodium	19.9		25.0	42.91		mg/L		92	80 - 120	0	20
Strontium	0.709		0.250	0.9380		mg/L		91	80 - 120	2	20

## Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 560-131690/1-A

Matrix: Water

Analysis Batch: 131750

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131690

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/12/16 09:15	09/13/16 16:28	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/12/16 09:15	09/13/16 16:28	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/12/16 09:15	09/13/16 16:28	1
Barium	0.000810	U	0.00500	0.000810	mg/L		09/12/16 09:15	09/13/16 16:28	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/12/16 09:15	09/13/16 16:28	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/12/16 09:15	09/13/16 16:28	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/12/16 09:15	09/13/16 16:28	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/12/16 09:15	09/13/16 16:28	1
Iron	0.101	U	0.250	0.101	mg/L		09/12/16 09:15	09/13/16 16:28	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/12/16 09:15	09/13/16 16:28	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 560-131690/1-A

Matrix: Water

Analysis Batch: 131750

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131690

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/12/16 09:15	09/13/16 16:28	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/12/16 09:15	09/13/16 16:28	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/12/16 09:15	09/13/16 16:28	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/12/16 09:15	09/13/16 16:28	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/12/16 09:15	09/13/16 16:28	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/12/16 09:15	09/13/16 16:28	1

Lab Sample ID: LCS 560-131690/2-A

Matrix: Water

Analysis Batch: 131750

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131690

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.250	0.2347		mg/L		94	80 - 120
Arsenic	0.250	0.2373		mg/L		95	80 - 120
Barium	0.250	0.2405		mg/L		96	80 - 120
Beryllium	0.250	0.2213		mg/L		89	80 - 120
Cadmium	0.250	0.2359		mg/L		94	80 - 120
Chromium	0.250	0.2255		mg/L		90	80 - 120
Copper	0.250	0.2215		mg/L		89	80 - 120
Iron	25.0	22.08		mg/L		88	80 - 120
Lead	0.250	0.2210		mg/L		88	80 - 120
Manganese	2.50	2.239		mg/L		90	80 - 120
Nickel	0.250	0.2239		mg/L		90	80 - 120
Selenium	0.250	0.2366		mg/L		95	80 - 120
Silver	0.250	0.2154		mg/L		86	80 - 120
Thallium	0.100	0.08810		mg/L		88	80 - 120
Zinc	0.250	0.2331		mg/L		93	80 - 120

Lab Sample ID: LCS 560-131690/2-A

Matrix: Water

Analysis Batch: 131811

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131690

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	25.0	21.79		mg/L		87	80 - 120

Lab Sample ID: 560-63693-D-1-E MS

Matrix: Water

Analysis Batch: 131750

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 131690

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	0.0500	U F1	25.0	18.95	F1	mg/L		76	80 - 120
Antimony	0.00161	U	0.250	0.2444		mg/L		98	80 - 120
Arsenic	0.00109	U	0.250	0.2440		mg/L		98	80 - 120
Barium	0.0369		0.250	0.2804		mg/L		97	80 - 120
Beryllium	0.00124	U	0.250	0.2243		mg/L		90	80 - 120
Cadmium	0.000854	U	0.250	0.2435		mg/L		97	80 - 120
Chromium	0.00140	U	0.250	0.2284		mg/L		91	80 - 120
Copper	0.00200	U	0.250	0.2238		mg/L		90	80 - 120
Iron	0.101	U	25.0	22.65		mg/L		91	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 560-63693-D-1-E MS

Matrix: Water

Analysis Batch: 131750

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 131690

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.000733	U	0.250	0.2259		mg/L		90	80 - 120
Manganese	0.0116	U	2.50	2.283		mg/L		91	80 - 120
Nickel	0.00217	U	0.250	0.2261		mg/L		90	80 - 120
Selenium	0.00271	J	0.250	0.2446		mg/L		97	80 - 120
Silver	0.000941	U	0.250	0.2247		mg/L		90	80 - 120
Thallium	0.000693	U	0.100	0.09046		mg/L		90	80 - 120
Zinc	0.0347		0.250	0.2677		mg/L		93	80 - 120

Lab Sample ID: 560-63693-D-1-F MSD

Matrix: Water

Analysis Batch: 131750

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 131690

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aluminum	0.0500	U F1	25.0	18.45	F1	mg/L		74	80 - 120	3	20
Antimony	0.00161	U	0.250	0.2406		mg/L		96	80 - 120	2	20
Arsenic	0.00109	U	0.250	0.2340		mg/L		94	80 - 120	4	20
Barium	0.0369		0.250	0.2800		mg/L		97	80 - 120	0	20
Beryllium	0.00124	U	0.250	0.2223		mg/L		89	80 - 120	1	20
Cadmium	0.000854	U	0.250	0.2349		mg/L		94	80 - 120	4	20
Chromium	0.00140	U	0.250	0.2237		mg/L		89	80 - 120	2	20
Copper	0.00200	U	0.250	0.2166		mg/L		87	80 - 120	3	20
Iron	0.101	U	25.0	22.30		mg/L		89	80 - 120	2	20
Lead	0.000733	U	0.250	0.2151		mg/L		86	80 - 120	5	20
Manganese	0.0116	U	2.50	2.241		mg/L		90	80 - 120	2	20
Nickel	0.00217	U	0.250	0.2225		mg/L		89	80 - 120	2	20
Selenium	0.00271	J	0.250	0.2382		mg/L		94	80 - 120	3	20
Silver	0.000941	U	0.250	0.2227		mg/L		89	80 - 120	1	20
Thallium	0.000693	U	0.100	0.08750		mg/L		88	80 - 120	3	20
Zinc	0.0347		0.250	0.2607		mg/L		90	80 - 120	3	20

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 560-131711/28-A

Matrix: Water

Analysis Batch: 131713

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131711

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/12/16 10:00	09/12/16 16:29	1

Lab Sample ID: LCS 560-131711/29-A

Matrix: Water

Analysis Batch: 131713

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131711

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.004830		mg/L		97	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 560-63683-A-4-B MS

Matrix: Water

Analysis Batch: 131713

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 131711

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U	0.00500	0.004240		mg/L		85	80 - 120

Lab Sample ID: 560-63683-A-4-C MSD

Matrix: Water

Analysis Batch: 131713

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 131711

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000130	U	0.00500	0.004280		mg/L		86	80 - 120	1	20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 560-131678/4

Matrix: Water

Analysis Batch: 131678

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L			09/10/16 12:01	1
Chloride	0.192	U	1.00	0.192	mg/L			09/10/16 12:01	1
Nitrate as N	0.103	U	0.500	0.103	mg/L			09/10/16 12:01	1
Sulfate	0.377	U	1.00	0.377	mg/L			09/10/16 12:01	1

Lab Sample ID: LCS 560-131678/5

Matrix: Water

Analysis Batch: 131678

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.803		mg/L		96	90 - 110
Chloride	10.0	10.57		mg/L		106	90 - 110
Nitrate as N	5.00	5.067		mg/L		101	90 - 110
Sulfate	20.0	20.91		mg/L		105	90 - 110

Lab Sample ID: 560-63698-8 MS

Matrix: Water

Analysis Batch: 131678

Client Sample ID: HSM170

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.455	J	5.00	4.686		mg/L		85	80 - 120
Chloride	19.1		10.0	27.93		mg/L		88	80 - 120
Nitrate as N	1.18		5.00	5.821		mg/L		93	80 - 120
Sulfate	24.4		20.0	43.15		mg/L		94	80 - 120

Lab Sample ID: 560-63698-8 MSD

Matrix: Water

Analysis Batch: 131678

Client Sample ID: HSM170

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.455	J	5.00	4.759		mg/L		86	80 - 120	2	20
Chloride	19.1		10.0	28.15		mg/L		91	80 - 120	1	20
Nitrate as N	1.18		5.00	5.929		mg/L		95	80 - 120	2	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 560-63698-8 MSD

Matrix: Water

Analysis Batch: 131678

Client Sample ID: HSM170

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	24.4		20.0	43.53		mg/L		96	80 - 120	1	20

## Method: 340.2 - Fluoride

Lab Sample ID: MB 560-131914/31

Matrix: Water

Analysis Batch: 131914

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			09/16/16 11:45	1

Lab Sample ID: LCS 560-131914/32

Matrix: Water

Analysis Batch: 131914

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.8020		mg/L		100	85 - 115

Lab Sample ID: 560-63693-B-1 MS

Matrix: Water

Analysis Batch: 131914

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.348		0.500	0.8500		mg/L		100	75 - 125

Lab Sample ID: 560-63693-B-1 MSD

Matrix: Water

Analysis Batch: 131914

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.348		0.500	0.8470		mg/L		100	75 - 125	0	20

## Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 600-197159/10

Matrix: Water

Analysis Batch: 197159

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			09/20/16 11:55	1

Lab Sample ID: LCS 600-197159/11

Matrix: Water

Analysis Batch: 197159

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	10.18		mg/L		102	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: 560-63698-1 MS

Matrix: Water

Analysis Batch: 197159

Client Sample ID: HSM110

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	10.24		mg/L		102	90 - 110

Lab Sample ID: 560-63698-1 MSD

Matrix: Water

Analysis Batch: 197159

Client Sample ID: HSM110

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U	10.0	9.363		mg/L		94	90 - 110	9	20

Lab Sample ID: 560-63698-7 MS

Matrix: Water

Analysis Batch: 197159

Client Sample ID: HSM160

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U F2 F1	10.0	9.965		mg/L		100	90 - 110

Lab Sample ID: 560-63698-7 MSD

Matrix: Water

Analysis Batch: 197159

Client Sample ID: HSM160

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U F2 F1	10.0	7.811	F1 F2	mg/L		78	90 - 110	24	20

## Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 680-450312/10-A

Matrix: Water

Analysis Batch: 450570

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 450312

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		09/20/16 08:57	09/21/16 11:35	1

Lab Sample ID: LCS 680-450312/11-A

Matrix: Water

Analysis Batch: 450570

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 450312

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	1.910		mg/L		96	60 - 140

Lab Sample ID: 680-129774-G-1-B MS

Matrix: Water

Analysis Batch: 450570

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 450312

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	0.167		2.00	2.100		mg/L		97	60 - 140

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 365.4 - Phosphorus, Total (Continued)

Lab Sample ID: 680-129774-G-1-C MSD

Matrix: Water

Analysis Batch: 450570

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 450312

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phosphorus	0.167		2.00	2.220		mg/L		103	60 - 140	6	40

## Method: 9040C - pH

Lab Sample ID: LCS 560-131723/2

Matrix: Water

Analysis Batch: 131723

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	5.00	5.0		SU		100	98 - 102

Lab Sample ID: 560-63698-4 DU

Matrix: Water

Analysis Batch: 131723

Client Sample ID: HSM130

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.2	HF	7.2		SU		0.6	20

## Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 560-131862/4

Matrix: Water

Analysis Batch: 131862

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			09/15/16 12:51	1

Lab Sample ID: LCS 560-131862/5

Matrix: Water

Analysis Batch: 131862

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	24.64		mg/L		99	80 - 120

Lab Sample ID: 560-63683-J-4 MS

Matrix: Water

Analysis Batch: 131862

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	0.285	U	10.0	10.63		mg/L		106	75 - 125

Lab Sample ID: 560-63683-J-4 MSD

Matrix: Water

Analysis Batch: 131862

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	0.285	U	10.0	10.41		mg/L		104	75 - 125	2	20

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 9060 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: MB 560-131966/4

Matrix: Water

Analysis Batch: 131966

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/19/16 11:12	1

Lab Sample ID: LCS 560-131966/5

Matrix: Water

Analysis Batch: 131966

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	25.89		mg/L	-	104	80 - 120

Lab Sample ID: 560-63683-K-2 MS

Matrix: Water

Analysis Batch: 131966

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	0.285	U	10.0	9.732		mg/L	-	97	75 - 125

Lab Sample ID: 560-63683-K-2 MSD

Matrix: Water

Analysis Batch: 131966

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	0.285	U	10.0	9.606		mg/L	-	96	75 - 125	1	20

## Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 560-131992/1-A

Matrix: Water

Analysis Batch: 131994

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		09/20/16 12:38	1

Lab Sample ID: LCS 560-131992/2-A

Matrix: Water

Analysis Batch: 131994

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	24.62		mg/L	-	98	80 - 120

Lab Sample ID: 560-63683-K-4 MS

Matrix: Water

Analysis Batch: 131994

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	0.285	U	10.0	10.24		mg/L	-	102	75 - 125

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Method: 9060 - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 560-63683-K-4 MSD

Matrix: Water

Analysis Batch: 131994

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	0.285	U	10.0	10.26		mg/L		103	75 - 125	0	20

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 560-131893/1

Matrix: Water

Analysis Batch: 131893

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/16/16 12:45	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/16/16 12:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/16/16 12:45	1

Lab Sample ID: LCS 560-131893/2

Matrix: Water

Analysis Batch: 131893

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	92.66		mg/L		93	85 - 115

Lab Sample ID: 560-63698-1 MS

Matrix: Water

Analysis Batch: 131893

Client Sample ID: HSM110

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	251		100	339.7		mg/L		88	75 - 125

Lab Sample ID: 560-63698-1 MSD

Matrix: Water

Analysis Batch: 131893

Client Sample ID: HSM110

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	251		100	339.9		mg/L		88	75 - 125	0	20

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 560-131784/1

Matrix: Water

Analysis Batch: 131784

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			09/14/16 09:35	1

Lab Sample ID: LCS 560-131784/2

Matrix: Water

Analysis Batch: 131784

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	2250	2068		mg/L		92	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

Lab Sample ID: 560-63698-6 MS

Matrix: Water

Analysis Batch: 131784

Client Sample ID: HSM150

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	336		2250	2416		mg/L		92	75 - 125

Lab Sample ID: 560-63698-6 MSD

Matrix: Water

Analysis Batch: 131784

Client Sample ID: HSM150

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	336		2250	2412		mg/L		92	75 - 125	0	20

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 560-131705/1

Matrix: Water

Analysis Batch: 131705

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.00	U	2.00	2.00	mg/L			09/12/16 14:25	1

Lab Sample ID: LCS 560-131705/2

Matrix: Water

Analysis Batch: 131705

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	196.0		mg/L		98	90 - 110

Lab Sample ID: 560-63700-A-2 DU

Matrix: Water

Analysis Batch: 131705

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	177		179.0		mg/L		1	20

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-17
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Laboratory: TestAmerica Houston

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	16-046-0	08-04-17
Louisiana	NELAP	6	01967	06-30-17
Oklahoma	State Program	6	2015-050	08-31-17
Texas	NELAP	6	T104704223-16-19	10-31-16 *
USDA	Federal		P330-14-00192	06-06-17

## Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-17
A2LA	ISO/IEC 17025		399.01	02-28-17
Alabama	State Program	4	41450	06-30-17
Alaska (UST)	State Program	10	UST-104	11-05-16
Arkansas DEQ	State Program	6	88-0692	01-31-17
California	State Program	9	2939	07-31-16 *
Colorado	State Program	8	N/A	12-31-16
Connecticut	State Program	1	PH-0161	03-31-17
Florida	NELAP	4	E87052	06-30-17
GA Dept. of Agriculture	State Program	4	N/A	06-12-17
Georgia	State Program	4	N/A	06-30-17
Georgia	State Program	4	803	06-30-17
Guam	State Program	9	15-005r	04-16-17
Hawaii	State Program	9	N/A	06-30-17
Illinois	NELAP	5	200022	11-30-16
Indiana	State Program	5	N/A	06-30-17
Iowa	State Program	7	353	06-30-17
Kentucky (DW)	State Program	4	90084	12-31-16
Kentucky (UST)	State Program	4	18	06-30-17
Kentucky (WW)	State Program	4	90084	12-31-16
Louisiana	NELAP	6	30690	06-30-17
Louisiana (DW)	NELAP	6	LA160019	12-31-16
Maine	State Program	1	GA00006	09-24-18
Maryland	State Program	3	250	12-31-16
Massachusetts	State Program	1	M-GA006	06-30-17
Michigan	State Program	5	9925	06-30-17
Mississippi	State Program	4	N/A	06-30-16 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-17
New Jersey	NELAP	2	GA769	06-30-17
New Mexico	State Program	6	N/A	06-30-17
New York	NELAP	2	10842	03-31-17
North Carolina (DW)	State Program	4	13701	07-31-17

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

## Laboratory: TestAmerica Savannah (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
North Carolina (WW/SW)	State Program	4	269	12-31-16
Oklahoma	State Program	6	9984	08-31-17
Pennsylvania	NELAP	3	68-00474	06-30-17
Puerto Rico	State Program	2	GA00006	12-31-16
South Carolina	State Program	4	98001	06-30-17
Tennessee	State Program	4	TN02961	06-30-17
Texas	NELAP	6	T104704185-15-8	11-30-16
USDA	Federal		SAV 3-04	06-11-17
Virginia	NELAP	3	460161	06-14-17
Washington	State Program	10	C805	06-10-17
West Virginia (DW)	State Program	3	9950C	12-31-16
West Virginia DEP	State Program	3	094	08-31-16 *
Wisconsin	State Program	5	999819810	08-31-17
Wyoming	State Program	8	8TMS-L	06-30-16 *

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Method Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CC
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CC
8081B	Organochlorine Pesticides (GC)	SW846	TAL CC
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CC
8151A	Herbicides (GC)	SW846	TAL SAV
6010B	Metals (ICP)	SW846	TAL CC
6020	Metals (ICP/MS)	SW846	TAL CC
7470A	Mercury (CVAA)	SW846	TAL CC
300.0	Anions, Ion Chromatography	MCAWW	TAL CC
340.2	Fluoride	MCAWW	TAL CC
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL HOU
365.4	Phosphorus, Total	EPA	TAL SAV
9040C	pH	SW846	TAL CC
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL CC
9060	Organic Carbon, Total (TOC)	SW846	TAL CC
SM 2320B	Alkalinity	SM	TAL CC
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CC

## Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

# Sample Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-63698-1	HSM110	Water	09/09/16 09:57	09/10/16 09:45
560-63698-2	FDHSM110	Water	09/09/16 09:57	09/10/16 09:45
560-63698-3	HSM120	Water	09/09/16 10:52	09/10/16 09:45
560-63698-4	HSM130	Water	09/09/16 11:26	09/10/16 09:45
560-63698-5	HSM140	Water	09/09/16 11:56	09/10/16 09:45
560-63698-6	HSM150	Water	09/09/16 13:00	09/10/16 09:45
560-63698-7	HSM160	Water	09/09/16 13:34	09/10/16 09:45
560-63698-8	HSM170	Water	09/09/16 14:06	09/10/16 09:45
560-63698-9	TB12	Water	09/09/16 00:00	09/10/16 09:45



[illegible]

## Chain of Custody Record



<b>Client Information (Sub Contract Lab)</b>				Lab PM: Maingot, Lindy		Carrier Tracking No(s):	
Company: TestAmerica Laboratories, Inc.				E-Mail: lindy.maingot@testamericainc.com		Page 1 of 1	
Address: 4955 Yarrow Street, City: State, Zip: CO, 80002				Phone: 303-736-0100(Tel) 303-431-7171(Fax)		GOC No: 560-14139-1	
Project Name: San Marcos Springs				Project #: 56005790		Job #: 560-63698-1	
Site: SSOW#				TAT Requested (days):		Analysis Requested	
Due Date Requested: 9/22/2016				PO #:		Preservation Codes:	
WO #:				Matrix		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)	
Sample Date				Sample Time		Field Filtered Sample (Yes or No)	
Sample Type (C=Comp, G=grab)				Preservation Code:		Perform MS/MSD (Yes or No)	
Sample Identification - Client ID (Lab ID)				Sample Matrix		8141A/3510C (MOD) Standard 8141 list	
HSM110 (560-63698-1)				Water		X	
FDHSM110 (560-63698-2)				Water		X	
HSM120 (560-63698-3)				Water		X	
HSM130 (560-63698-4)				Water		X	
HSM140 (560-63698-5)				Water		X	
HSM150 (560-63698-6)				Water		X	
HSM160 (560-63698-7)				Water		X	
HSM170 (560-63698-8)				Water		X	
Total Number of Containers				Special Instructions/Note:			
Possible Hazard Identification				Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
Unconfirmed				Return To Client		Archive For	
Deliverable Requested: I, II, III, IV, Other (specify)				Disposal By Lab		Months	
Primary Deliverable Rank: 2				Special Instructions/QC Requirements:			
Empty Kit Relinquished by:				Time:		Method of Shipment:	
Relinquished by: Coy Sato				Date: 9-12-16		Date/Time: 1700	
Relinquished by:				Date/Time:		Company: TACC	
Relinquished by:				Date/Time:		Company:	
Relinquished by:				Date/Time:		Company:	
Custody Seal No.:				Custody Seal Intact:		Cooler Temperature(s) °C and Other Remarks:	
9/12/16				9/12/16		3.5 to 13.5 °C Transferred by 9/12/16	



TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)		Sampler		Lab PM		Carrier Tracking No(s)		COC No		
Client Contact		Phone		E-Mail				560-14136-1		
Shipping/Receiving				lindy.maingot@testamericainc.com				Page 1 of 1		
Company								Job #		
TesAmerica Laboratories, Inc.								560-63698-1		
Address:		Due Date Requested:		Analysis Requested		Preservation Codes:				
6310 Rothway Street,		9/22/2016				A - HCL		M - Hexane		
City		TAT Requested (days):				B - NaOH		N - None		
Houston						C - Zn Acetate		O - AsNaO2		
State, Zip						D - Nitric Acid		P - Na2O4S		
TX, 77040						E - NaHSO4		Q - Na2SO3		
Phone:		PO #				F - MeOH		R - Na2SO3		
713-690-4444(Tel) 713-690-5646(Fax)						G - Amchlor		S - H2SO4		
Email:		WO #				H - Ascorbic Acid		T - TSP Dodecahydrate		
						I - Ice		U - Acetone		
Project Name:		Project #				J - DI Water		V - MCAA		
San Marcos Springs		56005790				K - EDTA		W - pH 4.5		
Site:		SSOW#:				L - EDA		Z - other (specify)		
						Other:				
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	3612_NP	Total Number of containers	Special Instructions/Note:
HSM110 (560-63698-1)	9/9/16	09:57	Central	Water		X			1	
FDHSM110 (560-63698-2)	9/9/16	09:57	Central	Water		X			1	
HSM120 (560-63698-3)	9/9/16	10:52	Central	Water		X			1	
HSM130 (560-63698-4)	9/9/16	11:26	Central	Water		X			1	
HSM140 (560-63698-5)	9/9/16	11:56	Central	Water		X			1	
HSM150 (560-63698-6)	9/9/16	13:00	Central	Water		X			1	
HSM160 (560-63698-7)	9/9/16	13:34	Central	Water		X			1	
HSM170 (560-63698-8)	9/9/16	14:06	Central	Water		X			1	
Possible Hazard Identification										
Unconfirmed										
Deliverable Requested: I, II, III, IV, Other (specify)										
Primary Deliverable Rank: 2										
Empty Kit Relinquished by:										
Relinquished by: <i>Coy Etkin</i> Date: 9-22-16 Time: 1600										
Relinquished by: Company: TACC										
Relinquished by: Company: TACC										
Relinquished by: Company: TACC										
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No										
Custody Seal No.:										
Relinquished by: Company: TACC										
Relinquished by: Company: TACC										
Relinquished by: Company: TACC										
Cooler Temperature(s) °C and Other Remarks:										

## Sample Receipt Checklist

Loc: 560

63698

Date/Time Received: \_\_\_\_\_

CLIENT: TA - CorpusUNPACKED BY: LBCARRIER/DRIVER: E.E.G.Custody Seal Present: ☒ YES ☐ NONumber of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
<u>GB</u>	Y / <u>(N)</u>	Y / N	<u>0.4</u>	<u>0.1</u>	<u>0.1</u>	<u>0.5</u>
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N		<u>LB</u>	<u>9-13-16</u>	
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NOLABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☒ YESBase samples are > pH 12: ☐ YES ☐ NO Acid preserved are < pH 2: ☒ YES ☐ NO

pH paper Lot # \_\_\_\_\_

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

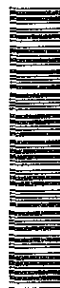
COMMENTS: <u>6727 7878 2940</u>
<u>LB 9-13-16</u>

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica

THE LABORATORY OF ENVIRONMENTAL ANALYSIS



Client Information (Sub Contract Lab)		Lab PM		Carrier Tracking No(s)		Job #	
Client Contact Shipping/Receiving Company TestAmerica Laboratories, Inc.		Maingot, Lindy E-Mail: lindy.maingot@testamerica.com		560-14140.1		560-63698-1	
Address 5102 LaRoche Avenue, City Savannah State, Zip GA, 31404 Phone 912-354-7858 (Tel) 912-352-0165 (Fax) Email		Due Date Requested: 9/22/2016 TAT Requested (days):		Analysis Requested		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO4 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 X - EDTA Y - EDA Z - other (specify) Other:	
Project Name San Marcos Springs Site		Project # 56005790 SSOW#		Field Filtered Sample (Yes or No)		Total Number of Containers	
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=comp, G=grab) Preservation Code	
HSM110 (560-63698-1)		9/9/16		09:57 Central		Water	
FDHSM110 (560-63698-2)		9/9/16		09:57 Central		Water	
HSM120 (560-63698-3)		9/9/16		10:52 Central		Water	
HSM130 (560-63698-4)		9/9/16		11:26 Central		Water	
HSM140 (560-63698-5)		9/9/16		11:56 Central		Water	
HSM150 (560-63698-6)		9/9/16		13:00 Central		Water	
HSM160 (560-63698-7)		9/9/16		13:34 Central		Water	
HSM170 (560-63698-8)		9/9/16		14:06 Central		Water	
Possible Hazard Identification Unconfirmed		Primary Deliverable Rank: 2		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/Note:	
Empty Kit Relinquished by		Date:		Time:		Method of Shipment:	
Relinquished by: Coy SGA		Date/Time: 9-12-16 1700		Company: TACC		Received by: [Signature]	
Relinquished by:		Date/Time:		Company:		Received by:	
Relinquished by:		Date/Time:		Company:		Received by:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No:		Cooler Temperature(s) °C and Other Remarks: 2.8 (57.3-2) / 2.4 (0.5-2.8)		Company: SAU	



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63698-1

Login Number: 63698

List Source: TestAmerica Corpus Christi

List Number: 1

Creator: Escalona-Garcia, Jose A

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63698-1

**Login Number: 63698**

**List Number: 4**

**Creator: Bolinger, Lindale M**

**List Source: TestAmerica Houston**

**List Creation: 09/14/16 08:50 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63698-1

**Login Number: 63698**

**List Number: 2**

**Creator: Flanagan, Naomi V**

**List Source: TestAmerica Savannah**

**List Creation: 09/13/16 10:48 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Containers recd broken. Sufficient sample in remaining containers for analysis.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-63698-2

Client Project/Site: San Marcos Springs

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
10/27/2016 2:07:39 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

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*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-2

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-2

**Job ID: 560-63698-2**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

**Job Narrative**  
**560-63698-2**

## Comments

No additional comments.

## Receipt

The samples were received on 9/10/2016 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 8 coolers at receipt time were 0.0° C, 0.1° C, 0.1° C, 0.3° C, 0.4° C, 0.5° C, 0.6° C and 0.8° C.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Certification Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-2

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-17
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Method Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-2

Method	Method Description	Protocol	Laboratory
Local Method	General Sub Contract Method	NONE	Weck Lab

**Protocol References:**

NONE = NONE

**Laboratory References:**

Weck Lab = Weck Laboratories, Inc., 14859 East Clark Avenue, City of Industry, CA 917451396

# Sample Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-63698-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-63698-1	HSM110	Water	09/09/16 09:57	09/10/16 09:45
560-63698-2	FDHSM110	Water	09/09/16 09:57	09/10/16 09:45
560-63698-3	HSM120	Water	09/09/16 10:52	09/10/16 09:45
560-63698-4	HSM130	Water	09/09/16 11:26	09/10/16 09:45
560-63698-5	HSM140	Water	09/09/16 11:56	09/10/16 09:45
560-63698-6	HSM150	Water	09/09/16 13:00	09/10/16 09:45
560-63698-7	HSM160	Water	09/09/16 13:34	09/10/16 09:45
560-63698-8	HSM170	Water	09/09/16 14:06	09/10/16 09:45



Work Orders: 6113065

Project: 560-63698-1

Attn: Lindy Maingot

Client: TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

Report Date: 10/27/2016

Received Date: 9/13/2016

Turnaround Time: 7 workdays

Phones: (210) 344-9751

Fax: -

P.O. #:

DoD-ELAP #L15-366 • ELAP-CA #1132 • EPA-UCMR #CA00211 • HW-DOH # • ISO 17025 #L15-365 • LACSD #10143 • NELAP-OR  
#4047 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

*This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.*

Dear Lindy Maingot,

Enclosed are the results of analyses for samples received 9/13/16 with the Chain-of-Custody document. The samples were received in good condition, at 2.3 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Reviewed by:



Chris Samatmanakit  
Project Manager





WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63698-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:19

## Sample Summary

Sample ID	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
HSM110 (560-63698-1)	Client	6I13065-01	Water	09/09/16 07:57	
FDHSM110 (560-63698-2)	Client	6I13065-02	Water	09/09/16 07:57	
HSM120 (560-63698-3)	Client	6I13065-03	Water	09/09/16 08:52	
HSM130 (560-63698-4)	Client	6I13065-04	Water	09/09/16 09:26	
HSM140 (560-63698-5)	Client	6I13065-05	Water	09/09/16 09:56	
HSM150 (560-63698-6)	Client	6I13065-06	Water	09/09/16 11:00	
HSM160 (560-63698-7)	Client	6I13065-07	Water	09/09/16 11:34	
HSM170 (560-63698-8)	Client	6I13065-08	Water	09/09/16 12:06	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63698-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:19

## Sample Results

Sample: HSM110 (560-63698-1)

Sampled: 09/09/16 7:57 by Client

6I13065-01 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0276	<b>Prepared:</b> 10/06/16 11:56	<b>Analyst:</b> agu			
<b>Caffeine</b> .....	<b>39</b>	5.0	ng/l	1	10/21/16 20:08	



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TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63698-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:19

## Sample Results

(Continued)

Sample: FDHSM110 (560-63698-2)

Sampled: 09/09/16 7:57 by Client

6I13065-02 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0276	<b>Prepared:</b> 10/06/16 11:56	<b>Analyst:</b> agu			
Caffeine .....	ND	5.0	ng/l	1	10/21/16 20:16	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63698-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:19

## Sample Results

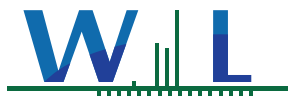
(Continued)

Sample: HSM120 (560-63698-3)

Sampled: 09/09/16 8:52 by Client

6I13065-03 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0276	<b>Prepared:</b> 10/06/16 11:56	<b>Analyst:</b> agu			
Caffeine .....	ND	5.0	ng/l	1	10/21/16 20:23	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63698-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:19

## Sample Results

(Continued)

Sample: HSM130 (560-63698-4)

Sampled: 09/09/16 9:26 by Client

6I13065-04 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0276	<b>Prepared:</b> 10/06/16 11:56	<b>Analyst:</b> agu			
Caffeine .....	ND	5.0	ng/l	1	10/21/16 20:30	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63698-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:19

## Sample Results

(Continued)

Sample: HSM140 (560-63698-5)

Sampled: 09/09/16 9:56 by Client

6I13065-05 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0276	<b>Prepared:</b> 10/06/16 11:56	<b>Analyst:</b> agu			
Caffeine .....	ND	5.0	ng/l	1	10/21/16 20:51	





WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63698-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:19

## Sample Results

(Continued)

Sample: HSM150 (560-63698-6)

Sampled: 09/09/16 11:00 by Client

6I13065-06 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0276	<b>Prepared:</b> 10/06/16 11:56	<b>Analyst:</b> agu			
<b>Caffeine</b> .....	13	5.0	ng/l	1	10/21/16 20:58	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63698-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**  
10/27/2016 09:19

## Sample Results

(Continued)

Sample: HSM160 (560-63698-7)  
6I13065-07 (Water)

Sampled: 09/09/16 11:34 by Client

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0276	<b>Prepared:</b> 10/06/16 11:56	<b>Analyst:</b> agu			
Caffeine .....	ND	5.0	ng/l	1	10/21/16 21:05	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63698-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:19

## Sample Results

(Continued)

Sample: HSM170 (560-63698-8)

Sampled: 09/09/16 12:06 by Client

6I13065-08 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0276	<b>Prepared:</b> 10/06/16 11:56	<b>Analyst:</b> agu			
<b>Caffeine</b> .....	<b>53</b>	5.0	ng/l	1	10/21/16 21:12	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63698-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

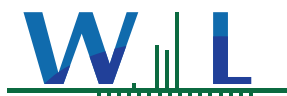
**Reported:**

10/27/2016 09:19

## Quality Control Results

PPCPs - Pharmaceuticals by LC/MSMS-ESI+

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>Batch: W6J0276 - EPA 1694M-ESI+</b>										
<b>Blank (W6J0276-BLK1)</b>				<b>Prepared: 10/06/16 Analyzed: 10/21/16</b>						
Caffeine .....	ND	5.0	ng/l							
<b>LCS (W6J0276-BS1)</b>				<b>Prepared: 10/06/16 Analyzed: 10/21/16</b>						
Caffeine .....	3.43	5.0	ng/l	5.00		69	55-152			
<b>Matrix Spike (W6J0276-MS1)</b>				<b>Source: 6I13062-04 Prepared: 10/06/16 Analyzed: 10/26/16</b>						
Caffeine .....	29.6	5.0	ng/l	5.00	15.4	282	58-146			MS-05
<b>Matrix Spike Dup (W6J0276-MSD1)</b>				<b>Source: 6I13062-04 Prepared: 10/06/16 Analyzed: 10/26/16</b>						
Caffeine .....	20.7	5.0	ng/l	5.00	15.4	105	58-146	35	30	MS-05



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63698-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/27/2016 09:19

## Notes and Definitions

Item	Definition
MS-05	The spike recovery and/or RPD were outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

<b>Client Information</b> Client Contact: Jennifer Moreland Company: SWCA, Inc.		Lab P/N: Mairgot, Lindy E-Mail: lindy.mairgot@testamericainc.com		Carrier Tracking No(s): 560-21329-2716.1 Page: Page 1 of 1 Job #:		GOC No: 560-21329-2716.1	
<b>Analysis Requested</b>				<b>Preservation Codes:</b> A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:			
Due Date Requested:		TAT Requested (days): <b>Standard</b>		PO #: 27122.01 WO #:		Project #: 56005790 SSOW#:	
Address: 6200 UTSA Boulevard Suite 102 City: San Antonio State, Zip: TX, 78249 Phone: 210-877-2847 (Tel) Email: JMoreland@swca.com		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=air) Sample Type (C=Comp, G=grab) Sample Time Sample Date		Field Filtered Sample (Yes or No) 8141A - OP, Pesticides, Custom List (DENVER) 8081B, 8082A 8270C - SVOCs, Custom List SUBCONTRACT - Caffeine (WECK) 2320B, 2540C, 2540D, 300, 340.2, 9040C 9060 - Total Organic Carbon 8260B - VOCs, Custom List 351.2_NP - TKN (HOUSTON) 8151A - Herbicides (SAVANNAH) 365.4 - Phosphorus (SAVANNAH) 6010B, 6020, 7470A 9060 Diss - Dissolved Organic Carbon		Total Number of Containers Special Instructions/Note:	
Sample Identification HSM110 FDHSM110 HSM120 HSM130 HSM140 HSM150 HSM160 HSM170 1B12		Sample Date 9/9/16 9/9/16 9/9/16 9/9/16 9/9/16 9/9/16 9/9/16		Sample Time 8957 0957 1052 1126 1156 1300 1334 1406		Matrix Water Water Water Water Water Water Water Water	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by:		Date/Time: 9/9/16 1615		Company: SWCA		Received by:	
Relinquished by:		Date/Time: 9/5/16 1415		Company:		Received by:	
Relinquished by:		Date/Time:		Company:		Received by:	
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Date/Time:	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63698-2

Login Number: 63698

List Source: TestAmerica Corpus Christi

List Number: 1

Creator: Escalona-Garcia, Jose A

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-64578-1

Client Project/Site: EAA Sampling

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
11/15/2016 12:07:37 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64578-1

### Qualifiers

#### GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64578-1

**Job ID: 560-64578-1**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

### Job Narrative 560-64578-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 10/25/2016 8:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1° C.

#### GC Semi VOA

Method 8141A: The continuing calibration verification (CCV) for Dimethoate associated with analytical batch 280-350765 recovered above the upper control limit on the back/confirmation column. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported from the front/primary column which is in control.

(CCV 280-350765/45)

CCV2 (front) OK (back) OK

560-64578-5, -6, 560-64579-1, -2, -3, -4, -5, -6, -7, -8

CCV3 (front) OK (back) Dimethoate +17%

Method 8141A, 8141B: The initial calibration verification (ICV) for Dichlorvos, Mevinphos and Azinphos-methyl associated with analytical batch 280-350765 recovered outside the control limit on one column. The samples associated with this ICV were non-detects for the affected analytes; therefore, the data have been reported from the column which is in control.

ICV (front) Dichlorvos +20% (back) Mevinphos -16% Azinphos-methyl +17%

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method 3510C: 8141 LCS\_00113 standard was not verified at the time of spiking. An aliquot has been sent for verification. preparation batch 280-349084

Method: 3510C8141A/B

Batch: 349084

HCS130 (560-64578-4[MS]) and HCS130 (560-64578-4[MSD])

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Detection Summary

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64578-1

**Client Sample ID: HCS110**

**Lab Sample ID: 560-64578-1**

No Detections.

**Client Sample ID: HCS120**

**Lab Sample ID: 560-64578-2**

No Detections.

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-64578-3**

No Detections.

**Client Sample ID: HCS130**

**Lab Sample ID: 560-64578-4**

No Detections.

**Client Sample ID: HCS140**

**Lab Sample ID: 560-64578-5**

No Detections.

**Client Sample ID: HCS160**

**Lab Sample ID: 560-64578-6**

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64578-1

**Client Sample ID: HCS110**

**Date Collected: 10/24/16 10:13**

**Date Received: 10/25/16 08:55**

**Lab Sample ID: 560-64578-1**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000802	U	0.0119	0.000802	mg/L		10/31/16 20:29	11/11/16 00:58	5
Bolstar	0.00150	U	0.00477	0.00150	mg/L		10/31/16 20:29	11/11/16 00:58	5
Chlorpyrifos	0.00172	U	0.00716	0.00172	mg/L		10/31/16 20:29	11/11/16 00:58	5
Coumaphos	0.000644	U	0.00477	0.000644	mg/L		10/31/16 20:29	11/11/16 00:58	5
Demeton-O	0.000668	U	0.00477	0.000668	mg/L		10/31/16 20:29	11/11/16 00:58	5
Demeton-S	0.000329	U	0.00954	0.000329	mg/L		10/31/16 20:29	11/11/16 00:58	5
Diazinon	0.000702	U	0.00239	0.000702	mg/L		10/31/16 20:29	11/11/16 00:58	5
Demeton, Total	0.000997	U	0.0143	0.000997	mg/L		10/31/16 20:29	11/11/16 00:58	5
Dichlorvos	0.000773	U	0.00239	0.000773	mg/L		10/31/16 20:29	11/11/16 00:58	5
Dimethoate	0.00214	U	0.00716	0.00214	mg/L		10/31/16 20:29	11/11/16 00:58	5
Disulfoton	0.00154	U	0.00477	0.00154	mg/L		10/31/16 20:29	11/11/16 00:58	5
EPN	0.000711	U	0.00573	0.000711	mg/L		10/31/16 20:29	11/11/16 00:58	5
Ethoprop	0.000845	U	0.00716	0.000845	mg/L		10/31/16 20:29	11/11/16 00:58	5
Ethyl Parathion	0.000687	U	0.00477	0.000687	mg/L		10/31/16 20:29	11/11/16 00:58	5
Famphur	0.000854	U	0.00477	0.000854	mg/L		10/31/16 20:29	11/11/16 00:58	5
Fensulfothion	0.00260	U	0.0119	0.00260	mg/L		10/31/16 20:29	11/11/16 00:58	5
Fenthion	0.000735	U	0.0119	0.000735	mg/L		10/31/16 20:29	11/11/16 00:58	5
Malathion	0.000635	U	0.00954	0.000635	mg/L		10/31/16 20:29	11/11/16 00:58	5
Merphos	0.000830	U	0.0239	0.000830	mg/L		10/31/16 20:29	11/11/16 00:58	5
Methyl parathion	0.000673	U	0.0191	0.000673	mg/L		10/31/16 20:29	11/11/16 00:58	5
Mevinphos	0.00220	U	0.0296	0.00220	mg/L		10/31/16 20:29	11/11/16 00:58	5
Naled	0.00382	U	0.00954	0.00382	mg/L		10/31/16 20:29	11/11/16 00:58	5
Phorate	0.000735	U	0.00573	0.000735	mg/L		10/31/16 20:29	11/11/16 00:58	5
Ronnel	0.000554	U	0.0477	0.000554	mg/L		10/31/16 20:29	11/11/16 00:58	5
Sulfotepp	0.000802	U	0.00716	0.000802	mg/L		10/31/16 20:29	11/11/16 00:58	5
Tetrachlorvinphos (Stirophos)	0.000592	U	0.0167	0.000592	mg/L		10/31/16 20:29	11/11/16 00:58	5
Thionazin	0.00149	U	0.00477	0.00149	mg/L		10/31/16 20:29	11/11/16 00:58	5
Tokuthion	0.000587	U	0.00764	0.000587	mg/L		10/31/16 20:29	11/11/16 00:58	5
Trichloronate	0.00115	U	0.00716	0.00115	mg/L		10/31/16 20:29	11/11/16 00:58	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	51	D	49 - 171	10/31/16 20:29	11/11/16 00:58	5
Triphenylphosphate	86	D	60 - 154	10/31/16 20:29	11/11/16 00:58	5

**Client Sample ID: HCS120**

**Date Collected: 10/24/16 10:27**

**Date Received: 10/25/16 08:55**

**Lab Sample ID: 560-64578-2**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00236	0.000159	mg/L		10/31/16 20:29	11/11/16 01:30	1
Bolstar	0.000297	U	0.000944	0.000297	mg/L		10/31/16 20:29	11/11/16 01:30	1
Chlorpyrifos	0.000340	U	0.00142	0.000340	mg/L		10/31/16 20:29	11/11/16 01:30	1
Coumaphos	0.000127	U	0.000944	0.000127	mg/L		10/31/16 20:29	11/11/16 01:30	1
Demeton-O	0.000132	U	0.000944	0.000132	mg/L		10/31/16 20:29	11/11/16 01:30	1
Demeton-S	0.0000652	U	0.00189	0.0000652	mg/L		10/31/16 20:29	11/11/16 01:30	1
Diazinon	0.000139	U	0.000472	0.000139	mg/L		10/31/16 20:29	11/11/16 01:30	1
Demeton, Total	0.000197	U	0.00283	0.000197	mg/L		10/31/16 20:29	11/11/16 01:30	1
Dichlorvos	0.000153	U	0.000472	0.000153	mg/L		10/31/16 20:29	11/11/16 01:30	1
Dimethoate	0.000424	U	0.00142	0.000424	mg/L		10/31/16 20:29	11/11/16 01:30	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64578-1

**Client Sample ID: HCS120**

**Lab Sample ID: 560-64578-2**

**Date Collected: 10/24/16 10:27**

**Matrix: Water**

**Date Received: 10/25/16 08:55**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	0.000304	U	0.000944	0.000304	mg/L		10/31/16 20:29	11/11/16 01:30	1
EPN	0.000141	U	0.00113	0.000141	mg/L		10/31/16 20:29	11/11/16 01:30	1
Ethoprop	0.000167	U	0.00142	0.000167	mg/L		10/31/16 20:29	11/11/16 01:30	1
Ethyl Parathion	0.000136	U	0.000944	0.000136	mg/L		10/31/16 20:29	11/11/16 01:30	1
Famphur	0.000169	U	0.000944	0.000169	mg/L		10/31/16 20:29	11/11/16 01:30	1
Fensulfothion	0.000514	U	0.00236	0.000514	mg/L		10/31/16 20:29	11/11/16 01:30	1
Fenthion	0.000145	U	0.00236	0.000145	mg/L		10/31/16 20:29	11/11/16 01:30	1
Malathion	0.000126	U	0.00189	0.000126	mg/L		10/31/16 20:29	11/11/16 01:30	1
Merphos	0.000164	U	0.00472	0.000164	mg/L		10/31/16 20:29	11/11/16 01:30	1
Methyl parathion	0.000133	U	0.00378	0.000133	mg/L		10/31/16 20:29	11/11/16 01:30	1
Mevinphos	0.000434	U	0.00585	0.000434	mg/L		10/31/16 20:29	11/11/16 01:30	1
Naled	0.000755	U	0.00189	0.000755	mg/L		10/31/16 20:29	11/11/16 01:30	1
Phorate	0.000145	U	0.00113	0.000145	mg/L		10/31/16 20:29	11/11/16 01:30	1
Ronnel	0.000110	U	0.00944	0.000110	mg/L		10/31/16 20:29	11/11/16 01:30	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		10/31/16 20:29	11/11/16 01:30	1
Tetrachlorvinphos (Stirophos)	0.000117	U	0.00331	0.000117	mg/L		10/31/16 20:29	11/11/16 01:30	1
Thionazin	0.000295	U	0.000944	0.000295	mg/L		10/31/16 20:29	11/11/16 01:30	1
Tokuthion	0.000116	U	0.00151	0.000116	mg/L		10/31/16 20:29	11/11/16 01:30	1
Trichloronate	0.000229	U	0.00142	0.000229	mg/L		10/31/16 20:29	11/11/16 01:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	59		49 - 171	10/31/16 20:29	11/11/16 01:30	1
Triphenylphosphate	71		60 - 154	10/31/16 20:29	11/11/16 01:30	1

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-64578-3**

**Date Collected: 10/24/16 10:27**

**Matrix: Water**

**Date Received: 10/25/16 08:55**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00236	0.000159	mg/L		10/31/16 20:29	11/11/16 02:01	1
Bolstar	0.000297	U	0.000945	0.000297	mg/L		10/31/16 20:29	11/11/16 02:01	1
Chlorpyrifos	0.000340	U	0.00142	0.000340	mg/L		10/31/16 20:29	11/11/16 02:01	1
Coumaphos	0.000128	U	0.000945	0.000128	mg/L		10/31/16 20:29	11/11/16 02:01	1
Demeton-O	0.000132	U	0.000945	0.000132	mg/L		10/31/16 20:29	11/11/16 02:01	1
Demeton-S	0.0000652	U	0.00189	0.0000652	mg/L		10/31/16 20:29	11/11/16 02:01	1
Diazinon	0.000139	U	0.000472	0.000139	mg/L		10/31/16 20:29	11/11/16 02:01	1
Demeton, Total	0.000197	U	0.00283	0.000197	mg/L		10/31/16 20:29	11/11/16 02:01	1
Dichlorvos	0.000153	U	0.000472	0.000153	mg/L		10/31/16 20:29	11/11/16 02:01	1
Dimethoate	0.000424	U	0.00142	0.000424	mg/L		10/31/16 20:29	11/11/16 02:01	1
Disulfoton	0.000304	U	0.000945	0.000304	mg/L		10/31/16 20:29	11/11/16 02:01	1
EPN	0.000141	U	0.00113	0.000141	mg/L		10/31/16 20:29	11/11/16 02:01	1
Ethoprop	0.000167	U	0.00142	0.000167	mg/L		10/31/16 20:29	11/11/16 02:01	1
Ethyl Parathion	0.000136	U	0.000945	0.000136	mg/L		10/31/16 20:29	11/11/16 02:01	1
Famphur	0.000169	U	0.000945	0.000169	mg/L		10/31/16 20:29	11/11/16 02:01	1
Fensulfothion	0.000514	U	0.00236	0.000514	mg/L		10/31/16 20:29	11/11/16 02:01	1
Fenthion	0.000146	U	0.00236	0.000146	mg/L		10/31/16 20:29	11/11/16 02:01	1
Malathion	0.000126	U	0.00189	0.000126	mg/L		10/31/16 20:29	11/11/16 02:01	1
Merphos	0.000164	U	0.00472	0.000164	mg/L		10/31/16 20:29	11/11/16 02:01	1
Methyl parathion	0.000133	U	0.00378	0.000133	mg/L		10/31/16 20:29	11/11/16 02:01	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64578-1

**Client Sample ID: FDHCS120**

**Lab Sample ID: 560-64578-3**

**Date Collected: 10/24/16 10:27**

**Matrix: Water**

**Date Received: 10/25/16 08:55**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mevinphos	0.000435	U	0.00586	0.000435	mg/L		10/31/16 20:29	11/11/16 02:01	1
Naled	0.000756	U	0.00189	0.000756	mg/L		10/31/16 20:29	11/11/16 02:01	1
Phorate	0.000146	U	0.00113	0.000146	mg/L		10/31/16 20:29	11/11/16 02:01	1
Ronnel	0.000110	U	0.00945	0.000110	mg/L		10/31/16 20:29	11/11/16 02:01	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		10/31/16 20:29	11/11/16 02:01	1
Tetrachlorvinphos (Stirophos)	0.000117	U	0.00331	0.000117	mg/L		10/31/16 20:29	11/11/16 02:01	1
Thionazin	0.000295	U	0.000945	0.000295	mg/L		10/31/16 20:29	11/11/16 02:01	1
Tokuthion	0.000116	U	0.00151	0.000116	mg/L		10/31/16 20:29	11/11/16 02:01	1
Trichloronate	0.000229	U	0.00142	0.000229	mg/L		10/31/16 20:29	11/11/16 02:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	92		49 - 171				10/31/16 20:29	11/11/16 02:01	1
Triphenylphosphate	114		60 - 154				10/31/16 20:29	11/11/16 02:01	1

**Client Sample ID: HCS130**

**Lab Sample ID: 560-64578-4**

**Date Collected: 10/24/16 09:44**

**Matrix: Water**

**Date Received: 10/25/16 08:55**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00237	0.000159	mg/L		10/31/16 20:29	11/11/16 02:32	1
Bolstar	0.000298	U	0.000949	0.000298	mg/L		10/31/16 20:29	11/11/16 02:32	1
Chlorpyrifos	0.000342	U	0.00142	0.000342	mg/L		10/31/16 20:29	11/11/16 02:32	1
Coumaphos	0.000128	U	0.000949	0.000128	mg/L		10/31/16 20:29	11/11/16 02:32	1
Demeton-O	0.000133	U	0.000949	0.000133	mg/L		10/31/16 20:29	11/11/16 02:32	1
Demeton-S	0.0000655	U	0.00190	0.0000655	mg/L		10/31/16 20:29	11/11/16 02:32	1
Diazinon	0.000140	U	0.000475	0.000140	mg/L		10/31/16 20:29	11/11/16 02:32	1
Demeton, Total	0.000198	U F1	0.00285	0.000198	mg/L		10/31/16 20:29	11/11/16 02:32	1
Dichlorvos	0.000154	U	0.000475	0.000154	mg/L		10/31/16 20:29	11/11/16 02:32	1
Dimethoate	0.000426	U	0.00142	0.000426	mg/L		10/31/16 20:29	11/11/16 02:32	1
Disulfoton	0.000306	U	0.000949	0.000306	mg/L		10/31/16 20:29	11/11/16 02:32	1
EPN	0.000141	U	0.00114	0.000141	mg/L		10/31/16 20:29	11/11/16 02:32	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		10/31/16 20:29	11/11/16 02:32	1
Ethyl Parathion	0.000137	U	0.000949	0.000137	mg/L		10/31/16 20:29	11/11/16 02:32	1
Famphur	0.000170	U	0.000949	0.000170	mg/L		10/31/16 20:29	11/11/16 02:32	1
Fensulfothion	0.000516	U	0.00237	0.000516	mg/L		10/31/16 20:29	11/11/16 02:32	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		10/31/16 20:29	11/11/16 02:32	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		10/31/16 20:29	11/11/16 02:32	1
Merphos	0.000165	U	0.00475	0.000165	mg/L		10/31/16 20:29	11/11/16 02:32	1
Methyl parathion	0.000134	U	0.00380	0.000134	mg/L		10/31/16 20:29	11/11/16 02:32	1
Mevinphos	0.000437	U	0.00589	0.000437	mg/L		10/31/16 20:29	11/11/16 02:32	1
Naled	0.000760	U	0.00190	0.000760	mg/L		10/31/16 20:29	11/11/16 02:32	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		10/31/16 20:29	11/11/16 02:32	1
Ronnel	0.000110	U	0.00949	0.000110	mg/L		10/31/16 20:29	11/11/16 02:32	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		10/31/16 20:29	11/11/16 02:32	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00332	0.000118	mg/L		10/31/16 20:29	11/11/16 02:32	1
Thionazin	0.000296	U	0.000949	0.000296	mg/L		10/31/16 20:29	11/11/16 02:32	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		10/31/16 20:29	11/11/16 02:32	1
Trichloronate	0.000230	U	0.00142	0.000230	mg/L		10/31/16 20:29	11/11/16 02:32	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64578-1

**Client Sample ID: HCS130**

**Date Collected: 10/24/16 09:44**

**Date Received: 10/25/16 08:55**

**Lab Sample ID: 560-64578-4**

**Matrix: Water**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	67		49 - 171	10/31/16 20:29	11/11/16 02:32	1
Triphenylphosphate	81		60 - 154	10/31/16 20:29	11/11/16 02:32	1

**Client Sample ID: HCS140**

**Date Collected: 10/24/16 10:43**

**Date Received: 10/25/16 08:55**

**Lab Sample ID: 560-64578-5**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00237	0.000159	mg/L		10/31/16 20:29	11/11/16 05:09	1
Bolstar	0.000298	U	0.000948	0.000298	mg/L		10/31/16 20:29	11/11/16 05:09	1
Chlorpyrifos	0.000341	U	0.00142	0.000341	mg/L		10/31/16 20:29	11/11/16 05:09	1
Coumaphos	0.000128	U	0.000948	0.000128	mg/L		10/31/16 20:29	11/11/16 05:09	1
Demeton-O	0.000133	U	0.000948	0.000133	mg/L		10/31/16 20:29	11/11/16 05:09	1
Demeton-S	0.0000654	U	0.00190	0.0000654	mg/L		10/31/16 20:29	11/11/16 05:09	1
Diazinon	0.000139	U	0.000474	0.000139	mg/L		10/31/16 20:29	11/11/16 05:09	1
Demeton, Total	0.000198	U	0.00284	0.000198	mg/L		10/31/16 20:29	11/11/16 05:09	1
Dichlorvos	0.000154	U	0.000474	0.000154	mg/L		10/31/16 20:29	11/11/16 05:09	1
Dimethoate	0.000425	U	0.00142	0.000425	mg/L		10/31/16 20:29	11/11/16 05:09	1
Disulfoton	0.000305	U	0.000948	0.000305	mg/L		10/31/16 20:29	11/11/16 05:09	1
EPN	0.000141	U	0.00114	0.000141	mg/L		10/31/16 20:29	11/11/16 05:09	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		10/31/16 20:29	11/11/16 05:09	1
Ethyl Parathion	0.000136	U	0.000948	0.000136	mg/L		10/31/16 20:29	11/11/16 05:09	1
Famphur	0.000170	U	0.000948	0.000170	mg/L		10/31/16 20:29	11/11/16 05:09	1
Fensulfothion	0.000515	U	0.00237	0.000515	mg/L		10/31/16 20:29	11/11/16 05:09	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		10/31/16 20:29	11/11/16 05:09	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		10/31/16 20:29	11/11/16 05:09	1
Merphos	0.000165	U	0.00474	0.000165	mg/L		10/31/16 20:29	11/11/16 05:09	1
Methyl parathion	0.000134	U	0.00379	0.000134	mg/L		10/31/16 20:29	11/11/16 05:09	1
Mevinphos	0.000436	U	0.00588	0.000436	mg/L		10/31/16 20:29	11/11/16 05:09	1
Naled	0.000758	U	0.00190	0.000758	mg/L		10/31/16 20:29	11/11/16 05:09	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		10/31/16 20:29	11/11/16 05:09	1
Ronnel	0.000110	U	0.00948	0.000110	mg/L		10/31/16 20:29	11/11/16 05:09	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		10/31/16 20:29	11/11/16 05:09	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00332	0.000118	mg/L		10/31/16 20:29	11/11/16 05:09	1
Thionazin	0.000296	U	0.000948	0.000296	mg/L		10/31/16 20:29	11/11/16 05:09	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		10/31/16 20:29	11/11/16 05:09	1
Trichloronate	0.000229	U	0.00142	0.000229	mg/L		10/31/16 20:29	11/11/16 05:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	71		49 - 171				10/31/16 20:29	11/11/16 05:09	1
Triphenylphosphate	85		60 - 154				10/31/16 20:29	11/11/16 05:09	1

**Client Sample ID: HCS160**

**Date Collected: 10/24/16 10:59**

**Date Received: 10/25/16 08:55**

**Lab Sample ID: 560-64578-6**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00237	0.000159	mg/L		10/31/16 20:29	11/11/16 05:40	1
Bolstar	0.000297	U	0.000946	0.000297	mg/L		10/31/16 20:29	11/11/16 05:40	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64578-1

**Client Sample ID: HCS160**

**Lab Sample ID: 560-64578-6**

**Date Collected: 10/24/16 10:59**

**Matrix: Water**

**Date Received: 10/25/16 08:55**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorpyrifos	0.000341	U	0.00142	0.000341	mg/L		10/31/16 20:29	11/11/16 05:40	1
Coumaphos	0.000128	U	0.000946	0.000128	mg/L		10/31/16 20:29	11/11/16 05:40	1
Demeton-O	0.000132	U	0.000946	0.000132	mg/L		10/31/16 20:29	11/11/16 05:40	1
Demeton-S	0.0000653	U	0.00189	0.0000653	mg/L		10/31/16 20:29	11/11/16 05:40	1
Diazinon	0.000139	U	0.000473	0.000139	mg/L		10/31/16 20:29	11/11/16 05:40	1
Demeton, Total	0.000198	U	0.00284	0.000198	mg/L		10/31/16 20:29	11/11/16 05:40	1
Dichlorvos	0.000153	U	0.000473	0.000153	mg/L		10/31/16 20:29	11/11/16 05:40	1
Dimethoate	0.000425	U	0.00142	0.000425	mg/L		10/31/16 20:29	11/11/16 05:40	1
Disulfoton	0.000305	U	0.000946	0.000305	mg/L		10/31/16 20:29	11/11/16 05:40	1
EPN	0.000141	U	0.00114	0.000141	mg/L		10/31/16 20:29	11/11/16 05:40	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		10/31/16 20:29	11/11/16 05:40	1
Ethyl Parathion	0.000136	U	0.000946	0.000136	mg/L		10/31/16 20:29	11/11/16 05:40	1
Famphur	0.000169	U	0.000946	0.000169	mg/L		10/31/16 20:29	11/11/16 05:40	1
Fensulfothion	0.000515	U	0.00237	0.000515	mg/L		10/31/16 20:29	11/11/16 05:40	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		10/31/16 20:29	11/11/16 05:40	1
Malathion	0.000126	U	0.00189	0.000126	mg/L		10/31/16 20:29	11/11/16 05:40	1
Merphos	0.000165	U	0.00473	0.000165	mg/L		10/31/16 20:29	11/11/16 05:40	1
Methyl parathion	0.000133	U	0.00379	0.000133	mg/L		10/31/16 20:29	11/11/16 05:40	1
Mevinphos	0.000435	U	0.00587	0.000435	mg/L		10/31/16 20:29	11/11/16 05:40	1
Naled	0.000757	U	0.00189	0.000757	mg/L		10/31/16 20:29	11/11/16 05:40	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		10/31/16 20:29	11/11/16 05:40	1
Ronnel	0.000110	U	0.00946	0.000110	mg/L		10/31/16 20:29	11/11/16 05:40	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		10/31/16 20:29	11/11/16 05:40	1
Tetrachlorvinphos (Stirophos)	0.000117	U	0.00331	0.000117	mg/L		10/31/16 20:29	11/11/16 05:40	1
Thionazin	0.000295	U	0.000946	0.000295	mg/L		10/31/16 20:29	11/11/16 05:40	1
Tokuthion	0.000116	U	0.00151	0.000116	mg/L		10/31/16 20:29	11/11/16 05:40	1
Trichloronate	0.000229	U	0.00142	0.000229	mg/L		10/31/16 20:29	11/11/16 05:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	63		49 - 171	10/31/16 20:29	11/11/16 05:40	1
Triphenylphosphate	85		60 - 154	10/31/16 20:29	11/11/16 05:40	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64578-1

## Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 280-349084/1-A

Matrix: Water

Analysis Batch: 350765

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 349084

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000168	U	0.00250	0.000168	mg/L		10/31/16 20:29	11/10/16 19:45	1
Bolstar	0.000314	U	0.00100	0.000314	mg/L		10/31/16 20:29	11/10/16 19:45	1
Chlorpyrifos	0.000360	U	0.00150	0.000360	mg/L		10/31/16 20:29	11/10/16 19:45	1
Coumaphos	0.000135	U	0.00100	0.000135	mg/L		10/31/16 20:29	11/10/16 19:45	1
Demeton-O	0.000140	U	0.00100	0.000140	mg/L		10/31/16 20:29	11/10/16 19:45	1
Demeton-S	0.0000690	U	0.00200	0.0000690	mg/L		10/31/16 20:29	11/10/16 19:45	1
Diazinon	0.000147	U	0.000500	0.000147	mg/L		10/31/16 20:29	11/10/16 19:45	1
Demeton, Total	0.000209	U	0.00300	0.000209	mg/L		10/31/16 20:29	11/10/16 19:45	1
Dichlorvos	0.000162	U	0.000500	0.000162	mg/L		10/31/16 20:29	11/10/16 19:45	1
Dimethoate	0.000449	U	0.00150	0.000449	mg/L		10/31/16 20:29	11/10/16 19:45	1
Disulfoton	0.000322	U	0.00100	0.000322	mg/L		10/31/16 20:29	11/10/16 19:45	1
EPN	0.000149	U	0.00120	0.000149	mg/L		10/31/16 20:29	11/10/16 19:45	1
Ethoprop	0.000177	U	0.00150	0.000177	mg/L		10/31/16 20:29	11/10/16 19:45	1
Ethyl Parathion	0.000144	U	0.00100	0.000144	mg/L		10/31/16 20:29	11/10/16 19:45	1
Famphur	0.000179	U	0.00100	0.000179	mg/L		10/31/16 20:29	11/10/16 19:45	1
Fensulfothion	0.000544	U	0.00250	0.000544	mg/L		10/31/16 20:29	11/10/16 19:45	1
Fenthion	0.000154	U	0.00250	0.000154	mg/L		10/31/16 20:29	11/10/16 19:45	1
Malathion	0.000133	U	0.00200	0.000133	mg/L		10/31/16 20:29	11/10/16 19:45	1
Merphos	0.000174	U	0.00500	0.000174	mg/L		10/31/16 20:29	11/10/16 19:45	1
Methyl parathion	0.000141	U	0.00400	0.000141	mg/L		10/31/16 20:29	11/10/16 19:45	1
Mevinphos	0.000460	U	0.00620	0.000460	mg/L		10/31/16 20:29	11/10/16 19:45	1
Naled	0.000800	U	0.00200	0.000800	mg/L		10/31/16 20:29	11/10/16 19:45	1
Phorate	0.000154	U	0.00120	0.000154	mg/L		10/31/16 20:29	11/10/16 19:45	1
Ronnel	0.000116	U	0.0100	0.000116	mg/L		10/31/16 20:29	11/10/16 19:45	1
Sulfotepp	0.000168	U	0.00150	0.000168	mg/L		10/31/16 20:29	11/10/16 19:45	1
Tetrachlorvinphos (Stirophos)	0.000124	U	0.00350	0.000124	mg/L		10/31/16 20:29	11/10/16 19:45	1
Thionazin	0.000312	U	0.00100	0.000312	mg/L		10/31/16 20:29	11/10/16 19:45	1
Tokuthion	0.000123	U	0.00160	0.000123	mg/L		10/31/16 20:29	11/10/16 19:45	1
Trichloronate	0.000242	U	0.00150	0.000242	mg/L		10/31/16 20:29	11/10/16 19:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	62		49 - 171	10/31/16 20:29	11/10/16 19:45	1
Triphenylphosphate	83		60 - 154	10/31/16 20:29	11/10/16 19:45	1

Lab Sample ID: LCS 280-349084/2-A

Matrix: Water

Analysis Batch: 350765

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 349084

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	0.00400	0.003854		mg/L		96	59 - 115
Chlorpyrifos	0.00400	0.003604		mg/L		90	54 - 115
Coumaphos	0.00400	0.004142		mg/L		104	63 - 118
Diazinon	0.00400	0.003811		mg/L		95	47 - 115
Demeton, Total	0.00400	0.003058		mg/L		76	44 - 115
Dichlorvos	0.00400	0.003457		mg/L		86	53 - 128
Dimethoate	0.00400	0.002866		mg/L		72	42 - 115
Disulfoton	0.00400	0.003294		mg/L		82	45 - 115
EPN	0.00400	0.003450		mg/L		86	56 - 115

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64578-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCS 280-349084/2-A

Matrix: Water

Analysis Batch: 350765

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 349084

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethoprop	0.00400	0.003766		mg/L		94	50 - 115
Ethyl Parathion	0.00400	0.003474		mg/L		87	55 - 115
Famphur	0.00400	0.003551		mg/L		89	62 - 115
Fensulfothion	0.00400	0.003141		mg/L		79	50 - 115
Fenthion	0.00400	0.003325		mg/L		83	55 - 115
Malathion	0.00400	0.003174		mg/L		79	52 - 115
Merphos	0.00400	0.003558	J	mg/L		89	31 - 115
Methyl parathion	0.00400	0.003446	J	mg/L		86	58 - 115
Mevinphos	0.00400	0.003089	J	mg/L		77	42 - 115
Phorate	0.00400	0.002905		mg/L		73	40 - 115
Ronnel	0.00400	0.003771	J	mg/L		94	55 - 115
Sulfotepp	0.00400	0.003563		mg/L		89	53 - 115
Tetrachlorvinphos (Stirophos)	0.00400	0.003567		mg/L		89	54 - 115
Thionazin	0.00400	0.003374		mg/L		84	54 - 115
Trichloronate	0.00400	0.003657		mg/L		91	48 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Chlormefos	73		49 - 171
Triphenylphosphate	85		60 - 154

Lab Sample ID: 560-64578-4 MS

Matrix: Water

Analysis Batch: 350765

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 349084

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	0.000159	U	0.00384	0.003678		mg/L		96	59 - 115
Chlorpyrifos	0.000342	U	0.00384	0.002608		mg/L		68	54 - 115
Coumaphos	0.000128	U	0.00384	0.003803		mg/L		99	63 - 118
Diazinon	0.000140	U	0.00384	0.003365		mg/L		88	47 - 115
Demeton, Total	0.000198	U F1	0.00384	0.001261	J F1	mg/L		33	44 - 115
Dichlorvos	0.000154	U	0.00384	0.003329		mg/L		87	53 - 128
Dimethoate	0.000426	U	0.00384	0.002996		mg/L		78	42 - 115
Disulfoton	0.000306	U	0.00384	0.002014		mg/L		52	45 - 115
EPN	0.000141	U	0.00384	0.002892		mg/L		75	56 - 115
Ethoprop	0.000168	U	0.00384	0.003495		mg/L		91	50 - 115
Ethyl Parathion	0.000137	U	0.00384	0.003030		mg/L		79	55 - 115
Famphur	0.000170	U	0.00384	0.003148		mg/L		82	62 - 115
Fensulfothion	0.000516	U	0.00384	0.003288		mg/L		86	50 - 115
Fenthion	0.000146	U	0.00384	0.002594		mg/L		68	55 - 115
Malathion	0.000126	U	0.00384	0.002860		mg/L		74	52 - 115
Merphos	0.000165	U	0.00384	0.002883	J	mg/L		75	31 - 115
Methyl parathion	0.000134	U	0.00384	0.003323	J	mg/L		87	58 - 115
Mevinphos	0.000437	U	0.00384	0.002911	J	mg/L		76	42 - 115
Phorate	0.000146	U	0.00384	0.002150		mg/L		56	40 - 115
Ronnel	0.000110	U	0.00384	0.002923	J	mg/L		76	55 - 115
Sulfotepp	0.000159	U	0.00384	0.003233		mg/L		84	53 - 115
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00384	0.003372		mg/L		88	54 - 115
Thionazin	0.000296	U	0.00384	0.003136		mg/L		82	54 - 115

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64578-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-64578-4 MS

Matrix: Water

Analysis Batch: 350765

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 349084

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichloronate	0.000230	U	0.00384	0.002520		mg/L		66	48 - 115
<b>Surrogate</b>	<b>MS %Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
Chlormefos	69		49 - 171						
Triphenylphosphate	81		60 - 154						

Lab Sample ID: 560-64578-4 MSD

Matrix: Water

Analysis Batch: 350765

Client Sample ID: HCS130

Prep Type: Total/NA

Prep Batch: 349084

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	0.000159	U	0.00380	0.003874		mg/L		102	59 - 115	5	20
Chlorpyrifos	0.000342	U	0.00380	0.003146		mg/L		83	54 - 115	19	24
Coumaphos	0.000128	U	0.00380	0.003835		mg/L		101	63 - 118	1	20
Diazinon	0.000140	U	0.00380	0.003188		mg/L		84	47 - 115	5	37
Demeton, Total	0.000198	U F1	0.00380	0.001556	J F1	mg/L		41	44 - 115	21	38
Dichlorvos	0.000154	U	0.00380	0.003090		mg/L		81	53 - 128	7	37
Dimethoate	0.000426	U	0.00380	0.002854		mg/L		75	42 - 115	5	38
Disulfoton	0.000306	U	0.00380	0.002105		mg/L		55	45 - 115	4	31
EPN	0.000141	U	0.00380	0.002926		mg/L		77	56 - 115	1	20
Ethoprop	0.000168	U	0.00380	0.003559		mg/L		94	50 - 115	2	29
Ethyl Parathion	0.000137	U	0.00380	0.003233		mg/L		85	55 - 115	6	20
Famphur	0.000170	U	0.00380	0.003552		mg/L		93	62 - 115	12	20
Fensulfothion	0.000516	U	0.00380	0.003403		mg/L		89	50 - 115	3	27
Fenthion	0.000146	U	0.00380	0.002828		mg/L		74	55 - 115	9	22
Malathion	0.000126	U	0.00380	0.003117		mg/L		82	52 - 115	9	20
Merphos	0.000165	U	0.00380	0.003061	J	mg/L		80	31 - 115	6	25
Methyl parathion	0.000134	U	0.00380	0.003389	J	mg/L		89	58 - 115	2	20
Mevinphos	0.000437	U	0.00380	0.002837	J	mg/L		75	42 - 115	3	27
Phorate	0.000146	U	0.00380	0.002192		mg/L		58	40 - 115	2	32
Ronnel	0.000110	U	0.00380	0.002944	J	mg/L		77	55 - 115	1	28
Sulfotepp	0.000159	U	0.00380	0.002997		mg/L		79	53 - 115	8	27
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00380	0.003510		mg/L		92	54 - 115	4	20
Thionazin	0.000296	U	0.00380	0.003103		mg/L		82	54 - 115	1	27
Trichloronate	0.000230	U	0.00380	0.003228		mg/L		85	48 - 115	25	26
<b>Surrogate</b>	<b>MSD %Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
Chlormefos	65		49 - 171								
Triphenylphosphate	85		60 - 154								

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64578-1

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-17
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Laboratory: TestAmerica Denver

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-17
Arizona	State Program	9	AZ0713	12-19-16
Arkansas DEQ	State Program	6	88-0687	06-01-17
California	State Program	9	2513	08-31-16 *
Connecticut	State Program	1	PH-0686	09-30-18
Florida	NELAP	4	E87667	06-30-17
Georgia	State Program	4	N/A	01-09-17
Illinois	NELAP	5	200017	04-30-17
Iowa	State Program	7	370	11-30-16
Kansas	NELAP	7	E-10166	04-30-17
Louisiana	NELAP	6	02096	06-30-17
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-16
Nevada	State Program	9	CO0026	07-31-17
New Hampshire	NELAP	1	205310	04-28-17
New Jersey	NELAP	2	CO004	06-30-17
New York	NELAP	2	11964	04-01-17
North Carolina (WW/SW)	State Program	4	358	12-31-16
North Dakota	State Program	8	R-034	01-09-17
Oklahoma	State Program	6	8614	08-31-17
Oregon	NELAP	10	4025	01-09-17
Pennsylvania	NELAP	3	68-00664	07-31-17
South Carolina	State Program	4	72002001	01-09-17
Texas	NELAP	6	T104704183-15-11	09-30-17
USDA	Federal		P330-13-00369	12-17-16
Utah	NELAP	8	CO00026	07-31-17
Virginia	NELAP	3	460232	06-14-17
Washington	State Program	10	C583	08-02-17
West Virginia DEP	State Program	3	354	11-30-16
Wisconsin	State Program	5	999615430	08-31-17
Wyoming (UST)	A2LA	8	2907.01	10-31-17

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

## Method Summary

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64578-1

Method	Method Description	Protocol	Laboratory
8141A	Organophosphorous Pesticides (GC)	SW846	TAL DEN

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



## Sample Summary

Client: SWCA, Inc.  
Project/Site: EAA Sampling

TestAmerica Job ID: 560-64578-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-64578-1	HCS110	Water	10/24/16 10:13	10/25/16 08:55
560-64578-2	HCS120	Water	10/24/16 10:27	10/25/16 08:55
560-64578-3	FDHCS120	Water	10/24/16 10:27	10/25/16 08:55
560-64578-4	HCS130	Water	10/24/16 09:44	10/25/16 08:55
560-64578-5	HCS140	Water	10/24/16 10:43	10/25/16 08:55
560-64578-6	HCS160	Water	10/24/16 10:59	10/25/16 08:55

1733 North Padre Island Drive  
Corpus Christi, TX 78408  
(361) 289-2673 FAX (361) 289-2471

## Chain-of-Custody Record



560-64578 Chain of Custody

Customer Information				Project Information				Analyses / Method Requested															
P.O.				Project Name				A. Pesticides by 8141 (Denver)															
W.O.				Lab Number				B.															
Company				Bill To				C.															
Send Report To:				Invoice Attn				D.															
Address:				Address:																			
City/State/Zip				City/State/Zip																			
Phone				Phone																			
Fax				Fax																			
Sx No.	Sample Description	Sample Date	Sample Time	Sample Matrix	Container Type	Preservative	No. of Bottles	A	B	C	D	E	F	G	H	I	J	K	L	Comments			
1	HCS110	10/24/16	1013	NPW	12 Amber Glass	None	2	✓															
2	HCS120		1027				1	✓															
3	FDHCS120		1027				1	✓															
4	HCS130		0944				4	✓															
5	HCS130 MS/MSD		0944				2	✓															
6	HCS140		1043				1	✓															
7	HCS160		1059				1	✓															
8																							
9																							
10																							

Sampler Name: Jennifer Moreland				Shipmet Method:				Airbill No.:				Required Turnaround:			
Relinquished by: [Signature]				Date: 10/24/16				Relinquished by: [Signature]				Date: 10-24-16			
Company Name: [Signature]				Time: 1520				Company Name: [Signature]				Time: 15:20			
Received by: [Signature]				Date: 10-24-16				Received by: [Signature]				Date: 10-25-16			
Company Name: [Signature]				Time: 15:20				Company Name: [Signature]				Time: 0855			

3,7,2,1 IRS (400 Transfired SPL 10-27-16) OBS 4W 10-25-16

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64578-1

Login Number: 64578

List Source: TestAmerica Corpus Christi

List Number: 1

Creator: Escalona-Garcia, Jose A

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HCS 210 LEAD  
**Sample Number:** AB01440  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/12/16 23:20  
**Receipt Date/Time:** 4/13/16 11:38

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time. Exceeded hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01440-A	E. coli	√	SM 9223B-2004	4900	MPN/100 mL	H	1	47128	4/13/16	13:26	KAB/RSC
AB01440-A	E. Coli Holding Time - IDEXX Colilert		NA	14.10	hours		0.00	47127	4/13/16	13:26	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47128

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HCS 240 LEAD  
**Sample Number:** AB01441  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/12/16 23:37  
**Receipt Date/Time:** 4/13/16 11:38

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time. Exceeded hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01441-A	E. coli	√	SM 9223B-2004	9200	MPN/100 mL	H	1	47128	4/13/16	13:26	KAB/RSC
AB01441-A	E. Coli Holding Time - IDEXX Colilert		NA	13.82	hours		0.00	47127	4/13/16	13:26	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47128

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

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Philip Pearce  
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San Antonio, Tx. 78249

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**Sample Location:** HCS 250 LEAD  
**Sample Number:** AB01442  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/12/16 23:08  
**Receipt Date/Time:** 4/13/16 11:38

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time. Exceeded hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01442-A	E. coli	√	SM 9223B-2004	4400	MPN/100 mL	H	1	47128	4/13/16	13:26	KAB/RSC
AB01442-A	E. Coli Holding Time - IDEXX Colilert		NA	14.30	hours		0.00	47127	4/13/16	13:26	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47128

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



May 05, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
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Fax #: NA

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**Sample Location:** HCS 260 LEAD  
**Sample Number:** AB01443  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/12/16 23:35  
**Receipt Date/Time:** 4/13/16 11:38

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time. Exceeded hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01443-A	E. coli	√	SM 9223B-2004	5500	MPN/100 mL	H	1	47128	4/13/16	13:26	KAB/RSC
AB01443-A	E. Coli Holding Time - IDEXX Colilert		NA	13.85	hours		0.00	47127	4/13/16	13:26	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47128

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HCS 270 LEAD  
**Sample Number:** AB01444  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/12/16 23:16  
**Receipt Date/Time:** 4/13/16 11:38

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time. Exceeded hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01444-A	E. coli	√	SM 9223B-2004	2200	MPN/100 mL	H	1	47128	4/13/16	13:26	KAB/RSC
AB01444-A	E. Coli Holding Time - IDEXX Colilert		NA	14.17	hours		0.00	47127	4/13/16	13:26	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47128

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Client:** SWCA

Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HCS 210 PEAK  
**Sample Number:** AB01445  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 02:07  
**Receipt Date/Time:** 4/13/16 11:38

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time. Exceeded hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01445-A	E. coli	√	SM 9223B-2004	16000	MPN/100 mL	H	1	47128	4/13/16	13:26	KAB/RSC
AB01445-A	E. Coli Holding Time - IDEXX Colilert		NA	11.32	hours		0.00	47127	4/13/16	13:26	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47128

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



May 05, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
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**Sample Location:** HCS 240 PEAK  
**Sample Number:** AB01446  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 02:19  
**Receipt Date/Time:** 4/13/16 11:38

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time. Exceeded hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01446-A	E. coli	√	SM 9223B-2004	7300	MPN/100 mL	H	1	47128	4/13/16	13:26	KAB/RSC
AB01446-A	E. Coli Holding Time - IDEXX Colilert		NA	11.12	hours		0.00	47127	4/13/16	13:26	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47128

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
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5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

**Client:** SWCA

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**Sample Location:** HCS 250 PEAK  
**Sample Number:** AB01447  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 01:55  
**Receipt Date/Time:** 4/13/16 11:38

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time. Exceeded hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01447-A	E. coli	√	SM 9223B-2004	6900	MPN/100 mL	H	1	47128	4/13/16	13:26	KAB/RSC
AB01447-A	E. Coli Holding Time - IDEXX Colilert		NA	11.52	hours		0.00	47127	4/13/16	13:26	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47128

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

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**Sample Location:** HCS 260 PEAK  
**Sample Number:** AB01448  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 02:14  
**Receipt Date/Time:** 4/13/16 11:38

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time. Exceeded hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01448-A	E. coli	√	SM 9223B-2004	13000	MPN/100 mL	H	1	47128	4/13/16	13:26	KAB/RSC
AB01448-A	E. Coli Holding Time - IDEXX Colilert		NA	11.20	hours		0.00	47127	4/13/16	13:26	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47128

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
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5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



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**Sample Location:** HCS 270 PEAK  
**Sample Number:** AB01449  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 02:00  
**Receipt Date/Time:** 4/13/16 11:38

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time. Exceeded hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01449-A	E. coli	√	SM 9223B-2004	6000	MPN/100 mL	H	1	47130	4/13/16	13:26	KAB/RSC
AB01449-A	E. Coli Holding Time - IDEXX Colilert		NA	11.43	hours		0.00	47129	4/13/16	13:26	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47130

**QC Analyte Name**

Initial Blank for E. coli

Log Range for E. coli

**Result**

Absent

0.0246

**Units**

**Qualifier**

**Lower**

---

0.0

**Acceptance Criteria**

**Target**

Absent

---

**Upper**

---

0.5



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



May 05, 2016

Page 1 of 2

**Client:** SWCA

Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

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**Sample Location:** HCS 210 PEAK 2  
**Sample Number:** AB01450  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 04:33  
**Receipt Date/Time:** 4/13/16 11:38

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01450-A	E. coli	√	SM 9223B-2004	2900	MPN/100 mL		1	47126	4/13/16	12:31	KAB/RSC
AB01450-A	E. Coli Holding Time - IDEXX Colilert		NA	7.97	hours		0.00	47125	4/13/16	12:31	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47126

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

**Client:** SWCA  
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**Sample Location:** HCS 240 PEAK 2  
**Sample Number:** AB01451  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 04:52  
**Receipt Date/Time:** 4/13/16 11:38

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01451-A	E. coli	√	SM 9223B-2004	4900	MPN/100 mL		1	47126	4/13/16	12:31	KAB/RSC
AB01451-A	E. Coli Holding Time - IDEXX Colilert		NA	7.65	hours		0.00	47125	4/13/16	12:31	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47126

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

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San Antonio, Tx. 78249

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**Sample Location:** HCS 250 PEAK 2  
**Sample Number:** AB01452  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 04:23  
**Receipt Date/Time:** 4/13/16 11:38

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time.

**Analysis Comments:** AB01452-A E. Coli Holding Time - IDEXX Colilert  
Sample exceeded hold time, continued with analyses per customer request.  
AB01452-A E. coli  
Sample exceeded hold time, continued with analysis per customer request.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01452-A	E. coli	√	SM 9223B-2004	6900	MPN/100 mL	*H	1	47126	4/13/16	12:31	KAB/RSC
AB01452-A	E. Coli Holding Time - IDEXX Colilert		NA	8.13	hours	*	0.00	47125	4/13/16	12:31	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47126

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

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**Sample Location:** HCS 260 PEAK 2  
**Sample Number:** AB01453  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 04:42  
**Receipt Date/Time:** 4/13/16 11:38

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01453-A	E. coli	√	SM 9223B-2004	7300	MPN/100 mL		1	47126	4/13/16	12:31	KAB/RSC
AB01453-A	E. Coli Holding Time - IDEXX Colilert		NA	7.82	hours		0.00	47125	4/13/16	12:31	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47126

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

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**Sample Location:** HCS 270 PEAK 2  
**Sample Number:** AB01454  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 04:29  
**Receipt Date/Time:** 4/13/16 11:38

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time.

**Analysis Comments:** **AB01454-A** E. Coli Holding Time - IDEXX Colilert  
Sample exceeded hold time, continued with analyses per customer request.  
**AB01454-A** E. coli  
Sample exceeded hold time, continued with analysis per customer request.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01454-A	E. coli	√	SM 9223B-2004	4600	MPN/100 mL	*H	1	47126	4/13/16	12:31	KAB/RSC
AB01454-A	E. Coli Holding Time - IDEXX Colilert		NA	8.03	hours	*	0.00	47125	4/13/16	12:31	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47126

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Client:** SWCA

Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

This analytical report is intended exclusively for the individual or entity to which it is addressed. Recipient is not authorized to print or copy this report, except in full without written approval of the laboratory. If you have received this report in error, please notify the San Antonio River Authority.

**Sample Location:** HCS 210 TRAIL  
**Sample Number:** AB01455  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 08:37  
**Receipt Date/Time:** 4/13/16 11:38

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01455-A	E. coli	√	SM 9223B-2004	1700	MPN/100 mL		1	47124	4/13/16	12:51	KAB/RSC
AB01455-A	E. Coli Holding Time - IDEXX Colilert		NA	4.23	hours		0.00	47123	4/13/16	12:51	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47124

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Client:** SWCA

Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HCS 240 TRAIL  
**Sample Number:** AB01456  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 08:52  
**Receipt Date/Time:** 4/13/16 11:38

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01456-A	E. coli	√	SM 9223B-2004	1200	MPN/100 mL		1	47124	4/13/16	12:51	KAB/RSC
AB01456-A	E. Coli Holding Time - IDEXX Colilert		NA	3.98	hours		0.00	47123	4/13/16	12:51	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47124

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



May 05, 2016

Page 1 of 2

**Client:** SWCA

Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HCS 250 TRAIL  
**Sample Number:** AB01457  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 08:16  
**Receipt Date/Time:** 4/13/16 11:38

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01457-A	E. coli	√	SM 9223B-2004	2900	MPN/100 mL		1	47124	4/13/16	12:51	KAB/RSC
AB01457-A	E. Coli Holding Time - IDEXX Colilert		NA	4.58	hours		0.00	47123	4/13/16	12:51	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47124

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HCS 260 TRAIL  
**Sample Number:** AB01458  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 09:14  
**Receipt Date/Time:** 4/13/16 11:38

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

**Sample Comments:** Per customer analyze regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01458-A	E. coli	√	SM 9223B-2004	1300	MPN/100 mL		1	47124	4/13/16	12:51	KAB/RSC
AB01458-A	E. Coli Holding Time - IDEXX Colilert		NA	3.62	hours		0.00	47123	4/13/16	12:51	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47124

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Client:** SWCA

Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

This analytical report is intended exclusively for the individual or entity to which it is addressed. Recipient is not authorized to print or copy this report, except in full without written approval of the laboratory. If you have received this report in error, please notify the San Antonio River Authority.

**Sample Location:** FDHCS 260 TRAIL  
**Sample Number:** AB01459  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 09:14  
**Receipt Date/Time:** 4/13/16 11:38

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01459-A	E. coli	√	SM 9223B-2004	1400	MPN/100 mL		1	47124	4/13/16	12:51	KAB/RSC
AB01459-A	E. Coli Holding Time - IDEXX Colilert		NA	3.62	hours		0.00	47123	4/13/16	12:51	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47124

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

**Client:** SWCA

Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HCS 270 TRAIL  
**Sample Number:** AB01460  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 08:43  
**Receipt Date/Time:** 4/13/16 11:38

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01460-A	E. coli	√	SM 9223B-2004	3100	MPN/100 mL		1	47124	4/13/16	12:51	KAB/RSC
AB01460-A	E. Coli Holding Time - IDEXX Colilert		NA	4.13	hours		0.00	47123	4/13/16	12:51	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47124

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



May 05, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** FDHCS 270 TRAIL  
**Sample Number:** AB01461  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 4/13/16 08:43  
**Receipt Date/Time:** 4/13/16 11:38

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer analyze regardless of hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB01461-A	E. coli	√	SM 9223B-2004	3400	MPN/100 mL		1	47124	4/13/16	12:51	KAB/RSC
AB01461-A	E. Coli Holding Time - IDEXX Colilert		NA	4.13	hours		0.00	47123	4/13/16	12:51	KAB/RSC

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-47124

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-60893-1

Client Project/Site: 2016 - Stormwater Sampling

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
5/17/2016 3:11:37 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

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Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

# Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

### GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

## Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

## General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
B	Compound was found in the blank and sample.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio



## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

### Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Job ID: 560-60893-1**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

### Job Narrative 560-60893-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 4/14/2016 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 22 coolers at receipt time were 0.4° C, 0.4° C, 0.6° C, 0.7° C, 1.1° C, 1.1° C, 1.2° C, 1.2° C, 1.6° C, 1.6° C, 1.7° C, 2.1° C, 2.1° C, 2.2° C, 2.3° C, 2.5° C, 2.7° C, 2.8° C, 3.3° C, 3.4° C, 3.6° C and 4.7° C.

#### Receipt Exceptions

Containers for metals analysis were not received. Per client request, samples were poured off from 2 unpreserved 250mL amber containers into 2 - 250mL nitric preserved containers.

HCS210 LEAD (560-60893-1), HCS240 LEAD (560-60893-2), HCS250 LEAD (560-60893-3), HCS260 LEAD (560-60893-4), HCS270 LEAD (560-60893-5), TB06 (560-60893-6), HCS210 PEAK (560-60893-7), HCS240 PEAK (560-60893-8), HCS250 PEAK (560-60893-9), HCS260 PEAK (560-60893-10), HCS270 PEAK (560-60893-11), HCS210 PEAK (560-60893-12), HCS240 PEAK (560-60893-13), HCS250 PEAK (560-60893-14), HCS260 PEAK (560-60893-15), HCS270 PEAK (560-60893-16), HCS210 TRAIL (560-60893-17), HCS210 TRAIL (560-60893-17[MS]), HCS210 TRAIL (560-60893-17[MSD]), HCS240 TRAIL (560-60893-18), HCS250 TRAIL (560-60893-19), HCS260 TRAIL (560-60893-20), FDHCS260 TRAIL (560-60893-21), HCS270 TRAIL (560-60893-22) and FDHCS270 TRAIL (560-60893-23)

#### GC/MS VOA

Method 8260: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with sample 560-60893-17 were outside acceptable limits for Ethylene Oxide and 3,3-Dichlorobenzene. The LCS was within acceptable limits. Therefore, data are reported.

Method 8260: The relative percent deviation (RPD) was outside acceptable limits for Cyclohexane, 1,4-Dioxane and 4-Chloroaniline in the MS/MSD pair associated with sample 560-60893-17. The LCS was within acceptable limits. Therefore, data are reported.

Method 8260: The relative percent deviation (RPD) was outside acceptable limits for Acetonitrile, 1,4-Dioxane, Isobutyl Alcohol and 2-Nitropropane in the MS/MSD pair associated with batch 126945. The LCS was within acceptable limits. Therefore, data are reported.

Method 8260: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 126945 were outside acceptable limits for Ethylene Oxide, Isooctane and 2-Nitropropane. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method 8081: Percent recovery results for the MS, the MSD or the MS/MSD pair associated with sample 560-60893-17 were outside acceptable limits for Aldrin and 4,4-DDE. The LCS was within acceptable limits. Therefore, data are reported.

Method 8081: The relative percent deviation (RPD) was outside acceptable limits for 4,4-DDE and 4,4-DDT in the MS/MSD pair associated with sample 560-60893-17. The LCS was within acceptable limits. Therefore, data are reported.

Method 8082: The relative percent deviation (RPD) was outside acceptable limits for Aroclor 1260 in the MS/MSD pair associated with sample 560-60893-17. The LCS was within acceptable limits. Therefore, data are reported.

Method 8270: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 126982 were outside acceptable limits for 3,3-Dichlorobenzidine. The LCS was within acceptable limits. Therefore, data are reported.

Method 8027: The relative percent deviation (RPD) was outside acceptable limits for 4-Chloroaniline in the MS/MSD pair associated with batch 126982. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC Semi VOA

## Case Narrative

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

### Job ID: 560-60893-1 (Continued)

#### Laboratory: TestAmerica Corpus Christi (Continued)

Method 8141A: The grand mean exception, as outlined in EPA method 8000B, was applied to the continuing calibration verification (CCV) standard associated with batch 280-321945. This rule states that when one or more compounds in the CCV fail to meet acceptance criteria, the initial calibration (ICAL) may be used for quantitation if the average %D (the grand mean) of all the compounds in the CCV is less than or equal to 15%D. The affected analytes are reported from the confirmation column. Dichlorvos and mevinphos are ND in the associated samples and chlormefos is within control limits.

8141 / A-321945 / P321359

#### CCV1

Primary: chlormefos +18%, dichlorvos +18%, mevinphos +18% (avg = 10%)

Confirmation: OK for all

---MB, LCS, 560-60839-1, 2, 3, 4, 5, 7, 8, 9, 10

CCV2: OK for all

---560-60839-11, 17, 17MS, 17MSD, 18, 19, 20, 21, 22, 23

CCV3: OK for all

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method 6020: The continuing calibration verification (CCV) associated with batch 560-127077 recovered above the upper control limit for As, Be. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: HCS210 LEAD (560-60893-1), HCS240 LEAD (560-60893-2), HCS250 LEAD (560-60893-3), HCS260 LEAD (560-60893-4), HCS270 LEAD (560-60893-5), HCS210 PEAK (560-60893-7), HCS240 PEAK (560-60893-8), HCS250 PEAK (560-60893-9), HCS260 PEAK (560-60893-10), HCS270 PEAK (560-60893-11) and (560-60893-L-17-A SD).

Method 6020: The continuing calibration verification (CCV) associated with batch 560-127077 recovered above the upper control limit for Be. The samples associated with this CCV were non-detects for the affected analytes, therefore, the data have been reported. The following samples are impacted: HCS210 TRAIL (560-60893-17), HCS210 TRAIL (560-60893-17[MS]), HCS210 TRAIL (560-60893-17[MSD]), (LCS 560-127043/2-A) and (MB 560-127043/1-A).

Method 7470A: The method blank for preparation batch 560-127318 and analytical batch 560-127319 contained Hg above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 7470A: The method blank for preparation batch 560-127178 and 560-127318 and analytical batch 560-127319 contained Hg above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 6020: The method blank for preparation batch 560-127178 and 560-127043 and analytical batch 560-127077 contained Se above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method 9040C: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples have been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe. 560-60893-1,2,3,4,5,7,8,9,10,11,17,18,19,20,21,22 and 23.

Method 300.0: The method blank for Analytical Batch # 126986 contained chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method 3510C/8141A: The following sample formed emulsions during the extraction procedure: HCS210 LEAD (560-60893-1). The

## Case Narrative

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

### Job ID: 560-60893-1 (Continued)

#### Laboratory: TestAmerica Corpus Christi (Continued)

emulsions were broken up using a centrifuge on the first extraction and a pour back method on the second extraction. (analytical batch 280-321359)

Method 3510C: The following samples formed emulsions during the extraction procedure: HCS210 PEAK (560-60893-7), HCS210 TRAIL (560-60893-17), HCS210 TRAIL (560-60893-17[MS]) and HCS210 TRAIL (560-60893-17[MSD]). The emulsions were broken up using a centrifuge on the first extraction.

Method 3520C: Elevated reporting limits are provided for the following sample 560-60893-3 due to insufficient sample provided for 3520c preparation/analysis: 560-60893 Batch 126979

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Client Sample ID: HCS210 LEAD

## Lab Sample ID: 560-60893-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	47.2		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	9.01		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	2.53		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	3.26		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	5.92		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.370		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	32.1		5.00	0.810	ug/L	1			6020	Dissolved
Copper	2.82	J	10.0	2.00	ug/L	1			6020	Dissolved
Selenium	3.45	J B	5.00	1.08	ug/L	1			6020	Dissolved
Bromide	0.508	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	9.12		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	0.923		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	11.8		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.112		0.100	0.0200	mg/L	1			340.2	Total/NA
Phosphorus	0.239		0.100	0.0410	mg/L	1			365.4	Total/NA
Total Organic Carbon	5.73		1.00	0.285	mg/L	1			9060	Total/NA
Dissolved Organic Carbon	5.84		1.00	0.285	mg/L	1			9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.20	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	118		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	118		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	71.0		10.0	10.0	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	24.0		3.00	3.00	mg/L	1			SM 2540D	Total/NA

## Client Sample ID: HCS240 LEAD

## Lab Sample ID: 560-60893-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	79.8		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	15.4		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.47		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	5.35		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	10.1		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.593		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	52.9		5.00	0.810	ug/L	1			6020	Dissolved
Selenium	4.32	J B	5.00	1.08	ug/L	1			6020	Dissolved
Bromide	0.540	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	16.7		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.77		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	23.5		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.183		0.100	0.0200	mg/L	1			340.2	Total/NA
Phosphorus	0.0742	J	0.100	0.0410	mg/L	1			365.4	Total/NA
Total Organic Carbon	1.40		1.00	0.285	mg/L	1			9060	Total/NA
Dissolved Organic Carbon	0.629	J	1.00	0.285	mg/L	1			9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.31	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	217		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	217		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	308		10.0	10.0	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	3.20		3.00	3.00	mg/L	1			SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Client Sample ID: HCS250 LEAD

## Lab Sample ID: 560-60893-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	73.2		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	13.9		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.61		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.76		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	9.14		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.532		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	45.9		5.00	0.810	ug/L	1		6020	Dissolved
Selenium	1.43	J B	5.00	1.08	ug/L	1		6020	Dissolved
Bromide	0.541	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	16.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.63		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	22.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.171		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0698	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	1.58		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.72		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.38	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	206		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	206		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	283		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	10.6		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HCS260 LEAD

## Lab Sample ID: 560-60893-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	80.6		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.5		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.43		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.37		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.8		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.603		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	53.1		5.00	0.810	ug/L	1		6020	Dissolved
Bromide	0.545	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.76		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	26.3		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.197		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0598	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.746	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.01		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.47	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	217		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	217		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	321		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.40		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HCS270 LEAD

## Lab Sample ID: 560-60893-5

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Client Sample ID: HCS270 LEAD (Continued)

## Lab Sample ID: 560-60893-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2,4-D	0.255	J	0.476	0.0352	ug/L	1		8151A	Total/NA
Calcium	81.5		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.9		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.39		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.37		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.8		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.614		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	53.9		5.00	0.810	ug/L	1		6020	Dissolved
Selenium	1.14	J B	5.00	1.08	ug/L	1		6020	Dissolved
Bromide	0.549	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.77		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	26.1		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.196		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.810	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.874	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.54	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	211		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	211		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	331		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	6.00		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: TB06

## Lab Sample ID: 560-60893-6

No Detections.

## Client Sample ID: HCS210 PEAK

## Lab Sample ID: 560-60893-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	14.1		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	1.10		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.89		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	1.17		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	0.584	J	1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.0408		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	6.62		5.00	0.810	ug/L	1		6020	Dissolved
Selenium	1.68	J B	5.00	1.08	ug/L	1		6020	Dissolved
Chloride	1.27		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.492	J	0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	0.864	J	1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.0452	J	0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.212		0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	5.18		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	6.16		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.66	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	40.6		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	40.6		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	75.0		10.0	10.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Client Sample ID: HCS210 PEAK (Continued)

Lab Sample ID: 560-60893-7

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	17.2		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HCS240 PEAK

Lab Sample ID: 560-60893-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2,4-D	0.0677	J	0.474	0.0351	ug/L	1		8151A	Total/NA
Calcium	75.6		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.5		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.80		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.33		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	9.54		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.556		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	51.3		5.00	0.810	ug/L	1		6020	Dissolved
Selenium	1.23	J B	5.00	1.08	ug/L	1		6020	Dissolved
Bromide	0.537	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	15.8		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.67		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	22.2		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.171		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.171		0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	3.17		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.964	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.36	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	204		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	204		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	300		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	5.00		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HCS250 PEAK

Lab Sample ID: 560-60893-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2,4-D	0.227	J	0.611	0.0452	ug/L	1		8151A	Total/NA
Silicon	4.69		0.500	0.0707	mg/L	1		6010B	Dissolved
Strontium	0.501		0.00500	0.000700	mg/L	1		6010B	Dissolved
Calcium	72.2		0.200	0.101	mg/L	1		6010B	Dissolved
Potassium	1.67		0.500	0.375	mg/L	1		6010B	Dissolved
Magnesium	12.9		0.200	0.0257	mg/L	1		6010B	Dissolved
Sodium	8.97		1.00	0.310	mg/L	1		6010B	Dissolved
Barium	46.8		5.00	0.810	ug/L	1		6020	Dissolved
Lead	1.11	J	5.00	0.733	ug/L	1		6020	Dissolved
Zinc	5.06	J	25.0	3.55	ug/L	1		6020	Dissolved
Aluminum	98.0	J	100	50.0	ug/L	1		6020	Dissolved
Mercury	0.000215	J B	0.00200	0.000130	mg/Kg	1		7470A	Dissolved
Bromide	0.528	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	13.5		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.41		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	18.8		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.162		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0642	J	0.100	0.0410	mg/L	1		365.4	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Client Sample ID: HCS250 PEAK (Continued)

## Lab Sample ID: 560-60893-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	2.06		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.54		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.42	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	174		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	174		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	269		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	18.2		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HCS260 PEAK

## Lab Sample ID: 560-60893-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	81.3		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.6		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.60		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.30		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	13.8		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.606		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	55.6		5.00	0.810	ug/L	1		6020	Dissolved
Lead	2.64	J	5.00	0.733	ug/L	1		6020	Dissolved
Selenium	2.05	J B	5.00	1.08	ug/L	1		6020	Dissolved
Bromide	0.554	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.9		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.69		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	29.0		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.196		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.327	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.930	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.44	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	216		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	216		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	332		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.60		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HCS270 PEAK

## Lab Sample ID: 560-60893-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2,4-D	0.216	J	0.480	0.0355	ug/L	1		8151A	Total/NA
Calcium	75.7		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.4		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.61		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.99		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.6		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.562		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	52.1		5.00	0.810	ug/L	1		6020	Dissolved
Selenium	1.51	J B	5.00	1.08	ug/L	1		6020	Dissolved
Bromide	0.538	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	15.7		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.60		0.500	0.103	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Client Sample ID: HCS270 PEAK (Continued)

## Lab Sample ID: 560-60893-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	24.1		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.180		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0452	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.890	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.33		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.51	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	198		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	198		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	296		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	7.00		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HCS210 TRAIL

## Lab Sample ID: 560-60893-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	54.0		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	10.6		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.26		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	3.84		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	7.16		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.440		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	35.9		5.00	0.810	ug/L	1		6020	Dissolved
Lead	2.76	J	5.00	0.733	ug/L	1		6020	Dissolved
Nickel	5.42		5.00	2.17	ug/L	1		6020	Dissolved
Bromide	0.515	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	11.4		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.867		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	14.9		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.141		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0851	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	3.74		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	3.02		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.46	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	150		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	220		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	13.2		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HCS240 TRAIL

## Lab Sample ID: 560-60893-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	81.3		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.7		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.47		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.54		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.5		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.662		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	54.9		5.00	0.810	ug/L	1		6020	Dissolved
Selenium	3.05	J	5.00	1.08	ug/L	1		6020	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Client Sample ID: HCS240 TRAIL (Continued)

## Lab Sample ID: 560-60893-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bromide	0.545	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.75		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.2		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.201		0.100	0.0200	mg/L	1		340.2	Total/NA
Dissolved Organic Carbon	0.589	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.39	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	220		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	220		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	306		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HCS250 TRAIL

## Lab Sample ID: 560-60893-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	79.0		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.1		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.77		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.48		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.2		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.642		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	50.4		5.00	0.810	ug/L	1		6020	Dissolved
Selenium	1.13	J	5.00	1.08	ug/L	1		6020	Dissolved
Bromide	0.544	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	16.6		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.67		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.1		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.185		0.100	0.0200	mg/L	1		340.2	Total/NA
Dissolved Organic Carbon	0.627	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.46	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	214		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	214		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	302		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HCS260 TRAIL

## Lab Sample ID: 560-60893-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	81.0		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.7		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.93		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.10		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	19.9		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.651		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	56.8		5.00	0.810	ug/L	1		6020	Dissolved
Selenium	1.70	J	5.00	1.08	ug/L	1		6020	Dissolved
Bromide	0.588	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	21.1		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.53		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	39.9		1.00	0.377	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Client Sample ID: HCS260 TRAIL (Continued)

## Lab Sample ID: 560-60893-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.214		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.599	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.819	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.47	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	219		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	219		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	340		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	5.40		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: FDHCS260 TRAIL

## Lab Sample ID: 560-60893-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	81.6		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.6		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.98		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.16		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	20.0		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.658		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	57.5		5.00	0.810	ug/L	1		6020	Dissolved
Selenium	2.77	J	5.00	1.08	ug/L	1		6020	Dissolved
Bromide	0.590	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	21.1	B	1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.53		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	39.8		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.213		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0551	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.666	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.635	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.48	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	221		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	221		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	345		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.20		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HCS270 TRAIL

## Lab Sample ID: 560-60893-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	76.8		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.6		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.77		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.18		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	12.8		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.623		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	50.6		5.00	0.810	ug/L	1		6020	Dissolved
Selenium	2.24	J	5.00	1.08	ug/L	1		6020	Dissolved
Bromide	0.551	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.3	B	1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.67		0.500	0.103	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Client Sample ID: HCS270 TRAIL (Continued)

## Lab Sample ID: 560-60893-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	27.3		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.202		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0446	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.464	J	1.00	0.285	mg/L	1		9060	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.57	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	212		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	212		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	311		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.80		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: FDHCS270 TRAIL

## Lab Sample ID: 560-60893-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	76.2		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.4		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.75		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.16		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	12.7		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.619		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	52.1		5.00	0.810	ug/L	1		6020	Dissolved
Selenium	2.27	J	5.00	1.08	ug/L	1		6020	Dissolved
Mercury	0.000205	J B	0.00200	0.000130	mg/L	1		7470A	Dissolved
Bromide	0.551	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.2	B	1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.66		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	27.2		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.103		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.491	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.390	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.61	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	214		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	214		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	321		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.80		3.00	3.00	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 LEAD**

**Lab Sample ID: 560-60893-1**

**Date Collected: 04/12/16 23:20**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/14/16 15:44	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/14/16 15:44	1
Benzene	0.330	U	1.00	0.330	ug/L			04/14/16 15:44	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/14/16 15:44	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 15:44	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/14/16 15:44	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/14/16 15:44	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/14/16 15:44	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/14/16 15:44	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/14/16 15:44	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/14/16 15:44	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/14/16 15:44	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/14/16 15:44	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/14/16 15:44	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/14/16 15:44	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/14/16 15:44	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/14/16 15:44	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/14/16 15:44	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/14/16 15:44	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/14/16 15:44	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/14/16 15:44	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 15:44	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/14/16 15:44	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/14/16 15:44	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/14/16 15:44	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/14/16 15:44	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/14/16 15:44	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/14/16 15:44	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/14/16 15:44	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 15:44	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/14/16 15:44	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/14/16 15:44	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/14/16 15:44	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/14/16 15:44	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/14/16 15:44	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/14/16 15:44	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/14/16 15:44	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/14/16 15:44	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/14/16 15:44	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/14/16 15:44	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/14/16 15:44	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/14/16 15:44	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/14/16 15:44	1
EDB	0.175	U	1.00	0.175	ug/L			04/14/16 15:44	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/14/16 15:44	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 15:44	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/14/16 15:44	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/14/16 15:44	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/14/16 15:44	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 LEAD**

**Lab Sample ID: 560-60893-1**

**Date Collected: 04/12/16 23:20**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/14/16 15:44	1
Hexane	2.00	U	5.00	2.00	ug/L			04/14/16 15:44	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/14/16 15:44	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/14/16 15:44	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/14/16 15:44	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/14/16 15:44	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/14/16 15:44	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/14/16 15:44	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/14/16 15:44	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/14/16 15:44	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/14/16 15:44	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/14/16 15:44	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/14/16 15:44	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/14/16 15:44	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/14/16 15:44	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 15:44	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/14/16 15:44	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/14/16 15:44	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/14/16 15:44	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/14/16 15:44	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/14/16 15:44	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/14/16 15:44	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/14/16 15:44	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/14/16 15:44	1
Styrene	0.200	U	1.00	0.200	ug/L			04/14/16 15:44	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 15:44	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/14/16 15:44	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/14/16 15:44	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/14/16 15:44	1
Toluene	0.495	U	1.00	0.495	ug/L			04/14/16 15:44	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 15:44	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/14/16 15:44	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/14/16 15:44	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/14/16 15:44	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/14/16 15:44	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/14/16 15:44	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/14/16 15:44	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/14/16 15:44	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/14/16 15:44	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/14/16 15:44	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/14/16 15:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/14/16 15:44	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 15:44	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 15:44	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/14/16 15:44	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/14/16 15:44	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/14/16 15:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		04/14/16 15:44	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 LEAD**

**Lab Sample ID: 560-60893-1**

**Date Collected: 04/12/16 23:20**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	102		69 - 130		04/14/16 15:44	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 140		04/14/16 15:44	1
Toluene-d8 (Surr)	101		70 - 130		04/14/16 15:44	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/15/16 11:54	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/15/16 11:54	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/15/16 11:54	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/15/16 11:54	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/15/16 11:54	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/15/16 11:54	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/15/16 11:54	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/15/16 11:54	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/15/16 11:54	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/15/16 11:54	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/15/16 11:54	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/15/16 11:54	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/15/16 11:54	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/15/16 11:54	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 11:54	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/15/16 11:54	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/15/16 11:54	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/15/16 11:54	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/15/16 11:54	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/15/16 11:54	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/15/16 11:54	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/15/16 11:54	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/15/16 11:54	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/15/16 11:54	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/15/16 11:54	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 11:54	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/15/16 11:54	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/15/16 11:54	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/15/16 11:54	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 11:54	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/15/16 11:54	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/15/16 11:54	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/15/16 11:54	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/15/16 11:54	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/15/16 11:54	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/15/16 11:54	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/15/16 11:54	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/15/16 11:54	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/15/16 11:54	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/15/16 11:54	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/15/16 11:54	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 11:54	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/15/16 11:54	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 LEAD**

**Lab Sample ID: 560-60893-1**

**Date Collected: 04/12/16 23:20**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 11:54	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/15/16 11:54	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/15/16 11:54	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/15/16 11:54	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 11:54	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/15/16 11:54	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/15/16 11:54	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/15/16 11:54	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/15/16 11:54	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/15/16 11:54	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/15/16 11:54	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/15/16 11:54	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/15/16 11:54	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/15/16 11:54	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/15/16 11:54	1
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/15/16 11:54	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/15/16 11:54	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/15/16 11:54	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/15/16 11:54	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/15/16 11:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	62		23 - 130	04/14/16 17:16	04/15/16 11:54	1
2-Fluorophenol	63		10 - 130	04/14/16 17:16	04/15/16 11:54	1
Nitrobenzene-d5	66		27 - 130	04/14/16 17:16	04/15/16 11:54	1
Phenol-d5	68		10 - 130	04/14/16 17:16	04/15/16 11:54	1
Terphenyl-d14	20		10 - 141	04/14/16 17:16	04/15/16 11:54	1
2,4,6-Tribromophenol	73		18 - 130	04/14/16 17:16	04/15/16 11:54	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00486	U	0.0583	0.00486	ug/L		04/15/16 08:31	04/15/16 16:10	1
alpha-BHC	0.00506	U	0.0583	0.00506	ug/L		04/15/16 08:31	04/15/16 16:10	1
alpha-Chlordane	0.00613	U	0.0583	0.00613	ug/L		04/15/16 08:31	04/15/16 16:10	1
beta-BHC	0.00486	U	0.0583	0.00486	ug/L		04/15/16 08:31	04/15/16 16:10	1
4,4'-DDD	0.00486	U	0.0583	0.00486	ug/L		04/15/16 08:31	04/15/16 16:10	1
4,4'-DDE	0.00486	U	0.0583	0.00486	ug/L		04/15/16 08:31	04/15/16 16:10	1
4,4'-DDT	0.00788	U	0.0583	0.00788	ug/L		04/15/16 08:31	04/15/16 16:10	1
delta-BHC	0.00486	U	0.0583	0.00486	ug/L		04/15/16 08:31	04/15/16 16:10	1
Dieldrin	0.0126	U	0.0583	0.0126	ug/L		04/15/16 08:31	04/15/16 16:10	1
Endosulfan I	0.00486	U	0.0583	0.00486	ug/L		04/15/16 08:31	04/15/16 16:10	1
Endosulfan II	0.00836	U	0.0583	0.00836	ug/L		04/15/16 08:31	04/15/16 16:10	1
Endosulfan sulfate	0.00856	U	0.0583	0.00856	ug/L		04/15/16 08:31	04/15/16 16:10	1
Endrin	0.00749	U	0.0583	0.00749	ug/L		04/15/16 08:31	04/15/16 16:10	1
Endrin aldehyde	0.00486	U	0.0583	0.00486	ug/L		04/15/16 08:31	04/15/16 16:10	1
Endrin ketone	0.00797	U	0.0583	0.00797	ug/L		04/15/16 08:31	04/15/16 16:10	1
gamma-BHC (Lindane)	0.00438	U	0.0583	0.00438	ug/L		04/15/16 08:31	04/15/16 16:10	1
gamma-Chlordane	0.00651	U	0.0583	0.00651	ug/L		04/15/16 08:31	04/15/16 16:10	1
Heptachlor	0.00632	U	0.0583	0.00632	ug/L		04/15/16 08:31	04/15/16 16:10	1
Heptachlor epoxide	0.00506	U	0.0583	0.00506	ug/L		04/15/16 08:31	04/15/16 16:10	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 LEAD**

**Lab Sample ID: 560-60893-1**

**Date Collected: 04/12/16 23:20**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	0.00972	U	0.0583	0.00972	ug/L		04/15/16 08:31	04/15/16 16:10	1
Toxaphene	0.661	U	5.83	0.661	ug/L		04/15/16 08:31	04/15/16 16:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	41		10 - 152				04/15/16 08:31	04/15/16 16:10	1
DCB Decachlorobiphenyl	58		10 - 152				04/15/16 08:31	04/15/16 16:10	1
Tetrachloro-m-xylene	88		57 - 127				04/15/16 08:31	04/15/16 16:10	1
Tetrachloro-m-xylene	68		57 - 127				04/15/16 08:31	04/15/16 16:10	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.107	U	0.583	0.107	ug/L		04/15/16 08:31	04/15/16 16:19	1
Aroclor 1221	0.107	U	0.583	0.107	ug/L		04/15/16 08:31	04/15/16 16:19	1
Aroclor 1232	0.428	U	0.778	0.428	ug/L		04/15/16 08:31	04/15/16 16:19	1
Aroclor 1242	0.107	U	0.583	0.107	ug/L		04/15/16 08:31	04/15/16 16:19	1
Aroclor 1248	0.107	U	0.583	0.107	ug/L		04/15/16 08:31	04/15/16 16:19	1
Aroclor 1254	0.107	U	0.583	0.107	ug/L		04/15/16 08:31	04/15/16 16:19	1
Aroclor 1260	0.107	U	0.583	0.107	ug/L		04/15/16 08:31	04/15/16 16:19	1
Aroclor 1262	0.107	U	0.583	0.107	ug/L		04/15/16 08:31	04/15/16 16:19	1
Aroclor 1268	0.107	U	0.583	0.107	ug/L		04/15/16 08:31	04/15/16 16:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	117		10 - 150				04/15/16 08:31	04/15/16 16:19	1
DCB Decachlorobiphenyl	83		10 - 150				04/15/16 08:31	04/15/16 16:19	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.161	U	2.39	0.161	ug/L		04/18/16 19:27	04/21/16 23:47	1
Bolstar	0.300	U	0.957	0.300	ug/L		04/18/16 19:27	04/21/16 23:47	1
Chlorpyrifos	0.344	U	1.44	0.344	ug/L		04/18/16 19:27	04/21/16 23:47	1
Coumaphos	0.129	U	0.957	0.129	ug/L		04/18/16 19:27	04/21/16 23:47	1
Demeton-O	0.134	U	0.957	0.134	ug/L		04/18/16 19:27	04/21/16 23:47	1
Demeton-S	0.0660	U	1.91	0.0660	ug/L		04/18/16 19:27	04/21/16 23:47	1
Diazinon	0.141	U	0.478	0.141	ug/L		04/18/16 19:27	04/21/16 23:47	1
Dichlorvos	0.155	U	0.478	0.155	ug/L		04/18/16 19:27	04/21/16 23:47	1
Dimethoate	0.430	U	1.44	0.430	ug/L		04/18/16 19:27	04/21/16 23:47	1
Disulfoton	0.308	U	0.957	0.308	ug/L		04/18/16 19:27	04/21/16 23:47	1
EPN	0.143	U	1.15	0.143	ug/L		04/18/16 19:27	04/21/16 23:47	1
Ethoprop	0.169	U	1.44	0.169	ug/L		04/18/16 19:27	04/21/16 23:47	1
Ethyl Parathion	0.138	U	0.957	0.138	ug/L		04/18/16 19:27	04/21/16 23:47	1
Famphur	0.171	U	0.957	0.171	ug/L		04/18/16 19:27	04/21/16 23:47	1
Fensulfothion	0.521	U	2.39	0.521	ug/L		04/18/16 19:27	04/21/16 23:47	1
Fenthion	0.147	U	2.39	0.147	ug/L		04/18/16 19:27	04/21/16 23:47	1
Malathion	0.127	U	1.91	0.127	ug/L		04/18/16 19:27	04/21/16 23:47	1
Merphos	0.167	U	4.78	0.167	ug/L		04/18/16 19:27	04/21/16 23:47	1
Methyl parathion	0.135	U	3.83	0.135	ug/L		04/18/16 19:27	04/21/16 23:47	1
Mevinphos	0.440	U	5.93	0.440	ug/L		04/18/16 19:27	04/21/16 23:47	1
Naled	0.766	U	1.91	0.766	ug/L		04/18/16 19:27	04/21/16 23:47	1
Phorate	0.147	U	1.15	0.147	ug/L		04/18/16 19:27	04/21/16 23:47	1
Ronnel	0.111	U	9.57	0.111	ug/L		04/18/16 19:27	04/21/16 23:47	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 LEAD**

**Lab Sample ID: 560-60893-1**

**Date Collected: 04/12/16 23:20**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfotepp	0.161	U	1.44	0.161	ug/L		04/18/16 19:27	04/21/16 23:47	1
Tetrachlorvinphos (Stirophos)	0.119	U	3.35	0.119	ug/L		04/18/16 19:27	04/21/16 23:47	1
Thionazin	0.299	U	0.957	0.299	ug/L		04/18/16 19:27	04/21/16 23:47	1
Tokuthion	0.118	U	1.53	0.118	ug/L		04/18/16 19:27	04/21/16 23:47	1
Trichloronate	0.232	U	1.44	0.232	ug/L		04/18/16 19:27	04/21/16 23:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	82		49 - 171				04/18/16 19:27	04/21/16 23:47	1
Triphenylphosphate	93		60 - 154				04/18/16 19:27	04/21/16 23:47	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0969	U	4.85	0.0969	ug/L		04/19/16 08:29	04/20/16 20:46	1
Dicamba	0.0824	U	0.485	0.0824	ug/L		04/19/16 08:29	04/20/16 20:46	1
Mecoprop	18.4	U	116	18.4	ug/L		04/19/16 08:29	04/20/16 20:46	1
MCPA	16.5	U	116	16.5	ug/L		04/19/16 08:29	04/20/16 20:46	1
Dichlorprop	0.145	U	0.485	0.145	ug/L		04/19/16 08:29	04/20/16 20:46	1
2,4-D	0.0359	U	0.485	0.0359	ug/L		04/19/16 08:29	04/20/16 20:46	1
Silvex (2,4,5-TP)	0.0601	U	0.242	0.0601	ug/L		04/19/16 08:29	04/20/16 20:46	1
2,4,5-T	0.0601	U	0.242	0.0601	ug/L		04/19/16 08:29	04/20/16 20:46	1
2,4-DB	0.145	U	0.485	0.145	ug/L		04/19/16 08:29	04/20/16 20:46	1
Dinoseb	0.155	U	0.969	0.155	ug/L		04/19/16 08:29	04/20/16 20:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	107		45 - 130				04/19/16 08:29	04/20/16 20:46	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	47.2		0.200	0.101	mg/L		04/18/16 08:20	04/20/16 18:06	1
Magnesium	9.01		0.200	0.0257	mg/L		04/18/16 08:20	04/20/16 18:06	1
Potassium	2.53		0.500	0.375	mg/L		04/18/16 08:20	04/20/16 18:06	1
Silicon	3.26		0.500	0.0707	mg/L		04/18/16 08:20	04/20/16 18:06	1
Sodium	5.92		1.00	0.310	mg/L		04/18/16 08:20	04/20/16 18:06	1
Strontium	0.370		0.00500	0.000700	mg/L		04/18/16 08:20	04/20/16 18:06	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		04/18/16 08:20	04/18/16 16:33	1
Antimony	1.61	U	5.00	1.61	ug/L		04/18/16 08:20	04/18/16 16:33	1
Arsenic	1.09	U ^	5.00	1.09	ug/L		04/18/16 08:20	04/18/16 16:33	1
Barium	32.1		5.00	0.810	ug/L		04/18/16 08:20	04/18/16 16:33	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		04/18/16 08:20	04/18/16 16:33	1
Cadmium	0.854	U	2.00	0.854	ug/L		04/18/16 08:20	04/18/16 16:33	1
Chromium	1.40	U	5.00	1.40	ug/L		04/18/16 08:20	04/18/16 16:33	1
Copper	2.82	J	10.0	2.00	ug/L		04/18/16 08:20	04/18/16 16:33	1
Iron	101	U	250	101	ug/L		04/18/16 08:20	04/18/16 16:33	1
Lead	0.733	U	5.00	0.733	ug/L		04/18/16 08:20	04/18/16 16:33	1
Manganese	11.6	U	50.0	11.6	ug/L		04/18/16 08:20	04/18/16 16:33	1
Nickel	2.17	U	5.00	2.17	ug/L		04/18/16 08:20	04/18/16 16:33	1
Selenium	3.45	J B	5.00	1.08	ug/L		04/18/16 08:20	04/18/16 16:33	1
Silver	0.941	U	5.00	0.941	ug/L		04/18/16 08:20	04/18/16 16:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 LEAD**

**Lab Sample ID: 560-60893-1**

**Date Collected: 04/12/16 23:20**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.693	U	2.00	0.693	ug/L	-	04/18/16 08:20	04/18/16 16:33	1
Zinc	3.55	U	25.0	3.55	ug/L	-	04/18/16 08:20	04/18/16 16:33	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	04/20/16 10:00	04/20/16 16:25	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.508	J	1.00	0.315	mg/L	-		04/14/16 14:09	1
Chloride	9.12		1.00	0.192	mg/L	-		04/14/16 14:09	1
Nitrate as N	0.923		0.500	0.103	mg/L	-		04/14/16 14:09	1
Sulfate	11.8		1.00	0.377	mg/L	-		04/14/16 14:09	1
Fluoride	0.112		0.100	0.0200	mg/L	-		04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		04/19/16 12:07	1
Phosphorus	0.239		0.100	0.0410	mg/L	-	04/21/16 13:07	04/22/16 11:45	1
Total Organic Carbon	5.73		1.00	0.285	mg/L	-		04/19/16 13:45	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.20	HF	0.100	0.100	SU	-		04/21/16 09:57	1
Total Alkalinity as CaCO3	118		5.00	5.00	mg/L	-		04/18/16 14:00	1
Bicarbonate Alkalinity as CaCO3	118		5.00	5.00	mg/L	-		04/18/16 14:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		04/18/16 14:00	1
Total Dissolved Solids	71.0		10.0	10.0	mg/L	-		04/15/16 09:08	1
Total Suspended Solids	24.0		3.00	3.00	mg/L	-		04/18/16 16:35	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	5.84		1.00	0.285	mg/L	-		04/20/16 12:27	1

**Client Sample ID: HCS240 LEAD**

**Lab Sample ID: 560-60893-2**

**Date Collected: 04/12/16 23:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		04/15/16 14:59	1
Acetonitrile	10.0	U	50.0	10.0	ug/L	-		04/15/16 14:59	1
Benzene	0.330	U	1.00	0.330	ug/L	-		04/15/16 14:59	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L	-		04/15/16 14:59	1
Bromobenzene	0.128	U	1.00	0.128	ug/L	-		04/15/16 14:59	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L	-		04/15/16 14:59	1
Bromoform	0.500	U	5.00	0.500	ug/L	-		04/15/16 14:59	1
Bromomethane	0.392	U	5.00	0.392	ug/L	-		04/15/16 14:59	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L	-		04/15/16 14:59	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L	-		04/15/16 14:59	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L	-		04/15/16 14:59	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L	-		04/15/16 14:59	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L	-		04/15/16 14:59	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L	-		04/15/16 14:59	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L	-		04/15/16 14:59	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 LEAD**

**Lab Sample ID: 560-60893-2**

**Date Collected: 04/12/16 23:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	0.400	U	5.00	0.400	ug/L			04/15/16 14:59	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/15/16 14:59	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/15/16 14:59	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/15/16 14:59	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/15/16 14:59	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/15/16 14:59	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/15/16 14:59	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/15/16 14:59	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/15/16 14:59	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/15/16 14:59	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/15/16 14:59	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/15/16 14:59	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/15/16 14:59	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/15/16 14:59	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/15/16 14:59	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/15/16 14:59	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/15/16 14:59	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/15/16 14:59	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/15/16 14:59	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/15/16 14:59	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/15/16 14:59	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/15/16 14:59	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/15/16 14:59	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/15/16 14:59	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/15/16 14:59	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/15/16 14:59	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/15/16 14:59	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/15/16 14:59	1
EDB	0.175	U	1.00	0.175	ug/L			04/15/16 14:59	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/15/16 14:59	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/15/16 14:59	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/15/16 14:59	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/15/16 14:59	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/15/16 14:59	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/15/16 14:59	1
Hexane	2.00	U	5.00	2.00	ug/L			04/15/16 14:59	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/15/16 14:59	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/15/16 14:59	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/15/16 14:59	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/15/16 14:59	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/15/16 14:59	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/15/16 14:59	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/15/16 14:59	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/15/16 14:59	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/15/16 14:59	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/15/16 14:59	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/15/16 14:59	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/15/16 14:59	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/15/16 14:59	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 LEAD**

**Lab Sample ID: 560-60893-2**

**Date Collected: 04/12/16 23:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/15/16 14:59	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/15/16 14:59	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/15/16 14:59	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/15/16 14:59	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/15/16 14:59	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/15/16 14:59	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/15/16 14:59	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/15/16 14:59	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/15/16 14:59	1
Styrene	0.200	U	1.00	0.200	ug/L			04/15/16 14:59	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 14:59	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/15/16 14:59	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/15/16 14:59	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/15/16 14:59	1
Toluene	0.495	U	1.00	0.495	ug/L			04/15/16 14:59	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/15/16 14:59	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/15/16 14:59	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/15/16 14:59	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/15/16 14:59	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/15/16 14:59	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/15/16 14:59	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/15/16 14:59	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/15/16 14:59	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/15/16 14:59	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/15/16 14:59	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/15/16 14:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/15/16 14:59	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 14:59	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 14:59	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/15/16 14:59	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/15/16 14:59	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/15/16 14:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130		04/15/16 14:59	1
Dibromofluoromethane (Surr)	99		69 - 130		04/15/16 14:59	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		04/15/16 14:59	1
Toluene-d8 (Surr)	101		70 - 130		04/15/16 14:59	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/15/16 15:22	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/15/16 15:22	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/15/16 15:22	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/15/16 15:22	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/15/16 15:22	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/15/16 15:22	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/15/16 15:22	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/15/16 15:22	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/15/16 15:22	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 LEAD**

**Lab Sample ID: 560-60893-2**

**Date Collected: 04/12/16 23:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/15/16 15:22	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/15/16 15:22	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/15/16 15:22	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/15/16 15:22	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/15/16 15:22	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 15:22	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/15/16 15:22	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/15/16 15:22	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/15/16 15:22	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/15/16 15:22	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/15/16 15:22	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/15/16 15:22	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/15/16 15:22	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/15/16 15:22	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/15/16 15:22	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/15/16 15:22	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 15:22	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/15/16 15:22	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/15/16 15:22	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/15/16 15:22	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 15:22	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/15/16 15:22	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/15/16 15:22	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/15/16 15:22	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/15/16 15:22	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/15/16 15:22	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/15/16 15:22	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/15/16 15:22	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/15/16 15:22	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/15/16 15:22	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/15/16 15:22	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/15/16 15:22	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 15:22	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/15/16 15:22	1
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 15:22	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/15/16 15:22	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/15/16 15:22	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/15/16 15:22	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 15:22	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/15/16 15:22	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/15/16 15:22	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/15/16 15:22	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/15/16 15:22	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/15/16 15:22	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/15/16 15:22	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/15/16 15:22	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/15/16 15:22	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/15/16 15:22	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/15/16 15:22	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 LEAD**

**Lab Sample ID: 560-60893-2**

**Date Collected: 04/12/16 23:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/15/16 15:22	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/15/16 15:22	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/15/16 15:22	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/15/16 15:22	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/15/16 15:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	61		23 - 130				04/14/16 17:16	04/15/16 15:22	1
2-Fluorophenol	57		10 - 130				04/14/16 17:16	04/15/16 15:22	1
Nitrobenzene-d5	59		27 - 130				04/14/16 17:16	04/15/16 15:22	1
Phenol-d5	63		10 - 130				04/14/16 17:16	04/15/16 15:22	1
Terphenyl-d14	61		10 - 141				04/14/16 17:16	04/15/16 15:22	1
2,4,6-Tribromophenol	66		18 - 130				04/14/16 17:16	04/15/16 15:22	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00474	U	0.0569	0.00474	ug/L		04/15/16 08:31	04/15/16 16:35	1
alpha-BHC	0.00493	U	0.0569	0.00493	ug/L		04/15/16 08:31	04/15/16 16:35	1
alpha-Chlordane	0.00598	U	0.0569	0.00598	ug/L		04/15/16 08:31	04/15/16 16:35	1
beta-BHC	0.00474	U	0.0569	0.00474	ug/L		04/15/16 08:31	04/15/16 16:35	1
4,4'-DDD	0.00474	U	0.0569	0.00474	ug/L		04/15/16 08:31	04/15/16 16:35	1
4,4'-DDE	0.00474	U	0.0569	0.00474	ug/L		04/15/16 08:31	04/15/16 16:35	1
4,4'-DDT	0.00768	U	0.0569	0.00768	ug/L		04/15/16 08:31	04/15/16 16:35	1
delta-BHC	0.00474	U	0.0569	0.00474	ug/L		04/15/16 08:31	04/15/16 16:35	1
Dieldrin	0.0123	U	0.0569	0.0123	ug/L		04/15/16 08:31	04/15/16 16:35	1
Endosulfan I	0.00474	U	0.0569	0.00474	ug/L		04/15/16 08:31	04/15/16 16:35	1
Endosulfan II	0.00816	U	0.0569	0.00816	ug/L		04/15/16 08:31	04/15/16 16:35	1
Endosulfan sulfate	0.00835	U	0.0569	0.00835	ug/L		04/15/16 08:31	04/15/16 16:35	1
Endrin	0.00730	U	0.0569	0.00730	ug/L		04/15/16 08:31	04/15/16 16:35	1
Endrin aldehyde	0.00474	U	0.0569	0.00474	ug/L		04/15/16 08:31	04/15/16 16:35	1
Endrin ketone	0.00778	U	0.0569	0.00778	ug/L		04/15/16 08:31	04/15/16 16:35	1
gamma-BHC (Lindane)	0.00427	U	0.0569	0.00427	ug/L		04/15/16 08:31	04/15/16 16:35	1
gamma-Chlordane	0.00636	U	0.0569	0.00636	ug/L		04/15/16 08:31	04/15/16 16:35	1
Heptachlor	0.00617	U	0.0569	0.00617	ug/L		04/15/16 08:31	04/15/16 16:35	1
Heptachlor epoxide	0.00493	U	0.0569	0.00493	ug/L		04/15/16 08:31	04/15/16 16:35	1
Methoxychlor	0.00949	U	0.0569	0.00949	ug/L		04/15/16 08:31	04/15/16 16:35	1
Toxaphene	0.645	U	5.69	0.645	ug/L		04/15/16 08:31	04/15/16 16:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	42		10 - 152				04/15/16 08:31	04/15/16 16:35	1
DCB Decachlorobiphenyl	59		10 - 152				04/15/16 08:31	04/15/16 16:35	1
Tetrachloro-m-xylene	77		57 - 127				04/15/16 08:31	04/15/16 16:35	1
Tetrachloro-m-xylene	67		57 - 127				04/15/16 08:31	04/15/16 16:35	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 16:36	1
Aroclor 1221	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 16:36	1
Aroclor 1232	0.417	U	0.759	0.417	ug/L		04/15/16 08:31	04/15/16 16:36	1
Aroclor 1242	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 16:36	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 LEAD**

**Lab Sample ID: 560-60893-2**

**Date Collected: 04/12/16 23:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1248	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 16:36	1
Aroclor 1254	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 16:36	1
Aroclor 1260	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 16:36	1
Aroclor 1262	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 16:36	1
Aroclor 1268	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 16:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	116		10 - 150				04/15/16 08:31	04/15/16 16:36	1
DCB Decachlorobiphenyl	87		10 - 150				04/15/16 08:31	04/15/16 16:36	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.171	U	2.55	0.171	ug/L		04/18/16 19:27	04/22/16 00:18	1
Bolstar	0.320	U	1.02	0.320	ug/L		04/18/16 19:27	04/22/16 00:18	1
Chlorpyrifos	0.367	U	1.53	0.367	ug/L		04/18/16 19:27	04/22/16 00:18	1
Coumaphos	0.138	U	1.02	0.138	ug/L		04/18/16 19:27	04/22/16 00:18	1
Demeton-O	0.143	U	1.02	0.143	ug/L		04/18/16 19:27	04/22/16 00:18	1
Demeton-S	0.0704	U	2.04	0.0704	ug/L		04/18/16 19:27	04/22/16 00:18	1
Diazinon	0.150	U	0.510	0.150	ug/L		04/18/16 19:27	04/22/16 00:18	1
Dichlorvos	0.165	U	0.510	0.165	ug/L		04/18/16 19:27	04/22/16 00:18	1
Dimethoate	0.458	U	1.53	0.458	ug/L		04/18/16 19:27	04/22/16 00:18	1
Disulfoton	0.328	U	1.02	0.328	ug/L		04/18/16 19:27	04/22/16 00:18	1
EPN	0.152	U	1.22	0.152	ug/L		04/18/16 19:27	04/22/16 00:18	1
Ethoprop	0.181	U	1.53	0.181	ug/L		04/18/16 19:27	04/22/16 00:18	1
Ethyl Parathion	0.147	U	1.02	0.147	ug/L		04/18/16 19:27	04/22/16 00:18	1
Famphur	0.183	U	1.02	0.183	ug/L		04/18/16 19:27	04/22/16 00:18	1
Fensulfothion	0.555	U	2.55	0.555	ug/L		04/18/16 19:27	04/22/16 00:18	1
Fenthion	0.157	U	2.55	0.157	ug/L		04/18/16 19:27	04/22/16 00:18	1
Malathion	0.136	U	2.04	0.136	ug/L		04/18/16 19:27	04/22/16 00:18	1
Merphos	0.177	U	5.10	0.177	ug/L		04/18/16 19:27	04/22/16 00:18	1
Methyl parathion	0.144	U	4.08	0.144	ug/L		04/18/16 19:27	04/22/16 00:18	1
Mevinphos	0.469	U	6.32	0.469	ug/L		04/18/16 19:27	04/22/16 00:18	1
Naled	0.816	U	2.04	0.816	ug/L		04/18/16 19:27	04/22/16 00:18	1
Phorate	0.157	U	1.22	0.157	ug/L		04/18/16 19:27	04/22/16 00:18	1
Ronnel	0.118	U	10.2	0.118	ug/L		04/18/16 19:27	04/22/16 00:18	1
Sulfotepp	0.171	U	1.53	0.171	ug/L		04/18/16 19:27	04/22/16 00:18	1
Tetrachlorvinphos (Stirophos)	0.126	U	3.57	0.126	ug/L		04/18/16 19:27	04/22/16 00:18	1
Thionazin	0.318	U	1.02	0.318	ug/L		04/18/16 19:27	04/22/16 00:18	1
Tokuthion	0.125	U	1.63	0.125	ug/L		04/18/16 19:27	04/22/16 00:18	1
Trichloronate	0.247	U	1.53	0.247	ug/L		04/18/16 19:27	04/22/16 00:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	81		49 - 171				04/18/16 19:27	04/22/16 00:18	1
Triphenylphosphate	86		60 - 154				04/18/16 19:27	04/22/16 00:18	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0951	U	4.76	0.0951	ug/L		04/19/16 08:29	04/20/16 21:05	1
Dicamba	0.0809	U	0.476	0.0809	ug/L		04/19/16 08:29	04/20/16 21:05	1
Mecoprop	18.1	U	114	18.1	ug/L		04/19/16 08:29	04/20/16 21:05	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 LEAD**

**Lab Sample ID: 560-60893-2**

**Date Collected: 04/12/16 23:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MCPA	16.2	U	114	16.2	ug/L	-	04/19/16 08:29	04/20/16 21:05	1
Dichlorprop	0.143	U	0.476	0.143	ug/L	-	04/19/16 08:29	04/20/16 21:05	1
2,4-D	0.0352	U	0.476	0.0352	ug/L	-	04/19/16 08:29	04/20/16 21:05	1
Silvex (2,4,5-TP)	0.0590	U	0.238	0.0590	ug/L	-	04/19/16 08:29	04/20/16 21:05	1
2,4,5-T	0.0590	U	0.238	0.0590	ug/L	-	04/19/16 08:29	04/20/16 21:05	1
2,4-DB	0.143	U	0.476	0.143	ug/L	-	04/19/16 08:29	04/20/16 21:05	1
Dinoseb	0.152	U	0.951	0.152	ug/L	-	04/19/16 08:29	04/20/16 21:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	84		45 - 130	04/19/16 08:29	04/20/16 21:05	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	79.8		0.200	0.101	mg/L	-	04/18/16 08:20	04/20/16 18:18	1
Magnesium	15.4		0.200	0.0257	mg/L	-	04/18/16 08:20	04/20/16 18:18	1
Potassium	1.47		0.500	0.375	mg/L	-	04/18/16 08:20	04/20/16 18:18	1
Silicon	5.35		0.500	0.0707	mg/L	-	04/18/16 08:20	04/20/16 18:18	1
Sodium	10.1		1.00	0.310	mg/L	-	04/18/16 08:20	04/20/16 18:18	1
Strontium	0.593		0.00500	0.000700	mg/L	-	04/18/16 08:20	04/20/16 18:18	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Antimony	1.61	U	5.00	1.61	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Arsenic	1.09	U ^	5.00	1.09	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Barium	52.9		5.00	0.810	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Beryllium	1.24	U ^	4.00	1.24	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Cadmium	0.854	U	2.00	0.854	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Chromium	1.40	U	5.00	1.40	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Copper	2.00	U	10.0	2.00	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Iron	101	U	250	101	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Lead	0.733	U	5.00	0.733	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Manganese	11.6	U	50.0	11.6	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Nickel	2.17	U	5.00	2.17	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Selenium	4.32	J B	5.00	1.08	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Silver	0.941	U	5.00	0.941	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Thallium	0.693	U	2.00	0.693	ug/L	-	04/18/16 08:20	04/18/16 16:38	1
Zinc	3.55	U	25.0	3.55	ug/L	-	04/18/16 08:20	04/18/16 16:38	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	04/20/16 10:00	04/20/16 16:27	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.540	J	1.00	0.315	mg/L	-		04/14/16 14:36	1
Chloride	16.7		1.00	0.192	mg/L	-		04/14/16 14:36	1
Nitrate as N	1.77		0.500	0.103	mg/L	-		04/14/16 14:36	1
Sulfate	23.5		1.00	0.377	mg/L	-		04/14/16 14:36	1
Fluoride	0.183		0.100	0.0200	mg/L	-		04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		04/19/16 12:09	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 LEAD**

**Lab Sample ID: 560-60893-2**

**Date Collected: 04/12/16 23:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0742	J	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:55	1
Total Organic Carbon	1.40		1.00	0.285	mg/L			04/19/16 13:45	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.31	HF	0.100	0.100	SU			04/21/16 09:57	1
Total Alkalinity as CaCO3	217		5.00	5.00	mg/L			04/18/16 14:00	1
Bicarbonate Alkalinity as CaCO3	217		5.00	5.00	mg/L			04/18/16 14:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/18/16 14:00	1
Total Dissolved Solids	308		10.0	10.0	mg/L			04/15/16 09:08	1
Total Suspended Solids	3.20		3.00	3.00	mg/L			04/18/16 16:35	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.629	J	1.00	0.285	mg/L			04/20/16 12:27	1

**Client Sample ID: HCS250 LEAD**

**Lab Sample ID: 560-60893-3**

**Date Collected: 04/12/16 23:08**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/15/16 15:24	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/15/16 15:24	1
Benzene	0.330	U	1.00	0.330	ug/L			04/15/16 15:24	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/15/16 15:24	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/15/16 15:24	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/15/16 15:24	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/15/16 15:24	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/15/16 15:24	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/15/16 15:24	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/15/16 15:24	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/15/16 15:24	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/15/16 15:24	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/15/16 15:24	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/15/16 15:24	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/15/16 15:24	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/15/16 15:24	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/15/16 15:24	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/15/16 15:24	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/15/16 15:24	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/15/16 15:24	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/15/16 15:24	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/15/16 15:24	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/15/16 15:24	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/15/16 15:24	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/15/16 15:24	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/15/16 15:24	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/15/16 15:24	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/15/16 15:24	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/15/16 15:24	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/15/16 15:24	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 LEAD**

**Lab Sample ID: 560-60893-3**

**Date Collected: 04/12/16 23:08**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/15/16 15:24	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/15/16 15:24	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/15/16 15:24	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/15/16 15:24	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/15/16 15:24	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/15/16 15:24	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/15/16 15:24	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/15/16 15:24	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/15/16 15:24	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/15/16 15:24	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/15/16 15:24	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/15/16 15:24	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/15/16 15:24	1
EDB	0.175	U	1.00	0.175	ug/L			04/15/16 15:24	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/15/16 15:24	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/15/16 15:24	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/15/16 15:24	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/15/16 15:24	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/15/16 15:24	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/15/16 15:24	1
Hexane	2.00	U	5.00	2.00	ug/L			04/15/16 15:24	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/15/16 15:24	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/15/16 15:24	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/15/16 15:24	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/15/16 15:24	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/15/16 15:24	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/15/16 15:24	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/15/16 15:24	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/15/16 15:24	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/15/16 15:24	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/15/16 15:24	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/15/16 15:24	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/15/16 15:24	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/15/16 15:24	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/15/16 15:24	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/15/16 15:24	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/15/16 15:24	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/15/16 15:24	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/15/16 15:24	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/15/16 15:24	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/15/16 15:24	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/15/16 15:24	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/15/16 15:24	1
Styrene	0.200	U	1.00	0.200	ug/L			04/15/16 15:24	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 15:24	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/15/16 15:24	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/15/16 15:24	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/15/16 15:24	1
Toluene	0.495	U	1.00	0.495	ug/L			04/15/16 15:24	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 LEAD**

**Lab Sample ID: 560-60893-3**

**Date Collected: 04/12/16 23:08**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/15/16 15:24	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/15/16 15:24	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/15/16 15:24	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/15/16 15:24	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/15/16 15:24	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/15/16 15:24	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/15/16 15:24	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/15/16 15:24	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/15/16 15:24	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/15/16 15:24	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/15/16 15:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/15/16 15:24	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 15:24	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 15:24	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/15/16 15:24	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/15/16 15:24	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/15/16 15:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130		04/15/16 15:24	1
Dibromofluoromethane (Surr)	98		69 - 130		04/15/16 15:24	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		04/15/16 15:24	1
Toluene-d8 (Surr)	102		70 - 130		04/15/16 15:24	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.479	U	10.4	0.479	ug/L		04/14/16 17:16	04/15/16 12:20	1
Acenaphthylene	0.471	U	10.4	0.471	ug/L		04/14/16 17:16	04/15/16 12:20	1
Anthracene	0.729	U	10.4	0.729	ug/L		04/14/16 17:16	04/15/16 12:20	1
Benzo[a]anthracene	0.673	U	10.4	0.673	ug/L		04/14/16 17:16	04/15/16 12:20	1
Benzo[a]pyrene	0.773	U	10.4	0.773	ug/L		04/14/16 17:16	04/15/16 12:20	1
Benzo[b]fluoranthene	0.946	U	10.4	0.946	ug/L		04/14/16 17:16	04/15/16 12:20	1
Benzo[g,h,i]perylene	1.14	U	10.4	1.14	ug/L		04/14/16 17:16	04/15/16 12:20	1
Benzo[k]fluoranthene	1.55	U	10.4	1.55	ug/L		04/14/16 17:16	04/15/16 12:20	1
Benzyl alcohol	0.861	U	10.4	0.861	ug/L		04/14/16 17:16	04/15/16 12:20	1
Bis(2-chloroethoxy)methane	0.454	U	10.4	0.454	ug/L		04/14/16 17:16	04/15/16 12:20	1
Bis(2-chloroethyl)ether	1.62	U	10.4	1.62	ug/L		04/14/16 17:16	04/15/16 12:20	1
Bis(2-ethylhexyl) phthalate	5.21	U	20.8	5.21	ug/L		04/14/16 17:16	04/15/16 12:20	1
4-Bromophenyl phenyl ether	0.845	U	10.4	0.845	ug/L		04/14/16 17:16	04/15/16 12:20	1
Butyl benzyl phthalate	0.850	U	10.4	0.850	ug/L		04/14/16 17:16	04/15/16 12:20	1
4-Chloroaniline	0.572	U	10.4	0.572	ug/L		04/14/16 17:16	04/15/16 12:20	1
4-Chloro-3-methylphenol	0.610	U	10.4	0.610	ug/L		04/14/16 17:16	04/15/16 12:20	1
2-Chloronaphthalene	0.628	U	10.4	0.628	ug/L		04/14/16 17:16	04/15/16 12:20	1
2-Chlorophenol	0.759	U	10.4	0.759	ug/L		04/14/16 17:16	04/15/16 12:20	1
4-Chlorophenyl phenyl ether	0.551	U	10.4	0.551	ug/L		04/14/16 17:16	04/15/16 12:20	1
Chrysene	0.515	U	10.4	0.515	ug/L		04/14/16 17:16	04/15/16 12:20	1
Dibenz(a,h)anthracene	0.910	U	10.4	0.910	ug/L		04/14/16 17:16	04/15/16 12:20	1
Dibenzofuran	0.505	U	10.4	0.505	ug/L		04/14/16 17:16	04/15/16 12:20	1
1,2-Dichlorobenzene	0.807	U	10.4	0.807	ug/L		04/14/16 17:16	04/15/16 12:20	1
1,3-Dichlorobenzene	0.511	U	10.4	0.511	ug/L		04/14/16 17:16	04/15/16 12:20	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 LEAD**

**Lab Sample ID: 560-60893-3**

**Date Collected: 04/12/16 23:08**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.849	U	10.4	0.849	ug/L		04/14/16 17:16	04/15/16 12:20	1
3,3'-Dichlorobenzidine	0.820	U	10.4	0.820	ug/L		04/14/16 17:16	04/15/16 12:20	1
2,4-Dichlorophenol	0.733	U	10.4	0.733	ug/L		04/14/16 17:16	04/15/16 12:20	1
Diethyl phthalate	0.694	U	10.4	0.694	ug/L		04/14/16 17:16	04/15/16 12:20	1
2,4-Dimethylphenol	0.618	U	10.4	0.618	ug/L		04/14/16 17:16	04/15/16 12:20	1
Dimethyl phthalate	0.614	U	10.4	0.614	ug/L		04/14/16 17:16	04/15/16 12:20	1
Di-n-butyl phthalate	0.739	U	10.4	0.739	ug/L		04/14/16 17:16	04/15/16 12:20	1
4,6-Dinitro-2-methylphenol	0.999	U	10.4	0.999	ug/L		04/14/16 17:16	04/15/16 12:20	1
2,4-Dinitrophenol	2.80	U	20.8	2.80	ug/L		04/14/16 17:16	04/15/16 12:20	1
2,4-Dinitrotoluene	0.530	U	20.8	0.530	ug/L		04/14/16 17:16	04/15/16 12:20	1
2,6-Dinitrotoluene	0.794	U	10.4	0.794	ug/L		04/14/16 17:16	04/15/16 12:20	1
Di-n-octyl phthalate	1.15	U	10.4	1.15	ug/L		04/14/16 17:16	04/15/16 12:20	1
Fluoranthene	0.517	U	10.4	0.517	ug/L		04/14/16 17:16	04/15/16 12:20	1
Fluorene	0.439	U	10.4	0.439	ug/L		04/14/16 17:16	04/15/16 12:20	1
Hexachlorobenzene	0.627	U	10.4	0.627	ug/L		04/14/16 17:16	04/15/16 12:20	1
Hexachlorobutadiene	0.746	U	10.4	0.746	ug/L		04/14/16 17:16	04/15/16 12:20	1
Hexachlorocyclopentadiene	0.874	U	10.4	0.874	ug/L		04/14/16 17:16	04/15/16 12:20	1
Hexachloroethane	0.614	U	10.4	0.614	ug/L		04/14/16 17:16	04/15/16 12:20	1
Indeno[1,2,3-cd]pyrene	0.960	U	10.4	0.960	ug/L		04/14/16 17:16	04/15/16 12:20	1
Isophorone	0.572	U	10.4	0.572	ug/L		04/14/16 17:16	04/15/16 12:20	1
2-Methylnaphthalene	0.731	U	10.4	0.731	ug/L		04/14/16 17:16	04/15/16 12:20	1
2-Methylphenol	0.635	U	10.4	0.635	ug/L		04/14/16 17:16	04/15/16 12:20	1
3 & 4 Methylphenol	0.795	U	20.8	0.795	ug/L		04/14/16 17:16	04/15/16 12:20	1
Naphthalene	0.820	U	10.4	0.820	ug/L		04/14/16 17:16	04/15/16 12:20	1
2-Nitroaniline	0.798	U	10.4	0.798	ug/L		04/14/16 17:16	04/15/16 12:20	1
3-Nitroaniline	0.533	U	10.4	0.533	ug/L		04/14/16 17:16	04/15/16 12:20	1
4-Nitroaniline	0.853	U	10.4	0.853	ug/L		04/14/16 17:16	04/15/16 12:20	1
Nitrobenzene	0.611	U	10.4	0.611	ug/L		04/14/16 17:16	04/15/16 12:20	1
2-Nitrophenol	0.842	U	10.4	0.842	ug/L		04/14/16 17:16	04/15/16 12:20	1
4-Nitrophenol	1.81	U	10.4	1.81	ug/L		04/14/16 17:16	04/15/16 12:20	1
N-Nitrosodi-n-propylamine	0.646	U	10.4	0.646	ug/L		04/14/16 17:16	04/15/16 12:20	1
N-Nitrosodiphenylamine	1.07	U	10.4	1.07	ug/L		04/14/16 17:16	04/15/16 12:20	1
Pentachlorophenol	1.38	U	20.8	1.38	ug/L		04/14/16 17:16	04/15/16 12:20	1
Phenanthrene	0.616	U	10.4	0.616	ug/L		04/14/16 17:16	04/15/16 12:20	1
Phenol	0.800	U	10.4	0.800	ug/L		04/14/16 17:16	04/15/16 12:20	1
Pyrene	0.458	U	10.4	0.458	ug/L		04/14/16 17:16	04/15/16 12:20	1
1,2,4-Trichlorobenzene	0.674	U	10.4	0.674	ug/L		04/14/16 17:16	04/15/16 12:20	1
2,4,5-Trichlorophenol	0.897	U	10.4	0.897	ug/L		04/14/16 17:16	04/15/16 12:20	1
2,4,6-Trichlorophenol	0.685	U	10.4	0.685	ug/L		04/14/16 17:16	04/15/16 12:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	55		23 - 130	04/14/16 17:16	04/15/16 12:20	1
2-Fluorophenol	53		10 - 130	04/14/16 17:16	04/15/16 12:20	1
Nitrobenzene-d5	54		27 - 130	04/14/16 17:16	04/15/16 12:20	1
Phenol-d5	56		10 - 130	04/14/16 17:16	04/15/16 12:20	1
Terphenyl-d14	39		10 - 141	04/14/16 17:16	04/15/16 12:20	1
2,4,6-Tribromophenol	56		18 - 130	04/14/16 17:16	04/15/16 12:20	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 LEAD**

**Lab Sample ID: 560-60893-3**

**Date Collected: 04/12/16 23:08**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 17:00	1
alpha-BHC	0.00495	U	0.0571	0.00495	ug/L		04/15/16 08:31	04/15/16 17:00	1
alpha-Chlordane	0.00599	U	0.0571	0.00599	ug/L		04/15/16 08:31	04/15/16 17:00	1
beta-BHC	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 17:00	1
4,4'-DDD	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 17:00	1
4,4'-DDE	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 17:00	1
4,4'-DDT	0.00770	U	0.0571	0.00770	ug/L		04/15/16 08:31	04/15/16 17:00	1
delta-BHC	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 17:00	1
Dieldrin	0.0124	U	0.0571	0.0124	ug/L		04/15/16 08:31	04/15/16 17:00	1
Endosulfan I	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 17:00	1
Endosulfan II	0.00818	U	0.0571	0.00818	ug/L		04/15/16 08:31	04/15/16 17:00	1
Endosulfan sulfate	0.00837	U	0.0571	0.00837	ug/L		04/15/16 08:31	04/15/16 17:00	1
Endrin	0.00732	U	0.0571	0.00732	ug/L		04/15/16 08:31	04/15/16 17:00	1
Endrin aldehyde	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 17:00	1
Endrin ketone	0.00780	U	0.0571	0.00780	ug/L		04/15/16 08:31	04/15/16 17:00	1
gamma-BHC (Lindane)	0.00428	U	0.0571	0.00428	ug/L		04/15/16 08:31	04/15/16 17:00	1
gamma-Chlordane	0.00637	U	0.0571	0.00637	ug/L		04/15/16 08:31	04/15/16 17:00	1
Heptachlor	0.00618	U	0.0571	0.00618	ug/L		04/15/16 08:31	04/15/16 17:00	1
Heptachlor epoxide	0.00495	U	0.0571	0.00495	ug/L		04/15/16 08:31	04/15/16 17:00	1
Methoxychlor	0.00951	U	0.0571	0.00951	ug/L		04/15/16 08:31	04/15/16 17:00	1
Toxaphene	0.647	U	5.71	0.647	ug/L		04/15/16 08:31	04/15/16 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	48		10 - 152	04/15/16 08:31	04/15/16 17:00	1
DCB Decachlorobiphenyl	66		10 - 152	04/15/16 08:31	04/15/16 17:00	1
Tetrachloro-m-xylene	79		57 - 127	04/15/16 08:31	04/15/16 17:00	1
Tetrachloro-m-xylene	68		57 - 127	04/15/16 08:31	04/15/16 17:00	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 16:54	1
Aroclor 1221	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 16:54	1
Aroclor 1232	0.418	U	0.761	0.418	ug/L		04/15/16 08:31	04/15/16 16:54	1
Aroclor 1242	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 16:54	1
Aroclor 1248	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 16:54	1
Aroclor 1254	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 16:54	1
Aroclor 1260	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 16:54	1
Aroclor 1262	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 16:54	1
Aroclor 1268	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 16:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	114		10 - 150	04/15/16 08:31	04/15/16 16:54	1
DCB Decachlorobiphenyl	96		10 - 150	04/15/16 08:31	04/15/16 16:54	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.161	U	2.39	0.161	ug/L		04/18/16 19:27	04/22/16 00:49	1
Bolstar	0.301	U	0.958	0.301	ug/L		04/18/16 19:27	04/22/16 00:49	1
Chlorpyrifos	0.345	U	1.44	0.345	ug/L		04/18/16 19:27	04/22/16 00:49	1
Coumaphos	0.129	U	0.958	0.129	ug/L		04/18/16 19:27	04/22/16 00:49	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 LEAD**

**Lab Sample ID: 560-60893-3**

**Date Collected: 04/12/16 23:08**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Demeton-O	0.134	U	0.958	0.134	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Demeton-S	0.0661	U	1.92	0.0661	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Diazinon	0.141	U	0.479	0.141	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Dichlorvos	0.155	U	0.479	0.155	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Dimethoate	0.430	U	1.44	0.430	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Disulfoton	0.308	U	0.958	0.308	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
EPN	0.143	U	1.15	0.143	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Ethoprop	0.170	U	1.44	0.170	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Ethyl Parathion	0.138	U	0.958	0.138	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Famphur	0.171	U	0.958	0.171	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Fensulfothion	0.521	U	2.39	0.521	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Fenthion	0.148	U	2.39	0.148	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Malathion	0.127	U	1.92	0.127	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Merphos	0.167	U	4.79	0.167	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Methyl parathion	0.135	U	3.83	0.135	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Mevinphos	0.441	U	5.94	0.441	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Naled	0.766	U	1.92	0.766	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Phorate	0.148	U	1.15	0.148	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Ronnel	0.111	U	9.58	0.111	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Sulfotepp	0.161	U	1.44	0.161	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Tetrachlorvinphos (Stirophos)	0.119	U	3.35	0.119	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Thionazin	0.299	U	0.958	0.299	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Tokuthion	0.118	U	1.53	0.118	ug/L	-	04/18/16 19:27	04/22/16 00:49	1
Trichloronate	0.232	U	1.44	0.232	ug/L	-	04/18/16 19:27	04/22/16 00:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	77		49 - 171	04/18/16 19:27	04/22/16 00:49	1
Triphenylphosphate	88		60 - 154	04/18/16 19:27	04/22/16 00:49	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0974	U	4.87	0.0974	ug/L	-	04/19/16 08:29	04/20/16 21:25	1
Dicamba	0.0828	U	0.487	0.0828	ug/L	-	04/19/16 08:29	04/20/16 21:25	1
Mecoprop	18.5	U	117	18.5	ug/L	-	04/19/16 08:29	04/20/16 21:25	1
MCPA	16.6	U	117	16.6	ug/L	-	04/19/16 08:29	04/20/16 21:25	1
Dichlorprop	0.146	U	0.487	0.146	ug/L	-	04/19/16 08:29	04/20/16 21:25	1
2,4-D	0.0361	U	0.487	0.0361	ug/L	-	04/19/16 08:29	04/20/16 21:25	1
Silvex (2,4,5-TP)	0.0604	U	0.244	0.0604	ug/L	-	04/19/16 08:29	04/20/16 21:25	1
2,4,5-T	0.0604	U	0.244	0.0604	ug/L	-	04/19/16 08:29	04/20/16 21:25	1
2,4-DB	0.146	U	0.487	0.146	ug/L	-	04/19/16 08:29	04/20/16 21:25	1
Dinoseb	0.156	U	0.974	0.156	ug/L	-	04/19/16 08:29	04/20/16 21:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	75		45 - 130	04/19/16 08:29	04/20/16 21:25	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	73.2		0.200	0.101	mg/L	-	04/18/16 08:20	04/20/16 18:22	1
Magnesium	13.9		0.200	0.0257	mg/L	-	04/18/16 08:20	04/20/16 18:22	1
Potassium	1.61		0.500	0.375	mg/L	-	04/18/16 08:20	04/20/16 18:22	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 LEAD**

**Lab Sample ID: 560-60893-3**

Date Collected: 04/12/16 23:08

Matrix: Water

Date Received: 04/13/16 16:14

## Method: 6010B - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silicon	4.76		0.500	0.0707	mg/L		04/18/16 08:20	04/20/16 18:22	1
Sodium	9.14		1.00	0.310	mg/L		04/18/16 08:20	04/20/16 18:22	1
Strontium	0.532		0.00500	0.000700	mg/L		04/18/16 08:20	04/20/16 18:22	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		04/18/16 08:20	04/18/16 16:43	1
Antimony	1.61	U	5.00	1.61	ug/L		04/18/16 08:20	04/18/16 16:43	1
Arsenic	1.09	U ^	5.00	1.09	ug/L		04/18/16 08:20	04/18/16 16:43	1
Barium	45.9		5.00	0.810	ug/L		04/18/16 08:20	04/18/16 16:43	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		04/18/16 08:20	04/18/16 16:43	1
Cadmium	0.854	U	2.00	0.854	ug/L		04/18/16 08:20	04/18/16 16:43	1
Chromium	1.40	U	5.00	1.40	ug/L		04/18/16 08:20	04/18/16 16:43	1
Copper	2.00	U	10.0	2.00	ug/L		04/18/16 08:20	04/18/16 16:43	1
Iron	101	U	250	101	ug/L		04/18/16 08:20	04/18/16 16:43	1
Lead	0.733	U	5.00	0.733	ug/L		04/18/16 08:20	04/18/16 16:43	1
Manganese	11.6	U	50.0	11.6	ug/L		04/18/16 08:20	04/18/16 16:43	1
Nickel	2.17	U	5.00	2.17	ug/L		04/18/16 08:20	04/18/16 16:43	1
Selenium	1.43	J B	5.00	1.08	ug/L		04/18/16 08:20	04/18/16 16:43	1
Silver	0.941	U	5.00	0.941	ug/L		04/18/16 08:20	04/18/16 16:43	1
Thallium	0.693	U	2.00	0.693	ug/L		04/18/16 08:20	04/18/16 16:43	1
Zinc	3.55	U	25.0	3.55	ug/L		04/18/16 08:20	04/18/16 16:43	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		04/20/16 10:00	04/20/16 16:29	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.541	J	1.00	0.315	mg/L			04/14/16 15:02	1
Chloride	16.2		1.00	0.192	mg/L			04/14/16 15:02	1
Nitrate as N	1.63		0.500	0.103	mg/L			04/14/16 15:02	1
Sulfate	22.7		1.00	0.377	mg/L			04/14/16 15:02	1
Fluoride	0.171		0.100	0.0200	mg/L			04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/19/16 12:10	1
Phosphorus	0.0698	J	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:41	1
Total Organic Carbon	1.58		1.00	0.285	mg/L			04/19/16 13:45	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.38	HF	0.100	0.100	SU			04/21/16 09:57	1
Total Alkalinity as CaCO3	206		5.00	5.00	mg/L			04/18/16 14:00	1
Bicarbonate Alkalinity as CaCO3	206		5.00	5.00	mg/L			04/18/16 14:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/18/16 14:00	1
Total Dissolved Solids	283		10.0	10.0	mg/L			04/15/16 09:08	1
Total Suspended Solids	10.6		3.00	3.00	mg/L			04/18/16 16:35	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.72		1.00	0.285	mg/L			04/20/16 12:27	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 LEAD**

**Lab Sample ID: 560-60893-4**

**Date Collected: 04/12/16 23:35**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/14/16 16:09	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/14/16 16:09	1
Benzene	0.330	U	1.00	0.330	ug/L			04/14/16 16:09	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/14/16 16:09	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 16:09	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/14/16 16:09	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/14/16 16:09	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/14/16 16:09	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/14/16 16:09	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/14/16 16:09	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/14/16 16:09	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/14/16 16:09	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/14/16 16:09	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/14/16 16:09	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/14/16 16:09	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/14/16 16:09	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/14/16 16:09	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/14/16 16:09	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/14/16 16:09	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/14/16 16:09	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/14/16 16:09	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 16:09	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/14/16 16:09	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/14/16 16:09	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/14/16 16:09	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/14/16 16:09	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/14/16 16:09	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/14/16 16:09	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/14/16 16:09	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 16:09	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/14/16 16:09	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/14/16 16:09	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/14/16 16:09	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/14/16 16:09	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/14/16 16:09	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/14/16 16:09	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/14/16 16:09	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/14/16 16:09	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/14/16 16:09	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/14/16 16:09	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/14/16 16:09	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/14/16 16:09	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/14/16 16:09	1
EDB	0.175	U	1.00	0.175	ug/L			04/14/16 16:09	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/14/16 16:09	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 16:09	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/14/16 16:09	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/14/16 16:09	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/14/16 16:09	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 LEAD**

**Lab Sample ID: 560-60893-4**

**Date Collected: 04/12/16 23:35**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/14/16 16:09	1
Hexane	2.00	U	5.00	2.00	ug/L			04/14/16 16:09	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/14/16 16:09	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/14/16 16:09	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/14/16 16:09	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/14/16 16:09	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/14/16 16:09	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/14/16 16:09	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/14/16 16:09	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/14/16 16:09	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/14/16 16:09	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/14/16 16:09	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/14/16 16:09	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/14/16 16:09	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/14/16 16:09	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 16:09	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/14/16 16:09	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/14/16 16:09	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/14/16 16:09	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/14/16 16:09	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/14/16 16:09	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/14/16 16:09	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/14/16 16:09	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/14/16 16:09	1
Styrene	0.200	U	1.00	0.200	ug/L			04/14/16 16:09	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 16:09	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/14/16 16:09	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/14/16 16:09	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/14/16 16:09	1
Toluene	0.495	U	1.00	0.495	ug/L			04/14/16 16:09	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 16:09	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/14/16 16:09	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/14/16 16:09	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/14/16 16:09	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/14/16 16:09	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/14/16 16:09	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/14/16 16:09	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/14/16 16:09	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/14/16 16:09	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/14/16 16:09	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/14/16 16:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/14/16 16:09	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 16:09	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 16:09	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/14/16 16:09	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/14/16 16:09	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/14/16 16:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		04/14/16 16:09	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 LEAD**

**Lab Sample ID: 560-60893-4**

**Date Collected: 04/12/16 23:35**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	103		69 - 130		04/14/16 16:09	1
1,2-Dichloroethane-d4 (Surr)	109		70 - 140		04/14/16 16:09	1
Toluene-d8 (Surr)	101		70 - 130		04/14/16 16:09	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/15/16 12:46	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/15/16 12:46	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/15/16 12:46	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/15/16 12:46	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/15/16 12:46	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/15/16 12:46	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/15/16 12:46	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/15/16 12:46	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/15/16 12:46	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/15/16 12:46	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/15/16 12:46	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/15/16 12:46	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/15/16 12:46	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/15/16 12:46	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 12:46	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/15/16 12:46	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/15/16 12:46	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/15/16 12:46	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/15/16 12:46	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/15/16 12:46	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/15/16 12:46	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/15/16 12:46	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/15/16 12:46	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/15/16 12:46	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/15/16 12:46	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 12:46	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/15/16 12:46	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/15/16 12:46	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/15/16 12:46	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 12:46	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/15/16 12:46	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/15/16 12:46	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/15/16 12:46	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/15/16 12:46	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/15/16 12:46	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/15/16 12:46	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/15/16 12:46	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/15/16 12:46	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/15/16 12:46	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/15/16 12:46	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/15/16 12:46	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 12:46	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/15/16 12:46	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 LEAD**

**Lab Sample ID: 560-60893-4**

**Date Collected: 04/12/16 23:35**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 12:46	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/15/16 12:46	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/15/16 12:46	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/15/16 12:46	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 12:46	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/15/16 12:46	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/15/16 12:46	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/15/16 12:46	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/15/16 12:46	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/15/16 12:46	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/15/16 12:46	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/15/16 12:46	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/15/16 12:46	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/15/16 12:46	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/15/16 12:46	1
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/15/16 12:46	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/15/16 12:46	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/15/16 12:46	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/15/16 12:46	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/15/16 12:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	66		23 - 130	04/14/16 17:16	04/15/16 12:46	1
2-Fluorophenol	68		10 - 130	04/14/16 17:16	04/15/16 12:46	1
Nitrobenzene-d5	67		27 - 130	04/14/16 17:16	04/15/16 12:46	1
Phenol-d5	72		10 - 130	04/14/16 17:16	04/15/16 12:46	1
Terphenyl-d14	64		10 - 141	04/14/16 17:16	04/15/16 12:46	1
2,4,6-Tribromophenol	70		18 - 130	04/14/16 17:16	04/15/16 12:46	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 17:25	1
alpha-BHC	0.00495	U	0.0571	0.00495	ug/L		04/15/16 08:31	04/15/16 17:25	1
alpha-Chlordane	0.00599	U	0.0571	0.00599	ug/L		04/15/16 08:31	04/15/16 17:25	1
beta-BHC	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 17:25	1
4,4'-DDD	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 17:25	1
4,4'-DDE	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 17:25	1
4,4'-DDT	0.00770	U	0.0571	0.00770	ug/L		04/15/16 08:31	04/15/16 17:25	1
delta-BHC	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 17:25	1
Dieldrin	0.0124	U	0.0571	0.0124	ug/L		04/15/16 08:31	04/15/16 17:25	1
Endosulfan I	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 17:25	1
Endosulfan II	0.00818	U	0.0571	0.00818	ug/L		04/15/16 08:31	04/15/16 17:25	1
Endosulfan sulfate	0.00837	U	0.0571	0.00837	ug/L		04/15/16 08:31	04/15/16 17:25	1
Endrin	0.00732	U	0.0571	0.00732	ug/L		04/15/16 08:31	04/15/16 17:25	1
Endrin aldehyde	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 17:25	1
Endrin ketone	0.00780	U	0.0571	0.00780	ug/L		04/15/16 08:31	04/15/16 17:25	1
gamma-BHC (Lindane)	0.00428	U	0.0571	0.00428	ug/L		04/15/16 08:31	04/15/16 17:25	1
gamma-Chlordane	0.00637	U	0.0571	0.00637	ug/L		04/15/16 08:31	04/15/16 17:25	1
Heptachlor	0.00618	U	0.0571	0.00618	ug/L		04/15/16 08:31	04/15/16 17:25	1
Heptachlor epoxide	0.00495	U	0.0571	0.00495	ug/L		04/15/16 08:31	04/15/16 17:25	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 LEAD**

**Lab Sample ID: 560-60893-4**

**Date Collected: 04/12/16 23:35**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	0.00951	U	0.0571	0.00951	ug/L		04/15/16 08:31	04/15/16 17:25	1
Toxaphene	0.647	U	5.71	0.647	ug/L		04/15/16 08:31	04/15/16 17:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	44		10 - 152				04/15/16 08:31	04/15/16 17:25	1
DCB Decachlorobiphenyl	60		10 - 152				04/15/16 08:31	04/15/16 17:25	1
Tetrachloro-m-xylene	80		57 - 127				04/15/16 08:31	04/15/16 17:25	1
Tetrachloro-m-xylene	69		57 - 127				04/15/16 08:31	04/15/16 17:25	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 17:11	1
Aroclor 1221	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 17:11	1
Aroclor 1232	0.418	U	0.761	0.418	ug/L		04/15/16 08:31	04/15/16 17:11	1
Aroclor 1242	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 17:11	1
Aroclor 1248	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 17:11	1
Aroclor 1254	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 17:11	1
Aroclor 1260	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 17:11	1
Aroclor 1262	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 17:11	1
Aroclor 1268	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 17:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	117		10 - 150				04/15/16 08:31	04/15/16 17:11	1
DCB Decachlorobiphenyl	89		10 - 150				04/15/16 08:31	04/15/16 17:11	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.173	U	2.57	0.173	ug/L		04/18/16 19:27	04/22/16 01:21	1
Bolstar	0.323	U	1.03	0.323	ug/L		04/18/16 19:27	04/22/16 01:21	1
Chlorpyrifos	0.370	U	1.54	0.370	ug/L		04/18/16 19:27	04/22/16 01:21	1
Coumaphos	0.139	U	1.03	0.139	ug/L		04/18/16 19:27	04/22/16 01:21	1
Demeton-O	0.144	U	1.03	0.144	ug/L		04/18/16 19:27	04/22/16 01:21	1
Demeton-S	0.0710	U	2.06	0.0710	ug/L		04/18/16 19:27	04/22/16 01:21	1
Diazinon	0.151	U	0.514	0.151	ug/L		04/18/16 19:27	04/22/16 01:21	1
Dichlorvos	0.167	U	0.514	0.167	ug/L		04/18/16 19:27	04/22/16 01:21	1
Dimethoate	0.462	U	1.54	0.462	ug/L		04/18/16 19:27	04/22/16 01:21	1
Disulfoton	0.331	U	1.03	0.331	ug/L		04/18/16 19:27	04/22/16 01:21	1
EPN	0.153	U	1.23	0.153	ug/L		04/18/16 19:27	04/22/16 01:21	1
Ethoprop	0.182	U	1.54	0.182	ug/L		04/18/16 19:27	04/22/16 01:21	1
Ethyl Parathion	0.148	U	1.03	0.148	ug/L		04/18/16 19:27	04/22/16 01:21	1
Famphur	0.184	U	1.03	0.184	ug/L		04/18/16 19:27	04/22/16 01:21	1
Fensulfothion	0.560	U	2.57	0.560	ug/L		04/18/16 19:27	04/22/16 01:21	1
Fenthion	0.158	U	2.57	0.158	ug/L		04/18/16 19:27	04/22/16 01:21	1
Malathion	0.137	U	2.06	0.137	ug/L		04/18/16 19:27	04/22/16 01:21	1
Merphos	0.179	U	5.14	0.179	ug/L		04/18/16 19:27	04/22/16 01:21	1
Methyl parathion	0.145	U	4.12	0.145	ug/L		04/18/16 19:27	04/22/16 01:21	1
Mevinphos	0.473	U	6.38	0.473	ug/L		04/18/16 19:27	04/22/16 01:21	1
Naled	0.823	U	2.06	0.823	ug/L		04/18/16 19:27	04/22/16 01:21	1
Phorate	0.158	U	1.23	0.158	ug/L		04/18/16 19:27	04/22/16 01:21	1
Ronnel	0.119	U	10.3	0.119	ug/L		04/18/16 19:27	04/22/16 01:21	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 LEAD**

**Lab Sample ID: 560-60893-4**

**Date Collected: 04/12/16 23:35**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfotepp	0.173	U	1.54	0.173	ug/L		04/18/16 19:27	04/22/16 01:21	1
Tetrachlorvinphos (Stirophos)	0.128	U	3.60	0.128	ug/L		04/18/16 19:27	04/22/16 01:21	1
Thionazin	0.321	U	1.03	0.321	ug/L		04/18/16 19:27	04/22/16 01:21	1
Tokuthion	0.127	U	1.65	0.127	ug/L		04/18/16 19:27	04/22/16 01:21	1
Trichloronate	0.249	U	1.54	0.249	ug/L		04/18/16 19:27	04/22/16 01:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	86		49 - 171				04/18/16 19:27	04/22/16 01:21	1
Triphenylphosphate	95		60 - 154				04/18/16 19:27	04/22/16 01:21	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0949	U	4.74	0.0949	ug/L		04/19/16 08:29	04/20/16 21:45	1
Dicamba	0.0807	U	0.474	0.0807	ug/L		04/19/16 08:29	04/20/16 21:45	1
Mecoprop	18.0	U	114	18.0	ug/L		04/19/16 08:29	04/20/16 21:45	1
MCPA	16.1	U	114	16.1	ug/L		04/19/16 08:29	04/20/16 21:45	1
Dichlorprop	0.142	U	0.474	0.142	ug/L		04/19/16 08:29	04/20/16 21:45	1
2,4-D	0.0351	U	0.474	0.0351	ug/L		04/19/16 08:29	04/20/16 21:45	1
Silvex (2,4,5-TP)	0.0588	U	0.237	0.0588	ug/L		04/19/16 08:29	04/20/16 21:45	1
2,4,5-T	0.0588	U	0.237	0.0588	ug/L		04/19/16 08:29	04/20/16 21:45	1
2,4-DB	0.142	U	0.474	0.142	ug/L		04/19/16 08:29	04/20/16 21:45	1
Dinoseb	0.152	U	0.949	0.152	ug/L		04/19/16 08:29	04/20/16 21:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	82		45 - 130				04/19/16 08:29	04/20/16 21:45	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	80.6		0.200	0.101	mg/L		04/18/16 08:20	04/20/16 18:26	1
Magnesium	15.5		0.200	0.0257	mg/L		04/18/16 08:20	04/20/16 18:26	1
Potassium	1.43		0.500	0.375	mg/L		04/18/16 08:20	04/20/16 18:26	1
Silicon	5.37		0.500	0.0707	mg/L		04/18/16 08:20	04/20/16 18:26	1
Sodium	11.8		1.00	0.310	mg/L		04/18/16 08:20	04/20/16 18:26	1
Strontium	0.603		0.00500	0.000700	mg/L		04/18/16 08:20	04/20/16 18:26	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		04/18/16 08:20	04/18/16 16:48	1
Antimony	1.61	U	5.00	1.61	ug/L		04/18/16 08:20	04/18/16 16:48	1
Arsenic	1.09	U ^	5.00	1.09	ug/L		04/18/16 08:20	04/18/16 16:48	1
Barium	53.1		5.00	0.810	ug/L		04/18/16 08:20	04/18/16 16:48	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		04/18/16 08:20	04/18/16 16:48	1
Cadmium	0.854	U	2.00	0.854	ug/L		04/18/16 08:20	04/18/16 16:48	1
Chromium	1.40	U	5.00	1.40	ug/L		04/18/16 08:20	04/18/16 16:48	1
Copper	2.00	U	10.0	2.00	ug/L		04/18/16 08:20	04/18/16 16:48	1
Iron	101	U	250	101	ug/L		04/18/16 08:20	04/18/16 16:48	1
Lead	0.733	U	5.00	0.733	ug/L		04/18/16 08:20	04/18/16 16:48	1
Manganese	11.6	U	50.0	11.6	ug/L		04/18/16 08:20	04/18/16 16:48	1
Nickel	2.17	U	5.00	2.17	ug/L		04/18/16 08:20	04/18/16 16:48	1
Selenium	1.08	U	5.00	1.08	ug/L		04/18/16 08:20	04/18/16 16:48	1
Silver	0.941	U	5.00	0.941	ug/L		04/18/16 08:20	04/18/16 16:48	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 LEAD**

**Lab Sample ID: 560-60893-4**

**Date Collected: 04/12/16 23:35**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.693	U	2.00	0.693	ug/L		04/18/16 08:20	04/18/16 16:48	1
Zinc	3.55	U	25.0	3.55	ug/L		04/18/16 08:20	04/18/16 16:48	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		04/20/16 10:00	04/20/16 16:31	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.545	J	1.00	0.315	mg/L			04/14/16 15:28	1
Chloride	17.2		1.00	0.192	mg/L			04/14/16 15:28	1
Nitrate as N	1.76		0.500	0.103	mg/L			04/14/16 15:28	1
Sulfate	26.3		1.00	0.377	mg/L			04/14/16 15:28	1
Fluoride	0.197		0.100	0.0200	mg/L			04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/19/16 12:11	1
Phosphorus	0.0598	J	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:43	1
Total Organic Carbon	0.746	J	1.00	0.285	mg/L			04/19/16 13:45	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.47	HF	0.100	0.100	SU			04/21/16 09:57	1
Total Alkalinity as CaCO3	217		5.00	5.00	mg/L			04/18/16 14:00	1
Bicarbonate Alkalinity as CaCO3	217		5.00	5.00	mg/L			04/18/16 14:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/18/16 14:00	1
Total Dissolved Solids	321		10.0	10.0	mg/L			04/15/16 09:08	1
Total Suspended Solids	4.40		3.00	3.00	mg/L			04/18/16 16:35	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.01		1.00	0.285	mg/L			04/20/16 12:27	1

**Client Sample ID: HCS270 LEAD**

**Lab Sample ID: 560-60893-5**

**Date Collected: 04/12/16 23:16**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/14/16 16:34	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/14/16 16:34	1
Benzene	0.330	U	1.00	0.330	ug/L			04/14/16 16:34	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/14/16 16:34	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 16:34	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/14/16 16:34	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/14/16 16:34	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/14/16 16:34	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/14/16 16:34	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/14/16 16:34	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/14/16 16:34	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/14/16 16:34	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/14/16 16:34	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/14/16 16:34	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/14/16 16:34	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 LEAD**

**Lab Sample ID: 560-60893-5**

**Date Collected: 04/12/16 23:16**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	0.400	U	5.00	0.400	ug/L			04/14/16 16:34	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/14/16 16:34	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/14/16 16:34	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/14/16 16:34	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/14/16 16:34	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/14/16 16:34	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 16:34	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/14/16 16:34	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/14/16 16:34	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/14/16 16:34	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/14/16 16:34	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/14/16 16:34	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/14/16 16:34	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/14/16 16:34	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 16:34	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/14/16 16:34	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/14/16 16:34	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/14/16 16:34	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/14/16 16:34	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/14/16 16:34	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/14/16 16:34	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/14/16 16:34	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/14/16 16:34	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/14/16 16:34	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/14/16 16:34	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/14/16 16:34	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/14/16 16:34	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/14/16 16:34	1
EDB	0.175	U	1.00	0.175	ug/L			04/14/16 16:34	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/14/16 16:34	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 16:34	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/14/16 16:34	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/14/16 16:34	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/14/16 16:34	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/14/16 16:34	1
Hexane	2.00	U	5.00	2.00	ug/L			04/14/16 16:34	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/14/16 16:34	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/14/16 16:34	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/14/16 16:34	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/14/16 16:34	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/14/16 16:34	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/14/16 16:34	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/14/16 16:34	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/14/16 16:34	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/14/16 16:34	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/14/16 16:34	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/14/16 16:34	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/14/16 16:34	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/14/16 16:34	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 LEAD**

**Lab Sample ID: 560-60893-5**

**Date Collected: 04/12/16 23:16**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 16:34	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/14/16 16:34	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/14/16 16:34	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/14/16 16:34	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/14/16 16:34	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/14/16 16:34	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/14/16 16:34	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/14/16 16:34	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/14/16 16:34	1
Styrene	0.200	U	1.00	0.200	ug/L			04/14/16 16:34	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 16:34	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/14/16 16:34	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/14/16 16:34	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/14/16 16:34	1
Toluene	0.495	U	1.00	0.495	ug/L			04/14/16 16:34	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 16:34	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/14/16 16:34	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/14/16 16:34	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/14/16 16:34	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/14/16 16:34	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/14/16 16:34	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/14/16 16:34	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/14/16 16:34	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/14/16 16:34	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/14/16 16:34	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/14/16 16:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/14/16 16:34	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 16:34	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 16:34	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/14/16 16:34	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/14/16 16:34	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/14/16 16:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		04/14/16 16:34	1
Dibromofluoromethane (Surr)	100		69 - 130		04/14/16 16:34	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		04/14/16 16:34	1
Toluene-d8 (Surr)	102		70 - 130		04/14/16 16:34	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/15/16 13:12	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/15/16 13:12	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/15/16 13:12	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/15/16 13:12	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/15/16 13:12	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/15/16 13:12	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/15/16 13:12	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/15/16 13:12	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/15/16 13:12	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 LEAD**

**Lab Sample ID: 560-60893-5**

**Date Collected: 04/12/16 23:16**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/15/16 13:12	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/15/16 13:12	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/15/16 13:12	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/15/16 13:12	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/15/16 13:12	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 13:12	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/15/16 13:12	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/15/16 13:12	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/15/16 13:12	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/15/16 13:12	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/15/16 13:12	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/15/16 13:12	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/15/16 13:12	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/15/16 13:12	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/15/16 13:12	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/15/16 13:12	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 13:12	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/15/16 13:12	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/15/16 13:12	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/15/16 13:12	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 13:12	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/15/16 13:12	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/15/16 13:12	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/15/16 13:12	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/15/16 13:12	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/15/16 13:12	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/15/16 13:12	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/15/16 13:12	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/15/16 13:12	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/15/16 13:12	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/15/16 13:12	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/15/16 13:12	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 13:12	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/15/16 13:12	1
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 13:12	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/15/16 13:12	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/15/16 13:12	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/15/16 13:12	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 13:12	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/15/16 13:12	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/15/16 13:12	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/15/16 13:12	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/15/16 13:12	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/15/16 13:12	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/15/16 13:12	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/15/16 13:12	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/15/16 13:12	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/15/16 13:12	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/15/16 13:12	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 LEAD**

**Lab Sample ID: 560-60893-5**

**Date Collected: 04/12/16 23:16**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/15/16 13:12	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/15/16 13:12	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/15/16 13:12	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/15/16 13:12	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/15/16 13:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	68		23 - 130	04/14/16 17:16	04/15/16 13:12	1
2-Fluorophenol	64		10 - 130	04/14/16 17:16	04/15/16 13:12	1
Nitrobenzene-d5	67		27 - 130	04/14/16 17:16	04/15/16 13:12	1
Phenol-d5	65		10 - 130	04/14/16 17:16	04/15/16 13:12	1
Terphenyl-d14	26		10 - 141	04/14/16 17:16	04/15/16 13:12	1
2,4,6-Tribromophenol	68		18 - 130	04/14/16 17:16	04/15/16 13:12	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 17:51	1
alpha-BHC	0.00501	U	0.0579	0.00501	ug/L		04/15/16 08:31	04/15/16 17:51	1
alpha-Chlordane	0.00607	U	0.0579	0.00607	ug/L		04/15/16 08:31	04/15/16 17:51	1
beta-BHC	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 17:51	1
4,4'-DDD	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 17:51	1
4,4'-DDE	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 17:51	1
4,4'-DDT	0.00781	U	0.0579	0.00781	ug/L		04/15/16 08:31	04/15/16 17:51	1
delta-BHC	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 17:51	1
Dieldrin	0.0125	U	0.0579	0.0125	ug/L		04/15/16 08:31	04/15/16 17:51	1
Endosulfan I	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 17:51	1
Endosulfan II	0.00829	U	0.0579	0.00829	ug/L		04/15/16 08:31	04/15/16 17:51	1
Endosulfan sulfate	0.00848	U	0.0579	0.00848	ug/L		04/15/16 08:31	04/15/16 17:51	1
Endrin	0.00742	U	0.0579	0.00742	ug/L		04/15/16 08:31	04/15/16 17:51	1
Endrin aldehyde	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 17:51	1
Endrin ketone	0.00791	U	0.0579	0.00791	ug/L		04/15/16 08:31	04/15/16 17:51	1
gamma-BHC (Lindane)	0.00434	U	0.0579	0.00434	ug/L		04/15/16 08:31	04/15/16 17:51	1
gamma-Chlordane	0.00646	U	0.0579	0.00646	ug/L		04/15/16 08:31	04/15/16 17:51	1
Heptachlor	0.00627	U	0.0579	0.00627	ug/L		04/15/16 08:31	04/15/16 17:51	1
Heptachlor epoxide	0.00501	U	0.0579	0.00501	ug/L		04/15/16 08:31	04/15/16 17:51	1
Methoxychlor	0.00964	U	0.0579	0.00964	ug/L		04/15/16 08:31	04/15/16 17:51	1
Toxaphene	0.656	U	5.79	0.656	ug/L		04/15/16 08:31	04/15/16 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	50		10 - 152	04/15/16 08:31	04/15/16 17:51	1
DCB Decachlorobiphenyl	67		10 - 152	04/15/16 08:31	04/15/16 17:51	1
Tetrachloro-m-xylene	79		57 - 127	04/15/16 08:31	04/15/16 17:51	1
Tetrachloro-m-xylene	67		57 - 127	04/15/16 08:31	04/15/16 17:51	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:29	1
Aroclor 1221	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:29	1
Aroclor 1232	0.424	U	0.771	0.424	ug/L		04/15/16 08:31	04/15/16 17:29	1
Aroclor 1242	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:29	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 LEAD**

**Lab Sample ID: 560-60893-5**

**Date Collected: 04/12/16 23:16**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1248	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:29	1
Aroclor 1254	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:29	1
Aroclor 1260	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:29	1
Aroclor 1262	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:29	1
Aroclor 1268	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	121		10 - 150				04/15/16 08:31	04/15/16 17:29	1
DCB Decachlorobiphenyl	103		10 - 150				04/15/16 08:31	04/15/16 17:29	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.159	U	2.37	0.159	ug/L		04/18/16 19:27	04/22/16 01:52	1
Bolstar	0.298	U	0.949	0.298	ug/L		04/18/16 19:27	04/22/16 01:52	1
Chlorpyrifos	0.342	U	1.42	0.342	ug/L		04/18/16 19:27	04/22/16 01:52	1
Coumaphos	0.128	U	0.949	0.128	ug/L		04/18/16 19:27	04/22/16 01:52	1
Demeton-O	0.133	U	0.949	0.133	ug/L		04/18/16 19:27	04/22/16 01:52	1
Demeton-S	0.0655	U	1.90	0.0655	ug/L		04/18/16 19:27	04/22/16 01:52	1
Diazinon	0.140	U	0.475	0.140	ug/L		04/18/16 19:27	04/22/16 01:52	1
Dichlorvos	0.154	U	0.475	0.154	ug/L		04/18/16 19:27	04/22/16 01:52	1
Dimethoate	0.426	U	1.42	0.426	ug/L		04/18/16 19:27	04/22/16 01:52	1
Disulfoton	0.306	U	0.949	0.306	ug/L		04/18/16 19:27	04/22/16 01:52	1
EPN	0.141	U	1.14	0.141	ug/L		04/18/16 19:27	04/22/16 01:52	1
Ethoprop	0.168	U	1.42	0.168	ug/L		04/18/16 19:27	04/22/16 01:52	1
Ethyl Parathion	0.137	U	0.949	0.137	ug/L		04/18/16 19:27	04/22/16 01:52	1
Famphur	0.170	U	0.949	0.170	ug/L		04/18/16 19:27	04/22/16 01:52	1
Fensulfothion	0.516	U	2.37	0.516	ug/L		04/18/16 19:27	04/22/16 01:52	1
Fenthion	0.146	U	2.37	0.146	ug/L		04/18/16 19:27	04/22/16 01:52	1
Malathion	0.126	U	1.90	0.126	ug/L		04/18/16 19:27	04/22/16 01:52	1
Merphos	0.165	U	4.75	0.165	ug/L		04/18/16 19:27	04/22/16 01:52	1
Methyl parathion	0.134	U	3.80	0.134	ug/L		04/18/16 19:27	04/22/16 01:52	1
Mevinphos	0.437	U	5.89	0.437	ug/L		04/18/16 19:27	04/22/16 01:52	1
Naled	0.760	U	1.90	0.760	ug/L		04/18/16 19:27	04/22/16 01:52	1
Phorate	0.146	U	1.14	0.146	ug/L		04/18/16 19:27	04/22/16 01:52	1
Ronnel	0.110	U	9.49	0.110	ug/L		04/18/16 19:27	04/22/16 01:52	1
Sulfotepp	0.159	U	1.42	0.159	ug/L		04/18/16 19:27	04/22/16 01:52	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.32	0.118	ug/L		04/18/16 19:27	04/22/16 01:52	1
Thionazin	0.296	U	0.949	0.296	ug/L		04/18/16 19:27	04/22/16 01:52	1
Tokuthion	0.117	U	1.52	0.117	ug/L		04/18/16 19:27	04/22/16 01:52	1
Trichloronate	0.230	U	1.42	0.230	ug/L		04/18/16 19:27	04/22/16 01:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	72		49 - 171				04/18/16 19:27	04/22/16 01:52	1
Triphenylphosphate	89		60 - 154				04/18/16 19:27	04/22/16 01:52	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0952	U	4.76	0.0952	ug/L		04/19/16 08:29	04/20/16 22:04	1
Dicamba	0.0809	U	0.476	0.0809	ug/L		04/19/16 08:29	04/20/16 22:04	1
Mecoprop	18.1	U	114	18.1	ug/L		04/19/16 08:29	04/20/16 22:04	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 LEAD**

**Lab Sample ID: 560-60893-5**

**Date Collected: 04/12/16 23:16**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MCPA	16.2	U	114	16.2	ug/L	-	04/19/16 08:29	04/20/16 22:04	1
Dichlorprop	0.143	U	0.476	0.143	ug/L	-	04/19/16 08:29	04/20/16 22:04	1
<b>2,4-D</b>	<b>0.255</b>	<b>J</b>	0.476	0.0352	ug/L	-	04/19/16 08:29	04/20/16 22:04	1
Silvex (2,4,5-TP)	0.0590	U	0.238	0.0590	ug/L	-	04/19/16 08:29	04/20/16 22:04	1
2,4,5-T	0.0590	U	0.238	0.0590	ug/L	-	04/19/16 08:29	04/20/16 22:04	1
2,4-DB	0.143	U	0.476	0.143	ug/L	-	04/19/16 08:29	04/20/16 22:04	1
Dinoseb	0.152	U	0.952	0.152	ug/L	-	04/19/16 08:29	04/20/16 22:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	81		45 - 130	04/19/16 08:29	04/20/16 22:04	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Calcium</b>	<b>81.5</b>		0.200	0.101	mg/L	-	04/18/16 08:20	04/20/16 18:29	1
<b>Magnesium</b>	<b>15.9</b>		0.200	0.0257	mg/L	-	04/18/16 08:20	04/20/16 18:29	1
<b>Potassium</b>	<b>1.39</b>		0.500	0.375	mg/L	-	04/18/16 08:20	04/20/16 18:29	1
<b>Silicon</b>	<b>5.37</b>		0.500	0.0707	mg/L	-	04/18/16 08:20	04/20/16 18:29	1
<b>Sodium</b>	<b>11.8</b>		1.00	0.310	mg/L	-	04/18/16 08:20	04/20/16 18:29	1
<b>Strontium</b>	<b>0.614</b>		0.00500	0.000700	mg/L	-	04/18/16 08:20	04/20/16 18:29	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
Antimony	1.61	U	5.00	1.61	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
Arsenic	1.09	U ^	5.00	1.09	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
<b>Barium</b>	<b>53.9</b>		5.00	0.810	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
Beryllium	1.24	U ^	4.00	1.24	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
Cadmium	0.854	U	2.00	0.854	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
Chromium	1.40	U	5.00	1.40	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
Copper	2.00	U	10.0	2.00	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
Iron	101	U	250	101	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
Lead	0.733	U	5.00	0.733	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
Manganese	11.6	U	50.0	11.6	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
Nickel	2.17	U	5.00	2.17	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
<b>Selenium</b>	<b>1.14</b>	<b>J B</b>	5.00	1.08	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
Silver	0.941	U	5.00	0.941	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
Thallium	0.693	U	2.00	0.693	ug/L	-	04/18/16 08:20	04/18/16 16:53	1
Zinc	3.55	U	25.0	3.55	ug/L	-	04/18/16 08:20	04/18/16 16:53	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	04/20/16 10:00	04/20/16 16:34	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>0.549</b>	<b>J</b>	1.00	0.315	mg/L	-		04/14/16 15:54	1
<b>Chloride</b>	<b>17.2</b>		1.00	0.192	mg/L	-		04/14/16 15:54	1
<b>Nitrate as N</b>	<b>1.77</b>		0.500	0.103	mg/L	-		04/14/16 15:54	1
<b>Sulfate</b>	<b>26.1</b>		1.00	0.377	mg/L	-		04/14/16 15:54	1
<b>Fluoride</b>	<b>0.196</b>		0.100	0.0200	mg/L	-		04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		04/19/16 12:12	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 LEAD**

**Lab Sample ID: 560-60893-5**

**Date Collected: 04/12/16 23:16**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:39	1
<b>Total Organic Carbon</b>	<b>0.810</b>	<b>J</b>	1.00	0.285	mg/L			04/19/16 13:45	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.54</b>	<b>HF</b>	0.100	0.100	SU			04/21/16 09:57	1
<b>Total Alkalinity as CaCO3</b>	<b>211</b>		5.00	5.00	mg/L			04/18/16 14:00	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>211</b>		5.00	5.00	mg/L			04/18/16 14:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/18/16 14:00	1
<b>Total Dissolved Solids</b>	<b>331</b>		10.0	10.0	mg/L			04/15/16 09:08	1
<b>Total Suspended Solids</b>	<b>6.00</b>		3.00	3.00	mg/L			04/18/16 16:35	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Dissolved Organic Carbon</b>	<b>0.874</b>	<b>J</b>	1.00	0.285	mg/L			04/20/16 12:27	1

**Client Sample ID: TB06**

**Lab Sample ID: 560-60893-6**

**Date Collected: 04/13/16 00:00**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/15/16 15:49	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/15/16 15:49	1
Benzene	0.330	U	1.00	0.330	ug/L			04/15/16 15:49	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/15/16 15:49	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/15/16 15:49	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/15/16 15:49	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/15/16 15:49	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/15/16 15:49	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/15/16 15:49	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/15/16 15:49	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/15/16 15:49	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/15/16 15:49	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/15/16 15:49	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/15/16 15:49	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/15/16 15:49	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/15/16 15:49	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/15/16 15:49	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/15/16 15:49	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/15/16 15:49	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/15/16 15:49	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/15/16 15:49	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/15/16 15:49	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/15/16 15:49	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/15/16 15:49	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/15/16 15:49	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/15/16 15:49	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/15/16 15:49	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/15/16 15:49	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/15/16 15:49	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/15/16 15:49	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: TB06**

**Date Collected: 04/13/16 00:00**

**Date Received: 04/13/16 16:14**

**Lab Sample ID: 560-60893-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/15/16 15:49	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/15/16 15:49	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/15/16 15:49	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/15/16 15:49	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/15/16 15:49	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/15/16 15:49	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/15/16 15:49	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/15/16 15:49	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/15/16 15:49	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/15/16 15:49	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/15/16 15:49	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/15/16 15:49	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/15/16 15:49	1
EDB	0.175	U	1.00	0.175	ug/L			04/15/16 15:49	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/15/16 15:49	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/15/16 15:49	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/15/16 15:49	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/15/16 15:49	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/15/16 15:49	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/15/16 15:49	1
Hexane	2.00	U	5.00	2.00	ug/L			04/15/16 15:49	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/15/16 15:49	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/15/16 15:49	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/15/16 15:49	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/15/16 15:49	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/15/16 15:49	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/15/16 15:49	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/15/16 15:49	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/15/16 15:49	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/15/16 15:49	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/15/16 15:49	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/15/16 15:49	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/15/16 15:49	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/15/16 15:49	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/15/16 15:49	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/15/16 15:49	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/15/16 15:49	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/15/16 15:49	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/15/16 15:49	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/15/16 15:49	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/15/16 15:49	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/15/16 15:49	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/15/16 15:49	1
Styrene	0.200	U	1.00	0.200	ug/L			04/15/16 15:49	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 15:49	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/15/16 15:49	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/15/16 15:49	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/15/16 15:49	1
Toluene	0.495	U	1.00	0.495	ug/L			04/15/16 15:49	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: TB06**

**Date Collected: 04/13/16 00:00**

**Date Received: 04/13/16 16:14**

**Lab Sample ID: 560-60893-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/15/16 15:49	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/15/16 15:49	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/15/16 15:49	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/15/16 15:49	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/15/16 15:49	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/15/16 15:49	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/15/16 15:49	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/15/16 15:49	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/15/16 15:49	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/15/16 15:49	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/15/16 15:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/15/16 15:49	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 15:49	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 15:49	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/15/16 15:49	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/15/16 15:49	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/15/16 15:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		04/15/16 15:49	1
Dibromofluoromethane (Surr)	99		69 - 130		04/15/16 15:49	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		04/15/16 15:49	1
Toluene-d8 (Surr)	102		70 - 130		04/15/16 15:49	1

**Client Sample ID: HCS210 PEAK**

**Date Collected: 04/13/16 02:07**

**Date Received: 04/13/16 16:14**

**Lab Sample ID: 560-60893-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/14/16 14:29	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/14/16 14:29	1
Benzene	0.330	U	1.00	0.330	ug/L			04/14/16 14:29	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/14/16 14:29	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 14:29	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/14/16 14:29	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/14/16 14:29	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/14/16 14:29	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/14/16 14:29	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/14/16 14:29	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/14/16 14:29	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/14/16 14:29	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/14/16 14:29	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/14/16 14:29	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/14/16 14:29	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/14/16 14:29	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/14/16 14:29	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/14/16 14:29	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/14/16 14:29	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/14/16 14:29	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 PEAK**

**Lab Sample ID: 560-60893-7**

**Date Collected: 04/13/16 02:07**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/14/16 14:29	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 14:29	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/14/16 14:29	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/14/16 14:29	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/14/16 14:29	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/14/16 14:29	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/14/16 14:29	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/14/16 14:29	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/14/16 14:29	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 14:29	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/14/16 14:29	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/14/16 14:29	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/14/16 14:29	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/14/16 14:29	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/14/16 14:29	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/14/16 14:29	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/14/16 14:29	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/14/16 14:29	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/14/16 14:29	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/14/16 14:29	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/14/16 14:29	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/14/16 14:29	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/14/16 14:29	1
EDB	0.175	U	1.00	0.175	ug/L			04/14/16 14:29	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/14/16 14:29	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 14:29	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/14/16 14:29	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/14/16 14:29	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/14/16 14:29	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/14/16 14:29	1
Hexane	2.00	U	5.00	2.00	ug/L			04/14/16 14:29	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/14/16 14:29	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/14/16 14:29	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/14/16 14:29	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/14/16 14:29	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/14/16 14:29	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/14/16 14:29	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/14/16 14:29	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/14/16 14:29	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/14/16 14:29	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/14/16 14:29	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/14/16 14:29	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/14/16 14:29	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/14/16 14:29	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 14:29	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/14/16 14:29	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/14/16 14:29	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/14/16 14:29	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/14/16 14:29	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 PEAK**

**Lab Sample ID: 560-60893-7**

**Date Collected: 04/13/16 02:07**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.200	U	1.00	0.200	ug/L			04/14/16 14:29	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/14/16 14:29	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/14/16 14:29	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/14/16 14:29	1
Styrene	0.200	U	1.00	0.200	ug/L			04/14/16 14:29	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 14:29	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/14/16 14:29	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/14/16 14:29	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/14/16 14:29	1
Toluene	0.495	U	1.00	0.495	ug/L			04/14/16 14:29	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 14:29	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/14/16 14:29	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/14/16 14:29	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/14/16 14:29	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/14/16 14:29	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/14/16 14:29	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/14/16 14:29	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/14/16 14:29	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/14/16 14:29	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/14/16 14:29	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/14/16 14:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/14/16 14:29	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 14:29	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 14:29	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/14/16 14:29	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/14/16 14:29	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/14/16 14:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130		04/14/16 14:29	1
Dibromofluoromethane (Surr)	99		69 - 130		04/14/16 14:29	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 140		04/14/16 14:29	1
Toluene-d8 (Surr)	102		70 - 130		04/14/16 14:29	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/15/16 13:38	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/15/16 13:38	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/15/16 13:38	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/15/16 13:38	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/15/16 13:38	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/15/16 13:38	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/15/16 13:38	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/15/16 13:38	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/15/16 13:38	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/15/16 13:38	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/15/16 13:38	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/15/16 13:38	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/15/16 13:38	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/15/16 13:38	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 PEAK**

**Lab Sample ID: 560-60893-7**

**Date Collected: 04/13/16 02:07**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 13:38	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/15/16 13:38	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/15/16 13:38	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/15/16 13:38	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/15/16 13:38	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/15/16 13:38	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/15/16 13:38	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/15/16 13:38	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/15/16 13:38	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/15/16 13:38	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/15/16 13:38	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 13:38	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/15/16 13:38	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/15/16 13:38	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/15/16 13:38	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 13:38	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/15/16 13:38	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/15/16 13:38	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/15/16 13:38	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/15/16 13:38	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/15/16 13:38	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/15/16 13:38	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/15/16 13:38	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/15/16 13:38	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/15/16 13:38	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/15/16 13:38	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/15/16 13:38	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 13:38	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/15/16 13:38	1
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 13:38	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/15/16 13:38	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/15/16 13:38	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/15/16 13:38	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 13:38	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/15/16 13:38	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/15/16 13:38	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/15/16 13:38	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/15/16 13:38	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/15/16 13:38	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/15/16 13:38	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/15/16 13:38	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/15/16 13:38	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/15/16 13:38	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/15/16 13:38	1
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/15/16 13:38	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/15/16 13:38	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/15/16 13:38	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/15/16 13:38	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/15/16 13:38	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 PEAK**

**Lab Sample ID: 560-60893-7**

**Date Collected: 04/13/16 02:07**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		23 - 130	04/14/16 17:16	04/15/16 13:38	1
2-Fluorophenol	64		10 - 130	04/14/16 17:16	04/15/16 13:38	1
Nitrobenzene-d5	66		27 - 130	04/14/16 17:16	04/15/16 13:38	1
Phenol-d5	66		10 - 130	04/14/16 17:16	04/15/16 13:38	1
Terphenyl-d14	18		10 - 141	04/14/16 17:16	04/15/16 13:38	1
2,4,6-Tribromophenol	70		18 - 130	04/14/16 17:16	04/15/16 13:38	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 18:16	1
alpha-BHC	0.00501	U	0.0579	0.00501	ug/L		04/15/16 08:31	04/15/16 18:16	1
alpha-Chlordane	0.00607	U	0.0579	0.00607	ug/L		04/15/16 08:31	04/15/16 18:16	1
beta-BHC	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 18:16	1
4,4'-DDD	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 18:16	1
4,4'-DDE	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 18:16	1
4,4'-DDT	0.00781	U	0.0579	0.00781	ug/L		04/15/16 08:31	04/15/16 18:16	1
delta-BHC	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 18:16	1
Dieldrin	0.0125	U	0.0579	0.0125	ug/L		04/15/16 08:31	04/15/16 18:16	1
Endosulfan I	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 18:16	1
Endosulfan II	0.00829	U	0.0579	0.00829	ug/L		04/15/16 08:31	04/15/16 18:16	1
Endosulfan sulfate	0.00848	U	0.0579	0.00848	ug/L		04/15/16 08:31	04/15/16 18:16	1
Endrin	0.00742	U	0.0579	0.00742	ug/L		04/15/16 08:31	04/15/16 18:16	1
Endrin aldehyde	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 18:16	1
Endrin ketone	0.00791	U	0.0579	0.00791	ug/L		04/15/16 08:31	04/15/16 18:16	1
gamma-BHC (Lindane)	0.00434	U	0.0579	0.00434	ug/L		04/15/16 08:31	04/15/16 18:16	1
gamma-Chlordane	0.00646	U	0.0579	0.00646	ug/L		04/15/16 08:31	04/15/16 18:16	1
Heptachlor	0.00627	U	0.0579	0.00627	ug/L		04/15/16 08:31	04/15/16 18:16	1
Heptachlor epoxide	0.00501	U	0.0579	0.00501	ug/L		04/15/16 08:31	04/15/16 18:16	1
Methoxychlor	0.00964	U	0.0579	0.00964	ug/L		04/15/16 08:31	04/15/16 18:16	1
Toxaphene	0.656	U	5.79	0.656	ug/L		04/15/16 08:31	04/15/16 18:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	42		10 - 152	04/15/16 08:31	04/15/16 18:16	1
DCB Decachlorobiphenyl	57		10 - 152	04/15/16 08:31	04/15/16 18:16	1
Tetrachloro-m-xylene	82		57 - 127	04/15/16 08:31	04/15/16 18:16	1
Tetrachloro-m-xylene	66		57 - 127	04/15/16 08:31	04/15/16 18:16	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:46	1
Aroclor 1221	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:46	1
Aroclor 1232	0.424	U	0.771	0.424	ug/L		04/15/16 08:31	04/15/16 17:46	1
Aroclor 1242	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:46	1
Aroclor 1248	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:46	1
Aroclor 1254	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:46	1
Aroclor 1260	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:46	1
Aroclor 1262	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:46	1
Aroclor 1268	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 17:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	116		10 - 150	04/15/16 08:31	04/15/16 17:46	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 PEAK**

**Lab Sample ID: 560-60893-7**

**Date Collected: 04/13/16 02:07**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	83		10 - 150	04/15/16 08:31	04/15/16 17:46	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.163	U	2.42	0.163	ug/L		04/18/16 19:27	04/22/16 02:24	1
Bolstar	0.304	U	0.969	0.304	ug/L		04/18/16 19:27	04/22/16 02:24	1
Chlorpyrifos	0.349	U	1.45	0.349	ug/L		04/18/16 19:27	04/22/16 02:24	1
Coumaphos	0.131	U	0.969	0.131	ug/L		04/18/16 19:27	04/22/16 02:24	1
Demeton-O	0.136	U	0.969	0.136	ug/L		04/18/16 19:27	04/22/16 02:24	1
Demeton-S	0.0668	U	1.94	0.0668	ug/L		04/18/16 19:27	04/22/16 02:24	1
Diazinon	0.142	U	0.484	0.142	ug/L		04/18/16 19:27	04/22/16 02:24	1
Dichlorvos	0.157	U	0.484	0.157	ug/L		04/18/16 19:27	04/22/16 02:24	1
Dimethoate	0.435	U	1.45	0.435	ug/L		04/18/16 19:27	04/22/16 02:24	1
Disulfoton	0.312	U	0.969	0.312	ug/L		04/18/16 19:27	04/22/16 02:24	1
EPN	0.144	U	1.16	0.144	ug/L		04/18/16 19:27	04/22/16 02:24	1
Ethoprop	0.171	U	1.45	0.171	ug/L		04/18/16 19:27	04/22/16 02:24	1
Ethyl Parathion	0.139	U	0.969	0.139	ug/L		04/18/16 19:27	04/22/16 02:24	1
Famphur	0.173	U	0.969	0.173	ug/L		04/18/16 19:27	04/22/16 02:24	1
Fensulfothion	0.527	U	2.42	0.527	ug/L		04/18/16 19:27	04/22/16 02:24	1
Fenthion	0.149	U	2.42	0.149	ug/L		04/18/16 19:27	04/22/16 02:24	1
Malathion	0.129	U	1.94	0.129	ug/L		04/18/16 19:27	04/22/16 02:24	1
Merphos	0.169	U	4.84	0.169	ug/L		04/18/16 19:27	04/22/16 02:24	1
Methyl parathion	0.137	U	3.87	0.137	ug/L		04/18/16 19:27	04/22/16 02:24	1
Mevinphos	0.446	U	6.00	0.446	ug/L		04/18/16 19:27	04/22/16 02:24	1
Naled	0.775	U	1.94	0.775	ug/L		04/18/16 19:27	04/22/16 02:24	1
Phorate	0.149	U	1.16	0.149	ug/L		04/18/16 19:27	04/22/16 02:24	1
Ronnel	0.112	U	9.69	0.112	ug/L		04/18/16 19:27	04/22/16 02:24	1
Sulfotepp	0.163	U	1.45	0.163	ug/L		04/18/16 19:27	04/22/16 02:24	1
Tetrachlorvinphos (Stirophos)	0.120	U	3.39	0.120	ug/L		04/18/16 19:27	04/22/16 02:24	1
Thionazin	0.302	U	0.969	0.302	ug/L		04/18/16 19:27	04/22/16 02:24	1
Tokuthion	0.119	U	1.55	0.119	ug/L		04/18/16 19:27	04/22/16 02:24	1
Trichloronate	0.234	U	1.45	0.234	ug/L		04/18/16 19:27	04/22/16 02:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	63		49 - 171	04/18/16 19:27	04/22/16 02:24	1
Triphenylphosphate	77		60 - 154	04/18/16 19:27	04/22/16 02:24	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0954	U	4.77	0.0954	ug/L		04/19/16 08:29	04/20/16 22:24	1
Dicamba	0.0811	U	0.477	0.0811	ug/L		04/19/16 08:29	04/20/16 22:24	1
Mecoprop	18.1	U	115	18.1	ug/L		04/19/16 08:29	04/20/16 22:24	1
MCPA	16.2	U	115	16.2	ug/L		04/19/16 08:29	04/20/16 22:24	1
Dichlorprop	0.143	U	0.477	0.143	ug/L		04/19/16 08:29	04/20/16 22:24	1
2,4-D	0.0353	U	0.477	0.0353	ug/L		04/19/16 08:29	04/20/16 22:24	1
Silvex (2,4,5-TP)	0.0592	U	0.239	0.0592	ug/L		04/19/16 08:29	04/20/16 22:24	1
2,4,5-T	0.0592	U	0.239	0.0592	ug/L		04/19/16 08:29	04/20/16 22:24	1
2,4-DB	0.143	U	0.477	0.143	ug/L		04/19/16 08:29	04/20/16 22:24	1
Dinoseb	0.153	U	0.954	0.153	ug/L		04/19/16 08:29	04/20/16 22:24	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 PEAK**

**Date Collected: 04/13/16 02:07**

**Date Received: 04/13/16 16:14**

**Lab Sample ID: 560-60893-7**

**Matrix: Water**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	100		45 - 130	04/19/16 08:29	04/20/16 22:24	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	14.1		0.200	0.101	mg/L		04/18/16 08:20	04/20/16 18:33	1
Magnesium	1.10		0.200	0.0257	mg/L		04/18/16 08:20	04/20/16 18:33	1
Potassium	2.89		0.500	0.375	mg/L		04/18/16 08:20	04/20/16 18:33	1
Silicon	1.17		0.500	0.0707	mg/L		04/18/16 08:20	04/20/16 18:33	1
Sodium	0.584	J	1.00	0.310	mg/L		04/18/16 08:20	04/20/16 18:33	1
Strontium	0.0408		0.00500	0.000700	mg/L		04/18/16 08:20	04/20/16 18:33	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		04/18/16 08:20	04/18/16 16:58	1
Antimony	1.61	U	5.00	1.61	ug/L		04/18/16 08:20	04/18/16 16:58	1
Arsenic	1.09	U ^	5.00	1.09	ug/L		04/18/16 08:20	04/18/16 16:58	1
Barium	6.62		5.00	0.810	ug/L		04/18/16 08:20	04/18/16 16:58	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		04/18/16 08:20	04/18/16 16:58	1
Cadmium	0.854	U	2.00	0.854	ug/L		04/18/16 08:20	04/18/16 16:58	1
Chromium	1.40	U	5.00	1.40	ug/L		04/18/16 08:20	04/18/16 16:58	1
Copper	2.00	U	10.0	2.00	ug/L		04/18/16 08:20	04/18/16 16:58	1
Iron	101	U	250	101	ug/L		04/18/16 08:20	04/18/16 16:58	1
Lead	0.733	U	5.00	0.733	ug/L		04/18/16 08:20	04/18/16 16:58	1
Manganese	11.6	U	50.0	11.6	ug/L		04/18/16 08:20	04/18/16 16:58	1
Nickel	2.17	U	5.00	2.17	ug/L		04/18/16 08:20	04/18/16 16:58	1
Selenium	1.68	J B	5.00	1.08	ug/L		04/18/16 08:20	04/18/16 16:58	1
Silver	0.941	U	5.00	0.941	ug/L		04/18/16 08:20	04/18/16 16:58	1
Thallium	0.693	U	2.00	0.693	ug/L		04/18/16 08:20	04/18/16 16:58	1
Zinc	3.55	U	25.0	3.55	ug/L		04/18/16 08:20	04/18/16 16:58	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		04/20/16 10:00	04/20/16 16:36	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L			04/14/16 16:46	1
Chloride	1.27		1.00	0.192	mg/L			04/14/16 16:46	1
Nitrate as N	0.492	J	0.500	0.103	mg/L			04/14/16 16:46	1
Sulfate	0.864	J	1.00	0.377	mg/L			04/14/16 16:46	1
Fluoride	0.0452	J	0.100	0.0200	mg/L			04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/20/16 12:08	1
Phosphorus	0.212		0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:38	1
Total Organic Carbon	5.18		1.00	0.285	mg/L			04/19/16 13:45	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.66	HF	0.100	0.100	SU			04/21/16 09:57	1
Total Alkalinity as CaCO3	40.6		5.00	5.00	mg/L			04/18/16 14:00	1
Bicarbonate Alkalinity as CaCO3	40.6		5.00	5.00	mg/L			04/18/16 14:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/18/16 14:00	1
Total Dissolved Solids	75.0		10.0	10.0	mg/L			04/15/16 09:08	1
Total Suspended Solids	17.2		3.00	3.00	mg/L			04/19/16 09:50	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	6.16		1.00	0.285	mg/L			04/20/16 12:27	1

## Client Sample ID: HCS240 PEAK

## Lab Sample ID: 560-60893-8

Date Collected: 04/13/16 02:19

Matrix: Water

Date Received: 04/13/16 16:14

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/14/16 14:54	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/14/16 14:54	1
Benzene	0.330	U	1.00	0.330	ug/L			04/14/16 14:54	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/14/16 14:54	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 14:54	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/14/16 14:54	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/14/16 14:54	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/14/16 14:54	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/14/16 14:54	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/14/16 14:54	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/14/16 14:54	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/14/16 14:54	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/14/16 14:54	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/14/16 14:54	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/14/16 14:54	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/14/16 14:54	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/14/16 14:54	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/14/16 14:54	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/14/16 14:54	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/14/16 14:54	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/14/16 14:54	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 14:54	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/14/16 14:54	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/14/16 14:54	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/14/16 14:54	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/14/16 14:54	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/14/16 14:54	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/14/16 14:54	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/14/16 14:54	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 14:54	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/14/16 14:54	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/14/16 14:54	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/14/16 14:54	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/14/16 14:54	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/14/16 14:54	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/14/16 14:54	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/14/16 14:54	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/14/16 14:54	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/14/16 14:54	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/14/16 14:54	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/14/16 14:54	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/14/16 14:54	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/14/16 14:54	1
EDB	0.175	U	1.00	0.175	ug/L			04/14/16 14:54	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/14/16 14:54	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 PEAK**

**Lab Sample ID: 560-60893-8**

**Date Collected: 04/13/16 02:19**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 14:54	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/14/16 14:54	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/14/16 14:54	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/14/16 14:54	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/14/16 14:54	1
Hexane	2.00	U	5.00	2.00	ug/L			04/14/16 14:54	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/14/16 14:54	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/14/16 14:54	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/14/16 14:54	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/14/16 14:54	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/14/16 14:54	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/14/16 14:54	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/14/16 14:54	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/14/16 14:54	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/14/16 14:54	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/14/16 14:54	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/14/16 14:54	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/14/16 14:54	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/14/16 14:54	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 14:54	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/14/16 14:54	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/14/16 14:54	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/14/16 14:54	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/14/16 14:54	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/14/16 14:54	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/14/16 14:54	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/14/16 14:54	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/14/16 14:54	1
Styrene	0.200	U	1.00	0.200	ug/L			04/14/16 14:54	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 14:54	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/14/16 14:54	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/14/16 14:54	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/14/16 14:54	1
Toluene	0.495	U	1.00	0.495	ug/L			04/14/16 14:54	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 14:54	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/14/16 14:54	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/14/16 14:54	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/14/16 14:54	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/14/16 14:54	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/14/16 14:54	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/14/16 14:54	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/14/16 14:54	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/14/16 14:54	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/14/16 14:54	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/14/16 14:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/14/16 14:54	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 14:54	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 14:54	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/14/16 14:54	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 PEAK**

**Lab Sample ID: 560-60893-8**

**Date Collected: 04/13/16 02:19**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/14/16 14:54	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/14/16 14:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130					04/14/16 14:54	1
Dibromofluoromethane (Surr)	100		69 - 130					04/14/16 14:54	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 140					04/14/16 14:54	1
Toluene-d8 (Surr)	101		70 - 130					04/14/16 14:54	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/15/16 14:04	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/15/16 14:04	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/15/16 14:04	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/15/16 14:04	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/15/16 14:04	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/15/16 14:04	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/15/16 14:04	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/15/16 14:04	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/15/16 14:04	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/15/16 14:04	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/15/16 14:04	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/15/16 14:04	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/15/16 14:04	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/15/16 14:04	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 14:04	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/15/16 14:04	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/15/16 14:04	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/15/16 14:04	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/15/16 14:04	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/15/16 14:04	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/15/16 14:04	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/15/16 14:04	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/15/16 14:04	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/15/16 14:04	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/15/16 14:04	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 14:04	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/15/16 14:04	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/15/16 14:04	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/15/16 14:04	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 14:04	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/15/16 14:04	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/15/16 14:04	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/15/16 14:04	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/15/16 14:04	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/15/16 14:04	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/15/16 14:04	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/15/16 14:04	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/15/16 14:04	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/15/16 14:04	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 PEAK**

**Lab Sample ID: 560-60893-8**

**Date Collected: 04/13/16 02:19**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/15/16 14:04	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/15/16 14:04	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 14:04	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/15/16 14:04	1
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 14:04	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/15/16 14:04	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/15/16 14:04	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/15/16 14:04	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 14:04	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/15/16 14:04	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/15/16 14:04	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/15/16 14:04	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/15/16 14:04	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/15/16 14:04	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/15/16 14:04	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/15/16 14:04	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/15/16 14:04	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/15/16 14:04	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/15/16 14:04	1
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/15/16 14:04	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/15/16 14:04	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/15/16 14:04	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/15/16 14:04	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/15/16 14:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	71		23 - 130	04/14/16 17:16	04/15/16 14:04	1
2-Fluorophenol	69		10 - 130	04/14/16 17:16	04/15/16 14:04	1
Nitrobenzene-d5	70		27 - 130	04/14/16 17:16	04/15/16 14:04	1
Phenol-d5	73		10 - 130	04/14/16 17:16	04/15/16 14:04	1
Terphenyl-d14	32		10 - 141	04/14/16 17:16	04/15/16 14:04	1
2,4,6-Tribromophenol	75		18 - 130	04/14/16 17:16	04/15/16 14:04	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 18:41	1
alpha-BHC	0.00497	U	0.0574	0.00497	ug/L		04/15/16 08:31	04/15/16 18:41	1
alpha-Chlordane	0.00602	U	0.0574	0.00602	ug/L		04/15/16 08:31	04/15/16 18:41	1
beta-BHC	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 18:41	1
4,4'-DDD	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 18:41	1
4,4'-DDE	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 18:41	1
4,4'-DDT	0.00775	U	0.0574	0.00775	ug/L		04/15/16 08:31	04/15/16 18:41	1
delta-BHC	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 18:41	1
Dieldrin	0.0124	U	0.0574	0.0124	ug/L		04/15/16 08:31	04/15/16 18:41	1
Endosulfan I	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 18:41	1
Endosulfan II	0.00822	U	0.0574	0.00822	ug/L		04/15/16 08:31	04/15/16 18:41	1
Endosulfan sulfate	0.00842	U	0.0574	0.00842	ug/L		04/15/16 08:31	04/15/16 18:41	1
Endrin	0.00736	U	0.0574	0.00736	ug/L		04/15/16 08:31	04/15/16 18:41	1
Endrin aldehyde	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 18:41	1
Endrin ketone	0.00784	U	0.0574	0.00784	ug/L		04/15/16 08:31	04/15/16 18:41	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 PEAK**

**Lab Sample ID: 560-60893-8**

**Date Collected: 04/13/16 02:19**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
gamma-BHC (Lindane)	0.00430	U	0.0574	0.00430	ug/L		04/15/16 08:31	04/15/16 18:41	1
gamma-Chlordane	0.00641	U	0.0574	0.00641	ug/L		04/15/16 08:31	04/15/16 18:41	1
Heptachlor	0.00622	U	0.0574	0.00622	ug/L		04/15/16 08:31	04/15/16 18:41	1
Heptachlor epoxide	0.00497	U	0.0574	0.00497	ug/L		04/15/16 08:31	04/15/16 18:41	1
Methoxychlor	0.00956	U	0.0574	0.00956	ug/L		04/15/16 08:31	04/15/16 18:41	1
Toxaphene	0.650	U	5.74	0.650	ug/L		04/15/16 08:31	04/15/16 18:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	46		10 - 152	04/15/16 08:31	04/15/16 18:41	1
DCB Decachlorobiphenyl	66		10 - 152	04/15/16 08:31	04/15/16 18:41	1
Tetrachloro-m-xylene	79		57 - 127	04/15/16 08:31	04/15/16 18:41	1
Tetrachloro-m-xylene	69		57 - 127	04/15/16 08:31	04/15/16 18:41	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:04	1
Aroclor 1221	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:04	1
Aroclor 1232	0.421	U	0.765	0.421	ug/L		04/15/16 08:31	04/15/16 18:04	1
Aroclor 1242	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:04	1
Aroclor 1248	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:04	1
Aroclor 1254	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:04	1
Aroclor 1260	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:04	1
Aroclor 1262	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:04	1
Aroclor 1268	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	122		10 - 150	04/15/16 08:31	04/15/16 18:04	1
DCB Decachlorobiphenyl	98		10 - 150	04/15/16 08:31	04/15/16 18:04	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.159	U	2.36	0.159	ug/L		04/18/16 19:27	04/22/16 02:55	1
Bolstar	0.297	U	0.946	0.297	ug/L		04/18/16 19:27	04/22/16 02:55	1
Chlorpyrifos	0.341	U	1.42	0.341	ug/L		04/18/16 19:27	04/22/16 02:55	1
Coumaphos	0.128	U	0.946	0.128	ug/L		04/18/16 19:27	04/22/16 02:55	1
Demeton-O	0.132	U	0.946	0.132	ug/L		04/18/16 19:27	04/22/16 02:55	1
Demeton-S	0.0653	U	1.89	0.0653	ug/L		04/18/16 19:27	04/22/16 02:55	1
Diazinon	0.139	U	0.473	0.139	ug/L		04/18/16 19:27	04/22/16 02:55	1
Dichlorvos	0.153	U	0.473	0.153	ug/L		04/18/16 19:27	04/22/16 02:55	1
Dimethoate	0.425	U	1.42	0.425	ug/L		04/18/16 19:27	04/22/16 02:55	1
Disulfoton	0.305	U	0.946	0.305	ug/L		04/18/16 19:27	04/22/16 02:55	1
EPN	0.141	U	1.14	0.141	ug/L		04/18/16 19:27	04/22/16 02:55	1
Ethoprop	0.167	U	1.42	0.167	ug/L		04/18/16 19:27	04/22/16 02:55	1
Ethyl Parathion	0.136	U	0.946	0.136	ug/L		04/18/16 19:27	04/22/16 02:55	1
Famphur	0.169	U	0.946	0.169	ug/L		04/18/16 19:27	04/22/16 02:55	1
Fensulfothion	0.515	U	2.36	0.515	ug/L		04/18/16 19:27	04/22/16 02:55	1
Fenthion	0.146	U	2.36	0.146	ug/L		04/18/16 19:27	04/22/16 02:55	1
Malathion	0.126	U	1.89	0.126	ug/L		04/18/16 19:27	04/22/16 02:55	1
Merphos	0.165	U	4.73	0.165	ug/L		04/18/16 19:27	04/22/16 02:55	1
Methyl parathion	0.133	U	3.78	0.133	ug/L		04/18/16 19:27	04/22/16 02:55	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 PEAK**

**Lab Sample ID: 560-60893-8**

**Date Collected: 04/13/16 02:19**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mevinphos	0.435	U	5.87	0.435	ug/L		04/18/16 19:27	04/22/16 02:55	1
Naled	0.757	U	1.89	0.757	ug/L		04/18/16 19:27	04/22/16 02:55	1
Phorate	0.146	U	1.14	0.146	ug/L		04/18/16 19:27	04/22/16 02:55	1
Ronnel	0.110	U	9.46	0.110	ug/L		04/18/16 19:27	04/22/16 02:55	1
Sulfotepp	0.159	U	1.42	0.159	ug/L		04/18/16 19:27	04/22/16 02:55	1
Tetrachlorvinphos (Stirophos)	0.117	U	3.31	0.117	ug/L		04/18/16 19:27	04/22/16 02:55	1
Thionazin	0.295	U	0.946	0.295	ug/L		04/18/16 19:27	04/22/16 02:55	1
Tokuthion	0.116	U	1.51	0.116	ug/L		04/18/16 19:27	04/22/16 02:55	1
Trichloronate	0.229	U	1.42	0.229	ug/L		04/18/16 19:27	04/22/16 02:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	83		49 - 171				04/18/16 19:27	04/22/16 02:55	1
Triphenylphosphate	94		60 - 154				04/18/16 19:27	04/22/16 02:55	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0948	U	4.74	0.0948	ug/L		04/19/16 08:29	04/20/16 22:44	1
Dicamba	0.0806	U	0.474	0.0806	ug/L		04/19/16 08:29	04/20/16 22:44	1
Mecoprop	18.0	U	114	18.0	ug/L		04/19/16 08:29	04/20/16 22:44	1
MCPA	16.1	U	114	16.1	ug/L		04/19/16 08:29	04/20/16 22:44	1
Dichlorprop	0.142	U	0.474	0.142	ug/L		04/19/16 08:29	04/20/16 22:44	1
<b>2,4-D</b>	<b>0.0677</b>	<b>J</b>	0.474	0.0351	ug/L		04/19/16 08:29	04/20/16 22:44	1
Silvex (2,4,5-TP)	0.0588	U	0.237	0.0588	ug/L		04/19/16 08:29	04/20/16 22:44	1
2,4,5-T	0.0588	U	0.237	0.0588	ug/L		04/19/16 08:29	04/20/16 22:44	1
2,4-DB	0.142	U	0.474	0.142	ug/L		04/19/16 08:29	04/20/16 22:44	1
Dinoseb	0.152	U	0.948	0.152	ug/L		04/19/16 08:29	04/20/16 22:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	83		45 - 130				04/19/16 08:29	04/20/16 22:44	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Calcium</b>	<b>75.6</b>		0.200	0.101	mg/L		04/18/16 08:20	04/20/16 18:37	1
<b>Magnesium</b>	<b>14.5</b>		0.200	0.0257	mg/L		04/18/16 08:20	04/20/16 18:37	1
<b>Potassium</b>	<b>1.80</b>		0.500	0.375	mg/L		04/18/16 08:20	04/20/16 18:37	1
<b>Silicon</b>	<b>5.33</b>		0.500	0.0707	mg/L		04/18/16 08:20	04/20/16 18:37	1
<b>Sodium</b>	<b>9.54</b>		1.00	0.310	mg/L		04/18/16 08:20	04/20/16 18:37	1
<b>Strontium</b>	<b>0.556</b>		0.00500	0.000700	mg/L		04/18/16 08:20	04/20/16 18:37	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		04/18/16 08:20	04/18/16 17:03	1
Antimony	1.61	U	5.00	1.61	ug/L		04/18/16 08:20	04/18/16 17:03	1
Arsenic	1.09	U ^	5.00	1.09	ug/L		04/18/16 08:20	04/18/16 17:03	1
<b>Barium</b>	<b>51.3</b>		5.00	0.810	ug/L		04/18/16 08:20	04/18/16 17:03	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		04/18/16 08:20	04/18/16 17:03	1
Cadmium	0.854	U	2.00	0.854	ug/L		04/18/16 08:20	04/18/16 17:03	1
Chromium	1.40	U	5.00	1.40	ug/L		04/18/16 08:20	04/18/16 17:03	1
Copper	2.00	U	10.0	2.00	ug/L		04/18/16 08:20	04/18/16 17:03	1
Iron	101	U	250	101	ug/L		04/18/16 08:20	04/18/16 17:03	1
Lead	0.733	U	5.00	0.733	ug/L		04/18/16 08:20	04/18/16 17:03	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 PEAK**

**Date Collected: 04/13/16 02:19**

**Date Received: 04/13/16 16:14**

**Lab Sample ID: 560-60893-8**

**Matrix: Water**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	11.6	U	50.0	11.6	ug/L		04/18/16 08:20	04/18/16 17:03	1
Nickel	2.17	U	5.00	2.17	ug/L		04/18/16 08:20	04/18/16 17:03	1
<b>Selenium</b>	<b>1.23</b>	<b>J B</b>	5.00	1.08	ug/L		04/18/16 08:20	04/18/16 17:03	1
Silver	0.941	U	5.00	0.941	ug/L		04/18/16 08:20	04/18/16 17:03	1
Thallium	0.693	U	2.00	0.693	ug/L		04/18/16 08:20	04/18/16 17:03	1
Zinc	3.55	U	25.0	3.55	ug/L		04/18/16 08:20	04/18/16 17:03	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		04/20/16 10:00	04/20/16 16:38	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>0.537</b>	<b>J</b>	1.00	0.315	mg/L			04/14/16 18:04	1
<b>Chloride</b>	<b>15.8</b>		1.00	0.192	mg/L			04/14/16 18:04	1
<b>Nitrate as N</b>	<b>1.67</b>		0.500	0.103	mg/L			04/14/16 18:04	1
<b>Sulfate</b>	<b>22.2</b>		1.00	0.377	mg/L			04/14/16 18:04	1
<b>Fluoride</b>	<b>0.171</b>		0.100	0.0200	mg/L			04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/20/16 12:09	1
<b>Phosphorus</b>	<b>0.171</b>		0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:54	1
<b>Total Organic Carbon</b>	<b>3.17</b>		1.00	0.285	mg/L			04/19/16 13:45	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.36</b>	<b>HF</b>	0.100	0.100	SU			04/21/16 09:57	1
<b>Total Alkalinity as CaCO3</b>	<b>204</b>		5.00	5.00	mg/L			04/22/16 13:20	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>204</b>		5.00	5.00	mg/L			04/22/16 13:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/22/16 13:20	1
<b>Total Dissolved Solids</b>	<b>300</b>		10.0	10.0	mg/L			04/15/16 09:08	1
<b>Total Suspended Solids</b>	<b>5.00</b>		3.00	3.00	mg/L			04/19/16 09:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Dissolved Organic Carbon</b>	<b>0.964</b>	<b>J</b>	1.00	0.285	mg/L			04/20/16 12:27	1

**Client Sample ID: HCS250 PEAK**

**Date Collected: 04/13/16 01:55**

**Date Received: 04/13/16 16:14**

**Lab Sample ID: 560-60893-9**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/15/16 16:14	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/15/16 16:14	1
Benzene	0.330	U	1.00	0.330	ug/L			04/15/16 16:14	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/15/16 16:14	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/15/16 16:14	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/15/16 16:14	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/15/16 16:14	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/15/16 16:14	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/15/16 16:14	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/15/16 16:14	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/15/16 16:14	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 PEAK**

**Lab Sample ID: 560-60893-9**

**Date Collected: 04/13/16 01:55**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/15/16 16:14	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/15/16 16:14	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/15/16 16:14	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/15/16 16:14	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/15/16 16:14	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/15/16 16:14	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/15/16 16:14	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/15/16 16:14	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/15/16 16:14	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/15/16 16:14	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/15/16 16:14	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/15/16 16:14	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/15/16 16:14	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/15/16 16:14	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/15/16 16:14	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/15/16 16:14	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/15/16 16:14	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/15/16 16:14	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/15/16 16:14	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/15/16 16:14	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/15/16 16:14	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/15/16 16:14	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/15/16 16:14	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/15/16 16:14	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/15/16 16:14	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/15/16 16:14	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/15/16 16:14	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/15/16 16:14	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/15/16 16:14	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/15/16 16:14	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/15/16 16:14	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/15/16 16:14	1
EDB	0.175	U	1.00	0.175	ug/L			04/15/16 16:14	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/15/16 16:14	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/15/16 16:14	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/15/16 16:14	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/15/16 16:14	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/15/16 16:14	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/15/16 16:14	1
Hexane	2.00	U	5.00	2.00	ug/L			04/15/16 16:14	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/15/16 16:14	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/15/16 16:14	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/15/16 16:14	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/15/16 16:14	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/15/16 16:14	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/15/16 16:14	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/15/16 16:14	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/15/16 16:14	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/15/16 16:14	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 PEAK**

**Lab Sample ID: 560-60893-9**

**Date Collected: 04/13/16 01:55**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/15/16 16:14	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/15/16 16:14	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/15/16 16:14	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/15/16 16:14	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/15/16 16:14	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/15/16 16:14	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/15/16 16:14	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/15/16 16:14	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/15/16 16:14	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/15/16 16:14	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/15/16 16:14	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/15/16 16:14	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/15/16 16:14	1
Styrene	0.200	U	1.00	0.200	ug/L			04/15/16 16:14	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 16:14	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/15/16 16:14	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/15/16 16:14	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/15/16 16:14	1
Toluene	0.495	U	1.00	0.495	ug/L			04/15/16 16:14	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/15/16 16:14	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/15/16 16:14	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/15/16 16:14	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/15/16 16:14	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/15/16 16:14	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/15/16 16:14	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/15/16 16:14	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/15/16 16:14	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/15/16 16:14	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/15/16 16:14	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/15/16 16:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/15/16 16:14	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 16:14	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 16:14	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/15/16 16:14	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/15/16 16:14	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/15/16 16:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130		04/15/16 16:14	1
Dibromofluoromethane (Surr)	102		69 - 130		04/15/16 16:14	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		04/15/16 16:14	1
Toluene-d8 (Surr)	102		70 - 130		04/15/16 16:14	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/15/16 15:48	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/15/16 15:48	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/15/16 15:48	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/15/16 15:48	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/15/16 15:48	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 PEAK**

**Lab Sample ID: 560-60893-9**

**Date Collected: 04/13/16 01:55**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/15/16 15:48	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/15/16 15:48	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/15/16 15:48	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/15/16 15:48	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/15/16 15:48	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/15/16 15:48	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/15/16 15:48	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/15/16 15:48	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/15/16 15:48	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 15:48	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/15/16 15:48	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/15/16 15:48	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/15/16 15:48	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/15/16 15:48	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/15/16 15:48	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/15/16 15:48	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/15/16 15:48	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/15/16 15:48	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/15/16 15:48	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/15/16 15:48	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 15:48	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/15/16 15:48	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/15/16 15:48	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/15/16 15:48	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 15:48	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/15/16 15:48	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/15/16 15:48	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/15/16 15:48	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/15/16 15:48	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/15/16 15:48	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/15/16 15:48	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/15/16 15:48	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/15/16 15:48	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/15/16 15:48	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/15/16 15:48	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/15/16 15:48	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 15:48	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/15/16 15:48	1
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 15:48	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/15/16 15:48	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/15/16 15:48	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/15/16 15:48	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 15:48	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/15/16 15:48	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/15/16 15:48	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/15/16 15:48	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/15/16 15:48	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/15/16 15:48	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/15/16 15:48	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 PEAK**

**Lab Sample ID: 560-60893-9**

**Date Collected: 04/13/16 01:55**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/15/16 15:48	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/15/16 15:48	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/15/16 15:48	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/15/16 15:48	1
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/15/16 15:48	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/15/16 15:48	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/15/16 15:48	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/15/16 15:48	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/15/16 15:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	72		23 - 130				04/14/16 17:16	04/15/16 15:48	1
2-Fluorophenol	69		10 - 130				04/14/16 17:16	04/15/16 15:48	1
Nitrobenzene-d5	72		27 - 130				04/14/16 17:16	04/15/16 15:48	1
Phenol-d5	72		10 - 130				04/14/16 17:16	04/15/16 15:48	1
Terphenyl-d14	34		10 - 141				04/14/16 17:16	04/15/16 15:48	1
2,4,6-Tribromophenol	78		18 - 130				04/14/16 17:16	04/15/16 15:48	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 19:06	1
alpha-BHC	0.00501	U	0.0579	0.00501	ug/L		04/15/16 08:31	04/15/16 19:06	1
alpha-Chlordane	0.00607	U	0.0579	0.00607	ug/L		04/15/16 08:31	04/15/16 19:06	1
beta-BHC	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 19:06	1
4,4'-DDD	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 19:06	1
4,4'-DDE	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 19:06	1
4,4'-DDT	0.00781	U	0.0579	0.00781	ug/L		04/15/16 08:31	04/15/16 19:06	1
delta-BHC	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 19:06	1
Dieldrin	0.0125	U	0.0579	0.0125	ug/L		04/15/16 08:31	04/15/16 19:06	1
Endosulfan I	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 19:06	1
Endosulfan II	0.00829	U	0.0579	0.00829	ug/L		04/15/16 08:31	04/15/16 19:06	1
Endosulfan sulfate	0.00848	U	0.0579	0.00848	ug/L		04/15/16 08:31	04/15/16 19:06	1
Endrin	0.00742	U	0.0579	0.00742	ug/L		04/15/16 08:31	04/15/16 19:06	1
Endrin aldehyde	0.00482	U	0.0579	0.00482	ug/L		04/15/16 08:31	04/15/16 19:06	1
Endrin ketone	0.00791	U	0.0579	0.00791	ug/L		04/15/16 08:31	04/15/16 19:06	1
gamma-BHC (Lindane)	0.00434	U	0.0579	0.00434	ug/L		04/15/16 08:31	04/15/16 19:06	1
gamma-Chlordane	0.00646	U	0.0579	0.00646	ug/L		04/15/16 08:31	04/15/16 19:06	1
Heptachlor	0.00627	U	0.0579	0.00627	ug/L		04/15/16 08:31	04/15/16 19:06	1
Heptachlor epoxide	0.00501	U	0.0579	0.00501	ug/L		04/15/16 08:31	04/15/16 19:06	1
Methoxychlor	0.00964	U	0.0579	0.00964	ug/L		04/15/16 08:31	04/15/16 19:06	1
Toxaphene	0.656	U	5.79	0.656	ug/L		04/15/16 08:31	04/15/16 19:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	38		10 - 152				04/15/16 08:31	04/15/16 19:06	1
DCB Decachlorobiphenyl	53		10 - 152				04/15/16 08:31	04/15/16 19:06	1
Tetrachloro-m-xylene	79		57 - 127				04/15/16 08:31	04/15/16 19:06	1
Tetrachloro-m-xylene	67		57 - 127				04/15/16 08:31	04/15/16 19:06	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 PEAK**

**Lab Sample ID: 560-60893-9**

**Date Collected: 04/13/16 01:55**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 18:21	1
Aroclor 1221	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 18:21	1
Aroclor 1232	0.424	U	0.771	0.424	ug/L		04/15/16 08:31	04/15/16 18:21	1
Aroclor 1242	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 18:21	1
Aroclor 1248	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 18:21	1
Aroclor 1254	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 18:21	1
Aroclor 1260	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 18:21	1
Aroclor 1262	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 18:21	1
Aroclor 1268	0.106	U	0.579	0.106	ug/L		04/15/16 08:31	04/15/16 18:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	119		10 - 150	04/15/16 08:31	04/15/16 18:21	1
DCB Decachlorobiphenyl	80		10 - 150	04/15/16 08:31	04/15/16 18:21	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.160	U	2.38	0.160	ug/L		04/18/16 19:27	04/22/16 03:26	1
Bolstar	0.299	U	0.951	0.299	ug/L		04/18/16 19:27	04/22/16 03:26	1
Chlorpyrifos	0.342	U	1.43	0.342	ug/L		04/18/16 19:27	04/22/16 03:26	1
Coumaphos	0.128	U	0.951	0.128	ug/L		04/18/16 19:27	04/22/16 03:26	1
Demeton-O	0.133	U	0.951	0.133	ug/L		04/18/16 19:27	04/22/16 03:26	1
Demeton-S	0.0656	U	1.90	0.0656	ug/L		04/18/16 19:27	04/22/16 03:26	1
Diazinon	0.140	U	0.476	0.140	ug/L		04/18/16 19:27	04/22/16 03:26	1
Dichlorvos	0.154	U	0.476	0.154	ug/L		04/18/16 19:27	04/22/16 03:26	1
Dimethoate	0.427	U	1.43	0.427	ug/L		04/18/16 19:27	04/22/16 03:26	1
Disulfoton	0.306	U	0.951	0.306	ug/L		04/18/16 19:27	04/22/16 03:26	1
EPN	0.142	U	1.14	0.142	ug/L		04/18/16 19:27	04/22/16 03:26	1
Ethoprop	0.168	U	1.43	0.168	ug/L		04/18/16 19:27	04/22/16 03:26	1
Ethyl Parathion	0.137	U	0.951	0.137	ug/L		04/18/16 19:27	04/22/16 03:26	1
Famphur	0.170	U	0.951	0.170	ug/L		04/18/16 19:27	04/22/16 03:26	1
Fensulfothion	0.518	U	2.38	0.518	ug/L		04/18/16 19:27	04/22/16 03:26	1
Fenthion	0.146	U	2.38	0.146	ug/L		04/18/16 19:27	04/22/16 03:26	1
Malathion	0.127	U	1.90	0.127	ug/L		04/18/16 19:27	04/22/16 03:26	1
Merphos	0.166	U	4.76	0.166	ug/L		04/18/16 19:27	04/22/16 03:26	1
Methyl parathion	0.134	U	3.81	0.134	ug/L		04/18/16 19:27	04/22/16 03:26	1
Mevinphos	0.438	U	5.90	0.438	ug/L		04/18/16 19:27	04/22/16 03:26	1
Naled	0.761	U	1.90	0.761	ug/L		04/18/16 19:27	04/22/16 03:26	1
Phorate	0.146	U	1.14	0.146	ug/L		04/18/16 19:27	04/22/16 03:26	1
Ronnel	0.110	U	9.51	0.110	ug/L		04/18/16 19:27	04/22/16 03:26	1
Sulfotepp	0.160	U	1.43	0.160	ug/L		04/18/16 19:27	04/22/16 03:26	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.33	0.118	ug/L		04/18/16 19:27	04/22/16 03:26	1
Thionazin	0.297	U	0.951	0.297	ug/L		04/18/16 19:27	04/22/16 03:26	1
Tokuthion	0.117	U	1.52	0.117	ug/L		04/18/16 19:27	04/22/16 03:26	1
Trichloronate	0.230	U	1.43	0.230	ug/L		04/18/16 19:27	04/22/16 03:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	74		49 - 171	04/18/16 19:27	04/22/16 03:26	1
Triphenylphosphate	92		60 - 154	04/18/16 19:27	04/22/16 03:26	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 PEAK**

**Lab Sample ID: 560-60893-9**

**Date Collected: 04/13/16 01:55**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.122	U	6.11	0.122	ug/L	-	04/19/16 08:29	04/20/16 23:03	1
Dicamba	0.104	U	0.611	0.104	ug/L	-	04/19/16 08:29	04/20/16 23:03	1
Mecoprop	23.2	U	147	23.2	ug/L	-	04/19/16 08:29	04/20/16 23:03	1
MCPA	20.8	U	147	20.8	ug/L	-	04/19/16 08:29	04/20/16 23:03	1
Dichlorprop	0.183	U	0.611	0.183	ug/L	-	04/19/16 08:29	04/20/16 23:03	1
<b>2,4-D</b>	<b>0.227</b>	<b>J</b>	0.611	0.0452	ug/L	-	04/19/16 08:29	04/20/16 23:03	1
Silvex (2,4,5-TP)	0.0758	U	0.306	0.0758	ug/L	-	04/19/16 08:29	04/20/16 23:03	1
2,4,5-T	0.0758	U	0.306	0.0758	ug/L	-	04/19/16 08:29	04/20/16 23:03	1
2,4-DB	0.183	U	0.611	0.183	ug/L	-	04/19/16 08:29	04/20/16 23:03	1
Dinoseb	0.196	U	1.22	0.196	ug/L	-	04/19/16 08:29	04/20/16 23:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	83		45 - 130	04/19/16 08:29	04/20/16 23:03	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Silicon</b>	<b>4.69</b>		0.500	0.0707	mg/L	-	04/18/16 08:20	04/20/16 18:41	1
<b>Strontium</b>	<b>0.501</b>		0.00500	0.000700	mg/L	-	04/18/16 08:20	04/20/16 18:41	1
<b>Calcium</b>	<b>72.2</b>		0.200	0.101	mg/L	-	04/18/16 08:20	04/20/16 18:41	1
<b>Potassium</b>	<b>1.67</b>		0.500	0.375	mg/L	-	04/18/16 08:20	04/20/16 18:41	1
<b>Magnesium</b>	<b>12.9</b>		0.200	0.0257	mg/L	-	04/18/16 08:20	04/20/16 18:41	1
<b>Sodium</b>	<b>8.97</b>		1.00	0.310	mg/L	-	04/18/16 08:20	04/20/16 18:41	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.941	U	5.00	0.941	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
Arsenic	1.09	U ^	5.00	1.09	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
<b>Barium</b>	<b>46.8</b>		5.00	0.810	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
Beryllium	1.24	U ^	4.00	1.24	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
Cadmium	0.854	U	2.00	0.854	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
Chromium	1.40	U	5.00	1.40	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
Copper	2.00	U	10.0	2.00	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
Manganese	11.6	U	50.0	11.6	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
Nickel	2.17	U	5.00	2.17	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
<b>Lead</b>	<b>1.11</b>	<b>J</b>	5.00	0.733	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
Selenium	1.08	U	5.00	1.08	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
Thallium	0.693	U	2.00	0.693	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
<b>Zinc</b>	<b>5.06</b>	<b>J</b>	25.0	3.55	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
Antimony	1.61	U	5.00	1.61	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
<b>Aluminum</b>	<b>98.0</b>	<b>J</b>	100	50.0	ug/L	-	04/18/16 08:20	04/18/16 17:09	1
Iron	101	U	250	101	ug/L	-	04/18/16 08:20	04/18/16 17:09	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.000215</b>	<b>J B</b>	0.00200	0.000130	mg/Kg	-	04/25/16 10:00	04/25/16 14:29	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>0.528</b>	<b>J</b>	1.00	0.315	mg/L	-		04/14/16 18:30	1
<b>Chloride</b>	<b>13.5</b>		1.00	0.192	mg/L	-		04/14/16 18:30	1
<b>Nitrate as N</b>	<b>1.41</b>		0.500	0.103	mg/L	-		04/14/16 18:30	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 PEAK**

**Lab Sample ID: 560-60893-9**

**Date Collected: 04/13/16 01:55**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	18.8		1.00	0.377	mg/L			04/14/16 18:30	1
Fluoride	0.162		0.100	0.0200	mg/L			04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/20/16 12:12	1
Phosphorus	0.0642	J	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:46	1
Total Organic Carbon	2.06		1.00	0.285	mg/L			04/19/16 13:45	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.42	HF	0.100	0.100	SU			04/21/16 09:57	1
Total Alkalinity as CaCO3	174		5.00	5.00	mg/L			04/22/16 13:20	1
Bicarbonate Alkalinity as CaCO3	174		5.00	5.00	mg/L			04/22/16 13:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/22/16 13:20	1
Total Dissolved Solids	269		10.0	10.0	mg/L			04/15/16 09:08	1
Total Suspended Solids	18.2		3.00	3.00	mg/L			04/19/16 09:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.54		1.00	0.285	mg/L			04/20/16 12:27	1

**Client Sample ID: HCS260 PEAK**

**Lab Sample ID: 560-60893-10**

**Date Collected: 04/13/16 02:14**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/14/16 15:19	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/14/16 15:19	1
Benzene	0.330	U	1.00	0.330	ug/L			04/14/16 15:19	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/14/16 15:19	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 15:19	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/14/16 15:19	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/14/16 15:19	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/14/16 15:19	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/14/16 15:19	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/14/16 15:19	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/14/16 15:19	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/14/16 15:19	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/14/16 15:19	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/14/16 15:19	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/14/16 15:19	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/14/16 15:19	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/14/16 15:19	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/14/16 15:19	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/14/16 15:19	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/14/16 15:19	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/14/16 15:19	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 15:19	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/14/16 15:19	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/14/16 15:19	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/14/16 15:19	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/14/16 15:19	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/14/16 15:19	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 PEAK**

**Lab Sample ID: 560-60893-10**

**Date Collected: 04/13/16 02:14**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/14/16 15:19	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/14/16 15:19	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 15:19	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/14/16 15:19	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/14/16 15:19	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/14/16 15:19	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/14/16 15:19	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/14/16 15:19	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/14/16 15:19	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/14/16 15:19	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/14/16 15:19	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/14/16 15:19	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/14/16 15:19	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/14/16 15:19	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/14/16 15:19	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/14/16 15:19	1
EDB	0.175	U	1.00	0.175	ug/L			04/14/16 15:19	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/14/16 15:19	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 15:19	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/14/16 15:19	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/14/16 15:19	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/14/16 15:19	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/14/16 15:19	1
Hexane	2.00	U	5.00	2.00	ug/L			04/14/16 15:19	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/14/16 15:19	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/14/16 15:19	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/14/16 15:19	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/14/16 15:19	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/14/16 15:19	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/14/16 15:19	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/14/16 15:19	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/14/16 15:19	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/14/16 15:19	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/14/16 15:19	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/14/16 15:19	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/14/16 15:19	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/14/16 15:19	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 15:19	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/14/16 15:19	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/14/16 15:19	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/14/16 15:19	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/14/16 15:19	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/14/16 15:19	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/14/16 15:19	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/14/16 15:19	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/14/16 15:19	1
Styrene	0.200	U	1.00	0.200	ug/L			04/14/16 15:19	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 15:19	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/14/16 15:19	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 PEAK**

**Lab Sample ID: 560-60893-10**

**Date Collected: 04/13/16 02:14**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/14/16 15:19	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/14/16 15:19	1
Toluene	0.495	U	1.00	0.495	ug/L			04/14/16 15:19	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 15:19	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/14/16 15:19	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/14/16 15:19	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/14/16 15:19	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/14/16 15:19	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/14/16 15:19	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/14/16 15:19	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/14/16 15:19	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/14/16 15:19	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/14/16 15:19	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/14/16 15:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/14/16 15:19	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 15:19	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 15:19	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/14/16 15:19	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/14/16 15:19	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/14/16 15:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		04/14/16 15:19	1
Dibromofluoromethane (Surr)	100		69 - 130		04/14/16 15:19	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		04/14/16 15:19	1
Toluene-d8 (Surr)	101		70 - 130		04/14/16 15:19	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/15/16 14:30	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/15/16 14:30	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/15/16 14:30	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/15/16 14:30	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/15/16 14:30	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/15/16 14:30	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/15/16 14:30	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/15/16 14:30	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/15/16 14:30	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/15/16 14:30	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/15/16 14:30	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/15/16 14:30	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/15/16 14:30	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/15/16 14:30	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 14:30	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/15/16 14:30	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/15/16 14:30	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/15/16 14:30	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/15/16 14:30	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/15/16 14:30	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/15/16 14:30	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 PEAK**

**Lab Sample ID: 560-60893-10**

**Date Collected: 04/13/16 02:14**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/15/16 14:30	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/15/16 14:30	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/15/16 14:30	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/15/16 14:30	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 14:30	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/15/16 14:30	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/15/16 14:30	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/15/16 14:30	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 14:30	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/15/16 14:30	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/15/16 14:30	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/15/16 14:30	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/15/16 14:30	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/15/16 14:30	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/15/16 14:30	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/15/16 14:30	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/15/16 14:30	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/15/16 14:30	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/15/16 14:30	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/15/16 14:30	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 14:30	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/15/16 14:30	1
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 14:30	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/15/16 14:30	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/15/16 14:30	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/15/16 14:30	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 14:30	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/15/16 14:30	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/15/16 14:30	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/15/16 14:30	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/15/16 14:30	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/15/16 14:30	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/15/16 14:30	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/15/16 14:30	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/15/16 14:30	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/15/16 14:30	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/15/16 14:30	1
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/15/16 14:30	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/15/16 14:30	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/15/16 14:30	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/15/16 14:30	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/15/16 14:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	78		23 - 130	04/14/16 17:16	04/15/16 14:30	1
2-Fluorophenol	75		10 - 130	04/14/16 17:16	04/15/16 14:30	1
Nitrobenzene-d5	74		27 - 130	04/14/16 17:16	04/15/16 14:30	1
Phenol-d5	80		10 - 130	04/14/16 17:16	04/15/16 14:30	1
Terphenyl-d14	52		10 - 141	04/14/16 17:16	04/15/16 14:30	1
2,4,6-Tribromophenol	77		18 - 130	04/14/16 17:16	04/15/16 14:30	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 19:32	1
alpha-BHC	0.00497	U	0.0574	0.00497	ug/L		04/15/16 08:31	04/15/16 19:32	1
alpha-Chlordane	0.00602	U	0.0574	0.00602	ug/L		04/15/16 08:31	04/15/16 19:32	1
beta-BHC	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 19:32	1
4,4'-DDD	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 19:32	1
4,4'-DDE	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 19:32	1
4,4'-DDT	0.00775	U	0.0574	0.00775	ug/L		04/15/16 08:31	04/15/16 19:32	1
delta-BHC	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 19:32	1
Dieldrin	0.0124	U	0.0574	0.0124	ug/L		04/15/16 08:31	04/15/16 19:32	1
Endosulfan I	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 19:32	1
Endosulfan II	0.00822	U	0.0574	0.00822	ug/L		04/15/16 08:31	04/15/16 19:32	1
Endosulfan sulfate	0.00842	U	0.0574	0.00842	ug/L		04/15/16 08:31	04/15/16 19:32	1
Endrin	0.00736	U	0.0574	0.00736	ug/L		04/15/16 08:31	04/15/16 19:32	1
Endrin aldehyde	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 19:32	1
Endrin ketone	0.00784	U	0.0574	0.00784	ug/L		04/15/16 08:31	04/15/16 19:32	1
gamma-BHC (Lindane)	0.00430	U	0.0574	0.00430	ug/L		04/15/16 08:31	04/15/16 19:32	1
gamma-Chlordane	0.00641	U	0.0574	0.00641	ug/L		04/15/16 08:31	04/15/16 19:32	1
Heptachlor	0.00622	U	0.0574	0.00622	ug/L		04/15/16 08:31	04/15/16 19:32	1
Heptachlor epoxide	0.00497	U	0.0574	0.00497	ug/L		04/15/16 08:31	04/15/16 19:32	1
Methoxychlor	0.00956	U	0.0574	0.00956	ug/L		04/15/16 08:31	04/15/16 19:32	1
Toxaphene	0.650	U	5.74	0.650	ug/L		04/15/16 08:31	04/15/16 19:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	45		10 - 152	04/15/16 08:31	04/15/16 19:32	1
DCB Decachlorobiphenyl	60		10 - 152	04/15/16 08:31	04/15/16 19:32	1
Tetrachloro-m-xylene	77		57 - 127	04/15/16 08:31	04/15/16 19:32	1
Tetrachloro-m-xylene	66		57 - 127	04/15/16 08:31	04/15/16 19:32	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:39	1
Aroclor 1221	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:39	1
Aroclor 1232	0.421	U	0.765	0.421	ug/L		04/15/16 08:31	04/15/16 18:39	1
Aroclor 1242	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:39	1
Aroclor 1248	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:39	1
Aroclor 1254	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:39	1
Aroclor 1260	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:39	1
Aroclor 1262	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:39	1
Aroclor 1268	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	122		10 - 150	04/15/16 08:31	04/15/16 18:39	1
DCB Decachlorobiphenyl	95		10 - 150	04/15/16 08:31	04/15/16 18:39	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.164	U	2.44	0.164	ug/L		04/18/16 19:27	04/22/16 03:58	1
Bolstar	0.307	U	0.977	0.307	ug/L		04/18/16 19:27	04/22/16 03:58	1
Chlorpyrifos	0.352	U	1.47	0.352	ug/L		04/18/16 19:27	04/22/16 03:58	1
Coumaphos	0.132	U	0.977	0.132	ug/L		04/18/16 19:27	04/22/16 03:58	1
Demeton-O	0.137	U	0.977	0.137	ug/L		04/18/16 19:27	04/22/16 03:58	1
Demeton-S	0.0674	U	1.95	0.0674	ug/L		04/18/16 19:27	04/22/16 03:58	1
Diazinon	0.144	U	0.489	0.144	ug/L		04/18/16 19:27	04/22/16 03:58	1
Dichlorvos	0.158	U	0.489	0.158	ug/L		04/18/16 19:27	04/22/16 03:58	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 PEAK**

**Lab Sample ID: 560-60893-10**

**Date Collected: 04/13/16 02:14**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	0.439	U	1.47	0.439	ug/L		04/18/16 19:27	04/22/16 03:58	1
Disulfoton	0.315	U	0.977	0.315	ug/L		04/18/16 19:27	04/22/16 03:58	1
EPN	0.146	U	1.17	0.146	ug/L		04/18/16 19:27	04/22/16 03:58	1
Ethoprop	0.173	U	1.47	0.173	ug/L		04/18/16 19:27	04/22/16 03:58	1
Ethyl Parathion	0.141	U	0.977	0.141	ug/L		04/18/16 19:27	04/22/16 03:58	1
Famphur	0.175	U	0.977	0.175	ug/L		04/18/16 19:27	04/22/16 03:58	1
Fensulfothion	0.532	U	2.44	0.532	ug/L		04/18/16 19:27	04/22/16 03:58	1
Fenthion	0.150	U	2.44	0.150	ug/L		04/18/16 19:27	04/22/16 03:58	1
Malathion	0.130	U	1.95	0.130	ug/L		04/18/16 19:27	04/22/16 03:58	1
Merphos	0.170	U	4.89	0.170	ug/L		04/18/16 19:27	04/22/16 03:58	1
Methyl parathion	0.138	U	3.91	0.138	ug/L		04/18/16 19:27	04/22/16 03:58	1
Mevinphos	0.449	U	6.06	0.449	ug/L		04/18/16 19:27	04/22/16 03:58	1
Naled	0.782	U	1.95	0.782	ug/L		04/18/16 19:27	04/22/16 03:58	1
Phorate	0.150	U	1.17	0.150	ug/L		04/18/16 19:27	04/22/16 03:58	1
Ronnel	0.113	U	9.77	0.113	ug/L		04/18/16 19:27	04/22/16 03:58	1
Sulfotepp	0.164	U	1.47	0.164	ug/L		04/18/16 19:27	04/22/16 03:58	1
Tetrachlorvinphos (Stirophos)	0.121	U	3.42	0.121	ug/L		04/18/16 19:27	04/22/16 03:58	1
Thionazin	0.305	U	0.977	0.305	ug/L		04/18/16 19:27	04/22/16 03:58	1
Tokuthion	0.120	U	1.56	0.120	ug/L		04/18/16 19:27	04/22/16 03:58	1
Trichloronate	0.236	U	1.47	0.236	ug/L		04/18/16 19:27	04/22/16 03:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	83		49 - 171	04/18/16 19:27	04/22/16 03:58	1
Triphenylphosphate	94		60 - 154	04/18/16 19:27	04/22/16 03:58	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0984	U	4.92	0.0984	ug/L		04/19/16 08:29	04/20/16 23:23	1
Dicamba	0.0836	U	0.492	0.0836	ug/L		04/19/16 08:29	04/20/16 23:23	1
Mecoprop	18.7	U	118	18.7	ug/L		04/19/16 08:29	04/20/16 23:23	1
MCPA	16.7	U	118	16.7	ug/L		04/19/16 08:29	04/20/16 23:23	1
Dichlorprop	0.148	U	0.492	0.148	ug/L		04/19/16 08:29	04/20/16 23:23	1
2,4-D	0.0364	U	0.492	0.0364	ug/L		04/19/16 08:29	04/20/16 23:23	1
Silvex (2,4,5-TP)	0.0610	U	0.246	0.0610	ug/L		04/19/16 08:29	04/20/16 23:23	1
2,4,5-T	0.0610	U	0.246	0.0610	ug/L		04/19/16 08:29	04/20/16 23:23	1
2,4-DB	0.148	U	0.492	0.148	ug/L		04/19/16 08:29	04/20/16 23:23	1
Dinoseb	0.157	U	0.984	0.157	ug/L		04/19/16 08:29	04/20/16 23:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	78		45 - 130	04/19/16 08:29	04/20/16 23:23	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	81.3		0.200	0.101	mg/L		04/18/16 08:20	04/20/16 18:45	1
Magnesium	15.6		0.200	0.0257	mg/L		04/18/16 08:20	04/20/16 18:45	1
Potassium	1.60		0.500	0.375	mg/L		04/18/16 08:20	04/20/16 18:45	1
Silicon	5.30		0.500	0.0707	mg/L		04/18/16 08:20	04/20/16 18:45	1
Sodium	13.8		1.00	0.310	mg/L		04/18/16 08:20	04/20/16 18:45	1
Strontium	0.606		0.00500	0.000700	mg/L		04/18/16 08:20	04/20/16 18:45	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 PEAK**

**Lab Sample ID: 560-60893-10**

**Date Collected: 04/13/16 02:14**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		04/18/16 08:20	04/18/16 17:14	1
Antimony	1.61	U	5.00	1.61	ug/L		04/18/16 08:20	04/18/16 17:14	1
Arsenic	1.09	U ^	5.00	1.09	ug/L		04/18/16 08:20	04/18/16 17:14	1
<b>Barium</b>	<b>55.6</b>		5.00	0.810	ug/L		04/18/16 08:20	04/18/16 17:14	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		04/18/16 08:20	04/18/16 17:14	1
Cadmium	0.854	U	2.00	0.854	ug/L		04/18/16 08:20	04/18/16 17:14	1
Chromium	1.40	U	5.00	1.40	ug/L		04/18/16 08:20	04/18/16 17:14	1
Copper	2.00	U	10.0	2.00	ug/L		04/18/16 08:20	04/18/16 17:14	1
Iron	101	U	250	101	ug/L		04/18/16 08:20	04/18/16 17:14	1
<b>Lead</b>	<b>2.64</b>	<b>J</b>	5.00	0.733	ug/L		04/18/16 08:20	04/18/16 17:14	1
Manganese	11.6	U	50.0	11.6	ug/L		04/18/16 08:20	04/18/16 17:14	1
Nickel	2.17	U	5.00	2.17	ug/L		04/18/16 08:20	04/18/16 17:14	1
<b>Selenium</b>	<b>2.05</b>	<b>J B</b>	5.00	1.08	ug/L		04/18/16 08:20	04/18/16 17:14	1
Silver	0.941	U	5.00	0.941	ug/L		04/18/16 08:20	04/18/16 17:14	1
Thallium	0.693	U	2.00	0.693	ug/L		04/18/16 08:20	04/18/16 17:14	1
Zinc	3.55	U	25.0	3.55	ug/L		04/18/16 08:20	04/18/16 17:14	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		04/20/16 10:00	04/20/16 16:57	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>0.554</b>	<b>J</b>	1.00	0.315	mg/L			04/14/16 18:56	1
<b>Chloride</b>	<b>17.9</b>		1.00	0.192	mg/L			04/14/16 18:56	1
<b>Nitrate as N</b>	<b>1.69</b>		0.500	0.103	mg/L			04/14/16 18:56	1
<b>Sulfate</b>	<b>29.0</b>		1.00	0.377	mg/L			04/14/16 18:56	1
<b>Fluoride</b>	<b>0.196</b>		0.100	0.0200	mg/L			04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/20/16 12:13	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:34	1
<b>Total Organic Carbon</b>	<b>0.327</b>	<b>J</b>	1.00	0.285	mg/L			04/19/16 13:45	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.44</b>	<b>HF</b>	0.100	0.100	SU			04/21/16 09:57	1
<b>Total Alkalinity as CaCO3</b>	<b>216</b>		5.00	5.00	mg/L			04/22/16 13:20	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>216</b>		5.00	5.00	mg/L			04/22/16 13:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/22/16 13:20	1
<b>Total Dissolved Solids</b>	<b>332</b>		10.0	10.0	mg/L			04/15/16 09:08	1
<b>Total Suspended Solids</b>	<b>4.60</b>		3.00	3.00	mg/L			04/19/16 09:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Dissolved Organic Carbon</b>	<b>0.930</b>	<b>J</b>	1.00	0.285	mg/L			04/20/16 12:27	1

**Client Sample ID: HCS270 PEAK**

**Lab Sample ID: 560-60893-11**

**Date Collected: 04/13/16 02:00**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/14/16 16:59	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 PEAK**

**Lab Sample ID: 560-60893-11**

**Date Collected: 04/13/16 02:00**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/14/16 16:59	1
Benzene	0.330	U	1.00	0.330	ug/L			04/14/16 16:59	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/14/16 16:59	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 16:59	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/14/16 16:59	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/14/16 16:59	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/14/16 16:59	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/14/16 16:59	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/14/16 16:59	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/14/16 16:59	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/14/16 16:59	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/14/16 16:59	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/14/16 16:59	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/14/16 16:59	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/14/16 16:59	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/14/16 16:59	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/14/16 16:59	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/14/16 16:59	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/14/16 16:59	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/14/16 16:59	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 16:59	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/14/16 16:59	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/14/16 16:59	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/14/16 16:59	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/14/16 16:59	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/14/16 16:59	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/14/16 16:59	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/14/16 16:59	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 16:59	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/14/16 16:59	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/14/16 16:59	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/14/16 16:59	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/14/16 16:59	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/14/16 16:59	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/14/16 16:59	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/14/16 16:59	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/14/16 16:59	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/14/16 16:59	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/14/16 16:59	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/14/16 16:59	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/14/16 16:59	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/14/16 16:59	1
EDB	0.175	U	1.00	0.175	ug/L			04/14/16 16:59	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/14/16 16:59	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 16:59	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/14/16 16:59	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/14/16 16:59	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/14/16 16:59	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/14/16 16:59	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 PEAK**

**Lab Sample ID: 560-60893-11**

**Date Collected: 04/13/16 02:00**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			04/14/16 16:59	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/14/16 16:59	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/14/16 16:59	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/14/16 16:59	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/14/16 16:59	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/14/16 16:59	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/14/16 16:59	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/14/16 16:59	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/14/16 16:59	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/14/16 16:59	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/14/16 16:59	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/14/16 16:59	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/14/16 16:59	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/14/16 16:59	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 16:59	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/14/16 16:59	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/14/16 16:59	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/14/16 16:59	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/14/16 16:59	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/14/16 16:59	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/14/16 16:59	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/14/16 16:59	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/14/16 16:59	1
Styrene	0.200	U	1.00	0.200	ug/L			04/14/16 16:59	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 16:59	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/14/16 16:59	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/14/16 16:59	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/14/16 16:59	1
Toluene	0.495	U	1.00	0.495	ug/L			04/14/16 16:59	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 16:59	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/14/16 16:59	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/14/16 16:59	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/14/16 16:59	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/14/16 16:59	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/14/16 16:59	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/14/16 16:59	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/14/16 16:59	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/14/16 16:59	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/14/16 16:59	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/14/16 16:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/14/16 16:59	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 16:59	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 16:59	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/14/16 16:59	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/14/16 16:59	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/14/16 16:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		04/14/16 16:59	1
Dibromofluoromethane (Surr)	101		69 - 130		04/14/16 16:59	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 PEAK**

**Lab Sample ID: 560-60893-11**

**Date Collected: 04/13/16 02:00**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 140		04/14/16 16:59	1
Toluene-d8 (Surr)	102		70 - 130		04/14/16 16:59	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/15/16 14:56	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/15/16 14:56	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/15/16 14:56	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/15/16 14:56	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/15/16 14:56	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/15/16 14:56	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/15/16 14:56	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/15/16 14:56	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/15/16 14:56	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/15/16 14:56	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/15/16 14:56	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/15/16 14:56	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/15/16 14:56	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/15/16 14:56	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 14:56	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/15/16 14:56	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/15/16 14:56	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/15/16 14:56	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/15/16 14:56	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/15/16 14:56	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/15/16 14:56	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/15/16 14:56	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/15/16 14:56	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/15/16 14:56	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/15/16 14:56	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 14:56	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/15/16 14:56	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/15/16 14:56	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/15/16 14:56	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 14:56	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/15/16 14:56	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/15/16 14:56	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/15/16 14:56	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/15/16 14:56	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/15/16 14:56	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/15/16 14:56	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/15/16 14:56	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/15/16 14:56	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/15/16 14:56	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/15/16 14:56	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/15/16 14:56	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 14:56	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/15/16 14:56	1
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 14:56	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 PEAK**

**Lab Sample ID: 560-60893-11**

**Date Collected: 04/13/16 02:00**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/15/16 14:56	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/15/16 14:56	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/15/16 14:56	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 14:56	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/15/16 14:56	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/15/16 14:56	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/15/16 14:56	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/15/16 14:56	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/15/16 14:56	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/15/16 14:56	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/15/16 14:56	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/15/16 14:56	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/15/16 14:56	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/15/16 14:56	1
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/15/16 14:56	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/15/16 14:56	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/15/16 14:56	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/15/16 14:56	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/15/16 14:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	66		23 - 130	04/14/16 17:16	04/15/16 14:56	1
2-Fluorophenol	65		10 - 130	04/14/16 17:16	04/15/16 14:56	1
Nitrobenzene-d5	65		27 - 130	04/14/16 17:16	04/15/16 14:56	1
Phenol-d5	69		10 - 130	04/14/16 17:16	04/15/16 14:56	1
Terphenyl-d14	50		10 - 141	04/14/16 17:16	04/15/16 14:56	1
2,4,6-Tribromophenol	74		18 - 130	04/14/16 17:16	04/15/16 14:56	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 19:57	1
alpha-BHC	0.00497	U	0.0574	0.00497	ug/L		04/15/16 08:31	04/15/16 19:57	1
alpha-Chlordane	0.00602	U	0.0574	0.00602	ug/L		04/15/16 08:31	04/15/16 19:57	1
beta-BHC	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 19:57	1
4,4'-DDD	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 19:57	1
4,4'-DDE	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 19:57	1
4,4'-DDT	0.00775	U	0.0574	0.00775	ug/L		04/15/16 08:31	04/15/16 19:57	1
delta-BHC	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 19:57	1
Dieldrin	0.0124	U	0.0574	0.0124	ug/L		04/15/16 08:31	04/15/16 19:57	1
Endosulfan I	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 19:57	1
Endosulfan II	0.00822	U	0.0574	0.00822	ug/L		04/15/16 08:31	04/15/16 19:57	1
Endosulfan sulfate	0.00842	U	0.0574	0.00842	ug/L		04/15/16 08:31	04/15/16 19:57	1
Endrin	0.00736	U	0.0574	0.00736	ug/L		04/15/16 08:31	04/15/16 19:57	1
Endrin aldehyde	0.00478	U	0.0574	0.00478	ug/L		04/15/16 08:31	04/15/16 19:57	1
Endrin ketone	0.00784	U	0.0574	0.00784	ug/L		04/15/16 08:31	04/15/16 19:57	1
gamma-BHC (Lindane)	0.00430	U	0.0574	0.00430	ug/L		04/15/16 08:31	04/15/16 19:57	1
gamma-Chlordane	0.00641	U	0.0574	0.00641	ug/L		04/15/16 08:31	04/15/16 19:57	1
Heptachlor	0.00622	U	0.0574	0.00622	ug/L		04/15/16 08:31	04/15/16 19:57	1
Heptachlor epoxide	0.00497	U	0.0574	0.00497	ug/L		04/15/16 08:31	04/15/16 19:57	1
Methoxychlor	0.00956	U	0.0574	0.00956	ug/L		04/15/16 08:31	04/15/16 19:57	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 PEAK**

**Lab Sample ID: 560-60893-11**

**Date Collected: 04/13/16 02:00**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.650	U	5.74	0.650	ug/L		04/15/16 08:31	04/15/16 19:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	46		10 - 152				04/15/16 08:31	04/15/16 19:57	1
DCB Decachlorobiphenyl	62		10 - 152				04/15/16 08:31	04/15/16 19:57	1
Tetrachloro-m-xylene	81		57 - 127				04/15/16 08:31	04/15/16 19:57	1
Tetrachloro-m-xylene	68		57 - 127				04/15/16 08:31	04/15/16 19:57	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:56	1
Aroclor 1221	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:56	1
Aroclor 1232	0.421	U	0.765	0.421	ug/L		04/15/16 08:31	04/15/16 18:56	1
Aroclor 1242	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:56	1
Aroclor 1248	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:56	1
Aroclor 1254	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:56	1
Aroclor 1260	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:56	1
Aroclor 1262	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:56	1
Aroclor 1268	0.105	U	0.574	0.105	ug/L		04/15/16 08:31	04/15/16 18:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	120		10 - 150				04/15/16 08:31	04/15/16 18:56	1
DCB Decachlorobiphenyl	94		10 - 150				04/15/16 08:31	04/15/16 18:56	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.166	U	2.47	0.166	ug/L		04/18/16 19:27	04/22/16 05:32	1
Bolstar	0.310	U	0.986	0.310	ug/L		04/18/16 19:27	04/22/16 05:32	1
Chlorpyrifos	0.355	U	1.48	0.355	ug/L		04/18/16 19:27	04/22/16 05:32	1
Coumaphos	0.133	U	0.986	0.133	ug/L		04/18/16 19:27	04/22/16 05:32	1
Demeton-O	0.138	U	0.986	0.138	ug/L		04/18/16 19:27	04/22/16 05:32	1
Demeton-S	0.0680	U	1.97	0.0680	ug/L		04/18/16 19:27	04/22/16 05:32	1
Diazinon	0.145	U	0.493	0.145	ug/L		04/18/16 19:27	04/22/16 05:32	1
Dichlorvos	0.160	U	0.493	0.160	ug/L		04/18/16 19:27	04/22/16 05:32	1
Dimethoate	0.443	U	1.48	0.443	ug/L		04/18/16 19:27	04/22/16 05:32	1
Disulfoton	0.318	U	0.986	0.318	ug/L		04/18/16 19:27	04/22/16 05:32	1
EPN	0.147	U	1.18	0.147	ug/L		04/18/16 19:27	04/22/16 05:32	1
Ethoprop	0.175	U	1.48	0.175	ug/L		04/18/16 19:27	04/22/16 05:32	1
Ethyl Parathion	0.142	U	0.986	0.142	ug/L		04/18/16 19:27	04/22/16 05:32	1
Famphur	0.177	U	0.986	0.177	ug/L		04/18/16 19:27	04/22/16 05:32	1
Fensulfothion	0.536	U	2.47	0.536	ug/L		04/18/16 19:27	04/22/16 05:32	1
Fenthion	0.152	U	2.47	0.152	ug/L		04/18/16 19:27	04/22/16 05:32	1
Malathion	0.131	U	1.97	0.131	ug/L		04/18/16 19:27	04/22/16 05:32	1
Merphos	0.172	U	4.93	0.172	ug/L		04/18/16 19:27	04/22/16 05:32	1
Methyl parathion	0.139	U	3.94	0.139	ug/L		04/18/16 19:27	04/22/16 05:32	1
Mevinphos	0.454	U	6.11	0.454	ug/L		04/18/16 19:27	04/22/16 05:32	1
Naled	0.789	U	1.97	0.789	ug/L		04/18/16 19:27	04/22/16 05:32	1
Phorate	0.152	U	1.18	0.152	ug/L		04/18/16 19:27	04/22/16 05:32	1
Ronnel	0.114	U	9.86	0.114	ug/L		04/18/16 19:27	04/22/16 05:32	1
Sulfotepp	0.166	U	1.48	0.166	ug/L		04/18/16 19:27	04/22/16 05:32	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 PEAK**

**Lab Sample ID: 560-60893-11**

**Date Collected: 04/13/16 02:00**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachlorvinphos (Stirophos)	0.122	U	3.45	0.122	ug/L		04/18/16 19:27	04/22/16 05:32	1
Thionazin	0.308	U	0.986	0.308	ug/L		04/18/16 19:27	04/22/16 05:32	1
Tokuthion	0.121	U	1.58	0.121	ug/L		04/18/16 19:27	04/22/16 05:32	1
Trichloronate	0.239	U	1.48	0.239	ug/L		04/18/16 19:27	04/22/16 05:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	66		49 - 171				04/18/16 19:27	04/22/16 05:32	1
Triphenylphosphate	78		60 - 154				04/18/16 19:27	04/22/16 05:32	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0960	U	4.80	0.0960	ug/L		04/19/16 08:29	04/20/16 23:42	1
Dicamba	0.0816	U	0.480	0.0816	ug/L		04/19/16 08:29	04/20/16 23:42	1
Mecoprop	18.2	U	115	18.2	ug/L		04/19/16 08:29	04/20/16 23:42	1
MCPA	16.3	U	115	16.3	ug/L		04/19/16 08:29	04/20/16 23:42	1
Dichlorprop	0.144	U	0.480	0.144	ug/L		04/19/16 08:29	04/20/16 23:42	1
<b>2,4-D</b>	<b>0.216</b>	<b>J</b>	0.480	0.0355	ug/L		04/19/16 08:29	04/20/16 23:42	1
Silvex (2,4,5-TP)	0.0595	U	0.240	0.0595	ug/L		04/19/16 08:29	04/20/16 23:42	1
2,4,5-T	0.0595	U	0.240	0.0595	ug/L		04/19/16 08:29	04/20/16 23:42	1
2,4-DB	0.144	U	0.480	0.144	ug/L		04/19/16 08:29	04/20/16 23:42	1
Dinoseb	0.154	U	0.960	0.154	ug/L		04/19/16 08:29	04/20/16 23:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	83		45 - 130				04/19/16 08:29	04/20/16 23:42	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Calcium</b>	<b>75.7</b>		0.200	0.101	mg/L		04/18/16 08:20	04/20/16 18:49	1
<b>Magnesium</b>	<b>14.4</b>		0.200	0.0257	mg/L		04/18/16 08:20	04/20/16 18:49	1
<b>Potassium</b>	<b>1.61</b>		0.500	0.375	mg/L		04/18/16 08:20	04/20/16 18:49	1
<b>Silicon</b>	<b>4.99</b>		0.500	0.0707	mg/L		04/18/16 08:20	04/20/16 18:49	1
<b>Sodium</b>	<b>11.6</b>		1.00	0.310	mg/L		04/18/16 08:20	04/20/16 18:49	1
<b>Strontium</b>	<b>0.562</b>		0.00500	0.000700	mg/L		04/18/16 08:20	04/20/16 18:49	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		04/18/16 08:20	04/18/16 17:19	1
Antimony	1.61	U	5.00	1.61	ug/L		04/18/16 08:20	04/18/16 17:19	1
Arsenic	1.09	U ^	5.00	1.09	ug/L		04/18/16 08:20	04/18/16 17:19	1
<b>Barium</b>	<b>52.1</b>		5.00	0.810	ug/L		04/18/16 08:20	04/18/16 17:19	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		04/18/16 08:20	04/18/16 17:19	1
Cadmium	0.854	U	2.00	0.854	ug/L		04/18/16 08:20	04/18/16 17:19	1
Chromium	1.40	U	5.00	1.40	ug/L		04/18/16 08:20	04/18/16 17:19	1
Copper	2.00	U	10.0	2.00	ug/L		04/18/16 08:20	04/18/16 17:19	1
Iron	101	U	250	101	ug/L		04/18/16 08:20	04/18/16 17:19	1
Lead	0.733	U	5.00	0.733	ug/L		04/18/16 08:20	04/18/16 17:19	1
Manganese	11.6	U	50.0	11.6	ug/L		04/18/16 08:20	04/18/16 17:19	1
Nickel	2.17	U	5.00	2.17	ug/L		04/18/16 08:20	04/18/16 17:19	1
<b>Selenium</b>	<b>1.51</b>	<b>J B</b>	5.00	1.08	ug/L		04/18/16 08:20	04/18/16 17:19	1
Silver	0.941	U	5.00	0.941	ug/L		04/18/16 08:20	04/18/16 17:19	1
Thallium	0.693	U	2.00	0.693	ug/L		04/18/16 08:20	04/18/16 17:19	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 PEAK**

**Lab Sample ID: 560-60893-11**

**Date Collected: 04/13/16 02:00**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	3.55	U	25.0	3.55	ug/L		04/18/16 08:20	04/18/16 17:19	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		04/20/16 10:00	04/20/16 16:59	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.538	J	1.00	0.315	mg/L			04/14/16 20:14	1
Chloride	15.7		1.00	0.192	mg/L			04/14/16 20:14	1
Nitrate as N	1.60		0.500	0.103	mg/L			04/14/16 20:14	1
Sulfate	24.1		1.00	0.377	mg/L			04/14/16 20:14	1
Fluoride	0.180		0.100	0.0200	mg/L			04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/20/16 12:14	1
Phosphorus	0.0452	J	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:44	1
Total Organic Carbon	0.890	J	1.00	0.285	mg/L			04/19/16 13:45	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.51	HF	0.100	0.100	SU			04/21/16 09:57	1
Total Alkalinity as CaCO3	198		5.00	5.00	mg/L			04/22/16 13:20	1
Bicarbonate Alkalinity as CaCO3	198		5.00	5.00	mg/L			04/22/16 13:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/22/16 13:20	1
Total Dissolved Solids	296		10.0	10.0	mg/L			04/15/16 09:08	1
Total Suspended Solids	7.00		3.00	3.00	mg/L			04/19/16 09:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.33		1.00	0.285	mg/L			04/20/16 12:27	1

**Client Sample ID: HCS210 TRAIL**

**Lab Sample ID: 560-60893-17**

**Date Collected: 04/13/16 08:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/15/16 10:49	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/15/16 10:49	1
Benzene	0.330	U	1.00	0.330	ug/L			04/15/16 10:49	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/15/16 10:49	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/15/16 10:49	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/15/16 10:49	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/15/16 10:49	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/15/16 10:49	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/15/16 10:49	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/15/16 10:49	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/15/16 10:49	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/15/16 10:49	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/15/16 10:49	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/15/16 10:49	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/15/16 10:49	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/15/16 10:49	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 TRAIL**

**Lab Sample ID: 560-60893-17**

**Date Collected: 04/13/16 08:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	0.173	U	1.00	0.173	ug/L			04/15/16 10:49	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/15/16 10:49	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/15/16 10:49	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/15/16 10:49	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/15/16 10:49	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/15/16 10:49	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/15/16 10:49	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/15/16 10:49	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/15/16 10:49	1
Cyclohexanone	5.00	U F2	50.0	5.00	ug/L			04/15/16 10:49	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/15/16 10:49	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/15/16 10:49	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/15/16 10:49	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/15/16 10:49	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/15/16 10:49	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/15/16 10:49	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/15/16 10:49	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/15/16 10:49	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/15/16 10:49	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/15/16 10:49	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/15/16 10:49	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/15/16 10:49	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/15/16 10:49	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/15/16 10:49	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/15/16 10:49	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/15/16 10:49	1
1,4-Dioxane	15.9	U F2	100	15.9	ug/L			04/15/16 10:49	1
EDB	0.175	U	1.00	0.175	ug/L			04/15/16 10:49	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/15/16 10:49	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/15/16 10:49	1
Ethylene oxide	30.0	U F1	50.0	30.0	ug/L			04/15/16 10:49	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/15/16 10:49	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/15/16 10:49	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/15/16 10:49	1
Hexane	2.00	U	5.00	2.00	ug/L			04/15/16 10:49	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/15/16 10:49	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/15/16 10:49	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/15/16 10:49	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/15/16 10:49	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/15/16 10:49	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/15/16 10:49	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/15/16 10:49	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/15/16 10:49	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/15/16 10:49	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/15/16 10:49	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/15/16 10:49	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/15/16 10:49	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/15/16 10:49	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/15/16 10:49	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 TRAIL**

**Lab Sample ID: 560-60893-17**

**Date Collected: 04/13/16 08:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Heptane	0.300	U	5.00	0.300	ug/L			04/15/16 10:49	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/15/16 10:49	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/15/16 10:49	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/15/16 10:49	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/15/16 10:49	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/15/16 10:49	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/15/16 10:49	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/15/16 10:49	1
Styrene	0.200	U	1.00	0.200	ug/L			04/15/16 10:49	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 10:49	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/15/16 10:49	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/15/16 10:49	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/15/16 10:49	1
Toluene	0.495	U	1.00	0.495	ug/L			04/15/16 10:49	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/15/16 10:49	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/15/16 10:49	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/15/16 10:49	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/15/16 10:49	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/15/16 10:49	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/15/16 10:49	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/15/16 10:49	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/15/16 10:49	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/15/16 10:49	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/15/16 10:49	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/15/16 10:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/15/16 10:49	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 10:49	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 10:49	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/15/16 10:49	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/15/16 10:49	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/15/16 10:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		04/15/16 10:49	1
Dibromofluoromethane (Surr)	100		69 - 130		04/15/16 10:49	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		04/15/16 10:49	1
Toluene-d8 (Surr)	101		70 - 130		04/15/16 10:49	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/15/16 10:36	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/15/16 10:36	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/15/16 10:36	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/15/16 10:36	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/15/16 10:36	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/15/16 10:36	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/15/16 10:36	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/15/16 10:36	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/15/16 10:36	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/15/16 10:36	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 TRAIL**

**Lab Sample ID: 560-60893-17**

**Date Collected: 04/13/16 08:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/15/16 10:36	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/15/16 10:36	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/15/16 10:36	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/15/16 10:36	1
4-Chloroaniline	0.549	U F2	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 10:36	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/15/16 10:36	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/15/16 10:36	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/15/16 10:36	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/15/16 10:36	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/15/16 10:36	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/15/16 10:36	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/15/16 10:36	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/15/16 10:36	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/15/16 10:36	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/15/16 10:36	1
3,3'-Dichlorobenzidine	0.787	U F1	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 10:36	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/15/16 10:36	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/15/16 10:36	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/15/16 10:36	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 10:36	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/15/16 10:36	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/15/16 10:36	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/15/16 10:36	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/15/16 10:36	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/15/16 10:36	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/15/16 10:36	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/15/16 10:36	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/15/16 10:36	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/15/16 10:36	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/15/16 10:36	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/15/16 10:36	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 10:36	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/15/16 10:36	1
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 10:36	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/15/16 10:36	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/15/16 10:36	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/15/16 10:36	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 10:36	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/15/16 10:36	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/15/16 10:36	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/15/16 10:36	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/15/16 10:36	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/15/16 10:36	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/15/16 10:36	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/15/16 10:36	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/15/16 10:36	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/15/16 10:36	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/15/16 10:36	1
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/15/16 10:36	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 TRAIL**

**Lab Sample ID: 560-60893-17**

**Date Collected: 04/13/16 08:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/15/16 10:36	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/15/16 10:36	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/15/16 10:36	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/15/16 10:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	71		23 - 130	04/14/16 17:16	04/15/16 10:36	1
2-Fluorophenol	70		10 - 130	04/14/16 17:16	04/15/16 10:36	1
Nitrobenzene-d5	70		27 - 130	04/14/16 17:16	04/15/16 10:36	1
Phenol-d5	72		10 - 130	04/14/16 17:16	04/15/16 10:36	1
Terphenyl-d14	32		10 - 141	04/14/16 17:16	04/15/16 10:36	1
2,4,6-Tribromophenol	71		18 - 130	04/14/16 17:16	04/15/16 10:36	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00473	U	0.0568	0.00473	ug/L		04/15/16 08:31	04/15/16 14:54	1
alpha-BHC	0.00492	U	0.0568	0.00492	ug/L		04/15/16 08:31	04/15/16 14:54	1
alpha-Chlordane	0.00596	U	0.0568	0.00596	ug/L		04/15/16 08:31	04/15/16 14:54	1
beta-BHC	0.00473	U	0.0568	0.00473	ug/L		04/15/16 08:31	04/15/16 14:54	1
4,4'-DDD	0.00473	U	0.0568	0.00473	ug/L		04/15/16 08:31	04/15/16 14:54	1
4,4'-DDE	0.00473	U F1 F2	0.0568	0.00473	ug/L		04/15/16 08:31	04/15/16 14:54	1
4,4'-DDT	0.00766	U F2	0.0568	0.00766	ug/L		04/15/16 08:31	04/15/16 14:54	1
delta-BHC	0.00473	U	0.0568	0.00473	ug/L		04/15/16 08:31	04/15/16 14:54	1
Dieldrin	0.0123	U	0.0568	0.0123	ug/L		04/15/16 08:31	04/15/16 14:54	1
Endosulfan I	0.00473	U	0.0568	0.00473	ug/L		04/15/16 08:31	04/15/16 14:54	1
Endosulfan II	0.00814	U	0.0568	0.00814	ug/L		04/15/16 08:31	04/15/16 14:54	1
Endosulfan sulfate	0.00832	U	0.0568	0.00832	ug/L		04/15/16 08:31	04/15/16 14:54	1
Endrin	0.00728	U	0.0568	0.00728	ug/L		04/15/16 08:31	04/15/16 14:54	1
Endrin aldehyde	0.00473	U	0.0568	0.00473	ug/L		04/15/16 08:31	04/15/16 14:54	1
Endrin ketone	0.00776	U	0.0568	0.00776	ug/L		04/15/16 08:31	04/15/16 14:54	1
gamma-BHC (Lindane)	0.00426	U	0.0568	0.00426	ug/L		04/15/16 08:31	04/15/16 14:54	1
gamma-Chlordane	0.00634	U	0.0568	0.00634	ug/L		04/15/16 08:31	04/15/16 14:54	1
Heptachlor	0.00615	U	0.0568	0.00615	ug/L		04/15/16 08:31	04/15/16 14:54	1
Heptachlor epoxide	0.00492	U	0.0568	0.00492	ug/L		04/15/16 08:31	04/15/16 14:54	1
Methoxychlor	0.00946	U	0.0568	0.00946	ug/L		04/15/16 08:31	04/15/16 14:54	1
Toxaphene	0.643	U	5.68	0.643	ug/L		04/15/16 08:31	04/15/16 14:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	36		10 - 152	04/15/16 08:31	04/15/16 14:54	1
DCB Decachlorobiphenyl	49		10 - 152	04/15/16 08:31	04/15/16 14:54	1
Tetrachloro-m-xylene	80		57 - 127	04/15/16 08:31	04/15/16 14:54	1
Tetrachloro-m-xylene	67		57 - 127	04/15/16 08:31	04/15/16 14:54	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.568	0.104	ug/L		04/15/16 08:31	04/15/16 15:26	1
Aroclor 1221	0.104	U	0.568	0.104	ug/L		04/15/16 08:31	04/15/16 15:26	1
Aroclor 1232	0.416	U	0.757	0.416	ug/L		04/15/16 08:31	04/15/16 15:26	1
Aroclor 1242	0.104	U	0.568	0.104	ug/L		04/15/16 08:31	04/15/16 15:26	1
Aroclor 1248	0.104	U	0.568	0.104	ug/L		04/15/16 08:31	04/15/16 15:26	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 TRAIL**

**Lab Sample ID: 560-60893-17**

**Date Collected: 04/13/16 08:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1254	0.104	U	0.568	0.104	ug/L		04/15/16 08:31	04/15/16 15:26	1
Aroclor 1260	0.104	U F2	0.568	0.104	ug/L		04/15/16 08:31	04/15/16 15:26	1
Aroclor 1262	0.104	U	0.568	0.104	ug/L		04/15/16 08:31	04/15/16 15:26	1
Aroclor 1268	0.104	U	0.568	0.104	ug/L		04/15/16 08:31	04/15/16 15:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	109		10 - 150				04/15/16 08:31	04/15/16 15:26	1
DCB Decachlorobiphenyl	70		10 - 150				04/15/16 08:31	04/15/16 15:26	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.174	U	2.59	0.174	ug/L		04/18/16 19:27	04/22/16 06:03	1
Bolstar	0.326	U	1.04	0.326	ug/L		04/18/16 19:27	04/22/16 06:03	1
Chlorpyrifos	0.373	U	1.56	0.373	ug/L		04/18/16 19:27	04/22/16 06:03	1
Coumaphos	0.140	U	1.04	0.140	ug/L		04/18/16 19:27	04/22/16 06:03	1
Demeton-O	0.145	U	1.04	0.145	ug/L		04/18/16 19:27	04/22/16 06:03	1
Demeton-S	0.0716	U	2.07	0.0716	ug/L		04/18/16 19:27	04/22/16 06:03	1
Diazinon	0.152	U	0.519	0.152	ug/L		04/18/16 19:27	04/22/16 06:03	1
Dichlorvos	0.168	U	0.519	0.168	ug/L		04/18/16 19:27	04/22/16 06:03	1
Dimethoate	0.466	U	1.56	0.466	ug/L		04/18/16 19:27	04/22/16 06:03	1
Disulfoton	0.334	U	1.04	0.334	ug/L		04/18/16 19:27	04/22/16 06:03	1
EPN	0.155	U	1.24	0.155	ug/L		04/18/16 19:27	04/22/16 06:03	1
Ethoprop	0.184	U	1.56	0.184	ug/L		04/18/16 19:27	04/22/16 06:03	1
Ethyl Parathion	0.149	U	1.04	0.149	ug/L		04/18/16 19:27	04/22/16 06:03	1
Famphur	0.186	U	1.04	0.186	ug/L		04/18/16 19:27	04/22/16 06:03	1
Fensulfothion	0.564	U	2.59	0.564	ug/L		04/18/16 19:27	04/22/16 06:03	1
Fenthion	0.160	U	2.59	0.160	ug/L		04/18/16 19:27	04/22/16 06:03	1
Malathion	0.138	U	2.07	0.138	ug/L		04/18/16 19:27	04/22/16 06:03	1
Merphos	0.180	U	5.19	0.180	ug/L		04/18/16 19:27	04/22/16 06:03	1
Methyl parathion	0.146	U	4.15	0.146	ug/L		04/18/16 19:27	04/22/16 06:03	1
Mevinphos	0.477	U	6.43	0.477	ug/L		04/18/16 19:27	04/22/16 06:03	1
Naled	0.830	U	2.07	0.830	ug/L		04/18/16 19:27	04/22/16 06:03	1
Phorate	0.160	U	1.24	0.160	ug/L		04/18/16 19:27	04/22/16 06:03	1
Ronnel	0.120	U	10.4	0.120	ug/L		04/18/16 19:27	04/22/16 06:03	1
Sulfotepp	0.174	U	1.56	0.174	ug/L		04/18/16 19:27	04/22/16 06:03	1
Tetrachlorvinphos (Stirophos)	0.129	U	3.63	0.129	ug/L		04/18/16 19:27	04/22/16 06:03	1
Thionazin	0.324	U	1.04	0.324	ug/L		04/18/16 19:27	04/22/16 06:03	1
Tokuthion	0.128	U	1.66	0.128	ug/L		04/18/16 19:27	04/22/16 06:03	1
Trichloronate	0.251	U	1.56	0.251	ug/L		04/18/16 19:27	04/22/16 06:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	75		49 - 171				04/18/16 19:27	04/22/16 06:03	1
Triphenylphosphate	86		60 - 154				04/18/16 19:27	04/22/16 06:03	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0956	U	4.78	0.0956	ug/L		04/19/16 08:29	04/21/16 00:41	1
Dicamba	0.0813	U	0.478	0.0813	ug/L		04/19/16 08:29	04/21/16 00:41	1
Mecoprop	18.2	U	115	18.2	ug/L		04/19/16 08:29	04/21/16 00:41	1
MCPA	16.3	U	115	16.3	ug/L		04/19/16 08:29	04/21/16 00:41	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 TRAIL**

**Lab Sample ID: 560-60893-17**

**Date Collected: 04/13/16 08:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorprop	0.143	U	0.478	0.143	ug/L		04/19/16 08:29	04/21/16 00:41	1
2,4-D	0.0354	U	0.478	0.0354	ug/L		04/19/16 08:29	04/21/16 00:41	1
Silvex (2,4,5-TP)	0.0593	U	0.239	0.0593	ug/L		04/19/16 08:29	04/21/16 00:41	1
2,4,5-T	0.0593	U	0.239	0.0593	ug/L		04/19/16 08:29	04/21/16 00:41	1
2,4-DB	0.143	U	0.478	0.143	ug/L		04/19/16 08:29	04/21/16 00:41	1
Dinoseb	0.153	U	0.956	0.153	ug/L		04/19/16 08:29	04/21/16 00:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	83		45 - 130	04/19/16 08:29	04/21/16 00:41	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	54.0		0.200	0.101	mg/L		04/18/16 08:20	04/20/16 15:23	1
Magnesium	10.6		0.200	0.0257	mg/L		04/18/16 08:20	04/20/16 15:23	1
Potassium	2.26		0.500	0.375	mg/L		04/18/16 08:20	04/20/16 15:23	1
Silicon	3.84		0.500	0.0707	mg/L		04/18/16 08:20	04/20/16 15:23	1
Sodium	7.16		1.00	0.310	mg/L		04/18/16 08:20	04/20/16 15:23	1
Strontium	0.440		0.00500	0.000700	mg/L		04/18/16 08:20	04/20/16 15:23	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		04/18/16 08:20	04/18/16 15:23	1
Antimony	1.61	U	5.00	1.61	ug/L		04/18/16 08:20	04/18/16 15:23	1
Arsenic	1.09	U	5.00	1.09	ug/L		04/18/16 08:20	04/18/16 15:23	1
Barium	35.9		5.00	0.810	ug/L		04/18/16 08:20	04/18/16 15:23	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		04/18/16 08:20	04/18/16 15:23	1
Cadmium	0.854	U	2.00	0.854	ug/L		04/18/16 08:20	04/18/16 15:23	1
Chromium	1.40	U	5.00	1.40	ug/L		04/18/16 08:20	04/18/16 15:23	1
Copper	2.00	U	10.0	2.00	ug/L		04/18/16 08:20	04/18/16 15:23	1
Iron	101	U	250	101	ug/L		04/18/16 08:20	04/18/16 15:23	1
Lead	2.76	J	5.00	0.733	ug/L		04/18/16 08:20	04/18/16 15:23	1
Manganese	11.6	U	50.0	11.6	ug/L		04/18/16 08:20	04/18/16 15:23	1
Nickel	5.42		5.00	2.17	ug/L		04/18/16 08:20	04/18/16 15:23	1
Selenium	1.08	U	5.00	1.08	ug/L		04/18/16 08:20	04/18/16 15:23	1
Silver	0.941	U	5.00	0.941	ug/L		04/18/16 08:20	04/18/16 15:23	1
Thallium	0.693	U	2.00	0.693	ug/L		04/18/16 08:20	04/18/16 15:23	1
Zinc	3.55	U	25.0	3.55	ug/L		04/18/16 08:20	04/18/16 15:23	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		04/20/16 10:00	04/20/16 16:49	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.515	J	1.00	0.315	mg/L			04/14/16 22:24	1
Chloride	11.4		1.00	0.192	mg/L			04/14/16 22:24	1
Nitrate as N	0.867		0.500	0.103	mg/L			04/14/16 22:24	1
Sulfate	14.9		1.00	0.377	mg/L			04/14/16 22:24	1
Fluoride	0.141		0.100	0.0200	mg/L			04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/20/16 12:03	1
Phosphorus	0.0851	J	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:31	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS210 TRAIL**

**Lab Sample ID: 560-60893-17**

**Date Collected: 04/13/16 08:37**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	3.74		1.00	0.285	mg/L			04/20/16 12:27	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.46	HF	0.100	0.100	SU			04/21/16 09:57	1
Total Alkalinity as CaCO3	150		5.00	5.00	mg/L			04/22/16 13:20	1
Bicarbonate Alkalinity as CaCO3	150		5.00	5.00	mg/L			04/22/16 13:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/22/16 13:20	1
Total Dissolved Solids	220		10.0	10.0	mg/L			04/15/16 09:08	1
Total Suspended Solids	13.2		3.00	3.00	mg/L			04/19/16 09:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.02		1.00	0.285	mg/L			04/20/16 12:27	1

**Client Sample ID: HCS240 TRAIL**

**Lab Sample ID: 560-60893-18**

**Date Collected: 04/13/16 08:52**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/14/16 19:28	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/14/16 19:28	1
Benzene	0.330	U	1.00	0.330	ug/L			04/14/16 19:28	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/14/16 19:28	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 19:28	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/14/16 19:28	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/14/16 19:28	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/14/16 19:28	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/14/16 19:28	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/14/16 19:28	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/14/16 19:28	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/14/16 19:28	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/14/16 19:28	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/14/16 19:28	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/14/16 19:28	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/14/16 19:28	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/14/16 19:28	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/14/16 19:28	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/14/16 19:28	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/14/16 19:28	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/14/16 19:28	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 19:28	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/14/16 19:28	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/14/16 19:28	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/14/16 19:28	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/14/16 19:28	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/14/16 19:28	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/14/16 19:28	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/14/16 19:28	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 19:28	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/14/16 19:28	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 TRAIL**

**Lab Sample ID: 560-60893-18**

**Date Collected: 04/13/16 08:52**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/14/16 19:28	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/14/16 19:28	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/14/16 19:28	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/14/16 19:28	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/14/16 19:28	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/14/16 19:28	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/14/16 19:28	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/14/16 19:28	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/14/16 19:28	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/14/16 19:28	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/14/16 19:28	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/14/16 19:28	1
EDB	0.175	U	1.00	0.175	ug/L			04/14/16 19:28	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/14/16 19:28	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 19:28	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/14/16 19:28	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/14/16 19:28	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/14/16 19:28	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/14/16 19:28	1
Hexane	2.00	U	5.00	2.00	ug/L			04/14/16 19:28	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/14/16 19:28	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/14/16 19:28	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/14/16 19:28	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/14/16 19:28	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/14/16 19:28	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/14/16 19:28	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/14/16 19:28	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/14/16 19:28	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/14/16 19:28	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/14/16 19:28	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/14/16 19:28	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/14/16 19:28	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/14/16 19:28	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 19:28	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/14/16 19:28	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/14/16 19:28	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/14/16 19:28	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/14/16 19:28	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/14/16 19:28	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/14/16 19:28	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/14/16 19:28	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/14/16 19:28	1
Styrene	0.200	U	1.00	0.200	ug/L			04/14/16 19:28	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 19:28	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/14/16 19:28	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/14/16 19:28	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/14/16 19:28	1
Toluene	0.495	U	1.00	0.495	ug/L			04/14/16 19:28	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 19:28	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 TRAIL**

**Lab Sample ID: 560-60893-18**

**Date Collected: 04/13/16 08:52**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/14/16 19:28	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/14/16 19:28	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/14/16 19:28	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/14/16 19:28	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/14/16 19:28	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/14/16 19:28	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/14/16 19:28	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/14/16 19:28	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/14/16 19:28	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/14/16 19:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/14/16 19:28	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 19:28	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 19:28	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/14/16 19:28	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/14/16 19:28	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/14/16 19:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130		04/14/16 19:28	1
Dibromofluoromethane (Surr)	102		69 - 130		04/14/16 19:28	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 140		04/14/16 19:28	1
Toluene-d8 (Surr)	102		70 - 130		04/14/16 19:28	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/18/16 09:00	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/18/16 09:00	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/18/16 09:00	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/18/16 09:00	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/18/16 09:00	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/18/16 09:00	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/18/16 09:00	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/18/16 09:00	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/18/16 09:00	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/18/16 09:00	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/18/16 09:00	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/18/16 09:00	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/18/16 09:00	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/18/16 09:00	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/18/16 09:00	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/18/16 09:00	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/18/16 09:00	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/18/16 09:00	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/18/16 09:00	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/18/16 09:00	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/18/16 09:00	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/18/16 09:00	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/18/16 09:00	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/18/16 09:00	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/18/16 09:00	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 TRAIL**

**Lab Sample ID: 560-60893-18**

**Date Collected: 04/13/16 08:52**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/18/16 09:00	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/18/16 09:00	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/18/16 09:00	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/18/16 09:00	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/18/16 09:00	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/18/16 09:00	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/18/16 09:00	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/18/16 09:00	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/18/16 09:00	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/18/16 09:00	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/18/16 09:00	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/18/16 09:00	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/18/16 09:00	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/18/16 09:00	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/18/16 09:00	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/18/16 09:00	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/18/16 09:00	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/18/16 09:00	1
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/18/16 09:00	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/18/16 09:00	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/18/16 09:00	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/18/16 09:00	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/18/16 09:00	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/18/16 09:00	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/18/16 09:00	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/18/16 09:00	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/18/16 09:00	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/18/16 09:00	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/18/16 09:00	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/18/16 09:00	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/18/16 09:00	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/18/16 09:00	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/18/16 09:00	1
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/18/16 09:00	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/18/16 09:00	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/18/16 09:00	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/18/16 09:00	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/18/16 09:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		23 - 130	04/14/16 17:16	04/18/16 09:00	1
2-Fluorophenol	64		10 - 130	04/14/16 17:16	04/18/16 09:00	1
Nitrobenzene-d5	65		27 - 130	04/14/16 17:16	04/18/16 09:00	1
Phenol-d5	69		10 - 130	04/14/16 17:16	04/18/16 09:00	1
Terphenyl-d14	90		10 - 141	04/14/16 17:16	04/18/16 09:00	1
2,4,6-Tribromophenol	69		18 - 130	04/14/16 17:16	04/18/16 09:00	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00474	U	0.0569	0.00474	ug/L		04/15/16 08:31	04/15/16 20:22	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 TRAIL**

**Lab Sample ID: 560-60893-18**

**Date Collected: 04/13/16 08:52**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-BHC	0.00493	U	0.0569	0.00493	ug/L		04/15/16 08:31	04/15/16 20:22	1
alpha-Chlordane	0.00598	U	0.0569	0.00598	ug/L		04/15/16 08:31	04/15/16 20:22	1
beta-BHC	0.00474	U	0.0569	0.00474	ug/L		04/15/16 08:31	04/15/16 20:22	1
4,4'-DDD	0.00474	U	0.0569	0.00474	ug/L		04/15/16 08:31	04/15/16 20:22	1
4,4'-DDE	0.00474	U	0.0569	0.00474	ug/L		04/15/16 08:31	04/15/16 20:22	1
4,4'-DDT	0.00768	U	0.0569	0.00768	ug/L		04/15/16 08:31	04/15/16 20:22	1
delta-BHC	0.00474	U	0.0569	0.00474	ug/L		04/15/16 08:31	04/15/16 20:22	1
Dieldrin	0.0123	U	0.0569	0.0123	ug/L		04/15/16 08:31	04/15/16 20:22	1
Endosulfan I	0.00474	U	0.0569	0.00474	ug/L		04/15/16 08:31	04/15/16 20:22	1
Endosulfan II	0.00816	U	0.0569	0.00816	ug/L		04/15/16 08:31	04/15/16 20:22	1
Endosulfan sulfate	0.00835	U	0.0569	0.00835	ug/L		04/15/16 08:31	04/15/16 20:22	1
Endrin	0.00730	U	0.0569	0.00730	ug/L		04/15/16 08:31	04/15/16 20:22	1
Endrin aldehyde	0.00474	U	0.0569	0.00474	ug/L		04/15/16 08:31	04/15/16 20:22	1
Endrin ketone	0.00778	U	0.0569	0.00778	ug/L		04/15/16 08:31	04/15/16 20:22	1
gamma-BHC (Lindane)	0.00427	U	0.0569	0.00427	ug/L		04/15/16 08:31	04/15/16 20:22	1
gamma-Chlordane	0.00636	U	0.0569	0.00636	ug/L		04/15/16 08:31	04/15/16 20:22	1
Heptachlor	0.00617	U	0.0569	0.00617	ug/L		04/15/16 08:31	04/15/16 20:22	1
Heptachlor epoxide	0.00493	U	0.0569	0.00493	ug/L		04/15/16 08:31	04/15/16 20:22	1
Methoxychlor	0.00949	U	0.0569	0.00949	ug/L		04/15/16 08:31	04/15/16 20:22	1
Toxaphene	0.645	U	5.69	0.645	ug/L		04/15/16 08:31	04/15/16 20:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	41		10 - 152	04/15/16 08:31	04/15/16 20:22	1
DCB Decachlorobiphenyl	60		10 - 152	04/15/16 08:31	04/15/16 20:22	1
Tetrachloro-m-xylene	78		57 - 127	04/15/16 08:31	04/15/16 20:22	1
Tetrachloro-m-xylene	66		57 - 127	04/15/16 08:31	04/15/16 20:22	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 19:14	1
Aroclor 1221	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 19:14	1
Aroclor 1232	0.417	U	0.759	0.417	ug/L		04/15/16 08:31	04/15/16 19:14	1
Aroclor 1242	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 19:14	1
Aroclor 1248	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 19:14	1
Aroclor 1254	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 19:14	1
Aroclor 1260	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 19:14	1
Aroclor 1262	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 19:14	1
Aroclor 1268	0.104	U	0.569	0.104	ug/L		04/15/16 08:31	04/15/16 19:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	116		10 - 150	04/15/16 08:31	04/15/16 19:14	1
DCB Decachlorobiphenyl	91		10 - 150	04/15/16 08:31	04/15/16 19:14	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.160	U	2.38	0.160	ug/L		04/18/16 19:27	04/22/16 07:37	1
Bolstar	0.298	U	0.950	0.298	ug/L		04/18/16 19:27	04/22/16 07:37	1
Chlorpyrifos	0.342	U	1.43	0.342	ug/L		04/18/16 19:27	04/22/16 07:37	1
Coumaphos	0.128	U	0.950	0.128	ug/L		04/18/16 19:27	04/22/16 07:37	1
Demeton-O	0.133	U	0.950	0.133	ug/L		04/18/16 19:27	04/22/16 07:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 TRAIL**

**Lab Sample ID: 560-60893-18**

**Date Collected: 04/13/16 08:52**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Demeton-S	0.0656	U	1.90	0.0656	ug/L		04/18/16 19:27	04/22/16 07:37	1
Diazinon	0.140	U	0.475	0.140	ug/L		04/18/16 19:27	04/22/16 07:37	1
Dichlorvos	0.154	U	0.475	0.154	ug/L		04/18/16 19:27	04/22/16 07:37	1
Dimethoate	0.427	U	1.43	0.427	ug/L		04/18/16 19:27	04/22/16 07:37	1
Disulfoton	0.306	U	0.950	0.306	ug/L		04/18/16 19:27	04/22/16 07:37	1
EPN	0.142	U	1.14	0.142	ug/L		04/18/16 19:27	04/22/16 07:37	1
Ethoprop	0.168	U	1.43	0.168	ug/L		04/18/16 19:27	04/22/16 07:37	1
Ethyl Parathion	0.137	U	0.950	0.137	ug/L		04/18/16 19:27	04/22/16 07:37	1
Famphur	0.170	U	0.950	0.170	ug/L		04/18/16 19:27	04/22/16 07:37	1
Fensulfothion	0.517	U	2.38	0.517	ug/L		04/18/16 19:27	04/22/16 07:37	1
Fenthion	0.146	U	2.38	0.146	ug/L		04/18/16 19:27	04/22/16 07:37	1
Malathion	0.126	U	1.90	0.126	ug/L		04/18/16 19:27	04/22/16 07:37	1
Merphos	0.165	U	4.75	0.165	ug/L		04/18/16 19:27	04/22/16 07:37	1
Methyl parathion	0.134	U	3.80	0.134	ug/L		04/18/16 19:27	04/22/16 07:37	1
Mevinphos	0.437	U	5.89	0.437	ug/L		04/18/16 19:27	04/22/16 07:37	1
Naled	0.760	U	1.90	0.760	ug/L		04/18/16 19:27	04/22/16 07:37	1
Phorate	0.146	U	1.14	0.146	ug/L		04/18/16 19:27	04/22/16 07:37	1
Ronnel	0.110	U	9.50	0.110	ug/L		04/18/16 19:27	04/22/16 07:37	1
Sulfotepp	0.160	U	1.43	0.160	ug/L		04/18/16 19:27	04/22/16 07:37	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.33	0.118	ug/L		04/18/16 19:27	04/22/16 07:37	1
Thionazin	0.296	U	0.950	0.296	ug/L		04/18/16 19:27	04/22/16 07:37	1
Tokuthion	0.117	U	1.52	0.117	ug/L		04/18/16 19:27	04/22/16 07:37	1
Trichloronate	0.230	U	1.43	0.230	ug/L		04/18/16 19:27	04/22/16 07:37	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Chlormefos	72		49 - 171				04/18/16 19:27	04/22/16 07:37	1
Triphenylphosphate	81		60 - 154				04/18/16 19:27	04/22/16 07:37	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0949	U	4.74	0.0949	ug/L		04/19/16 08:29	04/21/16 01:01	1
Dicamba	0.0807	U	0.474	0.0807	ug/L		04/19/16 08:29	04/21/16 01:01	1
Mecoprop	18.0	U	114	18.0	ug/L		04/19/16 08:29	04/21/16 01:01	1
MCPA	16.1	U	114	16.1	ug/L		04/19/16 08:29	04/21/16 01:01	1
Dichlorprop	0.142	U	0.474	0.142	ug/L		04/19/16 08:29	04/21/16 01:01	1
2,4-D	0.0351	U	0.474	0.0351	ug/L		04/19/16 08:29	04/21/16 01:01	1
Silvex (2,4,5-TP)	0.0588	U	0.237	0.0588	ug/L		04/19/16 08:29	04/21/16 01:01	1
2,4,5-T	0.0588	U	0.237	0.0588	ug/L		04/19/16 08:29	04/21/16 01:01	1
2,4-DB	0.142	U	0.474	0.142	ug/L		04/19/16 08:29	04/21/16 01:01	1
Dinoseb	0.152	U	0.949	0.152	ug/L		04/19/16 08:29	04/21/16 01:01	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4-Dichlorophenylacetic acid	80		45 - 130				04/19/16 08:29	04/21/16 01:01	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	81.3		0.200	0.101	mg/L		04/18/16 08:38	04/19/16 13:13	1
Magnesium	15.7		0.200	0.0257	mg/L		04/18/16 08:38	04/19/16 13:13	1
Potassium	1.47		0.500	0.375	mg/L		04/18/16 08:38	04/19/16 13:13	1
Silicon	5.54		0.500	0.0707	mg/L		04/18/16 08:38	04/19/16 13:13	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS240 TRAIL**

**Lab Sample ID: 560-60893-18**

**Date Collected: 04/13/16 08:52**

**Matrix: Water**

**Date Received: 04/13/16 16:14**

## Method: 6010B - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	11.5		1.00	0.310	mg/L		04/18/16 08:38	04/20/16 12:32	1
Strontium	0.662		0.00500	0.000700	mg/L		04/18/16 08:38	04/19/16 13:13	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		04/18/16 08:38	04/20/16 13:57	1
Antimony	1.61	U	5.00	1.61	ug/L		04/18/16 08:38	04/18/16 19:05	1
Arsenic	1.09	U	5.00	1.09	ug/L		04/18/16 08:38	04/19/16 14:07	1
Barium	54.9		5.00	0.810	ug/L		04/18/16 08:38	04/18/16 19:05	1
Beryllium	1.24	U	4.00	1.24	ug/L		04/18/16 08:38	04/19/16 14:07	1
Cadmium	0.854	U	2.00	0.854	ug/L		04/18/16 08:38	04/18/16 19:05	1
Chromium	1.40	U	5.00	1.40	ug/L		04/18/16 08:38	04/18/16 19:05	1
Copper	2.00	U	10.0	2.00	ug/L		04/18/16 08:38	04/18/16 19:05	1
Iron	101	U	250	101	ug/L		04/18/16 08:38	04/18/16 19:05	1
Lead	0.733	U	5.00	0.733	ug/L		04/18/16 08:38	04/18/16 19:05	1
Manganese	11.6	U	50.0	11.6	ug/L		04/18/16 08:38	04/18/16 19:05	1
Nickel	2.17	U	5.00	2.17	ug/L		04/18/16 08:38	04/19/16 14:07	1
Selenium	3.05	J	5.00	1.08	ug/L		04/18/16 08:38	04/18/16 19:05	1
Silver	0.941	U	5.00	0.941	ug/L		04/18/16 08:38	04/18/16 19:05	1
Thallium	0.693	U	2.00	0.693	ug/L		04/18/16 08:38	04/18/16 19:05	1
Zinc	3.55	U	25.0	3.55	ug/L		04/18/16 08:38	04/18/16 19:05	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		04/20/16 10:00	04/20/16 17:12	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.545	J	1.00	0.315	mg/L			04/14/16 23:43	1
Chloride	17.2		1.00	0.192	mg/L			04/14/16 23:43	1
Nitrate as N	1.75		0.500	0.103	mg/L			04/14/16 23:43	1
Sulfate	24.2		1.00	0.377	mg/L			04/14/16 23:43	1
Fluoride	0.201		0.100	0.0200	mg/L			04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/20/16 12:14	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:42	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			04/19/16 13:45	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.39	HF	0.100	0.100	SU			04/21/16 09:57	1
Total Alkalinity as CaCO3	220		5.00	5.00	mg/L			04/22/16 13:20	1
Bicarbonate Alkalinity as CaCO3	220		5.00	5.00	mg/L			04/22/16 13:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/22/16 13:20	1
Total Dissolved Solids	306		10.0	10.0	mg/L			04/15/16 10:30	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			04/19/16 09:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.589	J	1.00	0.285	mg/L			04/20/16 12:27	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 TRAIL**

**Lab Sample ID: 560-60893-19**

**Date Collected: 04/13/16 08:16**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/14/16 19:54	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/14/16 19:54	1
Benzene	0.330	U	1.00	0.330	ug/L			04/14/16 19:54	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/14/16 19:54	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 19:54	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/14/16 19:54	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/14/16 19:54	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/14/16 19:54	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/14/16 19:54	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/14/16 19:54	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/14/16 19:54	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/14/16 19:54	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/14/16 19:54	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/14/16 19:54	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/14/16 19:54	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/14/16 19:54	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/14/16 19:54	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/14/16 19:54	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/14/16 19:54	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/14/16 19:54	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/14/16 19:54	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 19:54	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/14/16 19:54	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/14/16 19:54	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/14/16 19:54	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/14/16 19:54	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/14/16 19:54	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/14/16 19:54	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/14/16 19:54	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 19:54	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/14/16 19:54	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/14/16 19:54	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/14/16 19:54	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/14/16 19:54	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/14/16 19:54	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/14/16 19:54	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/14/16 19:54	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/14/16 19:54	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/14/16 19:54	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/14/16 19:54	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/14/16 19:54	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/14/16 19:54	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/14/16 19:54	1
EDB	0.175	U	1.00	0.175	ug/L			04/14/16 19:54	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/14/16 19:54	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 19:54	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/14/16 19:54	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/14/16 19:54	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/14/16 19:54	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 TRAIL**

**Lab Sample ID: 560-60893-19**

**Date Collected: 04/13/16 08:16**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/14/16 19:54	1
Hexane	2.00	U	5.00	2.00	ug/L			04/14/16 19:54	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/14/16 19:54	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/14/16 19:54	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/14/16 19:54	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/14/16 19:54	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/14/16 19:54	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/14/16 19:54	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/14/16 19:54	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/14/16 19:54	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/14/16 19:54	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/14/16 19:54	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/14/16 19:54	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/14/16 19:54	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/14/16 19:54	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 19:54	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/14/16 19:54	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/14/16 19:54	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/14/16 19:54	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/14/16 19:54	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/14/16 19:54	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/14/16 19:54	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/14/16 19:54	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/14/16 19:54	1
Styrene	0.200	U	1.00	0.200	ug/L			04/14/16 19:54	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 19:54	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/14/16 19:54	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/14/16 19:54	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/14/16 19:54	1
Toluene	0.495	U	1.00	0.495	ug/L			04/14/16 19:54	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 19:54	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/14/16 19:54	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/14/16 19:54	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/14/16 19:54	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/14/16 19:54	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/14/16 19:54	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/14/16 19:54	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/14/16 19:54	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/14/16 19:54	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/14/16 19:54	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/14/16 19:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/14/16 19:54	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 19:54	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 19:54	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/14/16 19:54	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/14/16 19:54	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/14/16 19:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130		04/14/16 19:54	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 TRAIL**

**Lab Sample ID: 560-60893-19**

**Date Collected: 04/13/16 08:16**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	101		69 - 130		04/14/16 19:54	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 140		04/14/16 19:54	1
Toluene-d8 (Surr)	102		70 - 130		04/14/16 19:54	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/18/16 09:26	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/18/16 09:26	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/18/16 09:26	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/18/16 09:26	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/18/16 09:26	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/18/16 09:26	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/18/16 09:26	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/18/16 09:26	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/18/16 09:26	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/18/16 09:26	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/18/16 09:26	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/18/16 09:26	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/18/16 09:26	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/18/16 09:26	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/18/16 09:26	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/18/16 09:26	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/18/16 09:26	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/18/16 09:26	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/18/16 09:26	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/18/16 09:26	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/18/16 09:26	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/18/16 09:26	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/18/16 09:26	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/18/16 09:26	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/18/16 09:26	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/18/16 09:26	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/18/16 09:26	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/18/16 09:26	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/18/16 09:26	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/18/16 09:26	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/18/16 09:26	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/18/16 09:26	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/18/16 09:26	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/18/16 09:26	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/18/16 09:26	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/18/16 09:26	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/18/16 09:26	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/18/16 09:26	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/18/16 09:26	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/18/16 09:26	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/18/16 09:26	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/18/16 09:26	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/18/16 09:26	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 TRAIL**

**Lab Sample ID: 560-60893-19**

**Date Collected: 04/13/16 08:16**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/18/16 09:26	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/18/16 09:26	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/18/16 09:26	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/18/16 09:26	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/18/16 09:26	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/18/16 09:26	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/18/16 09:26	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/18/16 09:26	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/18/16 09:26	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/18/16 09:26	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/18/16 09:26	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/18/16 09:26	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/18/16 09:26	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/18/16 09:26	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/18/16 09:26	1
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/18/16 09:26	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/18/16 09:26	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/18/16 09:26	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/18/16 09:26	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/18/16 09:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		23 - 130	04/14/16 17:16	04/18/16 09:26	1
2-Fluorophenol	60		10 - 130	04/14/16 17:16	04/18/16 09:26	1
Nitrobenzene-d5	64		27 - 130	04/14/16 17:16	04/18/16 09:26	1
Phenol-d5	67		10 - 130	04/14/16 17:16	04/18/16 09:26	1
Terphenyl-d14	49		10 - 141	04/14/16 17:16	04/18/16 09:26	1
2,4,6-Tribromophenol	68		18 - 130	04/14/16 17:16	04/18/16 09:26	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00487	U	0.0585	0.00487	ug/L		04/15/16 08:31	04/15/16 20:47	1
alpha-BHC	0.00507	U	0.0585	0.00507	ug/L		04/15/16 08:31	04/15/16 20:47	1
alpha-Chlordane	0.00614	U	0.0585	0.00614	ug/L		04/15/16 08:31	04/15/16 20:47	1
beta-BHC	0.00487	U	0.0585	0.00487	ug/L		04/15/16 08:31	04/15/16 20:47	1
4,4'-DDD	0.00487	U	0.0585	0.00487	ug/L		04/15/16 08:31	04/15/16 20:47	1
4,4'-DDE	0.00487	U	0.0585	0.00487	ug/L		04/15/16 08:31	04/15/16 20:47	1
4,4'-DDT	0.00790	U	0.0585	0.00790	ug/L		04/15/16 08:31	04/15/16 20:47	1
delta-BHC	0.00487	U	0.0585	0.00487	ug/L		04/15/16 08:31	04/15/16 20:47	1
Dieldrin	0.0127	U	0.0585	0.0127	ug/L		04/15/16 08:31	04/15/16 20:47	1
Endosulfan I	0.00487	U	0.0585	0.00487	ug/L		04/15/16 08:31	04/15/16 20:47	1
Endosulfan II	0.00838	U	0.0585	0.00838	ug/L		04/15/16 08:31	04/15/16 20:47	1
Endosulfan sulfate	0.00858	U	0.0585	0.00858	ug/L		04/15/16 08:31	04/15/16 20:47	1
Endrin	0.00751	U	0.0585	0.00751	ug/L		04/15/16 08:31	04/15/16 20:47	1
Endrin aldehyde	0.00487	U	0.0585	0.00487	ug/L		04/15/16 08:31	04/15/16 20:47	1
Endrin ketone	0.00799	U	0.0585	0.00799	ug/L		04/15/16 08:31	04/15/16 20:47	1
gamma-BHC (Lindane)	0.00439	U	0.0585	0.00439	ug/L		04/15/16 08:31	04/15/16 20:47	1
gamma-Chlordane	0.00653	U	0.0585	0.00653	ug/L		04/15/16 08:31	04/15/16 20:47	1
Heptachlor	0.00634	U	0.0585	0.00634	ug/L		04/15/16 08:31	04/15/16 20:47	1
Heptachlor epoxide	0.00507	U	0.0585	0.00507	ug/L		04/15/16 08:31	04/15/16 20:47	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 TRAIL**

**Lab Sample ID: 560-60893-19**

**Date Collected: 04/13/16 08:16**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	0.00975	U	0.0585	0.00975	ug/L		04/15/16 08:31	04/15/16 20:47	1
Toxaphene	0.663	U	5.85	0.663	ug/L		04/15/16 08:31	04/15/16 20:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	43		10 - 152				04/15/16 08:31	04/15/16 20:47	1
DCB Decachlorobiphenyl	64		10 - 152				04/15/16 08:31	04/15/16 20:47	1
Tetrachloro-m-xylene	76		57 - 127				04/15/16 08:31	04/15/16 20:47	1
Tetrachloro-m-xylene	66		57 - 127				04/15/16 08:31	04/15/16 20:47	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.107	U	0.585	0.107	ug/L		04/15/16 08:31	04/15/16 19:32	1
Aroclor 1221	0.107	U	0.585	0.107	ug/L		04/15/16 08:31	04/15/16 19:32	1
Aroclor 1232	0.429	U	0.780	0.429	ug/L		04/15/16 08:31	04/15/16 19:32	1
Aroclor 1242	0.107	U	0.585	0.107	ug/L		04/15/16 08:31	04/15/16 19:32	1
Aroclor 1248	0.107	U	0.585	0.107	ug/L		04/15/16 08:31	04/15/16 19:32	1
Aroclor 1254	0.107	U	0.585	0.107	ug/L		04/15/16 08:31	04/15/16 19:32	1
Aroclor 1260	0.107	U	0.585	0.107	ug/L		04/15/16 08:31	04/15/16 19:32	1
Aroclor 1262	0.107	U	0.585	0.107	ug/L		04/15/16 08:31	04/15/16 19:32	1
Aroclor 1268	0.107	U	0.585	0.107	ug/L		04/15/16 08:31	04/15/16 19:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	146		10 - 150				04/15/16 08:31	04/15/16 19:32	1
DCB Decachlorobiphenyl	103		10 - 150				04/15/16 08:31	04/15/16 19:32	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.159	U	2.37	0.159	ug/L		04/18/16 19:27	04/22/16 08:09	1
Bolstar	0.298	U	0.948	0.298	ug/L		04/18/16 19:27	04/22/16 08:09	1
Chlorpyrifos	0.341	U	1.42	0.341	ug/L		04/18/16 19:27	04/22/16 08:09	1
Coumaphos	0.128	U	0.948	0.128	ug/L		04/18/16 19:27	04/22/16 08:09	1
Demeton-O	0.133	U	0.948	0.133	ug/L		04/18/16 19:27	04/22/16 08:09	1
Demeton-S	0.0654	U	1.90	0.0654	ug/L		04/18/16 19:27	04/22/16 08:09	1
Diazinon	0.139	U	0.474	0.139	ug/L		04/18/16 19:27	04/22/16 08:09	1
Dichlorvos	0.154	U	0.474	0.154	ug/L		04/18/16 19:27	04/22/16 08:09	1
Dimethoate	0.426	U	1.42	0.426	ug/L		04/18/16 19:27	04/22/16 08:09	1
Disulfoton	0.305	U	0.948	0.305	ug/L		04/18/16 19:27	04/22/16 08:09	1
EPN	0.141	U	1.14	0.141	ug/L		04/18/16 19:27	04/22/16 08:09	1
Ethoprop	0.168	U	1.42	0.168	ug/L		04/18/16 19:27	04/22/16 08:09	1
Ethyl Parathion	0.136	U	0.948	0.136	ug/L		04/18/16 19:27	04/22/16 08:09	1
Famphur	0.170	U	0.948	0.170	ug/L		04/18/16 19:27	04/22/16 08:09	1
Fensulfothion	0.516	U	2.37	0.516	ug/L		04/18/16 19:27	04/22/16 08:09	1
Fenthion	0.146	U	2.37	0.146	ug/L		04/18/16 19:27	04/22/16 08:09	1
Malathion	0.126	U	1.90	0.126	ug/L		04/18/16 19:27	04/22/16 08:09	1
Merphos	0.165	U	4.74	0.165	ug/L		04/18/16 19:27	04/22/16 08:09	1
Methyl parathion	0.134	U	3.79	0.134	ug/L		04/18/16 19:27	04/22/16 08:09	1
Mevinphos	0.436	U	5.88	0.436	ug/L		04/18/16 19:27	04/22/16 08:09	1
Naled	0.758	U	1.90	0.758	ug/L		04/18/16 19:27	04/22/16 08:09	1
Phorate	0.146	U	1.14	0.146	ug/L		04/18/16 19:27	04/22/16 08:09	1
Ronnel	0.110	U	9.48	0.110	ug/L		04/18/16 19:27	04/22/16 08:09	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 TRAIL**

**Lab Sample ID: 560-60893-19**

**Date Collected: 04/13/16 08:16**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfotepp	0.159	U	1.42	0.159	ug/L		04/18/16 19:27	04/22/16 08:09	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.32	0.118	ug/L		04/18/16 19:27	04/22/16 08:09	1
Thionazin	0.296	U	0.948	0.296	ug/L		04/18/16 19:27	04/22/16 08:09	1
Tokuthion	0.117	U	1.52	0.117	ug/L		04/18/16 19:27	04/22/16 08:09	1
Trichloronate	0.229	U	1.42	0.229	ug/L		04/18/16 19:27	04/22/16 08:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	77		49 - 171				04/18/16 19:27	04/22/16 08:09	1
Triphenylphosphate	88		60 - 154				04/18/16 19:27	04/22/16 08:09	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0962	U	4.81	0.0962	ug/L		04/19/16 08:29	04/21/16 01:20	1
Dicamba	0.0817	U	0.481	0.0817	ug/L		04/19/16 08:29	04/21/16 01:20	1
Mecoprop	18.3	U	115	18.3	ug/L		04/19/16 08:29	04/21/16 01:20	1
MCPA	16.3	U	115	16.3	ug/L		04/19/16 08:29	04/21/16 01:20	1
Dichlorprop	0.144	U	0.481	0.144	ug/L		04/19/16 08:29	04/21/16 01:20	1
2,4-D	0.0356	U	0.481	0.0356	ug/L		04/19/16 08:29	04/21/16 01:20	1
Silvex (2,4,5-TP)	0.0596	U	0.240	0.0596	ug/L		04/19/16 08:29	04/21/16 01:20	1
2,4,5-T	0.0596	U	0.240	0.0596	ug/L		04/19/16 08:29	04/21/16 01:20	1
2,4-DB	0.144	U	0.481	0.144	ug/L		04/19/16 08:29	04/21/16 01:20	1
Dinoseb	0.154	U	0.962	0.154	ug/L		04/19/16 08:29	04/21/16 01:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	83		45 - 130				04/19/16 08:29	04/21/16 01:20	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	79.0		0.200	0.101	mg/L		04/18/16 08:38	04/19/16 13:17	1
Magnesium	15.1		0.200	0.0257	mg/L		04/18/16 08:38	04/19/16 13:17	1
Potassium	1.77		0.500	0.375	mg/L		04/18/16 08:38	04/19/16 13:17	1
Silicon	5.48		0.500	0.0707	mg/L		04/18/16 08:38	04/19/16 13:17	1
Sodium	11.2		1.00	0.310	mg/L		04/18/16 08:38	04/20/16 12:36	1
Strontium	0.642		0.00500	0.000700	mg/L		04/18/16 08:38	04/19/16 13:17	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		04/18/16 08:38	04/20/16 14:03	1
Antimony	1.61	U	5.00	1.61	ug/L		04/18/16 08:38	04/18/16 19:10	1
Arsenic	1.09	U	5.00	1.09	ug/L		04/18/16 08:38	04/19/16 14:38	1
Barium	50.4		5.00	0.810	ug/L		04/18/16 08:38	04/18/16 19:10	1
Beryllium	1.24	U	4.00	1.24	ug/L		04/18/16 08:38	04/19/16 14:38	1
Cadmium	0.854	U	2.00	0.854	ug/L		04/18/16 08:38	04/18/16 19:10	1
Chromium	1.40	U	5.00	1.40	ug/L		04/18/16 08:38	04/18/16 19:10	1
Copper	2.00	U	10.0	2.00	ug/L		04/18/16 08:38	04/18/16 19:10	1
Iron	101	U	250	101	ug/L		04/18/16 08:38	04/18/16 19:10	1
Lead	0.733	U	5.00	0.733	ug/L		04/18/16 08:38	04/18/16 19:10	1
Manganese	11.6	U	50.0	11.6	ug/L		04/18/16 08:38	04/18/16 19:10	1
Nickel	2.17	U	5.00	2.17	ug/L		04/18/16 08:38	04/19/16 14:38	1
Selenium	1.13	J	5.00	1.08	ug/L		04/18/16 08:38	04/18/16 19:10	1
Silver	0.941	U	5.00	0.941	ug/L		04/18/16 08:38	04/18/16 19:10	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS250 TRAIL**

**Lab Sample ID: 560-60893-19**

**Date Collected: 04/13/16 08:16**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.693	U	2.00	0.693	ug/L		04/18/16 08:38	04/18/16 19:10	1
Zinc	3.55	U	25.0	3.55	ug/L		04/18/16 08:38	04/18/16 19:10	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		04/20/16 10:00	04/20/16 17:14	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.544	J	1.00	0.315	mg/L			04/15/16 00:09	1
Chloride	16.6		1.00	0.192	mg/L			04/15/16 00:09	1
Nitrate as N	1.67		0.500	0.103	mg/L			04/15/16 00:09	1
Sulfate	23.1		1.00	0.377	mg/L			04/15/16 00:09	1
Fluoride	0.185		0.100	0.0200	mg/L			04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/21/16 12:22	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:47	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			04/19/16 13:45	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.46	HF	0.100	0.100	SU			04/21/16 09:57	1
Total Alkalinity as CaCO3	214		5.00	5.00	mg/L			04/22/16 13:20	1
Bicarbonate Alkalinity as CaCO3	214		5.00	5.00	mg/L			04/22/16 13:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/22/16 13:20	1
Total Dissolved Solids	302		10.0	10.0	mg/L			04/15/16 10:30	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			04/19/16 09:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.627	J	1.00	0.285	mg/L			04/20/16 12:27	1

**Client Sample ID: HCS260 TRAIL**

**Lab Sample ID: 560-60893-20**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/14/16 17:24	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/14/16 17:24	1
Benzene	0.330	U	1.00	0.330	ug/L			04/14/16 17:24	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/14/16 17:24	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 17:24	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/14/16 17:24	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/14/16 17:24	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/14/16 17:24	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/14/16 17:24	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/14/16 17:24	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/14/16 17:24	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/14/16 17:24	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/14/16 17:24	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/14/16 17:24	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/14/16 17:24	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 TRAIL**

**Lab Sample ID: 560-60893-20**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	0.400	U	5.00	0.400	ug/L			04/14/16 17:24	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/14/16 17:24	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/14/16 17:24	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/14/16 17:24	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/14/16 17:24	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/14/16 17:24	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 17:24	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/14/16 17:24	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/14/16 17:24	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/14/16 17:24	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/14/16 17:24	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/14/16 17:24	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/14/16 17:24	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/14/16 17:24	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 17:24	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/14/16 17:24	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/14/16 17:24	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/14/16 17:24	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/14/16 17:24	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/14/16 17:24	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/14/16 17:24	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/14/16 17:24	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/14/16 17:24	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/14/16 17:24	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/14/16 17:24	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/14/16 17:24	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/14/16 17:24	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/14/16 17:24	1
EDB	0.175	U	1.00	0.175	ug/L			04/14/16 17:24	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/14/16 17:24	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 17:24	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/14/16 17:24	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/14/16 17:24	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/14/16 17:24	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/14/16 17:24	1
Hexane	2.00	U	5.00	2.00	ug/L			04/14/16 17:24	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/14/16 17:24	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/14/16 17:24	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/14/16 17:24	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/14/16 17:24	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/14/16 17:24	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/14/16 17:24	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/14/16 17:24	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/14/16 17:24	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/14/16 17:24	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/14/16 17:24	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/14/16 17:24	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/14/16 17:24	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/14/16 17:24	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 TRAIL**

**Lab Sample ID: 560-60893-20**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 17:24	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/14/16 17:24	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/14/16 17:24	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/14/16 17:24	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/14/16 17:24	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/14/16 17:24	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/14/16 17:24	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/14/16 17:24	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/14/16 17:24	1
Styrene	0.200	U	1.00	0.200	ug/L			04/14/16 17:24	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 17:24	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/14/16 17:24	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/14/16 17:24	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/14/16 17:24	1
Toluene	0.495	U	1.00	0.495	ug/L			04/14/16 17:24	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 17:24	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/14/16 17:24	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/14/16 17:24	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/14/16 17:24	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/14/16 17:24	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/14/16 17:24	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/14/16 17:24	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/14/16 17:24	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/14/16 17:24	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/14/16 17:24	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/14/16 17:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/14/16 17:24	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 17:24	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 17:24	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/14/16 17:24	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/14/16 17:24	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/14/16 17:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130		04/14/16 17:24	1
Dibromofluoromethane (Surr)	103		69 - 130		04/14/16 17:24	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		04/14/16 17:24	1
Toluene-d8 (Surr)	101		70 - 130		04/14/16 17:24	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/18/16 08:34	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/18/16 08:34	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/18/16 08:34	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/18/16 08:34	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/18/16 08:34	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/18/16 08:34	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/18/16 08:34	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/18/16 08:34	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/18/16 08:34	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 TRAIL**

**Lab Sample ID: 560-60893-20**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/18/16 08:34	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/18/16 08:34	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/18/16 08:34	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/18/16 08:34	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/18/16 08:34	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/18/16 08:34	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/18/16 08:34	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/18/16 08:34	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/18/16 08:34	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/18/16 08:34	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/18/16 08:34	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/18/16 08:34	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/18/16 08:34	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/18/16 08:34	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/18/16 08:34	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/18/16 08:34	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/18/16 08:34	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/18/16 08:34	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/18/16 08:34	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/18/16 08:34	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/18/16 08:34	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/18/16 08:34	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/18/16 08:34	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/18/16 08:34	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/18/16 08:34	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/18/16 08:34	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/18/16 08:34	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/18/16 08:34	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/18/16 08:34	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/18/16 08:34	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/18/16 08:34	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/18/16 08:34	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/18/16 08:34	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/18/16 08:34	1
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/18/16 08:34	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/18/16 08:34	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/18/16 08:34	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/18/16 08:34	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/18/16 08:34	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/18/16 08:34	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/18/16 08:34	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/18/16 08:34	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/18/16 08:34	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/18/16 08:34	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/18/16 08:34	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/18/16 08:34	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/18/16 08:34	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/18/16 08:34	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/18/16 08:34	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 TRAIL**

**Lab Sample ID: 560-60893-20**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/18/16 08:34	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/18/16 08:34	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/18/16 08:34	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/18/16 08:34	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/18/16 08:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		23 - 130	04/14/16 17:16	04/18/16 08:34	1
2-Fluorophenol	70		10 - 130	04/14/16 17:16	04/18/16 08:34	1
Nitrobenzene-d5	73		27 - 130	04/14/16 17:16	04/18/16 08:34	1
Phenol-d5	75		10 - 130	04/14/16 17:16	04/18/16 08:34	1
Terphenyl-d14	60		10 - 141	04/14/16 17:16	04/18/16 08:34	1
2,4,6-Tribromophenol	74		18 - 130	04/14/16 17:16	04/18/16 08:34	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 21:13	1
alpha-BHC	0.00495	U	0.0571	0.00495	ug/L		04/15/16 08:31	04/15/16 21:13	1
alpha-Chlordane	0.00599	U	0.0571	0.00599	ug/L		04/15/16 08:31	04/15/16 21:13	1
beta-BHC	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 21:13	1
4,4'-DDD	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 21:13	1
4,4'-DDE	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 21:13	1
4,4'-DDT	0.00770	U	0.0571	0.00770	ug/L		04/15/16 08:31	04/15/16 21:13	1
delta-BHC	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 21:13	1
Dieldrin	0.0124	U	0.0571	0.0124	ug/L		04/15/16 08:31	04/15/16 21:13	1
Endosulfan I	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 21:13	1
Endosulfan II	0.00818	U	0.0571	0.00818	ug/L		04/15/16 08:31	04/15/16 21:13	1
Endosulfan sulfate	0.00837	U	0.0571	0.00837	ug/L		04/15/16 08:31	04/15/16 21:13	1
Endrin	0.00732	U	0.0571	0.00732	ug/L		04/15/16 08:31	04/15/16 21:13	1
Endrin aldehyde	0.00476	U	0.0571	0.00476	ug/L		04/15/16 08:31	04/15/16 21:13	1
Endrin ketone	0.00780	U	0.0571	0.00780	ug/L		04/15/16 08:31	04/15/16 21:13	1
gamma-BHC (Lindane)	0.00428	U	0.0571	0.00428	ug/L		04/15/16 08:31	04/15/16 21:13	1
gamma-Chlordane	0.00637	U	0.0571	0.00637	ug/L		04/15/16 08:31	04/15/16 21:13	1
Heptachlor	0.00618	U	0.0571	0.00618	ug/L		04/15/16 08:31	04/15/16 21:13	1
Heptachlor epoxide	0.00495	U	0.0571	0.00495	ug/L		04/15/16 08:31	04/15/16 21:13	1
Methoxychlor	0.00951	U	0.0571	0.00951	ug/L		04/15/16 08:31	04/15/16 21:13	1
Toxaphene	0.647	U	5.71	0.647	ug/L		04/15/16 08:31	04/15/16 21:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	41		10 - 152	04/15/16 08:31	04/15/16 21:13	1
DCB Decachlorobiphenyl	60		10 - 152	04/15/16 08:31	04/15/16 21:13	1
Tetrachloro-m-xylene	74		57 - 127	04/15/16 08:31	04/15/16 21:13	1
Tetrachloro-m-xylene	65		57 - 127	04/15/16 08:31	04/15/16 21:13	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 19:49	1
Aroclor 1221	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 19:49	1
Aroclor 1232	0.418	U	0.761	0.418	ug/L		04/15/16 08:31	04/15/16 19:49	1
Aroclor 1242	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 19:49	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 TRAIL**

**Lab Sample ID: 560-60893-20**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1248	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 19:49	1
Aroclor 1254	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 19:49	1
Aroclor 1260	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 19:49	1
Aroclor 1262	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 19:49	1
Aroclor 1268	0.105	U	0.571	0.105	ug/L		04/15/16 08:31	04/15/16 19:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	134		10 - 150	04/15/16 08:31	04/15/16 19:49	1
DCB Decachlorobiphenyl	103		10 - 150	04/15/16 08:31	04/15/16 19:49	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.160	U	2.39	0.160	ug/L		04/18/16 19:27	04/22/16 08:40	1
Bolstar	0.300	U	0.954	0.300	ug/L		04/18/16 19:27	04/22/16 08:40	1
Chlorpyrifos	0.344	U	1.43	0.344	ug/L		04/18/16 19:27	04/22/16 08:40	1
Coumaphos	0.129	U	0.954	0.129	ug/L		04/18/16 19:27	04/22/16 08:40	1
Demeton-O	0.134	U	0.954	0.134	ug/L		04/18/16 19:27	04/22/16 08:40	1
Demeton-S	0.0659	U	1.91	0.0659	ug/L		04/18/16 19:27	04/22/16 08:40	1
Diazinon	0.140	U	0.477	0.140	ug/L		04/18/16 19:27	04/22/16 08:40	1
Dichlorvos	0.155	U	0.477	0.155	ug/L		04/18/16 19:27	04/22/16 08:40	1
Dimethoate	0.429	U	1.43	0.429	ug/L		04/18/16 19:27	04/22/16 08:40	1
Disulfoton	0.307	U	0.954	0.307	ug/L		04/18/16 19:27	04/22/16 08:40	1
EPN	0.142	U	1.15	0.142	ug/L		04/18/16 19:27	04/22/16 08:40	1
Ethoprop	0.169	U	1.43	0.169	ug/L		04/18/16 19:27	04/22/16 08:40	1
Ethyl Parathion	0.137	U	0.954	0.137	ug/L		04/18/16 19:27	04/22/16 08:40	1
Famphur	0.171	U	0.954	0.171	ug/L		04/18/16 19:27	04/22/16 08:40	1
Fensulfothion	0.519	U	2.39	0.519	ug/L		04/18/16 19:27	04/22/16 08:40	1
Fenthion	0.147	U	2.39	0.147	ug/L		04/18/16 19:27	04/22/16 08:40	1
Malathion	0.127	U	1.91	0.127	ug/L		04/18/16 19:27	04/22/16 08:40	1
Merphos	0.166	U	4.77	0.166	ug/L		04/18/16 19:27	04/22/16 08:40	1
Methyl parathion	0.135	U	3.82	0.135	ug/L		04/18/16 19:27	04/22/16 08:40	1
Mevinphos	0.439	U	5.92	0.439	ug/L		04/18/16 19:27	04/22/16 08:40	1
Naled	0.764	U	1.91	0.764	ug/L		04/18/16 19:27	04/22/16 08:40	1
Phorate	0.147	U	1.15	0.147	ug/L		04/18/16 19:27	04/22/16 08:40	1
Ronnel	0.111	U	9.54	0.111	ug/L		04/18/16 19:27	04/22/16 08:40	1
Sulfotepp	0.160	U	1.43	0.160	ug/L		04/18/16 19:27	04/22/16 08:40	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.34	0.118	ug/L		04/18/16 19:27	04/22/16 08:40	1
Thionazin	0.298	U	0.954	0.298	ug/L		04/18/16 19:27	04/22/16 08:40	1
Tokuthion	0.117	U	1.53	0.117	ug/L		04/18/16 19:27	04/22/16 08:40	1
Trichloronate	0.231	U	1.43	0.231	ug/L		04/18/16 19:27	04/22/16 08:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	78		49 - 171	04/18/16 19:27	04/22/16 08:40	1
Triphenylphosphate	96		60 - 154	04/18/16 19:27	04/22/16 08:40	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0956	U	4.78	0.0956	ug/L		04/19/16 08:29	04/21/16 01:40	1
Dicamba	0.0812	U	0.478	0.0812	ug/L		04/19/16 08:29	04/21/16 01:40	1
Mecoprop	18.2	U	115	18.2	ug/L		04/19/16 08:29	04/21/16 01:40	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 TRAIL**

**Lab Sample ID: 560-60893-20**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MCPA	16.2	U	115	16.2	ug/L	-	04/19/16 08:29	04/21/16 01:40	1
Dichlorprop	0.143	U	0.478	0.143	ug/L	-	04/19/16 08:29	04/21/16 01:40	1
2,4-D	0.0354	U	0.478	0.0354	ug/L	-	04/19/16 08:29	04/21/16 01:40	1
Silvex (2,4,5-TP)	0.0593	U	0.239	0.0593	ug/L	-	04/19/16 08:29	04/21/16 01:40	1
2,4,5-T	0.0593	U	0.239	0.0593	ug/L	-	04/19/16 08:29	04/21/16 01:40	1
2,4-DB	0.143	U	0.478	0.143	ug/L	-	04/19/16 08:29	04/21/16 01:40	1
Dinoseb	0.153	U	0.956	0.153	ug/L	-	04/19/16 08:29	04/21/16 01:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	83		45 - 130	04/19/16 08:29	04/21/16 01:40	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	81.0		0.200	0.101	mg/L	-	04/18/16 08:38	04/19/16 13:20	1
Magnesium	14.7		0.200	0.0257	mg/L	-	04/18/16 08:38	04/19/16 13:20	1
Potassium	1.93		0.500	0.375	mg/L	-	04/18/16 08:38	04/19/16 13:20	1
Silicon	5.10		0.500	0.0707	mg/L	-	04/18/16 08:38	04/19/16 13:20	1
Sodium	19.9		1.00	0.310	mg/L	-	04/18/16 08:38	04/20/16 12:40	1
Strontium	0.651		0.00500	0.000700	mg/L	-	04/18/16 08:38	04/19/16 13:20	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L	-	04/18/16 08:38	04/20/16 14:34	1
Antimony	1.61	U	5.00	1.61	ug/L	-	04/18/16 08:38	04/18/16 19:15	1
Arsenic	1.09	U	5.00	1.09	ug/L	-	04/18/16 08:38	04/19/16 14:43	1
Barium	56.8		5.00	0.810	ug/L	-	04/18/16 08:38	04/18/16 19:15	1
Beryllium	1.24	U	4.00	1.24	ug/L	-	04/18/16 08:38	04/19/16 14:43	1
Cadmium	0.854	U	2.00	0.854	ug/L	-	04/18/16 08:38	04/18/16 19:15	1
Chromium	1.40	U	5.00	1.40	ug/L	-	04/18/16 08:38	04/18/16 19:15	1
Copper	2.00	U	10.0	2.00	ug/L	-	04/18/16 08:38	04/18/16 19:15	1
Iron	101	U	250	101	ug/L	-	04/18/16 08:38	04/18/16 19:15	1
Lead	0.733	U	5.00	0.733	ug/L	-	04/18/16 08:38	04/18/16 19:15	1
Manganese	11.6	U	50.0	11.6	ug/L	-	04/18/16 08:38	04/18/16 19:15	1
Nickel	2.17	U	5.00	2.17	ug/L	-	04/18/16 08:38	04/19/16 14:43	1
Selenium	1.70	J	5.00	1.08	ug/L	-	04/18/16 08:38	04/18/16 19:15	1
Silver	0.941	U	5.00	0.941	ug/L	-	04/18/16 08:38	04/18/16 19:15	1
Thallium	0.693	U	2.00	0.693	ug/L	-	04/18/16 08:38	04/18/16 19:15	1
Zinc	3.55	U	25.0	3.55	ug/L	-	04/18/16 08:38	04/18/16 19:15	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	04/20/16 10:00	04/20/16 17:21	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.588	J	1.00	0.315	mg/L	-		04/15/16 00:35	1
Chloride	21.1		1.00	0.192	mg/L	-		04/15/16 00:35	1
Nitrate as N	1.53		0.500	0.103	mg/L	-		04/15/16 00:35	1
Sulfate	39.9		1.00	0.377	mg/L	-		04/15/16 00:35	1
Fluoride	0.214		0.100	0.0200	mg/L	-		04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		04/21/16 12:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS260 TRAIL**

**Lab Sample ID: 560-60893-20**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:53	1
<b>Total Organic Carbon</b>	<b>0.599</b>	<b>J</b>	1.00	0.285	mg/L			04/19/16 13:45	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.47</b>	<b>HF</b>	0.100	0.100	SU			04/21/16 09:57	1
<b>Total Alkalinity as CaCO3</b>	<b>219</b>		5.00	5.00	mg/L			04/22/16 13:20	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>219</b>		5.00	5.00	mg/L			04/22/16 13:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/22/16 13:20	1
<b>Total Dissolved Solids</b>	<b>340</b>		10.0	10.0	mg/L			04/15/16 10:30	1
<b>Total Suspended Solids</b>	<b>5.40</b>		3.00	3.00	mg/L			04/19/16 09:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Dissolved Organic Carbon</b>	<b>0.819</b>	<b>J</b>	1.00	0.285	mg/L			04/20/16 12:27	1

**Client Sample ID: FDHCS260 TRAIL**

**Lab Sample ID: 560-60893-21**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/14/16 17:49	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/14/16 17:49	1
Benzene	0.330	U	1.00	0.330	ug/L			04/14/16 17:49	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/14/16 17:49	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 17:49	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/14/16 17:49	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/14/16 17:49	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/14/16 17:49	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/14/16 17:49	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/14/16 17:49	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/14/16 17:49	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/14/16 17:49	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/14/16 17:49	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/14/16 17:49	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/14/16 17:49	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/14/16 17:49	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/14/16 17:49	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/14/16 17:49	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/14/16 17:49	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/14/16 17:49	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/14/16 17:49	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 17:49	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/14/16 17:49	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/14/16 17:49	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/14/16 17:49	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/14/16 17:49	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/14/16 17:49	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/14/16 17:49	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/14/16 17:49	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 17:49	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: FDHCS260 TRAIL**

**Lab Sample ID: 560-60893-21**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/14/16 17:49	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/14/16 17:49	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/14/16 17:49	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/14/16 17:49	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/14/16 17:49	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/14/16 17:49	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/14/16 17:49	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/14/16 17:49	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/14/16 17:49	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/14/16 17:49	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/14/16 17:49	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/14/16 17:49	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/14/16 17:49	1
EDB	0.175	U	1.00	0.175	ug/L			04/14/16 17:49	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/14/16 17:49	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 17:49	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/14/16 17:49	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/14/16 17:49	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/14/16 17:49	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/14/16 17:49	1
Hexane	2.00	U	5.00	2.00	ug/L			04/14/16 17:49	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/14/16 17:49	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/14/16 17:49	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/14/16 17:49	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/14/16 17:49	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/14/16 17:49	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/14/16 17:49	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/14/16 17:49	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/14/16 17:49	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/14/16 17:49	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/14/16 17:49	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/14/16 17:49	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/14/16 17:49	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/14/16 17:49	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 17:49	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/14/16 17:49	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/14/16 17:49	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/14/16 17:49	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/14/16 17:49	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/14/16 17:49	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/14/16 17:49	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/14/16 17:49	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/14/16 17:49	1
Styrene	0.200	U	1.00	0.200	ug/L			04/14/16 17:49	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 17:49	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/14/16 17:49	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/14/16 17:49	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/14/16 17:49	1
Toluene	0.495	U	1.00	0.495	ug/L			04/14/16 17:49	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: FDHCS260 TRAIL**

**Lab Sample ID: 560-60893-21**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 17:49	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/14/16 17:49	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/14/16 17:49	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/14/16 17:49	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/14/16 17:49	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/14/16 17:49	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/14/16 17:49	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/14/16 17:49	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/14/16 17:49	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/14/16 17:49	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/14/16 17:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/14/16 17:49	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 17:49	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 17:49	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/14/16 17:49	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/14/16 17:49	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/14/16 17:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		04/14/16 17:49	1
Dibromofluoromethane (Surr)	100		69 - 130		04/14/16 17:49	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 140		04/14/16 17:49	1
Toluene-d8 (Surr)	102		70 - 130		04/14/16 17:49	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/18/16 09:52	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/18/16 09:52	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/18/16 09:52	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/18/16 09:52	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/18/16 09:52	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/18/16 09:52	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/18/16 09:52	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/18/16 09:52	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/18/16 09:52	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/18/16 09:52	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/18/16 09:52	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/18/16 09:52	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/18/16 09:52	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/18/16 09:52	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/18/16 09:52	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/18/16 09:52	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/18/16 09:52	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/18/16 09:52	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/18/16 09:52	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/18/16 09:52	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/18/16 09:52	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/18/16 09:52	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/18/16 09:52	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/18/16 09:52	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: FDHCS260 TRAIL**

**Lab Sample ID: 560-60893-21**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/18/16 09:52	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/18/16 09:52	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/18/16 09:52	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/18/16 09:52	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/18/16 09:52	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/18/16 09:52	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/18/16 09:52	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/18/16 09:52	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/18/16 09:52	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/18/16 09:52	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/18/16 09:52	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/18/16 09:52	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/18/16 09:52	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/18/16 09:52	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/18/16 09:52	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/18/16 09:52	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/18/16 09:52	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/18/16 09:52	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/18/16 09:52	1
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/18/16 09:52	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/18/16 09:52	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/18/16 09:52	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/18/16 09:52	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/18/16 09:52	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/18/16 09:52	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/18/16 09:52	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/18/16 09:52	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/18/16 09:52	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/18/16 09:52	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/18/16 09:52	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/18/16 09:52	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/18/16 09:52	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/18/16 09:52	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/18/16 09:52	1
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/18/16 09:52	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/18/16 09:52	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/18/16 09:52	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/18/16 09:52	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/18/16 09:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	77		23 - 130	04/14/16 17:16	04/18/16 09:52	1
2-Fluorophenol	73		10 - 130	04/14/16 17:16	04/18/16 09:52	1
Nitrobenzene-d5	76		27 - 130	04/14/16 17:16	04/18/16 09:52	1
Phenol-d5	79		10 - 130	04/14/16 17:16	04/18/16 09:52	1
Terphenyl-d14	58		10 - 141	04/14/16 17:16	04/18/16 09:52	1
2,4,6-Tribromophenol	78		18 - 130	04/14/16 17:16	04/18/16 09:52	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: FDHCS260 TRAIL**

**Lab Sample ID: 560-60893-21**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 21:38	1
alpha-BHC	0.00499	U	0.0575	0.00499	ug/L		04/15/16 08:31	04/15/16 21:38	1
alpha-Chlordane	0.00604	U	0.0575	0.00604	ug/L		04/15/16 08:31	04/15/16 21:38	1
beta-BHC	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 21:38	1
4,4'-DDD	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 21:38	1
4,4'-DDE	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 21:38	1
4,4'-DDT	0.00777	U	0.0575	0.00777	ug/L		04/15/16 08:31	04/15/16 21:38	1
delta-BHC	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 21:38	1
Dieldrin	0.0125	U	0.0575	0.0125	ug/L		04/15/16 08:31	04/15/16 21:38	1
Endosulfan I	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 21:38	1
Endosulfan II	0.00825	U	0.0575	0.00825	ug/L		04/15/16 08:31	04/15/16 21:38	1
Endosulfan sulfate	0.00844	U	0.0575	0.00844	ug/L		04/15/16 08:31	04/15/16 21:38	1
Endrin	0.00738	U	0.0575	0.00738	ug/L		04/15/16 08:31	04/15/16 21:38	1
Endrin aldehyde	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 21:38	1
Endrin ketone	0.00786	U	0.0575	0.00786	ug/L		04/15/16 08:31	04/15/16 21:38	1
gamma-BHC (Lindane)	0.00432	U	0.0575	0.00432	ug/L		04/15/16 08:31	04/15/16 21:38	1
gamma-Chlordane	0.00642	U	0.0575	0.00642	ug/L		04/15/16 08:31	04/15/16 21:38	1
Heptachlor	0.00623	U	0.0575	0.00623	ug/L		04/15/16 08:31	04/15/16 21:38	1
Heptachlor epoxide	0.00499	U	0.0575	0.00499	ug/L		04/15/16 08:31	04/15/16 21:38	1
Methoxychlor	0.00959	U	0.0575	0.00959	ug/L		04/15/16 08:31	04/15/16 21:38	1
Toxaphene	0.652	U	5.75	0.652	ug/L		04/15/16 08:31	04/15/16 21:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	43		10 - 152	04/15/16 08:31	04/15/16 21:38	1
DCB Decachlorobiphenyl	60		10 - 152	04/15/16 08:31	04/15/16 21:38	1
Tetrachloro-m-xylene	79		57 - 127	04/15/16 08:31	04/15/16 21:38	1
Tetrachloro-m-xylene	69		57 - 127	04/15/16 08:31	04/15/16 21:38	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:07	1
Aroclor 1221	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:07	1
Aroclor 1232	0.422	U	0.767	0.422	ug/L		04/15/16 08:31	04/15/16 20:07	1
Aroclor 1242	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:07	1
Aroclor 1248	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:07	1
Aroclor 1254	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:07	1
Aroclor 1260	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:07	1
Aroclor 1262	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:07	1
Aroclor 1268	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	122		10 - 150	04/15/16 08:31	04/15/16 20:07	1
DCB Decachlorobiphenyl	91		10 - 150	04/15/16 08:31	04/15/16 20:07	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.174	U	2.59	0.174	ug/L		04/18/16 19:27	04/22/16 09:11	1
Bolstar	0.325	U	1.03	0.325	ug/L		04/18/16 19:27	04/22/16 09:11	1
Chlorpyrifos	0.372	U	1.55	0.372	ug/L		04/18/16 19:27	04/22/16 09:11	1
Coumaphos	0.140	U	1.03	0.140	ug/L		04/18/16 19:27	04/22/16 09:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: FDHCS260 TRAIL**

**Lab Sample ID: 560-60893-21**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Demeton-O	0.145	U	1.03	0.145	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Demeton-S	0.0714	U	2.07	0.0714	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Diazinon	0.152	U	0.517	0.152	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Dichlorvos	0.168	U	0.517	0.168	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Dimethoate	0.464	U	1.55	0.464	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Disulfoton	0.333	U	1.03	0.333	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
EPN	0.154	U	1.24	0.154	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Ethoprop	0.183	U	1.55	0.183	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Ethyl Parathion	0.149	U	1.03	0.149	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Famphur	0.185	U	1.03	0.185	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Fensulfothion	0.563	U	2.59	0.563	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Fenthion	0.159	U	2.59	0.159	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Malathion	0.138	U	2.07	0.138	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Merphos	0.180	U	5.17	0.180	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Methyl parathion	0.146	U	4.14	0.146	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Mevinphos	0.476	U	6.41	0.476	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Naled	0.827	U	2.07	0.827	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Phorate	0.159	U	1.24	0.159	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Ronnel	0.120	U	10.3	0.120	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Sulfotepp	0.174	U	1.55	0.174	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Tetrachlorvinphos (Stirophos)	0.128	U	3.62	0.128	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Thionazin	0.323	U	1.03	0.323	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Tokuthion	0.127	U	1.65	0.127	ug/L	-	04/18/16 19:27	04/22/16 09:11	1
Trichloronate	0.250	U	1.55	0.250	ug/L	-	04/18/16 19:27	04/22/16 09:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	74		49 - 171	04/18/16 19:27	04/22/16 09:11	1
Triphenylphosphate	89		60 - 154	04/18/16 19:27	04/22/16 09:11	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0957	U	4.78	0.0957	ug/L	-	04/19/16 08:29	04/21/16 02:00	1
Dicamba	0.0813	U	0.478	0.0813	ug/L	-	04/19/16 08:29	04/21/16 02:00	1
Mecoprop	18.2	U	115	18.2	ug/L	-	04/19/16 08:29	04/21/16 02:00	1
MCPA	16.3	U	115	16.3	ug/L	-	04/19/16 08:29	04/21/16 02:00	1
Dichlorprop	0.144	U	0.478	0.144	ug/L	-	04/19/16 08:29	04/21/16 02:00	1
2,4-D	0.0354	U	0.478	0.0354	ug/L	-	04/19/16 08:29	04/21/16 02:00	1
Silvex (2,4,5-TP)	0.0593	U	0.239	0.0593	ug/L	-	04/19/16 08:29	04/21/16 02:00	1
2,4,5-T	0.0593	U	0.239	0.0593	ug/L	-	04/19/16 08:29	04/21/16 02:00	1
2,4-DB	0.144	U	0.478	0.144	ug/L	-	04/19/16 08:29	04/21/16 02:00	1
Dinoseb	0.153	U	0.957	0.153	ug/L	-	04/19/16 08:29	04/21/16 02:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	85		45 - 130	04/19/16 08:29	04/21/16 02:00	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	81.6		0.200	0.101	mg/L	-	04/18/16 08:38	04/19/16 13:32	1
Magnesium	14.6		0.200	0.0257	mg/L	-	04/18/16 08:38	04/19/16 13:32	1
Potassium	1.98		0.500	0.375	mg/L	-	04/18/16 08:38	04/19/16 13:32	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: FDHCS260 TRAIL**

**Lab Sample ID: 560-60893-21**

**Date Collected: 04/13/16 09:14**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 6010B - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silicon	5.16		0.500	0.0707	mg/L		04/18/16 08:38	04/19/16 13:32	1
Sodium	20.0		1.00	0.310	mg/L		04/18/16 08:38	04/20/16 12:44	1
Strontium	0.658		0.00500	0.000700	mg/L		04/18/16 08:38	04/19/16 13:32	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		04/18/16 08:38	04/20/16 14:39	1
Antimony	1.61	U	5.00	1.61	ug/L		04/18/16 08:38	04/18/16 19:20	1
Arsenic	1.09	U	5.00	1.09	ug/L		04/18/16 08:38	04/19/16 14:48	1
Barium	57.5		5.00	0.810	ug/L		04/18/16 08:38	04/18/16 19:20	1
Beryllium	1.24	U	4.00	1.24	ug/L		04/18/16 08:38	04/19/16 14:48	1
Cadmium	0.854	U	2.00	0.854	ug/L		04/18/16 08:38	04/18/16 19:20	1
Chromium	1.40	U	5.00	1.40	ug/L		04/18/16 08:38	04/18/16 19:20	1
Copper	2.00	U	10.0	2.00	ug/L		04/18/16 08:38	04/18/16 19:20	1
Iron	101	U	250	101	ug/L		04/18/16 08:38	04/18/16 19:20	1
Lead	0.733	U	5.00	0.733	ug/L		04/18/16 08:38	04/18/16 19:20	1
Manganese	11.6	U	50.0	11.6	ug/L		04/18/16 08:38	04/18/16 19:20	1
Nickel	2.17	U	5.00	2.17	ug/L		04/18/16 08:38	04/18/16 19:20	1
Selenium	2.77	J	5.00	1.08	ug/L		04/18/16 08:38	04/18/16 19:20	1
Silver	0.941	U	5.00	0.941	ug/L		04/18/16 08:38	04/18/16 19:20	1
Thallium	0.693	U	2.00	0.693	ug/L		04/18/16 08:38	04/18/16 19:20	1
Zinc	3.55	U	25.0	3.55	ug/L		04/18/16 08:38	04/18/16 19:20	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		04/20/16 10:00	04/20/16 17:22	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.590	J	1.00	0.315	mg/L			04/15/16 02:45	1
Chloride	21.1	B	1.00	0.192	mg/L			04/15/16 02:45	1
Nitrate as N	1.53		0.500	0.103	mg/L			04/15/16 02:45	1
Sulfate	39.8		1.00	0.377	mg/L			04/15/16 02:45	1
Fluoride	0.213		0.100	0.0200	mg/L			04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/21/16 12:38	1
Phosphorus	0.0551	J	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:56	1
Total Organic Carbon	0.666	J	1.00	0.285	mg/L			04/20/16 12:27	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.48	HF	0.100	0.100	SU			04/21/16 09:57	1
Total Alkalinity as CaCO3	221		5.00	5.00	mg/L			04/22/16 13:20	1
Bicarbonate Alkalinity as CaCO3	221		5.00	5.00	mg/L			04/22/16 13:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/22/16 13:20	1
Total Dissolved Solids	345		10.0	10.0	mg/L			04/15/16 10:30	1
Total Suspended Solids	4.20		3.00	3.00	mg/L			04/19/16 09:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.635	J	1.00	0.285	mg/L			04/20/16 12:27	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 TRAIL**

**Lab Sample ID: 560-60893-22**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/14/16 18:14	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/14/16 18:14	1
Benzene	0.330	U	1.00	0.330	ug/L			04/14/16 18:14	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/14/16 18:14	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 18:14	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/14/16 18:14	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/14/16 18:14	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/14/16 18:14	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/14/16 18:14	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/14/16 18:14	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/14/16 18:14	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/14/16 18:14	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/14/16 18:14	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/14/16 18:14	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/14/16 18:14	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/14/16 18:14	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/14/16 18:14	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/14/16 18:14	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/14/16 18:14	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/14/16 18:14	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/14/16 18:14	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 18:14	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/14/16 18:14	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/14/16 18:14	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/14/16 18:14	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/14/16 18:14	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/14/16 18:14	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/14/16 18:14	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/14/16 18:14	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 18:14	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/14/16 18:14	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/14/16 18:14	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/14/16 18:14	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/14/16 18:14	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/14/16 18:14	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/14/16 18:14	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/14/16 18:14	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/14/16 18:14	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/14/16 18:14	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/14/16 18:14	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/14/16 18:14	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/14/16 18:14	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/14/16 18:14	1
EDB	0.175	U	1.00	0.175	ug/L			04/14/16 18:14	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/14/16 18:14	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 18:14	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/14/16 18:14	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/14/16 18:14	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/14/16 18:14	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 TRAIL**

**Lab Sample ID: 560-60893-22**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/14/16 18:14	1
Hexane	2.00	U	5.00	2.00	ug/L			04/14/16 18:14	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/14/16 18:14	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/14/16 18:14	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/14/16 18:14	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/14/16 18:14	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/14/16 18:14	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/14/16 18:14	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/14/16 18:14	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/14/16 18:14	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/14/16 18:14	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/14/16 18:14	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/14/16 18:14	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/14/16 18:14	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/14/16 18:14	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 18:14	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/14/16 18:14	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/14/16 18:14	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/14/16 18:14	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/14/16 18:14	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/14/16 18:14	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/14/16 18:14	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/14/16 18:14	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/14/16 18:14	1
Styrene	0.200	U	1.00	0.200	ug/L			04/14/16 18:14	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 18:14	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/14/16 18:14	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/14/16 18:14	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/14/16 18:14	1
Toluene	0.495	U	1.00	0.495	ug/L			04/14/16 18:14	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 18:14	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/14/16 18:14	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/14/16 18:14	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/14/16 18:14	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/14/16 18:14	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/14/16 18:14	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/14/16 18:14	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/14/16 18:14	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/14/16 18:14	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/14/16 18:14	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/14/16 18:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/14/16 18:14	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 18:14	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 18:14	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/14/16 18:14	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/14/16 18:14	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/14/16 18:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		04/14/16 18:14	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 TRAIL**

**Lab Sample ID: 560-60893-22**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	99		69 - 130		04/14/16 18:14	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		04/14/16 18:14	1
Toluene-d8 (Surr)	103		70 - 130		04/14/16 18:14	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/18/16 10:18	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/18/16 10:18	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/18/16 10:18	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/18/16 10:18	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/18/16 10:18	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/18/16 10:18	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/18/16 10:18	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/18/16 10:18	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/18/16 10:18	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/18/16 10:18	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/18/16 10:18	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/18/16 10:18	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/18/16 10:18	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/18/16 10:18	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/18/16 10:18	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/18/16 10:18	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/18/16 10:18	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/18/16 10:18	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/18/16 10:18	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/18/16 10:18	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/18/16 10:18	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/18/16 10:18	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/18/16 10:18	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/18/16 10:18	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/18/16 10:18	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/18/16 10:18	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/18/16 10:18	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/18/16 10:18	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/18/16 10:18	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/18/16 10:18	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/18/16 10:18	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/18/16 10:18	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/18/16 10:18	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/18/16 10:18	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/18/16 10:18	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/18/16 10:18	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/18/16 10:18	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/18/16 10:18	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/18/16 10:18	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/18/16 10:18	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/18/16 10:18	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/18/16 10:18	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/18/16 10:18	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 TRAIL**

**Lab Sample ID: 560-60893-22**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/18/16 10:18	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/18/16 10:18	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/18/16 10:18	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/18/16 10:18	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/18/16 10:18	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/18/16 10:18	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/18/16 10:18	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/18/16 10:18	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/18/16 10:18	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/18/16 10:18	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/18/16 10:18	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/18/16 10:18	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/18/16 10:18	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/18/16 10:18	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/18/16 10:18	1
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/18/16 10:18	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/18/16 10:18	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/18/16 10:18	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/18/16 10:18	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/18/16 10:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		23 - 130	04/14/16 17:16	04/18/16 10:18	1
2-Fluorophenol	64		10 - 130	04/14/16 17:16	04/18/16 10:18	1
Nitrobenzene-d5	67		27 - 130	04/14/16 17:16	04/18/16 10:18	1
Phenol-d5	68		10 - 130	04/14/16 17:16	04/18/16 10:18	1
Terphenyl-d14	35		10 - 141	04/14/16 17:16	04/18/16 10:18	1
2,4,6-Tribromophenol	68		18 - 130	04/14/16 17:16	04/18/16 10:18	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 22:03	1
alpha-BHC	0.00499	U	0.0575	0.00499	ug/L		04/15/16 08:31	04/15/16 22:03	1
alpha-Chlordane	0.00604	U	0.0575	0.00604	ug/L		04/15/16 08:31	04/15/16 22:03	1
beta-BHC	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 22:03	1
4,4'-DDD	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 22:03	1
4,4'-DDE	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 22:03	1
4,4'-DDT	0.00777	U	0.0575	0.00777	ug/L		04/15/16 08:31	04/15/16 22:03	1
delta-BHC	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 22:03	1
Dieldrin	0.0125	U	0.0575	0.0125	ug/L		04/15/16 08:31	04/15/16 22:03	1
Endosulfan I	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 22:03	1
Endosulfan II	0.00825	U	0.0575	0.00825	ug/L		04/15/16 08:31	04/15/16 22:03	1
Endosulfan sulfate	0.00844	U	0.0575	0.00844	ug/L		04/15/16 08:31	04/15/16 22:03	1
Endrin	0.00738	U	0.0575	0.00738	ug/L		04/15/16 08:31	04/15/16 22:03	1
Endrin aldehyde	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 22:03	1
Endrin ketone	0.00786	U	0.0575	0.00786	ug/L		04/15/16 08:31	04/15/16 22:03	1
gamma-BHC (Lindane)	0.00432	U	0.0575	0.00432	ug/L		04/15/16 08:31	04/15/16 22:03	1
gamma-Chlordane	0.00642	U	0.0575	0.00642	ug/L		04/15/16 08:31	04/15/16 22:03	1
Heptachlor	0.00623	U	0.0575	0.00623	ug/L		04/15/16 08:31	04/15/16 22:03	1
Heptachlor epoxide	0.00499	U	0.0575	0.00499	ug/L		04/15/16 08:31	04/15/16 22:03	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 TRAIL**

**Lab Sample ID: 560-60893-22**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	0.00959	U	0.0575	0.00959	ug/L		04/15/16 08:31	04/15/16 22:03	1
Toxaphene	0.652	U	5.75	0.652	ug/L		04/15/16 08:31	04/15/16 22:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	39		10 - 152				04/15/16 08:31	04/15/16 22:03	1
DCB Decachlorobiphenyl	58		10 - 152				04/15/16 08:31	04/15/16 22:03	1
Tetrachloro-m-xylene	75		57 - 127				04/15/16 08:31	04/15/16 22:03	1
Tetrachloro-m-xylene	66		57 - 127				04/15/16 08:31	04/15/16 22:03	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:24	1
Aroclor 1221	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:24	1
Aroclor 1232	0.422	U	0.767	0.422	ug/L		04/15/16 08:31	04/15/16 20:24	1
Aroclor 1242	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:24	1
Aroclor 1248	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:24	1
Aroclor 1254	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:24	1
Aroclor 1260	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:24	1
Aroclor 1262	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:24	1
Aroclor 1268	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 20:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	126		10 - 150				04/15/16 08:31	04/15/16 20:24	1
DCB Decachlorobiphenyl	90		10 - 150				04/15/16 08:31	04/15/16 20:24	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.167	U	2.48	0.167	ug/L		04/18/16 19:27	04/22/16 09:43	1
Bolstar	0.312	U	0.993	0.312	ug/L		04/18/16 19:27	04/22/16 09:43	1
Chlorpyrifos	0.357	U	1.49	0.357	ug/L		04/18/16 19:27	04/22/16 09:43	1
Coumaphos	0.134	U	0.993	0.134	ug/L		04/18/16 19:27	04/22/16 09:43	1
Demeton-O	0.139	U	0.993	0.139	ug/L		04/18/16 19:27	04/22/16 09:43	1
Demeton-S	0.0685	U	1.99	0.0685	ug/L		04/18/16 19:27	04/22/16 09:43	1
Diazinon	0.146	U	0.497	0.146	ug/L		04/18/16 19:27	04/22/16 09:43	1
Dichlorvos	0.161	U	0.497	0.161	ug/L		04/18/16 19:27	04/22/16 09:43	1
Dimethoate	0.446	U	1.49	0.446	ug/L		04/18/16 19:27	04/22/16 09:43	1
Disulfoton	0.320	U	0.993	0.320	ug/L		04/18/16 19:27	04/22/16 09:43	1
EPN	0.148	U	1.19	0.148	ug/L		04/18/16 19:27	04/22/16 09:43	1
Ethoprop	0.176	U	1.49	0.176	ug/L		04/18/16 19:27	04/22/16 09:43	1
Ethyl Parathion	0.143	U	0.993	0.143	ug/L		04/18/16 19:27	04/22/16 09:43	1
Famphur	0.178	U	0.993	0.178	ug/L		04/18/16 19:27	04/22/16 09:43	1
Fensulfothion	0.540	U	2.48	0.540	ug/L		04/18/16 19:27	04/22/16 09:43	1
Fenthion	0.153	U	2.48	0.153	ug/L		04/18/16 19:27	04/22/16 09:43	1
Malathion	0.132	U	1.99	0.132	ug/L		04/18/16 19:27	04/22/16 09:43	1
Merphos	0.173	U	4.97	0.173	ug/L		04/18/16 19:27	04/22/16 09:43	1
Methyl parathion	0.140	U	3.97	0.140	ug/L		04/18/16 19:27	04/22/16 09:43	1
Mevinphos	0.457	U	6.16	0.457	ug/L		04/18/16 19:27	04/22/16 09:43	1
Naled	0.794	U	1.99	0.794	ug/L		04/18/16 19:27	04/22/16 09:43	1
Phorate	0.153	U	1.19	0.153	ug/L		04/18/16 19:27	04/22/16 09:43	1
Ronnel	0.115	U	9.93	0.115	ug/L		04/18/16 19:27	04/22/16 09:43	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 TRAIL**

**Lab Sample ID: 560-60893-22**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfotepp	0.167	U	1.49	0.167	ug/L		04/18/16 19:27	04/22/16 09:43	1
Tetrachlorvinphos (Stirophos)	0.123	U	3.48	0.123	ug/L		04/18/16 19:27	04/22/16 09:43	1
Thionazin	0.310	U	0.993	0.310	ug/L		04/18/16 19:27	04/22/16 09:43	1
Tokuthion	0.122	U	1.59	0.122	ug/L		04/18/16 19:27	04/22/16 09:43	1
Trichloronate	0.240	U	1.49	0.240	ug/L		04/18/16 19:27	04/22/16 09:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	72		49 - 171				04/18/16 19:27	04/22/16 09:43	1
Triphenylphosphate	90		60 - 154				04/18/16 19:27	04/22/16 09:43	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0976	U	4.88	0.0976	ug/L		04/19/16 08:29	04/21/16 02:19	1
Dicamba	0.0830	U	0.488	0.0830	ug/L		04/19/16 08:29	04/21/16 02:19	1
Mecoprop	18.6	U	117	18.6	ug/L		04/19/16 08:29	04/21/16 02:19	1
MCPA	16.6	U	117	16.6	ug/L		04/19/16 08:29	04/21/16 02:19	1
Dichlorprop	0.146	U	0.488	0.146	ug/L		04/19/16 08:29	04/21/16 02:19	1
2,4-D	0.0361	U	0.488	0.0361	ug/L		04/19/16 08:29	04/21/16 02:19	1
Silvex (2,4,5-TP)	0.0605	U	0.244	0.0605	ug/L		04/19/16 08:29	04/21/16 02:19	1
2,4,5-T	0.0605	U	0.244	0.0605	ug/L		04/19/16 08:29	04/21/16 02:19	1
2,4-DB	0.146	U	0.488	0.146	ug/L		04/19/16 08:29	04/21/16 02:19	1
Dinoseb	0.156	U	0.976	0.156	ug/L		04/19/16 08:29	04/21/16 02:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	83		45 - 130				04/19/16 08:29	04/21/16 02:19	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	76.8		0.200	0.101	mg/L		04/18/16 08:38	04/19/16 13:36	1
Magnesium	14.6		0.200	0.0257	mg/L		04/18/16 08:38	04/19/16 13:36	1
Potassium	1.77		0.500	0.375	mg/L		04/18/16 08:38	04/19/16 13:36	1
Silicon	5.18		0.500	0.0707	mg/L		04/18/16 08:38	04/19/16 13:36	1
Sodium	12.8		1.00	0.310	mg/L		04/18/16 08:38	04/20/16 12:48	1
Strontium	0.623		0.00500	0.000700	mg/L		04/18/16 08:38	04/19/16 13:36	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		04/18/16 08:38	04/20/16 14:44	1
Antimony	1.61	U	5.00	1.61	ug/L		04/18/16 08:38	04/18/16 19:25	1
Arsenic	1.09	U	5.00	1.09	ug/L		04/18/16 08:38	04/19/16 14:53	1
Barium	50.6		5.00	0.810	ug/L		04/18/16 08:38	04/18/16 19:25	1
Beryllium	1.24	U	4.00	1.24	ug/L		04/18/16 08:38	04/19/16 14:53	1
Cadmium	0.854	U	2.00	0.854	ug/L		04/18/16 08:38	04/18/16 19:25	1
Chromium	1.40	U	5.00	1.40	ug/L		04/18/16 08:38	04/18/16 19:25	1
Copper	2.00	U	10.0	2.00	ug/L		04/18/16 08:38	04/18/16 19:25	1
Iron	101	U	250	101	ug/L		04/18/16 08:38	04/18/16 19:25	1
Lead	0.733	U	5.00	0.733	ug/L		04/18/16 08:38	04/18/16 19:25	1
Manganese	11.6	U	50.0	11.6	ug/L		04/18/16 08:38	04/18/16 19:25	1
Nickel	2.17	U	5.00	2.17	ug/L		04/18/16 08:38	04/18/16 19:25	1
Selenium	2.24	J	5.00	1.08	ug/L		04/18/16 08:38	04/18/16 19:25	1
Silver	0.941	U	5.00	0.941	ug/L		04/18/16 08:38	04/18/16 19:25	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: HCS270 TRAIL**

**Lab Sample ID: 560-60893-22**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.693	U	2.00	0.693	ug/L		04/18/16 08:38	04/18/16 19:25	1
Zinc	3.55	U	25.0	3.55	ug/L		04/18/16 08:38	04/18/16 19:25	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		04/25/16 10:00	04/25/16 14:23	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.551	J	1.00	0.315	mg/L			04/15/16 03:11	1
Chloride	17.3	B	1.00	0.192	mg/L			04/15/16 03:11	1
Nitrate as N	1.67		0.500	0.103	mg/L			04/15/16 03:11	1
Sulfate	27.3		1.00	0.377	mg/L			04/15/16 03:11	1
Fluoride	0.202		0.100	0.0200	mg/L			04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/21/16 12:39	1
Phosphorus	0.0446	J	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:51	1
Total Organic Carbon	0.464	J	1.00	0.285	mg/L			04/20/16 12:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.57	HF	0.100	0.100	SU			04/21/16 09:57	1
Total Alkalinity as CaCO3	212		5.00	5.00	mg/L			04/22/16 13:20	1
Bicarbonate Alkalinity as CaCO3	212		5.00	5.00	mg/L			04/22/16 13:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/22/16 13:20	1
Total Dissolved Solids	311		10.0	10.0	mg/L			04/15/16 10:30	1
Total Suspended Solids	4.80		3.00	3.00	mg/L			04/19/16 09:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			04/20/16 12:27	1

**Client Sample ID: FDHCS270 TRAIL**

**Lab Sample ID: 560-60893-23**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/14/16 18:38	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/14/16 18:38	1
Benzene	0.330	U	1.00	0.330	ug/L			04/14/16 18:38	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/14/16 18:38	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 18:38	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/14/16 18:38	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/14/16 18:38	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/14/16 18:38	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/14/16 18:38	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/14/16 18:38	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/14/16 18:38	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/14/16 18:38	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/14/16 18:38	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/14/16 18:38	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/14/16 18:38	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: FDHCS270 TRAIL**

**Lab Sample ID: 560-60893-23**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	0.400	U	5.00	0.400	ug/L			04/14/16 18:38	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/14/16 18:38	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/14/16 18:38	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/14/16 18:38	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/14/16 18:38	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/14/16 18:38	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 18:38	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/14/16 18:38	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/14/16 18:38	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/14/16 18:38	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/14/16 18:38	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/14/16 18:38	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/14/16 18:38	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/14/16 18:38	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 18:38	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/14/16 18:38	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/14/16 18:38	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/14/16 18:38	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/14/16 18:38	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/14/16 18:38	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/14/16 18:38	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/14/16 18:38	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/14/16 18:38	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/14/16 18:38	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/14/16 18:38	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/14/16 18:38	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/14/16 18:38	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/14/16 18:38	1
EDB	0.175	U	1.00	0.175	ug/L			04/14/16 18:38	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/14/16 18:38	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 18:38	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/14/16 18:38	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/14/16 18:38	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/14/16 18:38	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/14/16 18:38	1
Hexane	2.00	U	5.00	2.00	ug/L			04/14/16 18:38	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/14/16 18:38	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/14/16 18:38	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/14/16 18:38	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/14/16 18:38	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/14/16 18:38	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/14/16 18:38	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/14/16 18:38	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/14/16 18:38	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/14/16 18:38	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/14/16 18:38	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/14/16 18:38	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/14/16 18:38	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/14/16 18:38	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: FDHCS270 TRAIL**

**Lab Sample ID: 560-60893-23**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 18:38	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/14/16 18:38	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/14/16 18:38	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/14/16 18:38	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/14/16 18:38	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/14/16 18:38	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/14/16 18:38	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/14/16 18:38	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/14/16 18:38	1
Styrene	0.200	U	1.00	0.200	ug/L			04/14/16 18:38	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 18:38	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/14/16 18:38	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/14/16 18:38	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/14/16 18:38	1
Toluene	0.495	U	1.00	0.495	ug/L			04/14/16 18:38	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 18:38	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/14/16 18:38	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/14/16 18:38	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/14/16 18:38	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/14/16 18:38	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/14/16 18:38	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/14/16 18:38	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/14/16 18:38	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/14/16 18:38	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/14/16 18:38	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/14/16 18:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/14/16 18:38	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 18:38	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 18:38	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/14/16 18:38	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/14/16 18:38	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/14/16 18:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		04/14/16 18:38	1
Dibromofluoromethane (Surr)	102		69 - 130		04/14/16 18:38	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 140		04/14/16 18:38	1
Toluene-d8 (Surr)	101		70 - 130		04/14/16 18:38	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/18/16 10:43	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/18/16 10:43	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/18/16 10:43	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/18/16 10:43	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/18/16 10:43	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/18/16 10:43	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/18/16 10:43	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/18/16 10:43	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/18/16 10:43	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: FDHCS270 TRAIL**

**Lab Sample ID: 560-60893-23**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/18/16 10:43	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/18/16 10:43	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		04/14/16 17:16	04/18/16 10:43	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/18/16 10:43	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/18/16 10:43	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/18/16 10:43	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/18/16 10:43	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/18/16 10:43	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/18/16 10:43	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/18/16 10:43	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/18/16 10:43	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/18/16 10:43	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/18/16 10:43	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/18/16 10:43	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/18/16 10:43	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/18/16 10:43	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/18/16 10:43	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/18/16 10:43	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/18/16 10:43	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/18/16 10:43	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/18/16 10:43	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/18/16 10:43	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/18/16 10:43	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/18/16 10:43	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/18/16 10:43	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/18/16 10:43	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/18/16 10:43	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/18/16 10:43	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/18/16 10:43	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/18/16 10:43	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/18/16 10:43	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/18/16 10:43	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/18/16 10:43	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/18/16 10:43	1
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/18/16 10:43	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/18/16 10:43	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/18/16 10:43	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/18/16 10:43	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/18/16 10:43	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/18/16 10:43	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/18/16 10:43	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/18/16 10:43	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/18/16 10:43	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/18/16 10:43	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/18/16 10:43	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/18/16 10:43	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/18/16 10:43	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/18/16 10:43	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/18/16 10:43	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: FDHCS270 TRAIL**

**Lab Sample ID: 560-60893-23**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/18/16 10:43	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/18/16 10:43	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/18/16 10:43	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/18/16 10:43	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/18/16 10:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	75		23 - 130				04/14/16 17:16	04/18/16 10:43	1
2-Fluorophenol	72		10 - 130				04/14/16 17:16	04/18/16 10:43	1
Nitrobenzene-d5	72		27 - 130				04/14/16 17:16	04/18/16 10:43	1
Phenol-d5	77		10 - 130				04/14/16 17:16	04/18/16 10:43	1
Terphenyl-d14	53		10 - 141				04/14/16 17:16	04/18/16 10:43	1
2,4,6-Tribromophenol	75		18 - 130				04/14/16 17:16	04/18/16 10:43	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00477	U	0.0572	0.00477	ug/L		04/15/16 08:31	04/15/16 22:28	1
alpha-BHC	0.00496	U	0.0572	0.00496	ug/L		04/15/16 08:31	04/15/16 22:28	1
alpha-Chlordane	0.00601	U	0.0572	0.00601	ug/L		04/15/16 08:31	04/15/16 22:28	1
beta-BHC	0.00477	U	0.0572	0.00477	ug/L		04/15/16 08:31	04/15/16 22:28	1
4,4'-DDD	0.00477	U	0.0572	0.00477	ug/L		04/15/16 08:31	04/15/16 22:28	1
4,4'-DDE	0.00477	U	0.0572	0.00477	ug/L		04/15/16 08:31	04/15/16 22:28	1
4,4'-DDT	0.00772	U	0.0572	0.00772	ug/L		04/15/16 08:31	04/15/16 22:28	1
delta-BHC	0.00477	U	0.0572	0.00477	ug/L		04/15/16 08:31	04/15/16 22:28	1
Dieldrin	0.0124	U	0.0572	0.0124	ug/L		04/15/16 08:31	04/15/16 22:28	1
Endosulfan I	0.00477	U	0.0572	0.00477	ug/L		04/15/16 08:31	04/15/16 22:28	1
Endosulfan II	0.00820	U	0.0572	0.00820	ug/L		04/15/16 08:31	04/15/16 22:28	1
Endosulfan sulfate	0.00839	U	0.0572	0.00839	ug/L		04/15/16 08:31	04/15/16 22:28	1
Endrin	0.00734	U	0.0572	0.00734	ug/L		04/15/16 08:31	04/15/16 22:28	1
Endrin aldehyde	0.00477	U	0.0572	0.00477	ug/L		04/15/16 08:31	04/15/16 22:28	1
Endrin ketone	0.00782	U	0.0572	0.00782	ug/L		04/15/16 08:31	04/15/16 22:28	1
gamma-BHC (Lindane)	0.00429	U	0.0572	0.00429	ug/L		04/15/16 08:31	04/15/16 22:28	1
gamma-Chlordane	0.00639	U	0.0572	0.00639	ug/L		04/15/16 08:31	04/15/16 22:28	1
Heptachlor	0.00620	U	0.0572	0.00620	ug/L		04/15/16 08:31	04/15/16 22:28	1
Heptachlor epoxide	0.00496	U	0.0572	0.00496	ug/L		04/15/16 08:31	04/15/16 22:28	1
Methoxychlor	0.00954	U	0.0572	0.00954	ug/L		04/15/16 08:31	04/15/16 22:28	1
Toxaphene	0.649	U	5.72	0.649	ug/L		04/15/16 08:31	04/15/16 22:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	42		10 - 152				04/15/16 08:31	04/15/16 22:28	1
DCB Decachlorobiphenyl	59		10 - 152				04/15/16 08:31	04/15/16 22:28	1
Tetrachloro-m-xylene	75		57 - 127				04/15/16 08:31	04/15/16 22:28	1
Tetrachloro-m-xylene	65		57 - 127				04/15/16 08:31	04/15/16 22:28	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.572	0.105	ug/L		04/15/16 08:31	04/15/16 20:42	1
Aroclor 1221	0.105	U	0.572	0.105	ug/L		04/15/16 08:31	04/15/16 20:42	1
Aroclor 1232	0.420	U	0.763	0.420	ug/L		04/15/16 08:31	04/15/16 20:42	1
Aroclor 1242	0.105	U	0.572	0.105	ug/L		04/15/16 08:31	04/15/16 20:42	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: FDHCS270 TRAIL**

**Lab Sample ID: 560-60893-23**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1248	0.105	U	0.572	0.105	ug/L		04/15/16 08:31	04/15/16 20:42	1
Aroclor 1254	0.105	U	0.572	0.105	ug/L		04/15/16 08:31	04/15/16 20:42	1
Aroclor 1260	0.105	U	0.572	0.105	ug/L		04/15/16 08:31	04/15/16 20:42	1
Aroclor 1262	0.105	U	0.572	0.105	ug/L		04/15/16 08:31	04/15/16 20:42	1
Aroclor 1268	0.105	U	0.572	0.105	ug/L		04/15/16 08:31	04/15/16 20:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	121		10 - 150				04/15/16 08:31	04/15/16 20:42	1
DCB Decachlorobiphenyl	96		10 - 150				04/15/16 08:31	04/15/16 20:42	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.175	U	2.61	0.175	ug/L		04/18/16 19:27	04/22/16 10:14	1
Bolstar	0.327	U	1.04	0.327	ug/L		04/18/16 19:27	04/22/16 10:14	1
Chlorpyrifos	0.375	U	1.56	0.375	ug/L		04/18/16 19:27	04/22/16 10:14	1
Coumaphos	0.141	U	1.04	0.141	ug/L		04/18/16 19:27	04/22/16 10:14	1
Demeton-O	0.146	U	1.04	0.146	ug/L		04/18/16 19:27	04/22/16 10:14	1
Demeton-S	0.0720	U	2.09	0.0720	ug/L		04/18/16 19:27	04/22/16 10:14	1
Diazinon	0.153	U	0.521	0.153	ug/L		04/18/16 19:27	04/22/16 10:14	1
Dichlorvos	0.169	U	0.521	0.169	ug/L		04/18/16 19:27	04/22/16 10:14	1
Dimethoate	0.468	U	1.56	0.468	ug/L		04/18/16 19:27	04/22/16 10:14	1
Disulfoton	0.336	U	1.04	0.336	ug/L		04/18/16 19:27	04/22/16 10:14	1
EPN	0.155	U	1.25	0.155	ug/L		04/18/16 19:27	04/22/16 10:14	1
Ethoprop	0.185	U	1.56	0.185	ug/L		04/18/16 19:27	04/22/16 10:14	1
Ethyl Parathion	0.150	U	1.04	0.150	ug/L		04/18/16 19:27	04/22/16 10:14	1
Famphur	0.187	U	1.04	0.187	ug/L		04/18/16 19:27	04/22/16 10:14	1
Fensulfothion	0.567	U	2.61	0.567	ug/L		04/18/16 19:27	04/22/16 10:14	1
Fenthion	0.161	U	2.61	0.161	ug/L		04/18/16 19:27	04/22/16 10:14	1
Malathion	0.139	U	2.09	0.139	ug/L		04/18/16 19:27	04/22/16 10:14	1
Merphos	0.181	U	5.21	0.181	ug/L		04/18/16 19:27	04/22/16 10:14	1
Methyl parathion	0.147	U	4.17	0.147	ug/L		04/18/16 19:27	04/22/16 10:14	1
Mevinphos	0.480	U	6.47	0.480	ug/L		04/18/16 19:27	04/22/16 10:14	1
Naled	0.834	U	2.09	0.834	ug/L		04/18/16 19:27	04/22/16 10:14	1
Phorate	0.161	U	1.25	0.161	ug/L		04/18/16 19:27	04/22/16 10:14	1
Ronnel	0.121	U	10.4	0.121	ug/L		04/18/16 19:27	04/22/16 10:14	1
Sulfotepp	0.175	U	1.56	0.175	ug/L		04/18/16 19:27	04/22/16 10:14	1
Tetrachlorvinphos (Stirophos)	0.129	U	3.65	0.129	ug/L		04/18/16 19:27	04/22/16 10:14	1
Thionazin	0.325	U	1.04	0.325	ug/L		04/18/16 19:27	04/22/16 10:14	1
Tokuthion	0.128	U	1.67	0.128	ug/L		04/18/16 19:27	04/22/16 10:14	1
Trichloronate	0.252	U	1.56	0.252	ug/L		04/18/16 19:27	04/22/16 10:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	73		49 - 171				04/18/16 19:27	04/22/16 10:14	1
Triphenylphosphate	90		60 - 154				04/18/16 19:27	04/22/16 10:14	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.103	U	5.17	0.103	ug/L		04/19/16 08:29	04/21/16 02:39	1
Dicamba	0.0879	U	0.517	0.0879	ug/L		04/19/16 08:29	04/21/16 02:39	1
Mecoprop	19.6	U	124	19.6	ug/L		04/19/16 08:29	04/21/16 02:39	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: FDHCS270 TRAIL**

**Lab Sample ID: 560-60893-23**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
MCPA	17.6	U	124	17.6	ug/L	-	04/19/16 08:29	04/21/16 02:39	1
Dichlorprop	0.155	U	0.517	0.155	ug/L	-	04/19/16 08:29	04/21/16 02:39	1
2,4-D	0.0383	U	0.517	0.0383	ug/L	-	04/19/16 08:29	04/21/16 02:39	1
Silvex (2,4,5-TP)	0.0641	U	0.258	0.0641	ug/L	-	04/19/16 08:29	04/21/16 02:39	1
2,4,5-T	0.0641	U	0.258	0.0641	ug/L	-	04/19/16 08:29	04/21/16 02:39	1
2,4-DB	0.155	U	0.517	0.155	ug/L	-	04/19/16 08:29	04/21/16 02:39	1
Dinoseb	0.165	U	1.03	0.165	ug/L	-	04/19/16 08:29	04/21/16 02:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	81		45 - 130	04/19/16 08:29	04/21/16 02:39	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	76.2		0.200	0.101	mg/L	-	04/18/16 08:38	04/19/16 13:40	1
Magnesium	14.4		0.200	0.0257	mg/L	-	04/18/16 08:38	04/19/16 13:40	1
Potassium	1.75		0.500	0.375	mg/L	-	04/18/16 08:38	04/19/16 13:40	1
Silicon	5.16		0.500	0.0707	mg/L	-	04/18/16 08:38	04/19/16 13:40	1
Sodium	12.7		1.00	0.310	mg/L	-	04/18/16 08:38	04/20/16 13:38	1
Strontium	0.619		0.00500	0.000700	mg/L	-	04/18/16 08:38	04/19/16 13:40	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L	-	04/18/16 08:38	04/20/16 14:49	1
Antimony	1.61	U	5.00	1.61	ug/L	-	04/18/16 08:38	04/18/16 19:31	1
Arsenic	1.09	U	5.00	1.09	ug/L	-	04/18/16 08:38	04/19/16 14:59	1
Barium	52.1		5.00	0.810	ug/L	-	04/18/16 08:38	04/18/16 19:31	1
Beryllium	1.24	U	4.00	1.24	ug/L	-	04/18/16 08:38	04/19/16 14:59	1
Cadmium	0.854	U	2.00	0.854	ug/L	-	04/18/16 08:38	04/18/16 19:31	1
Chromium	1.40	U	5.00	1.40	ug/L	-	04/18/16 08:38	04/18/16 19:31	1
Copper	2.00	U	10.0	2.00	ug/L	-	04/18/16 08:38	04/18/16 19:31	1
Iron	101	U	250	101	ug/L	-	04/18/16 08:38	04/18/16 19:31	1
Lead	0.733	U	5.00	0.733	ug/L	-	04/18/16 08:38	04/18/16 19:31	1
Manganese	11.6	U	50.0	11.6	ug/L	-	04/18/16 08:38	04/18/16 19:31	1
Nickel	2.17	U	5.00	2.17	ug/L	-	04/18/16 08:38	04/18/16 19:31	1
Selenium	2.27	J	5.00	1.08	ug/L	-	04/18/16 08:38	04/18/16 19:31	1
Silver	0.941	U	5.00	0.941	ug/L	-	04/18/16 08:38	04/18/16 19:31	1
Thallium	0.693	U	2.00	0.693	ug/L	-	04/18/16 08:38	04/18/16 19:31	1
Zinc	3.55	U	25.0	3.55	ug/L	-	04/18/16 08:38	04/18/16 19:31	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000205	J B	0.00200	0.000130	mg/L	-	04/25/16 10:00	04/25/16 14:31	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.551	J	1.00	0.315	mg/L	-		04/15/16 03:37	1
Chloride	17.2	B	1.00	0.192	mg/L	-		04/15/16 03:37	1
Nitrate as N	1.66		0.500	0.103	mg/L	-		04/15/16 03:37	1
Sulfate	27.2		1.00	0.377	mg/L	-		04/15/16 03:37	1
Fluoride	0.103		0.100	0.0200	mg/L	-		04/26/16 07:30	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		04/21/16 12:35	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

**Client Sample ID: FDHCS270 TRAIL**

**Lab Sample ID: 560-60893-23**

**Date Collected: 04/13/16 08:43**

**Matrix: Water**

**Date Received: 04/14/16 08:20**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:48	1
<b>Total Organic Carbon</b>	<b>0.491</b>	<b>J</b>	1.00	0.285	mg/L			04/20/16 12:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.61</b>	<b>HF</b>	0.100	0.100	SU			04/21/16 09:57	1
<b>Total Alkalinity as CaCO3</b>	<b>214</b>		5.00	5.00	mg/L			04/22/16 13:20	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>214</b>		5.00	5.00	mg/L			04/22/16 13:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/22/16 13:20	1
<b>Total Dissolved Solids</b>	<b>321</b>		10.0	10.0	mg/L			04/15/16 10:30	1
<b>Total Suspended Solids</b>	<b>4.80</b>		3.00	3.00	mg/L			04/19/16 09:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Dissolved Organic Carbon</b>	<b>0.390</b>	<b>J</b>	1.00	0.285	mg/L			04/20/16 12:27	1

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-126945/8

Matrix: Water

Analysis Batch: 126945

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/14/16 11:33	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/14/16 11:33	1
Benzene	0.330	U	1.00	0.330	ug/L			04/14/16 11:33	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/14/16 11:33	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 11:33	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/14/16 11:33	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/14/16 11:33	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/14/16 11:33	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/14/16 11:33	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/14/16 11:33	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/14/16 11:33	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/14/16 11:33	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/14/16 11:33	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/14/16 11:33	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/14/16 11:33	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/14/16 11:33	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/14/16 11:33	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/14/16 11:33	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/14/16 11:33	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/14/16 11:33	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/14/16 11:33	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 11:33	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/14/16 11:33	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/14/16 11:33	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/14/16 11:33	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/14/16 11:33	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/14/16 11:33	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/14/16 11:33	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/14/16 11:33	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/14/16 11:33	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/14/16 11:33	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/14/16 11:33	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/14/16 11:33	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/14/16 11:33	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/14/16 11:33	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/14/16 11:33	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/14/16 11:33	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/14/16 11:33	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/14/16 11:33	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/14/16 11:33	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/14/16 11:33	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/14/16 11:33	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/14/16 11:33	1
EDB	0.175	U	1.00	0.175	ug/L			04/14/16 11:33	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/14/16 11:33	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 11:33	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/14/16 11:33	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/14/16 11:33	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-126945/8

Matrix: Water

Analysis Batch: 126945

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/14/16 11:33	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/14/16 11:33	1
Hexane	2.00	U	5.00	2.00	ug/L			04/14/16 11:33	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/14/16 11:33	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/14/16 11:33	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/14/16 11:33	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/14/16 11:33	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/14/16 11:33	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/14/16 11:33	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/14/16 11:33	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/14/16 11:33	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/14/16 11:33	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/14/16 11:33	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/14/16 11:33	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/14/16 11:33	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/14/16 11:33	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/14/16 11:33	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/14/16 11:33	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/14/16 11:33	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/14/16 11:33	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/14/16 11:33	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/14/16 11:33	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/14/16 11:33	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/14/16 11:33	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/14/16 11:33	1
Styrene	0.200	U	1.00	0.200	ug/L			04/14/16 11:33	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 11:33	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/14/16 11:33	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/14/16 11:33	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/14/16 11:33	1
Toluene	0.495	U	1.00	0.495	ug/L			04/14/16 11:33	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/14/16 11:33	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/14/16 11:33	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/14/16 11:33	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/14/16 11:33	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/14/16 11:33	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/14/16 11:33	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/14/16 11:33	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/14/16 11:33	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/14/16 11:33	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/14/16 11:33	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/14/16 11:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/14/16 11:33	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 11:33	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/14/16 11:33	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/14/16 11:33	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/14/16 11:33	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/14/16 11:33	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-126945/8

Matrix: Water

Analysis Batch: 126945

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		04/14/16 11:33	1
Dibromofluoromethane (Surr)	100		69 - 130		04/14/16 11:33	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 140		04/14/16 11:33	1
Toluene-d8 (Surr)	102		70 - 130		04/14/16 11:33	1

Lab Sample ID: LCS 560-126945/3

Matrix: Water

Analysis Batch: 126945

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	25.17		ug/L		101	60 - 150
Acetonitrile	250	225.5		ug/L		90	52 - 160
Benzene	25.0	24.33		ug/L		97	70 - 130
Benzyl chloride	25.0	19.80		ug/L		79	66 - 153
Bromobenzene	25.0	24.11		ug/L		96	70 - 130
Bromochloromethane	25.0	25.07		ug/L		100	70 - 130
Bromoform	25.0	22.97		ug/L		92	63 - 145
Bromomethane	25.0	24.82		ug/L		99	50 - 146
1,3-Butadiene	25.0	23.31		ug/L		93	40 - 138
2-Butanone (MEK)	25.0	21.74		ug/L		87	68 - 144
Carbon disulfide	25.0	23.58		ug/L		94	52 - 156
Carbon tetrachloride	25.0	23.59		ug/L		94	70 - 138
Chlorobenzene	25.0	25.04		ug/L		100	70 - 130
2-Chloro-1,3-butadiene	25.0	25.50		ug/L		102	69 - 140
Chlorodibromomethane	25.0	22.58		ug/L		90	70 - 137
Chloroethane	25.0	25.57		ug/L		102	54 - 141
Chloroform	25.0	24.63		ug/L		99	70 - 130
1-Chlorohexane	25.0	28.67		ug/L		115	64 - 130
Chloromethane	25.0	22.48		ug/L		90	46 - 142
2-Chlorotoluene	25.0	25.35		ug/L		101	70 - 130
4-Chlorotoluene	25.0	25.24		ug/L		101	70 - 130
cis-1,4-Dichloro-2-butene	25.0	17.10		ug/L		68	10 - 184
cis-1,2-Dichloroethene	25.0	26.20		ug/L		105	70 - 130
cis-1,3-Dichloropropene	25.0	23.61		ug/L		94	70 - 138
Cyclohexane	25.0	26.57		ug/L		106	40 - 141
Cyclohexanone	125	193.9		ug/L		155	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	23.41		ug/L		94	70 - 149
Dibromomethane	25.0	24.45		ug/L		98	70 - 130
1,2-Dichlorobenzene	25.0	25.57		ug/L		102	70 - 130
1,3-Dichlorobenzene	25.0	24.65		ug/L		99	70 - 130
1,4-Dichlorobenzene	25.0	24.40		ug/L		98	70 - 130
Dichlorobromomethane	25.0	23.96		ug/L		96	70 - 130
Dichlorodifluoromethane	25.0	12.51		ug/L		50	10 - 181
1,1-Dichloroethane	25.0	24.76		ug/L		99	70 - 130
1,2-Dichloroethane	25.0	24.86		ug/L		99	70 - 131
1,1-Dichloroethene	25.0	25.84		ug/L		103	70 - 139
1,2-Dichloropropane	25.0	25.02		ug/L		100	70 - 130
1,3-Dichloropropane	25.0	24.59		ug/L		98	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-126945/3

Matrix: Water

Analysis Batch: 126945

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	24.55		ug/L		98	65 - 143
1,1-Dichloropropene	25.0	25.97		ug/L		104	70 - 130
1,4-Dioxane	500	685.0		ug/L		137	66 - 150
EDB	25.0	24.34		ug/L		97	70 - 130
Ethyl acetate	50.0	45.38		ug/L		91	59 - 200
Ethylbenzene	25.0	24.80		ug/L		99	70 - 130
Ethylene oxide	100	93.94		ug/L		94	10 - 200
Ethyl ether	25.0	25.26		ug/L		101	69 - 136
Ethyl methacrylate	25.0	23.37		ug/L		93	70 - 130
Hexachlorobutadiene	25.0	34.38		ug/L		138	68 - 165
Hexane	25.0	28.75		ug/L		115	10 - 185
2-Hexanone	25.0	23.10		ug/L		92	70 - 138
Iodomethane	25.0	24.37		ug/L		97	64 - 146
Isobutyl alcohol	625	483.9		ug/L		77	27 - 199
Isooctane	25.0	32.91		ug/L		132	10 - 181
Isopropylbenzene	25.0	26.03		ug/L		104	70 - 131
4-Isopropyltoluene	25.0	28.70		ug/L		115	70 - 130
Methacrylonitrile	250	252.6		ug/L		101	70 - 139
Methylene Chloride	25.0	23.70		ug/L		95	70 - 130
Methyl methacrylate	50.0	44.32		ug/L		89	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	25.85		ug/L		103	70 - 138
Methyl tert-butyl ether	25.0	23.56		ug/L		94	70 - 131
m-Xylene & p-Xylene	25.0	24.51		ug/L		98	70 - 139
Naphthalene	25.0	25.87		ug/L		103	70 - 159
n-Butylbenzene	25.0	30.06		ug/L		120	70 - 135
n-Heptane	25.0	33.55		ug/L		134	10 - 186
2-Nitropropane	50.0	34.24		ug/L		68	22 - 173
N-Propylbenzene	25.0	26.71		ug/L		107	70 - 131
1-Octene	25.0	30.31		ug/L		121	10 - 185
o-Xylene	25.0	24.54		ug/L		98	70 - 130
Pentachloroethane	25.0	23.32		ug/L		93	70 - 146
Propionitrile	250	222.3		ug/L		89	70 - 144
sec-Butylbenzene	25.0	28.87		ug/L		115	70 - 134
Styrene	25.0	23.97		ug/L		96	70 - 130
tert-Butylbenzene	25.0	27.18		ug/L		109	70 - 132
1,1,1,2-Tetrachloroethane	25.0	24.44		ug/L		98	70 - 130
1,1,2,2-Tetrachloroethane	25.0	24.40		ug/L		98	70 - 130
Tetrachloroethene	25.0	24.18		ug/L		97	70 - 135
Toluene	25.0	24.57		ug/L		98	70 - 130
trans-1,4-Dichloro-2-butene	25.0	20.13		ug/L		81	37 - 174
trans-1,2-Dichloroethene	25.0	27.44		ug/L		110	70 - 134
trans-1,3-Dichloropropene	25.0	23.17		ug/L		93	70 - 143
1,2,3-Trichlorobenzene	25.0	27.66		ug/L		111	70 - 158
1,2,4-Trichlorobenzene	25.0	28.46		ug/L		114	70 - 157
1,3,5-Trichlorobenzene	25.0	29.14		ug/L		117	70 - 131
1,1,1-Trichloroethane	25.0	24.06		ug/L		96	70 - 130
1,1,2-Trichloroethane	25.0	24.70		ug/L		99	70 - 130
Trichloroethene	25.0	25.73		ug/L		103	70 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-126945/3

Matrix: Water

Analysis Batch: 126945

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	26.69		ug/L		107	39 - 146
1,2,3-Trichloropropane	25.0	23.03		ug/L		92	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.87		ug/L		103	27 - 148
1,2,4-Trimethylbenzene	25.0	25.98		ug/L		104	70 - 130
1,3,5-Trimethylbenzene	25.0	26.36		ug/L		105	70 - 131
Vinyl acetate	50.0	51.11		ug/L		102	18 - 200
Vinyl chloride	25.0	23.73		ug/L		95	49 - 140
Xylenes, Total	50.0	49.05		ug/L		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	102		69 - 130
1,2-Dichloroethane-d4 (Surr)	104		70 - 140
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: 560-60810-F-5 MS

Matrix: Water

Analysis Batch: 126945

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	U	125	188.5		ug/L		151	32 - 157
Acetonitrile	50.0	U F2	1250	1253		ug/L		100	10 - 182
Benzene	2.06	J	125	125.7		ug/L		99	70 - 130
Benzyl chloride	1.39	U	125	103.1		ug/L		82	49 - 130
Bromobenzene	0.640	U	125	124.0		ug/L		99	69 - 130
Bromochloromethane	1.14	U	125	120.4		ug/L		96	70 - 130
Bromoform	2.50	U	125	107.8		ug/L		86	57 - 145
Bromomethane	1.96	U	125	104.2		ug/L		83	56 - 141
1,3-Butadiene	1.50	U	125	104.5		ug/L		84	25 - 196
2-Butanone (MEK)	5.00	U	125	115.6		ug/L		92	42 - 142
Carbon disulfide	2.50	U	125	108.6		ug/L		87	59 - 164
Carbon tetrachloride	1.26	U	125	112.8		ug/L		90	70 - 138
Chlorobenzene	0.680	U	125	123.0		ug/L		98	70 - 130
2-Chloro-1,3-butadiene	1.00	U	125	125.6		ug/L		101	55 - 144
Chlorodibromomethane	1.12	U	125	115.2		ug/L		92	62 - 145
Chloroethane	2.00	U	125	113.7		ug/L		91	62 - 142
Chloroform	0.865	U	125	122.0		ug/L		98	70 - 130
1-Chlorohexane	2.50	U	125	140.3		ug/L		112	64 - 130
Chloromethane	1.95	U	125	90.33		ug/L		72	57 - 148
2-Chlorotoluene	0.775	U	125	128.4		ug/L		103	70 - 130
4-Chlorotoluene	1.21	U	125	126.3		ug/L		101	69 - 130
cis-1,4-Dichloro-2-butene	2.50	U	125	73.38		ug/L		59	24 - 136
cis-1,2-Dichloroethene	0.605	U	125	129.6		ug/L		104	70 - 130
cis-1,3-Dichloropropene	0.730	U	125	121.5		ug/L		97	46 - 136
Cyclohexane	5.00	U	125	126.4		ug/L		101	46 - 144
Cyclohexanone	25.0	U	625	769.3		ug/L		123	10 - 193
1,2-Dibromo-3-Chloropropane	1.75	U	125	118.7		ug/L		95	56 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60810-F-5 MS

Matrix: Water

Analysis Batch: 126945

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	0.825	U	125	124.2		ug/L		99	70 - 130
1,2-Dichlorobenzene	0.850	U	125	127.7		ug/L		102	70 - 130
1,3-Dichlorobenzene	0.640	U	125	126.6		ug/L		101	70 - 130
1,4-Dichlorobenzene	1.00	U	125	120.9		ug/L		97	70 - 130
Dichlorobromomethane	0.875	U	125	118.8		ug/L		95	70 - 130
Dichlorodifluoromethane	2.15	U	125	29.28		ug/L		23	14 - 198
1,1-Dichloroethane	0.840	U	125	125.8		ug/L		101	70 - 130
1,2-Dichloroethane	0.860	U	125	127.7		ug/L		102	65 - 130
1,1-Dichloroethene	1.50	U	125	123.5		ug/L		99	67 - 143
1,2-Dichloropropane	0.865	U	125	126.4		ug/L		101	70 - 130
1,3-Dichloropropane	0.730	U	125	124.6		ug/L		100	70 - 130
2,2-Dichloropropane	1.68	U	125	116.2		ug/L		93	65 - 150
1,1-Dichloropropene	0.925	U	125	131.1		ug/L		105	70 - 130
1,4-Dioxane	79.5	U F2	2500	3604		ug/L		144	20 - 152
EDB	0.875	U	125	121.2		ug/L		97	70 - 130
Ethyl acetate	5.00	U	250	267.4		ug/L		107	53 - 144
Ethylbenzene	1.00	U	125	125.4		ug/L		100	70 - 130
Ethylene oxide	150	U F1	500	1353	F1	ug/L		271	12 - 185
Ethyl ether	1.60	U	125	125.6		ug/L		101	67 - 130
Ethyl methacrylate	2.50	U	125	120.3		ug/L		96	65 - 130
Hexachlorobutadiene	4.30	U	125	167.2		ug/L		134	52 - 143
Hexane	10.0	U	125	130.9		ug/L		105	51 - 159
2-Hexanone	2.50	U	125	121.4		ug/L		97	56 - 130
Iodomethane	1.12	U	125	111.4		ug/L		89	70 - 162
Isobutyl alcohol	25.0	U F2	3130	3174		ug/L		102	36 - 130
Isooctane	50.3	F1	125	259.7	F1	ug/L		167	52 - 150
Isopropylbenzene	1.00	U	125	129.9		ug/L		104	70 - 130
4-Isopropyltoluene	0.750	U	125	143.4		ug/L		115	69 - 130
Methacrylonitrile	10.0	U	1250	1300		ug/L		104	61 - 130
Methylene Chloride	10.0	U	125	117.7		ug/L		94	70 - 130
Methyl methacrylate	1.00	U	250	233.0		ug/L		93	63 - 130
4-Methyl-2-pentanone (MIBK)	2.55	U	125	128.3		ug/L		103	54 - 130
Methyl tert-butyl ether	232		125	390.0		ug/L		126	63 - 134
m-Xylene & p-Xylene	1.30	U	125	123.0		ug/L		98	67 - 130
Naphthalene	1.00	U	125	138.8		ug/L		111	62 - 145
n-Butylbenzene	1.00	U	125	149.2		ug/L		119	67 - 130
n-Heptane	1.50	U	125	153.0		ug/L		122	55 - 150
2-Nitropropane	5.00	U F1	250	503.2	F1	ug/L		201	22 - 173
N-Propylbenzene	0.530	U	125	133.5		ug/L		107	70 - 130
1-Octene	2.20	U	125	151.0		ug/L		121	63 - 134
o-Xylene	1.00	U	125	123.5		ug/L		99	70 - 130
Pentachloroethane	1.51	U	125	113.8		ug/L		91	60 - 130
Propionitrile	13.5	U	1250	1363		ug/L		109	39 - 130
sec-Butylbenzene	1.50	U	125	143.6		ug/L		115	67 - 130
Styrene	1.00	U	125	117.8		ug/L		94	28 - 150
tert-Butylbenzene	1.00	U	125	134.4		ug/L		108	70 - 130
1,1,1,2-Tetrachloroethane	1.05	U	125	121.0		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	0.950	U	125	126.5		ug/L		101	66 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60810-F-5 MS

Matrix: Water

Analysis Batch: 126945

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	0.945	U	125	121.5		ug/L		97	69 - 130
Toluene	2.48	U	125	123.8		ug/L		99	70 - 130
trans-1,4-Dichloro-2-butene	2.50	U	125	93.16		ug/L		75	35 - 130
trans-1,2-Dichloroethene	1.00	U	125	129.6		ug/L		104	57 - 148
trans-1,3-Dichloropropene	1.00	U	125	120.8		ug/L		97	44 - 139
1,2,3-Trichlorobenzene	1.09	U	125	147.4		ug/L		118	60 - 130
1,2,4-Trichlorobenzene	0.840	U	125	145.5		ug/L		116	60 - 142
1,3,5-Trichlorobenzene	1.02	U	125	147.1		ug/L		118	66 - 135
1,1,1-Trichloroethane	1.50	U	125	116.7		ug/L		93	70 - 133
1,1,2-Trichloroethane	0.865	U	125	125.5		ug/L		100	70 - 130
Trichloroethene	1.59	U	125	126.4		ug/L		101	70 - 130
Trichlorofluoromethane	1.22	U	125	112.4		ug/L		90	64 - 149
1,2,3-Trichloropropane	0.955	U	125	118.7		ug/L		95	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	2.05	U	125	119.9		ug/L		96	47 - 152
1,2,4-Trimethylbenzene	1.00	U	125	132.8		ug/L		106	70 - 130
1,3,5-Trimethylbenzene	1.00	U	125	133.6		ug/L		107	70 - 130
Vinyl acetate	2.50	U	250	266.7		ug/L		107	36 - 171
Vinyl chloride	1.50	U	125	99.64		ug/L		80	49 - 158
Xylenes, Total	1.13	U	250	246.5		ug/L		99	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	100		69 - 130
1,2-Dichloroethane-d4 (Surr)	103		70 - 140
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: 560-60810-F-5 MSD

Matrix: Water

Analysis Batch: 126945

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	25.0	U	125	155.0		ug/L		124	32 - 157	20	20
Acetonitrile	50.0	U F2	1250	966.9	F2	ug/L		77	10 - 182	26	20
Benzene	2.06	J	125	125.8		ug/L		99	70 - 130	0	20
Benzyl chloride	1.39	U	125	100.7		ug/L		81	49 - 130	2	20
Bromobenzene	0.640	U	125	126.3		ug/L		101	69 - 130	2	20
Bromochloromethane	1.14	U	125	120.7		ug/L		97	70 - 130	0	20
Bromoform	2.50	U	125	104.6		ug/L		84	57 - 145	3	20
Bromomethane	1.96	U	125	107.5		ug/L		86	56 - 141	3	20
1,3-Butadiene	1.50	U	125	102.6		ug/L		82	25 - 196	2	20
2-Butanone (MEK)	5.00	U	125	96.48		ug/L		77	42 - 142	18	20
Carbon disulfide	2.50	U	125	105.8		ug/L		85	59 - 164	3	20
Carbon tetrachloride	1.26	U	125	110.3		ug/L		88	70 - 138	2	20
Chlorobenzene	0.680	U	125	125.3		ug/L		100	70 - 130	2	20
2-Chloro-1,3-butadiene	1.00	U	125	128.9		ug/L		103	55 - 144	3	20
Chlorodibromomethane	1.12	U	125	116.7		ug/L		93	62 - 145	1	20
Chloroethane	2.00	U	125	114.5		ug/L		92	62 - 142	1	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60810-F-5 MSD

Matrix: Water

Analysis Batch: 126945

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	0.865	U	125	122.5		ug/L		98	70 - 130	0	20
1-Chlorohexane	2.50	U	125	139.3		ug/L		111	64 - 130	1	20
Chloromethane	1.95	U	125	87.32		ug/L		70	57 - 148	3	20
2-Chlorotoluene	0.775	U	125	132.1		ug/L		106	70 - 130	3	20
4-Chlorotoluene	1.21	U	125	130.3		ug/L		104	69 - 130	3	20
cis-1,4-Dichloro-2-butene	2.50	U	125	71.73		ug/L		57	24 - 136	2	20
cis-1,2-Dichloroethene	0.605	U	125	129.4		ug/L		104	70 - 130	0	20
cis-1,3-Dichloropropene	0.730	U	125	120.0		ug/L		96	46 - 136	1	20
Cyclohexane	5.00	U	125	119.7		ug/L		96	46 - 144	5	20
Cyclohexanone	25.0	U	625	638.7		ug/L		102	10 - 193	19	20
1,2-Dibromo-3-Chloropropane	1.75	U	125	113.4		ug/L		91	56 - 130	4	20
Dibromomethane	0.825	U	125	121.9		ug/L		98	70 - 130	2	20
1,2-Dichlorobenzene	0.850	U	125	128.6		ug/L		103	70 - 130	1	20
1,3-Dichlorobenzene	0.640	U	125	127.9		ug/L		102	70 - 130	1	20
1,4-Dichlorobenzene	1.00	U	125	126.9		ug/L		101	70 - 130	5	20
Dichlorobromomethane	0.875	U	125	118.9		ug/L		95	70 - 130	0	20
Dichlorodifluoromethane	2.15	U	125	29.29		ug/L		23	14 - 198	0	20
1,1-Dichloroethane	0.840	U	125	126.1		ug/L		101	70 - 130	0	20
1,2-Dichloroethane	0.860	U	125	126.0		ug/L		101	65 - 130	1	20
1,1-Dichloroethene	1.50	U	125	118.2		ug/L		95	67 - 143	4	20
1,2-Dichloropropane	0.865	U	125	126.8		ug/L		101	70 - 130	0	20
1,3-Dichloropropane	0.730	U	125	126.7		ug/L		101	70 - 130	2	20
2,2-Dichloropropane	1.68	U	125	121.7		ug/L		97	65 - 150	5	20
1,1-Dichloropropene	0.925	U	125	129.1		ug/L		103	70 - 130	1	20
1,4-Dioxane	79.5	U F2	2500	2850	F2	ug/L		114	20 - 152	23	20
EDB	0.875	U	125	119.8		ug/L		96	70 - 130	1	20
Ethyl acetate	5.00	U	250	223.5		ug/L		89	53 - 144	18	20
Ethylbenzene	1.00	U	125	125.8		ug/L		101	70 - 130	0	20
Ethylene oxide	150	U F1	500	1426	F1	ug/L		285	12 - 185	5	20
Ethyl ether	1.60	U	125	125.4		ug/L		100	67 - 130	0	20
Ethyl methacrylate	2.50	U	125	118.7		ug/L		95	65 - 130	1	20
Hexachlorobutadiene	4.30	U	125	163.2		ug/L		131	52 - 143	2	20
Hexane	10.0	U	125	124.7		ug/L		100	51 - 159	5	20
2-Hexanone	2.50	U	125	117.4		ug/L		94	56 - 130	3	20
Iodomethane	1.12	U	125	110.8		ug/L		89	70 - 162	1	20
Isobutyl alcohol	25.0	U F2	3130	2340	F2	ug/L		75	36 - 130	30	20
Isooctane	50.3	F1	125	261.2	F1	ug/L		169	52 - 150	1	20
Isopropylbenzene	1.00	U	125	131.9		ug/L		106	70 - 130	1	20
4-Isopropyltoluene	0.750	U	125	146.3		ug/L		117	69 - 130	2	20
Methacrylonitrile	10.0	U	1250	1243		ug/L		99	61 - 130	5	20
Methylene Chloride	10.0	U	125	116.2		ug/L		93	70 - 130	1	20
Methyl methacrylate	1.00	U	250	223.7		ug/L		89	63 - 130	4	20
4-Methyl-2-pentanone (MIBK)	2.55	U	125	127.1		ug/L		102	54 - 130	1	20
Methyl tert-butyl ether	232		125	385.8		ug/L		123	63 - 134	1	20
m-Xylene & p-Xylene	1.30	U	125	125.7		ug/L		101	67 - 130	2	20
Naphthalene	1.00	U	125	135.1		ug/L		108	62 - 145	3	20
n-Butylbenzene	1.00	U	125	152.9		ug/L		122	67 - 130	2	20
n-Heptane	1.50	U	125	150.1		ug/L		120	55 - 150	2	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60810-F-5 MSD

Matrix: Water

Analysis Batch: 126945

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Nitropropane	5.00	U F1	250	518.9	F1	ug/L		208	22 - 173	3	20
N-Propylbenzene	0.530	U	125	135.3		ug/L		108	70 - 130	1	20
1-Octene	2.20	U	125	147.7		ug/L		118	63 - 134	2	
o-Xylene	1.00	U	125	124.5		ug/L		100	70 - 130	1	20
Pentachloroethane	1.51	U	125	116.2		ug/L		93	60 - 130	2	20
Propionitrile	13.5	U	1250	1172		ug/L		94	39 - 130	15	20
sec-Butylbenzene	1.50	U	125	147.4		ug/L		118	67 - 130	3	20
Styrene	1.00	U	125	120.2		ug/L		96	28 - 150	2	20
tert-Butylbenzene	1.00	U	125	138.4		ug/L		111	70 - 130	3	20
1,1,1,2-Tetrachloroethane	1.05	U	125	120.8		ug/L		97	70 - 130	0	20
1,1,2,2-Tetrachloroethane	0.950	U	125	125.7		ug/L		101	66 - 130	1	20
Tetrachloroethene	0.945	U	125	120.8		ug/L		97	69 - 130	1	20
Toluene	2.48	U	125	122.9		ug/L		98	70 - 130	1	20
trans-1,4-Dichloro-2-butene	2.50	U	125	87.79		ug/L		70	35 - 130	6	20
trans-1,2-Dichloroethene	1.00	U	125	128.6		ug/L		103	57 - 148	1	20
trans-1,3-Dichloropropene	1.00	U	125	119.6		ug/L		96	44 - 139	1	20
1,2,3-Trichlorobenzene	1.09	U	125	143.8		ug/L		115	60 - 130	2	20
1,2,4-Trichlorobenzene	0.840	U	125	146.1		ug/L		117	60 - 142	0	20
1,3,5-Trichlorobenzene	1.02	U	125	148.9		ug/L		119	66 - 135	1	20
1,1,1-Trichloroethane	1.50	U	125	117.9		ug/L		94	70 - 133	1	20
1,1,2-Trichloroethane	0.865	U	125	125.0		ug/L		100	70 - 130	0	20
Trichloroethene	1.59	U	125	126.2		ug/L		101	70 - 130	0	20
Trichlorofluoromethane	1.22	U	125	110.3		ug/L		88	64 - 149	2	20
1,2,3-Trichloropropane	0.955	U	125	116.7		ug/L		93	70 - 130	2	20
1,1,2-Trichloro-1,2,2-trifluoroethane	2.05	U	125	114.1		ug/L		91	47 - 152	5	20
1,2,4-Trimethylbenzene	1.00	U	125	134.9		ug/L		108	70 - 130	2	20
1,3,5-Trimethylbenzene	1.00	U	125	136.6		ug/L		109	70 - 130	2	20
Vinyl acetate	2.50	U	250	262.1		ug/L		105	36 - 171	2	20
Vinyl chloride	1.50	U	125	96.03		ug/L		77	49 - 158	4	20
Xylenes, Total	1.13	U	250	250.3		ug/L		100	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
Dibromofluoromethane (Surr)	101		69 - 130
1,2-Dichloroethane-d4 (Surr)	103		70 - 140
Toluene-d8 (Surr)	102		70 - 130

Lab Sample ID: MB 560-126984/6

Matrix: Water

Analysis Batch: 126984

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			04/15/16 10:24	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			04/15/16 10:24	1
Benzene	0.330	U	1.00	0.330	ug/L			04/15/16 10:24	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			04/15/16 10:24	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			04/15/16 10:24	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-126984/6

Matrix: Water

Analysis Batch: 126984

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	0.228	U	1.00	0.228	ug/L			04/15/16 10:24	1
Bromoform	0.500	U	5.00	0.500	ug/L			04/15/16 10:24	1
Bromomethane	0.392	U	5.00	0.392	ug/L			04/15/16 10:24	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			04/15/16 10:24	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			04/15/16 10:24	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			04/15/16 10:24	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			04/15/16 10:24	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			04/15/16 10:24	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			04/15/16 10:24	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			04/15/16 10:24	1
Chloroethane	0.400	U	5.00	0.400	ug/L			04/15/16 10:24	1
Chloroform	0.173	U	1.00	0.173	ug/L			04/15/16 10:24	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			04/15/16 10:24	1
Chloromethane	0.390	U	5.00	0.390	ug/L			04/15/16 10:24	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			04/15/16 10:24	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			04/15/16 10:24	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/15/16 10:24	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			04/15/16 10:24	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			04/15/16 10:24	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			04/15/16 10:24	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			04/15/16 10:24	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			04/15/16 10:24	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			04/15/16 10:24	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			04/15/16 10:24	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			04/15/16 10:24	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			04/15/16 10:24	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			04/15/16 10:24	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			04/15/16 10:24	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			04/15/16 10:24	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			04/15/16 10:24	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			04/15/16 10:24	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			04/15/16 10:24	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			04/15/16 10:24	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			04/15/16 10:24	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			04/15/16 10:24	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			04/15/16 10:24	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			04/15/16 10:24	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			04/15/16 10:24	1
EDB	0.175	U	1.00	0.175	ug/L			04/15/16 10:24	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			04/15/16 10:24	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			04/15/16 10:24	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			04/15/16 10:24	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			04/15/16 10:24	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			04/15/16 10:24	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			04/15/16 10:24	1
Hexane	2.00	U	5.00	2.00	ug/L			04/15/16 10:24	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			04/15/16 10:24	1
Iodomethane	0.223	U	2.00	0.223	ug/L			04/15/16 10:24	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-126984/6

Matrix: Water

Analysis Batch: 126984

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			04/15/16 10:24	1
Isooctane	0.500	U	5.00	0.500	ug/L			04/15/16 10:24	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			04/15/16 10:24	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			04/15/16 10:24	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			04/15/16 10:24	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			04/15/16 10:24	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			04/15/16 10:24	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			04/15/16 10:24	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			04/15/16 10:24	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			04/15/16 10:24	1
Naphthalene	0.200	U	5.00	0.200	ug/L			04/15/16 10:24	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			04/15/16 10:24	1
n-Heptane	0.300	U	5.00	0.300	ug/L			04/15/16 10:24	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			04/15/16 10:24	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			04/15/16 10:24	1
1-Octene	0.440	U	5.00	0.440	ug/L			04/15/16 10:24	1
o-Xylene	0.200	U	1.00	0.200	ug/L			04/15/16 10:24	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			04/15/16 10:24	1
Propionitrile	2.69	U	10.0	2.69	ug/L			04/15/16 10:24	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			04/15/16 10:24	1
Styrene	0.200	U	1.00	0.200	ug/L			04/15/16 10:24	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 10:24	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			04/15/16 10:24	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			04/15/16 10:24	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			04/15/16 10:24	1
Toluene	0.495	U	1.00	0.495	ug/L			04/15/16 10:24	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			04/15/16 10:24	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			04/15/16 10:24	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			04/15/16 10:24	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			04/15/16 10:24	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			04/15/16 10:24	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			04/15/16 10:24	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			04/15/16 10:24	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			04/15/16 10:24	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			04/15/16 10:24	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			04/15/16 10:24	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			04/15/16 10:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			04/15/16 10:24	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 10:24	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			04/15/16 10:24	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			04/15/16 10:24	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			04/15/16 10:24	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			04/15/16 10:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		04/15/16 10:24	1
Dibromofluoromethane (Surr)	101		69 - 130		04/15/16 10:24	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 140		04/15/16 10:24	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-126984/6

Matrix: Water

Analysis Batch: 126984

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		70 - 130		04/15/16 10:24	1

Lab Sample ID: LCS 560-126984/3

Matrix: Water

Analysis Batch: 126984

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	27.26		ug/L		109	60 - 150
Acetonitrile	250	212.0		ug/L		85	52 - 160
Benzene	25.0	25.08		ug/L		100	70 - 130
Benzyl chloride	25.0	20.49		ug/L		82	66 - 153
Bromobenzene	25.0	25.07		ug/L		100	70 - 130
Bromochloromethane	25.0	24.62		ug/L		98	70 - 130
Bromoform	25.0	23.08		ug/L		92	63 - 145
Bromomethane	25.0	24.24		ug/L		97	50 - 146
1,3-Butadiene	25.0	23.11		ug/L		92	40 - 138
2-Butanone (MEK)	25.0	23.82		ug/L		95	68 - 144
Carbon disulfide	25.0	23.57		ug/L		94	52 - 156
Carbon tetrachloride	25.0	23.26		ug/L		93	70 - 138
Chlorobenzene	25.0	25.62		ug/L		102	70 - 130
2-Chloro-1,3-butadiene	25.0	26.14		ug/L		105	69 - 140
Chlorodibromomethane	25.0	23.38		ug/L		94	70 - 137
Chloroethane	25.0	24.84		ug/L		99	54 - 141
Chloroform	25.0	25.04		ug/L		100	70 - 130
1-Chlorohexane	25.0	28.33		ug/L		113	64 - 130
Chloromethane	25.0	24.02		ug/L		96	46 - 142
2-Chlorotoluene	25.0	26.45		ug/L		106	70 - 130
4-Chlorotoluene	25.0	26.15		ug/L		105	70 - 130
cis-1,4-Dichloro-2-butene	25.0	18.95		ug/L		76	10 - 184
cis-1,2-Dichloroethene	25.0	26.14		ug/L		105	70 - 130
cis-1,3-Dichloropropene	25.0	25.43		ug/L		102	70 - 138
Cyclohexane	25.0	25.98		ug/L		104	40 - 141
Cyclohexanone	125	198.5		ug/L		159	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	22.98		ug/L		92	70 - 149
Dibromomethane	25.0	25.16		ug/L		101	70 - 130
1,2-Dichlorobenzene	25.0	26.16		ug/L		105	70 - 130
1,3-Dichlorobenzene	25.0	25.85		ug/L		103	70 - 130
1,4-Dichlorobenzene	25.0	25.65		ug/L		103	70 - 130
Dichlorobromomethane	25.0	24.60		ug/L		98	70 - 130
Dichlorodifluoromethane	25.0	11.74		ug/L		47	10 - 181
1,1-Dichloroethane	25.0	25.20		ug/L		101	70 - 130
1,2-Dichloroethane	25.0	25.46		ug/L		102	70 - 131
1,1-Dichloroethene	25.0	26.02		ug/L		104	70 - 139
1,2-Dichloropropane	25.0	26.63		ug/L		107	70 - 130
1,3-Dichloropropane	25.0	25.46		ug/L		102	70 - 130
2,2-Dichloropropane	25.0	22.91		ug/L		92	65 - 143
1,1-Dichloropropene	25.0	26.10		ug/L		104	70 - 130
1,4-Dioxane	500	692.1		ug/L		138	66 - 150

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-126984/3

Matrix: Water

Analysis Batch: 126984

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
EDB	25.0	24.83		ug/L		99	70 - 130
Ethyl acetate	50.0	47.80		ug/L		96	59 - 200
Ethylbenzene	25.0	24.96		ug/L		100	70 - 130
Ethylene oxide	100	87.61		ug/L		88	10 - 200
Ethyl ether	25.0	25.38		ug/L		102	69 - 136
Ethyl methacrylate	25.0	23.90		ug/L		96	70 - 130
Hexachlorobutadiene	25.0	34.75		ug/L		139	68 - 165
Hexane	25.0	27.16		ug/L		109	10 - 185
2-Hexanone	25.0	23.56		ug/L		94	70 - 138
Iodomethane	25.0	24.20		ug/L		97	64 - 146
Isobutyl alcohol	625	503.7		ug/L		81	27 - 199
Isooctane	25.0	31.27		ug/L		125	10 - 181
Isopropylbenzene	25.0	26.33		ug/L		105	70 - 131
4-Isopropyltoluene	25.0	28.95		ug/L		116	70 - 130
Methacrylonitrile	250	257.9		ug/L		103	70 - 139
Methylene Chloride	25.0	23.83		ug/L		95	70 - 130
Methyl methacrylate	50.0	46.45		ug/L		93	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	25.85		ug/L		103	70 - 138
Methyl tert-butyl ether	25.0	23.91		ug/L		96	70 - 131
m-Xylene & p-Xylene	25.0	24.95		ug/L		100	70 - 139
Naphthalene	25.0	26.60		ug/L		106	70 - 159
n-Butylbenzene	25.0	30.52		ug/L		122	70 - 135
n-Heptane	25.0	31.22		ug/L		125	10 - 186
2-Nitropropane	50.0	35.13		ug/L		70	22 - 173
N-Propylbenzene	25.0	27.19		ug/L		109	70 - 131
1-Octene	25.0	30.45		ug/L		122	10 - 185
o-Xylene	25.0	24.48		ug/L		98	70 - 130
Pentachloroethane	25.0	24.00		ug/L		96	70 - 146
Propionitrile	250	243.3		ug/L		97	70 - 144
sec-Butylbenzene	25.0	29.25		ug/L		117	70 - 134
Styrene	25.0	24.66		ug/L		99	70 - 130
tert-Butylbenzene	25.0	27.41		ug/L		110	70 - 132
1,1,1,2-Tetrachloroethane	25.0	24.39		ug/L		98	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.36		ug/L		101	70 - 130
Tetrachloroethene	25.0	24.76		ug/L		99	70 - 135
Toluene	25.0	24.71		ug/L		99	70 - 130
trans-1,4-Dichloro-2-butene	25.0	21.60		ug/L		86	37 - 174
trans-1,2-Dichloroethene	25.0	27.17		ug/L		109	70 - 134
trans-1,3-Dichloropropene	25.0	24.24		ug/L		97	70 - 143
1,2,3-Trichlorobenzene	25.0	28.46		ug/L		114	70 - 158
1,2,4-Trichlorobenzene	25.0	28.75		ug/L		115	70 - 157
1,3,5-Trichlorobenzene	25.0	29.68		ug/L		119	70 - 131
1,1,1-Trichloroethane	25.0	23.62		ug/L		94	70 - 130
1,1,2-Trichloroethane	25.0	25.02		ug/L		100	70 - 130
Trichloroethene	25.0	26.25		ug/L		105	70 - 130
Trichlorofluoromethane	25.0	24.38		ug/L		98	39 - 146
1,2,3-Trichloropropane	25.0	23.56		ug/L		94	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-126984/3

Matrix: Water

Analysis Batch: 126984

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.98		ug/L		100	27 - 148
1,2,4-Trimethylbenzene	25.0	26.52		ug/L		106	70 - 130
1,3,5-Trimethylbenzene	25.0	27.03		ug/L		108	70 - 131
Vinyl acetate	50.0	53.52		ug/L		107	18 - 200
Vinyl chloride	25.0	24.18		ug/L		97	49 - 140
Xylenes, Total	50.0	49.43		ug/L		99	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	99		69 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 140
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 126984

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	5.00	U	25.0	25.93		ug/L		104	32 - 157
Acetonitrile	10.0	U	25.0	206.3		ug/L		83	10 - 182
Benzene	0.330	U	25.0	25.15		ug/L		101	70 - 130
Benzyl chloride	0.278	U	25.0	18.71		ug/L		75	49 - 130
Bromobenzene	0.128	U	25.0	24.82		ug/L		99	69 - 130
Bromochloromethane	0.228	U	25.0	25.00		ug/L		100	70 - 130
Bromoform	0.500	U	25.0	19.87		ug/L		79	57 - 145
Bromomethane	0.392	U	25.0	20.66		ug/L		83	56 - 141
1,3-Butadiene	0.300	U	25.0	19.92		ug/L		80	25 - 196
2-Butanone (MEK)	1.00	U	25.0	22.10		ug/L		88	42 - 142
Carbon disulfide	0.500	U	25.0	21.09		ug/L		84	59 - 164
Carbon tetrachloride	0.251	U	25.0	22.16		ug/L		89	70 - 138
Chlorobenzene	0.136	U	25.0	25.01		ug/L		100	70 - 130
2-Chloro-1,3-butadiene	0.200	U	25.0	25.89		ug/L		104	55 - 144
Chlorodibromomethane	0.223	U	25.0	22.55		ug/L		90	62 - 145
Chloroethane	0.400	U	25.0	22.50		ug/L		90	62 - 142
Chloroform	0.173	U	25.0	24.60		ug/L		98	70 - 130
1-Chlorohexane	0.500	U	25.0	28.37		ug/L		113	64 - 130
Chloromethane	0.390	U	25.0	18.77		ug/L		75	57 - 148
2-Chlorotoluene	0.155	U	25.0	25.67		ug/L		103	70 - 130
4-Chlorotoluene	0.242	U	25.0	25.49		ug/L		102	69 - 130
cis-1,4-Dichloro-2-butene	0.500	U	25.0	14.98		ug/L		60	24 - 136
cis-1,2-Dichloroethene	0.121	U	25.0	25.67		ug/L		103	70 - 130
cis-1,3-Dichloropropene	0.146	U	25.0	23.59		ug/L		94	46 - 136
Cyclohexane	1.00	U	25.0	25.51		ug/L		102	46 - 144
Cyclohexanone	5.00	U F2	125	105.5		ug/L		84	10 - 193
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	21.44		ug/L		86	56 - 130
Dibromomethane	0.165	U	25.0	24.91		ug/L		100	70 - 130
1,2-Dichlorobenzene	0.170	U	25.0	26.06		ug/L		104	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 126984

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	0.128	U	25.0	25.42		ug/L		102	70 - 130
1,4-Dichlorobenzene	0.200	U	25.0	24.95		ug/L		100	70 - 130
Dichlorobromomethane	0.175	U	25.0	23.70		ug/L		95	70 - 130
Dichlorodifluoromethane	0.429	U	25.0	5.821		ug/L		23	14 - 198
1,1-Dichloroethane	0.168	U	25.0	25.53		ug/L		102	70 - 130
1,2-Dichloroethane	0.172	U	25.0	25.55		ug/L		102	65 - 130
1,1-Dichloroethene	0.300	U	25.0	24.60		ug/L		98	67 - 143
1,2-Dichloropropane	0.173	U	25.0	25.73		ug/L		103	70 - 130
1,3-Dichloropropane	0.146	U	25.0	25.19		ug/L		101	70 - 130
2,2-Dichloropropane	0.335	U	25.0	22.70		ug/L		91	65 - 150
1,1-Dichloropropene	0.185	U	25.0	26.24		ug/L		105	70 - 130
1,4-Dioxane	15.9	U F2	500	491.1		ug/L		98	20 - 152
EDB	0.175	U	25.0	23.55		ug/L		94	70 - 130
Ethyl acetate	1.00	U	50.0	51.09		ug/L		102	53 - 144
Ethylbenzene	0.200	U	25.0	25.03		ug/L		100	70 - 130
Ethylene oxide	30.0	U F1	100	199.4	F1	ug/L		199	12 - 185
Ethyl ether	0.320	U	25.0	24.99		ug/L		100	67 - 130
Ethyl methacrylate	0.500	U	25.0	22.76		ug/L		91	65 - 130
Hexachlorobutadiene	0.860	U	25.0	32.40		ug/L		130	52 - 143
Hexane	2.00	U	25.0	26.17		ug/L		105	51 - 159
2-Hexanone	0.500	U	25.0	22.21		ug/L		89	56 - 130
Iodomethane	0.223	U	25.0	21.97		ug/L		88	70 - 162
Isobutyl alcohol	5.00	U	625	465.3		ug/L		74	36 - 130
Isooctane	0.500	U	25.0	31.69		ug/L		127	52 - 150
Isopropylbenzene	0.200	U	25.0	26.06		ug/L		104	70 - 130
4-Isopropyltoluene	0.150	U	25.0	29.16		ug/L		117	69 - 130
Methacrylonitrile	2.00	U	250	259.6		ug/L		104	61 - 130
Methylene Chloride	2.00	U	25.0	23.35		ug/L		93	70 - 130
Methyl methacrylate	0.200	U	50.0	45.74		ug/L		91	63 - 130
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	25.42		ug/L		102	54 - 130
Methyl tert-butyl ether	0.200	U	25.0	23.60		ug/L		94	63 - 134
m-Xylene & p-Xylene	0.260	U	25.0	24.57		ug/L		98	67 - 130
Naphthalene	0.200	U	25.0	26.21		ug/L		105	62 - 145
n-Butylbenzene	0.200	U	25.0	30.60		ug/L		122	67 - 130
n-Heptane	0.300	U	25.0	32.84		ug/L		131	55 - 150
2-Nitropropane	1.00	U	50.0	31.46		ug/L		63	22 - 173
N-Propylbenzene	0.106	U	25.0	27.03		ug/L		108	70 - 130
1-Octene	0.440	U	25.0	31.02		ug/L		124	63 - 134
o-Xylene	0.200	U	25.0	24.73		ug/L		99	70 - 130
Pentachloroethane	0.302	U	25.0	22.59		ug/L		90	60 - 130
Propionitrile	2.69	U	250	247.8		ug/L		99	39 - 130
sec-Butylbenzene	0.300	U	25.0	28.87		ug/L		115	67 - 130
Styrene	0.200	U	25.0	24.18		ug/L		97	28 - 150
tert-Butylbenzene	0.200	U	25.0	27.00		ug/L		108	70 - 130
1,1,1,2-Tetrachloroethane	0.209	U	25.0	24.13		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	0.190	U	25.0	25.11		ug/L		100	66 - 130
Tetrachloroethene	0.189	U	25.0	24.30		ug/L		97	69 - 130
Toluene	0.495	U	25.0	25.23		ug/L		101	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 126984

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,4-Dichloro-2-butene	0.500	U	25.0	19.01		ug/L		76	35 - 130
trans-1,2-Dichloroethene	0.200	U	25.0	26.28		ug/L		105	57 - 148
trans-1,3-Dichloropropene	0.200	U	25.0	23.46		ug/L		94	44 - 139
1,2,3-Trichlorobenzene	0.217	U	25.0	28.50		ug/L		114	60 - 130
1,2,4-Trichlorobenzene	0.168	U	25.0	28.70		ug/L		115	60 - 142
1,3,5-Trichlorobenzene	0.203	U	25.0	29.43		ug/L		118	66 - 135
1,1,1-Trichloroethane	0.300	U	25.0	22.84		ug/L		91	70 - 133
1,1,2-Trichloroethane	0.173	U	25.0	25.36		ug/L		101	70 - 130
Trichloroethene	0.317	U	25.0	25.77		ug/L		103	70 - 130
Trichlorofluoromethane	0.244	U	25.0	22.49		ug/L		90	64 - 149
1,2,3-Trichloropropane	0.191	U	25.0	23.06		ug/L		92	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	24.47		ug/L		98	47 - 152
1,2,4-Trimethylbenzene	0.200	U	25.0	26.53		ug/L		106	70 - 130
1,3,5-Trimethylbenzene	0.200	U	25.0	26.70		ug/L		107	70 - 130
Vinyl acetate	0.500	U	50.0	52.12		ug/L		104	36 - 171
Vinyl chloride	0.300	U	25.0	20.30		ug/L		81	49 - 158
Xylenes, Total	0.226	U	50.0	49.29		ug/L		99	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	100		69 - 130
1,2-Dichloroethane-d4 (Surr)	102		70 - 140
Toluene-d8 (Surr)	102		70 - 130

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 126984

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	5.00	U	25.0	27.26		ug/L		109	32 - 157	5	20
Acetonitrile	10.0	U	250	229.5		ug/L		92	10 - 182	11	20
Benzene	0.330	U	25.0	25.19		ug/L		101	70 - 130	0	20
Benzyl chloride	0.278	U	25.0	19.20		ug/L		77	49 - 130	3	20
Bromobenzene	0.128	U	25.0	25.06		ug/L		100	69 - 130	1	20
Bromochloromethane	0.228	U	25.0	24.61		ug/L		98	70 - 130	2	20
Bromoform	0.500	U	25.0	19.75		ug/L		79	57 - 145	1	20
Bromomethane	0.392	U	25.0	21.28		ug/L		85	56 - 141	3	20
1,3-Butadiene	0.300	U	25.0	19.18		ug/L		77	25 - 196	4	20
2-Butanone (MEK)	1.00	U	25.0	24.72		ug/L		99	42 - 142	11	20
Carbon disulfide	0.500	U	25.0	20.91		ug/L		84	59 - 164	1	20
Carbon tetrachloride	0.251	U	25.0	22.32		ug/L		89	70 - 138	1	20
Chlorobenzene	0.136	U	25.0	25.35		ug/L		101	70 - 130	1	20
2-Chloro-1,3-butadiene	0.200	U	25.0	26.10		ug/L		104	55 - 144	1	20
Chlorodibromomethane	0.223	U	25.0	23.08		ug/L		92	62 - 145	2	20
Chloroethane	0.400	U	25.0	22.76		ug/L		91	62 - 142	1	20
Chloroform	0.173	U	25.0	24.63		ug/L		99	70 - 130	0	20
1-Chlorohexane	0.500	U	25.0	28.63		ug/L		115	64 - 130	1	20

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 126984

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloromethane	0.390	U	25.0	17.26		ug/L		69	57 - 148	8	20
2-Chlorotoluene	0.155	U	25.0	25.64		ug/L		103	70 - 130	0	20
4-Chlorotoluene	0.242	U	25.0	25.89		ug/L		104	69 - 130	2	20
cis-1,4-Dichloro-2-butene	0.500	U	25.0	14.81		ug/L		59	24 - 136	1	20
cis-1,2-Dichloroethene	0.121	U	25.0	26.05		ug/L		104	70 - 130	1	20
cis-1,3-Dichloropropene	0.146	U	25.0	24.05		ug/L		96	46 - 136	2	20
Cyclohexane	1.00	U	25.0	25.53		ug/L		102	46 - 144	0	20
Cyclohexanone	5.00	U F2	125	143.6	F2	ug/L		115	10 - 193	31	20
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	22.72		ug/L		91	56 - 130	6	20
Dibromomethane	0.165	U	25.0	25.16		ug/L		101	70 - 130	1	20
1,2-Dichlorobenzene	0.170	U	25.0	25.94		ug/L		104	70 - 130	0	20
1,3-Dichlorobenzene	0.128	U	25.0	25.33		ug/L		101	70 - 130	0	20
1,4-Dichlorobenzene	0.200	U	25.0	25.15		ug/L		101	70 - 130	1	20
Dichlorobromomethane	0.175	U	25.0	24.19		ug/L		97	70 - 130	2	20
Dichlorodifluoromethane	0.429	U	25.0	5.190		ug/L		21	14 - 198	11	20
1,1-Dichloroethane	0.168	U	25.0	25.42		ug/L		102	70 - 130	0	20
1,2-Dichloroethane	0.172	U	25.0	25.45		ug/L		102	65 - 130	0	20
1,1-Dichloroethene	0.300	U	25.0	25.03		ug/L		100	67 - 143	2	20
1,2-Dichloropropane	0.173	U	25.0	25.68		ug/L		103	70 - 130	0	20
1,3-Dichloropropane	0.146	U	25.0	25.52		ug/L		102	70 - 130	1	20
2,2-Dichloropropane	0.335	U	25.0	23.84		ug/L		95	65 - 150	5	20
1,1-Dichloropropene	0.185	U	25.0	26.64		ug/L		107	70 - 130	2	20
1,4-Dioxane	15.9	U F2	500	668.2	F2	ug/L		134	20 - 152	31	20
EDB	0.175	U	25.0	24.48		ug/L		98	70 - 130	4	20
Ethyl acetate	1.00	U	50.0	46.56		ug/L		93	53 - 144	9	20
Ethylbenzene	0.200	U	25.0	24.88		ug/L		100	70 - 130	1	20
Ethylene oxide	30.0	U F1	100	173.7		ug/L		174	12 - 185	14	20
Ethyl ether	0.320	U	25.0	25.17		ug/L		101	67 - 130	1	20
Ethyl methacrylate	0.500	U	25.0	23.22		ug/L		93	65 - 130	2	20
Hexachlorobutadiene	0.860	U	25.0	32.20		ug/L		129	52 - 143	1	20
Hexane	2.00	U	25.0	25.57		ug/L		102	51 - 159	2	20
2-Hexanone	0.500	U	25.0	22.57		ug/L		90	56 - 130	2	20
Iodomethane	0.223	U	25.0	22.18		ug/L		89	70 - 162	1	20
Isobutyl alcohol	5.00	U	625	568.7		ug/L		91	36 - 130	20	20
Isooctane	0.500	U	25.0	31.10		ug/L		124	52 - 150	2	20
Isopropylbenzene	0.200	U	25.0	26.26		ug/L		105	70 - 130	1	20
4-Isopropyltoluene	0.150	U	25.0	29.06		ug/L		116	69 - 130	0	20
Methacrylonitrile	2.00	U	250	260.7		ug/L		104	61 - 130	0	20
Methylene Chloride	2.00	U	25.0	23.49		ug/L		94	70 - 130	1	20
Methyl methacrylate	0.200	U	50.0	45.01		ug/L		90	63 - 130	2	20
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	25.94		ug/L		104	54 - 130	2	20
Methyl tert-butyl ether	0.200	U	25.0	23.82		ug/L		95	63 - 134	1	20
m-Xylene & p-Xylene	0.260	U	25.0	24.74		ug/L		99	67 - 130	1	20
Naphthalene	0.200	U	25.0	27.55		ug/L		110	62 - 145	5	20
n-Butylbenzene	0.200	U	25.0	29.96		ug/L		120	67 - 130	2	20
n-Heptane	0.300	U	25.0	31.36		ug/L		125	55 - 150	5	20
2-Nitropropane	1.00	U	50.0	32.70		ug/L		65	22 - 173	4	20
N-Propylbenzene	0.106	U	25.0	26.83		ug/L		107	70 - 130	1	20

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 126984

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Octene	0.440	U	25.0	30.32		ug/L		121	63 - 134	2	
o-Xylene	0.200	U	25.0	24.86		ug/L		99	70 - 130	1	20
Pentachloroethane	0.302	U	25.0	23.56		ug/L		94	60 - 130	4	20
Propionitrile	2.69	U	250	260.9		ug/L		104	39 - 130	5	20
sec-Butylbenzene	0.300	U	25.0	28.96		ug/L		116	67 - 130	0	20
Styrene	0.200	U	25.0	23.72		ug/L		95	28 - 150	2	20
tert-Butylbenzene	0.200	U	25.0	27.48		ug/L		110	70 - 130	2	20
1,1,1,2-Tetrachloroethane	0.209	U	25.0	24.59		ug/L		98	70 - 130	2	20
1,1,2,2-Tetrachloroethane	0.190	U	25.0	25.25		ug/L		101	66 - 130	1	20
Tetrachloroethene	0.189	U	25.0	25.06		ug/L		100	69 - 130	3	20
Toluene	0.495	U	25.0	25.38		ug/L		102	70 - 130	1	20
trans-1,4-Dichloro-2-butene	0.500	U	25.0	18.75		ug/L		75	35 - 130	1	20
trans-1,2-Dichloroethene	0.200	U	25.0	26.44		ug/L		106	57 - 148	1	20
trans-1,3-Dichloropropene	0.200	U	25.0	24.00		ug/L		96	44 - 139	2	20
1,2,3-Trichlorobenzene	0.217	U	25.0	29.84		ug/L		119	60 - 130	5	20
1,2,4-Trichlorobenzene	0.168	U	25.0	28.90		ug/L		116	60 - 142	1	20
1,3,5-Trichlorobenzene	0.203	U	25.0	29.75		ug/L		119	66 - 135	1	20
1,1,1-Trichloroethane	0.300	U	25.0	23.62		ug/L		94	70 - 133	3	20
1,1,2-Trichloroethane	0.173	U	25.0	25.72		ug/L		103	70 - 130	1	20
Trichloroethene	0.317	U	25.0	25.91		ug/L		104	70 - 130	1	20
Trichlorofluoromethane	0.244	U	25.0	22.36		ug/L		89	64 - 149	1	20
1,2,3-Trichloropropane	0.191	U	25.0	22.59		ug/L		90	70 - 130	2	20
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	24.23		ug/L		97	47 - 152	1	20
1,2,4-Trimethylbenzene	0.200	U	25.0	26.61		ug/L		106	70 - 130	0	20
1,3,5-Trimethylbenzene	0.200	U	25.0	26.96		ug/L		108	70 - 130	1	20
Vinyl acetate	0.500	U	50.0	52.12		ug/L		104	36 - 171	0	20
Vinyl chloride	0.300	U	25.0	19.26		ug/L		77	49 - 158	5	20
Xylenes, Total	0.226	U	50.0	49.60		ug/L		99	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	100		69 - 130
1,2-Dichloroethane-d4 (Surr)	103		70 - 140
Toluene-d8 (Surr)	102		70 - 130

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-126979/1-A

Matrix: Water

Analysis Batch: 126982

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126979

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		04/14/16 17:16	04/15/16 09:45	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		04/14/16 17:16	04/15/16 09:45	1
Anthracene	0.700	U	10.0	0.700	ug/L		04/14/16 17:16	04/15/16 09:45	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		04/14/16 17:16	04/15/16 09:45	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		04/14/16 17:16	04/15/16 09:45	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-126979/1-A

Matrix: Water

Analysis Batch: 126982

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126979

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		04/14/16 17:16	04/15/16 09:45	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		04/14/16 17:16	04/15/16 09:45	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		04/14/16 17:16	04/15/16 09:45	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		04/14/16 17:16	04/15/16 09:45	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		04/14/16 17:16	04/15/16 09:45	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		04/14/16 17:16	04/15/16 09:45	1
Bis(2-ethylhexyl) phthalate	16.25	J	20.0	5.00	ug/L		04/14/16 17:16	04/15/16 09:45	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		04/14/16 17:16	04/15/16 09:45	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		04/14/16 17:16	04/15/16 09:45	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 09:45	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		04/14/16 17:16	04/15/16 09:45	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		04/14/16 17:16	04/15/16 09:45	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		04/14/16 17:16	04/15/16 09:45	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		04/14/16 17:16	04/15/16 09:45	1
Chrysene	0.494	U	10.0	0.494	ug/L		04/14/16 17:16	04/15/16 09:45	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		04/14/16 17:16	04/15/16 09:45	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		04/14/16 17:16	04/15/16 09:45	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		04/14/16 17:16	04/15/16 09:45	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		04/14/16 17:16	04/15/16 09:45	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		04/14/16 17:16	04/15/16 09:45	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 09:45	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		04/14/16 17:16	04/15/16 09:45	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		04/14/16 17:16	04/15/16 09:45	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		04/14/16 17:16	04/15/16 09:45	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 09:45	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		04/14/16 17:16	04/15/16 09:45	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		04/14/16 17:16	04/15/16 09:45	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		04/14/16 17:16	04/15/16 09:45	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		04/14/16 17:16	04/15/16 09:45	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		04/14/16 17:16	04/15/16 09:45	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		04/14/16 17:16	04/15/16 09:45	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		04/14/16 17:16	04/15/16 09:45	1
Fluorene	0.421	U	10.0	0.421	ug/L		04/14/16 17:16	04/15/16 09:45	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		04/14/16 17:16	04/15/16 09:45	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		04/14/16 17:16	04/15/16 09:45	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		04/14/16 17:16	04/15/16 09:45	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		04/14/16 17:16	04/15/16 09:45	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		04/14/16 17:16	04/15/16 09:45	1
Isophorone	0.549	U	10.0	0.549	ug/L		04/14/16 17:16	04/15/16 09:45	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		04/14/16 17:16	04/15/16 09:45	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		04/14/16 17:16	04/15/16 09:45	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		04/14/16 17:16	04/15/16 09:45	1
Naphthalene	0.787	U	10.0	0.787	ug/L		04/14/16 17:16	04/15/16 09:45	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		04/14/16 17:16	04/15/16 09:45	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		04/14/16 17:16	04/15/16 09:45	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		04/14/16 17:16	04/15/16 09:45	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		04/14/16 17:16	04/15/16 09:45	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		04/14/16 17:16	04/15/16 09:45	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-126979/1-A

Matrix: Water

Analysis Batch: 126982

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126979

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		04/14/16 17:16	04/15/16 09:45	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		04/14/16 17:16	04/15/16 09:45	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		04/14/16 17:16	04/15/16 09:45	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		04/14/16 17:16	04/15/16 09:45	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		04/14/16 17:16	04/15/16 09:45	1
Phenol	0.768	U	10.0	0.768	ug/L		04/14/16 17:16	04/15/16 09:45	1
Pyrene	0.440	U	10.0	0.440	ug/L		04/14/16 17:16	04/15/16 09:45	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		04/14/16 17:16	04/15/16 09:45	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		04/14/16 17:16	04/15/16 09:45	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		04/14/16 17:16	04/15/16 09:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	77		23 - 130	04/14/16 17:16	04/15/16 09:45	1
2-Fluorophenol	75		10 - 130	04/14/16 17:16	04/15/16 09:45	1
Nitrobenzene-d5	75		27 - 130	04/14/16 17:16	04/15/16 09:45	1
Phenol-d5	79		10 - 130	04/14/16 17:16	04/15/16 09:45	1
Terphenyl-d14	86		10 - 141	04/14/16 17:16	04/15/16 09:45	1
2,4,6-Tribromophenol	77		18 - 130	04/14/16 17:16	04/15/16 09:45	1

Lab Sample ID: LCS 560-126979/2-A

Matrix: Water

Analysis Batch: 126982

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126979

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	200	184.8		ug/L		92	54 - 130
Acenaphthylene	200	170.5		ug/L		85	54 - 130
Anthracene	200	201.4		ug/L		101	67 - 130
Benzo[a]anthracene	200	194.2		ug/L		97	70 - 130
Benzo[a]pyrene	200	193.1		ug/L		97	70 - 130
Benzo[b]fluoranthene	200	190.5		ug/L		95	69 - 130
Benzo[g,h,i]perylene	200	205.2		ug/L		103	62 - 130
Benzo[k]fluoranthene	200	196.9		ug/L		98	68 - 130
Benzyl alcohol	200	135.4		ug/L		68	52 - 130
Bis(2-chloroethoxy)methane	200	174.9		ug/L		87	55 - 130
Bis(2-chloroethyl)ether	200	162.8		ug/L		81	52 - 130
Bis(2-ethylhexyl) phthalate	200	201.9		ug/L		101	68 - 130
4-Bromophenyl phenyl ether	200	195.0		ug/L		98	69 - 130
Butyl benzyl phthalate	200	202.1		ug/L		101	68 - 130
4-Chloroaniline	200	128.9		ug/L		64	30 - 130
4-Chloro-3-methylphenol	200	183.9		ug/L		92	52 - 130
2-Chloronaphthalene	200	170.8		ug/L		85	51 - 130
2-Chlorophenol	200	161.6		ug/L		81	51 - 130
4-Chlorophenyl phenyl ether	200	183.3		ug/L		92	59 - 130
Chrysene	200	196.2		ug/L		98	70 - 130
Dibenz(a,h)anthracene	200	198.8		ug/L		99	65 - 130
Dibenzofuran	200	178.9		ug/L		89	53 - 130
1,2-Dichlorobenzene	200	139.7		ug/L		70	43 - 130
1,3-Dichlorobenzene	200	131.4		ug/L		66	40 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-126979/2-A

Matrix: Water

Analysis Batch: 126982

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126979

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	200	135.3		ug/L		68	42 - 130
3,3'-Dichlorobenzidine	200	188.6		ug/L		94	61 - 130
2,4-Dichlorophenol	200	178.0		ug/L		89	51 - 130
Diethyl phthalate	200	189.5		ug/L		95	59 - 130
2,4-Dimethylphenol	200	169.9		ug/L		85	51 - 130
Dimethyl phthalate	200	185.7		ug/L		93	63 - 130
Di-n-butyl phthalate	200	198.3		ug/L		99	67 - 130
4,6-Dinitro-2-methylphenol	400	371.2		ug/L		93	63 - 130
2,4-Dinitrophenol	400	345.1		ug/L		86	47 - 130
2,4-Dinitrotoluene	200	190.0		ug/L		95	67 - 130
2,6-Dinitrotoluene	200	188.7		ug/L		94	64 - 130
Di-n-octyl phthalate	200	188.0		ug/L		94	70 - 130
Fluoranthene	200	200.3		ug/L		100	65 - 130
Fluorene	200	189.5		ug/L		95	59 - 130
Hexachlorobenzene	200	191.2		ug/L		96	67 - 130
Hexachlorobutadiene	200	140.3		ug/L		70	44 - 130
Hexachlorocyclopentadiene	200	105.4		ug/L		53	10 - 130
Hexachloroethane	200	128.5		ug/L		64	38 - 130
Indeno[1,2,3-cd]pyrene	200	195.8		ug/L		98	66 - 130
Isophorone	200	179.4		ug/L		90	55 - 130
2-Methylnaphthalene	200	163.1		ug/L		82	54 - 130
2-Methylphenol	200	173.6		ug/L		87	47 - 130
3 & 4 Methylphenol	200	179.4		ug/L		90	41 - 130
Naphthalene	200	161.3		ug/L		81	51 - 130
2-Nitroaniline	200	186.2		ug/L		93	60 - 130
3-Nitroaniline	200	180.5		ug/L		90	57 - 130
4-Nitroaniline	200	187.9		ug/L		94	55 - 130
Nitrobenzene	200	169.1		ug/L		85	54 - 130
2-Nitrophenol	200	169.3		ug/L		85	54 - 130
4-Nitrophenol	400	366.2		ug/L		92	34 - 138
N-Nitrosodi-n-propylamine	200	183.5		ug/L		92	45 - 130
N-Nitrosodiphenylamine	200	186.3		ug/L		93	51 - 130
Pentachlorophenol	400	332.1		ug/L		83	55 - 130
Phenanthrene	200	193.5		ug/L		97	67 - 130
Phenol	200	161.0		ug/L		80	47 - 130
Pyrene	200	199.7		ug/L		100	66 - 130
1,2,4-Trichlorobenzene	200	149.4		ug/L		75	49 - 130
2,4,5-Trichlorophenol	200	176.4		ug/L		88	55 - 130
2,4,6-Trichlorophenol	200	172.7		ug/L		86	53 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	74		23 - 130
2-Fluorophenol	67		10 - 130
Nitrobenzene-d5	75		27 - 130
Phenol-d5	75		10 - 130
Terphenyl-d14	89		10 - 141
2,4,6-Tribromophenol	85		18 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 126982

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 126979

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	0.460	U	200	168.3		ug/L		84	54 - 130
Acenaphthylene	0.452	U	200	157.0		ug/L		79	54 - 130
Anthracene	0.700	U	200	167.7		ug/L		84	67 - 130
Benzo[a]anthracene	0.646	U	200	163.9		ug/L		82	70 - 130
Benzo[a]pyrene	0.742	U	200	165.4		ug/L		83	70 - 130
Benzo[b]fluoranthene	0.908	U	200	165.2		ug/L		83	69 - 130
Benzo[g,h,i]perylene	1.10	U	200	185.9		ug/L		93	62 - 130
Benzo[k]fluoranthene	1.49	U	200	168.8		ug/L		84	68 - 130
Benzyl alcohol	0.827	U	200	129.5		ug/L		65	52 - 130
Bis(2-chloroethoxy)methane	0.436	U	200	164.4		ug/L		82	55 - 130
Bis(2-chloroethyl)ether	1.55	U	200	168.1		ug/L		84	52 - 130
Bis(2-ethylhexyl) phthalate	5.00	U	200	171.6		ug/L		86	68 - 130
4-Bromophenyl phenyl ether	0.811	U	200	162.8		ug/L		81	69 - 130
Butyl benzyl phthalate	0.816	U	200	170.2		ug/L		85	68 - 130
4-Chloroaniline	0.549	U F2	200	84.55		ug/L		42	30 - 130
4-Chloro-3-methylphenol	0.586	U	200	167.2		ug/L		84	52 - 130
2-Chloronaphthalene	0.603	U	200	162.0		ug/L		81	51 - 130
2-Chlorophenol	0.729	U	200	166.4		ug/L		83	51 - 130
4-Chlorophenyl phenyl ether	0.529	U	200	161.6		ug/L		81	59 - 130
Chrysene	0.494	U	200	165.8		ug/L		83	70 - 130
Dibenz(a,h)anthracene	0.874	U	200	178.3		ug/L		89	65 - 130
Dibenzofuran	0.485	U	200	165.2		ug/L		83	53 - 130
1,2-Dichlorobenzene	0.775	U	200	149.0		ug/L		75	43 - 130
1,3-Dichlorobenzene	0.491	U	200	142.4		ug/L		71	40 - 130
1,4-Dichlorobenzene	0.815	U	200	146.1		ug/L		73	42 - 130
3,3'-Dichlorobenzidine	0.787	U F1	200	77.53	F1	ug/L		39	61 - 130
2,4-Dichlorophenol	0.704	U	200	169.8		ug/L		85	51 - 130
Diethyl phthalate	0.666	U	200	170.4		ug/L		85	59 - 130
2,4-Dimethylphenol	0.593	U	200	157.3		ug/L		79	51 - 130
Dimethyl phthalate	0.589	U	200	167.9		ug/L		84	63 - 130
Di-n-butyl phthalate	0.709	U	200	164.2		ug/L		82	67 - 130
4,6-Dinitro-2-methylphenol	0.959	U	400	346.7		ug/L		87	63 - 130
2,4-Dinitrophenol	2.69	U	400	324.4		ug/L		81	47 - 130
2,4-Dinitrotoluene	0.509	U	200	173.3		ug/L		87	67 - 130
2,6-Dinitrotoluene	0.762	U	200	170.0		ug/L		85	64 - 130
Di-n-octyl phthalate	1.11	U	200	164.0		ug/L		82	70 - 130
Fluoranthene	0.496	U	200	168.0		ug/L		84	65 - 130
Fluorene	0.421	U	200	169.9		ug/L		85	59 - 130
Hexachlorobenzene	0.602	U	200	159.6		ug/L		80	67 - 130
Hexachlorobutadiene	0.716	U	200	138.4		ug/L		69	44 - 130
Hexachlorocyclopentadiene	0.839	U	200	103.0		ug/L		52	10 - 130
Hexachloroethane	0.589	U	200	137.7		ug/L		69	38 - 130
Indeno[1,2,3-cd]pyrene	0.922	U	200	175.9		ug/L		88	66 - 130
Isophorone	0.549	U	200	161.8		ug/L		81	55 - 130
2-Methylnaphthalene	0.702	U	200	157.8		ug/L		79	54 - 130
2-Methylphenol	0.610	U	200	172.9		ug/L		86	47 - 130
3 & 4 Methylphenol	0.763	U	200	177.2		ug/L		89	41 - 130
Naphthalene	0.787	U	200	162.3		ug/L		81	51 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 126982

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 126979

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitroaniline	0.766	U	200	150.8		ug/L		75	60 - 130
3-Nitroaniline	0.512	U	200	157.3		ug/L		79	57 - 130
4-Nitroaniline	0.819	U	200	156.7		ug/L		78	55 - 130
Nitrobenzene	0.587	U	200	178.9		ug/L		89	54 - 130
2-Nitrophenol	0.808	U	200	170.3		ug/L		85	54 - 130
4-Nitrophenol	1.73	U	400	339.2		ug/L		85	34 - 138
N-Nitrosodi-n-propylamine	0.620	U	200	174.1		ug/L		87	45 - 130
N-Nitrosodiphenylamine	1.03	U	200	158.8		ug/L		79	51 - 130
Pentachlorophenol	1.32	U	400	303.6		ug/L		76	55 - 130
Phenanthrene	0.591	U	200	167.6		ug/L		84	67 - 130
Phenol	0.768	U	200	160.1		ug/L		80	47 - 130
Pyrene	0.440	U	200	167.8		ug/L		84	66 - 130
1,2,4-Trichlorobenzene	0.647	U	200	153.7		ug/L		77	49 - 130
2,4,5-Trichlorophenol	0.861	U	200	161.2		ug/L		81	55 - 130
2,4,6-Trichlorophenol	0.658	U	200	163.5		ug/L		82	53 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	70		23 - 130
2-Fluorophenol	69		10 - 130
Nitrobenzene-d5	72		27 - 130
Phenol-d5	72		10 - 130
Terphenyl-d14	46		10 - 141
2,4,6-Tribromophenol	74		18 - 130

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 126982

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 126979

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acenaphthene	0.460	U	200	162.3		ug/L		81	54 - 130	4	30
Acenaphthylene	0.452	U	200	147.9		ug/L		74	54 - 130	6	30
Anthracene	0.700	U	200	164.3		ug/L		82	67 - 130	2	30
Benzo[a]anthracene	0.646	U	200	163.1		ug/L		82	70 - 130	1	30
Benzo[a]pyrene	0.742	U	200	163.4		ug/L		82	70 - 130	1	30
Benzo[b]fluoranthene	0.908	U	200	165.0		ug/L		83	69 - 130	0	30
Benzo[g,h,i]perylene	1.10	U	200	184.3		ug/L		92	62 - 130	1	30
Benzo[k]fluoranthene	1.49	U	200	166.9		ug/L		83	68 - 130	1	30
Benzyl alcohol	0.827	U	200	130.2		ug/L		65	52 - 130	1	30
Bis(2-chloroethoxy)methane	0.436	U	200	162.7		ug/L		81	55 - 130	1	30
Bis(2-chloroethyl)ether	1.55	U	200	161.1		ug/L		81	52 - 130	4	30
Bis(2-ethylhexyl) phthalate	5.00	U	200	170.2		ug/L		85	68 - 130	1	30
4-Bromophenyl phenyl ether	0.811	U	200	158.9		ug/L		79	69 - 130	2	30
Butyl benzyl phthalate	0.816	U	200	170.1		ug/L		85	68 - 130	0	30
4-Chloroaniline	0.549	U F2	200	136.1	F2	ug/L		68	30 - 130	47	30
4-Chloro-3-methylphenol	0.586	U	200	169.1		ug/L		85	52 - 130	1	30
2-Chloronaphthalene	0.603	U	200	152.3		ug/L		76	51 - 130	6	30
2-Chlorophenol	0.729	U	200	161.4		ug/L		81	51 - 130	3	30
4-Chlorophenyl phenyl ether	0.529	U	200	151.1		ug/L		76	59 - 130	7	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 126982

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 126979

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chrysene	0.494	U	200	163.3		ug/L		82	70 - 130	2	30
Dibenz(a,h)anthracene	0.874	U	200	175.8		ug/L		88	65 - 130	1	30
Dibenzofuran	0.485	U	200	152.3		ug/L		76	53 - 130	8	30
1,2-Dichlorobenzene	0.775	U	200	137.0		ug/L		68	43 - 130	8	30
1,3-Dichlorobenzene	0.491	U	200	132.0		ug/L		66	40 - 130	8	30
1,4-Dichlorobenzene	0.815	U	200	134.0		ug/L		67	42 - 130	9	30
3,3'-Dichlorobenzidine	0.787	U F1	200	82.66	F1	ug/L		41	61 - 130	6	30
2,4-Dichlorophenol	0.704	U	200	163.9		ug/L		82	51 - 130	4	30
Diethyl phthalate	0.666	U	200	172.8		ug/L		86	59 - 130	1	30
2,4-Dimethylphenol	0.593	U	200	161.6		ug/L		81	51 - 130	3	30
Dimethyl phthalate	0.589	U	200	169.2		ug/L		85	63 - 130	1	30
Di-n-butyl phthalate	0.709	U	200	164.5		ug/L		82	67 - 130	0	30
4,6-Dinitro-2-methylphenol	0.959	U	400	352.8		ug/L		88	63 - 130	2	30
2,4-Dinitrophenol	2.69	U	400	329.9		ug/L		82	47 - 130	2	30
2,4-Dinitrotoluene	0.509	U	200	174.6		ug/L		87	67 - 130	1	30
2,6-Dinitrotoluene	0.762	U	200	171.3		ug/L		86	64 - 130	1	30
Di-n-octyl phthalate	1.11	U	200	162.7		ug/L		81	70 - 130	1	30
Fluoranthene	0.496	U	200	167.4		ug/L		84	65 - 130	0	30
Fluorene	0.421	U	200	162.2		ug/L		81	59 - 130	5	30
Hexachlorobenzene	0.602	U	200	156.7		ug/L		78	67 - 130	2	30
Hexachlorobutadiene	0.716	U	200	127.6		ug/L		64	44 - 130	8	30
Hexachlorocyclopentadiene	0.839	U	200	92.87		ug/L		46	10 - 130	10	30
Hexachloroethane	0.589	U	200	128.8		ug/L		64	38 - 130	7	30
Indeno[1,2,3-cd]pyrene	0.922	U	200	174.1		ug/L		87	66 - 130	1	30
Isophorone	0.549	U	200	161.5		ug/L		81	55 - 130	0	30
2-Methylnaphthalene	0.702	U	200	150.6		ug/L		75	54 - 130	5	30
2-Methylphenol	0.610	U	200	173.3		ug/L		87	47 - 130	0	30
3 & 4 Methylphenol	0.763	U	200	170.7		ug/L		85	41 - 130	4	30
Naphthalene	0.787	U	200	154.8		ug/L		77	51 - 130	5	30
2-Nitroaniline	0.766	U	200	150.7		ug/L		75	60 - 130	0	35
3-Nitroaniline	0.512	U	200	159.9		ug/L		80	57 - 130	2	30
4-Nitroaniline	0.819	U	200	158.2		ug/L		79	55 - 130	1	30
Nitrobenzene	0.587	U	200	171.9		ug/L		86	54 - 130	4	30
2-Nitrophenol	0.808	U	200	164.8		ug/L		82	54 - 130	3	30
4-Nitrophenol	1.73	U	400	355.4		ug/L		89	34 - 138	5	30
N-Nitrosodi-n-propylamine	0.620	U	200	166.4		ug/L		83	45 - 130	5	30
N-Nitrosodiphenylamine	1.03	U	200	156.4		ug/L		78	51 - 130	2	30
Pentachlorophenol	1.32	U	400	304.5		ug/L		76	55 - 130	0	30
Phenanthrene	0.591	U	200	163.3		ug/L		82	67 - 130	3	30
Phenol	0.768	U	200	158.8		ug/L		79	47 - 130	1	30
Pyrene	0.440	U	200	164.8		ug/L		82	66 - 130	2	30
1,2,4-Trichlorobenzene	0.647	U	200	143.5		ug/L		72	49 - 130	7	30
2,4,5-Trichlorophenol	0.861	U	200	161.0		ug/L		80	55 - 130	0	30
2,4,6-Trichlorophenol	0.658	U	200	155.9		ug/L		78	53 - 130	5	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	69		23 - 130
2-Fluorophenol	70		10 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 126982

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 126979

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Nitrobenzene-d5	74		27 - 130
Phenol-d5	76		10 - 130
Terphenyl-d14	58		10 - 141
2,4,6-Tribromophenol	80		18 - 130

## Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 560-126985/1-A

Matrix: Water

Analysis Batch: 126993

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126985

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 13:13	1
alpha-BHC	0.00499	U	0.0575	0.00499	ug/L		04/15/16 08:31	04/15/16 13:13	1
alpha-Chlordane	0.00604	U	0.0575	0.00604	ug/L		04/15/16 08:31	04/15/16 13:13	1
beta-BHC	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 13:13	1
4,4'-DDD	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 13:13	1
4,4'-DDE	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 13:13	1
4,4'-DDT	0.00777	U	0.0575	0.00777	ug/L		04/15/16 08:31	04/15/16 13:13	1
delta-BHC	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 13:13	1
Dieldrin	0.0125	U	0.0575	0.0125	ug/L		04/15/16 08:31	04/15/16 13:13	1
Endosulfan I	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 13:13	1
Endosulfan II	0.00825	U	0.0575	0.00825	ug/L		04/15/16 08:31	04/15/16 13:13	1
Endosulfan sulfate	0.00844	U	0.0575	0.00844	ug/L		04/15/16 08:31	04/15/16 13:13	1
Endrin	0.00738	U	0.0575	0.00738	ug/L		04/15/16 08:31	04/15/16 13:13	1
Endrin aldehyde	0.00479	U	0.0575	0.00479	ug/L		04/15/16 08:31	04/15/16 13:13	1
Endrin ketone	0.00786	U	0.0575	0.00786	ug/L		04/15/16 08:31	04/15/16 13:13	1
gamma-BHC (Lindane)	0.00432	U	0.0575	0.00432	ug/L		04/15/16 08:31	04/15/16 13:13	1
gamma-Chlordane	0.00642	U	0.0575	0.00642	ug/L		04/15/16 08:31	04/15/16 13:13	1
Heptachlor	0.00623	U	0.0575	0.00623	ug/L		04/15/16 08:31	04/15/16 13:13	1
Heptachlor epoxide	0.00499	U	0.0575	0.00499	ug/L		04/15/16 08:31	04/15/16 13:13	1
Methoxychlor	0.00959	U	0.0575	0.00959	ug/L		04/15/16 08:31	04/15/16 13:13	1
Toxaphene	0.652	U	5.75	0.652	ug/L		04/15/16 08:31	04/15/16 13:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	54		10 - 152	04/15/16 08:31	04/15/16 13:13	1
DCB Decachlorobiphenyl	70		10 - 152	04/15/16 08:31	04/15/16 13:13	1
Tetrachloro-m-xylene	80		57 - 127	04/15/16 08:31	04/15/16 13:13	1
Tetrachloro-m-xylene	69		57 - 127	04/15/16 08:31	04/15/16 13:13	1

Lab Sample ID: LCS 560-126985/3-A

Matrix: Water

Analysis Batch: 126993

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126985

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.542	0.4354		ug/L		80	54 - 130
alpha-BHC	0.542	0.4728		ug/L		87	59 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 560-126985/3-A

Matrix: Water

Analysis Batch: 126993

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126985

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
alpha-Chlordane	0.542	0.3599		ug/L		66	51 - 130
beta-BHC	0.542	0.4420		ug/L		82	56 - 130
4,4'-DDD	0.542	0.4242		ug/L		78	56 - 130
4,4'-DDE	0.542	0.4148		ug/L		77	53 - 130
4,4'-DDT	0.542	0.4148		ug/L		77	50 - 130
delta-BHC	0.542	0.4567		ug/L		84	56 - 130
Dieldrin	0.542	0.4359		ug/L		80	58 - 130
Endosulfan I	0.542	0.4320		ug/L		80	39 - 130
Endosulfan II	0.542	0.3866		ug/L		71	44 - 130
Endosulfan sulfate	0.542	0.3627		ug/L		67	52 - 130
Endrin	0.542	0.4259		ug/L		79	62 - 130
Endrin aldehyde	0.542	0.3933		ug/L		73	52 - 130
Endrin ketone	0.542	0.3967		ug/L		73	48 - 130
gamma-BHC (Lindane)	0.542	0.4678		ug/L		86	56 - 130
gamma-Chlordane	0.542	0.4339		ug/L		80	52 - 130
Heptachlor	0.542	0.4474		ug/L		83	57 - 130
Heptachlor epoxide	0.542	0.3901		ug/L		72	53 - 130
Methoxychlor	0.542	0.4203		ug/L		78	57 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	48		10 - 152
DCB Decachlorobiphenyl	65		10 - 152
Tetrachloro-m-xylene	84		57 - 127
Tetrachloro-m-xylene	74		57 - 127

Lab Sample ID: LCS 560-126985/5-A

Matrix: Water

Analysis Batch: 126993

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126985

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toxaphene	11.0	9.373		ug/L		85	51 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	53		10 - 152
Tetrachloro-m-xylene	77		57 - 127

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 126993

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 126985

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.00473	U F1	0.538	0.3144		ug/L		58	54 - 130
alpha-BHC	0.00492	U	0.538	0.4476		ug/L		83	59 - 130
alpha-Chlordane	0.00596	U	0.538	0.3175		ug/L		59	51 - 130
beta-BHC	0.00473	U	0.538	0.4150		ug/L		77	56 - 130
4,4'-DDD	0.00473	U	0.538	0.3530		ug/L		66	56 - 130
4,4'-DDE	0.00473	U F1 F2	0.538	0.2712	F1	ug/L		50	53 - 130
4,4'-DDT	0.00766	U F2	0.538	0.2888		ug/L		54	50 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 126993

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 126985

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
delta-BHC	0.00473	U	0.538	0.4379		ug/L		81	56 - 130
Dieldrin	0.0123	U	0.538	0.3875		ug/L		72	58 - 130
Endosulfan I	0.00473	U	0.538	0.3536		ug/L		66	39 - 130
Endosulfan II	0.00814	U	0.538	0.3473		ug/L		65	44 - 130
Endosulfan sulfate	0.00832	U	0.538	0.3527		ug/L		66	52 - 130
Endrin	0.00728	U	0.538	0.3835		ug/L		71	62 - 130
Endrin aldehyde	0.00473	U	0.538	0.3492		ug/L		65	52 - 130
Endrin ketone	0.00776	U	0.538	0.3707		ug/L		69	48 - 130
gamma-BHC (Lindane)	0.00426	U	0.538	0.4408		ug/L		82	56 - 130
gamma-Chlordane	0.00634	U	0.538	0.3563		ug/L		66	52 - 130
Heptachlor	0.00615	U	0.538	0.3677		ug/L		68	57 - 130
Heptachlor epoxide	0.00492	U	0.538	0.3512		ug/L		65	53 - 130
Methoxychlor	0.00946	U	0.538	0.3810		ug/L		71	57 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl	27		10 - 152
DCB Decachlorobiphenyl	37		10 - 152
Tetrachloro-m-xylene	74		57 - 127
Tetrachloro-m-xylene	62		57 - 127

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 126993

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 126985

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aldrin	0.00473	U F1	0.549	0.4158		ug/L		76	54 - 130	28	30
alpha-BHC	0.00492	U	0.549	0.4696		ug/L		85	59 - 130	5	30
alpha-Chlordane	0.00596	U	0.549	0.3533		ug/L		64	51 - 130	11	30
beta-BHC	0.00473	U	0.549	0.4341		ug/L		79	56 - 130	4	30
4,4'-DDD	0.00473	U	0.549	0.4202		ug/L		76	56 - 130	17	30
4,4'-DDE	0.00473	U F1 F2	0.549	0.3946	F2	ug/L		72	53 - 130	37	30
4,4'-DDT	0.00766	U F2	0.549	0.3954	F2	ug/L		72	50 - 130	31	30
delta-BHC	0.00473	U	0.549	0.4612		ug/L		84	56 - 130	5	30
Dieldrin	0.0123	U	0.549	0.4298		ug/L		78	58 - 130	10	30
Endosulfan I	0.00473	U	0.549	0.4269		ug/L		78	39 - 130	19	30
Endosulfan II	0.00814	U	0.549	0.3782		ug/L		69	44 - 130	9	30
Endosulfan sulfate	0.00832	U	0.549	0.3522		ug/L		64	52 - 130	0	30
Endrin	0.00728	U	0.549	0.4222		ug/L		77	62 - 130	10	30
Endrin aldehyde	0.00473	U	0.549	0.3767		ug/L		69	52 - 130	8	30
Endrin ketone	0.00776	U	0.549	0.3882		ug/L		71	48 - 130	5	30
gamma-BHC (Lindane)	0.00426	U	0.549	0.4615		ug/L		84	56 - 130	5	30
gamma-Chlordane	0.00634	U	0.549	0.4191		ug/L		76	52 - 130	16	30
Heptachlor	0.00615	U	0.549	0.4415		ug/L		80	57 - 130	18	30
Heptachlor epoxide	0.00492	U	0.549	0.3917		ug/L		71	53 - 130	11	30
Methoxychlor	0.00946	U	0.549	0.4190		ug/L		76	57 - 130	12	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 126993

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 126985

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	45		10 - 152
DCB Decachlorobiphenyl	61		10 - 152
Tetrachloro-m-xylene	83		57 - 127
Tetrachloro-m-xylene	69		57 - 127

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 560-126985/1-A

Matrix: Water

Analysis Batch: 126995

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126985

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 14:51	1
Aroclor 1221	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 14:51	1
Aroclor 1232	0.422	U	0.767	0.422	ug/L		04/15/16 08:31	04/15/16 14:51	1
Aroclor 1242	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 14:51	1
Aroclor 1248	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 14:51	1
Aroclor 1254	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 14:51	1
Aroclor 1260	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 14:51	1
Aroclor 1262	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 14:51	1
Aroclor 1268	0.105	U	0.575	0.105	ug/L		04/15/16 08:31	04/15/16 14:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	128		10 - 150	04/15/16 08:31	04/15/16 14:51	1
DCB Decachlorobiphenyl	115		10 - 150	04/15/16 08:31	04/15/16 14:51	1

Lab Sample ID: LCS 560-126985/2-A

Matrix: Water

Analysis Batch: 126995

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126985

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor 1016	11.1	10.95		ug/L		99	50 - 135
Aroclor 1260	11.1	10.97		ug/L		99	50 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	101		10 - 150
DCB Decachlorobiphenyl	72		10 - 150

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 126995

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 126985

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aroclor 1016	0.104	U	10.9	10.84		ug/L		99	50 - 135
Aroclor 1260	0.104	U F2	10.9	7.953		ug/L		73	50 - 135

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 126995

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 126985

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	103		10 - 150
DCB Decachlorobiphenyl	60		10 - 150

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 126995

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 126985

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016	0.104	U	11.2	12.59		ug/L		113	50 - 135	15	30
Aroclor 1260	0.104	U F2	11.2	11.75	F2	ug/L		105	50 - 135	39	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	113		10 - 150
DCB Decachlorobiphenyl	85		10 - 150

## Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 280-321359/1-A

Matrix: Water

Analysis Batch: 321945

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 321359

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.168	U	2.50	0.168	ug/L		04/18/16 19:27	04/21/16 22:44	1
Bolstar	0.314	U	1.00	0.314	ug/L		04/18/16 19:27	04/21/16 22:44	1
Chlorpyrifos	0.360	U	1.50	0.360	ug/L		04/18/16 19:27	04/21/16 22:44	1
Coumaphos	0.135	U	1.00	0.135	ug/L		04/18/16 19:27	04/21/16 22:44	1
Demeton-O	0.140	U	1.00	0.140	ug/L		04/18/16 19:27	04/21/16 22:44	1
Demeton-S	0.0690	U	2.00	0.0690	ug/L		04/18/16 19:27	04/21/16 22:44	1
Diazinon	0.147	U	0.500	0.147	ug/L		04/18/16 19:27	04/21/16 22:44	1
Dichlorvos	0.162	U	0.500	0.162	ug/L		04/18/16 19:27	04/21/16 22:44	1
Dimethoate	0.449	U	1.50	0.449	ug/L		04/18/16 19:27	04/21/16 22:44	1
Disulfoton	0.322	U	1.00	0.322	ug/L		04/18/16 19:27	04/21/16 22:44	1
EPN	0.149	U	1.20	0.149	ug/L		04/18/16 19:27	04/21/16 22:44	1
Ethoprop	0.177	U	1.50	0.177	ug/L		04/18/16 19:27	04/21/16 22:44	1
Ethyl Parathion	0.144	U	1.00	0.144	ug/L		04/18/16 19:27	04/21/16 22:44	1
Famphur	0.179	U	1.00	0.179	ug/L		04/18/16 19:27	04/21/16 22:44	1
Fensulfothion	0.544	U	2.50	0.544	ug/L		04/18/16 19:27	04/21/16 22:44	1
Fenthion	0.154	U	2.50	0.154	ug/L		04/18/16 19:27	04/21/16 22:44	1
Malathion	0.133	U	2.00	0.133	ug/L		04/18/16 19:27	04/21/16 22:44	1
Merphos	0.174	U	5.00	0.174	ug/L		04/18/16 19:27	04/21/16 22:44	1
Methyl parathion	0.141	U	4.00	0.141	ug/L		04/18/16 19:27	04/21/16 22:44	1
Mevinphos	0.460	U	6.20	0.460	ug/L		04/18/16 19:27	04/21/16 22:44	1
Naled	0.800	U	2.00	0.800	ug/L		04/18/16 19:27	04/21/16 22:44	1
Phorate	0.154	U	1.20	0.154	ug/L		04/18/16 19:27	04/21/16 22:44	1
Ronnel	0.116	U	10.0	0.116	ug/L		04/18/16 19:27	04/21/16 22:44	1
Sulfotepp	0.168	U	1.50	0.168	ug/L		04/18/16 19:27	04/21/16 22:44	1
Tetrachlorvinphos (Stirophos)	0.124	U	3.50	0.124	ug/L		04/18/16 19:27	04/21/16 22:44	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: MB 280-321359/1-A

Matrix: Water

Analysis Batch: 321945

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 321359

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thionazin	0.312	U	1.00	0.312	ug/L		04/18/16 19:27	04/21/16 22:44	1
Tokuthion	0.123	U	1.60	0.123	ug/L		04/18/16 19:27	04/21/16 22:44	1
Trichloronate	0.242	U	1.50	0.242	ug/L		04/18/16 19:27	04/21/16 22:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	77		49 - 171	04/18/16 19:27	04/21/16 22:44	1
Triphenylphosphate	93		60 - 154	04/18/16 19:27	04/21/16 22:44	1

Lab Sample ID: LCS 280-321359/2-A

Matrix: Water

Analysis Batch: 321945

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 321359

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Azinphos-methyl	4.00	3.980		ug/L		100	35 - 130
Chlorpyrifos	4.00	3.324		ug/L		83	39 - 120
Coumaphos	4.00	4.234		ug/L		106	37 - 134
Diazinon	4.00	3.442		ug/L		86	35 - 120
Dichlorvos	4.00	3.953		ug/L		99	23 - 174
Dimethoate	4.00	3.340		ug/L		84	29 - 116
Disulfoton	4.00	2.856		ug/L		71	36 - 115
EPN	4.00	3.523		ug/L		88	46 - 121
Ethoprop	4.00	3.449		ug/L		86	39 - 129
Ethyl Parathion	4.00	3.401		ug/L		85	40 - 122
Famphur	4.00	3.860		ug/L		97	42 - 130
Fensulfothion	4.00	3.594		ug/L		90	29 - 134
Fenthion	4.00	3.380		ug/L		84	34 - 120
Malathion	4.00	3.088		ug/L		77	39 - 117
Merphos	4.00	1.917	J	ug/L		48	32 - 115
Methyl parathion	4.00	3.530	J	ug/L		88	42 - 130
Mevinphos	4.00	2.523	J	ug/L		63	22 - 115
Phorate	4.00	2.861		ug/L		72	22 - 115
Ronnel	4.00	3.702	J	ug/L		93	33 - 126
Sulfotepp	4.00	3.336		ug/L		83	33 - 117
Tetrachlorvinphos (Stirophos)	4.00	3.597		ug/L		90	39 - 120
Thionazin	4.00	3.290		ug/L		82	38 - 120
Trichloronate	4.00	3.319		ug/L		83	34 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Chlormefos	75		49 - 171
Triphenylphosphate	91		60 - 154

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 321945

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 321359

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Azinphos-methyl	0.174	U	3.90	3.955		ug/L		102	35 - 130
Chlorpyrifos	0.373	U	3.90	3.191		ug/L		82	39 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 321945

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 321359

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Coumaphos	0.140	U	3.90	4.204		ug/L		108	37 - 134
Diazinon	0.152	U	3.90	3.113		ug/L		80	35 - 120
Dichlorvos	0.168	U	3.90	4.087		ug/L		105	23 - 174
Dimethoate	0.466	U	3.90	3.461		ug/L		89	29 - 116
Disulfoton	0.334	U	3.90	3.008		ug/L		77	36 - 115
EPN	0.155	U	3.90	3.428		ug/L		88	46 - 121
Ethoprop	0.184	U	3.90	3.522		ug/L		90	39 - 129
Ethyl Parathion	0.149	U	3.90	3.358		ug/L		86	40 - 122
Famphur	0.186	U	3.90	3.744		ug/L		96	42 - 130
Fensulfothion	0.564	U	3.90	3.708		ug/L		95	29 - 134
Fenthion	0.160	U	3.90	3.491		ug/L		90	34 - 120
Malathion	0.138	U	3.90	2.980		ug/L		76	39 - 117
Merphos	0.180	U	3.90	1.936	J	ug/L		50	32 - 115
Methyl parathion	0.146	U	3.90	3.536	J	ug/L		91	42 - 130
Mevinphos	0.477	U	3.90	2.623	J	ug/L		67	22 - 115
Phorate	0.160	U	3.90	2.954		ug/L		76	22 - 115
Ronnel	0.120	U	3.90	3.670	J	ug/L		94	33 - 126
Sulfotepp	0.174	U	3.90	3.382		ug/L		87	33 - 117
Tetrachlorvinphos (Stirophos)	0.129	U	3.90	3.612		ug/L		93	39 - 120
Thionazin	0.324	U	3.90	3.349		ug/L		86	38 - 120
Trichloronate	0.251	U	3.90	3.137		ug/L		81	34 - 115

Surrogate	MS %Recovery	MS Qualifier	Limits
Chlormefos	77		49 - 171
Triphenylphosphate	95		60 - 154

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 321945

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 321359

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Azinphos-methyl	0.174	U	3.83	3.855		ug/L		101	35 - 130	3	50
Chlorpyrifos	0.373	U	3.83	3.071		ug/L		80	39 - 120	4	27
Coumaphos	0.140	U	3.83	4.057		ug/L		106	37 - 134	4	50
Diazinon	0.152	U	3.83	3.198		ug/L		84	35 - 120	3	37
Dichlorvos	0.168	U	3.83	3.381		ug/L		88	23 - 174	19	37
Dimethoate	0.466	U	3.83	3.394		ug/L		89	29 - 116	2	49
Disulfoton	0.334	U	3.83	2.709		ug/L		71	36 - 115	10	50
EPN	0.155	U	3.83	3.347		ug/L		87	46 - 121	2	26
Ethoprop	0.184	U	3.83	3.438		ug/L		90	39 - 129	2	27
Ethyl Parathion	0.149	U	3.83	3.195		ug/L		84	40 - 122	5	26
Famphur	0.186	U	3.83	3.743		ug/L		98	42 - 130	0	22
Fensulfothion	0.564	U	3.83	3.767		ug/L		98	29 - 134	2	47
Fenthion	0.160	U	3.83	3.244		ug/L		85	34 - 120	7	27
Malathion	0.138	U	3.83	2.900		ug/L		76	39 - 117	3	25
Merphos	0.180	U	3.83	1.944	J	ug/L		51	32 - 115	0	27
Methyl parathion	0.146	U	3.83	3.423	J	ug/L		89	42 - 130	3	30
Mevinphos	0.477	U	3.83	2.588	J	ug/L		68	22 - 115	1	34

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 321945

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Prep Batch: 321359

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phorate	0.160	U	3.83	2.767		ug/L		72	22 - 115	7	33
Ronnel	0.120	U	3.83	3.543	J	ug/L		93	33 - 126	4	25
Sulfotepp	0.174	U	3.83	3.319		ug/L		87	33 - 117	2	32
Tetrachlorvinphos (Stirophos)	0.129	U	3.83	3.521		ug/L		92	39 - 120	3	28
Thionazin	0.324	U	3.83	3.279		ug/L		86	38 - 120	2	25
Trichloronate	0.251	U	3.83	2.801		ug/L		73	34 - 115	11	28

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Chlormefos	68		49 - 171
Triphenylphosphate	95		60 - 154

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 680-429625/21-A

Matrix: Water

Analysis Batch: 429940

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 429625

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.100	U	5.00	0.100	ug/L		04/19/16 08:29	04/20/16 20:07	1
Dicamba	0.0850	U	0.500	0.0850	ug/L		04/19/16 08:29	04/20/16 20:07	1
Mecoprop	19.0	U	120	19.0	ug/L		04/19/16 08:29	04/20/16 20:07	1
MCPA	17.0	U	120	17.0	ug/L		04/19/16 08:29	04/20/16 20:07	1
Dichlorprop	0.150	U	0.500	0.150	ug/L		04/19/16 08:29	04/20/16 20:07	1
2,4-D	0.0370	U	0.500	0.0370	ug/L		04/19/16 08:29	04/20/16 20:07	1
Silvex (2,4,5-TP)	0.0620	U	0.250	0.0620	ug/L		04/19/16 08:29	04/20/16 20:07	1
2,4,5-T	0.0620	U	0.250	0.0620	ug/L		04/19/16 08:29	04/20/16 20:07	1
2,4-DB	0.150	U	0.500	0.150	ug/L		04/19/16 08:29	04/20/16 20:07	1
Dinoseb	0.160	U	1.00	0.160	ug/L		04/19/16 08:29	04/20/16 20:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	85		45 - 130	04/19/16 08:29	04/20/16 20:07	1

Lab Sample ID: LCS 680-429625/22-A

Matrix: Water

Analysis Batch: 429940

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 429625

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	2.00	1.255	J	ug/L		63	40 - 130
Dicamba	1.00	0.8130		ug/L		81	64 - 130
Mecoprop	200	181.3		ug/L		91	55 - 134
MCPA	200	158.8		ug/L		79	52 - 130
Dichlorprop	2.00	1.718		ug/L		86	52 - 130
2,4-D	2.00	1.594		ug/L		80	55 - 130
Silvex (2,4,5-TP)	0.500	0.4523		ug/L		90	60 - 130
2,4,5-T	0.500	0.4151		ug/L		83	58 - 130
2,4-DB	2.00	1.619		ug/L		81	60 - 147
Dinoseb	2.00	1.219		ug/L		61	14 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 680-429625/22-A  
Matrix: Water  
Analysis Batch: 429940

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 429625

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid	88		45 - 130

Lab Sample ID: 560-60893-17 MS  
Matrix: Water  
Analysis Batch: 429940

Client Sample ID: HCS210 TRAIL  
Prep Type: Total/NA  
Prep Batch: 429625

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	0.0956	U	1.97	1.221	J	ug/L		62	40 - 130
Dicamba	0.0813	U	0.983	1.105		ug/L		112	64 - 130
Mecoprop	18.2	U	197	181.8		ug/L		93	55 - 134
MCPA	16.3	U	197	166.3		ug/L		85	52 - 130
Dichlorprop	0.143	U	1.97	2.139		ug/L		109	52 - 130
2,4-D	0.0354	U	1.97	1.892		ug/L		96	55 - 130
Silvex (2,4,5-TP)	0.0593	U	0.491	0.4754		ug/L		97	60 - 130
2,4,5-T	0.0593	U	0.491	0.4931		ug/L		100	58 - 130
2,4-DB	0.143	U	1.97	2.008		ug/L		102	60 - 147
Dinoseb	0.153	U	1.97	1.887		ug/L		96	14 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4-Dichlorophenylacetic acid	98		45 - 130

Lab Sample ID: 560-60893-17 MSD  
Matrix: Water  
Analysis Batch: 429940

Client Sample ID: HCS210 TRAIL  
Prep Type: Total/NA  
Prep Batch: 429625

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dalapon	0.0956	U	1.85	1.293	J	ug/L		70	40 - 130	6	50
Dicamba	0.0813	U	0.924	0.9053		ug/L		98	64 - 130	20	50
Mecoprop	18.2	U	185	144.9		ug/L		78	55 - 134	23	50
MCPA	16.3	U	185	140.8		ug/L		76	52 - 130	17	50
Dichlorprop	0.143	U	1.85	2.006		ug/L		109	52 - 130	6	50
2,4-D	0.0354	U	1.85	1.659		ug/L		90	55 - 130	13	50
Silvex (2,4,5-TP)	0.0593	U	0.462	0.4387		ug/L		95	60 - 130	8	50
2,4,5-T	0.0593	U	0.462	0.4515		ug/L		98	58 - 130	9	50
2,4-DB	0.143	U	1.85	1.843		ug/L		100	60 - 147	9	50
Dinoseb	0.153	U	1.85	1.655		ug/L		90	14 - 130	13	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4-Dichlorophenylacetic acid	92		45 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 560-127043/1-A

Matrix: Water

Analysis Batch: 127157

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 127043

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.101	U	0.200	0.101	mg/L		04/18/16 08:20	04/20/16 15:16	1
Potassium	0.375	U	0.500	0.375	mg/L		04/18/16 08:20	04/20/16 15:16	1
Silicon	0.0707	U	0.500	0.0707	mg/L		04/18/16 08:20	04/20/16 15:16	1
Magnesium	0.0257	U	0.200	0.0257	mg/L		04/18/16 08:20	04/20/16 15:16	1
Sodium	0.310	U	1.00	0.310	mg/L		04/18/16 08:20	04/20/16 15:16	1
Strontium	0.000700	U	0.00500	0.000700	mg/L		04/18/16 08:20	04/20/16 15:16	1

Lab Sample ID: LCS 560-127043/2-A

Matrix: Water

Analysis Batch: 127157

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 127043

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	50.0	49.02		mg/L		98	80 - 120
Potassium	50.0	46.80		mg/L		94	80 - 120
Silicon	20.0	19.45		mg/L		97	80 - 120
Magnesium	50.0	49.28		mg/L		99	80 - 120
Sodium	50.0	49.71		mg/L		99	80 - 120
Strontium	0.500	0.4856		mg/L		97	80 - 120

Lab Sample ID: MB 560-127044/1-A

Matrix: Water

Analysis Batch: 127113

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 127044

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.101	U	0.200	0.101	mg/L		04/18/16 08:38	04/19/16 12:46	1
Potassium	0.375	U	0.500	0.375	mg/L		04/18/16 08:38	04/19/16 12:46	1
Silicon	0.0707	U	0.500	0.0707	mg/L		04/18/16 08:38	04/19/16 12:46	1
Magnesium	0.0257	U	0.200	0.0257	mg/L		04/18/16 08:38	04/19/16 12:46	1
Strontium	0.000700	U	0.00500	0.000700	mg/L		04/18/16 08:38	04/19/16 12:46	1

Lab Sample ID: MB 560-127044/1-A

Matrix: Water

Analysis Batch: 127157

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 127044

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	0.310	U	1.00	0.310	mg/L		04/18/16 08:38	04/20/16 11:58	1

Lab Sample ID: LCS 560-127044/2-A

Matrix: Water

Analysis Batch: 127113

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 127044

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	50.0	48.69		mg/L		97	80 - 120
Potassium	50.0	52.93		mg/L		106	80 - 120
Silicon	20.0	19.56		mg/L		98	80 - 120
Magnesium	50.0	49.15		mg/L		98	80 - 120
Strontium	0.500	0.5116		mg/L		102	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 560-127044/2-A

Matrix: Water

Analysis Batch: 127157

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 127044

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	50.0	50.20		mg/L		100	80 - 120

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 127157

Client Sample ID: HCS210 TRAIL

Prep Type: Dissolved

Prep Batch: 127043

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	54.0		50.0	101.6		mg/L		95	80 - 120
Magnesium	10.6		50.0	59.69		mg/L		98	80 - 120
Potassium	2.26		50.0	49.03		mg/L		94	80 - 120
Silicon	3.84		20.0	23.18		mg/L		97	80 - 120
Sodium	7.16		50.0	56.81		mg/L		99	80 - 120
Strontium	0.440		0.500	0.9127		mg/L		95	80 - 120

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 127157

Client Sample ID: HCS210 TRAIL

Prep Type: Dissolved

Prep Batch: 127043

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Calcium	54.0		50.0	102.6		mg/L		97	80 - 120	1	20
Magnesium	10.6		50.0	60.65		mg/L		100	80 - 120	2	20
Potassium	2.26		50.0	49.12		mg/L		94	80 - 120	0	20
Silicon	3.84		20.0	23.16		mg/L		97	80 - 120	0	20
Sodium	7.16		50.0	56.99		mg/L		100	80 - 120	0	20
Strontium	0.440		0.500	0.9239		mg/L		97	80 - 120	1	20

## Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 560-127043/1-A

Matrix: Water

Analysis Batch: 127077

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 127043

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.09	U	5.00	1.09	ug/L		04/18/16 08:20	04/18/16 15:07	1
Barium	0.810	U	5.00	0.810	ug/L		04/18/16 08:20	04/18/16 15:07	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		04/18/16 08:20	04/18/16 15:07	1
Cadmium	0.854	U	2.00	0.854	ug/L		04/18/16 08:20	04/18/16 15:07	1
Chromium	1.40	U	5.00	1.40	ug/L		04/18/16 08:20	04/18/16 15:07	1
Copper	2.00	U	10.0	2.00	ug/L		04/18/16 08:20	04/18/16 15:07	1
Lead	0.733	U	5.00	0.733	ug/L		04/18/16 08:20	04/18/16 15:07	1
Manganese	11.6	U	50.0	11.6	ug/L		04/18/16 08:20	04/18/16 15:07	1
Nickel	2.17	U	5.00	2.17	ug/L		04/18/16 08:20	04/18/16 15:07	1
Selenium	1.587	J	5.00	1.08	ug/L		04/18/16 08:20	04/18/16 15:07	1
Antimony	1.61	U	5.00	1.61	ug/L		04/18/16 08:20	04/18/16 15:07	1
Silver	0.941	U	5.00	0.941	ug/L		04/18/16 08:20	04/18/16 15:07	1
Aluminum	50.0	U	100	50.0	ug/L		04/18/16 08:20	04/18/16 15:07	1
Thallium	0.693	U	2.00	0.693	ug/L		04/18/16 08:20	04/18/16 15:07	1
Iron	101	U	250	101	ug/L		04/18/16 08:20	04/18/16 15:07	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 560-127043/1-A

Matrix: Water

Analysis Batch: 127077

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 127043

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	3.55	U	25.0	3.55	ug/L		04/18/16 08:20	04/18/16 15:07	1

Lab Sample ID: LCS 560-127043/2-A

Matrix: Water

Analysis Batch: 127077

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 127043

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	534.1		ug/L		107	80 - 120
Barium	500	491.4		ug/L		98	80 - 120
Cadmium	500	480.1		ug/L		96	80 - 120
Chromium	500	468.8		ug/L		94	80 - 120
Copper	500	479.7		ug/L		96	80 - 120
Lead	500	459.2		ug/L		92	80 - 120
Manganese	5000	4781		ug/L		96	80 - 120
Nickel	500	473.6		ug/L		95	80 - 120
Selenium	500	505.4		ug/L		101	80 - 120
Antimony	500	482.5		ug/L		97	80 - 120
Silver	500	457.7		ug/L		92	80 - 120
Aluminum	50000	44590		ug/L		89	80 - 120
Thallium	200	187.1		ug/L		94	80 - 120
Iron	50000	46380		ug/L		93	80 - 120
Zinc	500	498.7		ug/L		100	80 - 120

Lab Sample ID: LCS 560-127043/2-A

Matrix: Water

Analysis Batch: 127124

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 127043

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	500	503.6		ug/L		101	80 - 120

Lab Sample ID: MB 560-127044/1-A

Matrix: Water

Analysis Batch: 127077

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 127044

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.09	U ^	5.00	1.09	ug/L		04/18/16 08:38	04/18/16 18:22	1
Barium	0.810	U	5.00	0.810	ug/L		04/18/16 08:38	04/18/16 18:22	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		04/18/16 08:38	04/18/16 18:22	1
Cadmium	0.854	U	2.00	0.854	ug/L		04/18/16 08:38	04/18/16 18:22	1
Chromium	1.40	U	5.00	1.40	ug/L		04/18/16 08:38	04/18/16 18:22	1
Copper	4.941	J	10.0	2.00	ug/L		04/18/16 08:38	04/18/16 18:22	1
Lead	0.733	U	5.00	0.733	ug/L		04/18/16 08:38	04/18/16 18:22	1
Manganese	11.6	U	50.0	11.6	ug/L		04/18/16 08:38	04/18/16 18:22	1
Nickel	6.078	U	5.00	2.17	ug/L		04/18/16 08:38	04/18/16 18:22	1
Selenium	1.08	U	5.00	1.08	ug/L		04/18/16 08:38	04/18/16 18:22	1
Antimony	1.61	U	5.00	1.61	ug/L		04/18/16 08:38	04/18/16 18:22	1
Silver	0.941	U	5.00	0.941	ug/L		04/18/16 08:38	04/18/16 18:22	1
Thallium	0.693	U	2.00	0.693	ug/L		04/18/16 08:38	04/18/16 18:22	1
Iron	101	U	250	101	ug/L		04/18/16 08:38	04/18/16 18:22	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 560-127044/1-A

Matrix: Water

Analysis Batch: 127077

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 127044

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	3.55	U	25.0	3.55	ug/L		04/18/16 08:38	04/18/16 18:22	1

Lab Sample ID: MB 560-127044/1-A

Matrix: Water

Analysis Batch: 127124

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 127044

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.09	U	5.00	1.09	ug/L		04/18/16 08:38	04/19/16 13:25	1
Beryllium	1.24	U	4.00	1.24	ug/L		04/18/16 08:38	04/19/16 13:25	1
Nickel	2.17	U	5.00	2.17	ug/L		04/18/16 08:38	04/19/16 13:25	1

Lab Sample ID: MB 560-127044/1-A

Matrix: Water

Analysis Batch: 127197

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 127044

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		04/18/16 08:38	04/20/16 13:15	1

Lab Sample ID: LCS 560-127044/2-A

Matrix: Water

Analysis Batch: 127077

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 127044

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	500	493.7		ug/L		99	80 - 120
Cadmium	500	479.1		ug/L		96	80 - 120
Chromium	500	482.5		ug/L		97	80 - 120
Copper	500	491.1		ug/L		98	80 - 120
Lead	500	476.4		ug/L		95	80 - 120
Manganese	5000	4897		ug/L		98	80 - 120
Nickel	500	489.8		ug/L		98	80 - 120
Selenium	500	535.0		ug/L		107	80 - 120
Antimony	500	479.1		ug/L		96	80 - 120
Silver	500	547.7		ug/L		110	80 - 120
Thallium	200	191.3		ug/L		96	80 - 120
Iron	50000	47920		ug/L		96	80 - 120
Zinc	500	524.6		ug/L		105	80 - 120

Lab Sample ID: LCS 560-127044/2-A

Matrix: Water

Analysis Batch: 127124

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 127044

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	500	505.4		ug/L		101	80 - 120
Beryllium	500	502.5		ug/L		101	80 - 120
Nickel	500	482.0		ug/L		96	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 560-127044/2-A

Matrix: Water

Analysis Batch: 127197

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 127044

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	50000	46670		ug/L		93	80 - 120

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 127077

Client Sample ID: HCS210 TRAIL

Prep Type: Dissolved

Prep Batch: 127043

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	50.0	U	50000	44900		ug/L		90	80 - 120
Antimony	1.61	U	500	478.4		ug/L		96	80 - 120
Arsenic	1.09	U	500	550.4		ug/L		110	80 - 120
Barium	35.9		500	528.9		ug/L		99	80 - 120
Beryllium	1.24	U ^	500	550.8	^	ug/L		110	80 - 120
Cadmium	0.854	U	500	470.4		ug/L		94	80 - 120
Chromium	1.40	U	500	480.2		ug/L		96	80 - 120
Copper	2.00	U	500	489.9		ug/L		98	80 - 120
Iron	101	U	50000	47940		ug/L		96	80 - 120
Lead	2.76	J	500	459.8		ug/L		91	80 - 120
Manganese	11.6	U	5000	4910		ug/L		98	80 - 120
Nickel	5.42		500	490.2		ug/L		97	80 - 120
Selenium	1.08	U	500	516.5		ug/L		103	80 - 120
Silver	0.941	U	500	457.1		ug/L		91	80 - 120
Thallium	0.693	U	200	183.9		ug/L		92	80 - 120
Zinc	3.55	U	500	517.7		ug/L		104	80 - 120

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 127077

Client Sample ID: HCS210 TRAIL

Prep Type: Dissolved

Prep Batch: 127043

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	50.0	U	50000	45150		ug/L		90	80 - 120	1	20
Antimony	1.61	U	500	494.8		ug/L		99	80 - 120	3	20
Arsenic	1.09	U	500	561.2		ug/L		112	80 - 120	2	20
Barium	35.9		500	539.8		ug/L		101	80 - 120	2	20
Beryllium	1.24	U ^	500	581.7	^	ug/L		116	80 - 120	5	20
Cadmium	0.854	U	500	482.7		ug/L		97	80 - 120	3	20
Chromium	1.40	U	500	492.3		ug/L		98	80 - 120	2	20
Copper	2.00	U	500	506.6		ug/L		101	80 - 120	3	20
Iron	101	U	50000	48690		ug/L		97	80 - 120	2	20
Lead	2.76	J	500	472.0		ug/L		94	80 - 120	3	20
Manganese	11.6	U	5000	4965		ug/L		99	80 - 120	1	20
Nickel	5.42		500	500.3		ug/L		99	80 - 120	2	20
Selenium	1.08	U	500	531.5		ug/L		106	80 - 120	3	20
Silver	0.941	U	500	476.6		ug/L		95	80 - 120	4	20
Thallium	0.693	U	200	191.5		ug/L		96	80 - 120	4	20
Zinc	3.55	U	500	535.9		ug/L		107	80 - 120	3	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 560-127159/27-A

Matrix: Water

Analysis Batch: 127161

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 127159

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	04/20/16 10:00	04/20/16 16:40	1

Lab Sample ID: MB 560-127159/4-A

Matrix: Water

Analysis Batch: 127161

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 127159

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	04/20/16 10:00	04/20/16 15:48	1

Lab Sample ID: LCS 560-127159/28-A

Matrix: Water

Analysis Batch: 127161

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 127159

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.005290		mg/L	-	106	80 - 120

Lab Sample ID: LCS 560-127159/5-A

Matrix: Water

Analysis Batch: 127161

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 127159

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.005480		mg/L	-	110	80 - 120

Lab Sample ID: MB 560-127318/4-A

Matrix: Water

Analysis Batch: 127319

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 127318

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0001300	J	0.00200	0.000130	mg/L	-	04/25/16 10:00	04/25/16 14:19	1

Lab Sample ID: LCS 560-127318/5-A

Matrix: Water

Analysis Batch: 127319

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 127318

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.005380		mg/L	-	108	80 - 120

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 127161

Client Sample ID: HCS210 TRAIL

Prep Type: Dissolved

Prep Batch: 127159

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U	0.00500	0.005080		mg/L	-	102	80 - 120

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 127161

Client Sample ID: HCS210 TRAIL

Prep Type: Dissolved

Prep Batch: 127159

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	0.000130	U	0.00500	0.005050		mg/L	-	101	80 - 120	1	20

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

Lab Sample ID: 560-60893-A-22-F MS  
Matrix: Water  
Analysis Batch: 127319

Client Sample ID: 560-60893-A-22-F MS  
Prep Type: Dissolved  
Prep Batch: 127318

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0002150		0.00500	0.004700		mg/L		90	80 - 120

Lab Sample ID: 560-60893-A-22-G MSD  
Matrix: Water  
Analysis Batch: 127319

Client Sample ID: 560-60893-A-22-G MSD  
Prep Type: Dissolved  
Prep Batch: 127318

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	0.0002150		0.00500	0.004940		mg/L		95	80 - 120	5	20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 560-126986/37  
Matrix: Water  
Analysis Batch: 126986

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L			04/15/16 01:53	1
Chloride	0.3100	J	1.00	0.192	mg/L			04/15/16 01:53	1
Nitrate as N	0.103	U	0.500	0.103	mg/L			04/15/16 01:53	1
Sulfate	0.377	U	1.00	0.377	mg/L			04/15/16 01:53	1

Lab Sample ID: MB 560-126986/8  
Matrix: Water  
Analysis Batch: 126986

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L			04/14/16 13:17	1
Chloride	0.192	U	1.00	0.192	mg/L			04/14/16 13:17	1
Nitrate as N	0.103	U	0.500	0.103	mg/L			04/14/16 13:17	1
Sulfate	0.377	U	1.00	0.377	mg/L			04/14/16 13:17	1

Lab Sample ID: LCS 560-126986/38  
Matrix: Water  
Analysis Batch: 126986

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.878		mg/L		98	90 - 110
Chloride	10.0	9.906		mg/L		99	90 - 110
Nitrate as N	5.00	5.070		mg/L		101	90 - 110
Sulfate	20.0	19.74		mg/L		99	90 - 110

Lab Sample ID: LCS 560-126986/9  
Matrix: Water  
Analysis Batch: 126986

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.842		mg/L		97	90 - 110
Chloride	10.0	9.800		mg/L		98	90 - 110
Nitrate as N	5.00	5.021		mg/L		100	90 - 110
Sulfate	20.0	20.08		mg/L		100	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 560-60893-7 MS

Matrix: Water

Analysis Batch: 126986

Client Sample ID: HCS210 PEAK

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.315	U	5.00	4.504		mg/L		90	80 - 120
Chloride	1.27		10.0	10.98		mg/L		97	80 - 120
Nitrate as N	0.492	J	5.00	5.144		mg/L		93	80 - 120
Sulfate	0.864	J	20.0	19.71		mg/L		94	80 - 120

Lab Sample ID: 560-60893-7 MSD

Matrix: Water

Analysis Batch: 126986

Client Sample ID: HCS210 PEAK

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.315	U	5.00	4.614		mg/L		92	80 - 120	2	20
Chloride	1.27		10.0	11.65		mg/L		104	80 - 120	6	20
Nitrate as N	0.492	J	5.00	5.227		mg/L		95	80 - 120	2	20
Sulfate	0.864	J	20.0	20.28		mg/L		97	80 - 120	3	20

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 126986

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.515	J	5.00	4.587		mg/L		81	80 - 120
Chloride	11.4		10.0	19.38		mg/L		80	80 - 120
Nitrate as N	0.867		5.00	5.489		mg/L		92	80 - 120
Sulfate	14.9		20.0	32.85		mg/L		90	80 - 120

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 126986

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.515	J	5.00	4.543		mg/L		81	80 - 120	1	20
Chloride	11.4		10.0	19.58		mg/L		82	80 - 120	1	20
Nitrate as N	0.867		5.00	5.458		mg/L		92	80 - 120	1	20
Sulfate	14.9		20.0	32.63		mg/L		89	80 - 120	1	20

Lab Sample ID: 560-60893-23 MS

Matrix: Water

Analysis Batch: 126986

Client Sample ID: FDHCS270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.551	J	5.00	4.565		mg/L		80	80 - 120
Chloride	17.2	B	10.0	25.33		mg/L		81	80 - 120
Nitrate as N	1.66		5.00	6.204		mg/L		91	80 - 120
Sulfate	27.2		20.0	44.82		mg/L		88	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 560-60893-23 MSD

Matrix: Water

Analysis Batch: 126986

Client Sample ID: FDHCS270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.551	J	5.00	4.632		mg/L		82	80 - 120	1	20
Chloride	17.2	B	10.0	25.26		mg/L		81	80 - 120	0	20
Nitrate as N	1.66		5.00	6.439		mg/L		96	80 - 120	4	20
Sulfate	27.2		20.0	44.38		mg/L		86	80 - 120	1	20

## Method: 340.2 - Fluoride

Lab Sample ID: MB 560-127354/3

Matrix: Water

Analysis Batch: 127354

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			04/26/16 07:30	1

Lab Sample ID: LCS 560-127354/4

Matrix: Water

Analysis Batch: 127354

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.8030		mg/L		100	85 - 115

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 127354

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.141		0.500	0.6360		mg/L		99	75 - 125

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 127354

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.141		0.500	0.6330		mg/L		98	75 - 125	0	20

## Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 600-186656/10

Matrix: Water

Analysis Batch: 186656

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/19/16 11:59	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: LCS 600-186656/11

Matrix: Water

Analysis Batch: 186656

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	10.58		mg/L		106	90 - 110

Lab Sample ID: 600-129178-B-3 MS

Matrix: Water

Analysis Batch: 186656

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.934	J	10.0	11.22		mg/L		103	90 - 110

Lab Sample ID: 600-129178-B-3 MSD

Matrix: Water

Analysis Batch: 186656

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.934	J	10.0	11.34		mg/L		104	90 - 110	1	20

Lab Sample ID: MB 600-186770/10

Matrix: Water

Analysis Batch: 186770

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/20/16 12:01	1

Lab Sample ID: LCS 600-186770/11

Matrix: Water

Analysis Batch: 186770

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	10.55		mg/L		105	90 - 110

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 186770

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	9.880		mg/L		99	90 - 110

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 186770

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U	10.0	9.397		mg/L		94	90 - 110	5	20

Lab Sample ID: MB 600-186800/1-A

Matrix: Water

Analysis Batch: 186876

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/21/16 12:25	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

Lab Sample ID: MB 600-186876/10  
Matrix: Water  
Analysis Batch: 186876

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			04/21/16 12:20	1

Lab Sample ID: LCS 600-186876/11  
Matrix: Water  
Analysis Batch: 186876

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	10.18		mg/L		102	90 - 110

Lab Sample ID: 560-60893-19 MS  
Matrix: Water  
Analysis Batch: 186876

Client Sample ID: HCS250 TRAIL  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	9.686		mg/L		97	90 - 110

Lab Sample ID: 560-60893-19 MSD  
Matrix: Water  
Analysis Batch: 186876

Client Sample ID: HCS250 TRAIL  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U	10.0	9.723		mg/L		97	90 - 110	0	20

Lab Sample ID: 560-60893-23 MS  
Matrix: Water  
Analysis Batch: 186876

Client Sample ID: FDHCS270 TRAIL  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	9.054		mg/L		91	90 - 110

Lab Sample ID: 560-60893-23 MSD  
Matrix: Water  
Analysis Batch: 186876

Client Sample ID: FDHCS270 TRAIL  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U	10.0	9.204		mg/L		92	90 - 110	2	20

## Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 680-430064/1-A  
Matrix: Water  
Analysis Batch: 430228

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 430064

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		04/21/16 13:07	04/22/16 11:28	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 365.4 - Phosphorus, Total (Continued)

Lab Sample ID: LCS 680-430064/2-A  
Matrix: Water  
Analysis Batch: 430228

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 430064

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	1.960		mg/L		98	60 - 140

Lab Sample ID: 560-60893-17 MS  
Matrix: Water  
Analysis Batch: 430228

Client Sample ID: HCS210 TRAIL  
Prep Type: Total/NA  
Prep Batch: 430064

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	0.0851	J	2.00	2.030		mg/L		97	60 - 140

Lab Sample ID: 560-60893-17 MSD  
Matrix: Water  
Analysis Batch: 430228

Client Sample ID: HCS210 TRAIL  
Prep Type: Total/NA  
Prep Batch: 430064

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Phosphorus	0.0851	J	2.00	2.020		mg/L		97	60 - 140	0	40

Lab Sample ID: 560-60893-10 DU  
Matrix: Water  
Analysis Batch: 430228

Client Sample ID: HCS260 PEAK  
Prep Type: Total/NA  
Prep Batch: 430064

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Phosphorus	0.0410	U	0.0410	U	mg/L		NC	40

## Method: 9040C - pH

Lab Sample ID: LCS 560-127192/2  
Matrix: Water  
Analysis Batch: 127192

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	5.00	5.010		SU		100	98 - 102

Lab Sample ID: 560-60893-1 DU  
Matrix: Water  
Analysis Batch: 127192

Client Sample ID: HCS210 LEAD  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	7.20	HF	7.230		SU		0.4	20

## Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 560-127117/4  
Matrix: Water  
Analysis Batch: 127117

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			04/19/16 13:45	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 9060 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCS 560-127117/5

Matrix: Water

Analysis Batch: 127117

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	24.60		mg/L		98	80 - 120

Lab Sample ID: 560-60893-1 MS

Matrix: Water

Analysis Batch: 127117

Client Sample ID: HCS210 LEAD

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	5.73		10.0	15.15		mg/L		94	75 - 125

Lab Sample ID: 560-60893-1 MSD

Matrix: Water

Analysis Batch: 127117

Client Sample ID: HCS210 LEAD

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	5.73		10.0	15.13		mg/L		94	75 - 125	0	20

Lab Sample ID: MB 560-127166/4

Matrix: Water

Analysis Batch: 127166

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			04/20/16 12:27	1

Lab Sample ID: LCS 560-127166/5

Matrix: Water

Analysis Batch: 127166

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	25.89		mg/L		104	80 - 120

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 127166

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	3.74		10.0	13.65		mg/L		99	75 - 125

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 127166

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	3.74		10.0	14.00		mg/L		103	75 - 125	3	20

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 560-127167/4

Matrix: Water

Analysis Batch: 127167

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			04/20/16 12:27	1

Lab Sample ID: LCS 560-127167/5

Matrix: Water

Analysis Batch: 127167

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	26.88		mg/L		108	80 - 120

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 127167

Client Sample ID: HCS210 TRAIL

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	3.02		10.0	13.07		mg/L		100	75 - 125

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 127167

Client Sample ID: HCS210 TRAIL

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	3.02		10.0	13.23		mg/L		102	75 - 125	1	20

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 560-127060/1

Matrix: Water

Analysis Batch: 127060

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/18/16 14:00	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/18/16 14:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/18/16 14:00	1

Lab Sample ID: LCS 560-127060/2

Matrix: Water

Analysis Batch: 127060

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	93.53		mg/L		94	85 - 115

Lab Sample ID: 560-60866-G-1 MS

Matrix: Water

Analysis Batch: 127060

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	223		100	312.7		mg/L		89	75 - 125

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 560-60866-G-1 MSD

Matrix: Water

Analysis Batch: 127060

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	223		100	313.7		mg/L		90	75 - 125	0	20

Lab Sample ID: MB 560-127268/1

Matrix: Water

Analysis Batch: 127268

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/22/16 13:20	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/22/16 13:20	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			04/22/16 13:20	1

Lab Sample ID: LCS 560-127268/2

Matrix: Water

Analysis Batch: 127268

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	88.27		mg/L		88	85 - 115

Lab Sample ID: 560-60893-17 MS

Matrix: Water

Analysis Batch: 127268

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	150		100	235.9		mg/L		86	75 - 125

Lab Sample ID: 560-60893-17 MSD

Matrix: Water

Analysis Batch: 127268

Client Sample ID: HCS210 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	150		100	238.6		mg/L		88	75 - 125	1	20

Lab Sample ID: 560-60893-23 MS

Matrix: Water

Analysis Batch: 127268

Client Sample ID: FDHCS270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	214		100	301.8		mg/L		88	75 - 125

Lab Sample ID: 560-60893-23 MSD

Matrix: Water

Analysis Batch: 127268

Client Sample ID: FDHCS270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	214		100	300.2		mg/L		86	75 - 125	1	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 560-126989/1  
Matrix: Water  
Analysis Batch: 126989

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L	-		04/15/16 09:08	1

Lab Sample ID: LCS 560-126989/2  
Matrix: Water  
Analysis Batch: 126989

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	2250	2092		mg/L	-	93	90 - 110

Lab Sample ID: 560-60893-17 MS  
Matrix: Water  
Analysis Batch: 126989

Client Sample ID: HCS210 TRAIL  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	220		2250	2242		mg/L	-	90	75 - 125

Lab Sample ID: 560-60893-17 MSD  
Matrix: Water  
Analysis Batch: 126989

Client Sample ID: HCS210 TRAIL  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	220		2250	2244		mg/L	-	90	75 - 125	0	20

Lab Sample ID: MB 560-127014/1  
Matrix: Water  
Analysis Batch: 127014

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L	-		04/15/16 10:30	1

Lab Sample ID: LCS 560-127014/2  
Matrix: Water  
Analysis Batch: 127014

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	2250	2056		mg/L	-	91	90 - 110

Lab Sample ID: 560-60893-23 MS  
Matrix: Water  
Analysis Batch: 127014

Client Sample ID: FDHCS270 TRAIL  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	321		2250	2356		mg/L	-	90	75 - 125

Lab Sample ID: 560-60893-23 MSD  
Matrix: Water  
Analysis Batch: 127014

Client Sample ID: FDHCS270 TRAIL  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	321		2250	2356		mg/L	-	90	75 - 125	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 560-127102/1  
Matrix: Water  
Analysis Batch: 127102

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3.00	U	3.00	3.00	mg/L	-		04/18/16 16:35	1

Lab Sample ID: LCS 560-127102/2  
Matrix: Water  
Analysis Batch: 127102

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	197.5		mg/L	-	99	90 - 110

Lab Sample ID: 560-60924-C-1 DU  
Matrix: Water  
Analysis Batch: 127102

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	3.00	U	3.00	U	mg/L	-	NC	20

Lab Sample ID: MB 560-127103/1  
Matrix: Water  
Analysis Batch: 127103

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3.00	U	3.00	3.00	mg/L	-		04/19/16 09:50	1

Lab Sample ID: MB 560-127103/25  
Matrix: Water  
Analysis Batch: 127103

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3.00	U	3.00	3.00	mg/L	-		04/19/16 09:50	1

Lab Sample ID: LCS 560-127103/2  
Matrix: Water  
Analysis Batch: 127103

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	202.5		mg/L	-	101	90 - 110

Lab Sample ID: LCS 560-127103/26  
Matrix: Water  
Analysis Batch: 127103

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	204.5		mg/L	-	102	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: 560-60887-B-1 DU

Matrix: Water

Analysis Batch: 127103

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	6.00		6.000		mg/L		0	20

# Certification Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-16
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Laboratory: TestAmerica Denver

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-17
Arizona	State Program	9	AZ0713	12-19-16
Arkansas DEQ	State Program	6	88-0687	06-01-17
California	State Program	9	2513	08-31-16
Connecticut	State Program	1	PH-0686	09-30-16
Florida	NELAP	4	E87667	06-30-16
Georgia	State Program	4	N/A	01-09-17
Illinois	NELAP	5	200017	04-30-17
Iowa	State Program	7	370	11-30-16
Kansas	NELAP	7	E-10166	07-31-16
Louisiana	NELAP	6	02096	06-30-16
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-16
Nevada	State Program	9	CO0026	07-31-16
New Hampshire	NELAP	1	205310	04-28-16 *
New Jersey	NELAP	2	CO004	06-30-16
New York	NELAP	2	11964	04-01-17
North Carolina (WW/SW)	State Program	4	358	12-31-16
North Dakota	State Program	8	R-034	01-09-17
Oklahoma	State Program	6	8614	08-31-16
Oregon	NELAP	10	4025	01-09-17
Pennsylvania	NELAP	3	68-00664	07-31-16
South Carolina	State Program	4	72002001	01-09-16 *
Texas	NELAP	6	T104704183-15-11	09-30-16
USDA	Federal		P330-13-00202	07-02-16
Utah	NELAP	8	CO00026	07-31-16
Virginia	NELAP	3	460232	06-14-16
Washington	State Program	10	C583	08-03-16
West Virginia DEP	State Program	3	354	11-30-16
Wisconsin	State Program	5	999615430	08-31-16
Wyoming (UST)	A2LA	8	2907.01	10-31-17

## Laboratory: TestAmerica Houston

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	15-045-0	08-04-16
Louisiana	NELAP	6	01967	06-30-16
Oklahoma	State Program	6	2015-050	08-31-16
Texas	NELAP	6	T104704223-16-19	10-31-16

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Laboratory: TestAmerica Houston (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
USDA	Federal		P330-14-00192	06-06-17

## Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-17
A2LA	ISO/IEC 17025		399.01	02-28-17
Alabama	State Program	4	41450	06-30-16 *
Alaska (UST)	State Program	10	UST-104	11-05-16
Arkansas DEQ	State Program	6	88-0692	01-31-17
California	State Program	9	2939	07-31-16 *
Colorado	State Program	8	N/A	12-31-16
Connecticut	State Program	1	PH-0161	03-31-17
Florida	NELAP	4	E87052	06-30-16 *
GA Dept. of Agriculture	State Program	4	N/A	06-12-17
Georgia	State Program	4	803	06-30-16 *
Guam	State Program	9	15-005r	04-16-16 *
Hawaii	State Program	9	N/A	06-30-16 *
Illinois	NELAP	5	200022	11-30-16
Indiana	State Program	5	N/A	06-30-16 *
Iowa	State Program	7	353	06-30-17
Kentucky (DW)	State Program	4	90084	12-31-16
Kentucky (UST)	State Program	4	18	06-30-16 *
Kentucky (WW)	State Program	4	90084	12-31-16
Louisiana	NELAP	6	30690	06-30-16 *
Louisiana (DW)	NELAP	6	LA160019	12-31-16
Maine	State Program	1	GA00006	09-24-16
Maryland	State Program	3	250	12-31-16
Massachusetts	State Program	1	M-GA006	06-30-16 *
Michigan	State Program	5	9925	06-30-16 *
Mississippi	State Program	4	N/A	06-30-16 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-16 *
New Jersey	NELAP	2	GA769	06-30-16 *
New Mexico	State Program	6	N/A	06-30-16 *
New York	NELAP	2	10842	03-31-17
North Carolina (DW)	State Program	4	13701	07-31-16 *
North Carolina (WW/SW)	State Program	4	269	12-31-16
Oklahoma	State Program	6	9984	08-31-16
Pennsylvania	NELAP	3	68-00474	06-30-16 *
Puerto Rico	State Program	2	GA00006	12-31-16
South Carolina	State Program	4	98001	06-30-16 *
Tennessee	State Program	4	TN02961	06-30-16 *
Texas	NELAP	6	T104704185-14-7	11-30-16
USDA	Federal		SAV 3-04	06-11-17
Virginia	NELAP	3	460161	06-14-16 *
Washington	State Program	10	C805	06-10-16 *
West Virginia (DW)	State Program	3	9950C	12-31-16
West Virginia DEP	State Program	3	094	06-30-16 *

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi



# Certification Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

## Laboratory: TestAmerica Savannah (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999819810	08-31-16
Wyoming	State Program	8	8TMS-L	06-30-16 *

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Method Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CC
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CC
8081B	Organochlorine Pesticides (GC)	SW846	TAL CC
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CC
8141A	Organophosphorous Pesticides (GC)	SW846	TAL DEN
8151A	Herbicides (GC)	SW846	TAL SAV
6010B	Metals (ICP)	SW846	TAL CC
6020	Metals (ICP/MS)	SW846	TAL CC
7470A	Mercury (CVAA)	SW846	TAL CC
300.0	Anions, Ion Chromatography	MCAWW	TAL CC
340.2	Fluoride	MCAWW	TAL CC
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL HOU
365.4	Phosphorus, Total	EPA	TAL SAV
9040C	pH	SW846	TAL CC
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL CC
9060	Organic Carbon, Total (TOC)	SW846	TAL CC
SM 2320B	Alkalinity	SM	TAL CC
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CC
Local Method	General Sub Contract Method	NONE	Weck Lab

## Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NONE = NONE

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

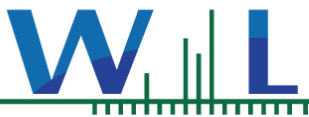
Weck Lab = Weck Laboratories, Inc., 14859 East Clark Avenue, City of Industry, CA 917451396

# Sample Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60893-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-60893-1	HCS210 LEAD	Water	04/12/16 23:20	04/13/16 16:14
560-60893-2	HCS240 LEAD	Water	04/12/16 23:37	04/13/16 16:14
560-60893-3	HCS250 LEAD	Water	04/12/16 23:08	04/13/16 16:14
560-60893-4	HCS260 LEAD	Water	04/12/16 23:35	04/13/16 16:14
560-60893-5	HCS270 LEAD	Water	04/12/16 23:16	04/13/16 16:14
560-60893-6	TB06	Water	04/13/16 00:00	04/13/16 16:14
560-60893-7	HCS210 PEAK	Water	04/13/16 02:07	04/13/16 16:14
560-60893-8	HCS240 PEAK	Water	04/13/16 02:19	04/13/16 16:14
560-60893-9	HCS250 PEAK	Water	04/13/16 01:55	04/13/16 16:14
560-60893-10	HCS260 PEAK	Water	04/13/16 02:14	04/13/16 16:14
560-60893-11	HCS270 PEAK	Water	04/13/16 02:00	04/13/16 16:14
560-60893-17	HCS210 TRAIL	Water	04/13/16 08:37	04/13/16 16:14
560-60893-18	HCS240 TRAIL	Water	04/13/16 08:52	04/13/16 16:14
560-60893-19	HCS250 TRAIL	Water	04/13/16 08:16	04/14/16 08:20
560-60893-20	HCS260 TRAIL	Water	04/13/16 09:14	04/14/16 08:20
560-60893-21	FDHCS260 TRAIL	Water	04/13/16 09:14	04/14/16 08:20
560-60893-22	HCS270 TRAIL	Water	04/13/16 08:43	04/14/16 08:20
560-60893-23	FDHCS270 TRAIL	Water	04/13/16 08:43	04/14/16 08:20



## CERTIFICATE OF ANALYSIS

**Client:** TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Report Date:** 05/16/16 17:14

**Received Date:** 04/15/16 10:25

**Turn Around:** 7 workdays

**Attention:** Lindy Maingot

**Client Project:** 560-60893-1

**Phone:** (210) 344-9751

**Fax:** -

**Work Order(s):** 6D15027

**NELAC #4047-002 ORELAP ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143**

*The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.*

Dear Lindy Maingot :

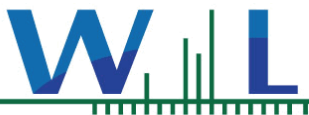
Enclosed are the results of analyses for samples received 04/15/16 10:25 with the Chain of Custody document. The samples were received in good condition, at 2.3 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

**Case Narrative:**

**Reviewed by:**

Chris Samatmanakit  
Project Manager





TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Sampled by:	Lab ID	Matrix	Date Sampled
HCS210 LEAD (560-60893-1)	Client	6D15027-01	Water	04/12/16 21:20
HCS240 LEAD (560-60893-2)	Client	6D15027-02	Water	04/12/16 21:37
HCS250 LEAD (560-60893-3)	Client	6D15027-03	Water	04/12/16 21:08
HCS260 LEAD (560-60893-4)	Client	6D15027-04	Water	04/12/16 21:35
HCS270 LEAD (560-60893-5)	Client	6D15027-05	Water	04/12/16 21:16
HCS210 PEAK (560-60893-7)	Client	6D15027-06	Water	04/13/16 00:07
HCS240 PEAK (560-60893-8)	Client	6D15027-07	Water	04/13/16 00:19
HCS250 PEAK (560-60893-9)	Client	6D15027-08	Water	04/12/16 23:55
HCS270 PEAK (560-60893-11)	Client	6D15027-09	Water	04/13/16 00:00
HCS210 PEAK (560-60893-12)	Client	6D15027-10	Water	04/13/16 02:33
HCS240 PEAK (560-60893-13)	Client	6D15027-11	Water	04/13/16 02:52
HCS250 PEAK (560-60893-14)	Client	6D15027-12	Water	04/13/16 02:23
HCS260 PEAK (560-60893-15)	Client	6D15027-13	Water	04/13/16 02:42
HCS270 PEAK (560-60893-16)	Client	6D15027-14	Water	04/13/16 02:29
HCS210 TRAIL (560-60893-17)	Client	6D15027-15	Water	04/13/16 06:37
HCS240 TRAIL (560-60893-18)	Client	6D15027-16	Water	04/13/16 06:52
HCS250 TRAIL (560-60893-19)	Client	6D15027-17	Water	04/13/16 06:16
HCS260 TRAIL (560-60893-20)	Client	6D15027-18	Water	04/13/16 07:14
FDHCS260 TRAIL (560-60893-21)	Client	6D15027-19	Water	04/13/16 07:14
HCS270 TRAIL (560-60893-22)	Client	6D15027-20	Water	04/13/16 06:43
FDHCS270 TRAIL (560-60893-23)	Client	6D15027-21	Water	04/13/16 06:43
HCS260 PEAK (560-60893-10)	Client	6D15027-22	Water	04/13/16 00:14

**ANALYSES**

PPCPs - Pharmaceuticals by LC/MSMS-ESI+



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-01 HCS210 LEAD (560-60893-1)****Sampled:** 04/12/16 21:20**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1156

Prepared: 04/21/16 16:22

Analyst: kan

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	91	1.0	ng/l	1	04/25/16 20:47	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-02 HCS240 LEAD (560-60893-2)****Sampled:** 04/12/16 21:37**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1156

Prepared: 04/21/16 16:22

Analyst: kan

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	45	1.0	ng/l	1	04/25/16 21:00	





TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-03 HCS250 LEAD (560-60893-3)****Sampled:** 04/12/16 21:08**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	100000	2000	ng/l	1	05/13/16 13:01	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-04 HCS260 LEAD (560-60893-4)****Sampled:** 04/12/16 21:35**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	35000	2000	ng/l	1	05/13/16 13:01	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-05 HCS270 LEAD (560-60893-5)****Sampled:** 04/12/16 21:16**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	47000	2000	ng/l	1	05/13/16 13:01	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-06 HCS210 PEAK (560-60893-7)****Sampled:** 04/13/16 00:07**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	93000	2000	ng/l	1	05/13/16 13:01	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-07 HCS240 PEAK (560-60893-8)****Sampled:** 04/13/16 00:19**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	90000	2000	ng/l	1	05/13/16 13:01	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-08 HCS250 PEAK (560-60893-9)****Sampled:** 04/12/16 23:55**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	110000	2000	ng/l	1	05/13/16 13:01	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-09 HCS270 PEAK (560-60893-11)****Sampled:** 04/13/16 00:00**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	86000	2000	ng/l	1	05/13/16 13:01	





TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-10 HCS210 PEAK (560-60893-12)****Sampled:** 04/13/16 02:33**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	100000	2000	ng/l	1	05/13/16 13:01	



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1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-11 HCS240 PEAK (560-60893-13)****Sampled:** 04/13/16 02:52**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	11000	2000	ng/l	1	05/13/16 13:01	



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Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-12 HCS250 PEAK (560-60893-14)****Sampled:** 04/13/16 02:23**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	40000	2000	ng/l	1	05/13/16 13:01	



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Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-13 HCS260 PEAK (560-60893-15)****Sampled:** 04/13/16 02:42**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	39000	2000	ng/l	1	05/13/16 13:01	



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**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-14 HCS270 PEAK (560-60893-16)****Sampled:** 04/13/16 02:29**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	54000	2000	ng/l	1	05/13/16 13:01	



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Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-15 HCS210 TRAIL (560-60893-17)****Sampled:** 04/13/16 06:37**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	50000	2000	ng/l	1	05/13/16 13:01	



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Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-16 HCS240 TRAIL (560-60893-18)****Sampled:** 04/13/16 06:52**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	9200	2000	ng/l	1	05/13/16 13:01	





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**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-17 HCS250 TRAIL (560-60893-19)****Sampled:** 04/13/16 06:16**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	9900	2000	ng/l	1	05/13/16 13:01	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-18 HCS260 TRAIL (560-60893-20)****Sampled:** 04/13/16 07:14**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	38000	2000	ng/l	1	05/13/16 13:01	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-19 FDHCS260 TRAIL (560-60893-21)****Sampled:** 04/13/16 07:14**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	28000	2000	ng/l	1	05/13/16 13:01	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-20 HCS270 TRAIL (560-60893-22)****Sampled:** 04/13/16 06:43**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	28000	2000	ng/l	1	05/13/16 13:01	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-21 FDHCS270 TRAIL (560-60893-23)****Sampled:** 04/13/16 06:43**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	35000	2000	ng/l	1	05/13/16 13:01	



TestAmerica - Corpus Christi TX  
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Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**6D15027-22 HCS260 PEAK (560-60893-10)****Sampled:** 04/13/16 00:14**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6D1593

Prepared: 04/29/16 10:45

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	27000	2000	ng/l	1	05/13/16 13:01	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
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**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

## QUALITY CONTROL SECTION





TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

Date Received: 04/15/16 10:25  
Date Reported: 05/16/16 17:14

## PPCPs - Pharmaceuticals by LC/MSMS-ESI+ - Quality Control

## Batch W6D1156 - EPA 1694M-ESI+

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Blank (W6D1156-BLK1)</b>				Analyzed: 04/25/16 20:06						
Acetaminophen	ND	20	ng/l							
Amoxicillin	ND	10	ng/l							
Atenolol	ND	1.0	ng/l							
Atorvastatin	ND	1.0	ng/l							
Azithromycin	ND	10	ng/l							
Caffeine	ND	1.0	ng/l							
Carbamazepine	ND	1.0	ng/l							
Ciprofloxacin	ND	5.0	ng/l							
Cotinine	ND	2.0	ng/l							
DEET	ND	1.0	ng/l							
Diazepam	ND	1.0	ng/l							
Fluoxetine	ND	1.0	ng/l							
Galaxolide (HHCB)	ND	10	ng/l							
Meprobamate	ND	1.0	ng/l							
Methadone	ND	1.0	ng/l							
Oxybenzone	ND	1.0	ng/l							
Phenytoin (Dilantin)	ND	1.0	ng/l							
Praziquantel	ND	1.0	ng/l							
Primidone	ND	1.0	ng/l							
Quinoline	ND	1.0	ng/l							
Sucralose	ND	5.0	ng/l							
Sulfamethoxazole	ND	1.0	ng/l							
TCEP	ND	1.0	ng/l							
TCPP	ND	1.0	ng/l							
TDCPP	ND	1.0	ng/l							
Trimethoprim	ND	1.0	ng/l							

## LCS (W6D1156-BS1)

Analyzed: 04/25/16 20:20

Acetaminophen	ND	20	ng/l	200	NR	66-156
Amoxicillin	ND	10	ng/l			14-167
Atenolol	ND	1.0	ng/l	10.0	NR	56-164
Atorvastatin	ND	1.0	ng/l	10.0	NR	0.1-173
Azithromycin	ND	10	ng/l	100	NR	52-166
Caffeine	10.2	1.0	ng/l	10.0	102	55-152
Carbamazepine	ND	1.0	ng/l	10.0	NR	60-135
Ciprofloxacin	ND	5.0	ng/l	50.0	NR	51-168
Cotinine	ND	2.0	ng/l	10.0	NR	68-155
DEET	ND	1.0	ng/l	10.0	NR	45-135
Diazepam	ND	1.0	ng/l	10.0	NR	58-127
Fluoxetine	ND	1.0	ng/l	10.0	NR	55-150



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Date Received: 04/15/16 10:25  
Date Reported: 05/16/16 17:14

## PPCPs - Pharmaceuticals by LC/MSMS-ESI+ - Quality Control

## Batch W6D1156 - EPA 1694M-ESI+

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
<b>LCS (W6D1156-BS1)</b>				Analyzed: 04/25/16 20:20						
Meprobamate	ND	1.0	ng/l	10.0		NR	11-166			
Methadone	ND	1.0	ng/l	10.0		NR	62-137			
Phenytoin (Dilantin)	ND	1.0	ng/l	10.0		NR	69-138			
Primidone	ND	1.0	ng/l	10.0		NR	54-147			
Sulfamethoxazole	ND	1.0	ng/l	10.0		NR	60-133			
TCEP	ND	1.0	ng/l	10.0		NR	25-149			
TCP	ND	1.0	ng/l	10.0		NR	24-149			
TDCPP	ND	1.0	ng/l	10.0		NR	20-158			
Trimethoprim	ND	1.0	ng/l	10.0		NR	67-139			

## LCS Dup (W6D1156-BS1)

Analyzed: 04/25/16 20:33

Acetaminophen	ND	20	ng/l	200		NR	66-156	NR	30	
Amoxicillin	ND	10	ng/l				14-167	NR	30	
Atenolol	ND	1.0	ng/l	10.0		NR	56-164	NR	30	
Atorvastatin	ND	1.0	ng/l	10.0		NR	0.1-173	NR	30	
Azithromycin	ND	10	ng/l	100		NR	52-166	NR	30	
Caffeine	11.2	1.0	ng/l	10.0		112	55-152	9	30	
Carbamazepine	ND	1.0	ng/l	10.0		NR	60-135	NR	30	
Ciprofloxacin	ND	5.0	ng/l	50.0		NR	51-168	NR	30	
Cotinine	ND	2.0	ng/l	10.0		NR	68-155	NR	30	
DEET	ND	1.0	ng/l	10.0		NR	45-135	NR	30	
Diazepam	ND	1.0	ng/l	10.0		NR	58-127	NR	30	
Fluoxetine	ND	1.0	ng/l	10.0		NR	55-150	NR	30	
Meprobamate	ND	1.0	ng/l	10.0		NR	11-166	NR	30	
Methadone	ND	1.0	ng/l	10.0		NR	62-137	NR	30	
Phenytoin (Dilantin)	ND	1.0	ng/l	10.0		NR	69-138	NR	30	
Primidone	ND	1.0	ng/l	10.0		NR	54-147	NR	30	
Sulfamethoxazole	ND	1.0	ng/l	10.0		NR	60-133	NR	30	
TCEP	ND	1.0	ng/l	10.0		NR	25-149	NR	30	
TCP	ND	1.0	ng/l	10.0		NR	24-149	NR	30	
TDCPP	ND	1.0	ng/l	10.0		NR	20-158	NR	30	
Trimethoprim	ND	1.0	ng/l	10.0		NR	67-139	NR	30	

## Batch W6D1593 - EPA 1694M-ESI+

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Blank (W6D1593-BLK1)</b>				Analyzed: 05/13/16 13:01						
Caffeine	ND	2000	ng/l							
<b>LCS (W6D1593-BS1)</b>				Analyzed: 05/13/16 13:01						
Caffeine	7910	2000	ng/l	10000		79	55-152			
<b>Matrix Spike (W6D1593-MS1)</b>				Source: 6D15027-15 Analyzed: 05/13/16 13:01						

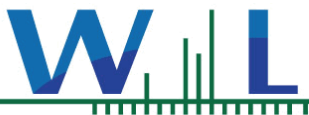


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**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

**PPCPs - Pharmaceuticals by LC/MSMS-ESI+ - Quality Control****Batch W6D1593 - EPA 1694M-ESI+**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Matrix Spike (W6D1593-MS1)</b>		<b>Source: 6D15027-15</b>		Analyzed: 05/13/16 13:01						
Caffeine	65700	2000	ng/l	10000	49800	159	58-146			MS-02
<b>Matrix Spike Dup (W6D1593-MSD1)</b>		<b>Source: 6D15027-15</b>		Analyzed: 05/13/16 13:01						
Caffeine	60600	2000	ng/l	10000	49800	109	58-146	8	30	



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1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 04/15/16 10:25  
**Date Reported:** 05/16/16 17:14

### Notes and Definitions

<b>MS-02</b>	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
<b>ND</b>	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then not detected at or above the MDL.
<b>NR</b>	Not Reportable
<b>Dil</b>	Dilution
<b>dry</b>	Sample results reported on a dry weight basis
<b>RPD</b>	Relative Percent Difference
<b>% Rec</b>	Percent Recovery
<b>Sub</b>	Subcontracted analysis, original report available upon request
<b>MDL</b>	Method Detection Limit
<b>MDA</b>	Minimum Detectable Activity
<b>MRL</b>	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

<b>Client Information</b>		<b>Sampler:</b> Jennifer Moreland	<b>Lab PM:</b> Maingot, Lindy	<b>COC No:</b> 600-43444-13486.1
<b>Client Contact:</b> Jennifer Moreland		<b>Phone:</b> 210-877-2847	<b>E-Mail:</b> lindy.maingot@testamericainc.com	<b>Page:</b> <i>Page 1 of 48</i>
<b>Company:</b> SWCA, Inc.		<b>Job #:</b>		
<b>Address:</b> 6200 UTSA Boulevard Suite 102 City: San Antonio State, Zip: TX, 78249		<b>Carrier Tracking No(s):</b>		
<b>Phone:</b> 210-877-2847(Tel)		<b>Analysis Requested</b>		
<b>Email:</b> JMoreland@swca.com				
<b>Project Name:</b> 2016 - Stormwater Sampling				
<b>Site:</b> San Marcos Springs				


  

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastefall, BT=tissue, A=air)	Field Filtered Sample (Yes or No)		Analysis Requested										Total Number of Containers	Preservation Codes:							
					X		8141A - Organophosphorus Pesticides (DENVER)	6020 - Metals Diss - (Custom List 16 - CORPUS) Dissol	8270C - SVOCs (Target Compound List)	8081B - Organochlorine Pesticides (GC)	8082A - PCBs	6010B, 7470A - Metals Dissolved	9060_DOC_D - Dissolved Organic Carbon(FILTERED)	3512_NP, 3654_P_E - TKN, Total Phosphorous	9060 - Total Organic Carbon	8260B - VOCs (Target Compound List)			8151A - Herbicides	3300_ORGFM, 9040C, 3402_FI	SUBCONTRACT - Caffeine - (WECK)				
HCS210 LEAD	4/12/16	2320	G	Water	X		N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO4 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Y - other (specify) Z - other (specify)	There are two sample sets with sample ID including the word "Real" they have unique identification
HCS240 LEAD	4/12/16	2337	G	Water	X		N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Preservation marked on Bottle Labels	
HCS250 LEAD	4/12/16	2308	G	Water	X		N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Preservation marked on Bottle Labels	
HCS260 LEAD	4/12/16	2335	G	Water	X		N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Preservation marked on Bottle Labels	
HCS270 LEAD	4/12/16	2316	G	Water	X		N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Preservation marked on Bottle Labels	
TB06	4/13/16	NA	G	Water	X		N																	Preservation marked on Bottle Labels	

**Possible Hazard Identification**  
☐ Non-Hazard    ☐ Flammable    ☐ Skin Irritant    ☐ Poison B    ☐ Unknown    ☐ Radiological  
Deliverable Requested: I, II, III, IV, Other (specify)

560-60893 Chain of Custody

**Special Instructions/QC Requirements:**

**Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)**  
☐ Return To Client    ☐ Disposal By Lab    ☐ Archive For \_\_\_\_\_ Months

<b>Empty Kit Relinquished by:</b>		Date:	Time:	Method of Shipment:
Relinquished by: <i>[Signature]</i>		4/13/16	1455	SWCA Company
Relinquished by: <i>[Signature]</i>		4/13/16	1455	Company
Relinquished by: <i>[Signature]</i>		4/13/16	1455	Company

**Custody Seals Intact:**  
Δ Yes Δ No

**Custody Seal No.:** 500 attached

## Chain of Custody Record

<b>Client Information</b> Client Contact: Jennifer Moreland Phone: 210-877-2847 Company: SWCA, Inc.		Lab PM: Maingot, Lindy E-Mail: lindy.maingot@testamericainc.com		Carrier Tracking No(s): COC No: 600-43444-13486.1 Page: 1 of 2 Job #: 2 of 4	
Address: 6200 UTSA Boulevard Suite 102 City: San Antonio State, Zip: TX, 78249 Phone: 210-877-2847 (Tel) Email: JMoreland@swca.com Project Name: 2016 - Stormwater Sampling Site: San Marcos Springs		<b>Analysis Requested</b> Due Date Requested: TAT Requested (days): Standard PO #: Purchase Order Requested WO #: Project #: 60006903 SSOW#:			
<b>Sample Identification</b> Sample Date Sample Time Sample Type (C=Comp, G=grab) Matrix (W=water, S=solid, O=wastewater, AT=tissue, A=air)		Field Filtered Sample (Yes or No) Preservation Code: 8141A - Organophosphorous Pesticides (DENVER) 6020 - Metals Diss - (Custom List 16 - CORPUS) Dissol 8270C - SVOCs (Target Compound List) 8081B - Organochlorine Pesticides (GC) 8082A - PCBs 6010B, 7470A - Metals Dissolved 9060, DOC, D - Dissolved Organic Carbon (FILTERED) 351.2, NP, 365.4, P, E - TKN, Total Phosphorous 9060 - Total Organic Carbon 8260B - VOCs (Target Compound List) 8151A - Herbicides 2320B, 2540C, Calcd, 2540D, 300 ORGFM 28D, 300 ORGFM, 9040C, 340.2 FI SUBCONTRACT - Caffeine - (WECK) Total Number of containers			
HCS210 PEAK HCS240 PEAK HCS250 PEAK HCS260 PEAK HCS270 PEAK		4/13/16 0207 Water 4/13/16 0219 Water 4/13/16 0155 Water 4/13/16 0214 Water 4/13/16 0200 Water			
Preservation marked on Bottle Labels Preservation marked on Bottle Labels Preservation marked on Bottle Labels Preservation marked on Bottle Labels Preservation marked on Bottle Labels		22 22 22 22 22			
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months			
Empty Kit Relinquished by:		Date:			
Relinquished by:		Date/Time: 4/13/16 14:55 Company: SWCA			
Relinquished by:		Date/Time: 4-13-16 14:55 Company:			
Relinquished by:		Date/Time: 4-14-16 0820 Company:			
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: See attached			

## Chain of Custody Record

<b>Client Information</b> Client Contact: Jennifer Moreland Company: SWCA, Inc. Address: 6200 UTSA Boulevard Suite 102 City: San Antonio State, Zip: TX, 78249 Phone: 210-877-2847 (Tel) Email: JMoreland@swca.com Project Name: 2016 - Stormwater Sampling Site: San Marcos Springs		Sampler: Jennifer Moreland Lab PM: Maingot, Lindy Phone: 210-877-2847 E-Mail: lindy.maingot@testamericainc.com		Carrier Tracking No(s): COC No: 600-43444-13486.1 Page: 1 of 4 Job #: 3 of 4	
Due Date Requested: TAT Requested (days): Standard PO #: Purchase Order Requested WO #: Project #: 60006903 SSOW#:		<b>Analysis Requested</b>			
Sample Identification Sample Date Sample Time Sample Type (C=Comp, G=Grab) Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)		Field Filtered Sample (Yes or No) Preservation Code: 4/13/16 0433 G Water 4/13/16 0452 G Water 4/13/16 0423 G Water 4/13/16 0442 G Water 4/13/16 0429 G Water			
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months			
Empty Kit Relinquished by: Relinquished by: Relinquished by: Relinquished by:		Method of Shipment: Received by: Date/Time: 4-13-16 14:55 Received by: Date/Time: 4-13-16 14:55 Received by: Date/Time: 4-14-16 0820			
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: See attached			



[illegible]

<u>Cooler:</u>	<u>Temp. (obs/corr)</u>	<u>IR#</u>
1.	0.4 / 0.4	6
2.	0.7 / 0.7	6
3.	0.4 / 0.4	6
4.	2.8 / 2.8	6
5.	2.7 / 2.7	6
6.	0.6 / 0.6	6
7.	2.8 / 3.4	9
8.	4.1 / 4.7	9
9.	2.1 / 2.1	6
10.	2.1 / 2.1	6
11.	1.0 / 1.6	9
12.	0.6 / 1.2	9
13.	1.1 / 1.1	6
14.	2.3 / 2.3	6
15.	1.7 / 1.7	6
16.	3.1 / 3.6	9
17.	1.6 / 1.6	6
18.	1.1 / 1.1	6
19.	1.7 / 2.2	9
20.	1.2 / 1.2	6
21.	2.5 / 2.5	6
22.	3.3 / 3.3	6

## Chain of Custody Record

[illegible]

## Chain of Custody Record

<b>Client Information (Sub Contract Lab)</b>		Sampler:		Lab PM: Maingot, Lindy		Carrier Tracking No(s):		COC No: 560-13452.2	
Client Contact: Shipping/Receiving		Phone:		E-Mail: lindy.maingot@testamericainc.com		Page 2 of 3		Job #: 560-60893-1	
Company: TestAmerica Laboratories, Inc.		Due Date Requested: 4/26/2016		TAT Requested (days):		Analysis Requested		Preservation Codes:	
Address: 4955 Yarrow Street,		City: Arvada		State: CO		CO: 80002		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Y - EDA Z - other (specify)	
Phone: 303-736-0100(Tel) 303-431-7171(Fax)		PO #:		WO #:		Project #:		SSOW#:	
Project Name: 2016 - Stormwater Sampling		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)	
Site:		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)	
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)	
HCS240 PEAK (560-60893-13)		4/13/16		04:52		Central		Water	
HCS250 PEAK (560-60893-14)		4/13/16		04:23		Central		Water	
HCS260 PEAK (560-60893-15)		4/13/16		04:42		Central		Water	
HCS270 PEAK (560-60893-16)		4/13/16		04:29		Central		Water	
HCS210 TRAIL (560-60893-17)		4/13/16		08:37		Central		Water	
HCS210 TRAIL (560-60893-17MS)		4/13/16		08:37		Central		Water	
HCS210 TRAIL (560-60893-17MSD)		4/13/16		08:37		Central		Water	
HCS240 TRAIL (560-60893-18)		4/13/16		08:52		Central		Water	
HCS250 TRAIL (560-60893-19)		4/13/16		08:16		Central		Water	
HCS260 TRAIL (560-60893-20)		4/13/16		09:14		Central		Water	
FDHCS260 TRAIL (560-60893-21)		4/13/16		09:14		Central		Water	
Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return To Client		Disposal By Lab		Archive For	
Unconfirmed		Special Instructions/QC Requirements:		Special Instructions/QC Requirements:		Special Instructions/QC Requirements:		Special Instructions/QC Requirements:	
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:		Months	
Relinquished by:		Date/Time: 4-14-16 1700		Company: TAC		Date/Time: 4/15/16 0930		Company: TAC	
Relinquished by:		Date/Time:		Company:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Company:		Date/Time:		Company:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:					

[illegible]



## Chain of Custody Record

[illegible]

[illegible]

Age group	Number of people
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12



[illegible]

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

Loc: 560  
60893

TA Conpuls

Pe

Number of Coolers Received:

[illegible]

CF = correction factor

Samples received on ice? ☒ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YES

Base samples are >pH 12: ☐ YES ☐ NO      Acid preserved are <pH 2: ☐ YES ☐ NO

pH paper Lot # \_\_\_\_\_

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

YES NO

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?

COMMENTS:

7761 1283 8613

## Chain of Custody Record



TestAmerica

2012年12月27日

Client Information (Sub Contract Lab)				Lab #/F#		Carrier Tracking No(s)		COC No	
Client Contact				Mailing, Lindy				560-13453.1	
Shipping/Receiving				E-Mail:				Page:	
Company				Lindy.maingot@testamerica.com				Page 1 of 3	
TestAmerica Laboratories, Inc.				Analysis Requested		Job #		560-60893-1	
Due Date Requested:				Field Filtered Sample (Yes or No)		356.4/Digest, P. Hotchkiss		816.1A/816.1A, AP (MOD) Routine List	
4/26/2016				X		X		X	
TAT Requested (days):				X		X		X	
PO #:				X		X		X	
WO #:				X		X		X	
Project #:				X		X		X	
56005790				X		X		X	
SSOW#:				X		X		X	
Sample Identification - Client ID (Lab ID)				Sample Date		Sample Time		Sample Type (C=comp, G=grab)	
HCS210 LEAD (560-60893-1)				4/12/16		23:20		Water	
HCS240 LEAD (560-60893-2)				4/12/16		23:37		Water	
HCS250 LEAD (560-60893-3)				4/12/16		23:08		Water	
HCS260 LEAD (560-60893-4)				4/12/16		23:35		Water	
HCS270 LEAD (560-60893-5)				4/12/16		23:16		Water	
HCS210 PEAK (560-60893-7)				4/13/16		02:07		Water	
HCS240 PEAK (560-60893-8)				4/13/16		02:19		Water	
HCS250 PEAK (560-60893-9)				4/13/16		01:55		Water	
HCS260 PEAK (560-60893-10)				4/13/16		02:14		Water	
HCS270 PEAK (560-60893-11)				4/13/16		02:00		Water	
HCS210 PEAK (560-60893-12)				4/13/16		04:33		Water	
Possible Hazard Identification				Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return To Client		Disposal By Lab	
Unconfirmed				Special Instructions/QC Requirements		Archive For		Months	
Deliverable Requested: I, II, III, IV, Other (specify)				Special Instructions/QC Requirements		Archive For		Months	
Empty Kit Relinquished by:				Date:		Time:		Method of Shipment	
Relinquished by: [Signature]				4-14-16		1700		Company: [Signature]	
Relinquished by:				Date/Time:		Date/Time:		Company:	
Relinquished by:				Date/Time:		Date/Time:		Company:	
Custody Seals Intact.				Relinquished by: [Signature]		Date/Time: 4-15-16		Company: TA	
Custody Seal No.:				45/43		07/16		09/13 09/13 48/15	

2019年12月31日

5/17/2016

[illegible]

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60893-1

**Login Number: 60893**

**List Source: TestAmerica Corpus Christi**

**List Number: 1**

**Creator: Contreras, Kristen N**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60893-1

**Login Number: 60893**

**List Number: 4**

**Creator: White, Denise E**

**List Source: TestAmerica Denver**

**List Creation: 04/15/16 04:15 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60893-1

**Login Number: 60893**

**List Number: 5**

**Creator: White, Denise E**

**List Source: TestAmerica Denver**

**List Creation: 04/15/16 04:18 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60893-1

**Login Number: 60893**

**List Number: 3**

**Creator: Hilton, Jeremy C**

**List Source: TestAmerica Houston**

**List Creation: 04/15/16 02:10 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60893-1

**Login Number: 60893**

**List Number: 2**

**Creator: Murray, Thomas J**

**List Source: TestAmerica Savannah**

**List Creation: 04/15/16 12:21 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-63976-1

Client Project/Site: Comal Springs  
Revision: 1

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
10/26/2016 3:25:09 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

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results through

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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# Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.

### GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate is outside control limits

## Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.

## General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica Corpus Christi

# Case Narrative

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Job ID: 560-63976-1**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

### Job Narrative 560-63976-1

#### Revised Report 1 10-19-2016

The client requested a change for the units for 8260, 8141 and 6020. No other changes were made.

#### Receipt

The samples were received on 9/27/2016 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 10 coolers at receipt time were 1.4° C, 1.4° C, 1.6° C, 2.0° C, 2.2° C, 2.2° C, 2.2° C, 3.0° C, 4.0° C and 4.6° C.

#### Receipt Exceptions

The following Trip Blank sample was received with headspace in 2 of 2 vial(s): TB13 (560-63976-11).

One container for the following sample was broken in handling: HCS270 Peak (560-63976-10).

#### GC/MS VOA

Method 8260: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 132164 were outside acceptable limits for Ethylene oxide. The LCS was within acceptable limits. Therefore, data are reported.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC Semi VOA

Method 8141A: The grand mean exception, as outlined in EPA method 8000B, was applied to the continuing calibration verification (CCV) standard associated with batch 280-345644 for several compounds. This rule states that when one or more compounds in the CCV fail to meet acceptance criteria, the initial calibration (ICAL) may be used for quantitation if the average %D (the grand mean) of all the compounds in the CCV is less than or equal to 15%D with no single %D more than 30%. All associated samples are ND for the affected compounds. Both surrogates are well in control on both columns and not affected by any bias.

CCV1 (front) Chlormefos -19% AVE=5.2 (back) Dichlorvos +16% Merphos -17% AVE=9.6

MB, LCS, 560-63976-1, -2, -3, -4, -5, 560-63977-1, -2, -3, -4, -5

CCV2 (front) OK (back) Tokuthion -16% Trichloronate -16% Azinphos-methyl -16% Chlormefos -16% Methyl parathion -16% AVE=13.2

560-63995-1, 560-64002-2, MS, MSD, -3, -4, -5, -6, -12, -13

CCV3 (front) Dichlorvos +18% AVE=9.4 (back) Azinphos-methyl -20% Dichlorvos +20% AVE=12.6

Method 8141A: The continuing calibration verification (CCV) associated with batch 280-345644 recovered outside acceptance criteria, low biased, for Naled. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

560-64002-2, MS, MSD, -3, -4, -5, -6, 12-, -13

CCV3 (front) Naled -46% (back) Naled -50%

Method 8141A: The initial calibration verification (ICV) for Mevinphos associated with analytical batch 280-345644 recovered below the lower control limit on the back/confirmation column. The samples associated with this ICV were non-detects for the affected analytes; therefore, the data have been reported from the front/primary column which is in control.

ICV (front) OK (back) Mevinphos -21%

Method 8141A: The Chlormefos surrogate recovery for the following sample in preparation batch 280-344653 and analytical batch 280-345644 was outside acceptance limits (low biased) on the back/confirmation column: (560-64002-Q-2-A MS). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control. The bracketing CCV for Chlormefos recovered below the lower limit but the surrogate is in control on the same column without bias. The sample is a matrix spike and all spiked compounds are well in control on both columns.

Method 8082A: 2 surrogates are used for this analysis. The laboratory's SOP allows 1 of these surrogates to be outside acceptance

# Case Narrative

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Job ID: 560-63976-1 (Continued)

### Laboratory: TestAmerica Corpus Christi (Continued)

criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 560-132158/1-A). These results have been reported and qualified.

Method 8081B: The following continuing calibration verification (CCV) associated with batch 560-132177 recovered above the upper control limit for toxaphene: (CCV 560-132177/4). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8081B: 2 surrogates are used for this analysis. The laboratory's SOP allows 1 of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 560-132158/1-A). These results have been reported and qualified.

Method 8151: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 452263 were outside acceptable limits for Dalapon. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Metals

Method 6010B: The method blank for preparation batch 560-132189 and analytical batch 560-132326 contained Na and Sr above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 6010: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 132326 and prep batch 132189 were outside acceptable limits for Sodium. The LCS was within acceptable limits. Therefore, data are reported.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### General Chemistry

Method 9040C: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples have been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe. 560-63976-1-10

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Organic Prep

Method 3510C: The following samples were spiked with a unverified standards.

8141 Surr\_00079 & 8141 LCS\_000112

HCS210 Lead (560-63976-1), HCS240 Lead (560-63976-2), HCS250 Lead (560-63976-3), HCS260 Lead (560-63976-4) and HCS270 Lead (560-63976-5)

preparation batch 280-344653.

3510C 8141A

344653

Method 3510C: The following samples formed emulsions during the extraction procedure: HCS210 Lead (560-63976-1), HCS240 Lead (560-63976-2), HCS250 Lead (560-63976-3), HCS260 Lead (560-63976-4) and HCS270 Lead (560-63976-5). The emulsions were broken up using a pour back method on all three extractions.

preparation batch 280-344653.

3510C 8141A

344653

Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 560-132246.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Client Sample ID: HCS210 Lead

## Lab Sample ID: 560-63976-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	17.3		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	1.57		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.54		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	1.11		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	0.983	J	1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.0634	B	0.00500	0.000700	mg/L	1		6010B	Dissolved
Aluminum	0.0619	J	0.100	0.0500	mg/L	1		6020	Dissolved
Barium	0.00724		0.00500	0.000810	mg/L	1		6020	Dissolved
Zinc	0.00593	J	0.0250	0.00355	mg/L	1		6020	Dissolved
Chloride	1.88		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.404	J	0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	2.61		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.0371	J	0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.199		0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	3.63		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	3.62		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	43.2		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	43.2		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	78.0		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	114		2.00	2.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HCS240 Lead

## Lab Sample ID: 560-63976-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	40.5		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	7.44		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.08		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	2.69		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	5.19		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.297	B	0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0233		0.00500	0.000810	mg/L	1		6020	Dissolved
Iron	1.12		0.250	0.101	mg/L	1		6020	Dissolved
Manganese	0.0172	J	0.0500	0.0116	mg/L	1		6020	Dissolved
Bromide	0.413	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	9.59		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.04		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	12.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.106		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.107		0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	2.32		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.85		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.2	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	125		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	125		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	187		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	31.2		2.00	2.00	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Client Sample ID: HCS250 Lead

## Lab Sample ID: 560-63976-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	71.3		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	13.5		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.89		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.55		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	9.41		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.541	B	0.00500	0.000700	mg/L	1		6010B	Dissolved
Aluminum	0.0795	J	0.100	0.0500	mg/L	1		6020	Dissolved
Barium	0.0415		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.432	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	12.3		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.21		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	16.2		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.150		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	1.44		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	2.04		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.2	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	154		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	154		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	219		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	35.2		2.00	2.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HCS260 Lead

## Lab Sample ID: 560-63976-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	5.33	J	20.0	5.00	ug/L	1		8270C	Total/NA
Disulfoton	0.000373	J p	0.000960	0.000309	mg/L	1		8141A	Total/NA
Calcium	81.3		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.5		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.59		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.05		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	10.6		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.627	B	0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0479		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.453	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.5		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.78		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	25.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.220		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.558	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.675	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	215		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	215		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	319		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.40		2.00	2.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HCS270 Lead

## Lab Sample ID: 560-63976-5

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Client Sample ID: HCS270 Lead (Continued)

## Lab Sample ID: 560-63976-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	6.28	J	20.0	5.00	ug/L	1		8270C	Total/NA
Calcium	79.1		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.9		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.71		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.94		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	10.8		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.597	B	0.00500	0.000700	mg/L	1		6010B	Dissolved
Aluminum	0.0596	J	0.100	0.0500	mg/L	1		6020	Dissolved
Barium	0.0443		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.454	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	15.8		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.62		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	22.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.200		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.901	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.833	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	202		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	202		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	290		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	15.4		2.00	2.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: TB13

## Lab Sample ID: 560-63976-11

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS210 Lead**

**Lab Sample ID: 560-63976-1**

**Date Collected: 09/26/16 03:15**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/27/16 12:11	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/27/16 12:11	1
Benzene	0.330	U	1.00	0.330	ug/L			09/27/16 12:11	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/27/16 12:11	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 12:11	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/27/16 12:11	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/27/16 12:11	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/27/16 12:11	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/27/16 12:11	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/27/16 12:11	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/27/16 12:11	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/27/16 12:11	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/27/16 12:11	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/27/16 12:11	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/27/16 12:11	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/27/16 12:11	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/27/16 12:11	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/27/16 12:11	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/27/16 12:11	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/27/16 12:11	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/27/16 12:11	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 12:11	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/27/16 12:11	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/27/16 12:11	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/27/16 12:11	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/27/16 12:11	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/27/16 12:11	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/27/16 12:11	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/27/16 12:11	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 12:11	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/27/16 12:11	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/27/16 12:11	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/27/16 12:11	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/27/16 12:11	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/27/16 12:11	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/27/16 12:11	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/27/16 12:11	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/27/16 12:11	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/27/16 12:11	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/27/16 12:11	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/27/16 12:11	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/27/16 12:11	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/27/16 12:11	1
EDB	0.175	U	1.00	0.175	ug/L			09/27/16 12:11	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/27/16 12:11	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 12:11	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/27/16 12:11	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/27/16 12:11	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/27/16 12:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS210 Lead**

**Lab Sample ID: 560-63976-1**

**Date Collected: 09/26/16 03:15**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/27/16 12:11	1
Hexane	2.00	U	5.00	2.00	ug/L			09/27/16 12:11	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/27/16 12:11	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/27/16 12:11	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/27/16 12:11	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/27/16 12:11	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/27/16 12:11	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/27/16 12:11	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/27/16 12:11	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/27/16 12:11	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/27/16 12:11	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/27/16 12:11	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/27/16 12:11	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/27/16 12:11	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/27/16 12:11	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 12:11	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/27/16 12:11	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/27/16 12:11	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/27/16 12:11	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/27/16 12:11	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/27/16 12:11	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/27/16 12:11	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/27/16 12:11	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/27/16 12:11	1
Styrene	0.200	U	1.00	0.200	ug/L			09/27/16 12:11	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 12:11	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/27/16 12:11	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/27/16 12:11	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/27/16 12:11	1
Toluene	0.495	U	1.00	0.495	ug/L			09/27/16 12:11	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 12:11	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/27/16 12:11	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/27/16 12:11	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/27/16 12:11	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/27/16 12:11	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/27/16 12:11	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/27/16 12:11	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/27/16 12:11	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/27/16 12:11	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/27/16 12:11	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/27/16 12:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/27/16 12:11	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 12:11	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 12:11	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/27/16 12:11	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/27/16 12:11	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/27/16 12:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130		09/27/16 12:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS210 Lead**

**Lab Sample ID: 560-63976-1**

**Date Collected: 09/26/16 03:15**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	101		69 - 130		09/27/16 12:11	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		09/27/16 12:11	1
Toluene-d8 (Surr)	101		70 - 130		09/27/16 12:11	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/28/16 16:00	09/29/16 10:03	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/28/16 16:00	09/29/16 10:03	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/28/16 16:00	09/29/16 10:03	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/28/16 16:00	09/29/16 10:03	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/28/16 16:00	09/29/16 10:03	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/28/16 16:00	09/29/16 10:03	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/28/16 16:00	09/29/16 10:03	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/28/16 16:00	09/29/16 10:03	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/28/16 16:00	09/29/16 10:03	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/28/16 16:00	09/29/16 10:03	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/28/16 16:00	09/29/16 10:03	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/28/16 16:00	09/29/16 10:03	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/28/16 16:00	09/29/16 10:03	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/28/16 16:00	09/29/16 10:03	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 10:03	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/28/16 16:00	09/29/16 10:03	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/28/16 16:00	09/29/16 10:03	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/28/16 16:00	09/29/16 10:03	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/28/16 16:00	09/29/16 10:03	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/28/16 16:00	09/29/16 10:03	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/28/16 16:00	09/29/16 10:03	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/28/16 16:00	09/29/16 10:03	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/28/16 16:00	09/29/16 10:03	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/28/16 16:00	09/29/16 10:03	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/28/16 16:00	09/29/16 10:03	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 10:03	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/28/16 16:00	09/29/16 10:03	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/28/16 16:00	09/29/16 10:03	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/28/16 16:00	09/29/16 10:03	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 10:03	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/28/16 16:00	09/29/16 10:03	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/28/16 16:00	09/29/16 10:03	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/28/16 16:00	09/29/16 10:03	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/28/16 16:00	09/29/16 10:03	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/28/16 16:00	09/29/16 10:03	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/28/16 16:00	09/29/16 10:03	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/28/16 16:00	09/29/16 10:03	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/28/16 16:00	09/29/16 10:03	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/28/16 16:00	09/29/16 10:03	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/28/16 16:00	09/29/16 10:03	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/28/16 16:00	09/29/16 10:03	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 10:03	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/28/16 16:00	09/29/16 10:03	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS210 Lead**

**Lab Sample ID: 560-63976-1**

**Date Collected: 09/26/16 03:15**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 10:03	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/28/16 16:00	09/29/16 10:03	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/28/16 16:00	09/29/16 10:03	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/28/16 16:00	09/29/16 10:03	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 10:03	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/28/16 16:00	09/29/16 10:03	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/28/16 16:00	09/29/16 10:03	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/28/16 16:00	09/29/16 10:03	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/28/16 16:00	09/29/16 10:03	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/28/16 16:00	09/29/16 10:03	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/28/16 16:00	09/29/16 10:03	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/28/16 16:00	09/29/16 10:03	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/28/16 16:00	09/29/16 10:03	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/28/16 16:00	09/29/16 10:03	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/28/16 16:00	09/29/16 10:03	1
Phenol	0.768	U	10.0	0.768	ug/L		09/28/16 16:00	09/29/16 10:03	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/28/16 16:00	09/29/16 10:03	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/28/16 16:00	09/29/16 10:03	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/28/16 16:00	09/29/16 10:03	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/28/16 16:00	09/29/16 10:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	58		23 - 130	09/28/16 16:00	09/29/16 10:03	1
2-Fluorophenol	59		10 - 130	09/28/16 16:00	09/29/16 10:03	1
Nitrobenzene-d5	61		27 - 130	09/28/16 16:00	09/29/16 10:03	1
Phenol-d5	61		10 - 130	09/28/16 16:00	09/29/16 10:03	1
Terphenyl-d14	19		10 - 141	09/28/16 16:00	09/29/16 10:03	1
2,4,6-Tribromophenol	56		18 - 130	09/28/16 16:00	09/29/16 10:03	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 14:33	1
alpha-BHC	0.00487	U	0.0561	0.00487	ug/L		09/27/16 10:32	09/28/16 14:33	1
alpha-Chlordane	0.00590	U	0.0561	0.00590	ug/L		09/27/16 10:32	09/28/16 14:33	1
beta-BHC	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 14:33	1
4,4'-DDD	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 14:33	1
4,4'-DDE	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 14:33	1
4,4'-DDT	0.00758	U	0.0561	0.00758	ug/L		09/27/16 10:32	09/28/16 14:33	1
delta-BHC	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 14:33	1
Dieldrin	0.0122	U	0.0561	0.0122	ug/L		09/27/16 10:32	09/28/16 14:33	1
Endosulfan I	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 14:33	1
Endosulfan II	0.00805	U	0.0561	0.00805	ug/L		09/27/16 10:32	09/28/16 14:33	1
Endosulfan sulfate	0.00824	U	0.0561	0.00824	ug/L		09/27/16 10:32	09/28/16 14:33	1
Endrin	0.00721	U	0.0561	0.00721	ug/L		09/27/16 10:32	09/28/16 14:33	1
Endrin aldehyde	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 14:33	1
Endrin ketone	0.00767	U	0.0561	0.00767	ug/L		09/27/16 10:32	09/28/16 14:33	1
gamma-BHC (Lindane)	0.00421	U	0.0561	0.00421	ug/L		09/27/16 10:32	09/28/16 14:33	1
gamma-Chlordane	0.00627	U	0.0561	0.00627	ug/L		09/27/16 10:32	09/28/16 14:33	1
Heptachlor	0.00608	U	0.0561	0.00608	ug/L		09/27/16 10:32	09/28/16 14:33	1
Heptachlor epoxide	0.00487	U	0.0561	0.00487	ug/L		09/27/16 10:32	09/28/16 14:33	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS210 Lead**

**Lab Sample ID: 560-63976-1**

**Date Collected: 09/26/16 03:15**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	0.00936	U	0.0561	0.00936	ug/L		09/27/16 10:32	09/28/16 14:33	1
Toxaphene	0.636	U	5.61	0.636	ug/L		09/27/16 10:32	09/28/16 14:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	100		10 - 152				09/27/16 10:32	09/28/16 14:33	1
Tetrachloro-m-xylene	117		57 - 127				09/27/16 10:32	09/28/16 14:33	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 15:22	1
Aroclor 1221	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 15:22	1
Aroclor 1232	0.412	U	0.749	0.412	ug/L		09/27/16 10:32	09/27/16 15:22	1
Aroclor 1242	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 15:22	1
Aroclor 1248	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 15:22	1
Aroclor 1254	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 15:22	1
Aroclor 1260	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 15:22	1
Aroclor 1262	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 15:22	1
Aroclor 1268	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 15:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	148		10 - 150				09/27/16 10:32	09/27/16 15:22	1
DCB Decachlorobiphenyl	105		10 - 150				09/27/16 10:32	09/27/16 15:22	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000161	U	0.00239	0.000161	mg/L		10/02/16 08:17	10/09/16 06:08	1
Bolstar	0.000300	U	0.000957	0.000300	mg/L		10/02/16 08:17	10/09/16 06:08	1
Chlorpyrifos	0.000344	U	0.00144	0.000344	mg/L		10/02/16 08:17	10/09/16 06:08	1
Coumaphos	0.000129	U	0.000957	0.000129	mg/L		10/02/16 08:17	10/09/16 06:08	1
Demeton-O	0.000134	U	0.000957	0.000134	mg/L		10/02/16 08:17	10/09/16 06:08	1
Demeton-S	0.0000660	U	0.00191	0.0000660	mg/L		10/02/16 08:17	10/09/16 06:08	1
Diazinon	0.000141	U	0.000478	0.000141	mg/L		10/02/16 08:17	10/09/16 06:08	1
Dichlorvos	0.000155	U	0.000478	0.000155	mg/L		10/02/16 08:17	10/09/16 06:08	1
Dimethoate	0.000430	U	0.00144	0.000430	mg/L		10/02/16 08:17	10/09/16 06:08	1
Disulfoton	0.000308	U	0.000957	0.000308	mg/L		10/02/16 08:17	10/09/16 06:08	1
EPN	0.000143	U	0.00115	0.000143	mg/L		10/02/16 08:17	10/09/16 06:08	1
Ethoprop	0.000169	U	0.00144	0.000169	mg/L		10/02/16 08:17	10/09/16 06:08	1
Ethyl Parathion	0.000138	U	0.000957	0.000138	mg/L		10/02/16 08:17	10/09/16 06:08	1
Famphur	0.000171	U	0.000957	0.000171	mg/L		10/02/16 08:17	10/09/16 06:08	1
Fensulfothion	0.000521	U	0.00239	0.000521	mg/L		10/02/16 08:17	10/09/16 06:08	1
Fenthion	0.000147	U	0.00239	0.000147	mg/L		10/02/16 08:17	10/09/16 06:08	1
Malathion	0.000127	U	0.00191	0.000127	mg/L		10/02/16 08:17	10/09/16 06:08	1
Merphos	0.000166	U	0.00478	0.000166	mg/L		10/02/16 08:17	10/09/16 06:08	1
Methyl parathion	0.000135	U	0.00383	0.000135	mg/L		10/02/16 08:17	10/09/16 06:08	1
Mevinphos	0.000440	U	0.00593	0.000440	mg/L		10/02/16 08:17	10/09/16 06:08	1
Naled	0.000765	U	0.00191	0.000765	mg/L		10/02/16 08:17	10/09/16 06:08	1
Phorate	0.000147	U	0.00115	0.000147	mg/L		10/02/16 08:17	10/09/16 06:08	1
Ronnel	0.000111	U	0.00957	0.000111	mg/L		10/02/16 08:17	10/09/16 06:08	1
Sulfotepp	0.000161	U	0.00144	0.000161	mg/L		10/02/16 08:17	10/09/16 06:08	1
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00335	0.000119	mg/L		10/02/16 08:17	10/09/16 06:08	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS210 Lead**

**Lab Sample ID: 560-63976-1**

**Date Collected: 09/26/16 03:15**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thionazin	0.000299	U	0.000957	0.000299	mg/L		10/02/16 08:17	10/09/16 06:08	1
Tokuthion	0.000118	U	0.00153	0.000118	mg/L		10/02/16 08:17	10/09/16 06:08	1
Trichloronate	0.000232	U	0.00144	0.000232	mg/L		10/02/16 08:17	10/09/16 06:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	63		49 - 171				10/02/16 08:17	10/09/16 06:08	1
Triphenylphosphate	95		60 - 154				10/02/16 08:17	10/09/16 06:08	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.125	U	6.23	0.125	ug/L		10/03/16 10:22	10/04/16 18:52	1
Dicamba	0.106	U	0.623	0.106	ug/L		10/03/16 10:22	10/04/16 18:52	1
Mecoprop	23.7	U	150	23.7	ug/L		10/03/16 10:22	10/04/16 18:52	1
MCPA	21.2	U	150	21.2	ug/L		10/03/16 10:22	10/04/16 18:52	1
Dichlorprop	0.187	U	0.623	0.187	ug/L		10/03/16 10:22	10/04/16 18:52	1
2,4-D	0.0461	U	0.623	0.0461	ug/L		10/03/16 10:22	10/04/16 18:52	1
Silvex (2,4,5-TP)	0.0773	U	0.312	0.0773	ug/L		10/03/16 10:22	10/04/16 18:52	1
2,4,5-T	0.0773	U	0.312	0.0773	ug/L		10/03/16 10:22	10/04/16 18:52	1
2,4-DB	0.187	U	0.623	0.187	ug/L		10/03/16 10:22	10/04/16 18:52	1
Dinoseb	0.199	U	1.25	0.199	ug/L		10/03/16 10:22	10/04/16 18:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	76		45 - 130				10/03/16 10:22	10/04/16 18:52	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	17.3		0.200	0.101	mg/L		09/27/16 12:30	09/30/16 11:00	1
Magnesium	1.57		0.200	0.0257	mg/L		09/27/16 12:30	09/30/16 11:00	1
Potassium	2.54		0.500	0.375	mg/L		09/27/16 12:30	09/30/16 16:56	1
Silicon	1.11		0.500	0.0707	mg/L		09/27/16 12:30	09/30/16 11:00	1
Sodium	0.983	J	1.00	0.310	mg/L		09/27/16 12:30	09/30/16 16:56	1
Strontium	0.0634	B	0.00500	0.000700	mg/L		09/27/16 12:30	09/30/16 11:00	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0619	J	0.100	0.0500	mg/L		09/27/16 16:50	09/28/16 16:39	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/27/16 16:50	09/28/16 16:39	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/27/16 16:50	09/28/16 16:39	1
Barium	0.00724		0.00500	0.000810	mg/L		09/27/16 16:50	09/28/16 16:39	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/27/16 16:50	09/28/16 16:39	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/27/16 16:50	09/28/16 16:39	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/27/16 16:50	09/28/16 16:39	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/27/16 16:50	09/28/16 16:39	1
Iron	0.101	U	0.250	0.101	mg/L		09/27/16 16:50	09/28/16 16:39	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/27/16 16:50	09/28/16 16:39	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/27/16 16:50	09/28/16 16:39	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/27/16 16:50	09/28/16 16:39	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/27/16 16:50	09/28/16 16:39	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/27/16 16:50	09/28/16 16:39	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/27/16 16:50	09/28/16 16:39	1
Zinc	0.00593	J	0.0250	0.00355	mg/L		09/27/16 16:50	09/28/16 16:39	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 16:16	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L			09/27/16 13:51	1
Chloride	1.88		1.00	0.192	mg/L			09/27/16 13:51	1
Nitrate as N	0.404	J	0.500	0.103	mg/L			09/27/16 13:51	1
Sulfate	2.61		1.00	0.377	mg/L			09/27/16 13:51	1
Fluoride	0.0371	J	0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/03/16 11:47	1
Phosphorus	0.199		0.100	0.0410	mg/L		10/04/16 10:00	10/06/16 06:04	1
Total Organic Carbon	3.63		1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3	HF	0.1	0.1	SU			09/27/16 09:42	1
Total Alkalinity as CaCO3	43.2		5.00	5.00	mg/L			09/28/16 09:45	1
Bicarbonate Alkalinity as CaCO3	43.2		5.00	5.00	mg/L			09/28/16 09:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1
Total Dissolved Solids	78.0		10.0	10.0	mg/L			09/27/16 14:19	1
Total Suspended Solids	114		2.00	2.00	mg/L			09/27/16 11:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.62		1.00	0.285	mg/L			10/05/16 12:09	1

Client Sample ID: HCS240 Lead

Lab Sample ID: 560-63976-2

Date Collected: 09/26/16 03:36

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/27/16 14:17	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/27/16 14:17	1
Benzene	0.330	U	1.00	0.330	ug/L			09/27/16 14:17	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/27/16 14:17	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 14:17	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/27/16 14:17	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/27/16 14:17	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/27/16 14:17	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/27/16 14:17	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/27/16 14:17	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/27/16 14:17	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/27/16 14:17	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/27/16 14:17	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/27/16 14:17	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/27/16 14:17	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/27/16 14:17	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/27/16 14:17	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/27/16 14:17	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/27/16 14:17	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/27/16 14:17	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/27/16 14:17	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 14:17	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/27/16 14:17	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/27/16 14:17	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS240 Lead**

**Lab Sample ID: 560-63976-2**

**Date Collected: 09/26/16 03:36**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/27/16 14:17	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/27/16 14:17	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/27/16 14:17	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/27/16 14:17	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/27/16 14:17	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 14:17	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/27/16 14:17	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/27/16 14:17	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/27/16 14:17	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/27/16 14:17	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/27/16 14:17	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/27/16 14:17	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/27/16 14:17	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/27/16 14:17	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/27/16 14:17	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/27/16 14:17	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/27/16 14:17	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/27/16 14:17	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/27/16 14:17	1
EDB	0.175	U	1.00	0.175	ug/L			09/27/16 14:17	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/27/16 14:17	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 14:17	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/27/16 14:17	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/27/16 14:17	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/27/16 14:17	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/27/16 14:17	1
Hexane	2.00	U	5.00	2.00	ug/L			09/27/16 14:17	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/27/16 14:17	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/27/16 14:17	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/27/16 14:17	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/27/16 14:17	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/27/16 14:17	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/27/16 14:17	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/27/16 14:17	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/27/16 14:17	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/27/16 14:17	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/27/16 14:17	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/27/16 14:17	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/27/16 14:17	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/27/16 14:17	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 14:17	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/27/16 14:17	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/27/16 14:17	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/27/16 14:17	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/27/16 14:17	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/27/16 14:17	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/27/16 14:17	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/27/16 14:17	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/27/16 14:17	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS240 Lead**

**Lab Sample ID: 560-63976-2**

**Date Collected: 09/26/16 03:36**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.200	U	1.00	0.200	ug/L			09/27/16 14:17	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 14:17	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/27/16 14:17	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/27/16 14:17	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/27/16 14:17	1
Toluene	0.495	U	1.00	0.495	ug/L			09/27/16 14:17	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 14:17	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/27/16 14:17	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/27/16 14:17	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/27/16 14:17	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/27/16 14:17	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/27/16 14:17	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/27/16 14:17	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/27/16 14:17	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/27/16 14:17	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/27/16 14:17	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/27/16 14:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/27/16 14:17	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 14:17	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 14:17	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/27/16 14:17	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/27/16 14:17	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/27/16 14:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		09/27/16 14:17	1
Dibromofluoromethane (Surr)	101		69 - 130		09/27/16 14:17	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		09/27/16 14:17	1
Toluene-d8 (Surr)	101		70 - 130		09/27/16 14:17	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/28/16 16:00	09/29/16 10:29	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/28/16 16:00	09/29/16 10:29	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/28/16 16:00	09/29/16 10:29	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/28/16 16:00	09/29/16 10:29	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/28/16 16:00	09/29/16 10:29	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/28/16 16:00	09/29/16 10:29	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/28/16 16:00	09/29/16 10:29	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/28/16 16:00	09/29/16 10:29	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/28/16 16:00	09/29/16 10:29	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/28/16 16:00	09/29/16 10:29	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/28/16 16:00	09/29/16 10:29	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/28/16 16:00	09/29/16 10:29	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/28/16 16:00	09/29/16 10:29	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/28/16 16:00	09/29/16 10:29	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 10:29	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/28/16 16:00	09/29/16 10:29	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/28/16 16:00	09/29/16 10:29	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/28/16 16:00	09/29/16 10:29	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS240 Lead**

**Lab Sample ID: 560-63976-2**

**Date Collected: 09/26/16 03:36**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/28/16 16:00	09/29/16 10:29	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/28/16 16:00	09/29/16 10:29	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/28/16 16:00	09/29/16 10:29	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/28/16 16:00	09/29/16 10:29	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/28/16 16:00	09/29/16 10:29	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/28/16 16:00	09/29/16 10:29	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/28/16 16:00	09/29/16 10:29	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 10:29	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/28/16 16:00	09/29/16 10:29	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/28/16 16:00	09/29/16 10:29	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/28/16 16:00	09/29/16 10:29	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 10:29	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/28/16 16:00	09/29/16 10:29	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/28/16 16:00	09/29/16 10:29	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/28/16 16:00	09/29/16 10:29	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/28/16 16:00	09/29/16 10:29	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/28/16 16:00	09/29/16 10:29	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/28/16 16:00	09/29/16 10:29	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/28/16 16:00	09/29/16 10:29	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/28/16 16:00	09/29/16 10:29	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/28/16 16:00	09/29/16 10:29	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/28/16 16:00	09/29/16 10:29	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/28/16 16:00	09/29/16 10:29	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 10:29	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/28/16 16:00	09/29/16 10:29	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 10:29	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/28/16 16:00	09/29/16 10:29	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/28/16 16:00	09/29/16 10:29	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/28/16 16:00	09/29/16 10:29	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 10:29	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/28/16 16:00	09/29/16 10:29	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/28/16 16:00	09/29/16 10:29	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/28/16 16:00	09/29/16 10:29	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/28/16 16:00	09/29/16 10:29	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/28/16 16:00	09/29/16 10:29	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/28/16 16:00	09/29/16 10:29	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/28/16 16:00	09/29/16 10:29	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/28/16 16:00	09/29/16 10:29	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/28/16 16:00	09/29/16 10:29	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/28/16 16:00	09/29/16 10:29	1
Phenol	0.768	U	10.0	0.768	ug/L		09/28/16 16:00	09/29/16 10:29	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/28/16 16:00	09/29/16 10:29	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/28/16 16:00	09/29/16 10:29	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/28/16 16:00	09/29/16 10:29	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/28/16 16:00	09/29/16 10:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		23 - 130	09/28/16 16:00	09/29/16 10:29	1
2-Fluorophenol	65		10 - 130	09/28/16 16:00	09/29/16 10:29	1
Nitrobenzene-d5	66		27 - 130	09/28/16 16:00	09/29/16 10:29	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS240 Lead**

**Lab Sample ID: 560-63976-2**

**Date Collected: 09/26/16 03:36**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	68		10 - 130	09/28/16 16:00	09/29/16 10:29	1
Terphenyl-d14	40		10 - 141	09/28/16 16:00	09/29/16 10:29	1
2,4,6-Tribromophenol	53		18 - 130	09/28/16 16:00	09/29/16 10:29	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00467	U	0.0560	0.00467	ug/L		09/27/16 10:32	09/28/16 16:40	1
alpha-BHC	0.00485	U	0.0560	0.00485	ug/L		09/27/16 10:32	09/28/16 16:40	1
alpha-Chlordane	0.00588	U	0.0560	0.00588	ug/L		09/27/16 10:32	09/28/16 16:40	1
beta-BHC	0.00467	U	0.0560	0.00467	ug/L		09/27/16 10:32	09/28/16 16:40	1
4,4'-DDD	0.00467	U	0.0560	0.00467	ug/L		09/27/16 10:32	09/28/16 16:40	1
4,4'-DDE	0.00467	U	0.0560	0.00467	ug/L		09/27/16 10:32	09/28/16 16:40	1
4,4'-DDT	0.00756	U	0.0560	0.00756	ug/L		09/27/16 10:32	09/28/16 16:40	1
delta-BHC	0.00467	U	0.0560	0.00467	ug/L		09/27/16 10:32	09/28/16 16:40	1
Dieldrin	0.0121	U	0.0560	0.0121	ug/L		09/27/16 10:32	09/28/16 16:40	1
Endosulfan I	0.00467	U	0.0560	0.00467	ug/L		09/27/16 10:32	09/28/16 16:40	1
Endosulfan II	0.00803	U	0.0560	0.00803	ug/L		09/27/16 10:32	09/28/16 16:40	1
Endosulfan sulfate	0.00821	U	0.0560	0.00821	ug/L		09/27/16 10:32	09/28/16 16:40	1
Endrin	0.00719	U	0.0560	0.00719	ug/L		09/27/16 10:32	09/28/16 16:40	1
Endrin aldehyde	0.00467	U	0.0560	0.00467	ug/L		09/27/16 10:32	09/28/16 16:40	1
Endrin ketone	0.00765	U	0.0560	0.00765	ug/L		09/27/16 10:32	09/28/16 16:40	1
gamma-BHC (Lindane)	0.00420	U	0.0560	0.00420	ug/L		09/27/16 10:32	09/28/16 16:40	1
gamma-Chlordane	0.00625	U	0.0560	0.00625	ug/L		09/27/16 10:32	09/28/16 16:40	1
Heptachlor	0.00607	U	0.0560	0.00607	ug/L		09/27/16 10:32	09/28/16 16:40	1
Heptachlor epoxide	0.00485	U	0.0560	0.00485	ug/L		09/27/16 10:32	09/28/16 16:40	1
Methoxychlor	0.00933	U	0.0560	0.00933	ug/L		09/27/16 10:32	09/28/16 16:40	1
Toxaphene	0.635	U	5.60	0.635	ug/L		09/27/16 10:32	09/28/16 16:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	96		10 - 152	09/27/16 10:32	09/28/16 16:40	1
Tetrachloro-m-xylene	98		57 - 127	09/27/16 10:32	09/28/16 16:40	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.560	0.103	ug/L		09/27/16 10:32	09/27/16 16:32	1
Aroclor 1221	0.103	U	0.560	0.103	ug/L		09/27/16 10:32	09/27/16 16:32	1
Aroclor 1232	0.411	U	0.747	0.411	ug/L		09/27/16 10:32	09/27/16 16:32	1
Aroclor 1242	0.103	U	0.560	0.103	ug/L		09/27/16 10:32	09/27/16 16:32	1
Aroclor 1248	0.103	U	0.560	0.103	ug/L		09/27/16 10:32	09/27/16 16:32	1
Aroclor 1254	0.103	U	0.560	0.103	ug/L		09/27/16 10:32	09/27/16 16:32	1
Aroclor 1260	0.103	U	0.560	0.103	ug/L		09/27/16 10:32	09/27/16 16:32	1
Aroclor 1262	0.103	U	0.560	0.103	ug/L		09/27/16 10:32	09/27/16 16:32	1
Aroclor 1268	0.103	U	0.560	0.103	ug/L		09/27/16 10:32	09/27/16 16:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	111		10 - 150	09/27/16 10:32	09/27/16 16:32	1
DCB Decachlorobiphenyl	85		10 - 150	09/27/16 10:32	09/27/16 16:32	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS240 Lead**

**Lab Sample ID: 560-63976-2**

**Date Collected: 09/26/16 03:36**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000170	U	0.00253	0.000170	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Bolstar	0.000318	U	0.00101	0.000318	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Chlorpyrifos	0.000364	U	0.00152	0.000364	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Coumaphos	0.000137	U	0.00101	0.000137	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Demeton-O	0.000142	U	0.00101	0.000142	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Demeton-S	0.0000699	U	0.00202	0.0000699	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Diazinon	0.000149	U	0.000506	0.000149	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Dichlorvos	0.000164	U	0.000506	0.000164	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Dimethoate	0.000455	U	0.00152	0.000455	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Disulfoton	0.000326	U	0.00101	0.000326	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
EPN	0.000151	U	0.00121	0.000151	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Ethoprop	0.000179	U	0.00152	0.000179	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Ethyl Parathion	0.000146	U	0.00101	0.000146	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Famphur	0.000181	U	0.00101	0.000181	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Fensulfothion	0.000551	U	0.00253	0.000551	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Fenthion	0.000156	U	0.00253	0.000156	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Malathion	0.000135	U	0.00202	0.000135	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Merphos	0.000176	U	0.00506	0.000176	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Methyl parathion	0.000143	U	0.00405	0.000143	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Mevinphos	0.000466	U	0.00628	0.000466	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Naled	0.000810	U	0.00202	0.000810	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Phorate	0.000156	U	0.00121	0.000156	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Ronnel	0.000117	U	0.0101	0.000117	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Sulfotepp	0.000170	U	0.00152	0.000170	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Tetrachlorvinphos (Stirophos)	0.000126	U	0.00354	0.000126	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Thionazin	0.000316	U	0.00101	0.000316	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Tokuthion	0.000125	U	0.00162	0.000125	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Trichloronate	0.000245	U	0.00152	0.000245	mg/L	-	10/02/16 08:17	10/09/16 06:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	49		49 - 171				10/02/16 08:17	10/09/16 06:40	1
Triphenylphosphate	98		60 - 154				10/02/16 08:17	10/09/16 06:40	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0949	U	4.74	0.0949	ug/L	-	10/03/16 10:22	10/04/16 19:12	1
Dicamba	0.0806	U	0.474	0.0806	ug/L	-	10/03/16 10:22	10/04/16 19:12	1
Mecoprop	18.0	U	114	18.0	ug/L	-	10/03/16 10:22	10/04/16 19:12	1
MCPA	16.1	U	114	16.1	ug/L	-	10/03/16 10:22	10/04/16 19:12	1
Dichlorprop	0.142	U	0.474	0.142	ug/L	-	10/03/16 10:22	10/04/16 19:12	1
2,4-D	0.0351	U	0.474	0.0351	ug/L	-	10/03/16 10:22	10/04/16 19:12	1
Silvex (2,4,5-TP)	0.0588	U	0.237	0.0588	ug/L	-	10/03/16 10:22	10/04/16 19:12	1
2,4,5-T	0.0588	U	0.237	0.0588	ug/L	-	10/03/16 10:22	10/04/16 19:12	1
2,4-DB	0.142	U	0.474	0.142	ug/L	-	10/03/16 10:22	10/04/16 19:12	1
Dinoseb	0.152	U	0.949	0.152	ug/L	-	10/03/16 10:22	10/04/16 19:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	80		45 - 130				10/03/16 10:22	10/04/16 19:12	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS240 Lead**

**Lab Sample ID: 560-63976-2**

**Date Collected: 09/26/16 03:36**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	40.5		0.200	0.101	mg/L		09/27/16 12:30	09/30/16 11:04	1
Magnesium	7.44		0.200	0.0257	mg/L		09/27/16 12:30	09/30/16 11:04	1
Potassium	2.08		0.500	0.375	mg/L		09/27/16 12:30	09/30/16 17:00	1
Silicon	2.69		0.500	0.0707	mg/L		09/27/16 12:30	09/30/16 11:04	1
Sodium	5.19		1.00	0.310	mg/L		09/27/16 12:30	09/30/16 17:00	1
Strontium	0.297	B	0.00500	0.000700	mg/L		09/27/16 12:30	09/30/16 11:04	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/27/16 16:50	09/28/16 16:44	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/27/16 16:50	09/28/16 16:44	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/27/16 16:50	09/28/16 16:44	1
Barium	0.0233		0.00500	0.000810	mg/L		09/27/16 16:50	09/28/16 16:44	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/27/16 16:50	09/28/16 16:44	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/27/16 16:50	09/28/16 16:44	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/27/16 16:50	09/28/16 16:44	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/27/16 16:50	09/28/16 16:44	1
Iron	1.12		0.250	0.101	mg/L		09/27/16 16:50	09/28/16 16:44	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/27/16 16:50	09/28/16 16:44	1
Manganese	0.0172	J	0.0500	0.0116	mg/L		09/27/16 16:50	09/28/16 16:44	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/27/16 16:50	09/28/16 16:44	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/27/16 16:50	09/28/16 16:44	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/27/16 16:50	09/28/16 16:44	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/27/16 16:50	09/28/16 16:44	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/27/16 16:50	09/28/16 16:44	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 16:18	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.413	J	1.00	0.315	mg/L			09/27/16 14:17	1
Chloride	9.59		1.00	0.192	mg/L			09/27/16 14:17	1
Nitrate as N	1.04		0.500	0.103	mg/L			09/27/16 14:17	1
Sulfate	12.7		1.00	0.377	mg/L			09/27/16 14:17	1
Fluoride	0.106		0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/03/16 11:47	1
Phosphorus	0.107		0.100	0.0410	mg/L		10/04/16 10:00	10/06/16 05:52	1
Total Organic Carbon	2.32		1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2	HF	0.1	0.1	SU			09/27/16 09:42	1
Total Alkalinity as CaCO3	125		5.00	5.00	mg/L			09/28/16 09:45	1
Bicarbonate Alkalinity as CaCO3	125		5.00	5.00	mg/L			09/28/16 09:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1
Total Dissolved Solids	187		10.0	10.0	mg/L			09/27/16 14:19	1
Total Suspended Solids	31.2		2.00	2.00	mg/L			09/27/16 11:45	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Client Sample ID: HCS240 Lead

Date Collected: 09/26/16 03:36

Date Received: 09/27/16 08:00

## Lab Sample ID: 560-63976-2

Matrix: Water

### General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.85		1.00	0.285	mg/L			10/05/16 12:09	1

## Client Sample ID: HCS250 Lead

Date Collected: 09/26/16 03:10

Date Received: 09/27/16 08:00

## Lab Sample ID: 560-63976-3

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/27/16 12:36	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/27/16 12:36	1
Benzene	0.330	U	1.00	0.330	ug/L			09/27/16 12:36	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/27/16 12:36	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 12:36	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/27/16 12:36	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/27/16 12:36	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/27/16 12:36	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/27/16 12:36	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/27/16 12:36	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/27/16 12:36	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/27/16 12:36	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/27/16 12:36	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/27/16 12:36	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/27/16 12:36	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/27/16 12:36	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/27/16 12:36	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/27/16 12:36	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/27/16 12:36	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/27/16 12:36	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/27/16 12:36	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 12:36	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/27/16 12:36	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/27/16 12:36	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/27/16 12:36	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/27/16 12:36	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/27/16 12:36	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/27/16 12:36	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/27/16 12:36	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 12:36	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/27/16 12:36	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/27/16 12:36	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/27/16 12:36	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/27/16 12:36	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/27/16 12:36	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/27/16 12:36	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/27/16 12:36	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/27/16 12:36	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/27/16 12:36	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/27/16 12:36	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/27/16 12:36	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/27/16 12:36	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS250 Lead**

**Lab Sample ID: 560-63976-3**

**Date Collected: 09/26/16 03:10**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/27/16 12:36	1
EDB	0.175	U	1.00	0.175	ug/L			09/27/16 12:36	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/27/16 12:36	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 12:36	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/27/16 12:36	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/27/16 12:36	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/27/16 12:36	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/27/16 12:36	1
Hexane	2.00	U	5.00	2.00	ug/L			09/27/16 12:36	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/27/16 12:36	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/27/16 12:36	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/27/16 12:36	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/27/16 12:36	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/27/16 12:36	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/27/16 12:36	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/27/16 12:36	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/27/16 12:36	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/27/16 12:36	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/27/16 12:36	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/27/16 12:36	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/27/16 12:36	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/27/16 12:36	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 12:36	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/27/16 12:36	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/27/16 12:36	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/27/16 12:36	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/27/16 12:36	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/27/16 12:36	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/27/16 12:36	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/27/16 12:36	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/27/16 12:36	1
Styrene	0.200	U	1.00	0.200	ug/L			09/27/16 12:36	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 12:36	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/27/16 12:36	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/27/16 12:36	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/27/16 12:36	1
Toluene	0.495	U	1.00	0.495	ug/L			09/27/16 12:36	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 12:36	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/27/16 12:36	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/27/16 12:36	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/27/16 12:36	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/27/16 12:36	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/27/16 12:36	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/27/16 12:36	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/27/16 12:36	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/27/16 12:36	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/27/16 12:36	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/27/16 12:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/27/16 12:36	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS250 Lead**

**Lab Sample ID: 560-63976-3**

**Date Collected: 09/26/16 03:10**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 12:36	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 12:36	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/27/16 12:36	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/27/16 12:36	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/27/16 12:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130		09/27/16 12:36	1
Dibromofluoromethane (Surr)	98		69 - 130		09/27/16 12:36	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 140		09/27/16 12:36	1
Toluene-d8 (Surr)	100		70 - 130		09/27/16 12:36	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/28/16 16:00	09/29/16 10:55	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/28/16 16:00	09/29/16 10:55	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/28/16 16:00	09/29/16 10:55	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/28/16 16:00	09/29/16 10:55	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/28/16 16:00	09/29/16 10:55	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/28/16 16:00	09/29/16 10:55	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/28/16 16:00	09/29/16 10:55	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/28/16 16:00	09/29/16 10:55	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/28/16 16:00	09/29/16 10:55	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/28/16 16:00	09/29/16 10:55	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/28/16 16:00	09/29/16 10:55	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/28/16 16:00	09/29/16 10:55	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/28/16 16:00	09/29/16 10:55	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/28/16 16:00	09/29/16 10:55	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 10:55	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/28/16 16:00	09/29/16 10:55	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/28/16 16:00	09/29/16 10:55	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/28/16 16:00	09/29/16 10:55	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/28/16 16:00	09/29/16 10:55	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/28/16 16:00	09/29/16 10:55	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/28/16 16:00	09/29/16 10:55	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/28/16 16:00	09/29/16 10:55	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/28/16 16:00	09/29/16 10:55	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/28/16 16:00	09/29/16 10:55	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/28/16 16:00	09/29/16 10:55	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 10:55	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/28/16 16:00	09/29/16 10:55	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/28/16 16:00	09/29/16 10:55	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/28/16 16:00	09/29/16 10:55	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 10:55	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/28/16 16:00	09/29/16 10:55	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/28/16 16:00	09/29/16 10:55	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/28/16 16:00	09/29/16 10:55	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/28/16 16:00	09/29/16 10:55	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/28/16 16:00	09/29/16 10:55	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/28/16 16:00	09/29/16 10:55	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS250 Lead**

**Lab Sample ID: 560-63976-3**

**Date Collected: 09/26/16 03:10**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/28/16 16:00	09/29/16 10:55	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/28/16 16:00	09/29/16 10:55	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/28/16 16:00	09/29/16 10:55	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/28/16 16:00	09/29/16 10:55	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/28/16 16:00	09/29/16 10:55	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 10:55	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/28/16 16:00	09/29/16 10:55	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 10:55	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/28/16 16:00	09/29/16 10:55	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/28/16 16:00	09/29/16 10:55	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/28/16 16:00	09/29/16 10:55	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 10:55	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/28/16 16:00	09/29/16 10:55	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/28/16 16:00	09/29/16 10:55	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/28/16 16:00	09/29/16 10:55	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/28/16 16:00	09/29/16 10:55	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/28/16 16:00	09/29/16 10:55	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/28/16 16:00	09/29/16 10:55	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/28/16 16:00	09/29/16 10:55	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/28/16 16:00	09/29/16 10:55	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/28/16 16:00	09/29/16 10:55	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/28/16 16:00	09/29/16 10:55	1
Phenol	0.768	U	10.0	0.768	ug/L		09/28/16 16:00	09/29/16 10:55	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/28/16 16:00	09/29/16 10:55	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/28/16 16:00	09/29/16 10:55	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/28/16 16:00	09/29/16 10:55	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/28/16 16:00	09/29/16 10:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	57		23 - 130	09/28/16 16:00	09/29/16 10:55	1
2-Fluorophenol	59		10 - 130	09/28/16 16:00	09/29/16 10:55	1
Nitrobenzene-d5	58		27 - 130	09/28/16 16:00	09/29/16 10:55	1
Phenol-d5	63		10 - 130	09/28/16 16:00	09/29/16 10:55	1
Terphenyl-d14	41		10 - 141	09/28/16 16:00	09/29/16 10:55	1
2,4,6-Tribromophenol	51		18 - 130	09/28/16 16:00	09/29/16 10:55	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 17:02	1
alpha-BHC	0.00487	U	0.0561	0.00487	ug/L		09/27/16 10:32	09/28/16 17:02	1
alpha-Chlordane	0.00590	U	0.0561	0.00590	ug/L		09/27/16 10:32	09/28/16 17:02	1
beta-BHC	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 17:02	1
4,4'-DDD	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 17:02	1
4,4'-DDE	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 17:02	1
4,4'-DDT	0.00758	U	0.0561	0.00758	ug/L		09/27/16 10:32	09/28/16 17:02	1
delta-BHC	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 17:02	1
Dieldrin	0.0122	U	0.0561	0.0122	ug/L		09/27/16 10:32	09/28/16 17:02	1
Endosulfan I	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 17:02	1
Endosulfan II	0.00805	U	0.0561	0.00805	ug/L		09/27/16 10:32	09/28/16 17:02	1
Endosulfan sulfate	0.00824	U	0.0561	0.00824	ug/L		09/27/16 10:32	09/28/16 17:02	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS250 Lead**

**Lab Sample ID: 560-63976-3**

**Date Collected: 09/26/16 03:10**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	0.00721	U	0.0561	0.00721	ug/L		09/27/16 10:32	09/28/16 17:02	1
Endrin aldehyde	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 17:02	1
Endrin ketone	0.00767	U	0.0561	0.00767	ug/L		09/27/16 10:32	09/28/16 17:02	1
gamma-BHC (Lindane)	0.00421	U	0.0561	0.00421	ug/L		09/27/16 10:32	09/28/16 17:02	1
gamma-Chlordane	0.00627	U	0.0561	0.00627	ug/L		09/27/16 10:32	09/28/16 17:02	1
Heptachlor	0.00608	U	0.0561	0.00608	ug/L		09/27/16 10:32	09/28/16 17:02	1
Heptachlor epoxide	0.00487	U	0.0561	0.00487	ug/L		09/27/16 10:32	09/28/16 17:02	1
Methoxychlor	0.00936	U	0.0561	0.00936	ug/L		09/27/16 10:32	09/28/16 17:02	1
Toxaphene	0.636	U	5.61	0.636	ug/L		09/27/16 10:32	09/28/16 17:02	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
DCB Decachlorobiphenyl	89		10 - 152				09/27/16 10:32	09/28/16 17:02	1
Tetrachloro-m-xylene	97		57 - 127				09/27/16 10:32	09/28/16 17:02	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 16:50	1
Aroclor 1221	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 16:50	1
Aroclor 1232	0.412	U	0.749	0.412	ug/L		09/27/16 10:32	09/27/16 16:50	1
Aroclor 1242	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 16:50	1
Aroclor 1248	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 16:50	1
Aroclor 1254	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 16:50	1
Aroclor 1260	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 16:50	1
Aroclor 1262	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 16:50	1
Aroclor 1268	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 16:50	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Tetrachloro-m-xylene	118		10 - 150				09/27/16 10:32	09/27/16 16:50	1
DCB Decachlorobiphenyl	84		10 - 150				09/27/16 10:32	09/27/16 16:50	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000163	U	0.00243	0.000163	mg/L		10/02/16 08:17	10/09/16 07:11	1
Bolstar	0.000306	U	0.000973	0.000306	mg/L		10/02/16 08:17	10/09/16 07:11	1
Chlorpyrifos	0.000350	U	0.00146	0.000350	mg/L		10/02/16 08:17	10/09/16 07:11	1
Coumaphos	0.000131	U	0.000973	0.000131	mg/L		10/02/16 08:17	10/09/16 07:11	1
Demeton-O	0.000136	U	0.000973	0.000136	mg/L		10/02/16 08:17	10/09/16 07:11	1
Demeton-S	0.0000671	U	0.00195	0.0000671	mg/L		10/02/16 08:17	10/09/16 07:11	1
Diazinon	0.000143	U	0.000486	0.000143	mg/L		10/02/16 08:17	10/09/16 07:11	1
Dichlorvos	0.000158	U	0.000486	0.000158	mg/L		10/02/16 08:17	10/09/16 07:11	1
Dimethoate	0.000437	U	0.00146	0.000437	mg/L		10/02/16 08:17	10/09/16 07:11	1
Disulfoton	0.000313	U	0.000973	0.000313	mg/L		10/02/16 08:17	10/09/16 07:11	1
EPN	0.000145	U	0.00117	0.000145	mg/L		10/02/16 08:17	10/09/16 07:11	1
Ethoprop	0.000172	U	0.00146	0.000172	mg/L		10/02/16 08:17	10/09/16 07:11	1
Ethyl Parathion	0.000140	U	0.000973	0.000140	mg/L		10/02/16 08:17	10/09/16 07:11	1
Famphur	0.000174	U	0.000973	0.000174	mg/L		10/02/16 08:17	10/09/16 07:11	1
Fensulfothion	0.000529	U	0.00243	0.000529	mg/L		10/02/16 08:17	10/09/16 07:11	1
Fenthion	0.000150	U	0.00243	0.000150	mg/L		10/02/16 08:17	10/09/16 07:11	1
Malathion	0.000129	U	0.00195	0.000129	mg/L		10/02/16 08:17	10/09/16 07:11	1
Merphos	0.000169	U	0.00486	0.000169	mg/L		10/02/16 08:17	10/09/16 07:11	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS250 Lead**

**Lab Sample ID: 560-63976-3**

**Date Collected: 09/26/16 03:10**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl parathion	0.000137	U	0.00389	0.000137	mg/L		10/02/16 08:17	10/09/16 07:11	1
Mevinphos	0.000448	U	0.00603	0.000448	mg/L		10/02/16 08:17	10/09/16 07:11	1
Naled	0.000778	U	0.00195	0.000778	mg/L		10/02/16 08:17	10/09/16 07:11	1
Phorate	0.000150	U	0.00117	0.000150	mg/L		10/02/16 08:17	10/09/16 07:11	1
Ronnel	0.000113	U	0.00973	0.000113	mg/L		10/02/16 08:17	10/09/16 07:11	1
Sulfotepp	0.000163	U	0.00146	0.000163	mg/L		10/02/16 08:17	10/09/16 07:11	1
Tetrachlorvinphos (Stirophos)	0.000121	U	0.00341	0.000121	mg/L		10/02/16 08:17	10/09/16 07:11	1
Thionazin	0.000304	U	0.000973	0.000304	mg/L		10/02/16 08:17	10/09/16 07:11	1
Tokuthion	0.000120	U	0.00156	0.000120	mg/L		10/02/16 08:17	10/09/16 07:11	1
Trichloronate	0.000235	U	0.00146	0.000235	mg/L		10/02/16 08:17	10/09/16 07:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	55		49 - 171				10/02/16 08:17	10/09/16 07:11	1
Triphenylphosphate	98		60 - 154				10/02/16 08:17	10/09/16 07:11	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0977	U	4.88	0.0977	ug/L		10/03/16 10:22	10/04/16 19:31	1
Dicamba	0.0830	U	0.488	0.0830	ug/L		10/03/16 10:22	10/04/16 19:31	1
Mecoprop	18.6	U	117	18.6	ug/L		10/03/16 10:22	10/04/16 19:31	1
MCPA	16.6	U	117	16.6	ug/L		10/03/16 10:22	10/04/16 19:31	1
Dichlorprop	0.147	U	0.488	0.147	ug/L		10/03/16 10:22	10/04/16 19:31	1
2,4-D	0.0361	U	0.488	0.0361	ug/L		10/03/16 10:22	10/04/16 19:31	1
Silvex (2,4,5-TP)	0.0606	U	0.244	0.0606	ug/L		10/03/16 10:22	10/04/16 19:31	1
2,4,5-T	0.0606	U	0.244	0.0606	ug/L		10/03/16 10:22	10/04/16 19:31	1
2,4-DB	0.147	U	0.488	0.147	ug/L		10/03/16 10:22	10/04/16 19:31	1
Dinoseb	0.156	U	0.977	0.156	ug/L		10/03/16 10:22	10/04/16 19:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	81		45 - 130				10/03/16 10:22	10/04/16 19:31	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	71.3		0.200	0.101	mg/L		09/27/16 12:30	09/30/16 11:08	1
Magnesium	13.5		0.200	0.0257	mg/L		09/27/16 12:30	09/30/16 11:08	1
Potassium	1.89		0.500	0.375	mg/L		09/27/16 12:30	09/30/16 17:04	1
Silicon	4.55		0.500	0.0707	mg/L		09/27/16 12:30	09/30/16 11:08	1
Sodium	9.41		1.00	0.310	mg/L		09/27/16 12:30	09/30/16 17:04	1
Strontium	0.541	B	0.00500	0.000700	mg/L		09/27/16 12:30	09/30/16 11:08	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0795	J	0.100	0.0500	mg/L		09/27/16 16:50	09/28/16 16:50	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/27/16 16:50	09/28/16 16:50	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/27/16 16:50	09/28/16 16:50	1
Barium	0.0415		0.00500	0.000810	mg/L		09/27/16 16:50	09/28/16 16:50	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/27/16 16:50	09/28/16 16:50	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/27/16 16:50	09/28/16 16:50	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/27/16 16:50	09/28/16 16:50	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/27/16 16:50	09/28/16 16:50	1
Iron	0.101	U	0.250	0.101	mg/L		09/27/16 16:50	09/28/16 16:50	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS250 Lead**

**Lab Sample ID: 560-63976-3**

**Date Collected: 09/26/16 03:10**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.000733	U	0.00500	0.000733	mg/L		09/27/16 16:50	09/28/16 16:50	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/27/16 16:50	09/28/16 16:50	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/27/16 16:50	09/28/16 16:50	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/27/16 16:50	09/28/16 16:50	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/27/16 16:50	09/28/16 16:50	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/27/16 16:50	09/28/16 16:50	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/27/16 16:50	09/28/16 16:50	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 16:20	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.432	J	1.00	0.315	mg/L			09/27/16 14:43	1
Chloride	12.3		1.00	0.192	mg/L			09/27/16 14:43	1
Nitrate as N	1.21		0.500	0.103	mg/L			09/27/16 14:43	1
Sulfate	16.2		1.00	0.377	mg/L			09/27/16 14:43	1
Fluoride	0.150		0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/03/16 11:48	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/04/16 10:00	10/06/16 06:09	1
Total Organic Carbon	1.44		1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2	HF	0.1	0.1	SU			09/27/16 09:42	1
Total Alkalinity as CaCO3	154		5.00	5.00	mg/L			09/28/16 09:45	1
Bicarbonate Alkalinity as CaCO3	154		5.00	5.00	mg/L			09/28/16 09:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1
Total Dissolved Solids	219		10.0	10.0	mg/L			09/27/16 14:19	1
Total Suspended Solids	35.2		2.00	2.00	mg/L			09/27/16 11:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.04		1.00	0.285	mg/L			10/05/16 12:09	1

**Client Sample ID: HCS260 Lead**

**Lab Sample ID: 560-63976-4**

**Date Collected: 09/26/16 03:46**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/27/16 13:52	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/27/16 13:52	1
Benzene	0.330	U	1.00	0.330	ug/L			09/27/16 13:52	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/27/16 13:52	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 13:52	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/27/16 13:52	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/27/16 13:52	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/27/16 13:52	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/27/16 13:52	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/27/16 13:52	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS260 Lead**

**Lab Sample ID: 560-63976-4**

**Date Collected: 09/26/16 03:46**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/27/16 13:52	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/27/16 13:52	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/27/16 13:52	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/27/16 13:52	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/27/16 13:52	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/27/16 13:52	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/27/16 13:52	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/27/16 13:52	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/27/16 13:52	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/27/16 13:52	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/27/16 13:52	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 13:52	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/27/16 13:52	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/27/16 13:52	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/27/16 13:52	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/27/16 13:52	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/27/16 13:52	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/27/16 13:52	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/27/16 13:52	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 13:52	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/27/16 13:52	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/27/16 13:52	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/27/16 13:52	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/27/16 13:52	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/27/16 13:52	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/27/16 13:52	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/27/16 13:52	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/27/16 13:52	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/27/16 13:52	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/27/16 13:52	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/27/16 13:52	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/27/16 13:52	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/27/16 13:52	1
EDB	0.175	U	1.00	0.175	ug/L			09/27/16 13:52	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/27/16 13:52	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 13:52	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/27/16 13:52	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/27/16 13:52	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/27/16 13:52	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/27/16 13:52	1
Hexane	2.00	U	5.00	2.00	ug/L			09/27/16 13:52	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/27/16 13:52	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/27/16 13:52	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/27/16 13:52	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/27/16 13:52	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/27/16 13:52	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/27/16 13:52	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/27/16 13:52	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/27/16 13:52	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS260 Lead**

**Lab Sample ID: 560-63976-4**

**Date Collected: 09/26/16 03:46**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/27/16 13:52	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/27/16 13:52	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/27/16 13:52	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/27/16 13:52	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/27/16 13:52	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 13:52	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/27/16 13:52	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/27/16 13:52	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/27/16 13:52	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/27/16 13:52	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/27/16 13:52	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/27/16 13:52	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/27/16 13:52	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/27/16 13:52	1
Styrene	0.200	U	1.00	0.200	ug/L			09/27/16 13:52	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 13:52	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/27/16 13:52	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/27/16 13:52	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/27/16 13:52	1
Toluene	0.495	U	1.00	0.495	ug/L			09/27/16 13:52	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 13:52	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/27/16 13:52	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/27/16 13:52	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/27/16 13:52	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/27/16 13:52	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/27/16 13:52	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/27/16 13:52	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/27/16 13:52	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/27/16 13:52	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/27/16 13:52	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/27/16 13:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/27/16 13:52	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 13:52	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 13:52	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/27/16 13:52	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/27/16 13:52	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/27/16 13:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		09/27/16 13:52	1
Dibromofluoromethane (Surr)	101		69 - 130		09/27/16 13:52	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		09/27/16 13:52	1
Toluene-d8 (Surr)	103		70 - 130		09/27/16 13:52	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/28/16 16:00	09/29/16 11:20	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/28/16 16:00	09/29/16 11:20	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/28/16 16:00	09/29/16 11:20	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/28/16 16:00	09/29/16 11:20	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS260 Lead**

**Lab Sample ID: 560-63976-4**

**Date Collected: 09/26/16 03:46**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/28/16 16:00	09/29/16 11:20	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/28/16 16:00	09/29/16 11:20	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/28/16 16:00	09/29/16 11:20	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/28/16 16:00	09/29/16 11:20	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/28/16 16:00	09/29/16 11:20	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/28/16 16:00	09/29/16 11:20	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/28/16 16:00	09/29/16 11:20	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>5.33</b>	<b>J</b>	20.0	5.00	ug/L		09/28/16 16:00	09/29/16 11:20	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/28/16 16:00	09/29/16 11:20	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/28/16 16:00	09/29/16 11:20	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 11:20	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/28/16 16:00	09/29/16 11:20	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/28/16 16:00	09/29/16 11:20	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/28/16 16:00	09/29/16 11:20	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/28/16 16:00	09/29/16 11:20	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/28/16 16:00	09/29/16 11:20	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/28/16 16:00	09/29/16 11:20	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/28/16 16:00	09/29/16 11:20	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/28/16 16:00	09/29/16 11:20	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/28/16 16:00	09/29/16 11:20	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/28/16 16:00	09/29/16 11:20	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 11:20	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/28/16 16:00	09/29/16 11:20	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/28/16 16:00	09/29/16 11:20	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/28/16 16:00	09/29/16 11:20	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 11:20	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/28/16 16:00	09/29/16 11:20	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/28/16 16:00	09/29/16 11:20	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/28/16 16:00	09/29/16 11:20	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/28/16 16:00	09/29/16 11:20	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/28/16 16:00	09/29/16 11:20	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/28/16 16:00	09/29/16 11:20	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/28/16 16:00	09/29/16 11:20	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/28/16 16:00	09/29/16 11:20	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/28/16 16:00	09/29/16 11:20	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/28/16 16:00	09/29/16 11:20	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/28/16 16:00	09/29/16 11:20	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 11:20	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/28/16 16:00	09/29/16 11:20	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 11:20	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/28/16 16:00	09/29/16 11:20	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/28/16 16:00	09/29/16 11:20	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/28/16 16:00	09/29/16 11:20	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 11:20	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/28/16 16:00	09/29/16 11:20	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/28/16 16:00	09/29/16 11:20	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/28/16 16:00	09/29/16 11:20	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/28/16 16:00	09/29/16 11:20	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/28/16 16:00	09/29/16 11:20	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS260 Lead**

**Lab Sample ID: 560-63976-4**

**Date Collected: 09/26/16 03:46**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/28/16 16:00	09/29/16 11:20	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/28/16 16:00	09/29/16 11:20	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/28/16 16:00	09/29/16 11:20	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/28/16 16:00	09/29/16 11:20	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/28/16 16:00	09/29/16 11:20	1
Phenol	0.768	U	10.0	0.768	ug/L		09/28/16 16:00	09/29/16 11:20	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/28/16 16:00	09/29/16 11:20	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/28/16 16:00	09/29/16 11:20	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/28/16 16:00	09/29/16 11:20	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/28/16 16:00	09/29/16 11:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	69		23 - 130	09/28/16 16:00	09/29/16 11:20	1
2-Fluorophenol	70		10 - 130	09/28/16 16:00	09/29/16 11:20	1
Nitrobenzene-d5	70		27 - 130	09/28/16 16:00	09/29/16 11:20	1
Phenol-d5	75		10 - 130	09/28/16 16:00	09/29/16 11:20	1
Terphenyl-d14	64		10 - 141	09/28/16 16:00	09/29/16 11:20	1
2,4,6-Tribromophenol	59		18 - 130	09/28/16 16:00	09/29/16 11:20	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 17:23	1
alpha-BHC	0.00487	U	0.0561	0.00487	ug/L		09/27/16 10:32	09/28/16 17:23	1
alpha-Chlordane	0.00590	U	0.0561	0.00590	ug/L		09/27/16 10:32	09/28/16 17:23	1
beta-BHC	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 17:23	1
4,4'-DDD	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 17:23	1
4,4'-DDE	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 17:23	1
4,4'-DDT	0.00758	U	0.0561	0.00758	ug/L		09/27/16 10:32	09/28/16 17:23	1
delta-BHC	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 17:23	1
Dieldrin	0.0122	U	0.0561	0.0122	ug/L		09/27/16 10:32	09/28/16 17:23	1
Endosulfan I	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 17:23	1
Endosulfan II	0.00805	U	0.0561	0.00805	ug/L		09/27/16 10:32	09/28/16 17:23	1
Endosulfan sulfate	0.00824	U	0.0561	0.00824	ug/L		09/27/16 10:32	09/28/16 17:23	1
Endrin	0.00721	U	0.0561	0.00721	ug/L		09/27/16 10:32	09/28/16 17:23	1
Endrin aldehyde	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 17:23	1
Endrin ketone	0.00767	U	0.0561	0.00767	ug/L		09/27/16 10:32	09/28/16 17:23	1
gamma-BHC (Lindane)	0.00421	U	0.0561	0.00421	ug/L		09/27/16 10:32	09/28/16 17:23	1
gamma-Chlordane	0.00627	U	0.0561	0.00627	ug/L		09/27/16 10:32	09/28/16 17:23	1
Heptachlor	0.00608	U	0.0561	0.00608	ug/L		09/27/16 10:32	09/28/16 17:23	1
Heptachlor epoxide	0.00487	U	0.0561	0.00487	ug/L		09/27/16 10:32	09/28/16 17:23	1
Methoxychlor	0.00936	U	0.0561	0.00936	ug/L		09/27/16 10:32	09/28/16 17:23	1
Toxaphene	0.636	U	5.61	0.636	ug/L		09/27/16 10:32	09/28/16 17:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	95		10 - 152	09/27/16 10:32	09/28/16 17:23	1
Tetrachloro-m-xylene	96		57 - 127	09/27/16 10:32	09/28/16 17:23	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 17:07	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS260 Lead**

**Lab Sample ID: 560-63976-4**

**Date Collected: 09/26/16 03:46**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1221	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 17:07	1
Aroclor 1232	0.412	U	0.749	0.412	ug/L		09/27/16 10:32	09/27/16 17:07	1
Aroclor 1242	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 17:07	1
Aroclor 1248	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 17:07	1
Aroclor 1254	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 17:07	1
Aroclor 1260	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 17:07	1
Aroclor 1262	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 17:07	1
Aroclor 1268	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 17:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	117		10 - 150				09/27/16 10:32	09/27/16 17:07	1
DCB Decachlorobiphenyl	90		10 - 150				09/27/16 10:32	09/27/16 17:07	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000161	U	0.00240	0.000161	mg/L		10/02/16 08:17	10/09/16 07:42	1
Bolstar	0.000301	U	0.000960	0.000301	mg/L		10/02/16 08:17	10/09/16 07:42	1
Chlorpyrifos	0.000346	U	0.00144	0.000346	mg/L		10/02/16 08:17	10/09/16 07:42	1
Coumaphos	0.000130	U	0.000960	0.000130	mg/L		10/02/16 08:17	10/09/16 07:42	1
Demeton-O	0.000134	U	0.000960	0.000134	mg/L		10/02/16 08:17	10/09/16 07:42	1
Demeton-S	0.0000662	U	0.00192	0.0000662	mg/L		10/02/16 08:17	10/09/16 07:42	1
Diazinon	0.000141	U	0.000480	0.000141	mg/L		10/02/16 08:17	10/09/16 07:42	1
Dichlorvos	0.000156	U	0.000480	0.000156	mg/L		10/02/16 08:17	10/09/16 07:42	1
Dimethoate	0.000431	U	0.00144	0.000431	mg/L		10/02/16 08:17	10/09/16 07:42	1
Disulfoton	0.000373	J p	0.000960	0.000309	mg/L		10/02/16 08:17	10/09/16 07:42	1
EPN	0.000143	U	0.00115	0.000143	mg/L		10/02/16 08:17	10/09/16 07:42	1
Ethoprop	0.000170	U	0.00144	0.000170	mg/L		10/02/16 08:17	10/09/16 07:42	1
Ethyl Parathion	0.000138	U	0.000960	0.000138	mg/L		10/02/16 08:17	10/09/16 07:42	1
Famphur	0.000172	U	0.000960	0.000172	mg/L		10/02/16 08:17	10/09/16 07:42	1
Fensulfothion	0.000522	U	0.00240	0.000522	mg/L		10/02/16 08:17	10/09/16 07:42	1
Fenthion	0.000148	U	0.00240	0.000148	mg/L		10/02/16 08:17	10/09/16 07:42	1
Malathion	0.000128	U	0.00192	0.000128	mg/L		10/02/16 08:17	10/09/16 07:42	1
Merphos	0.000167	U	0.00480	0.000167	mg/L		10/02/16 08:17	10/09/16 07:42	1
Methyl parathion	0.000135	U	0.00384	0.000135	mg/L		10/02/16 08:17	10/09/16 07:42	1
Mevinphos	0.000442	U	0.00595	0.000442	mg/L		10/02/16 08:17	10/09/16 07:42	1
Naled	0.000768	U	0.00192	0.000768	mg/L		10/02/16 08:17	10/09/16 07:42	1
Phorate	0.000148	U	0.00115	0.000148	mg/L		10/02/16 08:17	10/09/16 07:42	1
Ronnel	0.000111	U	0.00960	0.000111	mg/L		10/02/16 08:17	10/09/16 07:42	1
Sulfotepp	0.000161	U	0.00144	0.000161	mg/L		10/02/16 08:17	10/09/16 07:42	1
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00336	0.000119	mg/L		10/02/16 08:17	10/09/16 07:42	1
Thionazin	0.000299	U	0.000960	0.000299	mg/L		10/02/16 08:17	10/09/16 07:42	1
Tokuthion	0.000118	U	0.00154	0.000118	mg/L		10/02/16 08:17	10/09/16 07:42	1
Trichloronate	0.000232	U	0.00144	0.000232	mg/L		10/02/16 08:17	10/09/16 07:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	60		49 - 171				10/02/16 08:17	10/09/16 07:42	1
Triphenylphosphate	95		60 - 154				10/02/16 08:17	10/09/16 07:42	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS260 Lead**

**Lab Sample ID: 560-63976-4**

**Date Collected: 09/26/16 03:46**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0960	U	4.80	0.0960	ug/L	-	10/03/16 10:22	10/04/16 19:51	1
Dicamba	0.0816	U	0.480	0.0816	ug/L	-	10/03/16 10:22	10/04/16 19:51	1
Mecoprop	18.2	U	115	18.2	ug/L	-	10/03/16 10:22	10/04/16 19:51	1
MCPA	16.3	U	115	16.3	ug/L	-	10/03/16 10:22	10/04/16 19:51	1
Dichlorprop	0.144	U	0.480	0.144	ug/L	-	10/03/16 10:22	10/04/16 19:51	1
2,4-D	0.0355	U	0.480	0.0355	ug/L	-	10/03/16 10:22	10/04/16 19:51	1
Silvex (2,4,5-TP)	0.0595	U	0.240	0.0595	ug/L	-	10/03/16 10:22	10/04/16 19:51	1
2,4,5-T	0.0595	U	0.240	0.0595	ug/L	-	10/03/16 10:22	10/04/16 19:51	1
2,4-DB	0.144	U	0.480	0.144	ug/L	-	10/03/16 10:22	10/04/16 19:51	1
Dinoseb	0.154	U	0.960	0.154	ug/L	-	10/03/16 10:22	10/04/16 19:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	85		45 - 130	10/03/16 10:22	10/04/16 19:51	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	81.3		0.200	0.101	mg/L	-	09/27/16 12:30	09/30/16 11:11	1
Magnesium	15.5		0.200	0.0257	mg/L	-	09/27/16 12:30	09/30/16 11:11	1
Potassium	1.59		0.500	0.375	mg/L	-	09/27/16 12:30	09/30/16 17:08	1
Silicon	5.05		0.500	0.0707	mg/L	-	09/27/16 12:30	09/30/16 11:11	1
Sodium	10.6		1.00	0.310	mg/L	-	09/27/16 12:30	09/30/16 17:08	1
Strontium	0.627	B	0.00500	0.000700	mg/L	-	09/27/16 12:30	09/30/16 11:11	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Antimony	0.00161	U	0.00500	0.00161	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Barium	0.0479		0.00500	0.000810	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Chromium	0.00140	U	0.00500	0.00140	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Copper	0.00200	U	0.0100	0.00200	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Iron	0.101	U	0.250	0.101	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Lead	0.000733	U	0.00500	0.000733	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Manganese	0.0116	U	0.0500	0.0116	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Nickel	0.00217	U	0.00500	0.00217	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Selenium	0.00108	U	0.00500	0.00108	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Silver	0.000941	U	0.00500	0.000941	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Thallium	0.000693	U	0.00200	0.000693	mg/L	-	09/27/16 16:50	09/28/16 16:55	1
Zinc	0.00355	U	0.0250	0.00355	mg/L	-	09/27/16 16:50	09/28/16 16:55	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	09/29/16 10:00	09/29/16 16:44	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.453	J	1.00	0.315	mg/L	-		09/27/16 15:09	1
Chloride	17.5		1.00	0.192	mg/L	-		09/27/16 15:09	1
Nitrate as N	1.78		0.500	0.103	mg/L	-		09/27/16 15:09	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS260 Lead**

**Lab Sample ID: 560-63976-4**

**Date Collected: 09/26/16 03:46**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	25.7		1.00	0.377	mg/L			09/27/16 15:09	1
Fluoride	0.220		0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	11.2	U	26.0	11.2	mg/L			10/03/16 11:49	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/04/16 10:03	10/06/16 06:20	1
Total Organic Carbon	0.558	J	1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3	HF	0.1	0.1	SU			09/27/16 09:42	1
Total Alkalinity as CaCO3	215		5.00	5.00	mg/L			09/28/16 09:45	1
Bicarbonate Alkalinity as CaCO3	215		5.00	5.00	mg/L			09/28/16 09:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1
Total Dissolved Solids	319		10.0	10.0	mg/L			09/27/16 14:19	1
Total Suspended Solids	4.40		2.00	2.00	mg/L			09/27/16 11:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.675	J	1.00	0.285	mg/L			10/05/16 12:09	1

**Client Sample ID: HCS270 Lead**

**Lab Sample ID: 560-63976-5**

**Date Collected: 09/26/16 03:32**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/27/16 14:42	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/27/16 14:42	1
Benzene	0.330	U	1.00	0.330	ug/L			09/27/16 14:42	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/27/16 14:42	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 14:42	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/27/16 14:42	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/27/16 14:42	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/27/16 14:42	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/27/16 14:42	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/27/16 14:42	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/27/16 14:42	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/27/16 14:42	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/27/16 14:42	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/27/16 14:42	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/27/16 14:42	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/27/16 14:42	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/27/16 14:42	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/27/16 14:42	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/27/16 14:42	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/27/16 14:42	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/27/16 14:42	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 14:42	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/27/16 14:42	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/27/16 14:42	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/27/16 14:42	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/27/16 14:42	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/27/16 14:42	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS270 Lead**

**Lab Sample ID: 560-63976-5**

**Date Collected: 09/26/16 03:32**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/27/16 14:42	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/27/16 14:42	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 14:42	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/27/16 14:42	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/27/16 14:42	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/27/16 14:42	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/27/16 14:42	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/27/16 14:42	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/27/16 14:42	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/27/16 14:42	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/27/16 14:42	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/27/16 14:42	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/27/16 14:42	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/27/16 14:42	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/27/16 14:42	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/27/16 14:42	1
EDB	0.175	U	1.00	0.175	ug/L			09/27/16 14:42	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/27/16 14:42	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 14:42	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/27/16 14:42	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/27/16 14:42	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/27/16 14:42	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/27/16 14:42	1
Hexane	2.00	U	5.00	2.00	ug/L			09/27/16 14:42	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/27/16 14:42	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/27/16 14:42	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/27/16 14:42	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/27/16 14:42	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/27/16 14:42	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/27/16 14:42	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/27/16 14:42	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/27/16 14:42	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/27/16 14:42	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/27/16 14:42	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/27/16 14:42	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/27/16 14:42	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/27/16 14:42	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 14:42	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/27/16 14:42	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/27/16 14:42	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/27/16 14:42	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/27/16 14:42	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/27/16 14:42	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/27/16 14:42	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/27/16 14:42	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/27/16 14:42	1
Styrene	0.200	U	1.00	0.200	ug/L			09/27/16 14:42	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 14:42	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/27/16 14:42	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS270 Lead**

**Lab Sample ID: 560-63976-5**

**Date Collected: 09/26/16 03:32**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/27/16 14:42	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/27/16 14:42	1
Toluene	0.495	U	1.00	0.495	ug/L			09/27/16 14:42	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 14:42	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/27/16 14:42	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/27/16 14:42	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/27/16 14:42	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/27/16 14:42	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/27/16 14:42	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/27/16 14:42	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/27/16 14:42	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/27/16 14:42	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/27/16 14:42	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/27/16 14:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/27/16 14:42	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 14:42	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 14:42	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/27/16 14:42	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/27/16 14:42	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/27/16 14:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		09/27/16 14:42	1
Dibromofluoromethane (Surr)	100		69 - 130		09/27/16 14:42	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 140		09/27/16 14:42	1
Toluene-d8 (Surr)	102		70 - 130		09/27/16 14:42	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/28/16 16:00	09/29/16 11:46	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/28/16 16:00	09/29/16 11:46	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/28/16 16:00	09/29/16 11:46	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/28/16 16:00	09/29/16 11:46	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/28/16 16:00	09/29/16 11:46	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/28/16 16:00	09/29/16 11:46	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/28/16 16:00	09/29/16 11:46	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/28/16 16:00	09/29/16 11:46	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/28/16 16:00	09/29/16 11:46	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/28/16 16:00	09/29/16 11:46	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/28/16 16:00	09/29/16 11:46	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>6.28</b>	<b>J</b>	20.0	5.00	ug/L		09/28/16 16:00	09/29/16 11:46	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/28/16 16:00	09/29/16 11:46	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/28/16 16:00	09/29/16 11:46	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 11:46	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/28/16 16:00	09/29/16 11:46	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/28/16 16:00	09/29/16 11:46	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/28/16 16:00	09/29/16 11:46	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/28/16 16:00	09/29/16 11:46	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/28/16 16:00	09/29/16 11:46	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/28/16 16:00	09/29/16 11:46	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS270 Lead**

**Lab Sample ID: 560-63976-5**

**Date Collected: 09/26/16 03:32**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/28/16 16:00	09/29/16 11:46	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/28/16 16:00	09/29/16 11:46	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/28/16 16:00	09/29/16 11:46	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/28/16 16:00	09/29/16 11:46	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 11:46	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/28/16 16:00	09/29/16 11:46	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/28/16 16:00	09/29/16 11:46	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/28/16 16:00	09/29/16 11:46	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 11:46	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/28/16 16:00	09/29/16 11:46	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/28/16 16:00	09/29/16 11:46	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/28/16 16:00	09/29/16 11:46	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/28/16 16:00	09/29/16 11:46	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/28/16 16:00	09/29/16 11:46	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/28/16 16:00	09/29/16 11:46	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/28/16 16:00	09/29/16 11:46	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/28/16 16:00	09/29/16 11:46	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/28/16 16:00	09/29/16 11:46	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/28/16 16:00	09/29/16 11:46	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/28/16 16:00	09/29/16 11:46	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 11:46	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/28/16 16:00	09/29/16 11:46	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 11:46	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/28/16 16:00	09/29/16 11:46	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/28/16 16:00	09/29/16 11:46	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/28/16 16:00	09/29/16 11:46	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 11:46	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/28/16 16:00	09/29/16 11:46	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/28/16 16:00	09/29/16 11:46	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/28/16 16:00	09/29/16 11:46	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/28/16 16:00	09/29/16 11:46	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/28/16 16:00	09/29/16 11:46	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/28/16 16:00	09/29/16 11:46	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/28/16 16:00	09/29/16 11:46	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/28/16 16:00	09/29/16 11:46	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/28/16 16:00	09/29/16 11:46	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/28/16 16:00	09/29/16 11:46	1
Phenol	0.768	U	10.0	0.768	ug/L		09/28/16 16:00	09/29/16 11:46	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/28/16 16:00	09/29/16 11:46	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/28/16 16:00	09/29/16 11:46	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/28/16 16:00	09/29/16 11:46	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/28/16 16:00	09/29/16 11:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		23 - 130	09/28/16 16:00	09/29/16 11:46	1
2-Fluorophenol	62		10 - 130	09/28/16 16:00	09/29/16 11:46	1
Nitrobenzene-d5	63		27 - 130	09/28/16 16:00	09/29/16 11:46	1
Phenol-d5	66		10 - 130	09/28/16 16:00	09/29/16 11:46	1
Terphenyl-d14	72		10 - 141	09/28/16 16:00	09/29/16 11:46	1
2,4,6-Tribromophenol	54		18 - 130	09/28/16 16:00	09/29/16 11:46	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00465	U	0.0559	0.00465	ug/L		09/27/16 10:32	09/28/16 17:44	1
alpha-BHC	0.00484	U	0.0559	0.00484	ug/L		09/27/16 10:32	09/28/16 17:44	1
alpha-Chlordane	0.00586	U	0.0559	0.00586	ug/L		09/27/16 10:32	09/28/16 17:44	1
beta-BHC	0.00465	U	0.0559	0.00465	ug/L		09/27/16 10:32	09/28/16 17:44	1
4,4'-DDD	0.00465	U	0.0559	0.00465	ug/L		09/27/16 10:32	09/28/16 17:44	1
4,4'-DDE	0.00465	U	0.0559	0.00465	ug/L		09/27/16 10:32	09/28/16 17:44	1
4,4'-DDT	0.00754	U	0.0559	0.00754	ug/L		09/27/16 10:32	09/28/16 17:44	1
delta-BHC	0.00465	U	0.0559	0.00465	ug/L		09/27/16 10:32	09/28/16 17:44	1
Dieldrin	0.0121	U	0.0559	0.0121	ug/L		09/27/16 10:32	09/28/16 17:44	1
Endosulfan I	0.00465	U	0.0559	0.00465	ug/L		09/27/16 10:32	09/28/16 17:44	1
Endosulfan II	0.00801	U	0.0559	0.00801	ug/L		09/27/16 10:32	09/28/16 17:44	1
Endosulfan sulfate	0.00819	U	0.0559	0.00819	ug/L		09/27/16 10:32	09/28/16 17:44	1
Endrin	0.00717	U	0.0559	0.00717	ug/L		09/27/16 10:32	09/28/16 17:44	1
Endrin aldehyde	0.00465	U	0.0559	0.00465	ug/L		09/27/16 10:32	09/28/16 17:44	1
Endrin ketone	0.00763	U	0.0559	0.00763	ug/L		09/27/16 10:32	09/28/16 17:44	1
gamma-BHC (Lindane)	0.00419	U	0.0559	0.00419	ug/L		09/27/16 10:32	09/28/16 17:44	1
gamma-Chlordane	0.00624	U	0.0559	0.00624	ug/L		09/27/16 10:32	09/28/16 17:44	1
Heptachlor	0.00605	U	0.0559	0.00605	ug/L		09/27/16 10:32	09/28/16 17:44	1
Heptachlor epoxide	0.00484	U	0.0559	0.00484	ug/L		09/27/16 10:32	09/28/16 17:44	1
Methoxychlor	0.00931	U	0.0559	0.00931	ug/L		09/27/16 10:32	09/28/16 17:44	1
Toxaphene	0.633	U	5.59	0.633	ug/L		09/27/16 10:32	09/28/16 17:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	98		10 - 152	09/27/16 10:32	09/28/16 17:44	1
Tetrachloro-m-xylene	99		57 - 127	09/27/16 10:32	09/28/16 17:44	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.102	U	0.559	0.102	ug/L		09/27/16 10:32	09/27/16 17:25	1
Aroclor 1221	0.102	U	0.559	0.102	ug/L		09/27/16 10:32	09/27/16 17:25	1
Aroclor 1232	0.410	U	0.745	0.410	ug/L		09/27/16 10:32	09/27/16 17:25	1
Aroclor 1242	0.102	U	0.559	0.102	ug/L		09/27/16 10:32	09/27/16 17:25	1
Aroclor 1248	0.102	U	0.559	0.102	ug/L		09/27/16 10:32	09/27/16 17:25	1
Aroclor 1254	0.102	U	0.559	0.102	ug/L		09/27/16 10:32	09/27/16 17:25	1
Aroclor 1260	0.102	U	0.559	0.102	ug/L		09/27/16 10:32	09/27/16 17:25	1
Aroclor 1262	0.102	U	0.559	0.102	ug/L		09/27/16 10:32	09/27/16 17:25	1
Aroclor 1268	0.102	U	0.559	0.102	ug/L		09/27/16 10:32	09/27/16 17:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	117		10 - 150	09/27/16 10:32	09/27/16 17:25	1
DCB Decachlorobiphenyl	87		10 - 150	09/27/16 10:32	09/27/16 17:25	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000176	U	0.00262	0.000176	mg/L		10/02/16 08:17	10/09/16 08:14	1
Bolstar	0.000329	U	0.00105	0.000329	mg/L		10/02/16 08:17	10/09/16 08:14	1
Chlorpyrifos	0.000378	U	0.00157	0.000378	mg/L		10/02/16 08:17	10/09/16 08:14	1
Coumaphos	0.000142	U	0.00105	0.000142	mg/L		10/02/16 08:17	10/09/16 08:14	1
Demeton-O	0.000147	U	0.00105	0.000147	mg/L		10/02/16 08:17	10/09/16 08:14	1
Demeton-S	0.0000724	U	0.00210	0.0000724	mg/L		10/02/16 08:17	10/09/16 08:14	1
Diazinon	0.000154	U	0.000524	0.000154	mg/L		10/02/16 08:17	10/09/16 08:14	1
Dichlorvos	0.000170	U	0.000524	0.000170	mg/L		10/02/16 08:17	10/09/16 08:14	1
Dimethoate	0.000471	U	0.00157	0.000471	mg/L		10/02/16 08:17	10/09/16 08:14	1
Disulfoton	0.000338	U	0.00105	0.000338	mg/L		10/02/16 08:17	10/09/16 08:14	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS270 Lead**

**Lab Sample ID: 560-63976-5**

**Date Collected: 09/26/16 03:32**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
EPN	0.000156	U	0.00126	0.000156	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Ethoprop	0.000186	U	0.00157	0.000186	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Ethyl Parathion	0.000151	U	0.00105	0.000151	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Famphur	0.000188	U	0.00105	0.000188	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Fensulfothion	0.000571	U	0.00262	0.000571	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Fenthion	0.000162	U	0.00262	0.000162	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Malathion	0.000140	U	0.00210	0.000140	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Merphos	0.000183	U	0.00524	0.000183	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Methyl parathion	0.000148	U	0.00420	0.000148	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Mevinphos	0.000483	U	0.00650	0.000483	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Naled	0.000839	U	0.00210	0.000839	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Phorate	0.000162	U	0.00126	0.000162	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Ronnel	0.000122	U	0.0105	0.000122	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Sulfotepp	0.000176	U	0.00157	0.000176	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Tetrachlorvinphos (Stirophos)	0.000130	U	0.00367	0.000130	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Thionazin	0.000327	U	0.00105	0.000327	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Tokuthion	0.000129	U	0.00168	0.000129	mg/L	—	10/02/16 08:17	10/09/16 08:14	1
Trichloronate	0.000254	U	0.00157	0.000254	mg/L	—	10/02/16 08:17	10/09/16 08:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	59		49 - 171	10/02/16 08:17	10/09/16 08:14	1
Triphenylphosphate	99		60 - 154	10/02/16 08:17	10/09/16 08:14	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0947	U	4.74	0.0947	ug/L	—	10/03/16 10:22	10/04/16 20:11	1
Dicamba	0.0805	U	0.474	0.0805	ug/L	—	10/03/16 10:22	10/04/16 20:11	1
Mecoprop	18.0	U	114	18.0	ug/L	—	10/03/16 10:22	10/04/16 20:11	1
MCPA	16.1	U	114	16.1	ug/L	—	10/03/16 10:22	10/04/16 20:11	1
Dichlorprop	0.142	U	0.474	0.142	ug/L	—	10/03/16 10:22	10/04/16 20:11	1
2,4-D	0.0350	U	0.474	0.0350	ug/L	—	10/03/16 10:22	10/04/16 20:11	1
Silvex (2,4,5-TP)	0.0587	U	0.237	0.0587	ug/L	—	10/03/16 10:22	10/04/16 20:11	1
2,4,5-T	0.0587	U	0.237	0.0587	ug/L	—	10/03/16 10:22	10/04/16 20:11	1
2,4-DB	0.142	U	0.474	0.142	ug/L	—	10/03/16 10:22	10/04/16 20:11	1
Dinoseb	0.152	U	0.947	0.152	ug/L	—	10/03/16 10:22	10/04/16 20:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	83		45 - 130	10/03/16 10:22	10/04/16 20:11	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	79.1		0.200	0.101	mg/L	—	09/27/16 12:30	09/30/16 11:15	1
Magnesium	14.9		0.200	0.0257	mg/L	—	09/27/16 12:30	09/30/16 11:15	1
Potassium	1.71		0.500	0.375	mg/L	—	09/27/16 12:30	09/30/16 17:12	1
Silicon	4.94		0.500	0.0707	mg/L	—	09/27/16 12:30	09/30/16 11:15	1
Sodium	10.8		1.00	0.310	mg/L	—	09/27/16 12:30	09/30/16 17:12	1
Strontium	0.597	B	0.00500	0.000700	mg/L	—	09/27/16 12:30	09/30/16 11:15	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0596	J	0.100	0.0500	mg/L	—	09/27/16 16:50	09/28/16 17:00	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: HCS270 Lead**

**Lab Sample ID: 560-63976-5**

**Date Collected: 09/26/16 03:32**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/27/16 16:50	09/28/16 17:00	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/27/16 16:50	09/28/16 17:00	1
<b>Barium</b>	<b>0.0443</b>		0.00500	0.000810	mg/L		09/27/16 16:50	09/28/16 17:00	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/27/16 16:50	09/28/16 17:00	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/27/16 16:50	09/28/16 17:00	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/27/16 16:50	09/28/16 17:00	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/27/16 16:50	09/28/16 17:00	1
Iron	0.101	U	0.250	0.101	mg/L		09/27/16 16:50	09/28/16 17:00	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/27/16 16:50	09/28/16 17:00	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/27/16 16:50	09/28/16 17:00	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/27/16 16:50	09/28/16 17:00	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/27/16 16:50	09/28/16 17:00	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/27/16 16:50	09/28/16 17:00	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/27/16 16:50	09/28/16 17:00	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/27/16 16:50	09/28/16 17:00	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 16:46	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>0.454</b>	<b>J</b>	1.00	0.315	mg/L			09/27/16 15:35	1
<b>Chloride</b>	<b>15.8</b>		1.00	0.192	mg/L			09/27/16 15:35	1
<b>Nitrate as N</b>	<b>1.62</b>		0.500	0.103	mg/L			09/27/16 15:35	1
<b>Sulfate</b>	<b>22.7</b>		1.00	0.377	mg/L			09/27/16 15:35	1
<b>Fluoride</b>	<b>0.200</b>		0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/03/16 11:52	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/04/16 10:00	10/06/16 05:54	1
<b>Total Organic Carbon</b>	<b>0.901</b>	<b>J</b>	1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.5</b>	<b>HF</b>	0.1	0.1	SU			09/27/16 09:42	1
<b>Total Alkalinity as CaCO3</b>	<b>202</b>		5.00	5.00	mg/L			09/28/16 09:45	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>202</b>		5.00	5.00	mg/L			09/28/16 09:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1
<b>Total Dissolved Solids</b>	<b>290</b>		10.0	10.0	mg/L			09/27/16 14:19	1
<b>Total Suspended Solids</b>	<b>15.4</b>		2.00	2.00	mg/L			09/27/16 11:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Dissolved Organic Carbon</b>	<b>0.833</b>	<b>J</b>	1.00	0.285	mg/L			10/05/16 12:09	1

**Client Sample ID: TB13**

**Lab Sample ID: 560-63976-11**

**Date Collected: 09/26/16 00:00**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/27/16 16:22	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/27/16 16:22	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: TB13**

**Lab Sample ID: 560-63976-11**

**Date Collected: 09/26/16 00:00**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.330	U	1.00	0.330	ug/L			09/27/16 16:22	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/27/16 16:22	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 16:22	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/27/16 16:22	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/27/16 16:22	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/27/16 16:22	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/27/16 16:22	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/27/16 16:22	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/27/16 16:22	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/27/16 16:22	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/27/16 16:22	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/27/16 16:22	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/27/16 16:22	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/27/16 16:22	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/27/16 16:22	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/27/16 16:22	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/27/16 16:22	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/27/16 16:22	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/27/16 16:22	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 16:22	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/27/16 16:22	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/27/16 16:22	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/27/16 16:22	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/27/16 16:22	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/27/16 16:22	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/27/16 16:22	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/27/16 16:22	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 16:22	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/27/16 16:22	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/27/16 16:22	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/27/16 16:22	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/27/16 16:22	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/27/16 16:22	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/27/16 16:22	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/27/16 16:22	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/27/16 16:22	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/27/16 16:22	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/27/16 16:22	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/27/16 16:22	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/27/16 16:22	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/27/16 16:22	1
EDB	0.175	U	1.00	0.175	ug/L			09/27/16 16:22	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/27/16 16:22	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 16:22	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/27/16 16:22	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/27/16 16:22	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/27/16 16:22	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/27/16 16:22	1
Hexane	2.00	U	5.00	2.00	ug/L			09/27/16 16:22	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: TB13**

**Date Collected: 09/26/16 00:00**

**Date Received: 09/27/16 08:00**

**Lab Sample ID: 560-63976-11**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/27/16 16:22	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/27/16 16:22	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/27/16 16:22	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/27/16 16:22	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/27/16 16:22	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/27/16 16:22	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/27/16 16:22	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/27/16 16:22	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/27/16 16:22	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/27/16 16:22	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/27/16 16:22	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/27/16 16:22	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/27/16 16:22	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 16:22	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/27/16 16:22	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/27/16 16:22	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/27/16 16:22	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/27/16 16:22	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/27/16 16:22	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/27/16 16:22	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/27/16 16:22	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/27/16 16:22	1
Styrene	0.200	U	1.00	0.200	ug/L			09/27/16 16:22	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 16:22	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/27/16 16:22	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/27/16 16:22	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/27/16 16:22	1
Toluene	0.495	U	1.00	0.495	ug/L			09/27/16 16:22	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 16:22	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/27/16 16:22	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/27/16 16:22	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/27/16 16:22	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/27/16 16:22	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/27/16 16:22	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/27/16 16:22	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/27/16 16:22	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/27/16 16:22	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/27/16 16:22	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/27/16 16:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/27/16 16:22	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 16:22	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 16:22	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/27/16 16:22	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/27/16 16:22	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/27/16 16:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		09/27/16 16:22	1
Dibromofluoromethane (Surr)	99		69 - 130		09/27/16 16:22	1
1,2-Dichloroethane-d4 (Surr)	100		70 - 140		09/27/16 16:22	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

**Client Sample ID: TB13**

**Date Collected: 09/26/16 00:00**

**Date Received: 09/27/16 08:00**

**Lab Sample ID: 560-63976-11**

**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Toluene-d8 (Surr)</i>	<i>103</i>		<i>70 - 130</i>		<i>09/27/16 16:22</i>	<i>1</i>

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-132164/6

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/27/16 11:46	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/27/16 11:46	1
Benzene	0.330	U	1.00	0.330	ug/L			09/27/16 11:46	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/27/16 11:46	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 11:46	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/27/16 11:46	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/27/16 11:46	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/27/16 11:46	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/27/16 11:46	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/27/16 11:46	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/27/16 11:46	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/27/16 11:46	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/27/16 11:46	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/27/16 11:46	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/27/16 11:46	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/27/16 11:46	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/27/16 11:46	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/27/16 11:46	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/27/16 11:46	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/27/16 11:46	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/27/16 11:46	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/27/16 11:46	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/27/16 11:46	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/27/16 11:46	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 11:46	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/27/16 11:46	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/27/16 11:46	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/27/16 11:46	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/27/16 11:46	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/27/16 11:46	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/27/16 11:46	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/27/16 11:46	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/27/16 11:46	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/27/16 11:46	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/27/16 11:46	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/27/16 11:46	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/27/16 11:46	1
EDB	0.175	U	1.00	0.175	ug/L			09/27/16 11:46	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/27/16 11:46	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/27/16 11:46	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/27/16 11:46	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132164/6

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/27/16 11:46	1
Hexane	2.00	U	5.00	2.00	ug/L			09/27/16 11:46	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/27/16 11:46	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/27/16 11:46	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/27/16 11:46	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/27/16 11:46	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/27/16 11:46	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/27/16 11:46	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/27/16 11:46	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/27/16 11:46	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/27/16 11:46	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/27/16 11:46	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/27/16 11:46	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/27/16 11:46	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/27/16 11:46	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/27/16 11:46	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/27/16 11:46	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/27/16 11:46	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/27/16 11:46	1
Styrene	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 11:46	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/27/16 11:46	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/27/16 11:46	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/27/16 11:46	1
Toluene	0.495	U	1.00	0.495	ug/L			09/27/16 11:46	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/27/16 11:46	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/27/16 11:46	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/27/16 11:46	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/27/16 11:46	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/27/16 11:46	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/27/16 11:46	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/27/16 11:46	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/27/16 11:46	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/27/16 11:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/27/16 11:46	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 11:46	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 11:46	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/27/16 11:46	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/27/16 11:46	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132164/6

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130		09/27/16 11:46	1
Dibromofluoromethane (Surr)	103		69 - 130		09/27/16 11:46	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		09/27/16 11:46	1
Toluene-d8 (Surr)	100		70 - 130		09/27/16 11:46	1

Lab Sample ID: LCS 560-132164/3

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	27.78		ug/L		111	60 - 150
Acetonitrile	250	286.4		ug/L		115	52 - 160
Benzene	25.0	25.54		ug/L		102	70 - 130
Benzyl chloride	25.0	31.91		ug/L		128	66 - 153
Bromobenzene	25.0	26.71		ug/L		107	70 - 130
Bromochloromethane	25.0	24.40		ug/L		98	70 - 130
Bromoform	25.0	26.45		ug/L		106	63 - 145
Bromomethane	25.0	24.28		ug/L		97	50 - 146
1,3-Butadiene	25.0	19.54		ug/L		78	40 - 138
2-Butanone (MEK)	25.0	27.54		ug/L		110	68 - 144
Carbon disulfide	25.0	24.73		ug/L		99	52 - 156
Carbon tetrachloride	25.0	27.53		ug/L		110	70 - 138
Chlorobenzene	25.0	25.62		ug/L		102	70 - 130
2-Chloro-1,3-butadiene	25.0	26.43		ug/L		106	69 - 140
Chlorodibromomethane	25.0	26.41		ug/L		106	70 - 137
Chloroethane	25.0	23.38		ug/L		94	54 - 141
Chloroform	25.0	25.32		ug/L		101	70 - 130
1-Chlorohexane	25.0	27.82		ug/L		111	64 - 130
Chloromethane	25.0	22.69		ug/L		91	46 - 142
2-Chlorotoluene	25.0	26.80		ug/L		107	70 - 130
4-Chlorotoluene	25.0	26.73		ug/L		107	70 - 130
cis-1,4-Dichloro-2-butene	25.0	42.66		ug/L		171	10 - 184
cis-1,2-Dichloroethene	25.0	25.83		ug/L		103	70 - 130
cis-1,3-Dichloropropene	25.0	25.85		ug/L		103	70 - 138
Cyclohexane	25.0	27.05		ug/L		108	40 - 141
Cyclohexanone	125	213.3		ug/L		171	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	26.10		ug/L		104	70 - 149
Dibromomethane	25.0	24.67		ug/L		99	70 - 130
1,2-Dichlorobenzene	25.0	26.22		ug/L		105	70 - 130
1,3-Dichlorobenzene	25.0	26.52		ug/L		106	70 - 130
1,4-Dichlorobenzene	25.0	26.09		ug/L		104	70 - 130
Dichlorobromomethane	25.0	25.21		ug/L		101	70 - 130
Dichlorodifluoromethane	25.0	16.17		ug/L		65	10 - 181
1,1-Dichloroethane	25.0	25.24		ug/L		101	70 - 130
1,2-Dichloroethane	25.0	24.29		ug/L		97	70 - 131
1,1-Dichloroethene	25.0	26.03		ug/L		104	70 - 139
1,2-Dichloropropane	25.0	25.70		ug/L		103	70 - 130
1,3-Dichloropropane	25.0	25.85		ug/L		103	70 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132164/3

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	25.65		ug/L		103	65 - 145
1,1-Dichloropropene	25.0	26.58		ug/L		106	70 - 130
1,4-Dioxane	500	558.4		ug/L		112	66 - 150
EDB	25.0	27.28		ug/L		109	70 - 130
Ethyl acetate	50.0	54.24		ug/L		108	59 - 200
Ethylbenzene	25.0	26.87		ug/L		107	70 - 130
Ethylene oxide	100	76.86		ug/L		77	10 - 200
Ethyl ether	25.0	25.58		ug/L		102	69 - 136
Ethyl methacrylate	25.0	26.48		ug/L		106	70 - 130
Hexachlorobutadiene	25.0	28.74		ug/L		115	68 - 165
Hexane	25.0	27.09		ug/L		108	10 - 185
2-Hexanone	25.0	28.53		ug/L		114	70 - 138
Iodomethane	25.0	25.50		ug/L		102	64 - 146
Isobutyl alcohol	625	703.2		ug/L		113	27 - 199
Isooctane	25.0	26.73		ug/L		107	10 - 181
Isopropylbenzene	25.0	28.83		ug/L		115	70 - 131
4-Isopropyltoluene	25.0	28.65		ug/L		115	70 - 130
Methacrylonitrile	250	254.6		ug/L		102	70 - 139
Methylene Chloride	25.0	23.59		ug/L		94	70 - 130
Methyl methacrylate	50.0	50.01		ug/L		100	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	28.65		ug/L		115	70 - 138
Methyl tert-butyl ether	25.0	24.83		ug/L		99	70 - 131
m-Xylene & p-Xylene	25.0	27.56		ug/L		110	70 - 139
Naphthalene	25.0	28.71		ug/L		115	70 - 159
n-Butylbenzene	25.0	29.16		ug/L		117	70 - 135
n-Heptane	25.0	26.65		ug/L		107	10 - 186
2-Nitropropane	50.0	59.30		ug/L		119	22 - 173
N-Propylbenzene	25.0	28.90		ug/L		116	70 - 131
1-Octene	25.0	30.29		ug/L		121	10 - 185
o-Xylene	25.0	27.18		ug/L		109	70 - 130
Pentachloroethane	25.0	28.40		ug/L		114	70 - 146
Propionitrile	250	274.2		ug/L		110	70 - 144
sec-Butylbenzene	25.0	28.25		ug/L		113	70 - 134
Styrene	25.0	25.20		ug/L		101	70 - 130
tert-Butylbenzene	25.0	27.38		ug/L		110	70 - 132
1,1,1,2-Tetrachloroethane	25.0	26.52		ug/L		106	65 - 130
1,1,2,2-Tetrachloroethane	25.0	27.02		ug/L		108	65 - 130
Tetrachloroethene	25.0	25.59		ug/L		102	70 - 135
Toluene	25.0	26.63		ug/L		107	70 - 130
trans-1,4-Dichloro-2-butene	25.0	35.49		ug/L		142	37 - 174
trans-1,2-Dichloroethene	25.0	26.64		ug/L		107	70 - 134
trans-1,3-Dichloropropene	25.0	27.11		ug/L		108	70 - 143
1,2,3-Trichlorobenzene	25.0	26.96		ug/L		108	70 - 158
1,2,4-Trichlorobenzene	25.0	28.04		ug/L		112	70 - 157
1,3,5-Trichlorobenzene	25.0	27.25		ug/L		109	70 - 131
1,1,1-Trichloroethane	25.0	25.37		ug/L		101	65 - 130
1,1,2-Trichloroethane	25.0	25.84		ug/L		103	70 - 130
Trichloroethene	25.0	26.64		ug/L		107	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132164/3

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	27.07		ug/L		108	39 - 146
1,2,3-Trichloropropane	25.0	27.39		ug/L		110	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.20		ug/L		105	27 - 148
1,2,4-Trimethylbenzene	25.0	27.12		ug/L		108	70 - 130
1,3,5-Trimethylbenzene	25.0	28.05		ug/L		112	70 - 131
Vinyl acetate	50.0	54.10		ug/L		108	18 - 200
Vinyl chloride	25.0	23.97		ug/L		96	49 - 140
Xylenes, Total	50.0	54.73		ug/L		109	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
Dibromofluoromethane (Surr)	99		69 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 140
Toluene-d8 (Surr)	102		70 - 130

Lab Sample ID: 560-63976-A-8 MS

Matrix: Water

Analysis Batch: 132164

Client Sample ID: 560-63976-A-8 MS

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	5.00	U	25.0	27.46		ug/L		110	32 - 157
Acetonitrile	10.0	U	250	308.5		ug/L		123	10 - 182
Benzene	0.330	U	25.0	26.73		ug/L		107	70 - 130
Benzyl chloride	0.278	U	25.0	25.73		ug/L		103	49 - 130
Bromobenzene	0.128	U	25.0	26.09		ug/L		104	69 - 130
Bromochloromethane	0.228	U	25.0	26.38		ug/L		106	70 - 130
Bromoform	0.500	U	25.0	22.97		ug/L		92	57 - 145
Bromomethane	0.392	U	25.0	25.72		ug/L		103	56 - 141
1,3-Butadiene	0.300	U	25.0	26.10		ug/L		104	25 - 196
2-Butanone (MEK)	1.00	U	25.0	25.08		ug/L		100	42 - 142
Carbon disulfide	0.500	U	25.0	26.25		ug/L		105	59 - 164
Carbon tetrachloride	0.251	U	25.0	26.00		ug/L		104	70 - 138
Chlorobenzene	0.136	U	25.0	26.83		ug/L		107	70 - 130
2-Chloro-1,3-butadiene	0.200	U	25.0	27.96		ug/L		112	55 - 144
Chlorodibromomethane	0.223	U	25.0	26.07		ug/L		104	62 - 145
Chloroethane	0.400	U	25.0	25.96		ug/L		104	62 - 142
Chloroform	0.173	U	25.0	25.92		ug/L		104	70 - 130
1-Chlorohexane	0.500	U	25.0	29.24		ug/L		117	64 - 130
Chloromethane	0.390	U	25.0	27.45		ug/L		110	57 - 148
2-Chlorotoluene	0.155	U	25.0	26.94		ug/L		108	70 - 130
4-Chlorotoluene	0.242	U	25.0	27.48		ug/L		110	69 - 130
cis-1,4-Dichloro-2-butene	0.500	U	25.0	30.97		ug/L		124	24 - 136
cis-1,2-Dichloroethene	0.121	U	25.0	26.54		ug/L		106	70 - 130
cis-1,3-Dichloropropene	0.146	U	25.0	23.37		ug/L		93	46 - 136
Cyclohexane	1.00	U	25.0	27.47		ug/L		110	46 - 144
Cyclohexanone	5.00	U	125	152.2		ug/L		122	10 - 193
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	24.27		ug/L		97	56 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63976-A-8 MS

Matrix: Water

Analysis Batch: 132164

Client Sample ID: 560-63976-A-8 MS

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	0.165	U	25.0	25.46		ug/L		102	70 - 130
1,2-Dichlorobenzene	0.170	U	25.0	26.73		ug/L		107	70 - 130
1,3-Dichlorobenzene	0.128	U	25.0	26.70		ug/L		107	70 - 130
1,4-Dichlorobenzene	0.200	U	25.0	26.44		ug/L		106	70 - 130
Dichlorobromomethane	0.175	U	25.0	25.05		ug/L		100	70 - 130
Dichlorodifluoromethane	0.429	U	25.0	26.20		ug/L		105	14 - 198
1,1-Dichloroethane	0.168	U	25.0	26.32		ug/L		105	70 - 130
1,2-Dichloroethane	0.172	U	25.0	24.93		ug/L		100	65 - 130
1,1-Dichloroethene	0.300	U	25.0	26.71		ug/L		107	67 - 143
1,2-Dichloropropane	0.173	U	25.0	26.21		ug/L		105	70 - 130
1,3-Dichloropropane	0.146	U	25.0	26.22		ug/L		105	70 - 130
2,2-Dichloropropane	0.335	U	25.0	24.59		ug/L		98	65 - 150
1,1-Dichloropropene	0.185	U	25.0	26.99		ug/L		108	70 - 130
1,4-Dioxane	15.9	U	500	723.0		ug/L		145	20 - 152
EDB	0.175	U	25.0	26.46		ug/L		106	70 - 130
Ethyl acetate	1.00	U	50.0	49.99		ug/L		100	53 - 144
Ethylbenzene	0.200	U	25.0	28.21		ug/L		113	70 - 130
Ethylene oxide	30.0	U F1	100	30.0	U F1	ug/L		0	12 - 185
Ethyl ether	0.320	U	25.0	26.05		ug/L		104	67 - 130
Ethyl methacrylate	0.500	U	25.0	25.22		ug/L		101	65 - 130
Hexachlorobutadiene	0.860	U	25.0	27.31		ug/L		109	52 - 143
Hexane	2.00	U	25.0	26.10		ug/L		104	51 - 159
2-Hexanone	0.500	U	25.0	25.72		ug/L		103	56 - 130
Iodomethane	0.223	U	25.0	25.08		ug/L		100	70 - 162
Isobutyl alcohol	5.00	U	625	815.1		ug/L		130	36 - 130
Isooctane	0.500	U	25.0	27.31		ug/L		109	52 - 150
Isopropylbenzene	0.200	U	25.0	27.97		ug/L		112	70 - 130
4-Isopropyltoluene	0.150	U	25.0	28.88		ug/L		116	69 - 130
Methacrylonitrile	2.00	U	250	261.8		ug/L		105	61 - 130
Methylene Chloride	2.00	U	25.0	24.43		ug/L		98	70 - 130
Methyl methacrylate	0.200	U	50.0	49.70		ug/L		99	63 - 130
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	25.47		ug/L		102	54 - 130
Methyl tert-butyl ether	0.200	U	25.0	24.76		ug/L		99	63 - 134
m-Xylene & p-Xylene	0.260	U	25.0	28.64		ug/L		115	67 - 130
Naphthalene	0.200	U	25.0	28.25		ug/L		113	62 - 145
n-Butylbenzene	0.200	U	25.0	29.62		ug/L		118	67 - 130
n-Heptane	0.300	U	25.0	27.04		ug/L		108	55 - 150
2-Nitropropane	1.00	U	50.0	50.65		ug/L		101	22 - 173
N-Propylbenzene	0.106	U	25.0	29.07		ug/L		116	70 - 130
1-Octene	0.440	U	25.0	28.69		ug/L		115	63 - 134
o-Xylene	0.200	U	25.0	27.70		ug/L		111	70 - 130
Pentachloroethane	0.302	U	25.0	25.95		ug/L		104	60 - 130
Propionitrile	2.69	U	250	288.5		ug/L		115	39 - 130
sec-Butylbenzene	0.300	U	25.0	28.13		ug/L		113	67 - 130
Styrene	0.200	U	25.0	25.92		ug/L		104	28 - 150
tert-Butylbenzene	0.200	U	25.0	26.74		ug/L		107	70 - 130
1,1,1,2-Tetrachloroethane	0.209	U	25.0	26.33		ug/L		105	65 - 130
1,1,2,2-Tetrachloroethane	0.190	U	25.0	27.07		ug/L		108	65 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63976-A-8 MS

Matrix: Water

Analysis Batch: 132164

Client Sample ID: 560-63976-A-8 MS

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	0.189	U	25.0	25.86		ug/L		103	69 - 130
Toluene	0.495	U	25.0	27.43		ug/L		110	70 - 130
trans-1,4-Dichloro-2-butene	0.500	U	25.0	28.65		ug/L		115	35 - 130
trans-1,2-Dichloroethene	0.200	U	25.0	27.47		ug/L		110	57 - 148
trans-1,3-Dichloropropene	0.200	U	25.0	26.32		ug/L		105	44 - 139
1,2,3-Trichlorobenzene	0.217	U	25.0	26.91		ug/L		108	60 - 130
1,2,4-Trichlorobenzene	0.168	U	25.0	26.94		ug/L		108	60 - 142
1,3,5-Trichlorobenzene	0.203	U	25.0	27.28		ug/L		109	66 - 135
1,1,1-Trichloroethane	0.300	U	25.0	25.73		ug/L		103	65 - 133
1,1,2-Trichloroethane	0.173	U	25.0	27.03		ug/L		108	70 - 130
Trichloroethene	0.317	U	25.0	26.47		ug/L		106	70 - 130
Trichlorofluoromethane	0.244	U	25.0	26.34		ug/L		105	64 - 149
1,2,3-Trichloropropane	0.191	U	25.0	25.76		ug/L		103	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	26.28		ug/L		105	47 - 152
1,2,4-Trimethylbenzene	0.200	U	25.0	27.53		ug/L		110	70 - 130
1,3,5-Trimethylbenzene	0.200	U	25.0	28.09		ug/L		112	70 - 130
Vinyl acetate	0.500	U	50.0	52.04		ug/L		104	36 - 171
Vinyl chloride	0.300	U	25.0	27.28		ug/L		109	49 - 158
Xylenes, Total	0.200	U	50.0	56.34		ug/L		113	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	99		69 - 130
1,2-Dichloroethane-d4 (Surr)	98		70 - 140
Toluene-d8 (Surr)	104		70 - 130

Lab Sample ID: 560-63976-B-8 MSD

Matrix: Water

Analysis Batch: 132164

Client Sample ID: 560-63976-B-8 MSD

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	5.00	U	25.0	24.95		ug/L		100	32 - 157	10	20
Acetonitrile	10.0	U	250	300.7		ug/L		120	10 - 182	3	20
Benzene	0.330	U	25.0	26.40		ug/L		106	70 - 130	1	20
Benzyl chloride	0.278	U	25.0	25.78		ug/L		103	49 - 130	0	20
Bromobenzene	0.128	U	25.0	26.31		ug/L		105	69 - 130	1	20
Bromochloromethane	0.228	U	25.0	25.66		ug/L		103	70 - 130	3	20
Bromoform	0.500	U	25.0	22.87		ug/L		91	57 - 145	0	20
Bromomethane	0.392	U	25.0	25.12		ug/L		100	56 - 141	2	20
1,3-Butadiene	0.300	U	25.0	25.70		ug/L		103	25 - 196	2	20
2-Butanone (MEK)	1.00	U	25.0	25.39		ug/L		102	42 - 142	1	20
Carbon disulfide	0.500	U	25.0	26.18		ug/L		105	59 - 164	0	20
Carbon tetrachloride	0.251	U	25.0	26.26		ug/L		105	70 - 138	1	20
Chlorobenzene	0.136	U	25.0	26.47		ug/L		106	70 - 130	1	20
2-Chloro-1,3-butadiene	0.200	U	25.0	27.43		ug/L		110	55 - 144	2	20
Chlorodibromomethane	0.223	U	25.0	25.74		ug/L		103	62 - 145	1	20
Chloroethane	0.400	U	25.0	24.77		ug/L		99	62 - 142	5	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63976-B-8 MSD

Matrix: Water

Analysis Batch: 132164

Client Sample ID: 560-63976-B-8 MSD

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	0.173	U	25.0	25.54		ug/L		102	70 - 130	1	20
1-Chlorohexane	0.500	U	25.0	28.54		ug/L		114	64 - 130	2	20
Chloromethane	0.390	U	25.0	27.40		ug/L		110	57 - 148	0	20
2-Chlorotoluene	0.155	U	25.0	26.86		ug/L		107	70 - 130	0	20
4-Chlorotoluene	0.242	U	25.0	26.81		ug/L		107	69 - 130	2	20
cis-1,4-Dichloro-2-butene	0.500	U	25.0	30.44		ug/L		122	24 - 136	2	20
cis-1,2-Dichloroethene	0.121	U	25.0	26.44		ug/L		106	70 - 130	0	20
cis-1,3-Dichloropropene	0.146	U	25.0	24.18		ug/L		97	46 - 136	3	20
Cyclohexane	1.00	U	25.0	27.60		ug/L		110	46 - 144	0	20
Cyclohexanone	5.00	U	125	147.2		ug/L		118	10 - 193	3	20
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	22.92		ug/L		92	56 - 130	6	20
Dibromomethane	0.165	U	25.0	25.45		ug/L		102	70 - 130	0	20
1,2-Dichlorobenzene	0.170	U	25.0	26.42		ug/L		106	70 - 130	1	20
1,3-Dichlorobenzene	0.128	U	25.0	26.01		ug/L		104	70 - 130	3	20
1,4-Dichlorobenzene	0.200	U	25.0	25.35		ug/L		101	70 - 130	4	20
Dichlorobromomethane	0.175	U	25.0	25.14		ug/L		101	70 - 130	0	20
Dichlorodifluoromethane	0.429	U	25.0	26.77		ug/L		107	14 - 198	2	20
1,1-Dichloroethane	0.168	U	25.0	26.44		ug/L		106	70 - 130	0	20
1,2-Dichloroethane	0.172	U	25.0	24.62		ug/L		98	65 - 130	1	20
1,1-Dichloroethene	0.300	U	25.0	27.06		ug/L		108	67 - 143	1	20
1,2-Dichloropropane	0.173	U	25.0	26.20		ug/L		105	70 - 130	0	20
1,3-Dichloropropane	0.146	U	25.0	26.81		ug/L		107	70 - 130	2	20
2,2-Dichloropropane	0.335	U	25.0	24.59		ug/L		98	65 - 150	0	20
1,1-Dichloropropene	0.185	U	25.0	27.47		ug/L		110	70 - 130	2	20
1,4-Dioxane	15.9	U	500	701.6		ug/L		140	20 - 152	3	20
EDB	0.175	U	25.0	26.98		ug/L		108	70 - 130	2	20
Ethyl acetate	1.00	U	50.0	51.73		ug/L		103	53 - 144	3	20
Ethylbenzene	0.200	U	25.0	27.88		ug/L		112	70 - 130	1	20
Ethylene oxide	30.0	U F1	100	30.0	U F1	ug/L		0	12 - 185	NC	20
Ethyl ether	0.320	U	25.0	26.30		ug/L		105	67 - 130	1	20
Ethyl methacrylate	0.500	U	25.0	25.66		ug/L		103	65 - 130	2	20
Hexachlorobutadiene	0.860	U	25.0	26.69		ug/L		107	52 - 143	2	20
Hexane	2.00	U	25.0	26.29		ug/L		105	51 - 159	1	20
2-Hexanone	0.500	U	25.0	24.31		ug/L		97	56 - 130	6	20
Iodomethane	0.223	U	25.0	25.15		ug/L		101	70 - 162	0	20
Isobutyl alcohol	5.00	U	625	781.4		ug/L		125	36 - 130	4	20
Isooctane	0.500	U	25.0	25.73		ug/L		103	52 - 150	6	20
Isopropylbenzene	0.200	U	25.0	28.69		ug/L		115	70 - 130	3	20
4-Isopropyltoluene	0.150	U	25.0	28.50		ug/L		114	69 - 130	1	20
Methacrylonitrile	2.00	U	250	260.1		ug/L		104	61 - 130	1	20
Methylene Chloride	2.00	U	25.0	24.38		ug/L		98	70 - 130	0	20
Methyl methacrylate	0.200	U	50.0	51.98		ug/L		104	63 - 130	4	20
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	24.55		ug/L		98	54 - 130	4	20
Methyl tert-butyl ether	0.200	U	25.0	25.00		ug/L		100	63 - 134	1	20
m-Xylene & p-Xylene	0.260	U	25.0	28.03		ug/L		112	67 - 130	2	20
Naphthalene	0.200	U	25.0	26.62		ug/L		106	62 - 145	6	20
n-Butylbenzene	0.200	U	25.0	29.10		ug/L		116	67 - 130	2	20
n-Heptane	0.300	U	25.0	25.91		ug/L		104	55 - 150	4	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63976-B-8 MSD

Matrix: Water

Analysis Batch: 132164

Client Sample ID: 560-63976-B-8 MSD

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Nitropropane	1.00	U	50.0	52.40		ug/L		105	22 - 173	3	20
N-Propylbenzene	0.106	U	25.0	28.99		ug/L		116	70 - 130	0	20
1-Octene	0.440	U	25.0	27.88		ug/L		112	63 - 134	3	
o-Xylene	0.200	U	25.0	27.55		ug/L		110	70 - 130	1	20
Pentachloroethane	0.302	U	25.0	26.15		ug/L		105	60 - 130	1	20
Propionitrile	2.69	U	250	282.3		ug/L		113	39 - 130	2	20
sec-Butylbenzene	0.300	U	25.0	27.84		ug/L		111	67 - 130	1	20
Styrene	0.200	U	25.0	25.24		ug/L		101	28 - 150	3	20
tert-Butylbenzene	0.200	U	25.0	26.28		ug/L		105	70 - 130	2	20
1,1,1,2-Tetrachloroethane	0.209	U	25.0	26.72		ug/L		107	65 - 130	1	20
1,1,2,2-Tetrachloroethane	0.190	U	25.0	26.46		ug/L		106	65 - 130	2	20
Tetrachloroethene	0.189	U	25.0	25.96		ug/L		104	69 - 130	0	20
Toluene	0.495	U	25.0	27.48		ug/L		110	70 - 130	0	20
trans-1,4-Dichloro-2-butene	0.500	U	25.0	28.45		ug/L		114	35 - 130	1	20
trans-1,2-Dichloroethene	0.200	U	25.0	26.83		ug/L		107	57 - 148	2	20
trans-1,3-Dichloropropene	0.200	U	25.0	26.76		ug/L		107	44 - 139	2	20
1,2,3-Trichlorobenzene	0.217	U	25.0	26.22		ug/L		105	60 - 130	3	20
1,2,4-Trichlorobenzene	0.168	U	25.0	26.55		ug/L		106	60 - 142	1	20
1,3,5-Trichlorobenzene	0.203	U	25.0	26.37		ug/L		105	66 - 135	3	20
1,1,1-Trichloroethane	0.300	U	25.0	25.80		ug/L		103	65 - 133	0	20
1,1,2-Trichloroethane	0.173	U	25.0	26.96		ug/L		108	70 - 130	0	20
Trichloroethene	0.317	U	25.0	26.71		ug/L		107	70 - 130	1	20
Trichlorofluoromethane	0.244	U	25.0	25.97		ug/L		104	64 - 149	1	20
1,2,3-Trichloropropane	0.191	U	25.0	25.83		ug/L		103	70 - 130	0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	26.41		ug/L		106	47 - 152	1	20
1,2,4-Trimethylbenzene	0.200	U	25.0	27.47		ug/L		110	70 - 130	0	20
1,3,5-Trimethylbenzene	0.200	U	25.0	27.95		ug/L		112	70 - 130	1	20
Vinyl acetate	0.500	U	50.0	50.90		ug/L		102	36 - 171	2	20
Vinyl chloride	0.300	U	25.0	27.28		ug/L		109	49 - 158	0	20
Xylenes, Total	0.200	U	50.0	55.58		ug/L		111	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
Dibromofluoromethane (Surr)	99		69 - 130
1,2-Dichloroethane-d4 (Surr)	98		70 - 140
Toluene-d8 (Surr)	102		70 - 130

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-132246/1-A

Matrix: Water

Analysis Batch: 132247

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132246

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/28/16 16:00	09/29/16 09:12	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/28/16 16:00	09/29/16 09:12	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/28/16 16:00	09/29/16 09:12	1

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132246/1-A

Matrix: Water

Analysis Batch: 132247

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132246

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/28/16 16:00	09/29/16 09:12	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/28/16 16:00	09/29/16 09:12	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/28/16 16:00	09/29/16 09:12	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/28/16 16:00	09/29/16 09:12	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/28/16 16:00	09/29/16 09:12	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/28/16 16:00	09/29/16 09:12	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/28/16 16:00	09/29/16 09:12	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/28/16 16:00	09/29/16 09:12	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/28/16 16:00	09/29/16 09:12	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/28/16 16:00	09/29/16 09:12	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/28/16 16:00	09/29/16 09:12	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 09:12	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/28/16 16:00	09/29/16 09:12	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/28/16 16:00	09/29/16 09:12	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/28/16 16:00	09/29/16 09:12	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/28/16 16:00	09/29/16 09:12	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/28/16 16:00	09/29/16 09:12	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/28/16 16:00	09/29/16 09:12	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/28/16 16:00	09/29/16 09:12	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/28/16 16:00	09/29/16 09:12	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/28/16 16:00	09/29/16 09:12	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/28/16 16:00	09/29/16 09:12	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 09:12	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/28/16 16:00	09/29/16 09:12	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/28/16 16:00	09/29/16 09:12	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/28/16 16:00	09/29/16 09:12	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 09:12	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/28/16 16:00	09/29/16 09:12	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/28/16 16:00	09/29/16 09:12	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/28/16 16:00	09/29/16 09:12	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/28/16 16:00	09/29/16 09:12	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/28/16 16:00	09/29/16 09:12	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/28/16 16:00	09/29/16 09:12	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/28/16 16:00	09/29/16 09:12	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/28/16 16:00	09/29/16 09:12	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/28/16 16:00	09/29/16 09:12	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/28/16 16:00	09/29/16 09:12	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/28/16 16:00	09/29/16 09:12	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 09:12	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/28/16 16:00	09/29/16 09:12	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 09:12	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/28/16 16:00	09/29/16 09:12	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/28/16 16:00	09/29/16 09:12	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/28/16 16:00	09/29/16 09:12	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 09:12	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/28/16 16:00	09/29/16 09:12	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/28/16 16:00	09/29/16 09:12	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/28/16 16:00	09/29/16 09:12	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132246/1-A

Matrix: Water

Analysis Batch: 132247

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132246

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/28/16 16:00	09/29/16 09:12	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/28/16 16:00	09/29/16 09:12	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/28/16 16:00	09/29/16 09:12	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/28/16 16:00	09/29/16 09:12	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/28/16 16:00	09/29/16 09:12	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/28/16 16:00	09/29/16 09:12	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/28/16 16:00	09/29/16 09:12	1
Phenol	0.768	U	10.0	0.768	ug/L		09/28/16 16:00	09/29/16 09:12	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/28/16 16:00	09/29/16 09:12	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/28/16 16:00	09/29/16 09:12	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/28/16 16:00	09/29/16 09:12	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/28/16 16:00	09/29/16 09:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	68		23 - 130	09/28/16 16:00	09/29/16 09:12	1
2-Fluorophenol	68		10 - 130	09/28/16 16:00	09/29/16 09:12	1
Nitrobenzene-d5	68		27 - 130	09/28/16 16:00	09/29/16 09:12	1
Phenol-d5	73		10 - 130	09/28/16 16:00	09/29/16 09:12	1
Terphenyl-d14	79		10 - 141	09/28/16 16:00	09/29/16 09:12	1
2,4,6-Tribromophenol	56		18 - 130	09/28/16 16:00	09/29/16 09:12	1

Lab Sample ID: LCS 560-132246/2-A

Matrix: Water

Analysis Batch: 132247

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132246

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	200	163.8		ug/L		82	54 - 130
Acenaphthylene	200	154.7		ug/L		77	54 - 130
Anthracene	200	166.6		ug/L		83	67 - 130
Benzo[a]anthracene	200	175.1		ug/L		88	70 - 130
Benzo[a]pyrene	200	173.1		ug/L		87	70 - 130
Benzo[b]fluoranthene	200	188.6		ug/L		94	69 - 130
Benzo[g,h,i]perylene	200	158.5		ug/L		79	62 - 130
Benzo[k]fluoranthene	200	178.0		ug/L		89	68 - 130
Benzyl alcohol	200	167.8		ug/L		84	52 - 130
Bis(2-chloroethoxy)methane	200	173.7		ug/L		87	55 - 130
Bis(2-chloroethyl)ether	200	163.8		ug/L		82	52 - 130
Bis(2-ethylhexyl) phthalate	200	175.3		ug/L		88	68 - 130
4-Bromophenyl phenyl ether	200	177.8		ug/L		89	69 - 130
Butyl benzyl phthalate	200	184.3		ug/L		92	68 - 130
4-Chloroaniline	200	130.8		ug/L		65	30 - 130
4-Chloro-3-methylphenol	200	173.8		ug/L		87	52 - 130
2-Chloronaphthalene	200	161.3		ug/L		81	51 - 130
2-Chlorophenol	200	159.1		ug/L		80	51 - 130
4-Chlorophenyl phenyl ether	200	176.5		ug/L		88	59 - 130
Chrysene	200	181.9		ug/L		91	70 - 130
Dibenz(a,h)anthracene	200	161.6		ug/L		81	65 - 130
Dibenzofuran	200	176.9		ug/L		88	53 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132246/2-A

Matrix: Water

Analysis Batch: 132247

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132246

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	200	133.7		ug/L		67	43 - 130
1,3-Dichlorobenzene	200	126.9		ug/L		63	40 - 130
1,4-Dichlorobenzene	200	129.4		ug/L		65	42 - 130
3,3'-Dichlorobenzidine	200	152.6		ug/L		76	61 - 130
2,4-Dichlorophenol	200	171.9		ug/L		86	51 - 130
Diethyl phthalate	200	175.9		ug/L		88	59 - 130
2,4-Dimethylphenol	200	164.3		ug/L		82	51 - 130
Dimethyl phthalate	200	179.4		ug/L		90	63 - 130
Di-n-butyl phthalate	200	173.3		ug/L		87	67 - 130
4,6-Dinitro-2-methylphenol	400	348.3		ug/L		87	63 - 130
2,4-Dinitrophenol	400	344.3		ug/L		86	47 - 130
2,4-Dinitrotoluene	200	180.3		ug/L		90	67 - 130
2,6-Dinitrotoluene	200	174.5		ug/L		87	64 - 130
Di-n-octyl phthalate	200	176.3		ug/L		88	70 - 130
Fluoranthene	200	196.3		ug/L		98	65 - 130
Fluorene	200	167.6		ug/L		84	59 - 130
Hexachlorobenzene	200	176.4		ug/L		88	67 - 130
Hexachlorobutadiene	200	139.5		ug/L		70	44 - 130
Hexachlorocyclopentadiene	200	51.64		ug/L		26	10 - 130
Hexachloroethane	200	127.3		ug/L		64	38 - 130
Indeno[1,2,3-cd]pyrene	200	156.9		ug/L		78	66 - 130
Isophorone	200	169.5		ug/L		85	55 - 130
2-Methylnaphthalene	200	153.1		ug/L		77	54 - 130
2-Methylphenol	200	162.0		ug/L		81	47 - 130
3 & 4 Methylphenol	200	173.8		ug/L		87	41 - 130
Naphthalene	200	158.2		ug/L		79	51 - 130
2-Nitroaniline	200	173.6		ug/L		87	60 - 130
3-Nitroaniline	200	172.9		ug/L		86	57 - 130
4-Nitroaniline	200	170.1		ug/L		85	55 - 130
Nitrobenzene	200	163.6		ug/L		82	54 - 130
2-Nitrophenol	200	168.5		ug/L		84	54 - 130
4-Nitrophenol	400	347.2		ug/L		87	34 - 138
N-Nitrosodi-n-propylamine	200	178.4		ug/L		89	45 - 130
N-Nitrosodiphenylamine	200	154.4		ug/L		77	51 - 130
Pentachlorophenol	400	300.4		ug/L		75	55 - 130
Phenanthrene	200	171.4		ug/L		86	67 - 130
Phenol	200	158.9		ug/L		79	47 - 130
Pyrene	200	180.5		ug/L		90	66 - 130
1,2,4-Trichlorobenzene	200	144.9		ug/L		72	49 - 130
2,4,5-Trichlorophenol	200	172.1		ug/L		86	55 - 130
2,4,6-Trichlorophenol	200	168.6		ug/L		84	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	67		23 - 130
2-Fluorophenol	66		10 - 130
Nitrobenzene-d5	67		27 - 130
Phenol-d5	74		10 - 130
Terphenyl-d14	79		10 - 141

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132246/2-A

Matrix: Water

Analysis Batch: 132247

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132246

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	75		18 - 130

## Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 560-132158/1-A

Matrix: Water

Analysis Batch: 132177

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132158

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00500	U	0.0600	0.00500	ug/L		09/27/16 08:52	09/28/16 11:43	1
alpha-BHC	0.00520	U	0.0600	0.00520	ug/L		09/27/16 08:52	09/28/16 11:43	1
alpha-Chlordane	0.00630	U	0.0600	0.00630	ug/L		09/27/16 08:52	09/28/16 11:43	1
beta-BHC	0.00500	U	0.0600	0.00500	ug/L		09/27/16 08:52	09/28/16 11:43	1
4,4'-DDD	0.00500	U	0.0600	0.00500	ug/L		09/27/16 08:52	09/28/16 11:43	1
4,4'-DDE	0.00500	U	0.0600	0.00500	ug/L		09/27/16 08:52	09/28/16 11:43	1
4,4'-DDT	0.00810	U	0.0600	0.00810	ug/L		09/27/16 08:52	09/28/16 11:43	1
delta-BHC	0.00500	U	0.0600	0.00500	ug/L		09/27/16 08:52	09/28/16 11:43	1
Dieldrin	0.0130	U	0.0600	0.0130	ug/L		09/27/16 08:52	09/28/16 11:43	1
Endosulfan I	0.00500	U	0.0600	0.00500	ug/L		09/27/16 08:52	09/28/16 11:43	1
Endosulfan II	0.00860	U	0.0600	0.00860	ug/L		09/27/16 08:52	09/28/16 11:43	1
Endosulfan sulfate	0.00880	U	0.0600	0.00880	ug/L		09/27/16 08:52	09/28/16 11:43	1
Endrin	0.00770	U	0.0600	0.00770	ug/L		09/27/16 08:52	09/28/16 11:43	1
Endrin aldehyde	0.00500	U	0.0600	0.00500	ug/L		09/27/16 08:52	09/28/16 11:43	1
Endrin ketone	0.00820	U	0.0600	0.00820	ug/L		09/27/16 08:52	09/28/16 11:43	1
gamma-BHC (Lindane)	0.00450	U	0.0600	0.00450	ug/L		09/27/16 08:52	09/28/16 11:43	1
gamma-Chlordane	0.00670	U	0.0600	0.00670	ug/L		09/27/16 08:52	09/28/16 11:43	1
Heptachlor	0.00650	U	0.0600	0.00650	ug/L		09/27/16 08:52	09/28/16 11:43	1
Heptachlor epoxide	0.00520	U	0.0600	0.00520	ug/L		09/27/16 08:52	09/28/16 11:43	1
Methoxychlor	0.0100	U	0.0600	0.0100	ug/L		09/27/16 08:52	09/28/16 11:43	1
Toxaphene	0.680	U	6.00	0.680	ug/L		09/27/16 08:52	09/28/16 11:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	191	X	10 - 152	09/27/16 08:52	09/28/16 11:43	1
Tetrachloro-m-xylene	103		57 - 127	09/27/16 08:52	09/28/16 11:43	1

Lab Sample ID: LCS 560-132158/3-A

Matrix: Water

Analysis Batch: 132177

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.571	0.4693		ug/L		82	54 - 130
alpha-BHC	0.571	0.4906		ug/L		86	59 - 130
alpha-Chlordane	0.571	0.4615		ug/L		81	51 - 130
beta-BHC	0.571	0.4510		ug/L		79	56 - 130
4,4'-DDD	0.571	0.4627		ug/L		81	56 - 130
4,4'-DDE	0.571	0.4613		ug/L		81	53 - 130
4,4'-DDT	0.571	0.4704		ug/L		82	50 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 560-132158/3-A

Matrix: Water

Analysis Batch: 132177

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
delta-BHC	0.571	0.4802		ug/L		84	56 - 130
Dieldrin	0.571	0.4758		ug/L		83	58 - 130
Endosulfan I	0.571	0.3466		ug/L		61	39 - 130
Endosulfan II	0.571	0.3818		ug/L		67	44 - 130
Endosulfan sulfate	0.571	0.3774		ug/L		66	52 - 130
Endrin	0.571	0.4812		ug/L		84	62 - 130
Endrin aldehyde	0.571	0.3885		ug/L		68	52 - 130
Endrin ketone	0.571	0.4350		ug/L		76	48 - 130
gamma-BHC (Lindane)	0.571	0.4896		ug/L		86	56 - 130
gamma-Chlordane	0.571	0.4653		ug/L		81	52 - 130
Heptachlor	0.571	0.4913		ug/L		86	57 - 130
Heptachlor epoxide	0.571	0.4222		ug/L		74	53 - 130
Methoxychlor	0.571	0.4720		ug/L		83	57 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	93		10 - 152
Tetrachloro-m-xylene	94		57 - 127

Lab Sample ID: LCS 560-132158/6-A

Matrix: Water

Analysis Batch: 132177

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toxaphene	11.4	11.10		ug/L		97	51 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	103		10 - 152
Tetrachloro-m-xylene	100		57 - 127

Lab Sample ID: 560-63977-E-1-A MS

Matrix: Water

Analysis Batch: 132177

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.00469	U	0.543	0.4675		ug/L		86	54 - 130
alpha-BHC	0.00488	U	0.543	0.5003		ug/L		92	59 - 130
alpha-Chlordane	0.00591	U	0.543	0.4694		ug/L		86	51 - 130
beta-BHC	0.00469	U	0.543	0.4615		ug/L		85	56 - 130
4,4'-DDD	0.00469	U	0.543	0.4707		ug/L		87	56 - 130
4,4'-DDE	0.00469	U	0.543	0.4582		ug/L		84	53 - 130
4,4'-DDT	0.00760	U	0.543	0.4677		ug/L		86	50 - 130
delta-BHC	0.00469	U	0.543	0.4941		ug/L		91	56 - 130
Dieldrin	0.0122	U	0.543	0.4847		ug/L		89	58 - 130
Endosulfan I	0.00469	U	0.543	0.3443		ug/L		63	39 - 130
Endosulfan II	0.00807	U	0.543	0.3771		ug/L		69	44 - 130
Endosulfan sulfate	0.00826	U	0.543	0.4061		ug/L		75	52 - 130
Endrin	0.00723	U	0.543	0.4917		ug/L		90	62 - 130
Endrin aldehyde	0.00469	U	0.543	0.3977		ug/L		73	52 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-63977-E-1-A MS

Matrix: Water

Analysis Batch: 132177

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Endrin ketone	0.00769	U	0.543	0.4359		ug/L		80	48 - 130
gamma-BHC (Lindane)	0.00422	U	0.543	0.4976		ug/L		92	56 - 130
gamma-Chlordane	0.00629	U	0.543	0.4642		ug/L		85	52 - 130
Heptachlor	0.00610	U	0.543	0.4921		ug/L		91	57 - 130
Heptachlor epoxide	0.00488	U	0.543	0.4628		ug/L		85	53 - 130
Methoxychlor	0.00938	U	0.543	0.4705		ug/L		87	57 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl	67		10 - 152
Tetrachloro-m-xylene	102		57 - 127

Lab Sample ID: 560-63977-F-1-A MSD

Matrix: Water

Analysis Batch: 132177

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin	0.00469	U	0.533	0.4617		ug/L		87	54 - 130	1	30
alpha-BHC	0.00488	U	0.533	0.4979		ug/L		93	59 - 130	0	30
alpha-Chlordane	0.00591	U	0.533	0.4643		ug/L		87	51 - 130	1	30
beta-BHC	0.00469	U	0.533	0.4587		ug/L		86	56 - 130	1	30
4,4'-DDD	0.00469	U	0.533	0.4675		ug/L		88	56 - 130	1	30
4,4'-DDE	0.00469	U	0.533	0.4539		ug/L		85	53 - 130	1	30
4,4'-DDT	0.00760	U	0.533	0.4621		ug/L		87	50 - 130	1	30
delta-BHC	0.00469	U	0.533	0.4911		ug/L		92	56 - 130	1	30
Dieldrin	0.0122	U	0.533	0.4805		ug/L		90	58 - 130	1	30
Endosulfan I	0.00469	U	0.533	0.3409		ug/L		64	39 - 130	1	30
Endosulfan II	0.00807	U	0.533	0.3743		ug/L		70	44 - 130	1	30
Endosulfan sulfate	0.00826	U	0.533	0.4053		ug/L		76	52 - 130	0	30
Endrin	0.00723	U	0.533	0.4807		ug/L		90	62 - 130	2	30
Endrin aldehyde	0.00469	U	0.533	0.3936		ug/L		74	52 - 130	1	30
Endrin ketone	0.00769	U	0.533	0.4323		ug/L		81	48 - 130	1	30
gamma-BHC (Lindane)	0.00422	U	0.533	0.4948		ug/L		93	56 - 130	1	30
gamma-Chlordane	0.00629	U	0.533	0.4554		ug/L		85	52 - 130	2	30
Heptachlor	0.00610	U	0.533	0.4869		ug/L		91	57 - 130	1	30
Heptachlor epoxide	0.00488	U	0.533	0.4580		ug/L		86	53 - 130	1	30
Methoxychlor	0.00938	U	0.533	0.4654		ug/L		87	57 - 130	1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	65		10 - 152
Tetrachloro-m-xylene	99		57 - 127

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 560-132158/1-A

Matrix: Water

Analysis Batch: 132191

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132158

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1221	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1232	0.440	U	0.800	0.440	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1242	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1248	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1254	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1260	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1262	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1268	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	117		10 - 150	09/27/16 08:52	09/27/16 14:47	1
DCB Decachlorobiphenyl	167	X	10 - 150	09/27/16 08:52	09/27/16 14:47	1

Lab Sample ID: LCS 560-132158/2-A

Matrix: Water

Analysis Batch: 132191

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor 1016	11.4	15.02		ug/L		131	50 - 135
Aroclor 1260	11.4	11.82		ug/L		103	50 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	111		10 - 150
DCB Decachlorobiphenyl	87		10 - 150

Lab Sample ID: 560-63976-1 MS

Matrix: Water

Analysis Batch: 132191

Client Sample ID: HCS210 Lead

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aroclor 1016	0.103	U	10.7	14.27		ug/L		133	50 - 135
Aroclor 1260	0.103	U	10.7	11.35		ug/L		106	50 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	119		10 - 150
DCB Decachlorobiphenyl	76		10 - 150

Lab Sample ID: 560-63976-1 MSD

Matrix: Water

Analysis Batch: 132191

Client Sample ID: HCS210 Lead

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aroclor 1016	0.103	U	10.6	13.13		ug/L		124	50 - 135	8	30
Aroclor 1260	0.103	U	10.6	11.53		ug/L		109	50 - 135	2	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 560-63976-1 MSD

Matrix: Water

Analysis Batch: 132191

Client Sample ID: HCS210 Lead

Prep Type: Total/NA

Prep Batch: 132158

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	120		10 - 150
DCB Decachlorobiphenyl	77		10 - 150

## Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 280-344653/1-A

Matrix: Water

Analysis Batch: 345644

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 344653

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000168	U	0.00250	0.000168	mg/L		10/02/16 08:17	10/09/16 05:06	1
Bolstar	0.000314	U	0.00100	0.000314	mg/L		10/02/16 08:17	10/09/16 05:06	1
Chlorpyrifos	0.000360	U	0.00150	0.000360	mg/L		10/02/16 08:17	10/09/16 05:06	1
Coumaphos	0.000135	U	0.00100	0.000135	mg/L		10/02/16 08:17	10/09/16 05:06	1
Demeton-O	0.000140	U	0.00100	0.000140	mg/L		10/02/16 08:17	10/09/16 05:06	1
Demeton-S	0.0000690	U	0.00200	0.0000690	mg/L		10/02/16 08:17	10/09/16 05:06	1
Diazinon	0.000147	U	0.000500	0.000147	mg/L		10/02/16 08:17	10/09/16 05:06	1
Dichlorvos	0.000162	U	0.000500	0.000162	mg/L		10/02/16 08:17	10/09/16 05:06	1
Dimethoate	0.000449	U	0.00150	0.000449	mg/L		10/02/16 08:17	10/09/16 05:06	1
Disulfoton	0.000322	U	0.00100	0.000322	mg/L		10/02/16 08:17	10/09/16 05:06	1
EPN	0.000149	U	0.00120	0.000149	mg/L		10/02/16 08:17	10/09/16 05:06	1
Ethoprop	0.000177	U	0.00150	0.000177	mg/L		10/02/16 08:17	10/09/16 05:06	1
Ethyl Parathion	0.000144	U	0.00100	0.000144	mg/L		10/02/16 08:17	10/09/16 05:06	1
Famphur	0.000179	U	0.00100	0.000179	mg/L		10/02/16 08:17	10/09/16 05:06	1
Fensulfothion	0.000544	U	0.00250	0.000544	mg/L		10/02/16 08:17	10/09/16 05:06	1
Fenthion	0.000154	U	0.00250	0.000154	mg/L		10/02/16 08:17	10/09/16 05:06	1
Malathion	0.000133	U	0.00200	0.000133	mg/L		10/02/16 08:17	10/09/16 05:06	1
Merphos	0.000174	U	0.00500	0.000174	mg/L		10/02/16 08:17	10/09/16 05:06	1
Methyl parathion	0.000141	U	0.00400	0.000141	mg/L		10/02/16 08:17	10/09/16 05:06	1
Mevinphos	0.000460	U	0.00620	0.000460	mg/L		10/02/16 08:17	10/09/16 05:06	1
Naled	0.000800	U	0.00200	0.000800	mg/L		10/02/16 08:17	10/09/16 05:06	1
Phorate	0.000154	U	0.00120	0.000154	mg/L		10/02/16 08:17	10/09/16 05:06	1
Ronnel	0.000116	U	0.0100	0.000116	mg/L		10/02/16 08:17	10/09/16 05:06	1
Sulfotepp	0.000168	U	0.00150	0.000168	mg/L		10/02/16 08:17	10/09/16 05:06	1
Tetrachlorvinphos (Stirophos)	0.000124	U	0.00350	0.000124	mg/L		10/02/16 08:17	10/09/16 05:06	1
Thionazin	0.000312	U	0.00100	0.000312	mg/L		10/02/16 08:17	10/09/16 05:06	1
Tokuthion	0.000123	U	0.00160	0.000123	mg/L		10/02/16 08:17	10/09/16 05:06	1
Trichloronate	0.000242	U	0.00150	0.000242	mg/L		10/02/16 08:17	10/09/16 05:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	66		49 - 171	10/02/16 08:17	10/09/16 05:06	1
Triphenylphosphate	101		60 - 154	10/02/16 08:17	10/09/16 05:06	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCS 280-344653/2-A

Matrix: Water

Analysis Batch: 345644

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 344653

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Azinphos-methyl	0.00400	0.003380		mg/L		84	59 - 115
Chlorpyrifos	0.00400	0.003073		mg/L		77	54 - 115
Coumaphos	0.00400	0.003769		mg/L		94	63 - 118
Diazinon	0.00400	0.002875		mg/L		72	47 - 115
Dichlorvos	0.00400	0.002917		mg/L		73	53 - 128
Dimethoate	0.00400	0.003216		mg/L		80	42 - 115
Disulfoton	0.00400	0.002372		mg/L		59	45 - 115
EPN	0.00400	0.003509		mg/L		88	56 - 115
Ethoprop	0.00400	0.002883		mg/L		72	50 - 115
Ethyl Parathion	0.00400	0.003558		mg/L		89	55 - 115
Famphur	0.00400	0.003754		mg/L		94	62 - 115
Fensulfothion	0.00400	0.003461		mg/L		87	50 - 115
Fenthion	0.00400	0.003051		mg/L		76	55 - 115
Malathion	0.00400	0.003333		mg/L		83	52 - 115
Merphos	0.00400	0.001695	J	mg/L		42	31 - 115
Methyl parathion	0.00400	0.003205	J	mg/L		80	58 - 115
Mevinphos	0.00400	0.002484	J	mg/L		62	42 - 115
Phorate	0.00400	0.002210		mg/L		55	40 - 115
Ronnel	0.00400	0.002937	J	mg/L		73	55 - 115
Sulfotepp	0.00400	0.003313		mg/L		83	53 - 115
Tetrachlorvinphos (Stirophos)	0.00400	0.003316	J	mg/L		83	54 - 115
Thionazin	0.00400	0.003163		mg/L		79	54 - 115
Trichloronate	0.00400	0.002524		mg/L		63	48 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Chlormefos	62		49 - 171
Triphenylphosphate	102		60 - 154

Lab Sample ID: 560-64002-Q-2-A MS

Matrix: Water

Analysis Batch: 345644

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 344653

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Azinphos-methyl	0.000160	U	0.00391	0.003028		mg/L		77	59 - 115
Chlorpyrifos	0.000342	U	0.00391	0.002957		mg/L		76	54 - 115
Coumaphos	0.000128	U	0.00391	0.003319		mg/L		85	63 - 118
Diazinon	0.000140	U	0.00391	0.002699		mg/L		69	47 - 115
Dichlorvos	0.000154	U	0.00391	0.002669		mg/L		68	53 - 128
Dimethoate	0.000427	U	0.00391	0.002811		mg/L		72	42 - 115
Disulfoton	0.000306	U	0.00391	0.001819		mg/L		47	45 - 115
EPN	0.000142	U	0.00391	0.003100		mg/L		79	56 - 115
Ethoprop	0.000168	U	0.00391	0.002655		mg/L		68	50 - 115
Ethyl Parathion	0.000137	U	0.00391	0.003205		mg/L		82	55 - 115
Famphur	0.000170	U	0.00391	0.003491		mg/L		89	62 - 115
Fensulfothion	0.000517	U	0.00391	0.003297		mg/L		84	50 - 115
Fenthion	0.000146	U	0.00391	0.002602		mg/L		67	55 - 115
Malathion	0.000126	U	0.00391	0.003161		mg/L		81	52 - 115
Merphos	0.000165	U	0.00391	0.002140	J	mg/L		55	31 - 115

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-64002-Q-2-A MS

Matrix: Water

Analysis Batch: 345644

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 344653

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl parathion	0.000134	U	0.00391	0.002939	J	mg/L		75	58 - 115
Mevinphos	0.000437	U	0.00391	0.002226	J	mg/L		57	42 - 115
Phorate	0.000146	U	0.00391	0.001992		mg/L		51	40 - 115
Ronnel	0.000110	U	0.00391	0.003117	J	mg/L		80	55 - 115
Sulfotepp	0.000160	U	0.00391	0.003144		mg/L		80	53 - 115
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00391	0.003088	J	mg/L		79	54 - 115
Thionazin	0.000297	U	0.00391	0.002925		mg/L		75	54 - 115
Trichloronate	0.000230	U	0.00391	0.002782		mg/L		71	48 - 115

Surrogate	MS %Recovery	MS Qualifier	Limits
Chlormefos	60		49 - 171
Triphenylphosphate	99		60 - 154

Lab Sample ID: 560-64002-R-2-B MSD

Matrix: Water

Analysis Batch: 345644

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 344653

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	0.000160	U	0.00392	0.003169		mg/L		81	59 - 115	5	20
Chlorpyrifos	0.000342	U	0.00392	0.003131		mg/L		80	54 - 115	6	24
Coumaphos	0.000128	U	0.00392	0.003517		mg/L		90	63 - 118	6	20
Diazinon	0.000140	U	0.00392	0.002799		mg/L		71	47 - 115	4	37
Dichlorvos	0.000154	U	0.00392	0.003529		mg/L		90	53 - 128	28	37
Dimethoate	0.000427	U	0.00392	0.003411		mg/L		87	42 - 115	19	38
Disulfoton	0.000306	U	0.00392	0.002170		mg/L		55	45 - 115	18	31
EPN	0.000142	U	0.00392	0.003216		mg/L		82	56 - 115	4	20
Ethoprop	0.000168	U	0.00392	0.002936		mg/L		75	50 - 115	10	29
Ethyl Parathion	0.000137	U	0.00392	0.003319		mg/L		85	55 - 115	3	20
Famphur	0.000170	U	0.00392	0.003618		mg/L		92	62 - 115	4	20
Fensulfothion	0.000517	U	0.00392	0.003485		mg/L		89	50 - 115	6	27
Fenthion	0.000146	U	0.00392	0.002917		mg/L		74	55 - 115	11	22
Malathion	0.000126	U	0.00392	0.003152		mg/L		80	52 - 115	0	20
Merphos	0.000165	U	0.00392	0.002217	J	mg/L		57	31 - 115	4	25
Methyl parathion	0.000134	U	0.00392	0.003045	J	mg/L		78	58 - 115	4	20
Mevinphos	0.000437	U	0.00392	0.002544	J	mg/L		65	42 - 115	13	27
Phorate	0.000146	U	0.00392	0.002277		mg/L		58	40 - 115	13	32
Ronnel	0.000110	U	0.00392	0.003292	J	mg/L		84	55 - 115	5	28
Sulfotepp	0.000160	U	0.00392	0.003388		mg/L		86	53 - 115	7	27
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00392	0.003244	J	mg/L		83	54 - 115	5	20
Thionazin	0.000297	U	0.00392	0.003193		mg/L		81	54 - 115	9	27
Trichloronate	0.000230	U	0.00392	0.002965		mg/L		76	48 - 115	6	26

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Chlormefos	70		49 - 171
Triphenylphosphate	103		60 - 154

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 680-452022/18-A

Matrix: Water

Analysis Batch: 452263

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 452022

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.100	U	5.00	0.100	ug/L		10/03/16 10:22	10/04/16 18:13	1
Dicamba	0.0850	U	0.500	0.0850	ug/L		10/03/16 10:22	10/04/16 18:13	1
Mecoprop	19.0	U	120	19.0	ug/L		10/03/16 10:22	10/04/16 18:13	1
MCPA	17.0	U	120	17.0	ug/L		10/03/16 10:22	10/04/16 18:13	1
Dichlorprop	0.150	U	0.500	0.150	ug/L		10/03/16 10:22	10/04/16 18:13	1
2,4-D	0.0370	U	0.500	0.0370	ug/L		10/03/16 10:22	10/04/16 18:13	1
Silvex (2,4,5-TP)	0.0620	U	0.250	0.0620	ug/L		10/03/16 10:22	10/04/16 18:13	1
2,4,5-T	0.0620	U	0.250	0.0620	ug/L		10/03/16 10:22	10/04/16 18:13	1
2,4-DB	0.150	U	0.500	0.150	ug/L		10/03/16 10:22	10/04/16 18:13	1
Dinoseb	0.160	U	1.00	0.160	ug/L		10/03/16 10:22	10/04/16 18:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	71		45 - 130	10/03/16 10:22	10/04/16 18:13	1

Lab Sample ID: LCS 680-452022/19-A

Matrix: Water

Analysis Batch: 452263

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452022

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Dalapon	2.00	1.247	J p	ug/L		62	40 - 130
Dicamba	1.00	0.7541		ug/L		75	64 - 130
Mecoprop	200	143.0		ug/L		71	55 - 134
MCPA	200	140.6		ug/L		70	52 - 130
Dichlorprop	2.00	1.519		ug/L		76	52 - 130
2,4-D	2.00	1.436		ug/L		72	55 - 130
Silvex (2,4,5-TP)	0.500	0.4138		ug/L		83	60 - 130
2,4,5-T	0.500	0.3613		ug/L		72	58 - 130
2,4-DB	2.00	1.529		ug/L		76	60 - 147
Dinoseb	2.00	0.3303	J p	ug/L		17	14 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid	73		45 - 130

Lab Sample ID: 560-64002-S-2-A MS

Matrix: Water

Analysis Batch: 452263

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 452022

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Dalapon	0.0955	U F1	1.94	1.044	J p	ug/L		54	40 - 130
Dicamba	0.0812	U	0.972	0.7900		ug/L		81	64 - 130
Mecoprop	18.2	U	194	164.9		ug/L		85	55 - 134
MCPA	16.2	U	194	169.1		ug/L		87	52 - 130
Dichlorprop	0.143	U	1.94	1.993		ug/L		102	52 - 130
2,4-D	0.0368	J p	1.94	1.629		ug/L		82	55 - 130
Silvex (2,4,5-TP)	0.0592	U	0.486	0.4195		ug/L		86	60 - 130
2,4,5-T	0.0592	U	0.486	0.4597		ug/L		95	58 - 130
2,4-DB	0.143	U	1.94	2.418		ug/L		124	60 - 147

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: 560-64002-S-2-A MS

Matrix: Water

Analysis Batch: 452263

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 452022

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dinoseb	0.153	U	1.94	1.113		ug/L		57	14 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
2,4-Dichlorophenylacetic acid	79		45 - 130						

Lab Sample ID: 560-64002-T-2-B MSD

Matrix: Water

Analysis Batch: 452263

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 452022

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dalapon	0.0955	U F1	1.93	1.062	J p	ug/L		55	40 - 130	2	50
Dicamba	0.0812	U	0.965	0.7171		ug/L		74	64 - 130	10	50
Mecoprop	18.2	U	193	149.2		ug/L		77	55 - 134	10	50
MCPA	16.2	U	193	152.7		ug/L		79	52 - 130	10	50
Dichlorprop	0.143	U	1.93	1.875		ug/L		97	52 - 130	6	50
2,4-D	0.0368	J p	1.93	1.508		ug/L		76	55 - 130	8	50
Silvex (2,4,5-TP)	0.0592	U	0.483	0.3935		ug/L		82	60 - 130	6	50
2,4,5-T	0.0592	U	0.483	0.4168		ug/L		86	58 - 130	10	50
2,4-DB	0.143	U	1.93	2.176		ug/L		113	60 - 147	11	50
Dinoseb	0.153	U	1.93	1.038		ug/L		54	14 - 130	7	50
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
2,4-Dichlorophenylacetic acid	70		45 - 130								

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 560-132189/1-A

Matrix: Water

Analysis Batch: 132326

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132189

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.101	U	0.200	0.101	mg/L		09/27/16 12:30	09/30/16 10:15	1
Magnesium	0.0257	U	0.200	0.0257	mg/L		09/27/16 12:30	09/30/16 10:15	1
Silicon	0.0707	U	0.500	0.0707	mg/L		09/27/16 12:30	09/30/16 10:15	1
Sodium	0.4142	J	1.00	0.310	mg/L		09/27/16 12:30	09/30/16 10:15	1
Strontium	0.003400	J	0.00500	0.000700	mg/L		09/27/16 12:30	09/30/16 10:15	1

Lab Sample ID: MB 560-132189/1-A

Matrix: Water

Analysis Batch: 132362

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132189

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	0.375	U	0.500	0.375	mg/L		09/27/16 12:30	09/30/16 16:10	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 560-132189/2-A

Matrix: Water

Analysis Batch: 132326

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132189

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	25.0	26.94		mg/L		108	80 - 120
Magnesium	25.0	26.90		mg/L		108	80 - 120
Silicon	10.0	10.80		mg/L		108	80 - 120
Strontium	0.250	0.2733		mg/L		109	80 - 120

Lab Sample ID: LCS 560-132189/2-A

Matrix: Water

Analysis Batch: 132362

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132189

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Potassium	25.0	25.14		mg/L		101	80 - 120
Sodium	25.0	24.31		mg/L		97	80 - 120

Lab Sample ID: 560-63977-N-1-G MS

Matrix: Water

Analysis Batch: 132326

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 132189

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Calcium	18.0		25.0	43.05		mg/L		100	80 - 120
Magnesium	1.20		25.0	27.34		mg/L		105	80 - 120
Potassium	10.4		25.0	37.66		mg/L		109	80 - 120
Silicon	2.33		10.0	12.72		mg/L		104	80 - 120
Sodium	1.68	B * F1	25.0	32.37	F1	mg/L		123	80 - 120
Strontium	0.0292	B	0.250	0.2851		mg/L		102	80 - 120

Lab Sample ID: 560-63977-N-1-G MS

Matrix: Water

Analysis Batch: 132362

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 132189

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Calcium	18.5		25.0	43.24		mg/L		99	80 - 120
Magnesium	1.17		25.0	27.22		mg/L		104	80 - 120
Potassium	9.22		25.0	34.65		mg/L		102	80 - 120
Silicon	2.33		10.0	12.63		mg/L		103	80 - 120
Sodium	1.26		25.0	25.48		mg/L		97	80 - 120
Strontium	0.0276		0.250	0.2859		mg/L		103	80 - 120

Lab Sample ID: 560-63977-N-1-H MSD

Matrix: Water

Analysis Batch: 132326

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 132189

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Calcium	3.781		25.0	42.61		mg/L		155	80 - 120	1	20
Magnesium	0.2610		25.0	27.42		mg/L		109	80 - 120	0	20
Potassium	1.779		25.0	37.93		mg/L		145	80 - 120	1	20
Silicon	0.4649		10.0	12.80		mg/L		123	80 - 120	1	20
Sodium	0.6939		25.0	30.06		mg/L		117	80 - 120	7	20
Strontium	0.008170		0.250	0.2857		mg/L		111	80 - 120	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 560-63977-N-1-H MSD

Matrix: Water

Analysis Batch: 132362

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 132189

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	18.5		25.0	43.45		mg/L		100	80 - 120	0	20
Magnesium	1.17		25.0	27.08		mg/L		104	80 - 120	1	20
Potassium	9.22		25.0	35.01		mg/L		103	80 - 120	1	20
Silicon	2.33		10.0	12.90		mg/L		106	80 - 120	2	20
Sodium	1.26		25.0	25.97		mg/L		99	80 - 120	2	20
Strontium	0.0276		0.250	0.2868		mg/L		104	80 - 120	0	20

## Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 560-132203/1-A

Matrix: Water

Analysis Batch: 132254

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132203

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/27/16 16:50	09/28/16 15:16	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/27/16 16:50	09/28/16 15:16	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/27/16 16:50	09/28/16 15:16	1
Barium	0.000810	U	0.00500	0.000810	mg/L		09/27/16 16:50	09/28/16 15:16	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/27/16 16:50	09/28/16 15:16	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/27/16 16:50	09/28/16 15:16	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/27/16 16:50	09/28/16 15:16	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/27/16 16:50	09/28/16 15:16	1
Iron	0.101	U	0.250	0.101	mg/L		09/27/16 16:50	09/28/16 15:16	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/27/16 16:50	09/28/16 15:16	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/27/16 16:50	09/28/16 15:16	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/27/16 16:50	09/28/16 15:16	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/27/16 16:50	09/28/16 15:16	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/27/16 16:50	09/28/16 15:16	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/27/16 16:50	09/28/16 15:16	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/27/16 16:50	09/28/16 15:16	1

Lab Sample ID: LCS 560-132203/2-A

Matrix: Water

Analysis Batch: 132254

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132203

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	25.0	23.08		mg/L		92	80 - 120
Antimony	0.250	0.2457		mg/L		98	80 - 120
Arsenic	0.250	0.2461		mg/L		98	80 - 120
Barium	0.250	0.2478		mg/L		99	80 - 120
Beryllium	0.250	0.2362		mg/L		94	80 - 120
Cadmium	0.250	0.2438		mg/L		98	80 - 120
Chromium	0.250	0.2364		mg/L		95	80 - 120
Copper	0.250	0.2311		mg/L		92	80 - 120
Iron	25.0	23.62		mg/L		94	80 - 120
Lead	0.250	0.2338		mg/L		94	80 - 120
Manganese	2.50	2.413		mg/L		97	80 - 120
Nickel	0.250	0.2356		mg/L		94	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 560-132203/2-A

Matrix: Water

Analysis Batch: 132254

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132203

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.250	0.2501		mg/L		100	80 - 120
Silver	0.250	0.2324		mg/L		93	80 - 120
Thallium	0.100	0.09803		mg/L		98	80 - 120
Zinc	0.250	0.2458		mg/L		98	80 - 120

Lab Sample ID: 560-63977-N-1-D MS

Matrix: Water

Analysis Batch: 132254

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Prep Batch: 132203

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	0.197		25.0	22.85		mg/L		91	80 - 120
Antimony	0.00161	U	0.250	0.2362		mg/L		94	80 - 120
Arsenic	0.00148	J	0.250	0.2473		mg/L		98	80 - 120
Barium	0.00822		0.250	0.2489		mg/L		96	80 - 120
Beryllium	0.00124	U	0.250	0.2339		mg/L		94	80 - 120
Cadmium	0.000854	U	0.250	0.2434		mg/L		97	80 - 120
Chromium	0.00140	U	0.250	0.2346		mg/L		94	80 - 120
Copper	0.00200	U	0.250	0.2278		mg/L		91	80 - 120
Iron	0.162	J	25.0	23.01		mg/L		91	80 - 120
Lead	0.000733	U	0.250	0.2310		mg/L		92	80 - 120
Manganese	0.0116	U	2.50	2.355		mg/L		94	80 - 120
Nickel	0.00217	U	0.250	0.2304		mg/L		92	80 - 120
Selenium	0.00108	U	0.250	0.2386		mg/L		95	80 - 120
Silver	0.000941	U	0.250	0.2289		mg/L		92	80 - 120
Thallium	0.000693	U	0.100	0.09444		mg/L		94	80 - 120
Zinc	0.00355	U	0.250	0.2325		mg/L		93	80 - 120

Lab Sample ID: 560-63977-N-1-E MSD

Matrix: Water

Analysis Batch: 132254

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 132203

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	0.197		25.0	22.97		mg/L		91	80 - 120	1	20
Antimony	0.00161	U	0.250	0.2386		mg/L		95	80 - 120	1	20
Arsenic	0.00148	J	0.250	0.2440		mg/L		97	80 - 120	1	20
Barium	0.00822		0.250	0.2469		mg/L		95	80 - 120	1	20
Beryllium	0.00124	U	0.250	0.2373		mg/L		95	80 - 120	1	20
Cadmium	0.000854	U	0.250	0.2392		mg/L		96	80 - 120	2	20
Chromium	0.00140	U	0.250	0.2312		mg/L		92	80 - 120	1	20
Copper	0.00200	U	0.250	0.2248		mg/L		90	80 - 120	1	20
Iron	0.162	J	25.0	22.57		mg/L		90	80 - 120	2	20
Lead	0.000733	U	0.250	0.2311		mg/L		92	80 - 120	0	20
Manganese	0.0116	U	2.50	2.326		mg/L		93	80 - 120	1	20
Nickel	0.00217	U	0.250	0.2303		mg/L		92	80 - 120	0	20
Selenium	0.00108	U	0.250	0.2438		mg/L		98	80 - 120	2	20
Silver	0.000941	U	0.250	0.2280		mg/L		91	80 - 120	0	20
Thallium	0.000693	U	0.100	0.09413		mg/L		94	80 - 120	0	20
Zinc	0.00355	U	0.250	0.2303		mg/L		92	80 - 120	1	20

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 560-132307/28-A  
Matrix: Water  
Analysis Batch: 132308

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 132307

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	—	09/29/16 10:00	09/29/16 17:07	1

Lab Sample ID: MB 560-132307/4-A  
Matrix: Water  
Analysis Batch: 132308

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 132307

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	—	09/29/16 10:00	09/29/16 15:16	1

Lab Sample ID: LCS 560-132307/29-A  
Matrix: Water  
Analysis Batch: 132308

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 132307

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00500	0.004130		mg/L	—	83	80 - 120

Lab Sample ID: LCS 560-132307/5-A  
Matrix: Water  
Analysis Batch: 132308

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 132307

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00500	0.005440		mg/L	—	109	80 - 120

Lab Sample ID: 560-64002-A-2-B MS  
Matrix: Water  
Analysis Batch: 132308

Client Sample ID: Matrix Spike  
Prep Type: Dissolved  
Prep Batch: 132307

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	0.000130	U	0.00500	0.004180		mg/L	—	84	80 - 120

Lab Sample ID: 560-64002-A-2-C MSD  
Matrix: Water  
Analysis Batch: 132308

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Dissolved  
Prep Batch: 132307

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.000130	U	0.00500	0.004110		mg/L	—	82	80 - 120	2	20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 560-132213/4  
Matrix: Water  
Analysis Batch: 132213

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L	—		09/27/16 12:59	1
Chloride	0.192	U	1.00	0.192	mg/L	—		09/27/16 12:59	1
Nitrate as N	0.103	U	0.500	0.103	mg/L	—		09/27/16 12:59	1
Sulfate	0.377	U	1.00	0.377	mg/L	—		09/27/16 12:59	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 560-132213/5

Matrix: Water

Analysis Batch: 132213

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.711		mg/L		94	90 - 110
Chloride	10.0	10.54		mg/L		105	90 - 110
Nitrate as N	5.00	5.004		mg/L		100	90 - 110
Sulfate	20.0	20.21		mg/L		101	90 - 110

Lab Sample ID: 560-63976-5 MS

Matrix: Water

Analysis Batch: 132213

Client Sample ID: HCS270 Lead

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.454	J	5.00	4.687		mg/L		85	80 - 120
Chloride	15.8		10.0	24.64		mg/L		88	80 - 120
Nitrate as N	1.62		5.00	6.291		mg/L		94	80 - 120
Sulfate	22.7		20.0	41.13		mg/L		92	80 - 120

Lab Sample ID: 560-63976-5 MSD

Matrix: Water

Analysis Batch: 132213

Client Sample ID: HCS270 Lead

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.454	J	5.00	4.726		mg/L		85	80 - 120	1	20
Chloride	15.8		10.0	24.14		mg/L		83	80 - 120	2	20
Nitrate as N	1.62		5.00	6.309		mg/L		94	80 - 120	0	20
Sulfate	22.7		20.0	41.46		mg/L		94	80 - 120	1	20

## Method: 340.2 - Fluoride

Lab Sample ID: MB 560-132541/3

Matrix: Water

Analysis Batch: 132541

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			10/06/16 12:00	1

Lab Sample ID: LCS 560-132541/4

Matrix: Water

Analysis Batch: 132541

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.8060		mg/L		101	85 - 115

Lab Sample ID: 560-64002-H-2 MS

Matrix: Water

Analysis Batch: 132541

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.0322	J	0.500	0.5290		mg/L		99	75 - 125

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 340.2 - Fluoride (Continued)

Lab Sample ID: 560-64002-H-2 MSD

Matrix: Water

Analysis Batch: 132541

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.0322	J	0.500	0.5300		mg/L		100	75 - 125	0	20

## Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 600-197959/12

Matrix: Water

Analysis Batch: 197959

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/03/16 11:41	1

Lab Sample ID: LCS 600-197959/13

Matrix: Water

Analysis Batch: 197959

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	10.59		mg/L		106	90 - 110

Lab Sample ID: 600-137612-B-3 MS

Matrix: Water

Analysis Batch: 197959

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.787	J	10.0	10.02		mg/L		92	90 - 110

Lab Sample ID: 600-137612-B-3 MSD

Matrix: Water

Analysis Batch: 197959

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.787	J	10.0	10.30		mg/L		95	90 - 110	3	20

## Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 680-452191/1-A

Matrix: Water

Analysis Batch: 452522

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 452191

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/04/16 10:00	10/06/16 05:39	1

Lab Sample ID: LCS 680-452191/2-A

Matrix: Water

Analysis Batch: 452522

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452191

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	1.990		mg/L		100	60 - 140

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 365.4 - Phosphorus, Total (Continued)

Lab Sample ID: MB 680-452193/1-A  
Matrix: Water  
Analysis Batch: 452522

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 452193

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	10/04/16 10:03	10/06/16 06:11	1

Lab Sample ID: LCS 680-452193/2-A  
Matrix: Water  
Analysis Batch: 452522

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 452193

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	1.890		mg/L	-	95	60 - 140

## Method: 9040C - pH

Lab Sample ID: LCS 560-132185/2  
Matrix: Water  
Analysis Batch: 132185

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	5.00	5.0		SU	-	101	98 - 102

Lab Sample ID: 560-63976-1 DU  
Matrix: Water  
Analysis Batch: 132185

Client Sample ID: HCS210 Lead  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.3	HF	7.3		SU	-	0.3	20

## Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 560-132450/4  
Matrix: Water  
Analysis Batch: 132450

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L	-		10/04/16 12:27	1

Lab Sample ID: LCS 560-132450/5  
Matrix: Water  
Analysis Batch: 132450

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	24.57		mg/L	-	98	80 - 120

Lab Sample ID: 560-63976-1 MS  
Matrix: Water  
Analysis Batch: 132450

Client Sample ID: HCS210 Lead  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	3.63		10.0	12.85		mg/L	-	92	75 - 125

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: 9060 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 560-63976-1 MSD

Matrix: Water

Analysis Batch: 132450

Client Sample ID: HCS210 Lead

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	3.63		10.0	13.11		mg/L		95	75 - 125	2	20

## Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 560-132496/4

Matrix: Water

Analysis Batch: 132496

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			10/05/16 12:09	1

Lab Sample ID: LCS 560-132496/5

Matrix: Water

Analysis Batch: 132496

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	25.00		mg/L		100	80 - 120

Lab Sample ID: 560-64002-M-2 MS

Matrix: Water

Analysis Batch: 132496

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	7.29		10.0	16.35		mg/L		91	75 - 125

Lab Sample ID: 560-64002-M-2 MSD

Matrix: Water

Analysis Batch: 132496

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	7.29		10.0	16.71		mg/L		94	75 - 125	2	20

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 560-132260/1

Matrix: Water

Analysis Batch: 132260

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1

Lab Sample ID: LCS 560-132260/2

Matrix: Water

Analysis Batch: 132260

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	93.87		mg/L		94	85 - 115

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

Lab Sample ID: 560-63977-I-4 MS  
Matrix: Water  
Analysis Batch: 132260

Client Sample ID: Matrix Spike  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	182		100	275.2		mg/L		93	75 - 125

Lab Sample ID: 560-63977-I-4 MSD  
Matrix: Water  
Analysis Batch: 132260

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	182		100	272.8		mg/L		91	75 - 125	1	20

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 560-132221/1  
Matrix: Water  
Analysis Batch: 132221

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			09/27/16 14:19	1

Lab Sample ID: LCS 560-132221/2  
Matrix: Water  
Analysis Batch: 132221

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	2250	2116		mg/L		94	90 - 110

Lab Sample ID: 560-63976-I-10 MS  
Matrix: Water  
Analysis Batch: 132221

Client Sample ID: 560-63976-I-10 MS  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	255		2250	2310		mg/L		91	75 - 125

Lab Sample ID: 560-63976-I-10 MSD  
Matrix: Water  
Analysis Batch: 132221

Client Sample ID: 560-63976-I-10 MSD  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	255		2250	2306		mg/L		91	75 - 125	0	20

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 560-132194/1  
Matrix: Water  
Analysis Batch: 132194

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.00	U	2.00	2.00	mg/L			09/27/16 11:45	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 560-132194/2

Matrix: Water

Analysis Batch: 132194

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	196.5		mg/L		98	90 - 110

Lab Sample ID: 560-63980-H-1 DU

Matrix: Water

Analysis Batch: 132194

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	2.20		2.200		mg/L		0	20



# Certification Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-17
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Laboratory: TestAmerica Denver

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-17
Arizona	State Program	9	AZ0713	12-19-16
Arkansas DEQ	State Program	6	88-0687	06-01-17
California	State Program	9	2513	08-31-16 *
Connecticut	State Program	1	PH-0686	09-30-18
Florida	NELAP	4	E87667	06-30-17
Georgia	State Program	4	N/A	01-09-17
Illinois	NELAP	5	200017	04-30-17
Iowa	State Program	7	370	11-30-16
Kansas	NELAP	7	E-10166	04-30-17
Louisiana	NELAP	6	02096	06-30-17
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-16
Nevada	State Program	9	CO0026	07-31-17
New Hampshire	NELAP	1	205310	04-28-17
New Jersey	NELAP	2	CO004	06-30-17
New York	NELAP	2	11964	04-01-17
North Carolina (WW/SW)	State Program	4	358	12-31-16
North Dakota	State Program	8	R-034	01-09-17
Oklahoma	State Program	6	8614	08-31-17
Oregon	NELAP	10	4025	01-09-17
Pennsylvania	NELAP	3	68-00664	07-31-17
South Carolina	State Program	4	72002001	01-09-17
Texas	NELAP	6	T104704183-15-11	09-30-17
USDA	Federal		P330-13-00369	12-17-16
Utah	NELAP	8	CO00026	07-31-17
Virginia	NELAP	3	460232	06-14-17
Washington	State Program	10	C583	08-03-17
West Virginia DEP	State Program	3	354	11-30-16
Wisconsin	State Program	5	999615430	08-31-17
Wyoming (UST)	A2LA	8	2907.01	10-31-17

## Laboratory: TestAmerica Houston

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	16-046-0	08-04-17
Louisiana	NELAP	6	01967	06-30-17
Oklahoma	State Program	6	2015-050	08-31-17
Texas	NELAP	6	T104704223-16-19	10-31-16 *

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Laboratory: TestAmerica Houston (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
USDA	Federal		P330-14-00192	06-06-17

## Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-17
A2LA	ISO/IEC 17025		399.01	02-28-17
Alabama	State Program	4	41450	06-30-17
Alaska (UST)	State Program	10	UST-104	11-05-16
Arkansas DEQ	State Program	6	88-0692	01-31-17
California	State Program	9	2939	07-31-16 *
Colorado	State Program	8	N/A	12-31-16
Connecticut	State Program	1	PH-0161	03-31-17
Florida	NELAP	4	E87052	06-30-17
GA Dept. of Agriculture	State Program	4	N/A	06-12-17
Georgia	State Program	4	N/A	06-30-17
Georgia	State Program	4	803	06-30-17
Guam	State Program	9	15-005r	04-16-17
Hawaii	State Program	9	N/A	06-30-17
Illinois	NELAP	5	200022	11-30-16
Indiana	State Program	5	N/A	06-30-17
Iowa	State Program	7	353	06-30-17
Kentucky (DW)	State Program	4	90084	12-31-16
Kentucky (UST)	State Program	4	18	06-30-17
Kentucky (WW)	State Program	4	90084	12-31-16
Louisiana	NELAP	6	30690	06-30-17
Louisiana (DW)	NELAP	6	LA160019	12-31-16
Maine	State Program	1	GA00006	09-24-18
Maryland	State Program	3	250	12-31-16
Massachusetts	State Program	1	M-GA006	06-30-17
Michigan	State Program	5	9925	06-30-17
Mississippi	State Program	4	N/A	06-30-16 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-17
New Jersey	NELAP	2	GA769	06-30-17
New Mexico	State Program	6	N/A	06-30-17
New York	NELAP	2	10842	03-31-17
North Carolina (DW)	State Program	4	13701	07-31-17
North Carolina (WW/SW)	State Program	4	269	12-31-16
Oklahoma	State Program	6	9984	08-31-17
Pennsylvania	NELAP	3	68-00474	06-30-17
Puerto Rico	State Program	2	GA00006	12-31-16
South Carolina	State Program	4	98001	06-30-17
Tennessee	State Program	4	TN02961	06-30-17
Texas	NELAP	6	T104704185-15-8	11-30-16
USDA	Federal		SAV 3-04	06-11-17
Virginia	NELAP	3	460161	06-14-17
Washington	State Program	10	C805	06-10-17
West Virginia (DW)	State Program	3	9950C	12-31-16

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

## Laboratory: TestAmerica Savannah (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	094	08-31-16 *
Wisconsin	State Program	5	999819810	08-31-17
Wyoming	State Program	8	8TMS-L	06-30-16 *

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Method Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CC
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CC
8081B	Organochlorine Pesticides (GC)	SW846	TAL CC
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CC
8141A	Organophosphorous Pesticides (GC)	SW846	TAL DEN
8151A	Herbicides (GC)	SW846	TAL SAV
6010B	Metals (ICP)	SW846	TAL CC
6020	Metals (ICP/MS)	SW846	TAL CC
7470A	Mercury (CVAA)	SW846	TAL CC
300.0	Anions, Ion Chromatography	MCAWW	TAL CC
340.2	Fluoride	MCAWW	TAL CC
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL HOU
365.4	Phosphorus, Total	EPA	TAL SAV
9040C	pH	SW846	TAL CC
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL CC
9060	Organic Carbon, Total (TOC)	SW846	TAL CC
SM 2320B	Alkalinity	SM	TAL CC
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CC

## Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

# Sample Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-63976-1	HCS210 Lead	Water	09/26/16 03:15	09/27/16 08:00
560-63976-2	HCS240 Lead	Water	09/26/16 03:36	09/27/16 08:00
560-63976-3	HCS250 Lead	Water	09/26/16 03:10	09/27/16 08:00
560-63976-4	HCS260 Lead	Water	09/26/16 03:46	09/27/16 08:00
560-63976-5	HCS270 Lead	Water	09/26/16 03:32	09/27/16 08:00
560-63976-11	TB13	Water	09/26/16 00:00	09/27/16 08:00



## Chain of Custody Record

<b>Client Information</b> Client Contact: Philip Pearce Company: SWCA, Inc. Address: 6200 UTSA Boulevard Suite 102 City: San Antonio State: TX Zip: 78249 Phone: 210-877-2847 (Tel) Email: P.Pearce@swca.com Project Name: EAA STORMWATER Site: COMAL SPRINGS		Sampler: Jennifer Novland Lab PM: Maingot, Lindy E-Mail: lindy.maingot@testamericainc.com Phone: 210-877-2847		Carrier Tracking No(s): COC No: 560-21032-2626.1 Page: 2 of 2 Job #:					
Due Date Requested: TAT Requested (days): STANDARD PO #: 27122.01 WO #: 56005790 Project #: 56005790 SSOW#:		<b>Analysis Requested</b>							
Sample Identification HCS210 Peak HCS240 Peak HCS250 Peak HCS260 Peak HCS270 Peak		Sample Date 9/26/16 9/26/16 9/26/16 9/26/16 9/26/16	Sample Time 0522 0540 0510 0553 0535	Sample Type (C=Comp, G=grab) G G G G G	Matrix (W=water, S=solid, O=waste/soil, BT=tissue, A=air) W W W W W	Field Filtered Sample (Yes or No) N N N N N	8141A - Organo-P Pesticide (DENVER) 8081B, 8082A 8270C - SVOCs SUBCONTRACT - Caffeine 1694 - (WECK) 2320B, 300, 340.2, 9040C 6010B, 6020, 7470A 9060, 9060, Diss 8260B - VOCs 2540C, 2540D 351.2 NP - Nitrogen, Kjeldahl (HOUSTON) 8151A - Herbicides (SAVANNAH) 355.4 - Phosphorus (SAVANNAH)	Total Number of Containers 22 22 22 22 22	Special Instructions/Note: METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:							
Empty Kit Relinquished by:		Method of Shipment:							
Relinquished by: [Signature] Date/Time: 9/26/16 0955 Company: SWCA		Relinquished by: [Signature] Date/Time: 9/26/16 955 Company: SWCA							
Relinquished by: [Signature] Date/Time: 9/26/16 1136 Company: SWCA		Relinquished by: [Signature] Date/Time: 9/26/16 8:00 Company: The							
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: See Attached							



# 63976 Temps

0.6°C/1.1°C

1.4°C/2.2°C

1.4°C/2.2°C

0.8°C/1.6°C

3.8°C/4.6°C

1.2°C/2.0°C

0.6°C/1.1°C

1.4°C/2.2°C

3.2°C/4.0°C

2.2°C/3.0°C

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica

THE LEADING IN ENVIRONMENTAL TESTING



Client Information (Sub Contract Lab)		Lab PM: Maingot, Lindy		Carrier Tracking No(s):					
Shipping/Receiving		E-Mail: lindy.maingot@testamericainc.com		COC No: 560-14210-1					
Company: TestAmerica Laboratories, Inc.		Address: 4955 Yarrow Street, Arvada, CO 80002		Page: Page 1 of 1					
Phone: 303-736-0100(Tel) 303-431-7171(Fax)		PO #: 303-736-0100(Tel) 303-431-7171(Fax)		Job #: 560-63976-1					
Email:		WO #:		Analysis Requested					
Project Name: Comal Springs		Project #: 56005790		Preservation Codes:					
Site:		SSOW#:		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:					
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT= tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141/3510C (MOD) Standard 8141 list	Total Number of containers	Special Instructions/Note:
HCS210 Lead (560-63976-1)	9/26/16	03:15 Central	Water	Water	X	X		2	
HCS240 Lead (560-63976-2)	9/26/16	03:36 Central	Water	Water	X	X		2	
HCS250 Lead (560-63976-3)	9/26/16	03:10 Central	Water	Water	X	X		2	
HCS260 Lead (560-63976-4)	9/26/16	03:46 Central	Water	Water	X	X		2	
HCS270 Lead (560-63976-5)	9/26/16	03:32 Central	Water	Water	X	X		2	
Possible Hazard Identification									
Unconfirmed									
Deliverable Requested: I, II, III, IV, Other (specify)									
Primary Deliverable Rank: 2									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)									
<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months									
Special Instructions/QC Requirements:									
Empty Kit Relinquished by:									
Relinquished by: Coy SGA Date: 9-29-16 Time: 1700									
Relinquished by: TAC Company: TAC									
Relinquished by: Date/Time: 9-30-16 1630 Company: TAC									
Relinquished by: Date/Time: Company:									
Relinquished by: Date/Time: Company:									
Custody Seals Intact: Yes No									
Custody Seal No.: 5-6, 26, 3, 9, 5, 3 TACHS c.o. Transfer RP 8-30-16									



## Chain of Custody Record



Client Information (Sub Contract Lab)		Carrier Tracking No(s):	
Client Contact	Lab PM	560-14208.1	
Shipping/Receiving	Maingot, Lindy	Page	
Company	E-Mail	Page 1 of 1	
TestAmerica Laboratories, Inc.	lindy.maingot@testamericainc.com	Job #	
Due Date Requested:		560-63976-1	
10/7/2016			
TAT Requested (days):			
PO #:			
WG #:			
Project #:			
56005790			
SSOW#:			
Project Name:			
Comal Springs			
Site:			
Sample Identification - Client ID (Lab ID)		Special Instructions/Note:	
HCS210 Lead (560-63976-1)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)
9/26/16	03:15	Central	Water
HCS240 Lead (560-63976-2)	9/26/16	03:36	Central
HCS250 Lead (560-63976-3)	9/26/16	03:10	Central
HCS260 Lead (560-63976-4)	9/26/16	03:46	Central
HCS270 Lead (560-63976-5)	9/26/16	03:32	Central
Matrix (W=water, S=solid, O=waste, etc.)		Field Filtered Sample (Yes or No)	
Water		X	
Water		X	
Water		X	
Water		X	
Water		X	
Total Number of Containers		1	
Preservation Codes:		Special Instructions/Note:	
A - HCL			
B - NaOH			
C - Zn Acetate			
D - Nitric Acid			
E - NaHSO4			
F - MeOH			
G - Amchlor			
H - Ascorbic Acid			
I - Ice			
J - DI Water			
K - EDTA			
L - EDA			
Other:			
M - Hexane			
N - None			
O - AsNaO2			
P - Na2O4S			
Q - Na2SO3			
R - Na2SO3			
S - H2SO4			
T - TSP Dodecahydrate			
U - Acetone			
V - MCAA			
W - pH 4.5			
Z - other (specify)			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Archive For	
Return To Client		Disposal By Lab	
Special Instructions/OC Requirements:		Months	
Primary Deliverable Rank: 2		Method of Shipment:	
Empty Kit Relinquished by:		Time:	
Relinquished by:		Company	
Relinquished by:		Company	
Relinquished by:		Company	
Custody Seals Intact		Custody Seal No.:	
Yes		No	



Loc: 560  
63990

Loc: 560  
64002

Loc: 560  
63993

Loc: 560  
63985

Loc: 560  
63984

Loc: 560  
63981



16 SEP 30 14:08

JOB NUMBER: Loc: 560 63977

Loc: 560  
63976

eived: HA Corpus

UNPACKED BY: \_\_\_\_\_

VER: FS Green d

Custody Seal Present: ☒ YES ☐ NO

Number of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
<u>20</u>	Y / N	Y / N	<u>1.4</u>	<u>549</u>	<u>+0.3</u>	<u>1.7</u>
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YES

Base samples are > pH 12: ☐ YES ☐ NO      Acid preserved are < pH 2: ☐ YES ☐ NO

pH paper Lot # \_\_\_\_\_

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS:

7072 3463 2352

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63976-1

**Login Number: 63976**

**List Source: TestAmerica Corpus Christi**

**List Number: 1**

**Creator: Gilmore, Matthew**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Refer to Job Narrative for details.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63976-1

**Login Number: 63976**

**List Number: 4**

**Creator: Pottruff, Reed W**

**List Source: TestAmerica Denver**

**List Creation: 09/30/16 04:57 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63976-1

**Login Number: 63976**

**List Number: 3**

**Creator: Crafton, Tommie S**

**List Source: TestAmerica Houston**

**List Creation: 09/30/16 02:19 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63976-1

**Login Number: 63976**

**List Number: 2**

**Creator: Flanagan, Naomi V**

**List Source: TestAmerica Savannah**

**List Creation: 09/30/16 12:18 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-63977-1

Client Project/Site: EAA Stormwater  
Revision: 1

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
10/26/2016 3:29:40 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

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TotalAccess

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

### Qualifiers

#### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

#### GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

#### GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate is outside control limits

#### Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.

#### General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio

TestAmerica Corpus Christi

# Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



## Case Narrative

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Job ID: 560-63977-1**

**Laboratory: TestAmerica Corpus Christi**

### Narrative

#### Job Narrative 560-63977-1

#### Revised Report 1 10-19-2016

The client requested a change for the units for 8260, 8141 and 6020. No other changes were made.

#### Receipt

The samples were received on 9/27/2016 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.2° C, 0.6° C, 0.8° C, 1.0° C and 2.6° C.

#### Receipt Exceptions

<For sample 5, "HCS270 Peak 2" only 2 HCL voa vials were recieved even though it should have been 3.>

#### GC/MS VOA

Method 8260: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 132164 were outside acceptable limits for Ethylene oxide. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method 820: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 132347 were outside acceptable limits for various analytes. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC Semi VOA

Method 8141A: The grand mean exception, as outlined in EPA method 8000B, was applied to the continuing calibration verification (CCV) standard associated with batch 280-345644 for several compounds. This rule states that when one or more compounds in the CCV fail to meet acceptance criteria, the initial calibration (ICAL) may be used for quantitation if the average %D (the grand mean) of all the compounds in the CCV is less than or equal to 15%D with no single %D more than 30%. All associated samples are ND for the affected compounds. Both surrogates are well in control on both columns and not affected by any bias.

CCV1 (front) Chlormefos -19% AVE=5.2 (back) Dichlorvos +16% Merphos -17% AVE=9.6

MB, LCS, 560-63976-1, -2, -3, -4, -5, 560-63977-1, -2, -3, -4, -5

CCV2 (front) OK (back) Tokuthion -16% Trichloronate -16% Azinphos-methyl -16% Chlormefos -16% Methyl parathion -16% AVE=13.2

560-63995-1, 560-64002-2, MS, MSD, -3, -4, -5, -6, -12, -13

CCV3 (front) Dichlorvos +18% AVE=9.4 (back) Azinphos-methyl -20% Dichlorvos +20% AVE=12.6

Method 8141A: The continuing calibration verification (CCV) associated with batch 280-345644 recovered outside acceptance criteria, low biased, for Naled. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

560-64002-2, MS, MSD, -3, -4, -5, -6, 12-, -13

CCV3 (front) Naled -46% (back) Naled -50%

Method 8141A: The initial calibration verification (ICV) for Mevinphos associated with analytical batch 280-345644 recovered below the lower control limit on the back/confirmation column. The samples associated with this ICV were non-detects for the affected analytes; therefore, the data have been reported from the front/primary column which is in control.

ICV (front) OK (back) Mevinphos -21%

Method 8141A: The Chlormefos surrogate recovery for the following sample in preparation batch 280-344653 and analytical batch 280-345644 was outside acceptance limits (low biased) on the back/confirmation column: (560-64002-Q-2-A MS). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control. The bracketing CCV for Chlormefos recovered below the lower limit but the surrogate is in control on the same column without bias. The sample is a matrix spike and all spiked compounds are well in control on both columns.

Method 8082A: 2 surrogates are used for this analysis. The laboratory's SOP allows 1 of these surrogates to be outside acceptance

## Case Narrative

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

### Job ID: 560-63977-1 (Continued)

#### Laboratory: TestAmerica Corpus Christi (Continued)

criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 560-132158/1-A). These results have been reported and qualified.

Method 8081B: The following continuing calibration verification (CCV) associated with batch 560-132177 recovered above the upper control limit for toxaphene: (CCV 560-132177/4). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8081B: 2 surrogates are used for this analysis. The laboratory's SOP allows 1 of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 560-132158/1-A). These results have been reported and qualified.

Method 8151: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 452263 were outside acceptable limits for Dalapon. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method 6010B: The method blank for preparation batch 560-132189 and analytical batch 560-132326 contained Na and Sr above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 6010: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with prep batch 132189 were outside acceptable limits for Sodium. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method 9040C: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe. 560-63977-1-5

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method(s) 3510C: The following samples were spiked with a unverified standards.

8141 Surr\_00079 & 8141 LCS\_000112

HCS210 Peak 2 (560-63977-1), HCS240 Peak 2 (560-63977-2), HCS250 Peak 2 (560-63977-3), HCS260 Peak 2 (560-63977-4) and HCS270 Peak 2 (560-63977-5)

preparation batch 280-344653.

3510C 8141A

344653

Method(s) 3510C: The following samples formed emulsions during the extraction procedure: HCS210 Peak 2 (560-63977-1), HCS240 Peak 2 (560-63977-2), HCS250 Peak 2 (560-63977-3), HCS260 Peak 2 (560-63977-4) and HCS270 Peak 2 (560-63977-5). The emulsions were broken up using a pour back method on all three extractions.

preparation batch 280-344653.

3510C 8141A

344653

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 560-132246.

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 560-132382.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Detection Summary

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS210 Peak 2**

**Lab Sample ID: 560-63977-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	18.0		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	1.20		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	9.22		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	2.33		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	1.26		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.0292	B	0.00500	0.000700	mg/L	1		6010B	Dissolved
Aluminum	0.197		0.100	0.0500	mg/L	1		6020	Dissolved
Arsenic	0.00148	J	0.00500	0.00109	mg/L	1		6020	Dissolved
Barium	0.00822		0.00500	0.000810	mg/L	1		6020	Dissolved
Iron	0.162	J	0.250	0.101	mg/L	1		6020	Dissolved
Chloride	3.02		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.664		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	3.29		1.00	0.377	mg/L	1		300.0	Total/NA
Phosphorus	0.599		0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	8.71		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	7.57		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	49.4		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	49.4		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	93.0		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	42.4		2.00	2.00	mg/L	1		SM 2540D	Total/NA

**Client Sample ID: HCS240 Peak 2**

**Lab Sample ID: 560-63977-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	78.9		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.5		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.85		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.28		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	10.3		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.615	B	0.00500	0.000700	mg/L	1		6010B	Dissolved
Arsenic	0.00135	J	0.00500	0.00109	mg/L	1		6020	Dissolved
Barium	0.0474		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.443	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	16.1		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.62		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	21.5		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.192		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.683	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.47		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	207		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	207		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	302		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	9.80		2.00	2.00	mg/L	1		SM 2540D	Total/NA

**Client Sample ID: HCS250 Peak 2**

**Lab Sample ID: 560-63977-3**

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



# Detection Summary

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Client Sample ID: HCS250 Peak 2 (Continued)

Lab Sample ID: 560-63977-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	59.7		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	11.6		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.46		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	3.98		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	8.08		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.458	B	0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0363		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.428	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	12.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.21		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	16.3		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.151		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.380		0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	2.24		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.82		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	163		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	163		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	224		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	6.20		2.00	2.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HCS260 Peak 2

Lab Sample ID: 560-63977-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	70.5		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	13.2		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.00		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.75		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.7		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.534	B	0.00500	0.000700	mg/L	1		6010B	Dissolved
Aluminum	0.0827	J	0.100	0.0500	mg/L	1		6020	Dissolved
Barium	0.0461		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.462	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	15.8		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.40		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	25.1		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.188		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	1.20		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.829	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	182		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	182		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	290		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	15.6		2.00	2.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HCS270 Peak 2

Lab Sample ID: 560-63977-5

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Client Sample ID: HCS270 Peak 2 (Continued)

Lab Sample ID: 560-63977-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	6.74	J	20.0	5.00	ug/L	1		8270C	Total/NA
Calcium	66.0		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	12.0		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.18		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.32		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	10.5		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.487	B	0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0408		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.451	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	13.5		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.21		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	20.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.158		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	1.94		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.26		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	160		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	160		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	248		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	25.4		2.00	2.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: TB14

Lab Sample ID: 560-63977-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	7.21	J	10.0	5.00	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS210 Peak 2**

**Lab Sample ID: 560-63977-1**

**Date Collected: 09/26/16 07:28**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/27/16 17:12	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/27/16 17:12	1
Benzene	0.330	U	1.00	0.330	ug/L			09/27/16 17:12	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/27/16 17:12	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 17:12	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/27/16 17:12	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/27/16 17:12	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/27/16 17:12	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/27/16 17:12	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/27/16 17:12	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/27/16 17:12	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/27/16 17:12	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/27/16 17:12	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/27/16 17:12	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/27/16 17:12	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/27/16 17:12	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/27/16 17:12	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/27/16 17:12	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/27/16 17:12	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/27/16 17:12	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/27/16 17:12	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 17:12	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/27/16 17:12	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/27/16 17:12	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/27/16 17:12	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/27/16 17:12	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/27/16 17:12	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/27/16 17:12	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/27/16 17:12	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 17:12	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/27/16 17:12	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/27/16 17:12	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/27/16 17:12	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/27/16 17:12	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/27/16 17:12	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/27/16 17:12	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/27/16 17:12	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/27/16 17:12	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/27/16 17:12	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/27/16 17:12	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/27/16 17:12	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/27/16 17:12	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/27/16 17:12	1
EDB	0.175	U	1.00	0.175	ug/L			09/27/16 17:12	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/27/16 17:12	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 17:12	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/27/16 17:12	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/27/16 17:12	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/27/16 17:12	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS210 Peak 2**

**Lab Sample ID: 560-63977-1**

**Date Collected: 09/26/16 07:28**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/27/16 17:12	1
Hexane	2.00	U	5.00	2.00	ug/L			09/27/16 17:12	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/27/16 17:12	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/27/16 17:12	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/27/16 17:12	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/27/16 17:12	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/27/16 17:12	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/27/16 17:12	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/27/16 17:12	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/27/16 17:12	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/27/16 17:12	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/27/16 17:12	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/27/16 17:12	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/27/16 17:12	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/27/16 17:12	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 17:12	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/27/16 17:12	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/27/16 17:12	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/27/16 17:12	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/27/16 17:12	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/27/16 17:12	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/27/16 17:12	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/27/16 17:12	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/27/16 17:12	1
Styrene	0.200	U	1.00	0.200	ug/L			09/27/16 17:12	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 17:12	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/27/16 17:12	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/27/16 17:12	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/27/16 17:12	1
Toluene	0.495	U	1.00	0.495	ug/L			09/27/16 17:12	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 17:12	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/27/16 17:12	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/27/16 17:12	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/27/16 17:12	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/27/16 17:12	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/27/16 17:12	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/27/16 17:12	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/27/16 17:12	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/27/16 17:12	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/27/16 17:12	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/27/16 17:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/27/16 17:12	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 17:12	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 17:12	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/27/16 17:12	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/27/16 17:12	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/27/16 17:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		09/27/16 17:12	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS210 Peak 2**

**Lab Sample ID: 560-63977-1**

**Date Collected: 09/26/16 07:28**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	100		69 - 130		09/27/16 17:12	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		09/27/16 17:12	1
Toluene-d8 (Surr)	101		70 - 130		09/27/16 17:12	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/28/16 16:00	09/29/16 12:12	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/28/16 16:00	09/29/16 12:12	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/28/16 16:00	09/29/16 12:12	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/28/16 16:00	09/29/16 12:12	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/28/16 16:00	09/29/16 12:12	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/28/16 16:00	09/29/16 12:12	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/28/16 16:00	09/29/16 12:12	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/28/16 16:00	09/29/16 12:12	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/28/16 16:00	09/29/16 12:12	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/28/16 16:00	09/29/16 12:12	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/28/16 16:00	09/29/16 12:12	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/28/16 16:00	09/29/16 12:12	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/28/16 16:00	09/29/16 12:12	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/28/16 16:00	09/29/16 12:12	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 12:12	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/28/16 16:00	09/29/16 12:12	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/28/16 16:00	09/29/16 12:12	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/28/16 16:00	09/29/16 12:12	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/28/16 16:00	09/29/16 12:12	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/28/16 16:00	09/29/16 12:12	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/28/16 16:00	09/29/16 12:12	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/28/16 16:00	09/29/16 12:12	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/28/16 16:00	09/29/16 12:12	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/28/16 16:00	09/29/16 12:12	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/28/16 16:00	09/29/16 12:12	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 12:12	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/28/16 16:00	09/29/16 12:12	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/28/16 16:00	09/29/16 12:12	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/28/16 16:00	09/29/16 12:12	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 12:12	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/28/16 16:00	09/29/16 12:12	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/28/16 16:00	09/29/16 12:12	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/28/16 16:00	09/29/16 12:12	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/28/16 16:00	09/29/16 12:12	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/28/16 16:00	09/29/16 12:12	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/28/16 16:00	09/29/16 12:12	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/28/16 16:00	09/29/16 12:12	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/28/16 16:00	09/29/16 12:12	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/28/16 16:00	09/29/16 12:12	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/28/16 16:00	09/29/16 12:12	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/28/16 16:00	09/29/16 12:12	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 12:12	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/28/16 16:00	09/29/16 12:12	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Client Sample ID: HCS210 Peak 2

Lab Sample ID: 560-63977-1

Date Collected: 09/26/16 07:28

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 12:12	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/28/16 16:00	09/29/16 12:12	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/28/16 16:00	09/29/16 12:12	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/28/16 16:00	09/29/16 12:12	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 12:12	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/28/16 16:00	09/29/16 12:12	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/28/16 16:00	09/29/16 12:12	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/28/16 16:00	09/29/16 12:12	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/28/16 16:00	09/29/16 12:12	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/28/16 16:00	09/29/16 12:12	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/28/16 16:00	09/29/16 12:12	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/28/16 16:00	09/29/16 12:12	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/28/16 16:00	09/29/16 12:12	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/28/16 16:00	09/29/16 12:12	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/28/16 16:00	09/29/16 12:12	1
Phenol	0.768	U	10.0	0.768	ug/L		09/28/16 16:00	09/29/16 12:12	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/28/16 16:00	09/29/16 12:12	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/28/16 16:00	09/29/16 12:12	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/28/16 16:00	09/29/16 12:12	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/28/16 16:00	09/29/16 12:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		23 - 130	09/28/16 16:00	09/29/16 12:12	1
2-Fluorophenol	67		10 - 130	09/28/16 16:00	09/29/16 12:12	1
Nitrobenzene-d5	68		27 - 130	09/28/16 16:00	09/29/16 12:12	1
Phenol-d5	71		10 - 130	09/28/16 16:00	09/29/16 12:12	1
Terphenyl-d14	30		10 - 141	09/28/16 16:00	09/29/16 12:12	1
2,4,6-Tribromophenol	71		18 - 130	09/28/16 16:00	09/29/16 12:12	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00469	U	0.0563	0.00469	ug/L		09/27/16 10:32	09/28/16 15:37	1
alpha-BHC	0.00488	U	0.0563	0.00488	ug/L		09/27/16 10:32	09/28/16 15:37	1
alpha-Chlordane	0.00591	U	0.0563	0.00591	ug/L		09/27/16 10:32	09/28/16 15:37	1
beta-BHC	0.00469	U	0.0563	0.00469	ug/L		09/27/16 10:32	09/28/16 15:37	1
4,4'-DDD	0.00469	U	0.0563	0.00469	ug/L		09/27/16 10:32	09/28/16 15:37	1
4,4'-DDE	0.00469	U	0.0563	0.00469	ug/L		09/27/16 10:32	09/28/16 15:37	1
4,4'-DDT	0.00760	U	0.0563	0.00760	ug/L		09/27/16 10:32	09/28/16 15:37	1
delta-BHC	0.00469	U	0.0563	0.00469	ug/L		09/27/16 10:32	09/28/16 15:37	1
Dieldrin	0.0122	U	0.0563	0.0122	ug/L		09/27/16 10:32	09/28/16 15:37	1
Endosulfan I	0.00469	U	0.0563	0.00469	ug/L		09/27/16 10:32	09/28/16 15:37	1
Endosulfan II	0.00807	U	0.0563	0.00807	ug/L		09/27/16 10:32	09/28/16 15:37	1
Endosulfan sulfate	0.00826	U	0.0563	0.00826	ug/L		09/27/16 10:32	09/28/16 15:37	1
Endrin	0.00723	U	0.0563	0.00723	ug/L		09/27/16 10:32	09/28/16 15:37	1
Endrin aldehyde	0.00469	U	0.0563	0.00469	ug/L		09/27/16 10:32	09/28/16 15:37	1
Endrin ketone	0.00769	U	0.0563	0.00769	ug/L		09/27/16 10:32	09/28/16 15:37	1
gamma-BHC (Lindane)	0.00422	U	0.0563	0.00422	ug/L		09/27/16 10:32	09/28/16 15:37	1
gamma-Chlordane	0.00629	U	0.0563	0.00629	ug/L		09/27/16 10:32	09/28/16 15:37	1
Heptachlor	0.00610	U	0.0563	0.00610	ug/L		09/27/16 10:32	09/28/16 15:37	1
Heptachlor epoxide	0.00488	U	0.0563	0.00488	ug/L		09/27/16 10:32	09/28/16 15:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Client Sample ID: HCS210 Peak 2

Lab Sample ID: 560-63977-1

Date Collected: 09/26/16 07:28

Matrix: Water

Date Received: 09/27/16 08:00

### Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	0.00938	U	0.0563	0.00938	ug/L		09/27/16 10:32	09/28/16 15:37	1
Toxaphene	0.638	U	5.63	0.638	ug/L		09/27/16 10:32	09/28/16 15:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	61		10 - 152				09/27/16 10:32	09/28/16 15:37	1
Tetrachloro-m-xylene	100		57 - 127				09/27/16 10:32	09/28/16 15:37	1

### Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.563	0.103	ug/L		09/27/16 10:32	09/27/16 16:15	1
Aroclor 1221	0.103	U	0.563	0.103	ug/L		09/27/16 10:32	09/27/16 16:15	1
Aroclor 1232	0.413	U	0.751	0.413	ug/L		09/27/16 10:32	09/27/16 16:15	1
Aroclor 1242	0.103	U	0.563	0.103	ug/L		09/27/16 10:32	09/27/16 16:15	1
Aroclor 1248	0.103	U	0.563	0.103	ug/L		09/27/16 10:32	09/27/16 16:15	1
Aroclor 1254	0.103	U	0.563	0.103	ug/L		09/27/16 10:32	09/27/16 16:15	1
Aroclor 1260	0.103	U	0.563	0.103	ug/L		09/27/16 10:32	09/27/16 16:15	1
Aroclor 1262	0.103	U	0.563	0.103	ug/L		09/27/16 10:32	09/27/16 16:15	1
Aroclor 1268	0.103	U	0.563	0.103	ug/L		09/27/16 10:32	09/27/16 16:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	119		10 - 150				09/27/16 10:32	09/27/16 16:15	1
DCB Decachlorobiphenyl	61		10 - 150				09/27/16 10:32	09/27/16 16:15	1

### Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000161	U	0.00240	0.000161	mg/L		10/02/16 08:17	10/09/16 08:45	1
Bolstar	0.000302	U	0.000961	0.000302	mg/L		10/02/16 08:17	10/09/16 08:45	1
Chlorpyrifos	0.000346	U	0.00144	0.000346	mg/L		10/02/16 08:17	10/09/16 08:45	1
Coumaphos	0.000130	U	0.000961	0.000130	mg/L		10/02/16 08:17	10/09/16 08:45	1
Demeton-O	0.000135	U	0.000961	0.000135	mg/L		10/02/16 08:17	10/09/16 08:45	1
Demeton-S	0.0000663	U	0.00192	0.0000663	mg/L		10/02/16 08:17	10/09/16 08:45	1
Diazinon	0.000141	U	0.000481	0.000141	mg/L		10/02/16 08:17	10/09/16 08:45	1
Dichlorvos	0.000156	U	0.000481	0.000156	mg/L		10/02/16 08:17	10/09/16 08:45	1
Dimethoate	0.000432	U	0.00144	0.000432	mg/L		10/02/16 08:17	10/09/16 08:45	1
Disulfoton	0.000309	U	0.000961	0.000309	mg/L		10/02/16 08:17	10/09/16 08:45	1
EPN	0.000143	U	0.00115	0.000143	mg/L		10/02/16 08:17	10/09/16 08:45	1
Ethoprop	0.000170	U	0.00144	0.000170	mg/L		10/02/16 08:17	10/09/16 08:45	1
Ethyl Parathion	0.000138	U	0.000961	0.000138	mg/L		10/02/16 08:17	10/09/16 08:45	1
Famphur	0.000172	U	0.000961	0.000172	mg/L		10/02/16 08:17	10/09/16 08:45	1
Fensulfothion	0.000523	U	0.00240	0.000523	mg/L		10/02/16 08:17	10/09/16 08:45	1
Fenthion	0.000148	U	0.00240	0.000148	mg/L		10/02/16 08:17	10/09/16 08:45	1
Malathion	0.000128	U	0.00192	0.000128	mg/L		10/02/16 08:17	10/09/16 08:45	1
Merphos	0.000167	U	0.00481	0.000167	mg/L		10/02/16 08:17	10/09/16 08:45	1
Methyl parathion	0.000136	U	0.00384	0.000136	mg/L		10/02/16 08:17	10/09/16 08:45	1
Mevinphos	0.000442	U	0.00596	0.000442	mg/L		10/02/16 08:17	10/09/16 08:45	1
Naled	0.000769	U	0.00192	0.000769	mg/L		10/02/16 08:17	10/09/16 08:45	1
Phorate	0.000148	U	0.00115	0.000148	mg/L		10/02/16 08:17	10/09/16 08:45	1
Ronnel	0.000111	U	0.00961	0.000111	mg/L		10/02/16 08:17	10/09/16 08:45	1
Sulfotepp	0.000161	U	0.00144	0.000161	mg/L		10/02/16 08:17	10/09/16 08:45	1
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00336	0.000119	mg/L		10/02/16 08:17	10/09/16 08:45	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS210 Peak 2**

**Lab Sample ID: 560-63977-1**

**Date Collected: 09/26/16 07:28**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thionazin	0.000300	U	0.000961	0.000300	mg/L		10/02/16 08:17	10/09/16 08:45	1
Tokuthion	0.000118	U	0.00154	0.000118	mg/L		10/02/16 08:17	10/09/16 08:45	1
Trichloronate	0.000233	U	0.00144	0.000233	mg/L		10/02/16 08:17	10/09/16 08:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	57		49 - 171				10/02/16 08:17	10/09/16 08:45	1
Triphenylphosphate	92		60 - 154				10/02/16 08:17	10/09/16 08:45	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0953	U	4.76	0.0953	ug/L		10/03/16 10:22	10/04/16 20:30	1
Dicamba	0.0810	U	0.476	0.0810	ug/L		10/03/16 10:22	10/04/16 20:30	1
Mecoprop	18.1	U	114	18.1	ug/L		10/03/16 10:22	10/04/16 20:30	1
MCPA	16.2	U	114	16.2	ug/L		10/03/16 10:22	10/04/16 20:30	1
Dichlorprop	0.143	U	0.476	0.143	ug/L		10/03/16 10:22	10/04/16 20:30	1
2,4-D	0.0353	U	0.476	0.0353	ug/L		10/03/16 10:22	10/04/16 20:30	1
Silvex (2,4,5-TP)	0.0591	U	0.238	0.0591	ug/L		10/03/16 10:22	10/04/16 20:30	1
2,4,5-T	0.0591	U	0.238	0.0591	ug/L		10/03/16 10:22	10/04/16 20:30	1
2,4-DB	0.143	U	0.476	0.143	ug/L		10/03/16 10:22	10/04/16 20:30	1
Dinoseb	0.152	U	0.953	0.152	ug/L		10/03/16 10:22	10/04/16 20:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	73		45 - 130				10/03/16 10:22	10/04/16 20:30	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	18.0		0.200	0.101	mg/L		09/27/16 12:30	09/30/16 10:23	1
Magnesium	1.20		0.200	0.0257	mg/L		09/27/16 12:30	09/30/16 10:23	1
Potassium	9.22		0.500	0.375	mg/L		09/27/16 12:30	09/30/16 16:17	1
Silicon	2.33		0.500	0.0707	mg/L		09/27/16 12:30	09/30/16 10:23	1
Sodium	1.26		1.00	0.310	mg/L		09/27/16 12:30	09/30/16 16:17	1
Strontium	0.0292	B	0.00500	0.000700	mg/L		09/27/16 12:30	09/30/16 10:23	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.197		0.100	0.0500	mg/L		09/27/16 16:50	09/28/16 15:32	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/27/16 16:50	09/28/16 15:32	1
Arsenic	0.00148	J	0.00500	0.00109	mg/L		09/27/16 16:50	09/28/16 15:32	1
Barium	0.00822		0.00500	0.000810	mg/L		09/27/16 16:50	09/28/16 15:32	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/27/16 16:50	09/28/16 15:32	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/27/16 16:50	09/28/16 15:32	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/27/16 16:50	09/28/16 15:32	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/27/16 16:50	09/28/16 15:32	1
Iron	0.162	J	0.250	0.101	mg/L		09/27/16 16:50	09/28/16 15:32	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/27/16 16:50	09/28/16 15:32	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/27/16 16:50	09/28/16 15:32	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/27/16 16:50	09/28/16 15:32	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/27/16 16:50	09/28/16 15:32	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/27/16 16:50	09/28/16 15:32	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/27/16 16:50	09/28/16 15:32	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/27/16 16:50	09/28/16 15:32	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 16:48	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L			09/27/16 19:55	1
Chloride	3.02		1.00	0.192	mg/L			09/27/16 19:55	1
Nitrate as N	0.664		0.500	0.103	mg/L			09/27/16 19:55	1
Sulfate	3.29		1.00	0.377	mg/L			09/27/16 19:55	1
Fluoride	0.0200	U	0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/03/16 11:53	1
Phosphorus	0.599		0.100	0.0410	mg/L		10/04/16 09:23	10/06/16 05:24	1
Total Organic Carbon	8.71		1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1	0.1	SU			09/27/16 10:12	1
Total Alkalinity as CaCO3	49.4		5.00	5.00	mg/L			09/28/16 09:45	1
Bicarbonate Alkalinity as CaCO3	49.4		5.00	5.00	mg/L			09/28/16 09:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1
Total Dissolved Solids	93.0		10.0	10.0	mg/L			09/27/16 14:19	1
Total Suspended Solids	42.4		2.00	2.00	mg/L			09/27/16 11:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	7.57		1.00	0.285	mg/L			10/05/16 12:09	1

Client Sample ID: HCS240 Peak 2

Lab Sample ID: 560-63977-2

Date Collected: 09/26/16 07:49

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/27/16 17:37	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/27/16 17:37	1
Benzene	0.330	U	1.00	0.330	ug/L			09/27/16 17:37	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/27/16 17:37	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 17:37	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/27/16 17:37	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/27/16 17:37	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/27/16 17:37	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/27/16 17:37	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/27/16 17:37	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/27/16 17:37	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/27/16 17:37	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/27/16 17:37	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/27/16 17:37	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/27/16 17:37	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/27/16 17:37	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/27/16 17:37	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/27/16 17:37	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/27/16 17:37	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/27/16 17:37	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/27/16 17:37	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 17:37	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/27/16 17:37	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/27/16 17:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Client Sample ID: HCS240 Peak 2

Lab Sample ID: 560-63977-2

Date Collected: 09/26/16 07:49

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/27/16 17:37	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/27/16 17:37	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/27/16 17:37	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/27/16 17:37	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/27/16 17:37	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 17:37	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/27/16 17:37	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/27/16 17:37	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/27/16 17:37	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/27/16 17:37	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/27/16 17:37	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/27/16 17:37	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/27/16 17:37	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/27/16 17:37	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/27/16 17:37	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/27/16 17:37	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/27/16 17:37	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/27/16 17:37	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/27/16 17:37	1
EDB	0.175	U	1.00	0.175	ug/L			09/27/16 17:37	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/27/16 17:37	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 17:37	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/27/16 17:37	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/27/16 17:37	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/27/16 17:37	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/27/16 17:37	1
Hexane	2.00	U	5.00	2.00	ug/L			09/27/16 17:37	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/27/16 17:37	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/27/16 17:37	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/27/16 17:37	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/27/16 17:37	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/27/16 17:37	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/27/16 17:37	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/27/16 17:37	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/27/16 17:37	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/27/16 17:37	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/27/16 17:37	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/27/16 17:37	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/27/16 17:37	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/27/16 17:37	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 17:37	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/27/16 17:37	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/27/16 17:37	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/27/16 17:37	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/27/16 17:37	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/27/16 17:37	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/27/16 17:37	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/27/16 17:37	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/27/16 17:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS240 Peak 2**

**Lab Sample ID: 560-63977-2**

**Date Collected: 09/26/16 07:49**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.200	U	1.00	0.200	ug/L			09/27/16 17:37	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 17:37	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/27/16 17:37	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/27/16 17:37	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/27/16 17:37	1
Toluene	0.495	U	1.00	0.495	ug/L			09/27/16 17:37	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 17:37	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/27/16 17:37	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/27/16 17:37	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/27/16 17:37	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/27/16 17:37	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/27/16 17:37	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/27/16 17:37	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/27/16 17:37	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/27/16 17:37	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/27/16 17:37	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/27/16 17:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/27/16 17:37	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 17:37	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 17:37	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/27/16 17:37	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/27/16 17:37	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/27/16 17:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		09/27/16 17:37	1
Dibromofluoromethane (Surr)	100		69 - 130		09/27/16 17:37	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		09/27/16 17:37	1
Toluene-d8 (Surr)	102		70 - 130		09/27/16 17:37	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/28/16 16:00	09/29/16 12:38	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/28/16 16:00	09/29/16 12:38	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/28/16 16:00	09/29/16 12:38	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/28/16 16:00	09/29/16 12:38	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/28/16 16:00	09/29/16 12:38	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/28/16 16:00	09/29/16 12:38	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/28/16 16:00	09/29/16 12:38	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/28/16 16:00	09/29/16 12:38	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/28/16 16:00	09/29/16 12:38	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/28/16 16:00	09/29/16 12:38	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/28/16 16:00	09/29/16 12:38	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/28/16 16:00	09/29/16 12:38	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/28/16 16:00	09/29/16 12:38	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/28/16 16:00	09/29/16 12:38	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 12:38	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/28/16 16:00	09/29/16 12:38	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/28/16 16:00	09/29/16 12:38	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/28/16 16:00	09/29/16 12:38	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS240 Peak 2**

**Lab Sample ID: 560-63977-2**

**Date Collected: 09/26/16 07:49**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/28/16 16:00	09/29/16 12:38	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/28/16 16:00	09/29/16 12:38	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/28/16 16:00	09/29/16 12:38	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/28/16 16:00	09/29/16 12:38	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/28/16 16:00	09/29/16 12:38	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/28/16 16:00	09/29/16 12:38	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/28/16 16:00	09/29/16 12:38	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 12:38	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/28/16 16:00	09/29/16 12:38	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/28/16 16:00	09/29/16 12:38	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/28/16 16:00	09/29/16 12:38	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 12:38	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/28/16 16:00	09/29/16 12:38	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/28/16 16:00	09/29/16 12:38	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/28/16 16:00	09/29/16 12:38	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/28/16 16:00	09/29/16 12:38	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/28/16 16:00	09/29/16 12:38	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/28/16 16:00	09/29/16 12:38	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/28/16 16:00	09/29/16 12:38	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/28/16 16:00	09/29/16 12:38	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/28/16 16:00	09/29/16 12:38	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/28/16 16:00	09/29/16 12:38	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/28/16 16:00	09/29/16 12:38	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 12:38	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/28/16 16:00	09/29/16 12:38	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 12:38	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/28/16 16:00	09/29/16 12:38	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/28/16 16:00	09/29/16 12:38	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/28/16 16:00	09/29/16 12:38	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 12:38	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/28/16 16:00	09/29/16 12:38	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/28/16 16:00	09/29/16 12:38	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/28/16 16:00	09/29/16 12:38	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/28/16 16:00	09/29/16 12:38	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/28/16 16:00	09/29/16 12:38	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/28/16 16:00	09/29/16 12:38	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/28/16 16:00	09/29/16 12:38	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/28/16 16:00	09/29/16 12:38	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/28/16 16:00	09/29/16 12:38	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/28/16 16:00	09/29/16 12:38	1
Phenol	0.768	U	10.0	0.768	ug/L		09/28/16 16:00	09/29/16 12:38	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/28/16 16:00	09/29/16 12:38	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/28/16 16:00	09/29/16 12:38	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/28/16 16:00	09/29/16 12:38	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/28/16 16:00	09/29/16 12:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		23 - 130	09/28/16 16:00	09/29/16 12:38	1
2-Fluorophenol	66		10 - 130	09/28/16 16:00	09/29/16 12:38	1
Nitrobenzene-d5	67		27 - 130	09/28/16 16:00	09/29/16 12:38	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS240 Peak 2**

**Lab Sample ID: 560-63977-2**

**Date Collected: 09/26/16 07:49**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	69		10 - 130	09/28/16 16:00	09/29/16 12:38	1
Terphenyl-d14	37		10 - 141	09/28/16 16:00	09/29/16 12:38	1
2,4,6-Tribromophenol	55		18 - 130	09/28/16 16:00	09/29/16 12:38	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00472	U	0.0566	0.00472	ug/L		09/27/16 10:32	09/28/16 19:52	1
alpha-BHC	0.00491	U	0.0566	0.00491	ug/L		09/27/16 10:32	09/28/16 19:52	1
alpha-Chlordane	0.00594	U	0.0566	0.00594	ug/L		09/27/16 10:32	09/28/16 19:52	1
beta-BHC	0.00472	U	0.0566	0.00472	ug/L		09/27/16 10:32	09/28/16 19:52	1
4,4'-DDD	0.00472	U	0.0566	0.00472	ug/L		09/27/16 10:32	09/28/16 19:52	1
4,4'-DDE	0.00472	U	0.0566	0.00472	ug/L		09/27/16 10:32	09/28/16 19:52	1
4,4'-DDT	0.00764	U	0.0566	0.00764	ug/L		09/27/16 10:32	09/28/16 19:52	1
delta-BHC	0.00472	U	0.0566	0.00472	ug/L		09/27/16 10:32	09/28/16 19:52	1
Dieldrin	0.0123	U	0.0566	0.0123	ug/L		09/27/16 10:32	09/28/16 19:52	1
Endosulfan I	0.00472	U	0.0566	0.00472	ug/L		09/27/16 10:32	09/28/16 19:52	1
Endosulfan II	0.00811	U	0.0566	0.00811	ug/L		09/27/16 10:32	09/28/16 19:52	1
Endosulfan sulfate	0.00830	U	0.0566	0.00830	ug/L		09/27/16 10:32	09/28/16 19:52	1
Endrin	0.00726	U	0.0566	0.00726	ug/L		09/27/16 10:32	09/28/16 19:52	1
Endrin aldehyde	0.00472	U	0.0566	0.00472	ug/L		09/27/16 10:32	09/28/16 19:52	1
Endrin ketone	0.00774	U	0.0566	0.00774	ug/L		09/27/16 10:32	09/28/16 19:52	1
gamma-BHC (Lindane)	0.00425	U	0.0566	0.00425	ug/L		09/27/16 10:32	09/28/16 19:52	1
gamma-Chlordane	0.00632	U	0.0566	0.00632	ug/L		09/27/16 10:32	09/28/16 19:52	1
Heptachlor	0.00613	U	0.0566	0.00613	ug/L		09/27/16 10:32	09/28/16 19:52	1
Heptachlor epoxide	0.00491	U	0.0566	0.00491	ug/L		09/27/16 10:32	09/28/16 19:52	1
Methoxychlor	0.00943	U	0.0566	0.00943	ug/L		09/27/16 10:32	09/28/16 19:52	1
Toxaphene	0.642	U	5.66	0.642	ug/L		09/27/16 10:32	09/28/16 19:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	93		10 - 152	09/27/16 10:32	09/28/16 19:52	1
Tetrachloro-m-xylene	93		57 - 127	09/27/16 10:32	09/28/16 19:52	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:10	1
Aroclor 1221	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:10	1
Aroclor 1232	0.415	U	0.755	0.415	ug/L		09/27/16 10:32	09/27/16 19:10	1
Aroclor 1242	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:10	1
Aroclor 1248	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:10	1
Aroclor 1254	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:10	1
Aroclor 1260	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:10	1
Aroclor 1262	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:10	1
Aroclor 1268	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	116		10 - 150	09/27/16 10:32	09/27/16 19:10	1
DCB Decachlorobiphenyl	90		10 - 150	09/27/16 10:32	09/27/16 19:10	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Client Sample ID: HCS240 Peak 2

Lab Sample ID: 560-63977-2

Date Collected: 09/26/16 07:49

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000161	U	0.00239	0.000161	mg/L		10/02/16 08:17	10/09/16 09:16	1
Bolstar	0.000300	U	0.000957	0.000300	mg/L		10/02/16 08:17	10/09/16 09:16	1
Chlorpyrifos	0.000344	U	0.00143	0.000344	mg/L		10/02/16 08:17	10/09/16 09:16	1
Coumaphos	0.000129	U	0.000957	0.000129	mg/L		10/02/16 08:17	10/09/16 09:16	1
Demeton-O	0.000134	U	0.000957	0.000134	mg/L		10/02/16 08:17	10/09/16 09:16	1
Demeton-S	0.0000660	U	0.00191	0.0000660	mg/L		10/02/16 08:17	10/09/16 09:16	1
Diazinon	0.000141	U	0.000478	0.000141	mg/L		10/02/16 08:17	10/09/16 09:16	1
Dichlorvos	0.000155	U	0.000478	0.000155	mg/L		10/02/16 08:17	10/09/16 09:16	1
Dimethoate	0.000430	U	0.00143	0.000430	mg/L		10/02/16 08:17	10/09/16 09:16	1
Disulfoton	0.000308	U	0.000957	0.000308	mg/L		10/02/16 08:17	10/09/16 09:16	1
EPN	0.000143	U	0.00115	0.000143	mg/L		10/02/16 08:17	10/09/16 09:16	1
Ethoprop	0.000169	U	0.00143	0.000169	mg/L		10/02/16 08:17	10/09/16 09:16	1
Ethyl Parathion	0.000138	U	0.000957	0.000138	mg/L		10/02/16 08:17	10/09/16 09:16	1
Famphur	0.000171	U	0.000957	0.000171	mg/L		10/02/16 08:17	10/09/16 09:16	1
Fensulfothion	0.000520	U	0.00239	0.000520	mg/L		10/02/16 08:17	10/09/16 09:16	1
Fenthion	0.000147	U	0.00239	0.000147	mg/L		10/02/16 08:17	10/09/16 09:16	1
Malathion	0.000127	U	0.00191	0.000127	mg/L		10/02/16 08:17	10/09/16 09:16	1
Merphos	0.000166	U	0.00478	0.000166	mg/L		10/02/16 08:17	10/09/16 09:16	1
Methyl parathion	0.000135	U	0.00383	0.000135	mg/L		10/02/16 08:17	10/09/16 09:16	1
Mevinphos	0.000440	U	0.00593	0.000440	mg/L		10/02/16 08:17	10/09/16 09:16	1
Naled	0.000765	U	0.00191	0.000765	mg/L		10/02/16 08:17	10/09/16 09:16	1
Phorate	0.000147	U	0.00115	0.000147	mg/L		10/02/16 08:17	10/09/16 09:16	1
Ronnel	0.000111	U	0.00957	0.000111	mg/L		10/02/16 08:17	10/09/16 09:16	1
Sulfotepp	0.000161	U	0.00143	0.000161	mg/L		10/02/16 08:17	10/09/16 09:16	1
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00335	0.000119	mg/L		10/02/16 08:17	10/09/16 09:16	1
Thionazin	0.000298	U	0.000957	0.000298	mg/L		10/02/16 08:17	10/09/16 09:16	1
Tokuthion	0.000118	U	0.00153	0.000118	mg/L		10/02/16 08:17	10/09/16 09:16	1
Trichloronate	0.000231	U	0.00143	0.000231	mg/L		10/02/16 08:17	10/09/16 09:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	56		49 - 171				10/02/16 08:17	10/09/16 09:16	1
Triphenylphosphate	97		60 - 154				10/02/16 08:17	10/09/16 09:16	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0962	U	4.81	0.0962	ug/L		10/03/16 10:22	10/04/16 20:50	1
Dicamba	0.0817	U	0.481	0.0817	ug/L		10/03/16 10:22	10/04/16 20:50	1
Mecoprop	18.3	U	115	18.3	ug/L		10/03/16 10:22	10/04/16 20:50	1
MCPA	16.3	U	115	16.3	ug/L		10/03/16 10:22	10/04/16 20:50	1
Dichlorprop	0.144	U	0.481	0.144	ug/L		10/03/16 10:22	10/04/16 20:50	1
2,4-D	0.0356	U	0.481	0.0356	ug/L		10/03/16 10:22	10/04/16 20:50	1
Silvex (2,4,5-TP)	0.0596	U	0.240	0.0596	ug/L		10/03/16 10:22	10/04/16 20:50	1
2,4,5-T	0.0596	U	0.240	0.0596	ug/L		10/03/16 10:22	10/04/16 20:50	1
2,4-DB	0.144	U	0.481	0.144	ug/L		10/03/16 10:22	10/04/16 20:50	1
Dinoseb	0.154	U	0.962	0.154	ug/L		10/03/16 10:22	10/04/16 20:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	85		45 - 130				10/03/16 10:22	10/04/16 20:50	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Client Sample ID: HCS240 Peak 2

Lab Sample ID: 560-63977-2

Date Collected: 09/26/16 07:49

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	78.9		0.200	0.101	mg/L		09/27/16 12:30	09/30/16 10:45	1
Magnesium	15.5		0.200	0.0257	mg/L		09/27/16 12:30	09/30/16 10:45	1
Potassium	1.85		0.500	0.375	mg/L		09/27/16 12:30	09/30/16 16:40	1
Silicon	5.28		0.500	0.0707	mg/L		09/27/16 12:30	09/30/16 10:45	1
Sodium	10.3		1.00	0.310	mg/L		09/27/16 12:30	09/30/16 16:40	1
Strontium	0.615	B	0.00500	0.000700	mg/L		09/27/16 12:30	09/30/16 10:45	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/27/16 16:50	09/28/16 15:52	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/27/16 16:50	09/28/16 15:52	1
Arsenic	0.00135	J	0.00500	0.00109	mg/L		09/27/16 16:50	09/28/16 15:52	1
Barium	0.0474		0.00500	0.000810	mg/L		09/27/16 16:50	09/28/16 15:52	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/27/16 16:50	09/28/16 15:52	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/27/16 16:50	09/28/16 15:52	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/27/16 16:50	09/28/16 15:52	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/27/16 16:50	09/28/16 15:52	1
Iron	0.101	U	0.250	0.101	mg/L		09/27/16 16:50	09/28/16 15:52	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/27/16 16:50	09/28/16 15:52	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/27/16 16:50	09/28/16 15:52	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/27/16 16:50	09/28/16 15:52	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/27/16 16:50	09/28/16 15:52	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/27/16 16:50	09/28/16 15:52	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/27/16 16:50	09/28/16 15:52	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/27/16 16:50	09/28/16 15:52	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 16:50	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.443	J	1.00	0.315	mg/L			09/27/16 20:21	1
Chloride	16.1		1.00	0.192	mg/L			09/27/16 20:21	1
Nitrate as N	1.62		0.500	0.103	mg/L			09/27/16 20:21	1
Sulfate	21.5		1.00	0.377	mg/L			09/27/16 20:21	1
Fluoride	0.192		0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/03/16 11:53	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/04/16 09:23	10/06/16 05:25	1
Total Organic Carbon	0.683	J	1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3	HF	0.1	0.1	SU			09/27/16 10:12	1
Total Alkalinity as CaCO3	207		5.00	5.00	mg/L			09/28/16 09:45	1
Bicarbonate Alkalinity as CaCO3	207		5.00	5.00	mg/L			09/28/16 09:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1
Total Dissolved Solids	302		10.0	10.0	mg/L			09/27/16 14:19	1
Total Suspended Solids	9.80		2.00	2.00	mg/L			09/27/16 11:45	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Client Sample ID: HCS240 Peak 2

Date Collected: 09/26/16 07:49

Date Received: 09/27/16 08:00

## Lab Sample ID: 560-63977-2

Matrix: Water

### General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.47		1.00	0.285	mg/L			10/05/16 12:09	1

## Client Sample ID: HCS250 Peak 2

Date Collected: 09/26/16 07:24

Date Received: 09/27/16 08:00

## Lab Sample ID: 560-63977-3

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/27/16 18:02	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/27/16 18:02	1
Benzene	0.330	U	1.00	0.330	ug/L			09/27/16 18:02	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/27/16 18:02	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 18:02	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/27/16 18:02	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/27/16 18:02	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/27/16 18:02	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/27/16 18:02	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/27/16 18:02	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/27/16 18:02	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/27/16 18:02	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/27/16 18:02	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/27/16 18:02	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/27/16 18:02	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/27/16 18:02	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/27/16 18:02	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/27/16 18:02	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/27/16 18:02	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/27/16 18:02	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/27/16 18:02	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 18:02	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/27/16 18:02	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/27/16 18:02	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/27/16 18:02	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/27/16 18:02	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/27/16 18:02	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/27/16 18:02	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/27/16 18:02	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 18:02	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/27/16 18:02	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/27/16 18:02	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/27/16 18:02	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/27/16 18:02	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/27/16 18:02	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/27/16 18:02	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/27/16 18:02	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/27/16 18:02	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/27/16 18:02	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/27/16 18:02	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/27/16 18:02	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/27/16 18:02	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Client Sample ID: HCS250 Peak 2

Lab Sample ID: 560-63977-3

Date Collected: 09/26/16 07:24

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/27/16 18:02	1
EDB	0.175	U	1.00	0.175	ug/L			09/27/16 18:02	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/27/16 18:02	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 18:02	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/27/16 18:02	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/27/16 18:02	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/27/16 18:02	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/27/16 18:02	1
Hexane	2.00	U	5.00	2.00	ug/L			09/27/16 18:02	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/27/16 18:02	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/27/16 18:02	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/27/16 18:02	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/27/16 18:02	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/27/16 18:02	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/27/16 18:02	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/27/16 18:02	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/27/16 18:02	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/27/16 18:02	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/27/16 18:02	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/27/16 18:02	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/27/16 18:02	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/27/16 18:02	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 18:02	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/27/16 18:02	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/27/16 18:02	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/27/16 18:02	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/27/16 18:02	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/27/16 18:02	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/27/16 18:02	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/27/16 18:02	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/27/16 18:02	1
Styrene	0.200	U	1.00	0.200	ug/L			09/27/16 18:02	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 18:02	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/27/16 18:02	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/27/16 18:02	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/27/16 18:02	1
Toluene	0.495	U	1.00	0.495	ug/L			09/27/16 18:02	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 18:02	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/27/16 18:02	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/27/16 18:02	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/27/16 18:02	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/27/16 18:02	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/27/16 18:02	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/27/16 18:02	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/27/16 18:02	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/27/16 18:02	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/27/16 18:02	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/27/16 18:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/27/16 18:02	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS250 Peak 2**

**Lab Sample ID: 560-63977-3**

**Date Collected: 09/26/16 07:24**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 18:02	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 18:02	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/27/16 18:02	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/27/16 18:02	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/27/16 18:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130		09/27/16 18:02	1
Dibromofluoromethane (Surr)	102		69 - 130		09/27/16 18:02	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		09/27/16 18:02	1
Toluene-d8 (Surr)	102		70 - 130		09/27/16 18:02	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/28/16 16:00	09/29/16 13:04	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/28/16 16:00	09/29/16 13:04	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/28/16 16:00	09/29/16 13:04	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/28/16 16:00	09/29/16 13:04	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/28/16 16:00	09/29/16 13:04	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/28/16 16:00	09/29/16 13:04	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/28/16 16:00	09/29/16 13:04	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/28/16 16:00	09/29/16 13:04	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/28/16 16:00	09/29/16 13:04	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/28/16 16:00	09/29/16 13:04	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/28/16 16:00	09/29/16 13:04	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/28/16 16:00	09/29/16 13:04	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/28/16 16:00	09/29/16 13:04	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/28/16 16:00	09/29/16 13:04	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 13:04	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/28/16 16:00	09/29/16 13:04	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/28/16 16:00	09/29/16 13:04	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/28/16 16:00	09/29/16 13:04	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/28/16 16:00	09/29/16 13:04	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/28/16 16:00	09/29/16 13:04	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/28/16 16:00	09/29/16 13:04	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/28/16 16:00	09/29/16 13:04	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/28/16 16:00	09/29/16 13:04	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/28/16 16:00	09/29/16 13:04	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/28/16 16:00	09/29/16 13:04	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 13:04	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/28/16 16:00	09/29/16 13:04	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/28/16 16:00	09/29/16 13:04	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/28/16 16:00	09/29/16 13:04	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 13:04	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/28/16 16:00	09/29/16 13:04	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/28/16 16:00	09/29/16 13:04	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/28/16 16:00	09/29/16 13:04	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/28/16 16:00	09/29/16 13:04	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/28/16 16:00	09/29/16 13:04	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/28/16 16:00	09/29/16 13:04	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Client Sample ID: HCS250 Peak 2

Lab Sample ID: 560-63977-3

Date Collected: 09/26/16 07:24

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/28/16 16:00	09/29/16 13:04	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/28/16 16:00	09/29/16 13:04	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/28/16 16:00	09/29/16 13:04	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/28/16 16:00	09/29/16 13:04	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/28/16 16:00	09/29/16 13:04	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 13:04	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/28/16 16:00	09/29/16 13:04	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 13:04	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/28/16 16:00	09/29/16 13:04	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/28/16 16:00	09/29/16 13:04	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/28/16 16:00	09/29/16 13:04	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 13:04	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/28/16 16:00	09/29/16 13:04	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/28/16 16:00	09/29/16 13:04	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/28/16 16:00	09/29/16 13:04	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/28/16 16:00	09/29/16 13:04	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/28/16 16:00	09/29/16 13:04	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/28/16 16:00	09/29/16 13:04	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/28/16 16:00	09/29/16 13:04	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/28/16 16:00	09/29/16 13:04	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/28/16 16:00	09/29/16 13:04	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/28/16 16:00	09/29/16 13:04	1
Phenol	0.768	U	10.0	0.768	ug/L		09/28/16 16:00	09/29/16 13:04	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/28/16 16:00	09/29/16 13:04	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/28/16 16:00	09/29/16 13:04	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/28/16 16:00	09/29/16 13:04	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/28/16 16:00	09/29/16 13:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	59		23 - 130	09/28/16 16:00	09/29/16 13:04	1
2-Fluorophenol	57		10 - 130	09/28/16 16:00	09/29/16 13:04	1
Nitrobenzene-d5	58		27 - 130	09/28/16 16:00	09/29/16 13:04	1
Phenol-d5	61		10 - 130	09/28/16 16:00	09/29/16 13:04	1
Terphenyl-d14	41		10 - 141	09/28/16 16:00	09/29/16 13:04	1
2,4,6-Tribromophenol	55		18 - 130	09/28/16 16:00	09/29/16 13:04	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 20:13	1
alpha-BHC	0.00487	U	0.0561	0.00487	ug/L		09/27/16 10:32	09/28/16 20:13	1
alpha-Chlordane	0.00590	U	0.0561	0.00590	ug/L		09/27/16 10:32	09/28/16 20:13	1
beta-BHC	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 20:13	1
4,4'-DDD	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 20:13	1
4,4'-DDE	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 20:13	1
4,4'-DDT	0.00758	U	0.0561	0.00758	ug/L		09/27/16 10:32	09/28/16 20:13	1
delta-BHC	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 20:13	1
Dieldrin	0.0122	U	0.0561	0.0122	ug/L		09/27/16 10:32	09/28/16 20:13	1
Endosulfan I	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 20:13	1
Endosulfan II	0.00805	U	0.0561	0.00805	ug/L		09/27/16 10:32	09/28/16 20:13	1
Endosulfan sulfate	0.00824	U	0.0561	0.00824	ug/L		09/27/16 10:32	09/28/16 20:13	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS250 Peak 2**

**Lab Sample ID: 560-63977-3**

**Date Collected: 09/26/16 07:24**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	0.00721	U	0.0561	0.00721	ug/L		09/27/16 10:32	09/28/16 20:13	1
Endrin aldehyde	0.00468	U	0.0561	0.00468	ug/L		09/27/16 10:32	09/28/16 20:13	1
Endrin ketone	0.00767	U	0.0561	0.00767	ug/L		09/27/16 10:32	09/28/16 20:13	1
gamma-BHC (Lindane)	0.00421	U	0.0561	0.00421	ug/L		09/27/16 10:32	09/28/16 20:13	1
gamma-Chlordane	0.00627	U	0.0561	0.00627	ug/L		09/27/16 10:32	09/28/16 20:13	1
Heptachlor	0.00608	U	0.0561	0.00608	ug/L		09/27/16 10:32	09/28/16 20:13	1
Heptachlor epoxide	0.00487	U	0.0561	0.00487	ug/L		09/27/16 10:32	09/28/16 20:13	1
Methoxychlor	0.00936	U	0.0561	0.00936	ug/L		09/27/16 10:32	09/28/16 20:13	1
Toxaphene	0.636	U	5.61	0.636	ug/L		09/27/16 10:32	09/28/16 20:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	79		10 - 152				09/27/16 10:32	09/28/16 20:13	1
Tetrachloro-m-xylene	97		57 - 127				09/27/16 10:32	09/28/16 20:13	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 19:27	1
Aroclor 1221	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 19:27	1
Aroclor 1232	0.412	U	0.749	0.412	ug/L		09/27/16 10:32	09/27/16 19:27	1
Aroclor 1242	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 19:27	1
Aroclor 1248	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 19:27	1
Aroclor 1254	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 19:27	1
Aroclor 1260	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 19:27	1
Aroclor 1262	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 19:27	1
Aroclor 1268	0.103	U	0.561	0.103	ug/L		09/27/16 10:32	09/27/16 19:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	109		10 - 150				09/27/16 10:32	09/27/16 19:27	1
DCB Decachlorobiphenyl	78		10 - 150				09/27/16 10:32	09/27/16 19:27	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000161	U	0.00240	0.000161	mg/L		10/02/16 08:17	10/09/16 09:48	1
Bolstar	0.000302	U	0.000961	0.000302	mg/L		10/02/16 08:17	10/09/16 09:48	1
Chlorpyrifos	0.000346	U	0.00144	0.000346	mg/L		10/02/16 08:17	10/09/16 09:48	1
Coumaphos	0.000130	U	0.000961	0.000130	mg/L		10/02/16 08:17	10/09/16 09:48	1
Demeton-O	0.000134	U	0.000961	0.000134	mg/L		10/02/16 08:17	10/09/16 09:48	1
Demeton-S	0.0000663	U	0.00192	0.0000663	mg/L		10/02/16 08:17	10/09/16 09:48	1
Diazinon	0.000141	U	0.000480	0.000141	mg/L		10/02/16 08:17	10/09/16 09:48	1
Dichlorvos	0.000156	U	0.000480	0.000156	mg/L		10/02/16 08:17	10/09/16 09:48	1
Dimethoate	0.000431	U	0.00144	0.000431	mg/L		10/02/16 08:17	10/09/16 09:48	1
Disulfoton	0.000309	U	0.000961	0.000309	mg/L		10/02/16 08:17	10/09/16 09:48	1
EPN	0.000143	U	0.00115	0.000143	mg/L		10/02/16 08:17	10/09/16 09:48	1
Ethoprop	0.000170	U	0.00144	0.000170	mg/L		10/02/16 08:17	10/09/16 09:48	1
Ethyl Parathion	0.000138	U	0.000961	0.000138	mg/L		10/02/16 08:17	10/09/16 09:48	1
Famphur	0.000172	U	0.000961	0.000172	mg/L		10/02/16 08:17	10/09/16 09:48	1
Fensulfothion	0.000523	U	0.00240	0.000523	mg/L		10/02/16 08:17	10/09/16 09:48	1
Fenthion	0.000148	U	0.00240	0.000148	mg/L		10/02/16 08:17	10/09/16 09:48	1
Malathion	0.000128	U	0.00192	0.000128	mg/L		10/02/16 08:17	10/09/16 09:48	1
Merphos	0.000167	U	0.00480	0.000167	mg/L		10/02/16 08:17	10/09/16 09:48	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS250 Peak 2**

**Lab Sample ID: 560-63977-3**

**Date Collected: 09/26/16 07:24**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl parathion	0.000135	U	0.00384	0.000135	mg/L		10/02/16 08:17	10/09/16 09:48	1
Mevinphos	0.000442	U	0.00596	0.000442	mg/L		10/02/16 08:17	10/09/16 09:48	1
Naled	0.000768	U	0.00192	0.000768	mg/L		10/02/16 08:17	10/09/16 09:48	1
Phorate	0.000148	U	0.00115	0.000148	mg/L		10/02/16 08:17	10/09/16 09:48	1
Ronnel	0.000111	U	0.00961	0.000111	mg/L		10/02/16 08:17	10/09/16 09:48	1
Sulfotepp	0.000161	U	0.00144	0.000161	mg/L		10/02/16 08:17	10/09/16 09:48	1
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00336	0.000119	mg/L		10/02/16 08:17	10/09/16 09:48	1
Thionazin	0.000300	U	0.000961	0.000300	mg/L		10/02/16 08:17	10/09/16 09:48	1
Tokuthion	0.000118	U	0.00154	0.000118	mg/L		10/02/16 08:17	10/09/16 09:48	1
Trichloronate	0.000232	U	0.00144	0.000232	mg/L		10/02/16 08:17	10/09/16 09:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	52		49 - 171				10/02/16 08:17	10/09/16 09:48	1
Triphenylphosphate	97		60 - 154				10/02/16 08:17	10/09/16 09:48	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0949	U	4.74	0.0949	ug/L		10/03/16 10:22	10/04/16 21:10	1
Dicamba	0.0807	U	0.474	0.0807	ug/L		10/03/16 10:22	10/04/16 21:10	1
Mecoprop	18.0	U	114	18.0	ug/L		10/03/16 10:22	10/04/16 21:10	1
MCPA	16.1	U	114	16.1	ug/L		10/03/16 10:22	10/04/16 21:10	1
Dichlorprop	0.142	U	0.474	0.142	ug/L		10/03/16 10:22	10/04/16 21:10	1
2,4-D	0.0351	U	0.474	0.0351	ug/L		10/03/16 10:22	10/04/16 21:10	1
Silvex (2,4,5-TP)	0.0588	U	0.237	0.0588	ug/L		10/03/16 10:22	10/04/16 21:10	1
2,4,5-T	0.0588	U	0.237	0.0588	ug/L		10/03/16 10:22	10/04/16 21:10	1
2,4-DB	0.142	U	0.474	0.142	ug/L		10/03/16 10:22	10/04/16 21:10	1
Dinoseb	0.152	U	0.949	0.152	ug/L		10/03/16 10:22	10/04/16 21:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	80		45 - 130				10/03/16 10:22	10/04/16 21:10	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	59.7		0.200	0.101	mg/L		09/27/16 12:30	09/30/16 10:49	1
Magnesium	11.6		0.200	0.0257	mg/L		09/27/16 12:30	09/30/16 10:49	1
Potassium	2.46		0.500	0.375	mg/L		09/27/16 12:30	09/30/16 16:44	1
Silicon	3.98		0.500	0.0707	mg/L		09/27/16 12:30	09/30/16 10:49	1
Sodium	8.08		1.00	0.310	mg/L		09/27/16 12:30	09/30/16 16:44	1
Strontium	0.458	B	0.00500	0.000700	mg/L		09/27/16 12:30	09/30/16 10:49	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/27/16 16:50	09/28/16 15:58	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/27/16 16:50	09/28/16 15:58	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/27/16 16:50	09/28/16 15:58	1
Barium	0.0363		0.00500	0.000810	mg/L		09/27/16 16:50	09/28/16 15:58	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/27/16 16:50	09/28/16 15:58	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/27/16 16:50	09/28/16 15:58	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/27/16 16:50	09/28/16 15:58	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/27/16 16:50	09/28/16 15:58	1
Iron	0.101	U	0.250	0.101	mg/L		09/27/16 16:50	09/28/16 15:58	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS250 Peak 2**

**Lab Sample ID: 560-63977-3**

**Date Collected: 09/26/16 07:24**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.000733	U	0.00500	0.000733	mg/L		09/27/16 16:50	09/28/16 15:58	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/27/16 16:50	09/28/16 15:58	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/27/16 16:50	09/28/16 15:58	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/27/16 16:50	09/28/16 15:58	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/27/16 16:50	09/28/16 15:58	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/27/16 16:50	09/28/16 15:58	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/27/16 16:50	09/28/16 15:58	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 16:52	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.428	J	1.00	0.315	mg/L			09/27/16 20:47	1
Chloride	12.2		1.00	0.192	mg/L			09/27/16 20:47	1
Nitrate as N	1.21		0.500	0.103	mg/L			09/27/16 20:47	1
Sulfate	16.3		1.00	0.377	mg/L			09/27/16 20:47	1
Fluoride	0.151		0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/03/16 11:54	1
Phosphorus	0.380		0.100	0.0410	mg/L		10/04/16 09:23	10/06/16 05:26	1
Total Organic Carbon	2.24		1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1	0.1	SU			09/27/16 10:12	1
Total Alkalinity as CaCO3	163		5.00	5.00	mg/L			09/28/16 09:45	1
Bicarbonate Alkalinity as CaCO3	163		5.00	5.00	mg/L			09/28/16 09:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1
Total Dissolved Solids	224		10.0	10.0	mg/L			09/27/16 14:19	1
Total Suspended Solids	6.20		2.00	2.00	mg/L			09/27/16 11:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.82		1.00	0.285	mg/L			10/05/16 12:09	1

**Client Sample ID: HCS260 Peak 2**

**Lab Sample ID: 560-63977-4**

**Date Collected: 09/26/16 08:04**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/27/16 18:27	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/27/16 18:27	1
Benzene	0.330	U	1.00	0.330	ug/L			09/27/16 18:27	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/27/16 18:27	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 18:27	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/27/16 18:27	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/27/16 18:27	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/27/16 18:27	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/27/16 18:27	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/27/16 18:27	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Client Sample ID: HCS260 Peak 2

Lab Sample ID: 560-63977-4

Date Collected: 09/26/16 08:04

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/27/16 18:27	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/27/16 18:27	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/27/16 18:27	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/27/16 18:27	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/27/16 18:27	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/27/16 18:27	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/27/16 18:27	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/27/16 18:27	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/27/16 18:27	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/27/16 18:27	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/27/16 18:27	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 18:27	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/27/16 18:27	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/27/16 18:27	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/27/16 18:27	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/27/16 18:27	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/27/16 18:27	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/27/16 18:27	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/27/16 18:27	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 18:27	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/27/16 18:27	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/27/16 18:27	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/27/16 18:27	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/27/16 18:27	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/27/16 18:27	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/27/16 18:27	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/27/16 18:27	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/27/16 18:27	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/27/16 18:27	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/27/16 18:27	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/27/16 18:27	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/27/16 18:27	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/27/16 18:27	1
EDB	0.175	U	1.00	0.175	ug/L			09/27/16 18:27	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/27/16 18:27	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 18:27	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/27/16 18:27	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/27/16 18:27	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/27/16 18:27	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/27/16 18:27	1
Hexane	2.00	U	5.00	2.00	ug/L			09/27/16 18:27	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/27/16 18:27	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/27/16 18:27	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/27/16 18:27	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/27/16 18:27	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/27/16 18:27	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/27/16 18:27	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/27/16 18:27	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/27/16 18:27	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS260 Peak 2**

**Lab Sample ID: 560-63977-4**

**Date Collected: 09/26/16 08:04**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/27/16 18:27	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/27/16 18:27	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/27/16 18:27	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/27/16 18:27	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/27/16 18:27	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 18:27	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/27/16 18:27	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/27/16 18:27	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/27/16 18:27	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/27/16 18:27	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/27/16 18:27	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/27/16 18:27	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/27/16 18:27	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/27/16 18:27	1
Styrene	0.200	U	1.00	0.200	ug/L			09/27/16 18:27	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 18:27	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/27/16 18:27	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/27/16 18:27	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/27/16 18:27	1
Toluene	0.495	U	1.00	0.495	ug/L			09/27/16 18:27	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 18:27	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/27/16 18:27	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/27/16 18:27	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/27/16 18:27	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/27/16 18:27	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/27/16 18:27	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/27/16 18:27	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/27/16 18:27	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/27/16 18:27	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/27/16 18:27	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/27/16 18:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/27/16 18:27	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 18:27	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 18:27	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/27/16 18:27	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/27/16 18:27	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/27/16 18:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		09/27/16 18:27	1
Dibromofluoromethane (Surr)	99		69 - 130		09/27/16 18:27	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		09/27/16 18:27	1
Toluene-d8 (Surr)	101		70 - 130		09/27/16 18:27	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		10/03/16 14:20	10/04/16 11:33	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		10/03/16 14:20	10/04/16 11:33	1
Anthracene	0.700	U	10.0	0.700	ug/L		10/03/16 14:20	10/04/16 11:33	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		10/03/16 14:20	10/04/16 11:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS260 Peak 2**

**Lab Sample ID: 560-63977-4**

**Date Collected: 09/26/16 08:04**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		10/03/16 14:20	10/04/16 11:33	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		10/03/16 14:20	10/04/16 11:33	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		10/03/16 14:20	10/04/16 11:33	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		10/03/16 14:20	10/04/16 11:33	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		10/03/16 14:20	10/04/16 11:33	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		10/03/16 14:20	10/04/16 11:33	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		10/03/16 14:20	10/04/16 11:33	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		10/03/16 14:20	10/04/16 11:33	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		10/03/16 14:20	10/04/16 11:33	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		10/03/16 14:20	10/04/16 11:33	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		10/03/16 14:20	10/04/16 11:33	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		10/03/16 14:20	10/04/16 11:33	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		10/03/16 14:20	10/04/16 11:33	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		10/03/16 14:20	10/04/16 11:33	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		10/03/16 14:20	10/04/16 11:33	1
Chrysene	0.494	U	10.0	0.494	ug/L		10/03/16 14:20	10/04/16 11:33	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		10/03/16 14:20	10/04/16 11:33	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		10/03/16 14:20	10/04/16 11:33	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		10/03/16 14:20	10/04/16 11:33	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		10/03/16 14:20	10/04/16 11:33	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		10/03/16 14:20	10/04/16 11:33	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		10/03/16 14:20	10/04/16 11:33	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		10/03/16 14:20	10/04/16 11:33	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		10/03/16 14:20	10/04/16 11:33	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		10/03/16 14:20	10/04/16 11:33	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		10/03/16 14:20	10/04/16 11:33	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		10/03/16 14:20	10/04/16 11:33	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		10/03/16 14:20	10/04/16 11:33	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		10/03/16 14:20	10/04/16 11:33	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		10/03/16 14:20	10/04/16 11:33	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		10/03/16 14:20	10/04/16 11:33	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		10/03/16 14:20	10/04/16 11:33	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		10/03/16 14:20	10/04/16 11:33	1
Fluorene	0.421	U	10.0	0.421	ug/L		10/03/16 14:20	10/04/16 11:33	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		10/03/16 14:20	10/04/16 11:33	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		10/03/16 14:20	10/04/16 11:33	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		10/03/16 14:20	10/04/16 11:33	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		10/03/16 14:20	10/04/16 11:33	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		10/03/16 14:20	10/04/16 11:33	1
Isophorone	0.549	U	10.0	0.549	ug/L		10/03/16 14:20	10/04/16 11:33	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		10/03/16 14:20	10/04/16 11:33	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		10/03/16 14:20	10/04/16 11:33	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		10/03/16 14:20	10/04/16 11:33	1
Naphthalene	0.787	U	10.0	0.787	ug/L		10/03/16 14:20	10/04/16 11:33	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		10/03/16 14:20	10/04/16 11:33	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		10/03/16 14:20	10/04/16 11:33	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		10/03/16 14:20	10/04/16 11:33	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		10/03/16 14:20	10/04/16 11:33	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		10/03/16 14:20	10/04/16 11:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS260 Peak 2**

**Lab Sample ID: 560-63977-4**

**Date Collected: 09/26/16 08:04**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		10/03/16 14:20	10/04/16 11:33	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		10/03/16 14:20	10/04/16 11:33	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		10/03/16 14:20	10/04/16 11:33	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		10/03/16 14:20	10/04/16 11:33	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		10/03/16 14:20	10/04/16 11:33	1
Phenol	0.768	U	10.0	0.768	ug/L		10/03/16 14:20	10/04/16 11:33	1
Pyrene	0.440	U	10.0	0.440	ug/L		10/03/16 14:20	10/04/16 11:33	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		10/03/16 14:20	10/04/16 11:33	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		10/03/16 14:20	10/04/16 11:33	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		10/03/16 14:20	10/04/16 11:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	50		23 - 130	10/03/16 14:20	10/04/16 11:33	1
2-Fluorophenol	52		10 - 130	10/03/16 14:20	10/04/16 11:33	1
Nitrobenzene-d5	52		27 - 130	10/03/16 14:20	10/04/16 11:33	1
Phenol-d5	54		10 - 130	10/03/16 14:20	10/04/16 11:33	1
Terphenyl-d14	53		10 - 141	10/03/16 14:20	10/04/16 11:33	1
2,4,6-Tribromophenol	56		18 - 130	10/03/16 14:20	10/04/16 11:33	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00472	U	0.0566	0.00472	ug/L		09/27/16 10:32	09/28/16 20:34	1
alpha-BHC	0.00491	U	0.0566	0.00491	ug/L		09/27/16 10:32	09/28/16 20:34	1
alpha-Chlordane	0.00594	U	0.0566	0.00594	ug/L		09/27/16 10:32	09/28/16 20:34	1
beta-BHC	0.00472	U	0.0566	0.00472	ug/L		09/27/16 10:32	09/28/16 20:34	1
4,4'-DDD	0.00472	U	0.0566	0.00472	ug/L		09/27/16 10:32	09/28/16 20:34	1
4,4'-DDE	0.00472	U	0.0566	0.00472	ug/L		09/27/16 10:32	09/28/16 20:34	1
4,4'-DDT	0.00764	U	0.0566	0.00764	ug/L		09/27/16 10:32	09/28/16 20:34	1
delta-BHC	0.00472	U	0.0566	0.00472	ug/L		09/27/16 10:32	09/28/16 20:34	1
Dieldrin	0.0123	U	0.0566	0.0123	ug/L		09/27/16 10:32	09/28/16 20:34	1
Endosulfan I	0.00472	U	0.0566	0.00472	ug/L		09/27/16 10:32	09/28/16 20:34	1
Endosulfan II	0.00811	U	0.0566	0.00811	ug/L		09/27/16 10:32	09/28/16 20:34	1
Endosulfan sulfate	0.00830	U	0.0566	0.00830	ug/L		09/27/16 10:32	09/28/16 20:34	1
Endrin	0.00726	U	0.0566	0.00726	ug/L		09/27/16 10:32	09/28/16 20:34	1
Endrin aldehyde	0.00472	U	0.0566	0.00472	ug/L		09/27/16 10:32	09/28/16 20:34	1
Endrin ketone	0.00774	U	0.0566	0.00774	ug/L		09/27/16 10:32	09/28/16 20:34	1
gamma-BHC (Lindane)	0.00425	U	0.0566	0.00425	ug/L		09/27/16 10:32	09/28/16 20:34	1
gamma-Chlordane	0.00632	U	0.0566	0.00632	ug/L		09/27/16 10:32	09/28/16 20:34	1
Heptachlor	0.00613	U	0.0566	0.00613	ug/L		09/27/16 10:32	09/28/16 20:34	1
Heptachlor epoxide	0.00491	U	0.0566	0.00491	ug/L		09/27/16 10:32	09/28/16 20:34	1
Methoxychlor	0.00943	U	0.0566	0.00943	ug/L		09/27/16 10:32	09/28/16 20:34	1
Toxaphene	0.642	U	5.66	0.642	ug/L		09/27/16 10:32	09/28/16 20:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	88		10 - 152	09/27/16 10:32	09/28/16 20:34	1
Tetrachloro-m-xylene	102		57 - 127	09/27/16 10:32	09/28/16 20:34	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:45	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS260 Peak 2**

**Lab Sample ID: 560-63977-4**

**Date Collected: 09/26/16 08:04**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1221	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:45	1
Aroclor 1232	0.415	U	0.755	0.415	ug/L		09/27/16 10:32	09/27/16 19:45	1
Aroclor 1242	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:45	1
Aroclor 1248	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:45	1
Aroclor 1254	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:45	1
Aroclor 1260	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:45	1
Aroclor 1262	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:45	1
Aroclor 1268	0.104	U	0.566	0.104	ug/L		09/27/16 10:32	09/27/16 19:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	112		10 - 150	09/27/16 10:32	09/27/16 19:45	1
DCB Decachlorobiphenyl	81		10 - 150	09/27/16 10:32	09/27/16 19:45	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00239	0.000160	mg/L		10/02/16 08:17	10/09/16 10:19	1
Bolstar	0.000300	U	0.000954	0.000300	mg/L		10/02/16 08:17	10/09/16 10:19	1
Chlorpyrifos	0.000344	U	0.00143	0.000344	mg/L		10/02/16 08:17	10/09/16 10:19	1
Coumaphos	0.000129	U	0.000954	0.000129	mg/L		10/02/16 08:17	10/09/16 10:19	1
Demeton-O	0.000134	U	0.000954	0.000134	mg/L		10/02/16 08:17	10/09/16 10:19	1
Demeton-S	0.0000659	U	0.00191	0.0000659	mg/L		10/02/16 08:17	10/09/16 10:19	1
Diazinon	0.000140	U	0.000477	0.000140	mg/L		10/02/16 08:17	10/09/16 10:19	1
Dichlorvos	0.000155	U	0.000477	0.000155	mg/L		10/02/16 08:17	10/09/16 10:19	1
Dimethoate	0.000429	U	0.00143	0.000429	mg/L		10/02/16 08:17	10/09/16 10:19	1
Disulfoton	0.000307	U	0.000954	0.000307	mg/L		10/02/16 08:17	10/09/16 10:19	1
EPN	0.000142	U	0.00115	0.000142	mg/L		10/02/16 08:17	10/09/16 10:19	1
Ethoprop	0.000169	U	0.00143	0.000169	mg/L		10/02/16 08:17	10/09/16 10:19	1
Ethyl Parathion	0.000137	U	0.000954	0.000137	mg/L		10/02/16 08:17	10/09/16 10:19	1
Famphur	0.000171	U	0.000954	0.000171	mg/L		10/02/16 08:17	10/09/16 10:19	1
Fensulfothion	0.000519	U	0.00239	0.000519	mg/L		10/02/16 08:17	10/09/16 10:19	1
Fenthion	0.000147	U	0.00239	0.000147	mg/L		10/02/16 08:17	10/09/16 10:19	1
Malathion	0.000127	U	0.00191	0.000127	mg/L		10/02/16 08:17	10/09/16 10:19	1
Merphos	0.000166	U	0.00477	0.000166	mg/L		10/02/16 08:17	10/09/16 10:19	1
Methyl parathion	0.000135	U	0.00382	0.000135	mg/L		10/02/16 08:17	10/09/16 10:19	1
Mevinphos	0.000439	U	0.00592	0.000439	mg/L		10/02/16 08:17	10/09/16 10:19	1
Naled	0.000764	U	0.00191	0.000764	mg/L		10/02/16 08:17	10/09/16 10:19	1
Phorate	0.000147	U	0.00115	0.000147	mg/L		10/02/16 08:17	10/09/16 10:19	1
Ronnel	0.000111	U	0.00954	0.000111	mg/L		10/02/16 08:17	10/09/16 10:19	1
Sulfotepp	0.000160	U	0.00143	0.000160	mg/L		10/02/16 08:17	10/09/16 10:19	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00334	0.000118	mg/L		10/02/16 08:17	10/09/16 10:19	1
Thionazin	0.000298	U	0.000954	0.000298	mg/L		10/02/16 08:17	10/09/16 10:19	1
Tokuthion	0.000117	U	0.00153	0.000117	mg/L		10/02/16 08:17	10/09/16 10:19	1
Trichloronate	0.000231	U	0.00143	0.000231	mg/L		10/02/16 08:17	10/09/16 10:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	56		49 - 171	10/02/16 08:17	10/09/16 10:19	1
Triphenylphosphate	101		60 - 154	10/02/16 08:17	10/09/16 10:19	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS260 Peak 2**

**Lab Sample ID: 560-63977-4**

**Date Collected: 09/26/16 08:04**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0948	U	4.74	0.0948	ug/L		10/03/16 10:22	10/04/16 21:29	1
Dicamba	0.0806	U	0.474	0.0806	ug/L		10/03/16 10:22	10/04/16 21:29	1
Mecoprop	18.0	U	114	18.0	ug/L		10/03/16 10:22	10/04/16 21:29	1
MCPA	16.1	U	114	16.1	ug/L		10/03/16 10:22	10/04/16 21:29	1
Dichlorprop	0.142	U	0.474	0.142	ug/L		10/03/16 10:22	10/04/16 21:29	1
2,4-D	0.0351	U	0.474	0.0351	ug/L		10/03/16 10:22	10/04/16 21:29	1
Silvex (2,4,5-TP)	0.0588	U	0.237	0.0588	ug/L		10/03/16 10:22	10/04/16 21:29	1
2,4,5-T	0.0588	U	0.237	0.0588	ug/L		10/03/16 10:22	10/04/16 21:29	1
2,4-DB	0.142	U	0.474	0.142	ug/L		10/03/16 10:22	10/04/16 21:29	1
Dinoseb	0.152	U	0.948	0.152	ug/L		10/03/16 10:22	10/04/16 21:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	81		45 - 130	10/03/16 10:22	10/04/16 21:29	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	70.5		0.200	0.101	mg/L		09/27/16 12:30	09/30/16 10:53	1
Magnesium	13.2		0.200	0.0257	mg/L		09/27/16 12:30	09/30/16 10:53	1
Potassium	2.00		0.500	0.375	mg/L		09/27/16 12:30	09/30/16 16:48	1
Silicon	4.75		0.500	0.0707	mg/L		09/27/16 12:30	09/30/16 10:53	1
Sodium	11.7		1.00	0.310	mg/L		09/27/16 12:30	09/30/16 16:48	1
Strontium	0.534	B	0.00500	0.000700	mg/L		09/27/16 12:30	09/30/16 10:53	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0827	J	0.100	0.0500	mg/L		09/27/16 16:50	09/28/16 16:03	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/27/16 16:50	09/28/16 16:03	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/27/16 16:50	09/28/16 16:03	1
Barium	0.0461		0.00500	0.000810	mg/L		09/27/16 16:50	09/28/16 16:03	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/27/16 16:50	09/28/16 16:03	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/27/16 16:50	09/28/16 16:03	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/27/16 16:50	09/28/16 16:03	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/27/16 16:50	09/28/16 16:03	1
Iron	0.101	U	0.250	0.101	mg/L		09/27/16 16:50	09/28/16 16:03	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/27/16 16:50	09/28/16 16:03	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/27/16 16:50	09/28/16 16:03	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/27/16 16:50	09/28/16 16:03	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/27/16 16:50	09/28/16 16:03	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/27/16 16:50	09/28/16 16:03	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/27/16 16:50	09/28/16 16:03	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/27/16 16:50	09/28/16 16:03	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 16:54	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.462	J	1.00	0.315	mg/L			09/27/16 21:13	1
Chloride	15.8		1.00	0.192	mg/L			09/27/16 21:13	1
Nitrate as N	1.40		0.500	0.103	mg/L			09/27/16 21:13	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: HCS260 Peak 2**

**Lab Sample ID: 560-63977-4**

**Date Collected: 09/26/16 08:04**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	25.1		1.00	0.377	mg/L			09/27/16 21:13	1
Fluoride	0.188		0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/03/16 11:55	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/04/16 10:00	10/06/16 06:10	1
Total Organic Carbon	1.20		1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3	HF	0.1	0.1	SU			09/27/16 10:12	1
Total Alkalinity as CaCO3	182		5.00	5.00	mg/L			09/28/16 09:45	1
Bicarbonate Alkalinity as CaCO3	182		5.00	5.00	mg/L			09/28/16 09:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1
Total Dissolved Solids	290		10.0	10.0	mg/L			09/27/16 14:19	1
Total Suspended Solids	15.6		2.00	2.00	mg/L			09/27/16 11:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.829	J	1.00	0.285	mg/L			10/05/16 12:09	1

**Client Sample ID: HCS270 Peak 2**

**Lab Sample ID: 560-63977-5**

**Date Collected: 09/26/16 07:40**

**Matrix: Water**

**Date Received: 09/27/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/27/16 18:52	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/27/16 18:52	1
Benzene	0.330	U	1.00	0.330	ug/L			09/27/16 18:52	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/27/16 18:52	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 18:52	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/27/16 18:52	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/27/16 18:52	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/27/16 18:52	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/27/16 18:52	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/27/16 18:52	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/27/16 18:52	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/27/16 18:52	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/27/16 18:52	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/27/16 18:52	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/27/16 18:52	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/27/16 18:52	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/27/16 18:52	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/27/16 18:52	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/27/16 18:52	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/27/16 18:52	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/27/16 18:52	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 18:52	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/27/16 18:52	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/27/16 18:52	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/27/16 18:52	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/27/16 18:52	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/27/16 18:52	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Client Sample ID: HCS270 Peak 2

Lab Sample ID: 560-63977-5

Date Collected: 09/26/16 07:40

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/27/16 18:52	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/27/16 18:52	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 18:52	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/27/16 18:52	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/27/16 18:52	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/27/16 18:52	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/27/16 18:52	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/27/16 18:52	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/27/16 18:52	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/27/16 18:52	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/27/16 18:52	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/27/16 18:52	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/27/16 18:52	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/27/16 18:52	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/27/16 18:52	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/27/16 18:52	1
EDB	0.175	U	1.00	0.175	ug/L			09/27/16 18:52	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/27/16 18:52	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 18:52	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/27/16 18:52	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/27/16 18:52	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/27/16 18:52	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/27/16 18:52	1
Hexane	2.00	U	5.00	2.00	ug/L			09/27/16 18:52	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/27/16 18:52	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/27/16 18:52	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/27/16 18:52	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/27/16 18:52	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/27/16 18:52	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/27/16 18:52	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/27/16 18:52	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/27/16 18:52	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/27/16 18:52	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/27/16 18:52	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/27/16 18:52	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/27/16 18:52	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/27/16 18:52	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 18:52	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/27/16 18:52	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/27/16 18:52	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/27/16 18:52	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/27/16 18:52	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/27/16 18:52	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/27/16 18:52	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/27/16 18:52	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/27/16 18:52	1
Styrene	0.200	U	1.00	0.200	ug/L			09/27/16 18:52	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 18:52	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/27/16 18:52	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Client Sample ID: HCS270 Peak 2

Lab Sample ID: 560-63977-5

Date Collected: 09/26/16 07:40

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/27/16 18:52	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/27/16 18:52	1
Toluene	0.495	U	1.00	0.495	ug/L			09/27/16 18:52	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 18:52	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/27/16 18:52	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/27/16 18:52	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/27/16 18:52	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/27/16 18:52	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/27/16 18:52	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/27/16 18:52	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/27/16 18:52	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/27/16 18:52	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/27/16 18:52	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/27/16 18:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/27/16 18:52	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 18:52	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 18:52	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/27/16 18:52	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/27/16 18:52	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/27/16 18:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130		09/27/16 18:52	1
Dibromofluoromethane (Surr)	101		69 - 130		09/27/16 18:52	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		09/27/16 18:52	1
Toluene-d8 (Surr)	104		70 - 130		09/27/16 18:52	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/29/16 16:37	10/03/16 10:56	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/29/16 16:37	10/03/16 10:56	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/29/16 16:37	10/03/16 10:56	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/29/16 16:37	10/03/16 10:56	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/29/16 16:37	10/03/16 10:56	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/29/16 16:37	10/03/16 10:56	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/29/16 16:37	10/03/16 10:56	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/29/16 16:37	10/03/16 10:56	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/29/16 16:37	10/03/16 10:56	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/29/16 16:37	10/03/16 10:56	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/29/16 16:37	10/03/16 10:56	1
Bis(2-ethylhexyl) phthalate	6.74	J	20.0	5.00	ug/L		09/29/16 16:37	10/03/16 10:56	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/29/16 16:37	10/03/16 10:56	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/29/16 16:37	10/03/16 10:56	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 10:56	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/29/16 16:37	10/03/16 10:56	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/29/16 16:37	10/03/16 10:56	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/29/16 16:37	10/03/16 10:56	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/29/16 16:37	10/03/16 10:56	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/29/16 16:37	10/03/16 10:56	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/29/16 16:37	10/03/16 10:56	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Client Sample ID: HCS270 Peak 2

Lab Sample ID: 560-63977-5

Date Collected: 09/26/16 07:40

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/29/16 16:37	10/03/16 10:56	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/29/16 16:37	10/03/16 10:56	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/29/16 16:37	10/03/16 10:56	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/29/16 16:37	10/03/16 10:56	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 10:56	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/29/16 16:37	10/03/16 10:56	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/29/16 16:37	10/03/16 10:56	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/29/16 16:37	10/03/16 10:56	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 10:56	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/29/16 16:37	10/03/16 10:56	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/29/16 16:37	10/03/16 10:56	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/29/16 16:37	10/03/16 10:56	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/29/16 16:37	10/03/16 10:56	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/29/16 16:37	10/03/16 10:56	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/29/16 16:37	10/03/16 10:56	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/29/16 16:37	10/03/16 10:56	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/29/16 16:37	10/03/16 10:56	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/29/16 16:37	10/03/16 10:56	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/29/16 16:37	10/03/16 10:56	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/29/16 16:37	10/03/16 10:56	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 10:56	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/29/16 16:37	10/03/16 10:56	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 10:56	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/29/16 16:37	10/03/16 10:56	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/29/16 16:37	10/03/16 10:56	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/29/16 16:37	10/03/16 10:56	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 10:56	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/29/16 16:37	10/03/16 10:56	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/29/16 16:37	10/03/16 10:56	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/29/16 16:37	10/03/16 10:56	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/29/16 16:37	10/03/16 10:56	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/29/16 16:37	10/03/16 10:56	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/29/16 16:37	10/03/16 10:56	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/29/16 16:37	10/03/16 10:56	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/29/16 16:37	10/03/16 10:56	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/29/16 16:37	10/03/16 10:56	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/29/16 16:37	10/03/16 10:56	1
Phenol	0.768	U	10.0	0.768	ug/L		09/29/16 16:37	10/03/16 10:56	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/29/16 16:37	10/03/16 10:56	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/29/16 16:37	10/03/16 10:56	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/29/16 16:37	10/03/16 10:56	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/29/16 16:37	10/03/16 10:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	55		23 - 130				09/29/16 16:37	10/03/16 10:56	1
2-Fluorophenol	52		10 - 130				09/29/16 16:37	10/03/16 10:56	1
Nitrobenzene-d5	56		27 - 130				09/29/16 16:37	10/03/16 10:56	1
Phenol-d5	57		10 - 130				09/29/16 16:37	10/03/16 10:56	1
Terphenyl-d14	33		10 - 141				09/29/16 16:37	10/03/16 10:56	1
2,4,6-Tribromophenol	61		18 - 130				09/29/16 16:37	10/03/16 10:56	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00467	U	0.0560	0.00467	ug/L		09/27/16 10:33	09/28/16 20:55	1
alpha-BHC	0.00485	U	0.0560	0.00485	ug/L		09/27/16 10:33	09/28/16 20:55	1
alpha-Chlordane	0.00588	U	0.0560	0.00588	ug/L		09/27/16 10:33	09/28/16 20:55	1
beta-BHC	0.00467	U	0.0560	0.00467	ug/L		09/27/16 10:33	09/28/16 20:55	1
4,4'-DDD	0.00467	U	0.0560	0.00467	ug/L		09/27/16 10:33	09/28/16 20:55	1
4,4'-DDE	0.00467	U	0.0560	0.00467	ug/L		09/27/16 10:33	09/28/16 20:55	1
4,4'-DDT	0.00756	U	0.0560	0.00756	ug/L		09/27/16 10:33	09/28/16 20:55	1
delta-BHC	0.00467	U	0.0560	0.00467	ug/L		09/27/16 10:33	09/28/16 20:55	1
Dieldrin	0.0121	U	0.0560	0.0121	ug/L		09/27/16 10:33	09/28/16 20:55	1
Endosulfan I	0.00467	U	0.0560	0.00467	ug/L		09/27/16 10:33	09/28/16 20:55	1
Endosulfan II	0.00803	U	0.0560	0.00803	ug/L		09/27/16 10:33	09/28/16 20:55	1
Endosulfan sulfate	0.00821	U	0.0560	0.00821	ug/L		09/27/16 10:33	09/28/16 20:55	1
Endrin	0.00719	U	0.0560	0.00719	ug/L		09/27/16 10:33	09/28/16 20:55	1
Endrin aldehyde	0.00467	U	0.0560	0.00467	ug/L		09/27/16 10:33	09/28/16 20:55	1
Endrin ketone	0.00765	U	0.0560	0.00765	ug/L		09/27/16 10:33	09/28/16 20:55	1
gamma-BHC (Lindane)	0.00420	U	0.0560	0.00420	ug/L		09/27/16 10:33	09/28/16 20:55	1
gamma-Chlordane	0.00625	U	0.0560	0.00625	ug/L		09/27/16 10:33	09/28/16 20:55	1
Heptachlor	0.00607	U	0.0560	0.00607	ug/L		09/27/16 10:33	09/28/16 20:55	1
Heptachlor epoxide	0.00485	U	0.0560	0.00485	ug/L		09/27/16 10:33	09/28/16 20:55	1
Methoxychlor	0.00933	U	0.0560	0.00933	ug/L		09/27/16 10:33	09/28/16 20:55	1
Toxaphene	0.635	U	5.60	0.635	ug/L		09/27/16 10:33	09/28/16 20:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	92		10 - 152				09/27/16 10:33	09/28/16 20:55	1
Tetrachloro-m-xylene	100		57 - 127				09/27/16 10:33	09/28/16 20:55	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.560	0.103	ug/L		09/27/16 10:33	09/27/16 20:02	1
Aroclor 1221	0.103	U	0.560	0.103	ug/L		09/27/16 10:33	09/27/16 20:02	1
Aroclor 1232	0.411	U	0.747	0.411	ug/L		09/27/16 10:33	09/27/16 20:02	1
Aroclor 1242	0.103	U	0.560	0.103	ug/L		09/27/16 10:33	09/27/16 20:02	1
Aroclor 1248	0.103	U	0.560	0.103	ug/L		09/27/16 10:33	09/27/16 20:02	1
Aroclor 1254	0.103	U	0.560	0.103	ug/L		09/27/16 10:33	09/27/16 20:02	1
Aroclor 1260	0.103	U	0.560	0.103	ug/L		09/27/16 10:33	09/27/16 20:02	1
Aroclor 1262	0.103	U	0.560	0.103	ug/L		09/27/16 10:33	09/27/16 20:02	1
Aroclor 1268	0.103	U	0.560	0.103	ug/L		09/27/16 10:33	09/27/16 20:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	112		10 - 150				09/27/16 10:33	09/27/16 20:02	1
DCB Decachlorobiphenyl	82		10 - 150				09/27/16 10:33	09/27/16 20:02	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000175	U	0.00261	0.000175	mg/L		10/02/16 08:17	10/09/16 10:50	1
Bolstar	0.000327	U	0.00104	0.000327	mg/L		10/02/16 08:17	10/09/16 10:50	1
Chlorpyrifos	0.000375	U	0.00156	0.000375	mg/L		10/02/16 08:17	10/09/16 10:50	1
Coumaphos	0.000141	U	0.00104	0.000141	mg/L		10/02/16 08:17	10/09/16 10:50	1
Demeton-O	0.000146	U	0.00104	0.000146	mg/L		10/02/16 08:17	10/09/16 10:50	1
Demeton-S	0.0000719	U	0.00208	0.0000719	mg/L		10/02/16 08:17	10/09/16 10:50	1
Diazinon	0.000153	U	0.000521	0.000153	mg/L		10/02/16 08:17	10/09/16 10:50	1
Dichlorvos	0.000169	U	0.000521	0.000169	mg/L		10/02/16 08:17	10/09/16 10:50	1
Dimethoate	0.000468	U	0.00156	0.000468	mg/L		10/02/16 08:17	10/09/16 10:50	1
Disulfoton	0.000336	U	0.00104	0.000336	mg/L		10/02/16 08:17	10/09/16 10:50	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Client Sample ID: HCS270 Peak 2

Lab Sample ID: 560-63977-5

Date Collected: 09/26/16 07:40

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
EPN	0.000155	U	0.00125	0.000155	mg/L		10/02/16 08:17	10/09/16 10:50	1
Ethoprop	0.000184	U	0.00156	0.000184	mg/L		10/02/16 08:17	10/09/16 10:50	1
Ethyl Parathion	0.000150	U	0.00104	0.000150	mg/L		10/02/16 08:17	10/09/16 10:50	1
Famphur	0.000187	U	0.00104	0.000187	mg/L		10/02/16 08:17	10/09/16 10:50	1
Fensulfothion	0.000567	U	0.00261	0.000567	mg/L		10/02/16 08:17	10/09/16 10:50	1
Fenthion	0.000160	U	0.00261	0.000160	mg/L		10/02/16 08:17	10/09/16 10:50	1
Malathion	0.000139	U	0.00208	0.000139	mg/L		10/02/16 08:17	10/09/16 10:50	1
Merphos	0.000181	U	0.00521	0.000181	mg/L		10/02/16 08:17	10/09/16 10:50	1
Methyl parathion	0.000147	U	0.00417	0.000147	mg/L		10/02/16 08:17	10/09/16 10:50	1
Mevinphos	0.000479	U	0.00646	0.000479	mg/L		10/02/16 08:17	10/09/16 10:50	1
Naled	0.000834	U	0.00208	0.000834	mg/L		10/02/16 08:17	10/09/16 10:50	1
Phorate	0.000160	U	0.00125	0.000160	mg/L		10/02/16 08:17	10/09/16 10:50	1
Ronnel	0.000121	U	0.0104	0.000121	mg/L		10/02/16 08:17	10/09/16 10:50	1
Sulfotepp	0.000175	U	0.00156	0.000175	mg/L		10/02/16 08:17	10/09/16 10:50	1
Tetrachlorvinphos (Stirophos)	0.000129	U	0.00365	0.000129	mg/L		10/02/16 08:17	10/09/16 10:50	1
Thionazin	0.000325	U	0.00104	0.000325	mg/L		10/02/16 08:17	10/09/16 10:50	1
Tokuthion	0.000128	U	0.00167	0.000128	mg/L		10/02/16 08:17	10/09/16 10:50	1
Trichloronate	0.000252	U	0.00156	0.000252	mg/L		10/02/16 08:17	10/09/16 10:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	55		49 - 171	10/02/16 08:17	10/09/16 10:50	1
Triphenylphosphate	93		60 - 154	10/02/16 08:17	10/09/16 10:50	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0947	U	4.73	0.0947	ug/L		10/03/16 10:22	10/04/16 21:49	1
Dicamba	0.0805	U	0.473	0.0805	ug/L		10/03/16 10:22	10/04/16 21:49	1
Mecoprop	18.0	U	114	18.0	ug/L		10/03/16 10:22	10/04/16 21:49	1
MCPA	16.1	U	114	16.1	ug/L		10/03/16 10:22	10/04/16 21:49	1
Dichlorprop	0.142	U	0.473	0.142	ug/L		10/03/16 10:22	10/04/16 21:49	1
2,4-D	0.0350	U	0.473	0.0350	ug/L		10/03/16 10:22	10/04/16 21:49	1
Silvex (2,4,5-TP)	0.0587	U	0.237	0.0587	ug/L		10/03/16 10:22	10/04/16 21:49	1
2,4,5-T	0.0587	U	0.237	0.0587	ug/L		10/03/16 10:22	10/04/16 21:49	1
2,4-DB	0.142	U	0.473	0.142	ug/L		10/03/16 10:22	10/04/16 21:49	1
Dinoseb	0.151	U	0.947	0.151	ug/L		10/03/16 10:22	10/04/16 21:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	80		45 - 130	10/03/16 10:22	10/04/16 21:49	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	66.0		0.200	0.101	mg/L		09/27/16 12:30	09/30/16 10:56	1
Magnesium	12.0		0.200	0.0257	mg/L		09/27/16 12:30	09/30/16 10:56	1
Potassium	2.18		0.500	0.375	mg/L		09/27/16 12:30	09/30/16 16:52	1
Silicon	4.32		0.500	0.0707	mg/L		09/27/16 12:30	09/30/16 10:56	1
Sodium	10.5		1.00	0.310	mg/L		09/27/16 12:30	09/30/16 16:52	1
Strontium	0.487	B	0.00500	0.000700	mg/L		09/27/16 12:30	09/30/16 10:56	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/27/16 16:50	09/28/16 16:34	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Client Sample ID: HCS270 Peak 2

Lab Sample ID: 560-63977-5

Date Collected: 09/26/16 07:40

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/27/16 16:50	09/28/16 16:34	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/27/16 16:50	09/28/16 16:34	1
Barium	0.0408		0.00500	0.000810	mg/L		09/27/16 16:50	09/28/16 16:34	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/27/16 16:50	09/28/16 16:34	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/27/16 16:50	09/28/16 16:34	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/27/16 16:50	09/28/16 16:34	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/27/16 16:50	09/28/16 16:34	1
Iron	0.101	U	0.250	0.101	mg/L		09/27/16 16:50	09/28/16 16:34	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/27/16 16:50	09/28/16 16:34	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/27/16 16:50	09/28/16 16:34	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/27/16 16:50	09/28/16 16:34	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/27/16 16:50	09/28/16 16:34	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/27/16 16:50	09/28/16 16:34	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/27/16 16:50	09/28/16 16:34	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/27/16 16:50	09/28/16 16:34	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 16:56	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.451	J	1.00	0.315	mg/L			09/27/16 21:39	1
Chloride	13.5		1.00	0.192	mg/L			09/27/16 21:39	1
Nitrate as N	1.21		0.500	0.103	mg/L			09/27/16 21:39	1
Sulfate	20.7		1.00	0.377	mg/L			09/27/16 21:39	1
Fluoride	0.158		0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/03/16 11:58	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/04/16 09:23	10/06/16 05:27	1
Total Organic Carbon	1.94		1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1	0.1	SU			09/27/16 10:12	1
Total Alkalinity as CaCO3	160		5.00	5.00	mg/L			09/28/16 09:45	1
Bicarbonate Alkalinity as CaCO3	160		5.00	5.00	mg/L			09/28/16 09:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1
Total Dissolved Solids	248		10.0	10.0	mg/L			09/27/16 14:19	1
Total Suspended Solids	25.4		2.00	2.00	mg/L			09/27/16 11:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.26		1.00	0.285	mg/L			10/05/16 12:09	1

Client Sample ID: TB14

Lab Sample ID: 560-63977-11

Date Collected: 09/26/16 00:00

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7.21	J	10.0	5.00	ug/L			09/27/16 16:47	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/27/16 16:47	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Client Sample ID: TB14

Lab Sample ID: 560-63977-11

Date Collected: 09/26/16 00:00

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.330	U	1.00	0.330	ug/L			09/27/16 16:47	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/27/16 16:47	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 16:47	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/27/16 16:47	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/27/16 16:47	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/27/16 16:47	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/27/16 16:47	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/27/16 16:47	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/27/16 16:47	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/27/16 16:47	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/27/16 16:47	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/27/16 16:47	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/27/16 16:47	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/27/16 16:47	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/27/16 16:47	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/27/16 16:47	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/27/16 16:47	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/27/16 16:47	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/27/16 16:47	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 16:47	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/27/16 16:47	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/27/16 16:47	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/27/16 16:47	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/27/16 16:47	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/27/16 16:47	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/27/16 16:47	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/27/16 16:47	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 16:47	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/27/16 16:47	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/27/16 16:47	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/27/16 16:47	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/27/16 16:47	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/27/16 16:47	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/27/16 16:47	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/27/16 16:47	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/27/16 16:47	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/27/16 16:47	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/27/16 16:47	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/27/16 16:47	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/27/16 16:47	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/27/16 16:47	1
EDB	0.175	U	1.00	0.175	ug/L			09/27/16 16:47	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/27/16 16:47	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 16:47	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/27/16 16:47	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/27/16 16:47	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/27/16 16:47	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/27/16 16:47	1
Hexane	2.00	U	5.00	2.00	ug/L			09/27/16 16:47	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Client Sample ID: TB14

Lab Sample ID: 560-63977-11

Date Collected: 09/26/16 00:00

Matrix: Water

Date Received: 09/27/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/27/16 16:47	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/27/16 16:47	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/27/16 16:47	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/27/16 16:47	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/27/16 16:47	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/27/16 16:47	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/27/16 16:47	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/27/16 16:47	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/27/16 16:47	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/27/16 16:47	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/27/16 16:47	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/27/16 16:47	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/27/16 16:47	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 16:47	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/27/16 16:47	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/27/16 16:47	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/27/16 16:47	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/27/16 16:47	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/27/16 16:47	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/27/16 16:47	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/27/16 16:47	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/27/16 16:47	1
Styrene	0.200	U	1.00	0.200	ug/L			09/27/16 16:47	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 16:47	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/27/16 16:47	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/27/16 16:47	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/27/16 16:47	1
Toluene	0.495	U	1.00	0.495	ug/L			09/27/16 16:47	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 16:47	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/27/16 16:47	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/27/16 16:47	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/27/16 16:47	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/27/16 16:47	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/27/16 16:47	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/27/16 16:47	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/27/16 16:47	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/27/16 16:47	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/27/16 16:47	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/27/16 16:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/27/16 16:47	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 16:47	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 16:47	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/27/16 16:47	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/27/16 16:47	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/27/16 16:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		09/27/16 16:47	1
Dibromofluoromethane (Surr)	99		69 - 130		09/27/16 16:47	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		09/27/16 16:47	1

TestAmerica Corpus Christi

## Client Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

**Client Sample ID: TB14**

**Date Collected: 09/26/16 00:00**

**Date Received: 09/27/16 08:00**

**Lab Sample ID: 560-63977-11**

**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Toluene-d8 (Surr)</i>	<i>104</i>		<i>70 - 130</i>		<i>09/27/16 16:47</i>	<i>1</i>

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-132164/6

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/27/16 11:46	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/27/16 11:46	1
Benzene	0.330	U	1.00	0.330	ug/L			09/27/16 11:46	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/27/16 11:46	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 11:46	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/27/16 11:46	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/27/16 11:46	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/27/16 11:46	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/27/16 11:46	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/27/16 11:46	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/27/16 11:46	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/27/16 11:46	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/27/16 11:46	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/27/16 11:46	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/27/16 11:46	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/27/16 11:46	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/27/16 11:46	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/27/16 11:46	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/27/16 11:46	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/27/16 11:46	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/27/16 11:46	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/27/16 11:46	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/27/16 11:46	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/27/16 11:46	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/27/16 11:46	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/27/16 11:46	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/27/16 11:46	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/27/16 11:46	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/27/16 11:46	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/27/16 11:46	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/27/16 11:46	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/27/16 11:46	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/27/16 11:46	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/27/16 11:46	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/27/16 11:46	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/27/16 11:46	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/27/16 11:46	1
EDB	0.175	U	1.00	0.175	ug/L			09/27/16 11:46	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/27/16 11:46	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/27/16 11:46	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/27/16 11:46	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132164/6

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/27/16 11:46	1
Hexane	2.00	U	5.00	2.00	ug/L			09/27/16 11:46	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/27/16 11:46	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/27/16 11:46	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/27/16 11:46	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/27/16 11:46	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/27/16 11:46	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/27/16 11:46	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/27/16 11:46	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/27/16 11:46	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/27/16 11:46	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/27/16 11:46	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/27/16 11:46	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/27/16 11:46	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/27/16 11:46	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/27/16 11:46	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/27/16 11:46	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/27/16 11:46	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/27/16 11:46	1
Styrene	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 11:46	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/27/16 11:46	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/27/16 11:46	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/27/16 11:46	1
Toluene	0.495	U	1.00	0.495	ug/L			09/27/16 11:46	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/27/16 11:46	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/27/16 11:46	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/27/16 11:46	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/27/16 11:46	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/27/16 11:46	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/27/16 11:46	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/27/16 11:46	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/27/16 11:46	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/27/16 11:46	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/27/16 11:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/27/16 11:46	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 11:46	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/27/16 11:46	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/27/16 11:46	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/27/16 11:46	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/27/16 11:46	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132164/6

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130		09/27/16 11:46	1
Dibromofluoromethane (Surr)	103		69 - 130		09/27/16 11:46	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		09/27/16 11:46	1
Toluene-d8 (Surr)	100		70 - 130		09/27/16 11:46	1

Lab Sample ID: LCS 560-132164/3

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	27.78		ug/L		111	60 - 150
Acetonitrile	250	286.4		ug/L		115	52 - 160
Benzene	25.0	25.54		ug/L		102	70 - 130
Benzyl chloride	25.0	31.91		ug/L		128	66 - 153
Bromobenzene	25.0	26.71		ug/L		107	70 - 130
Bromochloromethane	25.0	24.40		ug/L		98	70 - 130
Bromoform	25.0	26.45		ug/L		106	63 - 145
Bromomethane	25.0	24.28		ug/L		97	50 - 146
1,3-Butadiene	25.0	19.54		ug/L		78	40 - 138
2-Butanone (MEK)	25.0	27.54		ug/L		110	68 - 144
Carbon disulfide	25.0	24.73		ug/L		99	52 - 156
Carbon tetrachloride	25.0	27.53		ug/L		110	70 - 138
Chlorobenzene	25.0	25.62		ug/L		102	70 - 130
2-Chloro-1,3-butadiene	25.0	26.43		ug/L		106	69 - 140
Chlorodibromomethane	25.0	26.41		ug/L		106	70 - 137
Chloroethane	25.0	23.38		ug/L		94	54 - 141
Chloroform	25.0	25.32		ug/L		101	70 - 130
1-Chlorohexane	25.0	27.82		ug/L		111	64 - 130
Chloromethane	25.0	22.69		ug/L		91	46 - 142
2-Chlorotoluene	25.0	26.80		ug/L		107	70 - 130
4-Chlorotoluene	25.0	26.73		ug/L		107	70 - 130
cis-1,4-Dichloro-2-butene	25.0	42.66		ug/L		171	10 - 184
cis-1,2-Dichloroethene	25.0	25.83		ug/L		103	70 - 130
cis-1,3-Dichloropropene	25.0	25.85		ug/L		103	70 - 138
Cyclohexane	25.0	27.05		ug/L		108	40 - 141
Cyclohexanone	125	213.3		ug/L		171	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	26.10		ug/L		104	70 - 149
Dibromomethane	25.0	24.67		ug/L		99	70 - 130
1,2-Dichlorobenzene	25.0	26.22		ug/L		105	70 - 130
1,3-Dichlorobenzene	25.0	26.52		ug/L		106	70 - 130
1,4-Dichlorobenzene	25.0	26.09		ug/L		104	70 - 130
Dichlorobromomethane	25.0	25.21		ug/L		101	70 - 130
Dichlorodifluoromethane	25.0	16.17		ug/L		65	10 - 181
1,1-Dichloroethane	25.0	25.24		ug/L		101	70 - 130
1,2-Dichloroethane	25.0	24.29		ug/L		97	70 - 131
1,1-Dichloroethene	25.0	26.03		ug/L		104	70 - 139
1,2-Dichloropropane	25.0	25.70		ug/L		103	70 - 130
1,3-Dichloropropane	25.0	25.85		ug/L		103	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132164/3

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	25.65		ug/L		103	65 - 145
1,1-Dichloropropene	25.0	26.58		ug/L		106	70 - 130
1,4-Dioxane	500	558.4		ug/L		112	66 - 150
EDB	25.0	27.28		ug/L		109	70 - 130
Ethyl acetate	50.0	54.24		ug/L		108	59 - 200
Ethylbenzene	25.0	26.87		ug/L		107	70 - 130
Ethylene oxide	100	76.86		ug/L		77	10 - 200
Ethyl ether	25.0	25.58		ug/L		102	69 - 136
Ethyl methacrylate	25.0	26.48		ug/L		106	70 - 130
Hexachlorobutadiene	25.0	28.74		ug/L		115	68 - 165
Hexane	25.0	27.09		ug/L		108	10 - 185
2-Hexanone	25.0	28.53		ug/L		114	70 - 138
Iodomethane	25.0	25.50		ug/L		102	64 - 146
Isobutyl alcohol	625	703.2		ug/L		113	27 - 199
Isooctane	25.0	26.73		ug/L		107	10 - 181
Isopropylbenzene	25.0	28.83		ug/L		115	70 - 131
4-Isopropyltoluene	25.0	28.65		ug/L		115	70 - 130
Methacrylonitrile	250	254.6		ug/L		102	70 - 139
Methylene Chloride	25.0	23.59		ug/L		94	70 - 130
Methyl methacrylate	50.0	50.01		ug/L		100	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	28.65		ug/L		115	70 - 138
Methyl tert-butyl ether	25.0	24.83		ug/L		99	70 - 131
m-Xylene & p-Xylene	25.0	27.56		ug/L		110	70 - 139
Naphthalene	25.0	28.71		ug/L		115	70 - 159
n-Butylbenzene	25.0	29.16		ug/L		117	70 - 135
n-Heptane	25.0	26.65		ug/L		107	10 - 186
2-Nitropropane	50.0	59.30		ug/L		119	22 - 173
N-Propylbenzene	25.0	28.90		ug/L		116	70 - 131
1-Octene	25.0	30.29		ug/L		121	10 - 185
o-Xylene	25.0	27.18		ug/L		109	70 - 130
Pentachloroethane	25.0	28.40		ug/L		114	70 - 146
Propionitrile	250	274.2		ug/L		110	70 - 144
sec-Butylbenzene	25.0	28.25		ug/L		113	70 - 134
Styrene	25.0	25.20		ug/L		101	70 - 130
tert-Butylbenzene	25.0	27.38		ug/L		110	70 - 132
1,1,1,2-Tetrachloroethane	25.0	26.52		ug/L		106	65 - 130
1,1,2,2-Tetrachloroethane	25.0	27.02		ug/L		108	65 - 130
Tetrachloroethene	25.0	25.59		ug/L		102	70 - 135
Toluene	25.0	26.63		ug/L		107	70 - 130
trans-1,4-Dichloro-2-butene	25.0	35.49		ug/L		142	37 - 174
trans-1,2-Dichloroethene	25.0	26.64		ug/L		107	70 - 134
trans-1,3-Dichloropropene	25.0	27.11		ug/L		108	70 - 143
1,2,3-Trichlorobenzene	25.0	26.96		ug/L		108	70 - 158
1,2,4-Trichlorobenzene	25.0	28.04		ug/L		112	70 - 157
1,3,5-Trichlorobenzene	25.0	27.25		ug/L		109	70 - 131
1,1,1-Trichloroethane	25.0	25.37		ug/L		101	65 - 130
1,1,2-Trichloroethane	25.0	25.84		ug/L		103	70 - 130
Trichloroethene	25.0	26.64		ug/L		107	70 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132164/3

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	27.07		ug/L		108	39 - 146
1,2,3-Trichloropropane	25.0	27.39		ug/L		110	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.20		ug/L		105	27 - 148
1,2,4-Trimethylbenzene	25.0	27.12		ug/L		108	70 - 130
1,3,5-Trimethylbenzene	25.0	28.05		ug/L		112	70 - 131
Vinyl acetate	50.0	54.10		ug/L		108	18 - 200
Vinyl chloride	25.0	23.97		ug/L		96	49 - 140
Xylenes, Total	50.0	54.73		ug/L		109	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
Dibromofluoromethane (Surr)	99		69 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 140
Toluene-d8 (Surr)	102		70 - 130

Lab Sample ID: 560-63976-A-8 MS

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	5.00	U	25.0	27.46		ug/L		110	32 - 157
Acetonitrile	10.0	U	250	308.5		ug/L		123	10 - 182
Benzene	0.330	U	25.0	26.73		ug/L		107	70 - 130
Benzyl chloride	0.278	U	25.0	25.73		ug/L		103	49 - 130
Bromobenzene	0.128	U	25.0	26.09		ug/L		104	69 - 130
Bromochloromethane	0.228	U	25.0	26.38		ug/L		106	70 - 130
Bromoform	0.500	U	25.0	22.97		ug/L		92	57 - 145
Bromomethane	0.392	U	25.0	25.72		ug/L		103	56 - 141
1,3-Butadiene	0.300	U	25.0	26.10		ug/L		104	25 - 196
2-Butanone (MEK)	1.00	U	25.0	25.08		ug/L		100	42 - 142
Carbon disulfide	0.500	U	25.0	26.25		ug/L		105	59 - 164
Carbon tetrachloride	0.251	U	25.0	26.00		ug/L		104	70 - 138
Chlorobenzene	0.136	U	25.0	26.83		ug/L		107	70 - 130
2-Chloro-1,3-butadiene	0.200	U	25.0	27.96		ug/L		112	55 - 144
Chlorodibromomethane	0.223	U	25.0	26.07		ug/L		104	62 - 145
Chloroethane	0.400	U	25.0	25.96		ug/L		104	62 - 142
Chloroform	0.173	U	25.0	25.92		ug/L		104	70 - 130
1-Chlorohexane	0.500	U	25.0	29.24		ug/L		117	64 - 130
Chloromethane	0.390	U	25.0	27.45		ug/L		110	57 - 148
2-Chlorotoluene	0.155	U	25.0	26.94		ug/L		108	70 - 130
4-Chlorotoluene	0.242	U	25.0	27.48		ug/L		110	69 - 130
cis-1,4-Dichloro-2-butene	0.500	U	25.0	30.97		ug/L		124	24 - 136
cis-1,2-Dichloroethene	0.121	U	25.0	26.54		ug/L		106	70 - 130
cis-1,3-Dichloropropene	0.146	U	25.0	23.37		ug/L		93	46 - 136
Cyclohexane	1.00	U	25.0	27.47		ug/L		110	46 - 144
Cyclohexanone	5.00	U	125	152.2		ug/L		122	10 - 193
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	24.27		ug/L		97	56 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63976-A-8 MS

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	0.165	U	25.0	25.46		ug/L		102	70 - 130
1,2-Dichlorobenzene	0.170	U	25.0	26.73		ug/L		107	70 - 130
1,3-Dichlorobenzene	0.128	U	25.0	26.70		ug/L		107	70 - 130
1,4-Dichlorobenzene	0.200	U	25.0	26.44		ug/L		106	70 - 130
Dichlorobromomethane	0.175	U	25.0	25.05		ug/L		100	70 - 130
Dichlorodifluoromethane	0.429	U	25.0	26.20		ug/L		105	14 - 198
1,1-Dichloroethane	0.168	U	25.0	26.32		ug/L		105	70 - 130
1,2-Dichloroethane	0.172	U	25.0	24.93		ug/L		100	65 - 130
1,1-Dichloroethene	0.300	U	25.0	26.71		ug/L		107	67 - 143
1,2-Dichloropropane	0.173	U	25.0	26.21		ug/L		105	70 - 130
1,3-Dichloropropane	0.146	U	25.0	26.22		ug/L		105	70 - 130
2,2-Dichloropropane	0.335	U	25.0	24.59		ug/L		98	65 - 150
1,1-Dichloropropene	0.185	U	25.0	26.99		ug/L		108	70 - 130
1,4-Dioxane	15.9	U	500	723.0		ug/L		145	20 - 152
EDB	0.175	U	25.0	26.46		ug/L		106	70 - 130
Ethyl acetate	1.00	U	50.0	49.99		ug/L		100	53 - 144
Ethylbenzene	0.200	U	25.0	28.21		ug/L		113	70 - 130
Ethylene oxide	30.0	U F1	100	30.0	U F1	ug/L		0	12 - 185
Ethyl ether	0.320	U	25.0	26.05		ug/L		104	67 - 130
Ethyl methacrylate	0.500	U	25.0	25.22		ug/L		101	65 - 130
Hexachlorobutadiene	0.860	U	25.0	27.31		ug/L		109	52 - 143
Hexane	2.00	U	25.0	26.10		ug/L		104	51 - 159
2-Hexanone	0.500	U	25.0	25.72		ug/L		103	56 - 130
Iodomethane	0.223	U	25.0	25.08		ug/L		100	70 - 162
Isobutyl alcohol	5.00	U	625	815.1		ug/L		130	36 - 130
Isooctane	0.500	U	25.0	27.31		ug/L		109	52 - 150
Isopropylbenzene	0.200	U	25.0	27.97		ug/L		112	70 - 130
4-Isopropyltoluene	0.150	U	25.0	28.88		ug/L		116	69 - 130
Methacrylonitrile	2.00	U	250	261.8		ug/L		105	61 - 130
Methylene Chloride	2.00	U	25.0	24.43		ug/L		98	70 - 130
Methyl methacrylate	0.200	U	50.0	49.70		ug/L		99	63 - 130
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	25.47		ug/L		102	54 - 130
Methyl tert-butyl ether	0.200	U	25.0	24.76		ug/L		99	63 - 134
m-Xylene & p-Xylene	0.260	U	25.0	28.64		ug/L		115	67 - 130
Naphthalene	0.200	U	25.0	28.25		ug/L		113	62 - 145
n-Butylbenzene	0.200	U	25.0	29.62		ug/L		118	67 - 130
n-Heptane	0.300	U	25.0	27.04		ug/L		108	55 - 150
2-Nitropropane	1.00	U	50.0	50.65		ug/L		101	22 - 173
N-Propylbenzene	0.106	U	25.0	29.07		ug/L		116	70 - 130
1-Octene	0.440	U	25.0	28.69		ug/L		115	63 - 134
o-Xylene	0.200	U	25.0	27.70		ug/L		111	70 - 130
Pentachloroethane	0.302	U	25.0	25.95		ug/L		104	60 - 130
Propionitrile	2.69	U	250	288.5		ug/L		115	39 - 130
sec-Butylbenzene	0.300	U	25.0	28.13		ug/L		113	67 - 130
Styrene	0.200	U	25.0	25.92		ug/L		104	28 - 150
tert-Butylbenzene	0.200	U	25.0	26.74		ug/L		107	70 - 130
1,1,1,2-Tetrachloroethane	0.209	U	25.0	26.33		ug/L		105	65 - 130
1,1,2,2-Tetrachloroethane	0.190	U	25.0	27.07		ug/L		108	65 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63976-A-8 MS

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	0.189	U	25.0	25.86		ug/L		103	69 - 130
Toluene	0.495	U	25.0	27.43		ug/L		110	70 - 130
trans-1,4-Dichloro-2-butene	0.500	U	25.0	28.65		ug/L		115	35 - 130
trans-1,2-Dichloroethene	0.200	U	25.0	27.47		ug/L		110	57 - 148
trans-1,3-Dichloropropene	0.200	U	25.0	26.32		ug/L		105	44 - 139
1,2,3-Trichlorobenzene	0.217	U	25.0	26.91		ug/L		108	60 - 130
1,2,4-Trichlorobenzene	0.168	U	25.0	26.94		ug/L		108	60 - 142
1,3,5-Trichlorobenzene	0.203	U	25.0	27.28		ug/L		109	66 - 135
1,1,1-Trichloroethane	0.300	U	25.0	25.73		ug/L		103	65 - 133
1,1,2-Trichloroethane	0.173	U	25.0	27.03		ug/L		108	70 - 130
Trichloroethene	0.317	U	25.0	26.47		ug/L		106	70 - 130
Trichlorofluoromethane	0.244	U	25.0	26.34		ug/L		105	64 - 149
1,2,3-Trichloropropane	0.191	U	25.0	25.76		ug/L		103	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	26.28		ug/L		105	47 - 152
1,2,4-Trimethylbenzene	0.200	U	25.0	27.53		ug/L		110	70 - 130
1,3,5-Trimethylbenzene	0.200	U	25.0	28.09		ug/L		112	70 - 130
Vinyl acetate	0.500	U	50.0	52.04		ug/L		104	36 - 171
Vinyl chloride	0.300	U	25.0	27.28		ug/L		109	49 - 158
Xylenes, Total	0.200	U	50.0	56.34		ug/L		113	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	99		69 - 130
1,2-Dichloroethane-d4 (Surr)	98		70 - 140
Toluene-d8 (Surr)	104		70 - 130

Lab Sample ID: 560-63976-B-8 MSD

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	5.00	U	25.0	24.95		ug/L		100	32 - 157	10	20
Acetonitrile	10.0	U	250	300.7		ug/L		120	10 - 182	3	20
Benzene	0.330	U	25.0	26.40		ug/L		106	70 - 130	1	20
Benzyl chloride	0.278	U	25.0	25.78		ug/L		103	49 - 130	0	20
Bromobenzene	0.128	U	25.0	26.31		ug/L		105	69 - 130	1	20
Bromochloromethane	0.228	U	25.0	25.66		ug/L		103	70 - 130	3	20
Bromoform	0.500	U	25.0	22.87		ug/L		91	57 - 145	0	20
Bromomethane	0.392	U	25.0	25.12		ug/L		100	56 - 141	2	20
1,3-Butadiene	0.300	U	25.0	25.70		ug/L		103	25 - 196	2	20
2-Butanone (MEK)	1.00	U	25.0	25.39		ug/L		102	42 - 142	1	20
Carbon disulfide	0.500	U	25.0	26.18		ug/L		105	59 - 164	0	20
Carbon tetrachloride	0.251	U	25.0	26.26		ug/L		105	70 - 138	1	20
Chlorobenzene	0.136	U	25.0	26.47		ug/L		106	70 - 130	1	20
2-Chloro-1,3-butadiene	0.200	U	25.0	27.43		ug/L		110	55 - 144	2	20
Chlorodibromomethane	0.223	U	25.0	25.74		ug/L		103	62 - 145	1	20
Chloroethane	0.400	U	25.0	24.77		ug/L		99	62 - 142	5	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63976-B-8 MSD

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	0.173	U	25.0	25.54		ug/L		102	70 - 130	1	20
1-Chlorohexane	0.500	U	25.0	28.54		ug/L		114	64 - 130	2	20
Chloromethane	0.390	U	25.0	27.40		ug/L		110	57 - 148	0	20
2-Chlorotoluene	0.155	U	25.0	26.86		ug/L		107	70 - 130	0	20
4-Chlorotoluene	0.242	U	25.0	26.81		ug/L		107	69 - 130	2	20
cis-1,4-Dichloro-2-butene	0.500	U	25.0	30.44		ug/L		122	24 - 136	2	20
cis-1,2-Dichloroethene	0.121	U	25.0	26.44		ug/L		106	70 - 130	0	20
cis-1,3-Dichloropropene	0.146	U	25.0	24.18		ug/L		97	46 - 136	3	20
Cyclohexane	1.00	U	25.0	27.60		ug/L		110	46 - 144	0	20
Cyclohexanone	5.00	U	125	147.2		ug/L		118	10 - 193	3	20
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	22.92		ug/L		92	56 - 130	6	20
Dibromomethane	0.165	U	25.0	25.45		ug/L		102	70 - 130	0	20
1,2-Dichlorobenzene	0.170	U	25.0	26.42		ug/L		106	70 - 130	1	20
1,3-Dichlorobenzene	0.128	U	25.0	26.01		ug/L		104	70 - 130	3	20
1,4-Dichlorobenzene	0.200	U	25.0	25.35		ug/L		101	70 - 130	4	20
Dichlorobromomethane	0.175	U	25.0	25.14		ug/L		101	70 - 130	0	20
Dichlorodifluoromethane	0.429	U	25.0	26.77		ug/L		107	14 - 198	2	20
1,1-Dichloroethane	0.168	U	25.0	26.44		ug/L		106	70 - 130	0	20
1,2-Dichloroethane	0.172	U	25.0	24.62		ug/L		98	65 - 130	1	20
1,1-Dichloroethene	0.300	U	25.0	27.06		ug/L		108	67 - 143	1	20
1,2-Dichloropropane	0.173	U	25.0	26.20		ug/L		105	70 - 130	0	20
1,3-Dichloropropane	0.146	U	25.0	26.81		ug/L		107	70 - 130	2	20
2,2-Dichloropropane	0.335	U	25.0	24.59		ug/L		98	65 - 150	0	20
1,1-Dichloropropene	0.185	U	25.0	27.47		ug/L		110	70 - 130	2	20
1,4-Dioxane	15.9	U	500	701.6		ug/L		140	20 - 152	3	20
EDB	0.175	U	25.0	26.98		ug/L		108	70 - 130	2	20
Ethyl acetate	1.00	U	50.0	51.73		ug/L		103	53 - 144	3	20
Ethylbenzene	0.200	U	25.0	27.88		ug/L		112	70 - 130	1	20
Ethylene oxide	30.0	U F1	100	30.0	U F1	ug/L		0	12 - 185	NC	20
Ethyl ether	0.320	U	25.0	26.30		ug/L		105	67 - 130	1	20
Ethyl methacrylate	0.500	U	25.0	25.66		ug/L		103	65 - 130	2	20
Hexachlorobutadiene	0.860	U	25.0	26.69		ug/L		107	52 - 143	2	20
Hexane	2.00	U	25.0	26.29		ug/L		105	51 - 159	1	20
2-Hexanone	0.500	U	25.0	24.31		ug/L		97	56 - 130	6	20
Iodomethane	0.223	U	25.0	25.15		ug/L		101	70 - 162	0	20
Isobutyl alcohol	5.00	U	625	781.4		ug/L		125	36 - 130	4	20
Isooctane	0.500	U	25.0	25.73		ug/L		103	52 - 150	6	20
Isopropylbenzene	0.200	U	25.0	28.69		ug/L		115	70 - 130	3	20
4-Isopropyltoluene	0.150	U	25.0	28.50		ug/L		114	69 - 130	1	20
Methacrylonitrile	2.00	U	250	260.1		ug/L		104	61 - 130	1	20
Methylene Chloride	2.00	U	25.0	24.38		ug/L		98	70 - 130	0	20
Methyl methacrylate	0.200	U	50.0	51.98		ug/L		104	63 - 130	4	20
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	24.55		ug/L		98	54 - 130	4	20
Methyl tert-butyl ether	0.200	U	25.0	25.00		ug/L		100	63 - 134	1	20
m-Xylene & p-Xylene	0.260	U	25.0	28.03		ug/L		112	67 - 130	2	20
Naphthalene	0.200	U	25.0	26.62		ug/L		106	62 - 145	6	20
n-Butylbenzene	0.200	U	25.0	29.10		ug/L		116	67 - 130	2	20
n-Heptane	0.300	U	25.0	25.91		ug/L		104	55 - 150	4	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-63976-B-8 MSD

Matrix: Water

Analysis Batch: 132164

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Nitropropane	1.00	U	50.0	52.40		ug/L		105	22 - 173	3	20
N-Propylbenzene	0.106	U	25.0	28.99		ug/L		116	70 - 130	0	20
1-Octene	0.440	U	25.0	27.88		ug/L		112	63 - 134	3	
o-Xylene	0.200	U	25.0	27.55		ug/L		110	70 - 130	1	20
Pentachloroethane	0.302	U	25.0	26.15		ug/L		105	60 - 130	1	20
Propionitrile	2.69	U	250	282.3		ug/L		113	39 - 130	2	20
sec-Butylbenzene	0.300	U	25.0	27.84		ug/L		111	67 - 130	1	20
Styrene	0.200	U	25.0	25.24		ug/L		101	28 - 150	3	20
tert-Butylbenzene	0.200	U	25.0	26.28		ug/L		105	70 - 130	2	20
1,1,1,2-Tetrachloroethane	0.209	U	25.0	26.72		ug/L		107	65 - 130	1	20
1,1,2,2-Tetrachloroethane	0.190	U	25.0	26.46		ug/L		106	65 - 130	2	20
Tetrachloroethene	0.189	U	25.0	25.96		ug/L		104	69 - 130	0	20
Toluene	0.495	U	25.0	27.48		ug/L		110	70 - 130	0	20
trans-1,4-Dichloro-2-butene	0.500	U	25.0	28.45		ug/L		114	35 - 130	1	20
trans-1,2-Dichloroethene	0.200	U	25.0	26.83		ug/L		107	57 - 148	2	20
trans-1,3-Dichloropropene	0.200	U	25.0	26.76		ug/L		107	44 - 139	2	20
1,2,3-Trichlorobenzene	0.217	U	25.0	26.22		ug/L		105	60 - 130	3	20
1,2,4-Trichlorobenzene	0.168	U	25.0	26.55		ug/L		106	60 - 142	1	20
1,3,5-Trichlorobenzene	0.203	U	25.0	26.37		ug/L		105	66 - 135	3	20
1,1,1-Trichloroethane	0.300	U	25.0	25.80		ug/L		103	65 - 133	0	20
1,1,2-Trichloroethane	0.173	U	25.0	26.96		ug/L		108	70 - 130	0	20
Trichloroethene	0.317	U	25.0	26.71		ug/L		107	70 - 130	1	20
Trichlorofluoromethane	0.244	U	25.0	25.97		ug/L		104	64 - 149	1	20
1,2,3-Trichloropropane	0.191	U	25.0	25.83		ug/L		103	70 - 130	0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	26.41		ug/L		106	47 - 152	1	20
1,2,4-Trimethylbenzene	0.200	U	25.0	27.47		ug/L		110	70 - 130	0	20
1,3,5-Trimethylbenzene	0.200	U	25.0	27.95		ug/L		112	70 - 130	1	20
Vinyl acetate	0.500	U	50.0	50.90		ug/L		102	36 - 171	2	20
Vinyl chloride	0.300	U	25.0	27.28		ug/L		109	49 - 158	0	20
Xylenes, Total	0.200	U	50.0	55.58		ug/L		111	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
Dibromofluoromethane (Surr)	99		69 - 130
1,2-Dichloroethane-d4 (Surr)	98		70 - 140
Toluene-d8 (Surr)	102		70 - 130

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-132246/1-A

Matrix: Water

Analysis Batch: 132247

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132246

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/28/16 16:00	09/29/16 09:12	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/28/16 16:00	09/29/16 09:12	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/28/16 16:00	09/29/16 09:12	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132246/1-A

Matrix: Water

Analysis Batch: 132247

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132246

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/28/16 16:00	09/29/16 09:12	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/28/16 16:00	09/29/16 09:12	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/28/16 16:00	09/29/16 09:12	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/28/16 16:00	09/29/16 09:12	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/28/16 16:00	09/29/16 09:12	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/28/16 16:00	09/29/16 09:12	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/28/16 16:00	09/29/16 09:12	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/28/16 16:00	09/29/16 09:12	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/28/16 16:00	09/29/16 09:12	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/28/16 16:00	09/29/16 09:12	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/28/16 16:00	09/29/16 09:12	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 09:12	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/28/16 16:00	09/29/16 09:12	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/28/16 16:00	09/29/16 09:12	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/28/16 16:00	09/29/16 09:12	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/28/16 16:00	09/29/16 09:12	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/28/16 16:00	09/29/16 09:12	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/28/16 16:00	09/29/16 09:12	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/28/16 16:00	09/29/16 09:12	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/28/16 16:00	09/29/16 09:12	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/28/16 16:00	09/29/16 09:12	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/28/16 16:00	09/29/16 09:12	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 09:12	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/28/16 16:00	09/29/16 09:12	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/28/16 16:00	09/29/16 09:12	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/28/16 16:00	09/29/16 09:12	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 09:12	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/28/16 16:00	09/29/16 09:12	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/28/16 16:00	09/29/16 09:12	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/28/16 16:00	09/29/16 09:12	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/28/16 16:00	09/29/16 09:12	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/28/16 16:00	09/29/16 09:12	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/28/16 16:00	09/29/16 09:12	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/28/16 16:00	09/29/16 09:12	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/28/16 16:00	09/29/16 09:12	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/28/16 16:00	09/29/16 09:12	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/28/16 16:00	09/29/16 09:12	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/28/16 16:00	09/29/16 09:12	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/28/16 16:00	09/29/16 09:12	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/28/16 16:00	09/29/16 09:12	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/28/16 16:00	09/29/16 09:12	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/28/16 16:00	09/29/16 09:12	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/28/16 16:00	09/29/16 09:12	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/28/16 16:00	09/29/16 09:12	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/28/16 16:00	09/29/16 09:12	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/28/16 16:00	09/29/16 09:12	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/28/16 16:00	09/29/16 09:12	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/28/16 16:00	09/29/16 09:12	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132246/1-A

Matrix: Water

Analysis Batch: 132247

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132246

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/28/16 16:00	09/29/16 09:12	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/28/16 16:00	09/29/16 09:12	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/28/16 16:00	09/29/16 09:12	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/28/16 16:00	09/29/16 09:12	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/28/16 16:00	09/29/16 09:12	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/28/16 16:00	09/29/16 09:12	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/28/16 16:00	09/29/16 09:12	1
Phenol	0.768	U	10.0	0.768	ug/L		09/28/16 16:00	09/29/16 09:12	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/28/16 16:00	09/29/16 09:12	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/28/16 16:00	09/29/16 09:12	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/28/16 16:00	09/29/16 09:12	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/28/16 16:00	09/29/16 09:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	68		23 - 130	09/28/16 16:00	09/29/16 09:12	1
2-Fluorophenol	68		10 - 130	09/28/16 16:00	09/29/16 09:12	1
Nitrobenzene-d5	68		27 - 130	09/28/16 16:00	09/29/16 09:12	1
Phenol-d5	73		10 - 130	09/28/16 16:00	09/29/16 09:12	1
Terphenyl-d14	79		10 - 141	09/28/16 16:00	09/29/16 09:12	1
2,4,6-Tribromophenol	56		18 - 130	09/28/16 16:00	09/29/16 09:12	1

Lab Sample ID: LCS 560-132246/2-A

Matrix: Water

Analysis Batch: 132247

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132246

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	200	163.8		ug/L		82	54 - 130
Acenaphthylene	200	154.7		ug/L		77	54 - 130
Anthracene	200	166.6		ug/L		83	67 - 130
Benzo[a]anthracene	200	175.1		ug/L		88	70 - 130
Benzo[a]pyrene	200	173.1		ug/L		87	70 - 130
Benzo[b]fluoranthene	200	188.6		ug/L		94	69 - 130
Benzo[g,h,i]perylene	200	158.5		ug/L		79	62 - 130
Benzo[k]fluoranthene	200	178.0		ug/L		89	68 - 130
Benzyl alcohol	200	167.8		ug/L		84	52 - 130
Bis(2-chloroethoxy)methane	200	173.7		ug/L		87	55 - 130
Bis(2-chloroethyl)ether	200	163.8		ug/L		82	52 - 130
Bis(2-ethylhexyl) phthalate	200	175.3		ug/L		88	68 - 130
4-Bromophenyl phenyl ether	200	177.8		ug/L		89	69 - 130
Butyl benzyl phthalate	200	184.3		ug/L		92	68 - 130
4-Chloroaniline	200	130.8		ug/L		65	30 - 130
4-Chloro-3-methylphenol	200	173.8		ug/L		87	52 - 130
2-Chloronaphthalene	200	161.3		ug/L		81	51 - 130
2-Chlorophenol	200	159.1		ug/L		80	51 - 130
4-Chlorophenyl phenyl ether	200	176.5		ug/L		88	59 - 130
Chrysene	200	181.9		ug/L		91	70 - 130
Dibenz(a,h)anthracene	200	161.6		ug/L		81	65 - 130
Dibenzofuran	200	176.9		ug/L		88	53 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132246/2-A

Matrix: Water

Analysis Batch: 132247

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132246

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	200	133.7		ug/L		67	43 - 130
1,3-Dichlorobenzene	200	126.9		ug/L		63	40 - 130
1,4-Dichlorobenzene	200	129.4		ug/L		65	42 - 130
3,3'-Dichlorobenzidine	200	152.6		ug/L		76	61 - 130
2,4-Dichlorophenol	200	171.9		ug/L		86	51 - 130
Diethyl phthalate	200	175.9		ug/L		88	59 - 130
2,4-Dimethylphenol	200	164.3		ug/L		82	51 - 130
Dimethyl phthalate	200	179.4		ug/L		90	63 - 130
Di-n-butyl phthalate	200	173.3		ug/L		87	67 - 130
4,6-Dinitro-2-methylphenol	400	348.3		ug/L		87	63 - 130
2,4-Dinitrophenol	400	344.3		ug/L		86	47 - 130
2,4-Dinitrotoluene	200	180.3		ug/L		90	67 - 130
2,6-Dinitrotoluene	200	174.5		ug/L		87	64 - 130
Di-n-octyl phthalate	200	176.3		ug/L		88	70 - 130
Fluoranthene	200	196.3		ug/L		98	65 - 130
Fluorene	200	167.6		ug/L		84	59 - 130
Hexachlorobenzene	200	176.4		ug/L		88	67 - 130
Hexachlorobutadiene	200	139.5		ug/L		70	44 - 130
Hexachlorocyclopentadiene	200	51.64		ug/L		26	10 - 130
Hexachloroethane	200	127.3		ug/L		64	38 - 130
Indeno[1,2,3-cd]pyrene	200	156.9		ug/L		78	66 - 130
Isophorone	200	169.5		ug/L		85	55 - 130
2-Methylnaphthalene	200	153.1		ug/L		77	54 - 130
2-Methylphenol	200	162.0		ug/L		81	47 - 130
3 & 4 Methylphenol	200	173.8		ug/L		87	41 - 130
Naphthalene	200	158.2		ug/L		79	51 - 130
2-Nitroaniline	200	173.6		ug/L		87	60 - 130
3-Nitroaniline	200	172.9		ug/L		86	57 - 130
4-Nitroaniline	200	170.1		ug/L		85	55 - 130
Nitrobenzene	200	163.6		ug/L		82	54 - 130
2-Nitrophenol	200	168.5		ug/L		84	54 - 130
4-Nitrophenol	400	347.2		ug/L		87	34 - 138
N-Nitrosodi-n-propylamine	200	178.4		ug/L		89	45 - 130
N-Nitrosodiphenylamine	200	154.4		ug/L		77	51 - 130
Pentachlorophenol	400	300.4		ug/L		75	55 - 130
Phenanthrene	200	171.4		ug/L		86	67 - 130
Phenol	200	158.9		ug/L		79	47 - 130
Pyrene	200	180.5		ug/L		90	66 - 130
1,2,4-Trichlorobenzene	200	144.9		ug/L		72	49 - 130
2,4,5-Trichlorophenol	200	172.1		ug/L		86	55 - 130
2,4,6-Trichlorophenol	200	168.6		ug/L		84	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	67		23 - 130
2-Fluorophenol	66		10 - 130
Nitrobenzene-d5	67		27 - 130
Phenol-d5	74		10 - 130
Terphenyl-d14	79		10 - 141

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132246/2-A

Matrix: Water

Analysis Batch: 132247

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132246

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	75		18 - 130

Lab Sample ID: MB 560-132304/1-A

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/29/16 16:37	10/03/16 08:47	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/29/16 16:37	10/03/16 08:47	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/29/16 16:37	10/03/16 08:47	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/29/16 16:37	10/03/16 08:47	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/29/16 16:37	10/03/16 08:47	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/29/16 16:37	10/03/16 08:47	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/29/16 16:37	10/03/16 08:47	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/29/16 16:37	10/03/16 08:47	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/29/16 16:37	10/03/16 08:47	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/29/16 16:37	10/03/16 08:47	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/29/16 16:37	10/03/16 08:47	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/29/16 16:37	10/03/16 08:47	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/29/16 16:37	10/03/16 08:47	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/29/16 16:37	10/03/16 08:47	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 08:47	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/29/16 16:37	10/03/16 08:47	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/29/16 16:37	10/03/16 08:47	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/29/16 16:37	10/03/16 08:47	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/29/16 16:37	10/03/16 08:47	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/29/16 16:37	10/03/16 08:47	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/29/16 16:37	10/03/16 08:47	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/29/16 16:37	10/03/16 08:47	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/29/16 16:37	10/03/16 08:47	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/29/16 16:37	10/03/16 08:47	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/29/16 16:37	10/03/16 08:47	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 08:47	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/29/16 16:37	10/03/16 08:47	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/29/16 16:37	10/03/16 08:47	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/29/16 16:37	10/03/16 08:47	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 08:47	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/29/16 16:37	10/03/16 08:47	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/29/16 16:37	10/03/16 08:47	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/29/16 16:37	10/03/16 08:47	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/29/16 16:37	10/03/16 08:47	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/29/16 16:37	10/03/16 08:47	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/29/16 16:37	10/03/16 08:47	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/29/16 16:37	10/03/16 08:47	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/29/16 16:37	10/03/16 08:47	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/29/16 16:37	10/03/16 08:47	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/29/16 16:37	10/03/16 08:47	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/29/16 16:37	10/03/16 08:47	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132304/1-A

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 08:47	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/29/16 16:37	10/03/16 08:47	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 08:47	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/29/16 16:37	10/03/16 08:47	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/29/16 16:37	10/03/16 08:47	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/29/16 16:37	10/03/16 08:47	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 08:47	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/29/16 16:37	10/03/16 08:47	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/29/16 16:37	10/03/16 08:47	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/29/16 16:37	10/03/16 08:47	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/29/16 16:37	10/03/16 08:47	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/29/16 16:37	10/03/16 08:47	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/29/16 16:37	10/03/16 08:47	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/29/16 16:37	10/03/16 08:47	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/29/16 16:37	10/03/16 08:47	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/29/16 16:37	10/03/16 08:47	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/29/16 16:37	10/03/16 08:47	1
Phenol	0.768	U	10.0	0.768	ug/L		09/29/16 16:37	10/03/16 08:47	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/29/16 16:37	10/03/16 08:47	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/29/16 16:37	10/03/16 08:47	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/29/16 16:37	10/03/16 08:47	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/29/16 16:37	10/03/16 08:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	69		23 - 130	09/29/16 16:37	10/03/16 08:47	1
2-Fluorophenol	73		10 - 130	09/29/16 16:37	10/03/16 08:47	1
Nitrobenzene-d5	71		27 - 130	09/29/16 16:37	10/03/16 08:47	1
Phenol-d5	77		10 - 130	09/29/16 16:37	10/03/16 08:47	1
Terphenyl-d14	82		10 - 141	09/29/16 16:37	10/03/16 08:47	1
2,4,6-Tribromophenol	64		18 - 130	09/29/16 16:37	10/03/16 08:47	1

Lab Sample ID: LCS 560-132304/2-A

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	200	158.7		ug/L		79	54 - 130
Acenaphthylene	200	145.2		ug/L		73	54 - 130
Anthracene	200	166.4		ug/L		83	67 - 130
Benzo[a]anthracene	200	179.6		ug/L		90	70 - 130
Benzo[a]pyrene	200	181.5		ug/L		91	70 - 130
Benzo[b]fluoranthene	200	196.0		ug/L		98	69 - 130
Benzo[g,h,i]perylene	200	154.2		ug/L		77	62 - 130
Benzo[k]fluoranthene	200	183.8		ug/L		92	68 - 130
Benzyl alcohol	200	161.3		ug/L		81	52 - 130
Bis(2-chloroethoxy)methane	200	169.3		ug/L		85	55 - 130
Bis(2-chloroethyl)ether	200	151.5		ug/L		76	52 - 130
Bis(2-ethylhexyl) phthalate	200	179.1		ug/L		90	68 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132304/2-A

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Bromophenyl phenyl ether	200	175.6		ug/L		88	69 - 130
Butyl benzyl phthalate	200	187.5		ug/L		94	68 - 130
4-Chloroaniline	200	106.4		ug/L		53	30 - 130
4-Chloro-3-methylphenol	200	170.9		ug/L		85	52 - 130
2-Chloronaphthalene	200	147.8		ug/L		74	51 - 130
2-Chlorophenol	200	151.5		ug/L		76	51 - 130
4-Chlorophenyl phenyl ether	200	169.3		ug/L		85	59 - 130
Chrysene	200	189.2		ug/L		95	70 - 130
Dibenz(a,h)anthracene	200	155.1		ug/L		78	65 - 130
Dibenzofuran	200	169.0		ug/L		84	53 - 130
1,2-Dichlorobenzene	200	118.8		ug/L		59	43 - 130
1,3-Dichlorobenzene	200	112.3		ug/L		56	40 - 130
1,4-Dichlorobenzene	200	116.0		ug/L		58	42 - 130
3,3'-Dichlorobenzidine	200	154.1		ug/L		77	61 - 130
2,4-Dichlorophenol	200	162.7		ug/L		81	51 - 130
Diethyl phthalate	200	176.0		ug/L		88	59 - 130
2,4-Dimethylphenol	200	157.8		ug/L		79	51 - 130
Dimethyl phthalate	200	178.7		ug/L		89	63 - 130
Di-n-butyl phthalate	200	180.2		ug/L		90	67 - 130
4,6-Dinitro-2-methylphenol	400	356.2		ug/L		89	63 - 130
2,4-Dinitrophenol	400	336.9		ug/L		84	47 - 130
2,4-Dinitrotoluene	200	181.1		ug/L		91	67 - 130
2,6-Dinitrotoluene	200	171.6		ug/L		86	64 - 130
Di-n-octyl phthalate	200	177.3		ug/L		89	70 - 130
Fluoranthene	200	199.2		ug/L		100	65 - 130
Fluorene	200	165.5		ug/L		83	59 - 130
Hexachlorobenzene	200	175.6		ug/L		88	67 - 130
Hexachlorobutadiene	200	119.0		ug/L		59	44 - 130
Hexachlorocyclopentadiene	200	67.30		ug/L		34	10 - 130
Hexachloroethane	200	110.1		ug/L		55	38 - 130
Indeno[1,2,3-cd]pyrene	200	151.6		ug/L		76	66 - 130
Isophorone	200	167.3		ug/L		84	55 - 130
2-Methylnaphthalene	200	141.1		ug/L		71	54 - 130
2-Methylphenol	200	157.0		ug/L		79	47 - 130
3 & 4 Methylphenol	200	166.8		ug/L		83	41 - 130
Naphthalene	200	141.5		ug/L		71	51 - 130
2-Nitroaniline	200	170.8		ug/L		85	60 - 130
3-Nitroaniline	200	166.8		ug/L		83	57 - 130
4-Nitroaniline	200	166.7		ug/L		83	55 - 130
Nitrobenzene	200	156.1		ug/L		78	54 - 130
2-Nitrophenol	200	159.9		ug/L		80	54 - 130
4-Nitrophenol	400	354.5		ug/L		89	34 - 138
N-Nitrosodi-n-propylamine	200	173.8		ug/L		87	45 - 130
N-Nitrosodiphenylamine	200	157.0		ug/L		79	51 - 130
Pentachlorophenol	400	300.2		ug/L		75	55 - 130
Phenanthrene	200	173.0		ug/L		86	67 - 130
Phenol	200	150.7		ug/L		75	47 - 130
Pyrene	200	184.0		ug/L		92	66 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132304/2-A

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	200	128.2		ug/L		64	49 - 130
2,4,5-Trichlorophenol	200	167.2		ug/L		84	55 - 130
2,4,6-Trichlorophenol	200	162.9		ug/L		81	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	66		23 - 130
2-Fluorophenol	65		10 - 130
Nitrobenzene-d5	65		27 - 130
Phenol-d5	73		10 - 130
Terphenyl-d14	80		10 - 141
2,4,6-Tribromophenol	78		18 - 130

Lab Sample ID: 560-64002-J-2-B MS

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 132304

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.460	U	200	166.8		ug/L		83	54 - 130
Acenaphthylene	0.452	U	200	153.4		ug/L		77	54 - 130
Anthracene	0.700	U	200	164.9		ug/L		82	67 - 130
Benzo[a]anthracene	0.646	U	200	168.0		ug/L		84	70 - 130
Benzo[a]pyrene	0.742	U	200	160.8		ug/L		80	70 - 130
Benzo[b]fluoranthene	0.908	U	200	172.8		ug/L		86	69 - 130
Benzo[g,h,i]perylene	1.10	U F1	200	140.8		ug/L		70	62 - 130
Benzo[k]fluoranthene	1.49	U	200	177.8		ug/L		89	68 - 130
Benzyl alcohol	0.827	U	200	164.1		ug/L		82	52 - 130
Bis(2-chloroethoxy)methane	0.436	U	200	171.0		ug/L		85	55 - 130
Bis(2-chloroethyl)ether	1.55	U	200	158.7		ug/L		79	52 - 130
Bis(2-ethylhexyl) phthalate	5.00	U	200	165.2		ug/L		83	68 - 130
4-Bromophenyl phenyl ether	0.811	U	200	173.5		ug/L		87	69 - 130
Butyl benzyl phthalate	0.816	U	200	177.9		ug/L		89	68 - 130
4-Chloroaniline	0.549	U	200	102.6		ug/L		51	30 - 130
4-Chloro-3-methylphenol	0.586	U	200	172.1		ug/L		86	52 - 130
2-Chloronaphthalene	0.603	U	200	166.1		ug/L		83	51 - 130
2-Chlorophenol	0.729	U	200	155.1		ug/L		78	51 - 130
4-Chlorophenyl phenyl ether	0.529	U	200	172.4		ug/L		86	59 - 130
Chrysene	0.494	U	200	171.3		ug/L		86	70 - 130
Dibenz(a,h)anthracene	0.874	U F1	200	145.1		ug/L		73	65 - 130
Dibenzofuran	0.485	U	200	174.5		ug/L		87	53 - 130
1,2-Dichlorobenzene	0.775	U	200	143.2		ug/L		72	43 - 130
1,3-Dichlorobenzene	0.491	U	200	138.7		ug/L		69	40 - 130
1,4-Dichlorobenzene	0.815	U	200	140.7		ug/L		70	42 - 130
3,3'-Dichlorobenzidine	0.787	U F1	200	112.1	F1	ug/L		56	61 - 130
2,4-Dichlorophenol	0.704	U	200	165.3		ug/L		83	51 - 130
Diethyl phthalate	0.666	U	200	178.9		ug/L		89	59 - 130
2,4-Dimethylphenol	0.593	U	200	159.3		ug/L		80	51 - 130
Dimethyl phthalate	0.589	U	200	186.5		ug/L		93	63 - 130
Di-n-butyl phthalate	0.709	U	200	172.0		ug/L		86	67 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64002-J-2-B MS

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 132304

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4,6-Dinitro-2-methylphenol	0.959	U	400	366.6		ug/L		92	63 - 130
2,4-Dinitrophenol	2.69	U	400	356.4		ug/L		89	47 - 130
2,4-Dinitrotoluene	0.509	U	200	189.1		ug/L		95	67 - 130
2,6-Dinitrotoluene	0.762	U	200	176.0		ug/L		88	64 - 130
Di-n-octyl phthalate	1.11	U	200	167.0		ug/L		83	70 - 130
Fluoranthene	0.496	U	200	189.9		ug/L		95	65 - 130
Fluorene	0.421	U	200	170.8		ug/L		85	59 - 130
Hexachlorobenzene	0.602	U	200	167.3		ug/L		84	67 - 130
Hexachlorobutadiene	0.716	U	200	143.7		ug/L		72	44 - 130
Hexachlorocyclopentadiene	0.839	U	200	79.68		ug/L		40	10 - 130
Hexachloroethane	0.589	U	200	135.8		ug/L		68	38 - 130
Indeno[1,2,3-cd]pyrene	0.922	U F1	200	139.9		ug/L		70	66 - 130
Isophorone	0.549	U	200	166.2		ug/L		83	55 - 130
2-Methylnaphthalene	0.702	U	200	151.2		ug/L		76	54 - 130
2-Methylphenol	0.610	U	200	158.6		ug/L		79	47 - 130
3 & 4 Methylphenol	0.763	U	200	172.2		ug/L		86	41 - 130
Naphthalene	0.787	U	200	159.8		ug/L		80	51 - 130
2-Nitroaniline	0.766	U	200	164.2		ug/L		82	60 - 130
3-Nitroaniline	0.512	U	200	170.7		ug/L		85	57 - 130
4-Nitroaniline	0.819	U	200	165.2		ug/L		83	55 - 130
Nitrobenzene	0.587	U	200	164.5		ug/L		82	54 - 130
2-Nitrophenol	0.808	U	200	162.5		ug/L		81	54 - 130
4-Nitrophenol	1.73	U	400	362.5		ug/L		91	34 - 138
N-Nitrosodi-n-propylamine	0.620	U	200	174.5		ug/L		87	45 - 130
N-Nitrosodiphenylamine	1.03	U	200	151.9		ug/L		76	51 - 130
Pentachlorophenol	1.32	U	400	315.6		ug/L		79	55 - 130
Phenanthrene	0.591	U	200	172.0		ug/L		86	67 - 130
Phenol	0.768	U	200	153.7		ug/L		77	47 - 130
Pyrene	0.440	U	200	172.5		ug/L		86	66 - 130
1,2,4-Trichlorobenzene	0.647	U	200	149.2		ug/L		75	49 - 130
2,4,5-Trichlorophenol	0.861	U	200	175.8		ug/L		88	55 - 130
2,4,6-Trichlorophenol	0.658	U	200	172.2		ug/L		86	53 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	67		23 - 130
2-Fluorophenol	65		10 - 130
Nitrobenzene-d5	65		27 - 130
Phenol-d5	71		10 - 130
Terphenyl-d14	56		10 - 141
2,4,6-Tribromophenol	81		18 - 130

Lab Sample ID: 560-64002-K-2-A MSD

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 132304

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acenaphthene	0.460	U	200	154.5		ug/L		77	54 - 130	8	30
Acenaphthylene	0.452	U	200	144.8		ug/L		72	54 - 130	6	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64002-K-2-A MSD

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 132304

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Anthracene	0.700	U	200	149.7		ug/L		75	67 - 130	10	30
Benzo[a]anthracene	0.646	U	200	142.3		ug/L		71	70 - 130	17	30
Benzo[a]pyrene	0.742	U	200	141.1		ug/L		71	70 - 130	13	30
Benzo[b]fluoranthene	0.908	U	200	153.0		ug/L		77	69 - 130	12	30
Benzo[g,h,i]perylene	1.10	U F1	200	122.6	F1	ug/L		61	62 - 130	14	30
Benzo[k]fluoranthene	1.49	U	200	148.0		ug/L		74	68 - 130	18	30
Benzyl alcohol	0.827	U	200	159.3		ug/L		80	52 - 130	3	30
Bis(2-chloroethoxy)methane	0.436	U	200	162.6		ug/L		81	55 - 130	5	30
Bis(2-chloroethyl)ether	1.55	U	200	158.9		ug/L		79	52 - 130	0	30
Bis(2-ethylhexyl) phthalate	5.00	U	200	147.6		ug/L		74	68 - 130	11	30
4-Bromophenyl phenyl ether	0.811	U	200	151.6		ug/L		76	69 - 130	13	30
Butyl benzyl phthalate	0.816	U	200	150.7		ug/L		75	68 - 130	17	30
4-Chloroaniline	0.549	U	200	90.10		ug/L		45	30 - 130	13	30
4-Chloro-3-methylphenol	0.586	U	200	163.3		ug/L		82	52 - 130	5	30
2-Chloronaphthalene	0.603	U	200	154.2		ug/L		77	51 - 130	7	30
2-Chlorophenol	0.729	U	200	156.9		ug/L		78	51 - 130	1	30
4-Chlorophenyl phenyl ether	0.529	U	200	152.3		ug/L		76	59 - 130	12	30
Chrysene	0.494	U	200	147.3		ug/L		74	70 - 130	15	30
Dibenz(a,h)anthracene	0.874	U F1	200	126.3	F1	ug/L		63	65 - 130	14	30
Dibenzofuran	0.485	U	200	162.9		ug/L		81	53 - 130	7	30
1,2-Dichlorobenzene	0.775	U	200	142.6		ug/L		71	43 - 130	0	30
1,3-Dichlorobenzene	0.491	U	200	138.0		ug/L		69	40 - 130	1	30
1,4-Dichlorobenzene	0.815	U	200	142.4		ug/L		71	42 - 130	1	30
3,3'-Dichlorobenzidine	0.787	U F1	200	104.2	F1	ug/L		52	61 - 130	7	30
2,4-Dichlorophenol	0.704	U	200	159.6		ug/L		80	51 - 130	4	30
Diethyl phthalate	0.666	U	200	165.5		ug/L		83	59 - 130	8	30
2,4-Dimethylphenol	0.593	U	200	155.8		ug/L		78	51 - 130	2	30
Dimethyl phthalate	0.589	U	200	171.3		ug/L		86	63 - 130	8	30
Di-n-butyl phthalate	0.709	U	200	152.8		ug/L		76	67 - 130	12	30
4,6-Dinitro-2-methylphenol	0.959	U	400	341.4		ug/L		85	63 - 130	7	30
2,4-Dinitrophenol	2.69	U	400	335.9		ug/L		84	47 - 130	6	30
2,4-Dinitrotoluene	0.509	U	200	174.0		ug/L		87	67 - 130	8	30
2,6-Dinitrotoluene	0.762	U	200	169.9		ug/L		85	64 - 130	4	30
Di-n-octyl phthalate	1.11	U	200	146.2		ug/L		73	70 - 130	13	30
Fluoranthene	0.496	U	200	162.6		ug/L		81	65 - 130	15	30
Fluorene	0.421	U	200	156.5		ug/L		78	59 - 130	9	30
Hexachlorobenzene	0.602	U	200	142.5		ug/L		71	67 - 130	16	30
Hexachlorobutadiene	0.716	U	200	133.6		ug/L		67	44 - 130	7	30
Hexachlorocyclopentadiene	0.839	U	200	77.72		ug/L		39	10 - 130	2	30
Hexachloroethane	0.589	U	200	138.0		ug/L		69	38 - 130	2	30
Indeno[1,2,3-cd]pyrene	0.922	U F1	200	122.0	F1	ug/L		61	66 - 130	14	30
Isophorone	0.549	U	200	161.1		ug/L		81	55 - 130	3	30
2-Methylnaphthalene	0.702	U	200	145.0		ug/L		72	54 - 130	4	30
2-Methylphenol	0.610	U	200	158.3		ug/L		79	47 - 130	0	30
3 & 4 Methylphenol	0.763	U	200	165.0		ug/L		83	41 - 130	4	30
Naphthalene	0.787	U	200	154.5		ug/L		77	51 - 130	3	30
2-Nitroaniline	0.766	U	200	156.5		ug/L		78	60 - 130	5	35
3-Nitroaniline	0.512	U	200	160.4		ug/L		80	57 - 130	6	30

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64002-K-2-A MSD

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 132304

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Nitroaniline	0.819	U	200	155.6		ug/L		78	55 - 130	6	30
Nitrobenzene	0.587	U	200	161.0		ug/L		81	54 - 130	2	30
2-Nitrophenol	0.808	U	200	160.5		ug/L		80	54 - 130	1	30
4-Nitrophenol	1.73	U	400	337.6		ug/L		84	34 - 138	7	30
N-Nitrosodi-n-propylamine	0.620	U	200	168.0		ug/L		84	45 - 130	4	30
N-Nitrosodiphenylamine	1.03	U	200	143.4		ug/L		72	51 - 130	6	30
Pentachlorophenol	1.32	U	400	293.4		ug/L		73	55 - 130	7	30
Phenanthrene	0.591	U	200	157.1		ug/L		79	67 - 130	9	30
Phenol	0.768	U	200	152.1		ug/L		76	47 - 130	1	30
Pyrene	0.440	U	200	148.5		ug/L		74	66 - 130	15	30
1,2,4-Trichlorobenzene	0.647	U	200	145.6		ug/L		73	49 - 130	2	30
2,4,5-Trichlorophenol	0.861	U	200	165.1		ug/L		83	55 - 130	6	30
2,4,6-Trichlorophenol	0.658	U	200	163.4		ug/L		82	53 - 130	5	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	63		23 - 130
2-Fluorophenol	67		10 - 130
Nitrobenzene-d5	65		27 - 130
Phenol-d5	71		10 - 130
Terphenyl-d14	44		10 - 141
2,4,6-Tribromophenol	75		18 - 130

Lab Sample ID: MB 560-132382/1-A

Matrix: Water

Analysis Batch: 132403

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132382

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		10/03/16 14:20	10/04/16 10:41	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		10/03/16 14:20	10/04/16 10:41	1
Anthracene	0.700	U	10.0	0.700	ug/L		10/03/16 14:20	10/04/16 10:41	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		10/03/16 14:20	10/04/16 10:41	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		10/03/16 14:20	10/04/16 10:41	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		10/03/16 14:20	10/04/16 10:41	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		10/03/16 14:20	10/04/16 10:41	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		10/03/16 14:20	10/04/16 10:41	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		10/03/16 14:20	10/04/16 10:41	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		10/03/16 14:20	10/04/16 10:41	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		10/03/16 14:20	10/04/16 10:41	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		10/03/16 14:20	10/04/16 10:41	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		10/03/16 14:20	10/04/16 10:41	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		10/03/16 14:20	10/04/16 10:41	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		10/03/16 14:20	10/04/16 10:41	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		10/03/16 14:20	10/04/16 10:41	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		10/03/16 14:20	10/04/16 10:41	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		10/03/16 14:20	10/04/16 10:41	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		10/03/16 14:20	10/04/16 10:41	1
Chrysene	0.494	U	10.0	0.494	ug/L		10/03/16 14:20	10/04/16 10:41	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		10/03/16 14:20	10/04/16 10:41	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132382/1-A

Matrix: Water

Analysis Batch: 132403

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132382

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.485	U	10.0	0.485	ug/L		10/03/16 14:20	10/04/16 10:41	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		10/03/16 14:20	10/04/16 10:41	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		10/03/16 14:20	10/04/16 10:41	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		10/03/16 14:20	10/04/16 10:41	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		10/03/16 14:20	10/04/16 10:41	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		10/03/16 14:20	10/04/16 10:41	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		10/03/16 14:20	10/04/16 10:41	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		10/03/16 14:20	10/04/16 10:41	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		10/03/16 14:20	10/04/16 10:41	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		10/03/16 14:20	10/04/16 10:41	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		10/03/16 14:20	10/04/16 10:41	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		10/03/16 14:20	10/04/16 10:41	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		10/03/16 14:20	10/04/16 10:41	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		10/03/16 14:20	10/04/16 10:41	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		10/03/16 14:20	10/04/16 10:41	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		10/03/16 14:20	10/04/16 10:41	1
Fluorene	0.421	U	10.0	0.421	ug/L		10/03/16 14:20	10/04/16 10:41	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		10/03/16 14:20	10/04/16 10:41	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		10/03/16 14:20	10/04/16 10:41	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		10/03/16 14:20	10/04/16 10:41	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		10/03/16 14:20	10/04/16 10:41	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		10/03/16 14:20	10/04/16 10:41	1
Isophorone	0.549	U	10.0	0.549	ug/L		10/03/16 14:20	10/04/16 10:41	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		10/03/16 14:20	10/04/16 10:41	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		10/03/16 14:20	10/04/16 10:41	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		10/03/16 14:20	10/04/16 10:41	1
Naphthalene	0.787	U	10.0	0.787	ug/L		10/03/16 14:20	10/04/16 10:41	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		10/03/16 14:20	10/04/16 10:41	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		10/03/16 14:20	10/04/16 10:41	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		10/03/16 14:20	10/04/16 10:41	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		10/03/16 14:20	10/04/16 10:41	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		10/03/16 14:20	10/04/16 10:41	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		10/03/16 14:20	10/04/16 10:41	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		10/03/16 14:20	10/04/16 10:41	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		10/03/16 14:20	10/04/16 10:41	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		10/03/16 14:20	10/04/16 10:41	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		10/03/16 14:20	10/04/16 10:41	1
Phenol	0.768	U	10.0	0.768	ug/L		10/03/16 14:20	10/04/16 10:41	1
Pyrene	0.440	U	10.0	0.440	ug/L		10/03/16 14:20	10/04/16 10:41	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		10/03/16 14:20	10/04/16 10:41	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		10/03/16 14:20	10/04/16 10:41	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		10/03/16 14:20	10/04/16 10:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		23 - 130	10/03/16 14:20	10/04/16 10:41	1
2-Fluorophenol	74		10 - 130	10/03/16 14:20	10/04/16 10:41	1
Nitrobenzene-d5	75		27 - 130	10/03/16 14:20	10/04/16 10:41	1
Phenol-d5	80		10 - 130	10/03/16 14:20	10/04/16 10:41	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132382/1-A

Matrix: Water

Analysis Batch: 132403

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132382

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	86		10 - 141	10/03/16 14:20	10/04/16 10:41	1
2,4,6-Tribromophenol	73		18 - 130	10/03/16 14:20	10/04/16 10:41	1

Lab Sample ID: LCS 560-132382/2-A

Matrix: Water

Analysis Batch: 132403

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	200	161.1		ug/L		81	54 - 130
Acenaphthylene	200	151.4		ug/L		76	54 - 130
Anthracene	200	161.9		ug/L		81	67 - 130
Benzo[a]anthracene	200	169.0		ug/L		84	70 - 130
Benzo[a]pyrene	200	172.3		ug/L		86	70 - 130
Benzo[b]fluoranthene	200	174.2		ug/L		87	69 - 130
Benzo[g,h,i]perylene	200	180.9		ug/L		90	62 - 130
Benzo[k]fluoranthene	200	177.4		ug/L		89	68 - 130
Benzyl alcohol	200	173.4		ug/L		87	52 - 130
Bis(2-chloroethoxy)methane	200	171.3		ug/L		86	55 - 130
Bis(2-chloroethyl)ether	200	174.7		ug/L		87	52 - 130
Bis(2-ethylhexyl) phthalate	200	166.7		ug/L		83	68 - 130
4-Bromophenyl phenyl ether	200	168.7		ug/L		84	69 - 130
Butyl benzyl phthalate	200	180.1		ug/L		90	68 - 130
4-Chloroaniline	200	134.0		ug/L		67	30 - 130
4-Chloro-3-methylphenol	200	169.5		ug/L		85	52 - 130
2-Chloronaphthalene	200	161.5		ug/L		81	51 - 130
2-Chlorophenol	200	168.5		ug/L		84	51 - 130
4-Chlorophenyl phenyl ether	200	171.5		ug/L		86	59 - 130
Chrysene	200	169.8		ug/L		85	70 - 130
Dibenz(a,h)anthracene	200	168.1		ug/L		84	65 - 130
Dibenzofuran	200	178.9		ug/L		89	53 - 130
1,2-Dichlorobenzene	200	145.0		ug/L		72	43 - 130
1,3-Dichlorobenzene	200	137.0		ug/L		69	40 - 130
1,4-Dichlorobenzene	200	141.0		ug/L		71	42 - 130
3,3'-Dichlorobenzidine	200	150.1		ug/L		75	61 - 130
2,4-Dichlorophenol	200	169.4		ug/L		85	51 - 130
Diethyl phthalate	200	168.9		ug/L		84	59 - 130
2,4-Dimethylphenol	200	161.1		ug/L		81	51 - 130
Dimethyl phthalate	200	173.4		ug/L		87	63 - 130
Di-n-butyl phthalate	200	167.4		ug/L		84	67 - 130
4,6-Dinitro-2-methylphenol	400	332.8		ug/L		83	63 - 130
2,4-Dinitrophenol	400	338.4		ug/L		85	47 - 130
2,4-Dinitrotoluene	200	178.3		ug/L		89	67 - 130
2,6-Dinitrotoluene	200	170.9		ug/L		85	64 - 130
Di-n-octyl phthalate	200	164.4		ug/L		82	70 - 130
Fluoranthene	200	181.9		ug/L		91	65 - 130
Fluorene	200	166.4		ug/L		83	59 - 130
Hexachlorobenzene	200	168.6		ug/L		84	67 - 130
Hexachlorobutadiene	200	136.7		ug/L		68	44 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132382/2-A

Matrix: Water

Analysis Batch: 132403

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorocyclopentadiene	200	109.5		ug/L		55	10 - 130
Hexachloroethane	200	134.9		ug/L		67	38 - 130
Indeno[1,2,3-cd]pyrene	200	166.9		ug/L		83	66 - 130
Isophorone	200	165.4		ug/L		83	55 - 130
2-Methylnaphthalene	200	149.9		ug/L		75	54 - 130
2-Methylphenol	200	171.0		ug/L		86	47 - 130
3 & 4 Methylphenol	200	183.6		ug/L		92	41 - 130
Naphthalene	200	156.3		ug/L		78	51 - 130
2-Nitroaniline	200	169.0		ug/L		85	60 - 130
3-Nitroaniline	200	167.4		ug/L		84	57 - 130
4-Nitroaniline	200	160.8		ug/L		80	55 - 130
Nitrobenzene	200	160.5		ug/L		80	54 - 130
2-Nitrophenol	200	168.6		ug/L		84	54 - 130
4-Nitrophenol	400	327.0		ug/L		82	34 - 138
N-Nitrosodi-n-propylamine	200	180.6		ug/L		90	45 - 130
N-Nitrosodiphenylamine	200	158.2		ug/L		79	51 - 130
Pentachlorophenol	400	280.1		ug/L		70	55 - 130
Phenanthrene	200	164.1		ug/L		82	67 - 130
Phenol	200	167.3		ug/L		84	47 - 130
Pyrene	200	177.0		ug/L		89	66 - 130
1,2,4-Trichlorobenzene	200	145.3		ug/L		73	49 - 130
2,4,5-Trichlorophenol	200	171.8		ug/L		86	55 - 130
2,4,6-Trichlorophenol	200	168.8		ug/L		84	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	71		23 - 130
2-Fluorophenol	73		10 - 130
Nitrobenzene-d5	74		27 - 130
Phenol-d5	80		10 - 130
Terphenyl-d14	81		10 - 141
2,4,6-Tribromophenol	76		18 - 130

## Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 560-132158/1-A

Matrix: Water

Analysis Batch: 132177

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132158

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00500	U	0.0600	0.00500	ug/L		09/27/16 08:52	09/28/16 11:43	1
alpha-BHC	0.00520	U	0.0600	0.00520	ug/L		09/27/16 08:52	09/28/16 11:43	1
alpha-Chlordane	0.00630	U	0.0600	0.00630	ug/L		09/27/16 08:52	09/28/16 11:43	1
beta-BHC	0.00500	U	0.0600	0.00500	ug/L		09/27/16 08:52	09/28/16 11:43	1
4,4'-DDD	0.00500	U	0.0600	0.00500	ug/L		09/27/16 08:52	09/28/16 11:43	1
4,4'-DDE	0.00500	U	0.0600	0.00500	ug/L		09/27/16 08:52	09/28/16 11:43	1
4,4'-DDT	0.00810	U	0.0600	0.00810	ug/L		09/27/16 08:52	09/28/16 11:43	1
delta-BHC	0.00500	U	0.0600	0.00500	ug/L		09/27/16 08:52	09/28/16 11:43	1
Dieldrin	0.0130	U	0.0600	0.0130	ug/L		09/27/16 08:52	09/28/16 11:43	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 560-132158/1-A

Matrix: Water

Analysis Batch: 132177

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132158

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan I	0.00500	U	0.0600	0.00500	ug/L		09/27/16 08:52	09/28/16 11:43	1
Endosulfan II	0.00860	U	0.0600	0.00860	ug/L		09/27/16 08:52	09/28/16 11:43	1
Endosulfan sulfate	0.00880	U	0.0600	0.00880	ug/L		09/27/16 08:52	09/28/16 11:43	1
Endrin	0.00770	U	0.0600	0.00770	ug/L		09/27/16 08:52	09/28/16 11:43	1
Endrin aldehyde	0.00500	U	0.0600	0.00500	ug/L		09/27/16 08:52	09/28/16 11:43	1
Endrin ketone	0.00820	U	0.0600	0.00820	ug/L		09/27/16 08:52	09/28/16 11:43	1
gamma-BHC (Lindane)	0.00450	U	0.0600	0.00450	ug/L		09/27/16 08:52	09/28/16 11:43	1
gamma-Chlordane	0.00670	U	0.0600	0.00670	ug/L		09/27/16 08:52	09/28/16 11:43	1
Heptachlor	0.00650	U	0.0600	0.00650	ug/L		09/27/16 08:52	09/28/16 11:43	1
Heptachlor epoxide	0.00520	U	0.0600	0.00520	ug/L		09/27/16 08:52	09/28/16 11:43	1
Methoxychlor	0.0100	U	0.0600	0.0100	ug/L		09/27/16 08:52	09/28/16 11:43	1
Toxaphene	0.680	U	6.00	0.680	ug/L		09/27/16 08:52	09/28/16 11:43	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	191	X	10 - 152	09/27/16 08:52	09/28/16 11:43	1
Tetrachloro-m-xylene	103		57 - 127	09/27/16 08:52	09/28/16 11:43	1

Lab Sample ID: LCS 560-132158/3-A

Matrix: Water

Analysis Batch: 132177

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.571	0.4693		ug/L		82	54 - 130
alpha-BHC	0.571	0.4906		ug/L		86	59 - 130
alpha-Chlordane	0.571	0.4615		ug/L		81	51 - 130
beta-BHC	0.571	0.4510		ug/L		79	56 - 130
4,4'-DDD	0.571	0.4627		ug/L		81	56 - 130
4,4'-DDE	0.571	0.4613		ug/L		81	53 - 130
4,4'-DDT	0.571	0.4704		ug/L		82	50 - 130
delta-BHC	0.571	0.4802		ug/L		84	56 - 130
Dieldrin	0.571	0.4758		ug/L		83	58 - 130
Endosulfan I	0.571	0.3466		ug/L		61	39 - 130
Endosulfan II	0.571	0.3818		ug/L		67	44 - 130
Endosulfan sulfate	0.571	0.3774		ug/L		66	52 - 130
Endrin	0.571	0.4812		ug/L		84	62 - 130
Endrin aldehyde	0.571	0.3885		ug/L		68	52 - 130
Endrin ketone	0.571	0.4350		ug/L		76	48 - 130
gamma-BHC (Lindane)	0.571	0.4896		ug/L		86	56 - 130
gamma-Chlordane	0.571	0.4653		ug/L		81	52 - 130
Heptachlor	0.571	0.4913		ug/L		86	57 - 130
Heptachlor epoxide	0.571	0.4222		ug/L		74	53 - 130
Methoxychlor	0.571	0.4720		ug/L		83	57 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	93		10 - 152
Tetrachloro-m-xylene	94		57 - 127

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 560-132158/6-A

Matrix: Water

Analysis Batch: 132177

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toxaphene	11.4	11.10		ug/L		97	51 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	103		10 - 152
Tetrachloro-m-xylene	100		57 - 127

Lab Sample ID: 560-63977-1 MS

Matrix: Water

Analysis Batch: 132177

Client Sample ID: HCS210 Peak 2

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.00469	U	0.543	0.4675		ug/L		86	54 - 130
alpha-BHC	0.00488	U	0.543	0.5003		ug/L		92	59 - 130
alpha-Chlordane	0.00591	U	0.543	0.4694		ug/L		86	51 - 130
beta-BHC	0.00469	U	0.543	0.4615		ug/L		85	56 - 130
4,4'-DDD	0.00469	U	0.543	0.4707		ug/L		87	56 - 130
4,4'-DDE	0.00469	U	0.543	0.4582		ug/L		84	53 - 130
4,4'-DDT	0.00760	U	0.543	0.4677		ug/L		86	50 - 130
delta-BHC	0.00469	U	0.543	0.4941		ug/L		91	56 - 130
Dieldrin	0.0122	U	0.543	0.4847		ug/L		89	58 - 130
Endosulfan I	0.00469	U	0.543	0.3443		ug/L		63	39 - 130
Endosulfan II	0.00807	U	0.543	0.3771		ug/L		69	44 - 130
Endosulfan sulfate	0.00826	U	0.543	0.4061		ug/L		75	52 - 130
Endrin	0.00723	U	0.543	0.4917		ug/L		90	62 - 130
Endrin aldehyde	0.00469	U	0.543	0.3977		ug/L		73	52 - 130
Endrin ketone	0.00769	U	0.543	0.4359		ug/L		80	48 - 130
gamma-BHC (Lindane)	0.00422	U	0.543	0.4976		ug/L		92	56 - 130
gamma-Chlordane	0.00629	U	0.543	0.4642		ug/L		85	52 - 130
Heptachlor	0.00610	U	0.543	0.4921		ug/L		91	57 - 130
Heptachlor epoxide	0.00488	U	0.543	0.4628		ug/L		85	53 - 130
Methoxychlor	0.00938	U	0.543	0.4705		ug/L		87	57 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl	67		10 - 152
Tetrachloro-m-xylene	102		57 - 127

Lab Sample ID: 560-63977-1 MSD

Matrix: Water

Analysis Batch: 132177

Client Sample ID: HCS210 Peak 2

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aldrin	0.00469	U	0.533	0.4617		ug/L		87	54 - 130	1	30
alpha-BHC	0.00488	U	0.533	0.4979		ug/L		93	59 - 130	0	30
alpha-Chlordane	0.00591	U	0.533	0.4643		ug/L		87	51 - 130	1	30
beta-BHC	0.00469	U	0.533	0.4587		ug/L		86	56 - 130	1	30
4,4'-DDD	0.00469	U	0.533	0.4675		ug/L		88	56 - 130	1	30
4,4'-DDE	0.00469	U	0.533	0.4539		ug/L		85	53 - 130	1	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-63977-1 MSD

Matrix: Water

Analysis Batch: 132177

Client Sample ID: HCS210 Peak 2

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDT	0.00760	U	0.533	0.4621		ug/L		87	50 - 130	1	30
delta-BHC	0.00469	U	0.533	0.4911		ug/L		92	56 - 130	1	30
Dieldrin	0.0122	U	0.533	0.4805		ug/L		90	58 - 130	1	30
Endosulfan I	0.00469	U	0.533	0.3409		ug/L		64	39 - 130	1	30
Endosulfan II	0.00807	U	0.533	0.3743		ug/L		70	44 - 130	1	30
Endosulfan sulfate	0.00826	U	0.533	0.4053		ug/L		76	52 - 130	0	30
Endrin	0.00723	U	0.533	0.4807		ug/L		90	62 - 130	2	30
Endrin aldehyde	0.00469	U	0.533	0.3936		ug/L		74	52 - 130	1	30
Endrin ketone	0.00769	U	0.533	0.4323		ug/L		81	48 - 130	1	30
gamma-BHC (Lindane)	0.00422	U	0.533	0.4948		ug/L		93	56 - 130	1	30
gamma-Chlordane	0.00629	U	0.533	0.4554		ug/L		85	52 - 130	2	30
Heptachlor	0.00610	U	0.533	0.4869		ug/L		91	57 - 130	1	30
Heptachlor epoxide	0.00488	U	0.533	0.4580		ug/L		86	53 - 130	1	30
Methoxychlor	0.00938	U	0.533	0.4654		ug/L		87	57 - 130	1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	65		10 - 152
Tetrachloro-m-xylene	99		57 - 127

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 560-132158/1-A

Matrix: Water

Analysis Batch: 132191

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132158

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1221	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1232	0.440	U	0.800	0.440	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1242	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1248	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1254	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1260	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1262	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1
Aroclor 1268	0.110	U	0.600	0.110	ug/L		09/27/16 08:52	09/27/16 14:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	117		10 - 150	09/27/16 08:52	09/27/16 14:47	1
DCB Decachlorobiphenyl	167	X	10 - 150	09/27/16 08:52	09/27/16 14:47	1

Lab Sample ID: LCS 560-132158/2-A

Matrix: Water

Analysis Batch: 132191

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	11.4	15.02		ug/L		131	50 - 135
Aroclor 1260	11.4	11.82		ug/L		103	50 - 135

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 560-132158/2-A

Matrix: Water

Analysis Batch: 132191

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132158

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	111		10 - 150
DCB Decachlorobiphenyl	87		10 - 150

Lab Sample ID: 560-63976-E-1-A MS

Matrix: Water

Analysis Batch: 132191

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	0.103	U	10.7	14.27		ug/L		133	50 - 135
Aroclor 1260	0.103	U	10.7	11.35		ug/L		106	50 - 135
Surrogate	MS %Recovery	MS Qualifier	Limits						
Tetrachloro-m-xylene	119		10 - 150						
DCB Decachlorobiphenyl	76		10 - 150						

Lab Sample ID: 560-63976-F-1-A MSD

Matrix: Water

Analysis Batch: 132191

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 132158

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016	0.103	U	10.6	13.13		ug/L		124	50 - 135	8	30
Aroclor 1260	0.103	U	10.6	11.53		ug/L		109	50 - 135	2	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Tetrachloro-m-xylene	120		10 - 150								
DCB Decachlorobiphenyl	77		10 - 150								

## Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 280-344653/1-A

Matrix: Water

Analysis Batch: 345644

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 344653

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000168	U	0.00250	0.000168	mg/L		10/02/16 08:17	10/09/16 05:06	1
Bolstar	0.000314	U	0.00100	0.000314	mg/L		10/02/16 08:17	10/09/16 05:06	1
Chlorpyrifos	0.000360	U	0.00150	0.000360	mg/L		10/02/16 08:17	10/09/16 05:06	1
Coumaphos	0.000135	U	0.00100	0.000135	mg/L		10/02/16 08:17	10/09/16 05:06	1
Demeton-O	0.000140	U	0.00100	0.000140	mg/L		10/02/16 08:17	10/09/16 05:06	1
Demeton-S	0.0000690	U	0.00200	0.0000690	mg/L		10/02/16 08:17	10/09/16 05:06	1
Diazinon	0.000147	U	0.000500	0.000147	mg/L		10/02/16 08:17	10/09/16 05:06	1
Dichlorvos	0.000162	U	0.000500	0.000162	mg/L		10/02/16 08:17	10/09/16 05:06	1
Dimethoate	0.000449	U	0.00150	0.000449	mg/L		10/02/16 08:17	10/09/16 05:06	1
Disulfoton	0.000322	U	0.00100	0.000322	mg/L		10/02/16 08:17	10/09/16 05:06	1
EPN	0.000149	U	0.00120	0.000149	mg/L		10/02/16 08:17	10/09/16 05:06	1
Ethoprop	0.000177	U	0.00150	0.000177	mg/L		10/02/16 08:17	10/09/16 05:06	1
Ethyl Parathion	0.000144	U	0.00100	0.000144	mg/L		10/02/16 08:17	10/09/16 05:06	1

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: MB 280-344653/1-A

Matrix: Water

Analysis Batch: 345644

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 344653

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Famphur	0.000179	U	0.00100	0.000179	mg/L		10/02/16 08:17	10/09/16 05:06	1
Fensulfothion	0.000544	U	0.00250	0.000544	mg/L		10/02/16 08:17	10/09/16 05:06	1
Fenthion	0.000154	U	0.00250	0.000154	mg/L		10/02/16 08:17	10/09/16 05:06	1
Malathion	0.000133	U	0.00200	0.000133	mg/L		10/02/16 08:17	10/09/16 05:06	1
Merphos	0.000174	U	0.00500	0.000174	mg/L		10/02/16 08:17	10/09/16 05:06	1
Methyl parathion	0.000141	U	0.00400	0.000141	mg/L		10/02/16 08:17	10/09/16 05:06	1
Mevinphos	0.000460	U	0.00620	0.000460	mg/L		10/02/16 08:17	10/09/16 05:06	1
Naled	0.000800	U	0.00200	0.000800	mg/L		10/02/16 08:17	10/09/16 05:06	1
Phorate	0.000154	U	0.00120	0.000154	mg/L		10/02/16 08:17	10/09/16 05:06	1
Ronnel	0.000116	U	0.0100	0.000116	mg/L		10/02/16 08:17	10/09/16 05:06	1
Sulfotepp	0.000168	U	0.00150	0.000168	mg/L		10/02/16 08:17	10/09/16 05:06	1
Tetrachlorvinphos (Stirophos)	0.000124	U	0.00350	0.000124	mg/L		10/02/16 08:17	10/09/16 05:06	1
Thionazin	0.000312	U	0.00100	0.000312	mg/L		10/02/16 08:17	10/09/16 05:06	1
Tokuthion	0.000123	U	0.00160	0.000123	mg/L		10/02/16 08:17	10/09/16 05:06	1
Trichloronate	0.000242	U	0.00150	0.000242	mg/L		10/02/16 08:17	10/09/16 05:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	66		49 - 171	10/02/16 08:17	10/09/16 05:06	1
Triphenylphosphate	101		60 - 154	10/02/16 08:17	10/09/16 05:06	1

Lab Sample ID: LCS 280-344653/2-A

Matrix: Water

Analysis Batch: 345644

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 344653

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	0.00400	0.003380		mg/L		84	59 - 115
Chlorpyrifos	0.00400	0.003073		mg/L		77	54 - 115
Coumaphos	0.00400	0.003769		mg/L		94	63 - 118
Diazinon	0.00400	0.002875		mg/L		72	47 - 115
Dichlorvos	0.00400	0.002917		mg/L		73	53 - 128
Dimethoate	0.00400	0.003216		mg/L		80	42 - 115
Disulfoton	0.00400	0.002372		mg/L		59	45 - 115
EPN	0.00400	0.003509		mg/L		88	56 - 115
Ethoprop	0.00400	0.002883		mg/L		72	50 - 115
Ethyl Parathion	0.00400	0.003558		mg/L		89	55 - 115
Famphur	0.00400	0.003754		mg/L		94	62 - 115
Fensulfothion	0.00400	0.003461		mg/L		87	50 - 115
Fenthion	0.00400	0.003051		mg/L		76	55 - 115
Malathion	0.00400	0.003333		mg/L		83	52 - 115
Merphos	0.00400	0.001695	J	mg/L		42	31 - 115
Methyl parathion	0.00400	0.003205	J	mg/L		80	58 - 115
Mevinphos	0.00400	0.002484	J	mg/L		62	42 - 115
Phorate	0.00400	0.002210		mg/L		55	40 - 115
Ronnel	0.00400	0.002937	J	mg/L		73	55 - 115
Sulfotepp	0.00400	0.003313		mg/L		83	53 - 115
Tetrachlorvinphos (Stirophos)	0.00400	0.003316	J	mg/L		83	54 - 115
Thionazin	0.00400	0.003163		mg/L		79	54 - 115
Trichloronate	0.00400	0.002524		mg/L		63	48 - 115

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Chlormefos	62		49 - 171
Triphenylphosphate	102		60 - 154

Lab Sample ID: 560-64002-Q-2-A MS

Matrix: Water

Analysis Batch: 345644

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 344653

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	0.000160	U	0.00391	0.003028		mg/L		77	59 - 115
Chlorpyrifos	0.000342	U	0.00391	0.002957		mg/L		76	54 - 115
Coumaphos	0.000128	U	0.00391	0.003319		mg/L		85	63 - 118
Diazinon	0.000140	U	0.00391	0.002699		mg/L		69	47 - 115
Dichlorvos	0.000154	U	0.00391	0.002669		mg/L		68	53 - 128
Dimethoate	0.000427	U	0.00391	0.002811		mg/L		72	42 - 115
Disulfoton	0.000306	U	0.00391	0.001819		mg/L		47	45 - 115
EPN	0.000142	U	0.00391	0.003100		mg/L		79	56 - 115
Ethoprop	0.000168	U	0.00391	0.002655		mg/L		68	50 - 115
Ethyl Parathion	0.000137	U	0.00391	0.003205		mg/L		82	55 - 115
Famphur	0.000170	U	0.00391	0.003491		mg/L		89	62 - 115
Fensulfothion	0.000517	U	0.00391	0.003297		mg/L		84	50 - 115
Fenthion	0.000146	U	0.00391	0.002602		mg/L		67	55 - 115
Malathion	0.000126	U	0.00391	0.003161		mg/L		81	52 - 115
Merphos	0.000165	U	0.00391	0.002140	J	mg/L		55	31 - 115
Methyl parathion	0.000134	U	0.00391	0.002939	J	mg/L		75	58 - 115
Mevinphos	0.000437	U	0.00391	0.002226	J	mg/L		57	42 - 115
Phorate	0.000146	U	0.00391	0.001992		mg/L		51	40 - 115
Ronnel	0.000110	U	0.00391	0.003117	J	mg/L		80	55 - 115
Sulfotepp	0.000160	U	0.00391	0.003144		mg/L		80	53 - 115
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00391	0.003088	J	mg/L		79	54 - 115
Thionazin	0.000297	U	0.00391	0.002925		mg/L		75	54 - 115
Trichloronate	0.000230	U	0.00391	0.002782		mg/L		71	48 - 115

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
Chlormefos	60		49 - 171
Triphenylphosphate	99		60 - 154

Lab Sample ID: 560-64002-R-2-B MSD

Matrix: Water

Analysis Batch: 345644

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 344653

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	0.000160	U	0.00392	0.003169		mg/L		81	59 - 115	5	20
Chlorpyrifos	0.000342	U	0.00392	0.003131		mg/L		80	54 - 115	6	24
Coumaphos	0.000128	U	0.00392	0.003517		mg/L		90	63 - 118	6	20
Diazinon	0.000140	U	0.00392	0.002799		mg/L		71	47 - 115	4	37
Dichlorvos	0.000154	U	0.00392	0.003529		mg/L		90	53 - 128	28	37
Dimethoate	0.000427	U	0.00392	0.003411		mg/L		87	42 - 115	19	38
Disulfoton	0.000306	U	0.00392	0.002170		mg/L		55	45 - 115	18	31
EPN	0.000142	U	0.00392	0.003216		mg/L		82	56 - 115	4	20
Ethoprop	0.000168	U	0.00392	0.002936		mg/L		75	50 - 115	10	29
Ethyl Parathion	0.000137	U	0.00392	0.003319		mg/L		85	55 - 115	3	20
Famphur	0.000170	U	0.00392	0.003618		mg/L		92	62 - 115	4	20
Fensulfothion	0.000517	U	0.00392	0.003485		mg/L		89	50 - 115	6	27

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-64002-R-2-B MSD

Matrix: Water

Analysis Batch: 345644

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 344653

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fenthion	0.000146	U	0.00392	0.002917		mg/L		74	55 - 115	11	22
Malathion	0.000126	U	0.00392	0.003152		mg/L		80	52 - 115	0	20
Merphos	0.000165	U	0.00392	0.002217	J	mg/L		57	31 - 115	4	25
Methyl parathion	0.000134	U	0.00392	0.003045	J	mg/L		78	58 - 115	4	20
Mevinphos	0.000437	U	0.00392	0.002544	J	mg/L		65	42 - 115	13	27
Phorate	0.000146	U	0.00392	0.002277		mg/L		58	40 - 115	13	32
Ronnel	0.000110	U	0.00392	0.003292	J	mg/L		84	55 - 115	5	28
Sulfotepp	0.000160	U	0.00392	0.003388		mg/L		86	53 - 115	7	27
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00392	0.003244	J	mg/L		83	54 - 115	5	20
Thionazin	0.000297	U	0.00392	0.003193		mg/L		81	54 - 115	9	27
Trichloronate	0.000230	U	0.00392	0.002965		mg/L		76	48 - 115	6	26
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
Chlormefos	70		49 - 171								
Triphenylphosphate	103		60 - 154								

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 680-452022/18-A

Matrix: Water

Analysis Batch: 452263

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 452022

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.100	U	5.00	0.100	ug/L		10/03/16 10:22	10/04/16 18:13	1
Dicamba	0.0850	U	0.500	0.0850	ug/L		10/03/16 10:22	10/04/16 18:13	1
Mecoprop	19.0	U	120	19.0	ug/L		10/03/16 10:22	10/04/16 18:13	1
MCPA	17.0	U	120	17.0	ug/L		10/03/16 10:22	10/04/16 18:13	1
Dichlorprop	0.150	U	0.500	0.150	ug/L		10/03/16 10:22	10/04/16 18:13	1
2,4-D	0.0370	U	0.500	0.0370	ug/L		10/03/16 10:22	10/04/16 18:13	1
Silvex (2,4,5-TP)	0.0620	U	0.250	0.0620	ug/L		10/03/16 10:22	10/04/16 18:13	1
2,4,5-T	0.0620	U	0.250	0.0620	ug/L		10/03/16 10:22	10/04/16 18:13	1
2,4-DB	0.150	U	0.500	0.150	ug/L		10/03/16 10:22	10/04/16 18:13	1
Dinoseb	0.160	U	1.00	0.160	ug/L		10/03/16 10:22	10/04/16 18:13	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2,4-Dichlorophenylacetic acid	71		45 - 130				10/03/16 10:22	10/04/16 18:13	1

Lab Sample ID: LCS 680-452022/19-A

Matrix: Water

Analysis Batch: 452263

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452022

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	2.00	1.247	J p	ug/L		62	40 - 130
Dicamba	1.00	0.7541		ug/L		75	64 - 130
Mecoprop	200	143.0		ug/L		71	55 - 134
MCPA	200	140.6		ug/L		70	52 - 130
Dichlorprop	2.00	1.519		ug/L		76	52 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 680-452022/19-A

Matrix: Water

Analysis Batch: 452263

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452022

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-D	2.00	1.436		ug/L		72	55 - 130
Silvex (2,4,5-TP)	0.500	0.4138		ug/L		83	60 - 130
2,4,5-T	0.500	0.3613		ug/L		72	58 - 130
2,4-DB	2.00	1.529		ug/L		76	60 - 147
Dinoseb	2.00	0.3303	J p	ug/L		17	14 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid	73		45 - 130

Lab Sample ID: 560-64002-S-2-A MS

Matrix: Water

Analysis Batch: 452263

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 452022

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	0.0955	U F1	1.94	1.044	J p	ug/L		54	40 - 130
Dicamba	0.0812	U	0.972	0.7900		ug/L		81	64 - 130
Mecoprop	18.2	U	194	164.9		ug/L		85	55 - 134
MCPA	16.2	U	194	169.1		ug/L		87	52 - 130
Dichlorprop	0.143	U	1.94	1.993		ug/L		102	52 - 130
2,4-D	0.0368	J p	1.94	1.629		ug/L		82	55 - 130
Silvex (2,4,5-TP)	0.0592	U	0.486	0.4195		ug/L		86	60 - 130
2,4,5-T	0.0592	U	0.486	0.4597		ug/L		95	58 - 130
2,4-DB	0.143	U	1.94	2.418		ug/L		124	60 - 147
Dinoseb	0.153	U	1.94	1.113		ug/L		57	14 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4-Dichlorophenylacetic acid	79		45 - 130

Lab Sample ID: 560-64002-T-2-B MSD

Matrix: Water

Analysis Batch: 452263

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 452022

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dalapon	0.0955	U F1	1.93	1.062	J p	ug/L		55	40 - 130	2	50
Dicamba	0.0812	U	0.965	0.7171		ug/L		74	64 - 130	10	50
Mecoprop	18.2	U	193	149.2		ug/L		77	55 - 134	10	50
MCPA	16.2	U	193	152.7		ug/L		79	52 - 130	10	50
Dichlorprop	0.143	U	1.93	1.875		ug/L		97	52 - 130	6	50
2,4-D	0.0368	J p	1.93	1.508		ug/L		76	55 - 130	8	50
Silvex (2,4,5-TP)	0.0592	U	0.483	0.3935		ug/L		82	60 - 130	6	50
2,4,5-T	0.0592	U	0.483	0.4168		ug/L		86	58 - 130	10	50
2,4-DB	0.143	U	1.93	2.176		ug/L		113	60 - 147	11	50
Dinoseb	0.153	U	1.93	1.038		ug/L		54	14 - 130	7	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4-Dichlorophenylacetic acid	70		45 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 560-132189/1-A  
Matrix: Water  
Analysis Batch: 132326

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 132189

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.101	U	0.200	0.101	mg/L		09/27/16 12:30	09/30/16 10:15	1
Magnesium	0.0257	U	0.200	0.0257	mg/L		09/27/16 12:30	09/30/16 10:15	1
Silicon	0.0707	U	0.500	0.0707	mg/L		09/27/16 12:30	09/30/16 10:15	1
Sodium	0.4142	J	1.00	0.310	mg/L		09/27/16 12:30	09/30/16 10:15	1
Strontium	0.003400	J	0.00500	0.000700	mg/L		09/27/16 12:30	09/30/16 10:15	1

Lab Sample ID: MB 560-132189/1-A  
Matrix: Water  
Analysis Batch: 132362

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 132189

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	0.375	U	0.500	0.375	mg/L		09/27/16 12:30	09/30/16 16:10	1

Lab Sample ID: LCS 560-132189/2-A  
Matrix: Water  
Analysis Batch: 132326

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 132189

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	25.0	26.94		mg/L		108	80 - 120
Magnesium	25.0	26.90		mg/L		108	80 - 120
Silicon	10.0	10.80		mg/L		108	80 - 120
Strontium	0.250	0.2733		mg/L		109	80 - 120

Lab Sample ID: LCS 560-132189/2-A  
Matrix: Water  
Analysis Batch: 132362

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 132189

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	25.0	25.14		mg/L		101	80 - 120
Sodium	25.0	24.31		mg/L		97	80 - 120

Lab Sample ID: 560-63977-1 MS  
Matrix: Water  
Analysis Batch: 132326

Client Sample ID: HCS210 Peak 2  
Prep Type: Dissolved  
Prep Batch: 132189

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	18.0		25.0	43.05		mg/L		100	80 - 120
Magnesium	1.20		25.0	27.34		mg/L		105	80 - 120
Potassium	10.4		25.0	37.66		mg/L		109	80 - 120
Silicon	2.33		10.0	12.72		mg/L		104	80 - 120
Sodium	1.68	B F1 *	25.0	32.37	F1	mg/L		123	80 - 120
Strontium	0.0292	B	0.250	0.2851		mg/L		102	80 - 120

Lab Sample ID: 560-63977-1 MSD  
Matrix: Water  
Analysis Batch: 132326

Client Sample ID: HCS210 Peak 2  
Prep Type: Dissolved  
Prep Batch: 132189

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	3.781		25.0	42.61		mg/L		155	80 - 120	1	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 560-63977-1 MSD

Matrix: Water

Analysis Batch: 132326

Client Sample ID: HCS210 Peak 2

Prep Type: Dissolved

Prep Batch: 132189

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Magnesium	0.2610		25.0	27.42		mg/L		109	80 - 120	0	20
Potassium	1.779		25.0	37.93		mg/L		145	80 - 120	1	20
Silicon	0.4649		10.0	12.80		mg/L		123	80 - 120	1	20
Sodium	0.6939		25.0	30.06		mg/L		117	80 - 120	7	20
Strontium	0.008170		0.250	0.2857		mg/L		111	80 - 120	0	20

## Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 560-132203/1-A

Matrix: Water

Analysis Batch: 132254

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132203

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/27/16 16:50	09/28/16 15:16	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/27/16 16:50	09/28/16 15:16	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/27/16 16:50	09/28/16 15:16	1
Barium	0.000810	U	0.00500	0.000810	mg/L		09/27/16 16:50	09/28/16 15:16	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/27/16 16:50	09/28/16 15:16	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/27/16 16:50	09/28/16 15:16	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/27/16 16:50	09/28/16 15:16	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/27/16 16:50	09/28/16 15:16	1
Iron	0.101	U	0.250	0.101	mg/L		09/27/16 16:50	09/28/16 15:16	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/27/16 16:50	09/28/16 15:16	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/27/16 16:50	09/28/16 15:16	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/27/16 16:50	09/28/16 15:16	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/27/16 16:50	09/28/16 15:16	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/27/16 16:50	09/28/16 15:16	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/27/16 16:50	09/28/16 15:16	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/27/16 16:50	09/28/16 15:16	1

Lab Sample ID: LCS 560-132203/2-A

Matrix: Water

Analysis Batch: 132254

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132203

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	25.0	23.08		mg/L		92	80 - 120
Antimony	0.250	0.2457		mg/L		98	80 - 120
Arsenic	0.250	0.2461		mg/L		98	80 - 120
Barium	0.250	0.2478		mg/L		99	80 - 120
Beryllium	0.250	0.2362		mg/L		94	80 - 120
Cadmium	0.250	0.2438		mg/L		98	80 - 120
Chromium	0.250	0.2364		mg/L		95	80 - 120
Copper	0.250	0.2311		mg/L		92	80 - 120
Iron	25.0	23.62		mg/L		94	80 - 120
Lead	0.250	0.2338		mg/L		94	80 - 120
Manganese	2.50	2.413		mg/L		97	80 - 120
Nickel	0.250	0.2356		mg/L		94	80 - 120
Selenium	0.250	0.2501		mg/L		100	80 - 120

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 560-132203/2-A

Matrix: Water

Analysis Batch: 132254

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132203

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	0.250	0.2324		mg/L		93	80 - 120
Thallium	0.100	0.09803		mg/L		98	80 - 120
Zinc	0.250	0.2458		mg/L		98	80 - 120

Lab Sample ID: 560-63977-1 MS

Matrix: Water

Analysis Batch: 132254

Client Sample ID: HCS210 Peak 2

Prep Type: Dissolved

Prep Batch: 132203

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	0.197		25.0	22.85		mg/L		91	80 - 120
Antimony	0.00161	U	0.250	0.2362		mg/L		94	80 - 120
Arsenic	0.00148	J	0.250	0.2473		mg/L		98	80 - 120
Barium	0.00822		0.250	0.2489		mg/L		96	80 - 120
Beryllium	0.00124	U	0.250	0.2339		mg/L		94	80 - 120
Cadmium	0.000854	U	0.250	0.2434		mg/L		97	80 - 120
Chromium	0.00140	U	0.250	0.2346		mg/L		94	80 - 120
Copper	0.00200	U	0.250	0.2278		mg/L		91	80 - 120
Iron	0.162	J	25.0	23.01		mg/L		91	80 - 120
Lead	0.000733	U	0.250	0.2310		mg/L		92	80 - 120
Manganese	0.0116	U	2.50	2.355		mg/L		94	80 - 120
Nickel	0.00217	U	0.250	0.2304		mg/L		92	80 - 120
Selenium	0.00108	U	0.250	0.2386		mg/L		95	80 - 120
Silver	0.000941	U	0.250	0.2289		mg/L		92	80 - 120
Thallium	0.000693	U	0.100	0.09444		mg/L		94	80 - 120
Zinc	0.00355	U	0.250	0.2325		mg/L		93	80 - 120

Lab Sample ID: 560-63977-1 MSD

Matrix: Water

Analysis Batch: 132254

Client Sample ID: HCS210 Peak 2

Prep Type: Dissolved

Prep Batch: 132203

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	0.197		25.0	22.97		mg/L		91	80 - 120	1	20
Antimony	0.00161	U	0.250	0.2386		mg/L		95	80 - 120	1	20
Arsenic	0.00148	J	0.250	0.2440		mg/L		97	80 - 120	1	20
Barium	0.00822		0.250	0.2469		mg/L		95	80 - 120	1	20
Beryllium	0.00124	U	0.250	0.2373		mg/L		95	80 - 120	1	20
Cadmium	0.000854	U	0.250	0.2392		mg/L		96	80 - 120	2	20
Chromium	0.00140	U	0.250	0.2312		mg/L		92	80 - 120	1	20
Copper	0.00200	U	0.250	0.2248		mg/L		90	80 - 120	1	20
Iron	0.162	J	25.0	22.57		mg/L		90	80 - 120	2	20
Lead	0.000733	U	0.250	0.2311		mg/L		92	80 - 120	0	20
Manganese	0.0116	U	2.50	2.326		mg/L		93	80 - 120	1	20
Nickel	0.00217	U	0.250	0.2303		mg/L		92	80 - 120	0	20
Selenium	0.00108	U	0.250	0.2438		mg/L		98	80 - 120	2	20
Silver	0.000941	U	0.250	0.2280		mg/L		91	80 - 120	0	20
Thallium	0.000693	U	0.100	0.09413		mg/L		94	80 - 120	0	20
Zinc	0.00355	U	0.250	0.2303		mg/L		92	80 - 120	1	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 560-132307/28-A  
Matrix: Water  
Analysis Batch: 132308

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 132307

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	—	09/29/16 10:00	09/29/16 17:07	1

Lab Sample ID: MB 560-132307/4-A  
Matrix: Water  
Analysis Batch: 132308

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 132307

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	—	09/29/16 10:00	09/29/16 15:16	1

Lab Sample ID: LCS 560-132307/29-A  
Matrix: Water  
Analysis Batch: 132308

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 132307

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.004130		mg/L	—	83	80 - 120

Lab Sample ID: LCS 560-132307/5-A  
Matrix: Water  
Analysis Batch: 132308

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 132307

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.005440		mg/L	—	109	80 - 120

Lab Sample ID: 560-64002-A-2-B MS  
Matrix: Water  
Analysis Batch: 132308

Client Sample ID: Matrix Spike  
Prep Type: Dissolved  
Prep Batch: 132307

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U	0.00500	0.004180		mg/L	—	84	80 - 120

Lab Sample ID: 560-64002-A-2-C MSD  
Matrix: Water  
Analysis Batch: 132308

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Dissolved  
Prep Batch: 132307

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD Limit
Mercury	0.000130	U	0.00500	0.004110		mg/L	—	82	80 - 120	2 20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 560-132213/4  
Matrix: Water  
Analysis Batch: 132213

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L	—		09/27/16 12:59	1
Chloride	0.192	U	1.00	0.192	mg/L	—		09/27/16 12:59	1
Nitrate as N	0.103	U	0.500	0.103	mg/L	—		09/27/16 12:59	1
Sulfate	0.377	U	1.00	0.377	mg/L	—		09/27/16 12:59	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 560-132213/5

Matrix: Water

Analysis Batch: 132213

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.711		mg/L		94	90 - 110
Chloride	10.0	10.54		mg/L		105	90 - 110
Nitrate as N	5.00	5.004		mg/L		100	90 - 110
Sulfate	20.0	20.21		mg/L		101	90 - 110

Lab Sample ID: 560-63977-5 MS

Matrix: Water

Analysis Batch: 132213

Client Sample ID: HCS270 Peak 2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.451	J	5.00	4.645		mg/L		84	80 - 120
Chloride	13.5		10.0	22.63		mg/L		92	80 - 120
Nitrate as N	1.21		5.00	5.833		mg/L		93	80 - 120
Sulfate	20.7		20.0	39.28		mg/L		93	80 - 120

Lab Sample ID: 560-63977-5 MSD

Matrix: Water

Analysis Batch: 132213

Client Sample ID: HCS270 Peak 2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.451	J	5.00	4.614		mg/L		83	80 - 120	1	20
Chloride	13.5		10.0	22.31		mg/L		88	80 - 120	1	20
Nitrate as N	1.21		5.00	5.543		mg/L		87	80 - 120	5	20
Sulfate	20.7		20.0	38.66		mg/L		90	80 - 120	2	20

## Method: 340.2 - Fluoride

Lab Sample ID: MB 560-132541/3

Matrix: Water

Analysis Batch: 132541

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			10/06/16 12:00	1

Lab Sample ID: LCS 560-132541/4

Matrix: Water

Analysis Batch: 132541

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.8060		mg/L		101	85 - 115

Lab Sample ID: 560-64002-H-2 MS

Matrix: Water

Analysis Batch: 132541

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.0322	J	0.500	0.5290		mg/L		99	75 - 125

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 340.2 - Fluoride (Continued)

Lab Sample ID: 560-64002-H-2 MSD

Matrix: Water

Analysis Batch: 132541

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.0322	J	0.500	0.5300		mg/L		100	75 - 125	0	20

## Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 600-197959/12

Matrix: Water

Analysis Batch: 197959

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/03/16 11:41	1

Lab Sample ID: LCS 600-197959/13

Matrix: Water

Analysis Batch: 197959

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	10.59		mg/L		106	90 - 110

Lab Sample ID: 560-63977-4 MS

Matrix: Water

Analysis Batch: 197959

Client Sample ID: HCS260 Peak 2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	9.311		mg/L		93	90 - 110

Lab Sample ID: 560-63977-4 MSD

Matrix: Water

Analysis Batch: 197959

Client Sample ID: HCS260 Peak 2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U	10.0	9.297		mg/L		93	90 - 110	0	20

## Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 680-452176/10-A

Matrix: Water

Analysis Batch: 452522

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 452176

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/04/16 09:23	10/06/16 05:07	1

Lab Sample ID: LCS 680-452176/11-A

Matrix: Water

Analysis Batch: 452522

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452176

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	2.010		mg/L		101	60 - 140

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 365.4 - Phosphorus, Total (Continued)

Lab Sample ID: 680-130244-E-1-B MS ^10

Matrix: Water

Analysis Batch: 452522

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 452176

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	10.3		2.00	12.20	4	mg/L		95	60 - 140

Lab Sample ID: 680-130244-E-1-C MSD ^10

Matrix: Water

Analysis Batch: 452522

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 452176

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phosphorus	10.3		2.00	12.60	4	mg/L		115	60 - 140	3	40

Lab Sample ID: MB 680-452191/1-A

Matrix: Water

Analysis Batch: 452522

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 452191

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/04/16 10:00	10/06/16 05:39	1

Lab Sample ID: LCS 680-452191/2-A

Matrix: Water

Analysis Batch: 452522

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452191

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	1.990		mg/L		100	60 - 140

## Method: 9040C - pH

Lab Sample ID: LCS 560-132185/2

Matrix: Water

Analysis Batch: 132185

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	5.00	5.0		SU		101	98 - 102

Lab Sample ID: 560-63977-1 DU

Matrix: Water

Analysis Batch: 132185

Client Sample ID: HCS210 Peak 2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.4	HF	7.5		SU		0.5	20

## Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 560-132450/32

Matrix: Water

Analysis Batch: 132450

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			10/04/16 12:27	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 9060 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: MB 560-132450/4

Matrix: Water

Analysis Batch: 132450

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			10/04/16 12:27	1

Lab Sample ID: LCS 560-132450/33

Matrix: Water

Analysis Batch: 132450

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	24.59		mg/L		98	80 - 120

Lab Sample ID: LCS 560-132450/5

Matrix: Water

Analysis Batch: 132450

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	24.57		mg/L		98	80 - 120

Lab Sample ID: 560-63976-L-1 MS

Matrix: Water

Analysis Batch: 132450

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	3.63		10.0	12.85		mg/L		92	75 - 125

Lab Sample ID: 560-63976-L-1 MSD

Matrix: Water

Analysis Batch: 132450

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	3.63		10.0	13.11		mg/L		95	75 - 125	2	20

## Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 560-132496/4

Matrix: Water

Analysis Batch: 132496

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			10/05/16 12:09	1

Lab Sample ID: LCS 560-132496/5

Matrix: Water

Analysis Batch: 132496

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	25.00		mg/L		100	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: 9060 - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 560-64002-M-2 MS

Matrix: Water

Analysis Batch: 132496

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	7.29		10.0	16.35		mg/L		91	75 - 125

Lab Sample ID: 560-64002-M-2 MSD

Matrix: Water

Analysis Batch: 132496

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	7.29		10.0	16.71		mg/L		94	75 - 125	2	20

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 560-132260/1

Matrix: Water

Analysis Batch: 132260

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 09:45	1

Lab Sample ID: LCS 560-132260/15

Matrix: Water

Analysis Batch: 132260

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	95.48		mg/L		95	85 - 115

Lab Sample ID: LCS 560-132260/2

Matrix: Water

Analysis Batch: 132260

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	93.87		mg/L		94	85 - 115

Lab Sample ID: 560-63977-4 MS

Matrix: Water

Analysis Batch: 132260

Client Sample ID: HCS260 Peak 2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	182		100	275.2		mg/L		93	75 - 125

Lab Sample ID: 560-63977-4 MSD

Matrix: Water

Analysis Batch: 132260

Client Sample ID: HCS260 Peak 2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	182		100	272.8		mg/L		91	75 - 125	1	20

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 560-63977-5 MS

Matrix: Water

Analysis Batch: 132260

Client Sample ID: HCS270 Peak 2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	160		100	257.7		mg/L		98	75 - 125

Lab Sample ID: 560-63977-5 MSD

Matrix: Water

Analysis Batch: 132260

Client Sample ID: HCS270 Peak 2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	160		100	257.1		mg/L		97	75 - 125	0	20

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 560-132221/1

Matrix: Water

Analysis Batch: 132221

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			09/27/16 14:19	1

Lab Sample ID: LCS 560-132221/2

Matrix: Water

Analysis Batch: 132221

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	2250	2116		mg/L		94	90 - 110

Lab Sample ID: 560-63977-5 MS

Matrix: Water

Analysis Batch: 132221

Client Sample ID: HCS270 Peak 2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	248		2250	2284		mg/L		90	75 - 125

Lab Sample ID: 560-63977-5 MSD

Matrix: Water

Analysis Batch: 132221

Client Sample ID: HCS270 Peak 2

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	248		2250	2302		mg/L		91	75 - 125	1	20

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 560-132194/25

Matrix: Water

Analysis Batch: 132194

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.00	U	2.00	2.00	mg/L			09/27/16 11:45	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 560-132194/26  
Matrix: Water  
Analysis Batch: 132194

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	196.0		mg/L		98	90 - 110

Lab Sample ID: 560-63977-1 DU  
Matrix: Water  
Analysis Batch: 132194

Client Sample ID: HCS210 Peak 2  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	42.4		43.20		mg/L		2	20

# Certification Summary

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-17
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Laboratory: TestAmerica Denver

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-17
Arizona	State Program	9	AZ0713	12-19-16
Arkansas DEQ	State Program	6	88-0687	06-01-17
California	State Program	9	2513	08-31-16 *
Connecticut	State Program	1	PH-0686	09-30-18
Florida	NELAP	4	E87667	06-30-17
Georgia	State Program	4	N/A	01-09-17
Illinois	NELAP	5	200017	04-30-17
Iowa	State Program	7	370	11-30-16
Kansas	NELAP	7	E-10166	04-30-17
Louisiana	NELAP	6	02096	06-30-17
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-16
Nevada	State Program	9	CO0026	07-31-17
New Hampshire	NELAP	1	205310	04-28-17
New Jersey	NELAP	2	CO004	06-30-17
New York	NELAP	2	11964	04-01-17
North Carolina (WW/SW)	State Program	4	358	12-31-16
North Dakota	State Program	8	R-034	01-09-17
Oklahoma	State Program	6	8614	08-31-17
Oregon	NELAP	10	4025	01-09-17
Pennsylvania	NELAP	3	68-00664	07-31-17
South Carolina	State Program	4	72002001	01-09-17
Texas	NELAP	6	T104704183-15-11	09-30-17
USDA	Federal		P330-13-00369	12-17-16
Utah	NELAP	8	CO00026	07-31-17
Virginia	NELAP	3	460232	06-14-17
Washington	State Program	10	C583	08-03-17
West Virginia DEP	State Program	3	354	11-30-16
Wisconsin	State Program	5	999615430	08-31-17
Wyoming (UST)	A2LA	8	2907.01	10-31-17

## Laboratory: TestAmerica Houston

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	16-046-0	08-04-17
Louisiana	NELAP	6	01967	06-30-17
Oklahoma	State Program	6	2015-050	08-31-17
Texas	NELAP	6	T104704223-16-19	10-31-16 *

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

## Laboratory: TestAmerica Houston (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
USDA	Federal		P330-14-00192	06-06-17

## Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-17
A2LA	ISO/IEC 17025		399.01	02-28-17
Alabama	State Program	4	41450	06-30-17
Alaska (UST)	State Program	10	UST-104	11-05-16
Arkansas DEQ	State Program	6	88-0692	01-31-17
California	State Program	9	2939	07-31-16 *
Colorado	State Program	8	N/A	12-31-16
Connecticut	State Program	1	PH-0161	03-31-17
Florida	NELAP	4	E87052	06-30-17
GA Dept. of Agriculture	State Program	4	N/A	06-12-17
Georgia	State Program	4	N/A	06-30-17
Georgia	State Program	4	803	06-30-17
Guam	State Program	9	15-005r	04-16-17
Hawaii	State Program	9	N/A	06-30-17
Illinois	NELAP	5	200022	11-30-16
Indiana	State Program	5	N/A	06-30-17
Iowa	State Program	7	353	06-30-17
Kentucky (DW)	State Program	4	90084	12-31-16
Kentucky (UST)	State Program	4	18	06-30-17
Kentucky (WW)	State Program	4	90084	12-31-16
Louisiana	NELAP	6	30690	06-30-17
Louisiana (DW)	NELAP	6	LA160019	12-31-16
Maine	State Program	1	GA00006	09-24-18
Maryland	State Program	3	250	12-31-16
Massachusetts	State Program	1	M-GA006	06-30-17
Michigan	State Program	5	9925	06-30-17
Mississippi	State Program	4	N/A	06-30-16 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-17
New Jersey	NELAP	2	GA769	06-30-17
New Mexico	State Program	6	N/A	06-30-17
New York	NELAP	2	10842	03-31-17
North Carolina (DW)	State Program	4	13701	07-31-17
North Carolina (WW/SW)	State Program	4	269	12-31-16
Oklahoma	State Program	6	9984	08-31-17
Pennsylvania	NELAP	3	68-00474	06-30-17
Puerto Rico	State Program	2	GA00006	12-31-16
South Carolina	State Program	4	98001	06-30-17
Tennessee	State Program	4	TN02961	06-30-17
Texas	NELAP	6	T104704185-15-8	11-30-16
USDA	Federal		SAV 3-04	06-11-17
Virginia	NELAP	3	460161	06-14-17
Washington	State Program	10	C805	06-10-17
West Virginia (DW)	State Program	3	9950C	12-31-16

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

## Certification Summary

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

### Laboratory: TestAmerica Savannah (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	094	08-31-16 *
Wisconsin	State Program	5	999819810	08-31-17
Wyoming	State Program	8	8TMS-L	06-30-16 *

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

## Method Summary

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CC
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CC
8081B	Organochlorine Pesticides (GC)	SW846	TAL CC
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CC
8141A	Organophosphorous Pesticides (GC)	SW846	TAL DEN
8151A	Herbicides (GC)	SW846	TAL SAV
6010B	Metals (ICP)	SW846	TAL CC
6020	Metals (ICP/MS)	SW846	TAL CC
7470A	Mercury (CVAA)	SW846	TAL CC
300.0	Anions, Ion Chromatography	MCAWW	TAL CC
340.2	Fluoride	MCAWW	TAL CC
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL HOU
365.4	Phosphorus, Total	EPA	TAL SAV
9040C	pH	SW846	TAL CC
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL CC
9060	Organic Carbon, Total (TOC)	SW846	TAL CC
SM 2320B	Alkalinity	SM	TAL CC
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CC

### Protocol References:

EPA = US Environmental Protection Agency  
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.  
SM = "Standard Methods For The Examination Of Water And Wastewater",  
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673  
TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100  
TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444  
TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

## Sample Summary

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-63977-1	HCS210 Peak 2	Water	09/26/16 07:28	09/27/16 08:00
560-63977-2	HCS240 Peak 2	Water	09/26/16 07:49	09/27/16 08:00
560-63977-3	HCS250 Peak 2	Water	09/26/16 07:24	09/27/16 08:00
560-63977-4	HCS260 Peak 2	Water	09/26/16 08:04	09/27/16 08:00
560-63977-5	HCS270 Peak 2	Water	09/26/16 07:40	09/27/16 08:00
560-63977-11	TB14	Water	09/26/16 00:00	09/27/16 08:00



## Chain of Custody Record

<b>Client Information</b>		Sampler: <u>Jennifer Moreland</u>		Lab PM: <u>Maingot, Lindy</u>		Carrier Tracking No(s):	
Client Contact: Philip Pearce		Phone: <u>210-877-2847</u>		E-Mail: <u>lindy.maingot@testamericainc.com</u>		COC No: <u>560-21032-2626</u>	
Company: <u>SWCA, Inc.</u>		Due Date Requested:		Analysis Requested		Job #:	
Address: <u>6200 UTSA Boulevard Suite 102</u>		TAT Requested (days): <u>STANDARD</u>					
City: <u>San Antonio</u>							
State, Zip: <u>TX, 78249</u>							
Phone: <u>210-877-2847(Tel)</u>		PO #: <u>27122.01</u>					
Email: <u>P.Pearce@swca.com</u>		WO #: <u>56005790</u>					
Project Name: <u>EAA STORMWATER</u>		Project #: <u>56005790</u>					
Site: <u>COMAL SPRINGS</u>		SSOW#:					

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=air)	Field Filtered Sample (Yes or No)	8141A - Organo-Pesticide (DENVER)	8081B, 8082A	8270C - SVOCs	SUBCONTRACT - Caffeine 1694 - (WECK)	2320B, 300, 340.2, 9040C	6010B, 6020, 7470A	9060, 9060, Diss	8260B - VOCs	2640C, 2640D	361.2, NP - Nitrogen, Kjeldahl (HOUSTON)	8151A - Herbicides (SAVANNAH)	365.4 - Phosphorus (SAVANNAH)	Total Number of Containers	Special Instructions/Note:
HCS210 Peak 2	9/26/16	0728	G	W	N	N	N	N	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HCS240 Peak 2	9/26/16	0749	G	W	N	N	N	N	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HCS250 Peak 2	9/26/16	0724	G	W	N	N	N	N	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HCS260 Peak 2	9/26/16	0804	G	W	N	N	N	N	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HCS270 Peak 2	9/26/16	0740	G	W	N	N	N	N	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
TB14	9/26/16																	922	


  

**Possible Hazard Identification**

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Deliverable Requested: I, II, III, IV, Other (specify)


**San Antonio**



561

**560-63977 Chain of Custody**



**Special Instructions/Chain of Custody**

osal (A fee may be assessed if samples are sent To Client ☐ Disposal By Lab ☐)

Relinquished by:	Date:	Time:	Company:	Method of Shipment:
<u>[Signature]</u>	9/26/16	1530	SWCA	
<u>[Signature]</u>	9/26/16	4:30 PM	SWCA	
<u>[Signature]</u>	9/26/16	4:30 PM	SWCA	

Custody Seal Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
<u>Yes</u>		

## Chain of Custody Record



TestAmerica

THE LEADER IN FLUOROPOLYMER TESTING

Client Information (Sub Contract Lab)						Lab PM:		Carrier Tracking No(s):		COC No.				
Client Contact: Shipping/Receiving						Maingot, Lindy				560-14210-1				
Company: TestAmerica Laboratories, Inc.						E-Mail: lindy.maingot@testamericainc.com		Page Page 1 of 1						
Address: 4955 Yarrow Street, City Arvada State Zip CO. 80002						Phone: 303-738-0100(Tel) 303-431-7171(Fax)		Job # 560-63977-1						
Email: Project Name: EAA Stormwater						PO #: WO #: Project #: SSOW#		Analysis Requested						
Sample Identification - Client ID (Lab ID)						Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=solid, O=wastewater) BT=Tissue, A=Air	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8141A/3610C (MOD) Standard 8141 list	Total Number of containers	Special Instructions/Note:
HCS210 Peak 2 (560-63977-1)					9/26/16	07:28 Central		Water	X				2	
HCS240 Peak 2 (560-63977-2)					9/26/16	07:49 Central		Water	X				2	
HCS250 Peak 2 (560-63977-3)					9/26/16	07:24 Central		Water	X				2	
HCS260 Peak 2 (560-63977-4)					9/26/16	08:04 Central		Water	X				2	
HCS270 Peak 2 (560-63977-5)					9/26/16	07:40 Central		Water	X				2	
Possible Hazard Identification														
Unconfirmed														
Deliverable Requested: I, II, III, IV, Other (specify)														
Primary Deliverable Rank: 2														
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)														
<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months														
Special Instructions/QC Requirements:														
Time: _____ Method of Shipment: _____														
Relinquished by: Coy Etc						Date/Time: 9-29-16 1700	Company: TAC	Received by: [Signature]		Date/Time: 9-30-16 1030	Company: [Signature]			
Relinquished by:						Date/Time:	Company:	Received by:		Date/Time:	Company:			
Relinquished by:						Date/Time:	Company:	Received by:		Date/Time:	Company:			
Custody Seals Intact: Yes    No						Custody Seal No.: 9-30-16		Cooler Temperature(s) °C and Other Remarks: 5.6, 2.6, 3.4, 5.3 DEHP o.c Transfer RP						



## Chain of Custody Record



TestAmerica

THE FACTORIAL EXPERIMENTAL DESIGN

Client Information (Sub Contract Lab)				Lab PM: Maingot, Lindy		Carrier Tracking No(s):		GOC No: 560-14208.1	
Client Contact				E-Mail: lindy.maingot@testamericainc.com		Page 1 of 1		Page	
Company				Phone		Job #		560-63977-1	
TestAmerica Laboratories, Inc.				Address:		Due Date Requested:		Analysis Requested	
36310 Rohlway Street,				City:		10/7/2016		560-63977-1	
Houston				State, Zip:		TAT Requested (days):			
TX, 77040				Phone:					
713-690-4444(Tel) 713-690-5646(Fax)				Email:					
Project Name:				Project #		Sample Date		Sample Time	
EAA Stormwater				56005790		9/26/16		07:28	
Site:				SSOW#					
Sample Identification - Client ID (Lab ID)				Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, Air)		Field Filtered Sample (Yes or No)	
Sample Identification - Client ID (Lab ID)				Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, Air)		Field Filtered Sample (Yes or No)	
HCS210 Peak 2 (560-63977-1)				G=grab		Water		X	
HCS240 Peak 2 (560-63977-2)				G=grab		Water		X	
HCS250 Peak 2 (560-63977-3)				G=grab		Water		X	
HCS260 Peak 2 (560-63977-4)				G=grab		Water		X	
HCS270 Peak 2 (560-63977-5)				G=grab		Water		X	
Total Number of Containers								1	
Special Instructions/Note:									
Preservation Codes:									
A - HCL									
B - NaOH									
C - Zn Acetate									
D - Nitric Acid									
E - NaHSO4									
F - MeOH									
G - Ascorbic Acid									
H - Ice									
I - Di Water									
J - EDTA									
K - pH 4.5									
L - EDA									
Other:									
M - Hexane									
N - None									
O - AsNaO2									
P - Na2O4S									
Q - Na2SO3									
R - Na2SO4									
S - H2SO4									
T - TSP Dodecahydrate									
U - Acetone									
V - MCAA									
W - pH 4.5									
Z - other (specify)									
Barcode									
560-63977 Chain of Custody									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)									
Return To Client				Disposal By Lab		Archive For		Months	
Special Instructions/QC Requirements									
Primary Deliverable Rank: 2									
Date:				Time:		Method of Shipment:			
Relinquished by Coy Eto				Relinquished by		Relinquished by		Relinquished by	
Date/Time 9/29/16				Date/Time		Date/Time		Date/Time	
Date/Time				Date/Time		Date/Time		Date/Time	
Date/Time				Date/Time		Date/Time		Date/Time	
Custody Seals Intact				Custody Seal No.		Cooler Temperature(s) °C and Other Remarks			
Δ Yes Δ No									

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63977-1

**Login Number: 63977**

**List Source: TestAmerica Corpus Christi**

**List Number: 1**

**Creator: Gilmore, Matthew**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63977-1

**Login Number: 63977**

**List Number: 4**

**Creator: Pottruff, Reed W**

**List Source: TestAmerica Denver**

**List Creation: 09/30/16 04:57 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63977-1

**Login Number: 63977**

**List Source: TestAmerica Houston**

**List Number: 3**

**List Creation: 09/30/16 02:19 PM**

**Creator: Crafton, Tommie S**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63977-1

**Login Number: 63977**

**List Source: TestAmerica Savannah**

**List Number: 2**

**List Creation: 09/30/16 12:18 PM**

**Creator: Flanagan, Naomi V**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-64002-1

Client Project/Site: Comal Springs  
Revision: 1

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
10/26/2016 3:31:32 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
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### LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

### Qualifiers

#### GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

#### GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

#### GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

#### Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

#### General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
U	Indicates the analyte was analyzed for but not detected.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

TestAmerica Corpus Christi

Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)



## Case Narrative

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Job ID: 560-64002-1**

**Laboratory: TestAmerica Corpus Christi**

### Narrative

#### Job Narrative 560-64002-1

#### Revised Report 1 10-19-2016

The client requested a change for the units for 8260, 8141 and 6020. No other changes were made.

#### Receipt

The samples were received on 9/28/2016 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 8 coolers at receipt time were 2.1° C, 2.3° C, 2.4° C, 2.6° C, 2.7° C, 2.8° C, 2.8° C and 3.0° C.

#### GC/MS VOA

Method 8260: The relative percent deviation (RPD) was outside acceptable limits for 1, 4-Dioxane in the MS/MSD pair associated with batch 132278. The LCS was within acceptable limits. Therefore, data are reported.

Method 8260: The relative percent deviation (RPD) was outside acceptable limits for 1, 4-Dioxane in the MS/MSD pair associated with batch 132278. The LCS was within acceptable limits. Therefore, data are reported.

Method 8260: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 132311 were outside acceptable limits for various analytes. The LCS was within acceptable limits. Therefore, data are reported.

Method 8260: The relative percent deviation (RPD) was outside acceptable limits for Ethylene oxide in the MS/MSD pair associated with batch 132311. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method 8260: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 132347 were outside acceptable limits for various analytes. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### GC Semi VOA

Method 8141A: The grand mean exception, as outlined in EPA method 8000B, was applied to the continuing calibration verification (CCV) standard associated with batch 280-345644 for several compounds. This rule states that when one or more compounds in the CCV fail to meet acceptance criteria, the initial calibration (ICAL) may be used for quantitation if the average %D (the grand mean) of all the compounds in the CCV is less than or equal to 15%D with no single %D more than 30%. All associated samples are ND for the affected compounds. Both surrogates are well in control on both columns and not affected by any bias.

CCV1 (front) Chlormefos -19% AVE=5.2 (back) Dichlorvos +16% Merphos -17% AVE=9.6

MB, LCS, 560-63976-1, -2, -3, -4, -5, 560-63977-1, -2, -3, -4, -5

CCV2 (front) OK (back) Tokuthion -16% Trichloronate -16% Azinphos-methyl -16% Chlormefos -16% Methyl parathion -16% AVE=13.2

560-63995-1, 560-64002-2, MS, MSD, -3, -4, -5, -6, -12, -13

CCV3 (front) Dichlorvos +18% AVE=9.4 (back) Azinphos-methyl -20% Dichlorvos +20% AVE=12.6

Method 8141A: The continuing calibration verification (CCV) associated with batch 280-345644 recovered outside acceptance criteria, low biased, for Naled. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

560-64002-2, MS, MSD, -3, -4, -5, -6, -12, -13

CCV3 (front) Naled -46% (back) Naled -50%

Method 8141A: The initial calibration verification (ICV) for Mevinphos associated with analytical batch 280-345644 recovered below the lower control limit on the back/confirmation column. The samples associated with this ICV were non-detects for the affected analytes; therefore, the data have been reported from the front/primary column which is in control.

ICV (front) OK (back) Mevinphos -21%

Method 8141A: The Chlormefos surrogate recovery for the following samples in preparation batch 280-344653 and analytical batch

## Case Narrative

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

### Job ID: 560-64002-1 (Continued)

#### Laboratory: TestAmerica Corpus Christi (Continued)

280-345644 was outside acceptance limits (low biased) on the front/primary column: HCS260 Trail (560-64002-5), FDHCS260 Trail (560-64002-6), HCS270 Trail (560-64002-12) and FDHCS270 Trail (560-64002-13). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control.

Method 8141A: The Chlormefos surrogate recovery for the following sample in preparation batch 280-344653 and analytical batch 280-345644 was outside acceptance limits (low biased) on the back/confirmation column: HCS210 Trail (560-64002-2[MS]). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control. The bracketing CCV for Chlormefos recovered below the lower limit but the surrogate is in control on the same column without bias. The sample is a matrix spike and all spiked compounds are well in control on both columns.

Method 8081B: The following continuing calibration verification (CCV) associated with batch 560-132295 recovered above the upper control limit for toxaphene: (CCV 560-132295/4). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8151: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 452263 were outside acceptable limits for Dalapon. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

Method 9040C: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples have been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe. 560-64002-2, 3, 4, 5, 6, 12 and 13.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method 3510C: The following samples were spiked with a unverified standards.

8141 Surr\_00079 & 8141 LCS\_000112

HCS210 Trail (560-64002-2), HCS210 Trail (560-64002-2[MS]), HCS210 Trail (560-64002-2[MSD]), HCS240 Trail (560-64002-3), HCS250 Trail (560-64002-4), HCS260 Trail (560-64002-5), FDHCS260 Trail (560-64002-6), HCS270 Trail (560-64002-12) and FDHCS270 Trail (560-64002-13)

preparation batch 280-344653.

3510C 8141A

344653

Method 3510C: The following samples formed emulsions during the extraction procedure: HCS210 Trail (560-64002-2), HCS210 Trail (560-64002-2[MS]), HCS210 Trail (560-64002-2[MSD]), HCS240 Trail (560-64002-3), HCS250 Trail (560-64002-4), HCS260 Trail (560-64002-5), FDHCS260 Trail (560-64002-6), HCS270 Trail (560-64002-12) and FDHCS270 Trail (560-64002-13). The emulsions were broken up using a pour back method on all three extractions.

preparation batch 280-344653.

3510C 8141A

344653

Method 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 560-132382.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS210 Trail

Lab Sample ID: 560-64002-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2,4-D	0.0368	J p	0.478	0.0353	ug/L	1		8151A	Total/NA
Calcium	29.0		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	1.08		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	4.23		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.49		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	0.870	J	1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.0319		0.00500	0.000700	mg/L	1		6010B	Dissolved
Aluminum	0.336		0.100	0.0500	mg/L	1		6020	Dissolved
Arsenic	0.00150	J	0.00500	0.00109	mg/L	1		6020	Dissolved
Barium	0.0109		0.00500	0.000810	mg/L	1		6020	Dissolved
Iron	0.297		0.250	0.101	mg/L	1		6020	Dissolved
Chloride	1.73		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.565		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	4.03		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.0322	J	0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.155		0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	7.06		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	7.29		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	64.9		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	64.9		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	94.0		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3.40		2.00	2.00	mg/L	1		SM 2540D	Total/NA

Client Sample ID: HCS240 Trail

Lab Sample ID: 560-64002-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	9.28	J	20.0	5.00	ug/L	1		8270C	Total/NA
Calcium	82.5		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.3		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.67		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.88		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	10.4		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.628		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0499		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.448	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	16.3		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.68		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	22.0		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.215		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.956	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.782	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	207		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	207		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	309		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	5.00		2.00	2.00	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

## Detection Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

### Client Sample ID: HCS250 Trail

### Lab Sample ID: 560-64002-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	85.4		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.8		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.89		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	6.20		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.8		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.663		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0507		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.458	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	16.6		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.67		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	22.4		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.204		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.820	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.36		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	210		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	210		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	310		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.60		2.00	2.00	mg/L	1		SM 2540D	Total/NA

### Client Sample ID: HCS260 Trail

### Lab Sample ID: 560-64002-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	81.1		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.5		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.38		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	6.06		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	12.1		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.603		0.00500	0.000700	mg/L	1		6010B	Dissolved
Arsenic	0.00110	J	0.00500	0.00109	mg/L	1		6020	Dissolved
Barium	0.0518		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.458	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	16.3		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.65		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	26.3		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.224		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	1.39		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.06		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	205		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	205		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	308		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	10.0		2.00	2.00	mg/L	1		SM 2540D	Total/NA

### Client Sample ID: FDHCS260 Trail

### Lab Sample ID: 560-64002-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	82.9		0.200	0.101	mg/L	1		6010B	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



## Detection Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

### Client Sample ID: FDHCS260 Trail (Continued)

Lab Sample ID: 560-64002-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	14.9		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.28		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	6.27		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	12.4		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.615		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0518		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.458	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	16.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.65		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	26.2		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.218		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	1.01		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.922	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	200		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	200		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	302		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	10.4		2.00	2.00	mg/L	1		SM 2540D	Total/NA

### Client Sample ID: HCS270 Trail

Lab Sample ID: 560-64002-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	7.43	J	20.0	5.00	ug/L	1		8270C	Total/NA
Calcium	85.2		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.3		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.49		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	6.42		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	12.1		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.630		0.00500	0.000700	mg/L	1		6010B	Dissolved
Arsenic	0.00111	J	0.00500	0.00109	mg/L	1		6020	Dissolved
Barium	0.0541		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.467	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	16.4		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.64		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	25.9		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.223		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	1.51		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.08		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	204		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	204		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	299		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	14.0		2.00	2.00	mg/L	1		SM 2540D	Total/NA

### Client Sample ID: FDHCS270 Trail

Lab Sample ID: 560-64002-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	5.81	J	20.0	5.00	ug/L	1		8270C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

## Detection Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

### Client Sample ID: FDHCS270 Trail (Continued)

Lab Sample ID: 560-64002-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	82.7		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.9		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.31		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	6.20		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.9		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.614		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0513		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.467	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	16.3		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.63		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	25.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.217		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	1.17		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.793	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5	HF	0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	203		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	203		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	310		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	7.40		2.00	2.00	mg/L	1		SM 2540D	Total/NA

### Client Sample ID: TB15

Lab Sample ID: 560-64002-14

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS210 Trail**

**Lab Sample ID: 560-64002-2**

**Date Collected: 09/27/16 09:54**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/30/16 12:12	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/30/16 12:12	1
Benzene	0.330	U	1.00	0.330	ug/L			09/30/16 12:12	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/30/16 12:12	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/30/16 12:12	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/30/16 12:12	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/30/16 12:12	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/30/16 12:12	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/30/16 12:12	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/30/16 12:12	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/30/16 12:12	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/30/16 12:12	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/30/16 12:12	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/30/16 12:12	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/30/16 12:12	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/30/16 12:12	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/30/16 12:12	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/30/16 12:12	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/30/16 12:12	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/30/16 12:12	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/30/16 12:12	1
cis-1,4-Dichloro-2-butene	0.500	U F1	5.00	0.500	ug/L			09/30/16 12:12	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/30/16 12:12	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/30/16 12:12	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/30/16 12:12	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/30/16 12:12	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/30/16 12:12	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/30/16 12:12	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/30/16 12:12	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/30/16 12:12	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/30/16 12:12	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/30/16 12:12	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/30/16 12:12	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/30/16 12:12	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/30/16 12:12	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/30/16 12:12	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/30/16 12:12	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/30/16 12:12	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/30/16 12:12	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/30/16 12:12	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/30/16 12:12	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/30/16 12:12	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/30/16 12:12	1
EDB	0.175	U	1.00	0.175	ug/L			09/30/16 12:12	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/30/16 12:12	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/30/16 12:12	1
Ethylene oxide	30.0	U F1 F2	50.0	30.0	ug/L			09/30/16 12:12	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/30/16 12:12	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/30/16 12:12	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS210 Trail

Lab Sample ID: 560-64002-2

Date Collected: 09/27/16 09:54

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/30/16 12:12	1
Hexane	2.00	U	5.00	2.00	ug/L			09/30/16 12:12	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/30/16 12:12	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/30/16 12:12	1
Isobutyl alcohol	5.00	U F1	50.0	5.00	ug/L			09/30/16 12:12	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/30/16 12:12	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/30/16 12:12	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/30/16 12:12	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/30/16 12:12	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/30/16 12:12	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/30/16 12:12	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/30/16 12:12	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/30/16 12:12	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/30/16 12:12	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/30/16 12:12	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/30/16 12:12	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/30/16 12:12	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/30/16 12:12	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/30/16 12:12	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/30/16 12:12	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/30/16 12:12	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/30/16 12:12	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/30/16 12:12	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/30/16 12:12	1
Styrene	0.200	U	1.00	0.200	ug/L			09/30/16 12:12	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/30/16 12:12	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/30/16 12:12	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/30/16 12:12	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/30/16 12:12	1
Toluene	0.495	U	1.00	0.495	ug/L			09/30/16 12:12	1
trans-1,4-Dichloro-2-butene	0.500	U F1	5.00	0.500	ug/L			09/30/16 12:12	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/30/16 12:12	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/30/16 12:12	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/30/16 12:12	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/30/16 12:12	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/30/16 12:12	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/30/16 12:12	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/30/16 12:12	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/30/16 12:12	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/30/16 12:12	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/30/16 12:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/30/16 12:12	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/30/16 12:12	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/30/16 12:12	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/30/16 12:12	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/30/16 12:12	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/30/16 12:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		09/30/16 12:12	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS210 Trail**

**Lab Sample ID: 560-64002-2**

**Date Collected: 09/27/16 09:54**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	100		69 - 130		09/30/16 12:12	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		09/30/16 12:12	1
Toluene-d8 (Surr)	100		70 - 130		09/30/16 12:12	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/29/16 16:37	10/03/16 09:39	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/29/16 16:37	10/03/16 09:39	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/29/16 16:37	10/03/16 09:39	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/29/16 16:37	10/03/16 09:39	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/29/16 16:37	10/03/16 09:39	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/29/16 16:37	10/03/16 09:39	1
Benzo[g,h,i]perylene	1.10	U F1	10.0	1.10	ug/L		09/29/16 16:37	10/03/16 09:39	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/29/16 16:37	10/03/16 09:39	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/29/16 16:37	10/03/16 09:39	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/29/16 16:37	10/03/16 09:39	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/29/16 16:37	10/03/16 09:39	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/29/16 16:37	10/03/16 09:39	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/29/16 16:37	10/03/16 09:39	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/29/16 16:37	10/03/16 09:39	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 09:39	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/29/16 16:37	10/03/16 09:39	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/29/16 16:37	10/03/16 09:39	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/29/16 16:37	10/03/16 09:39	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/29/16 16:37	10/03/16 09:39	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/29/16 16:37	10/03/16 09:39	1
Dibenz(a,h)anthracene	0.874	U F1	10.0	0.874	ug/L		09/29/16 16:37	10/03/16 09:39	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/29/16 16:37	10/03/16 09:39	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/29/16 16:37	10/03/16 09:39	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/29/16 16:37	10/03/16 09:39	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/29/16 16:37	10/03/16 09:39	1
3,3'-Dichlorobenzidine	0.787	U F1	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 09:39	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/29/16 16:37	10/03/16 09:39	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/29/16 16:37	10/03/16 09:39	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/29/16 16:37	10/03/16 09:39	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 09:39	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/29/16 16:37	10/03/16 09:39	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/29/16 16:37	10/03/16 09:39	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/29/16 16:37	10/03/16 09:39	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/29/16 16:37	10/03/16 09:39	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/29/16 16:37	10/03/16 09:39	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/29/16 16:37	10/03/16 09:39	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/29/16 16:37	10/03/16 09:39	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/29/16 16:37	10/03/16 09:39	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/29/16 16:37	10/03/16 09:39	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/29/16 16:37	10/03/16 09:39	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/29/16 16:37	10/03/16 09:39	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 09:39	1
Indeno[1,2,3-cd]pyrene	0.922	U F1	10.0	0.922	ug/L		09/29/16 16:37	10/03/16 09:39	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS210 Trail**

**Lab Sample ID: 560-64002-2**

**Date Collected: 09/27/16 09:54**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 09:39	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/29/16 16:37	10/03/16 09:39	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/29/16 16:37	10/03/16 09:39	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/29/16 16:37	10/03/16 09:39	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 09:39	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/29/16 16:37	10/03/16 09:39	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/29/16 16:37	10/03/16 09:39	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/29/16 16:37	10/03/16 09:39	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/29/16 16:37	10/03/16 09:39	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/29/16 16:37	10/03/16 09:39	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/29/16 16:37	10/03/16 09:39	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/29/16 16:37	10/03/16 09:39	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/29/16 16:37	10/03/16 09:39	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/29/16 16:37	10/03/16 09:39	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/29/16 16:37	10/03/16 09:39	1
Phenol	0.768	U	10.0	0.768	ug/L		09/29/16 16:37	10/03/16 09:39	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/29/16 16:37	10/03/16 09:39	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/29/16 16:37	10/03/16 09:39	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/29/16 16:37	10/03/16 09:39	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/29/16 16:37	10/03/16 09:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		23 - 130	09/29/16 16:37	10/03/16 09:39	1
2-Fluorophenol	63		10 - 130	09/29/16 16:37	10/03/16 09:39	1
Nitrobenzene-d5	63		27 - 130	09/29/16 16:37	10/03/16 09:39	1
Phenol-d5	67		10 - 130	09/29/16 16:37	10/03/16 09:39	1
Terphenyl-d14	23		10 - 141	09/29/16 16:37	10/03/16 09:39	1
2,4,6-Tribromophenol	71		18 - 130	09/29/16 16:37	10/03/16 09:39	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00468	U	0.0561	0.00468	ug/L		09/29/16 09:08	09/29/16 19:00	1
alpha-BHC	0.00487	U	0.0561	0.00487	ug/L		09/29/16 09:08	09/29/16 19:00	1
alpha-Chlordane	0.00590	U	0.0561	0.00590	ug/L		09/29/16 09:08	09/29/16 19:00	1
beta-BHC	0.00468	U	0.0561	0.00468	ug/L		09/29/16 09:08	09/29/16 19:00	1
4,4'-DDD	0.00468	U	0.0561	0.00468	ug/L		09/29/16 09:08	09/29/16 19:00	1
4,4'-DDE	0.00468	U	0.0561	0.00468	ug/L		09/29/16 09:08	09/29/16 19:00	1
4,4'-DDT	0.00758	U	0.0561	0.00758	ug/L		09/29/16 09:08	09/29/16 19:00	1
delta-BHC	0.00468	U	0.0561	0.00468	ug/L		09/29/16 09:08	09/29/16 19:00	1
Dieldrin	0.0122	U	0.0561	0.0122	ug/L		09/29/16 09:08	09/29/16 19:00	1
Endosulfan I	0.00468	U	0.0561	0.00468	ug/L		09/29/16 09:08	09/29/16 19:00	1
Endosulfan II	0.00805	U	0.0561	0.00805	ug/L		09/29/16 09:08	09/29/16 19:00	1
Endosulfan sulfate	0.00824	U	0.0561	0.00824	ug/L		09/29/16 09:08	09/29/16 19:00	1
Endrin	0.00721	U	0.0561	0.00721	ug/L		09/29/16 09:08	09/29/16 19:00	1
Endrin aldehyde	0.00468	U	0.0561	0.00468	ug/L		09/29/16 09:08	09/29/16 19:00	1
Endrin ketone	0.00767	U	0.0561	0.00767	ug/L		09/29/16 09:08	09/29/16 19:00	1
gamma-BHC (Lindane)	0.00421	U	0.0561	0.00421	ug/L		09/29/16 09:08	09/29/16 19:00	1
gamma-Chlordane	0.00627	U	0.0561	0.00627	ug/L		09/29/16 09:08	09/29/16 19:00	1
Heptachlor	0.00608	U	0.0561	0.00608	ug/L		09/29/16 09:08	09/29/16 19:00	1
Heptachlor epoxide	0.00487	U	0.0561	0.00487	ug/L		09/29/16 09:08	09/29/16 19:00	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS210 Trail**

**Lab Sample ID: 560-64002-2**

**Date Collected: 09/27/16 09:54**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	0.00936	U	0.0561	0.00936	ug/L		09/29/16 09:08	09/29/16 19:00	1
Toxaphene	0.636	U	5.61	0.636	ug/L		09/29/16 09:08	09/29/16 19:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	95		10 - 152				09/29/16 09:08	09/29/16 19:00	1
Tetrachloro-m-xylene	98		57 - 127				09/29/16 09:08	09/29/16 19:00	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.561	0.103	ug/L		09/29/16 09:08	09/29/16 17:31	1
Aroclor 1221	0.103	U	0.561	0.103	ug/L		09/29/16 09:08	09/29/16 17:31	1
Aroclor 1232	0.412	U	0.749	0.412	ug/L		09/29/16 09:08	09/29/16 17:31	1
Aroclor 1242	0.103	U	0.561	0.103	ug/L		09/29/16 09:08	09/29/16 17:31	1
Aroclor 1248	0.103	U	0.561	0.103	ug/L		09/29/16 09:08	09/29/16 17:31	1
Aroclor 1254	0.103	U	0.561	0.103	ug/L		09/29/16 09:08	09/29/16 17:31	1
Aroclor 1260	0.103	U	0.561	0.103	ug/L		09/29/16 09:08	09/29/16 17:31	1
Aroclor 1262	0.103	U	0.561	0.103	ug/L		09/29/16 09:08	09/29/16 17:31	1
Aroclor 1268	0.103	U	0.561	0.103	ug/L		09/29/16 09:08	09/29/16 17:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	115		10 - 150				09/29/16 09:08	09/29/16 17:31	1
DCB Decachlorobiphenyl	87		10 - 150				09/29/16 09:08	09/29/16 17:31	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00238	0.000160	mg/L		10/02/16 08:17	10/09/16 12:56	1
Bolstar	0.000299	U	0.000951	0.000299	mg/L		10/02/16 08:17	10/09/16 12:56	1
Chlorpyrifos	0.000342	U	0.00143	0.000342	mg/L		10/02/16 08:17	10/09/16 12:56	1
Coumaphos	0.000128	U	0.000951	0.000128	mg/L		10/02/16 08:17	10/09/16 12:56	1
Demeton-O	0.000133	U	0.000951	0.000133	mg/L		10/02/16 08:17	10/09/16 12:56	1
Demeton-S	0.0000656	U	0.00190	0.0000656	mg/L		10/02/16 08:17	10/09/16 12:56	1
Diazinon	0.000140	U	0.000476	0.000140	mg/L		10/02/16 08:17	10/09/16 12:56	1
Dichlorvos	0.000154	U	0.000476	0.000154	mg/L		10/02/16 08:17	10/09/16 12:56	1
Dimethoate	0.000427	U	0.00143	0.000427	mg/L		10/02/16 08:17	10/09/16 12:56	1
Disulfoton	0.000306	U	0.000951	0.000306	mg/L		10/02/16 08:17	10/09/16 12:56	1
EPN	0.000142	U	0.00114	0.000142	mg/L		10/02/16 08:17	10/09/16 12:56	1
Ethoprop	0.000168	U	0.00143	0.000168	mg/L		10/02/16 08:17	10/09/16 12:56	1
Ethyl Parathion	0.000137	U	0.000951	0.000137	mg/L		10/02/16 08:17	10/09/16 12:56	1
Famphur	0.000170	U	0.000951	0.000170	mg/L		10/02/16 08:17	10/09/16 12:56	1
Fensulfothion	0.000517	U	0.00238	0.000517	mg/L		10/02/16 08:17	10/09/16 12:56	1
Fenthion	0.000146	U	0.00238	0.000146	mg/L		10/02/16 08:17	10/09/16 12:56	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		10/02/16 08:17	10/09/16 12:56	1
Merphos	0.000165	U	0.00476	0.000165	mg/L		10/02/16 08:17	10/09/16 12:56	1
Methyl parathion	0.000134	U	0.00380	0.000134	mg/L		10/02/16 08:17	10/09/16 12:56	1
Mevinphos	0.000437	U	0.00590	0.000437	mg/L		10/02/16 08:17	10/09/16 12:56	1
Naled	0.000761	U	0.00190	0.000761	mg/L		10/02/16 08:17	10/09/16 12:56	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		10/02/16 08:17	10/09/16 12:56	1
Ronnel	0.000110	U	0.00951	0.000110	mg/L		10/02/16 08:17	10/09/16 12:56	1
Sulfotepp	0.000160	U	0.00143	0.000160	mg/L		10/02/16 08:17	10/09/16 12:56	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00333	0.000118	mg/L		10/02/16 08:17	10/09/16 12:56	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS210 Trail

Lab Sample ID: 560-64002-2

Date Collected: 09/27/16 09:54

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thionazin	0.000297	U	0.000951	0.000297	mg/L		10/02/16 08:17	10/09/16 12:56	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		10/02/16 08:17	10/09/16 12:56	1
Trichloronate	0.000230	U	0.00143	0.000230	mg/L		10/02/16 08:17	10/09/16 12:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	54		49 - 171				10/02/16 08:17	10/09/16 12:56	1
Triphenylphosphate	96		60 - 154				10/02/16 08:17	10/09/16 12:56	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0955	U	4.78	0.0955	ug/L		10/03/16 10:22	10/04/16 22:48	1
Dicamba	0.0812	U	0.478	0.0812	ug/L		10/03/16 10:22	10/04/16 22:48	1
Mecoprop	18.2	U	115	18.2	ug/L		10/03/16 10:22	10/04/16 22:48	1
MCPA	16.2	U	115	16.2	ug/L		10/03/16 10:22	10/04/16 22:48	1
Dichlorprop	0.143	U	0.478	0.143	ug/L		10/03/16 10:22	10/04/16 22:48	1
2,4-D	0.0368	J p	0.478	0.0353	ug/L		10/03/16 10:22	10/04/16 22:48	1
Silvex (2,4,5-TP)	0.0592	U	0.239	0.0592	ug/L		10/03/16 10:22	10/04/16 22:48	1
2,4,5-T	0.0592	U	0.239	0.0592	ug/L		10/03/16 10:22	10/04/16 22:48	1
2,4-DB	0.143	U	0.478	0.143	ug/L		10/03/16 10:22	10/04/16 22:48	1
Dinoseb	0.153	U	0.955	0.153	ug/L		10/03/16 10:22	10/04/16 22:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	76		45 - 130				10/03/16 10:22	10/04/16 22:48	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	29.0		0.200	0.101	mg/L		09/28/16 10:00	09/28/16 13:31	1
Magnesium	1.08		0.200	0.0257	mg/L		09/28/16 10:00	09/28/16 13:31	1
Potassium	4.23		0.500	0.375	mg/L		09/28/16 10:00	09/28/16 13:31	1
Silicon	5.49		0.500	0.0707	mg/L		09/28/16 10:00	09/28/16 13:31	1
Sodium	0.870	J	1.00	0.310	mg/L		09/28/16 10:00	09/28/16 13:31	1
Strontium	0.0319		0.00500	0.000700	mg/L		09/28/16 10:00	09/28/16 13:31	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.336		0.100	0.0500	mg/L		09/28/16 10:00	09/28/16 17:21	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/28/16 10:00	09/28/16 17:21	1
Arsenic	0.00150	J	0.00500	0.00109	mg/L		09/28/16 10:00	09/28/16 17:21	1
Barium	0.0109		0.00500	0.000810	mg/L		09/28/16 10:00	09/28/16 17:21	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/28/16 10:00	09/28/16 17:21	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/28/16 10:00	09/28/16 17:21	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/28/16 10:00	09/28/16 17:21	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/28/16 10:00	09/28/16 17:21	1
Iron	0.297		0.250	0.101	mg/L		09/28/16 10:00	09/28/16 17:21	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/28/16 10:00	09/28/16 17:21	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/28/16 10:00	09/28/16 17:21	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/28/16 10:00	09/28/16 17:21	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/28/16 10:00	09/28/16 17:21	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/28/16 10:00	09/28/16 17:21	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/28/16 10:00	09/28/16 17:21	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/28/16 10:00	09/28/16 17:21	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 17:11	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L			09/28/16 14:47	1
Chloride	1.73		1.00	0.192	mg/L			09/28/16 14:47	1
Nitrate as N	0.565		0.500	0.103	mg/L			09/28/16 14:47	1
Sulfate	4.03		1.00	0.377	mg/L			09/28/16 14:47	1
Fluoride	0.0322	J	0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/05/16 12:14	1
Phosphorus	0.155		0.100	0.0410	mg/L		10/05/16 11:49	10/10/16 12:51	1
Total Organic Carbon	7.06		1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1	0.1	SU			09/28/16 13:35	1
Total Alkalinity as CaCO3	64.9		5.00	5.00	mg/L			09/28/16 15:57	1
Bicarbonate Alkalinity as CaCO3	64.9		5.00	5.00	mg/L			09/28/16 15:57	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 15:57	1
Total Dissolved Solids	94.0		10.0	10.0	mg/L			09/29/16 14:11	1
Total Suspended Solids	3.40		2.00	2.00	mg/L			09/28/16 14:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	7.29		1.00	0.285	mg/L			10/05/16 12:09	1

Client Sample ID: HCS240 Trail

Lab Sample ID: 560-64002-3

Date Collected: 09/27/16 10:28

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/29/16 15:39	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/29/16 15:39	1
Benzene	0.330	U	1.00	0.330	ug/L			09/29/16 15:39	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/29/16 15:39	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 15:39	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/29/16 15:39	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/29/16 15:39	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/29/16 15:39	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/29/16 15:39	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/29/16 15:39	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/29/16 15:39	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/29/16 15:39	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/29/16 15:39	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/29/16 15:39	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/29/16 15:39	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/29/16 15:39	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/29/16 15:39	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/29/16 15:39	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/29/16 15:39	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/29/16 15:39	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/29/16 15:39	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 15:39	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/29/16 15:39	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/29/16 15:39	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS240 Trail

Lab Sample ID: 560-64002-3

Date Collected: 09/27/16 10:28

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/29/16 15:39	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/29/16 15:39	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/29/16 15:39	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/29/16 15:39	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/29/16 15:39	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 15:39	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/29/16 15:39	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/29/16 15:39	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/29/16 15:39	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/29/16 15:39	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/29/16 15:39	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/29/16 15:39	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/29/16 15:39	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/29/16 15:39	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/29/16 15:39	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/29/16 15:39	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/29/16 15:39	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/29/16 15:39	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/29/16 15:39	1
EDB	0.175	U	1.00	0.175	ug/L			09/29/16 15:39	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/29/16 15:39	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 15:39	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/29/16 15:39	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/29/16 15:39	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/29/16 15:39	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/29/16 15:39	1
Hexane	2.00	U	5.00	2.00	ug/L			09/29/16 15:39	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/29/16 15:39	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/29/16 15:39	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/29/16 15:39	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/29/16 15:39	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/29/16 15:39	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/29/16 15:39	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/29/16 15:39	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/29/16 15:39	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/29/16 15:39	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/29/16 15:39	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/29/16 15:39	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/29/16 15:39	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/29/16 15:39	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 15:39	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/29/16 15:39	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/29/16 15:39	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/29/16 15:39	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/29/16 15:39	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/29/16 15:39	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/29/16 15:39	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/29/16 15:39	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/29/16 15:39	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS240 Trail

Lab Sample ID: 560-64002-3

Date Collected: 09/27/16 10:28

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.200	U	1.00	0.200	ug/L			09/29/16 15:39	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 15:39	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/29/16 15:39	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/29/16 15:39	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/29/16 15:39	1
Toluene	0.495	U	1.00	0.495	ug/L			09/29/16 15:39	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 15:39	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/29/16 15:39	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/29/16 15:39	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/29/16 15:39	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/29/16 15:39	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/29/16 15:39	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/29/16 15:39	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/29/16 15:39	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/29/16 15:39	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/29/16 15:39	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/29/16 15:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/29/16 15:39	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 15:39	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 15:39	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/29/16 15:39	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/29/16 15:39	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/29/16 15:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		09/29/16 15:39	1
Dibromofluoromethane (Surr)	102		69 - 130		09/29/16 15:39	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		09/29/16 15:39	1
Toluene-d8 (Surr)	101		70 - 130		09/29/16 15:39	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/29/16 16:37	10/03/16 11:22	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/29/16 16:37	10/03/16 11:22	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/29/16 16:37	10/03/16 11:22	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/29/16 16:37	10/03/16 11:22	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/29/16 16:37	10/03/16 11:22	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/29/16 16:37	10/03/16 11:22	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/29/16 16:37	10/03/16 11:22	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/29/16 16:37	10/03/16 11:22	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/29/16 16:37	10/03/16 11:22	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/29/16 16:37	10/03/16 11:22	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/29/16 16:37	10/03/16 11:22	1
Bis(2-ethylhexyl) phthalate	9.28	J	20.0	5.00	ug/L		09/29/16 16:37	10/03/16 11:22	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/29/16 16:37	10/03/16 11:22	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/29/16 16:37	10/03/16 11:22	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 11:22	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/29/16 16:37	10/03/16 11:22	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/29/16 16:37	10/03/16 11:22	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/29/16 16:37	10/03/16 11:22	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS240 Trail

Lab Sample ID: 560-64002-3

Date Collected: 09/27/16 10:28

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/29/16 16:37	10/03/16 11:22	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/29/16 16:37	10/03/16 11:22	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/29/16 16:37	10/03/16 11:22	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/29/16 16:37	10/03/16 11:22	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/29/16 16:37	10/03/16 11:22	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/29/16 16:37	10/03/16 11:22	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/29/16 16:37	10/03/16 11:22	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 11:22	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/29/16 16:37	10/03/16 11:22	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/29/16 16:37	10/03/16 11:22	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/29/16 16:37	10/03/16 11:22	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 11:22	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/29/16 16:37	10/03/16 11:22	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/29/16 16:37	10/03/16 11:22	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/29/16 16:37	10/03/16 11:22	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/29/16 16:37	10/03/16 11:22	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/29/16 16:37	10/03/16 11:22	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/29/16 16:37	10/03/16 11:22	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/29/16 16:37	10/03/16 11:22	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/29/16 16:37	10/03/16 11:22	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/29/16 16:37	10/03/16 11:22	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/29/16 16:37	10/03/16 11:22	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/29/16 16:37	10/03/16 11:22	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 11:22	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/29/16 16:37	10/03/16 11:22	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 11:22	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/29/16 16:37	10/03/16 11:22	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/29/16 16:37	10/03/16 11:22	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/29/16 16:37	10/03/16 11:22	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 11:22	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/29/16 16:37	10/03/16 11:22	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/29/16 16:37	10/03/16 11:22	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/29/16 16:37	10/03/16 11:22	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/29/16 16:37	10/03/16 11:22	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/29/16 16:37	10/03/16 11:22	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/29/16 16:37	10/03/16 11:22	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/29/16 16:37	10/03/16 11:22	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/29/16 16:37	10/03/16 11:22	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/29/16 16:37	10/03/16 11:22	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/29/16 16:37	10/03/16 11:22	1
Phenol	0.768	U	10.0	0.768	ug/L		09/29/16 16:37	10/03/16 11:22	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/29/16 16:37	10/03/16 11:22	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/29/16 16:37	10/03/16 11:22	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/29/16 16:37	10/03/16 11:22	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/29/16 16:37	10/03/16 11:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	55		23 - 130	09/29/16 16:37	10/03/16 11:22	1
2-Fluorophenol	55		10 - 130	09/29/16 16:37	10/03/16 11:22	1
Nitrobenzene-d5	56		27 - 130	09/29/16 16:37	10/03/16 11:22	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS240 Trail**

**Lab Sample ID: 560-64002-3**

**Date Collected: 09/27/16 10:28**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	58		10 - 130	09/29/16 16:37	10/03/16 11:22	1
Terphenyl-d14	63		10 - 141	09/29/16 16:37	10/03/16 11:22	1
2,4,6-Tribromophenol	53		18 - 130	09/29/16 16:37	10/03/16 11:22	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00465	U	0.0559	0.00465	ug/L		09/29/16 09:08	09/29/16 20:04	1
alpha-BHC	0.00484	U	0.0559	0.00484	ug/L		09/29/16 09:08	09/29/16 20:04	1
alpha-Chlordane	0.00586	U	0.0559	0.00586	ug/L		09/29/16 09:08	09/29/16 20:04	1
beta-BHC	0.00465	U	0.0559	0.00465	ug/L		09/29/16 09:08	09/29/16 20:04	1
4,4'-DDD	0.00465	U	0.0559	0.00465	ug/L		09/29/16 09:08	09/29/16 20:04	1
4,4'-DDE	0.00465	U	0.0559	0.00465	ug/L		09/29/16 09:08	09/29/16 20:04	1
4,4'-DDT	0.00754	U	0.0559	0.00754	ug/L		09/29/16 09:08	09/29/16 20:04	1
delta-BHC	0.00465	U	0.0559	0.00465	ug/L		09/29/16 09:08	09/29/16 20:04	1
Dieldrin	0.0121	U	0.0559	0.0121	ug/L		09/29/16 09:08	09/29/16 20:04	1
Endosulfan I	0.00465	U	0.0559	0.00465	ug/L		09/29/16 09:08	09/29/16 20:04	1
Endosulfan II	0.00801	U	0.0559	0.00801	ug/L		09/29/16 09:08	09/29/16 20:04	1
Endosulfan sulfate	0.00819	U	0.0559	0.00819	ug/L		09/29/16 09:08	09/29/16 20:04	1
Endrin	0.00717	U	0.0559	0.00717	ug/L		09/29/16 09:08	09/29/16 20:04	1
Endrin aldehyde	0.00465	U	0.0559	0.00465	ug/L		09/29/16 09:08	09/29/16 20:04	1
Endrin ketone	0.00763	U	0.0559	0.00763	ug/L		09/29/16 09:08	09/29/16 20:04	1
gamma-BHC (Lindane)	0.00419	U	0.0559	0.00419	ug/L		09/29/16 09:08	09/29/16 20:04	1
gamma-Chlordane	0.00624	U	0.0559	0.00624	ug/L		09/29/16 09:08	09/29/16 20:04	1
Heptachlor	0.00605	U	0.0559	0.00605	ug/L		09/29/16 09:08	09/29/16 20:04	1
Heptachlor epoxide	0.00484	U	0.0559	0.00484	ug/L		09/29/16 09:08	09/29/16 20:04	1
Methoxychlor	0.00931	U	0.0559	0.00931	ug/L		09/29/16 09:08	09/29/16 20:04	1
Toxaphene	0.633	U	5.59	0.633	ug/L		09/29/16 09:08	09/29/16 20:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	102		10 - 152	09/29/16 09:08	09/29/16 20:04	1
Tetrachloro-m-xylene	98		57 - 127	09/29/16 09:08	09/29/16 20:04	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.102	U	0.559	0.102	ug/L		09/29/16 09:08	09/29/16 18:23	1
Aroclor 1221	0.102	U	0.559	0.102	ug/L		09/29/16 09:08	09/29/16 18:23	1
Aroclor 1232	0.410	U	0.745	0.410	ug/L		09/29/16 09:08	09/29/16 18:23	1
Aroclor 1242	0.102	U	0.559	0.102	ug/L		09/29/16 09:08	09/29/16 18:23	1
Aroclor 1248	0.102	U	0.559	0.102	ug/L		09/29/16 09:08	09/29/16 18:23	1
Aroclor 1254	0.102	U	0.559	0.102	ug/L		09/29/16 09:08	09/29/16 18:23	1
Aroclor 1260	0.102	U	0.559	0.102	ug/L		09/29/16 09:08	09/29/16 18:23	1
Aroclor 1262	0.102	U	0.559	0.102	ug/L		09/29/16 09:08	09/29/16 18:23	1
Aroclor 1268	0.102	U	0.559	0.102	ug/L		09/29/16 09:08	09/29/16 18:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	113		10 - 150	09/29/16 09:08	09/29/16 18:23	1
DCB Decachlorobiphenyl	89		10 - 150	09/29/16 09:08	09/29/16 18:23	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS240 Trail

Lab Sample ID: 560-64002-3

Date Collected: 09/27/16 10:28

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00238	0.000160	mg/L		10/02/16 08:17	10/09/16 14:30	1
Bolstar	0.000299	U	0.000953	0.000299	mg/L		10/02/16 08:17	10/09/16 14:30	1
Chlorpyrifos	0.000343	U	0.00143	0.000343	mg/L		10/02/16 08:17	10/09/16 14:30	1
Coumaphos	0.000129	U	0.000953	0.000129	mg/L		10/02/16 08:17	10/09/16 14:30	1
Demeton-O	0.000133	U	0.000953	0.000133	mg/L		10/02/16 08:17	10/09/16 14:30	1
Demeton-S	0.0000657	U	0.00191	0.0000657	mg/L		10/02/16 08:17	10/09/16 14:30	1
Diazinon	0.000140	U	0.000476	0.000140	mg/L		10/02/16 08:17	10/09/16 14:30	1
Dichlorvos	0.000154	U	0.000476	0.000154	mg/L		10/02/16 08:17	10/09/16 14:30	1
Dimethoate	0.000428	U	0.00143	0.000428	mg/L		10/02/16 08:17	10/09/16 14:30	1
Disulfoton	0.000307	U	0.000953	0.000307	mg/L		10/02/16 08:17	10/09/16 14:30	1
EPN	0.000142	U	0.00114	0.000142	mg/L		10/02/16 08:17	10/09/16 14:30	1
Ethoprop	0.000169	U	0.00143	0.000169	mg/L		10/02/16 08:17	10/09/16 14:30	1
Ethyl Parathion	0.000137	U	0.000953	0.000137	mg/L		10/02/16 08:17	10/09/16 14:30	1
Famphur	0.000171	U	0.000953	0.000171	mg/L		10/02/16 08:17	10/09/16 14:30	1
Fensulfothion	0.000518	U	0.00238	0.000518	mg/L		10/02/16 08:17	10/09/16 14:30	1
Fenthion	0.000147	U	0.00238	0.000147	mg/L		10/02/16 08:17	10/09/16 14:30	1
Malathion	0.000127	U	0.00191	0.000127	mg/L		10/02/16 08:17	10/09/16 14:30	1
Merphos	0.000166	U	0.00476	0.000166	mg/L		10/02/16 08:17	10/09/16 14:30	1
Methyl parathion	0.000134	U	0.00381	0.000134	mg/L		10/02/16 08:17	10/09/16 14:30	1
Mevinphos	0.000438	U	0.00591	0.000438	mg/L		10/02/16 08:17	10/09/16 14:30	1
Naled	0.000762	U	0.00191	0.000762	mg/L		10/02/16 08:17	10/09/16 14:30	1
Phorate	0.000147	U	0.00114	0.000147	mg/L		10/02/16 08:17	10/09/16 14:30	1
Ronnel	0.000111	U	0.00953	0.000111	mg/L		10/02/16 08:17	10/09/16 14:30	1
Sulfotepp	0.000160	U	0.00143	0.000160	mg/L		10/02/16 08:17	10/09/16 14:30	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00333	0.000118	mg/L		10/02/16 08:17	10/09/16 14:30	1
Thionazin	0.000297	U	0.000953	0.000297	mg/L		10/02/16 08:17	10/09/16 14:30	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		10/02/16 08:17	10/09/16 14:30	1
Trichloronate	0.000231	U	0.00143	0.000231	mg/L		10/02/16 08:17	10/09/16 14:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	60		49 - 171				10/02/16 08:17	10/09/16 14:30	1
Triphenylphosphate	95		60 - 154				10/02/16 08:17	10/09/16 14:30	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0951	U	4.75	0.0951	ug/L		10/03/16 10:22	10/04/16 23:07	1
Dicamba	0.0808	U	0.475	0.0808	ug/L		10/03/16 10:22	10/04/16 23:07	1
Mecoprop	18.1	U	114	18.1	ug/L		10/03/16 10:22	10/04/16 23:07	1
MCPA	16.2	U	114	16.2	ug/L		10/03/16 10:22	10/04/16 23:07	1
Dichlorprop	0.143	U	0.475	0.143	ug/L		10/03/16 10:22	10/04/16 23:07	1
2,4-D	0.0352	U	0.475	0.0352	ug/L		10/03/16 10:22	10/04/16 23:07	1
Silvex (2,4,5-TP)	0.0589	U	0.238	0.0589	ug/L		10/03/16 10:22	10/04/16 23:07	1
2,4,5-T	0.0589	U	0.238	0.0589	ug/L		10/03/16 10:22	10/04/16 23:07	1
2,4-DB	0.143	U	0.475	0.143	ug/L		10/03/16 10:22	10/04/16 23:07	1
Dinoseb	0.152	U	0.951	0.152	ug/L		10/03/16 10:22	10/04/16 23:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	81		45 - 130				10/03/16 10:22	10/04/16 23:07	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS240 Trail**

**Lab Sample ID: 560-64002-3**

**Date Collected: 09/27/16 10:28**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	82.5		0.200	0.101	mg/L		09/28/16 10:00	09/28/16 13:47	1
Magnesium	15.3		0.200	0.0257	mg/L		09/28/16 10:00	09/28/16 13:47	1
Potassium	1.67		0.500	0.375	mg/L		09/28/16 10:00	09/28/16 13:47	1
Silicon	5.88		0.500	0.0707	mg/L		09/28/16 10:00	09/28/16 13:47	1
Sodium	10.4		1.00	0.310	mg/L		09/28/16 10:00	09/28/16 13:47	1
Strontium	0.628		0.00500	0.000700	mg/L		09/28/16 10:00	09/28/16 13:47	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/28/16 10:00	09/28/16 18:07	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/28/16 10:00	09/28/16 18:07	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/28/16 10:00	09/28/16 18:07	1
Barium	0.0499		0.00500	0.000810	mg/L		09/28/16 10:00	09/28/16 18:07	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/28/16 10:00	09/28/16 18:07	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/28/16 10:00	09/28/16 18:07	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/28/16 10:00	09/28/16 18:07	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/28/16 10:00	09/28/16 18:07	1
Iron	0.101	U	0.250	0.101	mg/L		09/28/16 10:00	09/28/16 18:07	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/28/16 10:00	09/28/16 18:07	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/28/16 10:00	09/28/16 18:07	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/28/16 10:00	09/28/16 18:07	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/28/16 10:00	09/28/16 18:07	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/28/16 10:00	09/28/16 18:07	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/28/16 10:00	09/28/16 18:07	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/28/16 10:00	09/28/16 18:07	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 16:58	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.448	J	1.00	0.315	mg/L			09/28/16 16:05	1
Chloride	16.3		1.00	0.192	mg/L			09/28/16 16:05	1
Nitrate as N	1.68		0.500	0.103	mg/L			09/28/16 16:05	1
Sulfate	22.0		1.00	0.377	mg/L			09/28/16 16:05	1
Fluoride	0.215		0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/05/16 12:16	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/05/16 11:49	10/06/16 10:31	1
Total Organic Carbon	0.956	J	1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1	0.1	SU			09/28/16 13:35	1
Total Alkalinity as CaCO3	207		5.00	5.00	mg/L			09/28/16 15:57	1
Bicarbonate Alkalinity as CaCO3	207		5.00	5.00	mg/L			09/28/16 15:57	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 15:57	1
Total Dissolved Solids	309		10.0	10.0	mg/L			09/29/16 14:11	1
Total Suspended Solids	5.00		2.00	2.00	mg/L			09/28/16 14:50	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS240 Trail**

**Lab Sample ID: 560-64002-3**

**Date Collected: 09/27/16 10:28**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.782	J	1.00	0.285	mg/L			10/05/16 12:09	1

**Client Sample ID: HCS250 Trail**

**Lab Sample ID: 560-64002-4**

**Date Collected: 09/27/16 11:36**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/29/16 16:04	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/29/16 16:04	1
Benzene	0.330	U	1.00	0.330	ug/L			09/29/16 16:04	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/29/16 16:04	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 16:04	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/29/16 16:04	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/29/16 16:04	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/29/16 16:04	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/29/16 16:04	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/29/16 16:04	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/29/16 16:04	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/29/16 16:04	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/29/16 16:04	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/29/16 16:04	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/29/16 16:04	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/29/16 16:04	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/29/16 16:04	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/29/16 16:04	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/29/16 16:04	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/29/16 16:04	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/29/16 16:04	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 16:04	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/29/16 16:04	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/29/16 16:04	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/29/16 16:04	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/29/16 16:04	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/29/16 16:04	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/29/16 16:04	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/29/16 16:04	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 16:04	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/29/16 16:04	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/29/16 16:04	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/29/16 16:04	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/29/16 16:04	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/29/16 16:04	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/29/16 16:04	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/29/16 16:04	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/29/16 16:04	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/29/16 16:04	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/29/16 16:04	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/29/16 16:04	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/29/16 16:04	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS250 Trail

Lab Sample ID: 560-64002-4

Date Collected: 09/27/16 11:36

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/29/16 16:04	1
EDB	0.175	U	1.00	0.175	ug/L			09/29/16 16:04	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/29/16 16:04	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 16:04	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/29/16 16:04	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/29/16 16:04	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/29/16 16:04	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/29/16 16:04	1
Hexane	2.00	U	5.00	2.00	ug/L			09/29/16 16:04	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/29/16 16:04	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/29/16 16:04	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/29/16 16:04	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/29/16 16:04	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/29/16 16:04	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/29/16 16:04	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/29/16 16:04	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/29/16 16:04	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/29/16 16:04	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/29/16 16:04	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/29/16 16:04	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/29/16 16:04	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/29/16 16:04	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 16:04	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/29/16 16:04	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/29/16 16:04	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/29/16 16:04	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/29/16 16:04	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/29/16 16:04	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/29/16 16:04	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/29/16 16:04	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/29/16 16:04	1
Styrene	0.200	U	1.00	0.200	ug/L			09/29/16 16:04	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 16:04	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/29/16 16:04	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/29/16 16:04	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/29/16 16:04	1
Toluene	0.495	U	1.00	0.495	ug/L			09/29/16 16:04	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 16:04	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/29/16 16:04	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/29/16 16:04	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/29/16 16:04	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/29/16 16:04	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/29/16 16:04	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/29/16 16:04	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/29/16 16:04	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/29/16 16:04	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/29/16 16:04	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/29/16 16:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/29/16 16:04	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS250 Trail**

**Lab Sample ID: 560-64002-4**

**Date Collected: 09/27/16 11:36**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 16:04	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 16:04	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/29/16 16:04	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/29/16 16:04	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/29/16 16:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130		09/29/16 16:04	1
Dibromofluoromethane (Surr)	101		69 - 130		09/29/16 16:04	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		09/29/16 16:04	1
Toluene-d8 (Surr)	101		70 - 130		09/29/16 16:04	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/29/16 16:37	10/03/16 11:47	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/29/16 16:37	10/03/16 11:47	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/29/16 16:37	10/03/16 11:47	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/29/16 16:37	10/03/16 11:47	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/29/16 16:37	10/03/16 11:47	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/29/16 16:37	10/03/16 11:47	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/29/16 16:37	10/03/16 11:47	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/29/16 16:37	10/03/16 11:47	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/29/16 16:37	10/03/16 11:47	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/29/16 16:37	10/03/16 11:47	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/29/16 16:37	10/03/16 11:47	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/29/16 16:37	10/03/16 11:47	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/29/16 16:37	10/03/16 11:47	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/29/16 16:37	10/03/16 11:47	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 11:47	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/29/16 16:37	10/03/16 11:47	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/29/16 16:37	10/03/16 11:47	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/29/16 16:37	10/03/16 11:47	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/29/16 16:37	10/03/16 11:47	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/29/16 16:37	10/03/16 11:47	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/29/16 16:37	10/03/16 11:47	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/29/16 16:37	10/03/16 11:47	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/29/16 16:37	10/03/16 11:47	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/29/16 16:37	10/03/16 11:47	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/29/16 16:37	10/03/16 11:47	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 11:47	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/29/16 16:37	10/03/16 11:47	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/29/16 16:37	10/03/16 11:47	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/29/16 16:37	10/03/16 11:47	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 11:47	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/29/16 16:37	10/03/16 11:47	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/29/16 16:37	10/03/16 11:47	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/29/16 16:37	10/03/16 11:47	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/29/16 16:37	10/03/16 11:47	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/29/16 16:37	10/03/16 11:47	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/29/16 16:37	10/03/16 11:47	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS250 Trail

Lab Sample ID: 560-64002-4

Date Collected: 09/27/16 11:36

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/29/16 16:37	10/03/16 11:47	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/29/16 16:37	10/03/16 11:47	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/29/16 16:37	10/03/16 11:47	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/29/16 16:37	10/03/16 11:47	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/29/16 16:37	10/03/16 11:47	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 11:47	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/29/16 16:37	10/03/16 11:47	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 11:47	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/29/16 16:37	10/03/16 11:47	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/29/16 16:37	10/03/16 11:47	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/29/16 16:37	10/03/16 11:47	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 11:47	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/29/16 16:37	10/03/16 11:47	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/29/16 16:37	10/03/16 11:47	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/29/16 16:37	10/03/16 11:47	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/29/16 16:37	10/03/16 11:47	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/29/16 16:37	10/03/16 11:47	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/29/16 16:37	10/03/16 11:47	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/29/16 16:37	10/03/16 11:47	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/29/16 16:37	10/03/16 11:47	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/29/16 16:37	10/03/16 11:47	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/29/16 16:37	10/03/16 11:47	1
Phenol	0.768	U	10.0	0.768	ug/L		09/29/16 16:37	10/03/16 11:47	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/29/16 16:37	10/03/16 11:47	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/29/16 16:37	10/03/16 11:47	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/29/16 16:37	10/03/16 11:47	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/29/16 16:37	10/03/16 11:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	59		23 - 130	09/29/16 16:37	10/03/16 11:47	1
2-Fluorophenol	58		10 - 130	09/29/16 16:37	10/03/16 11:47	1
Nitrobenzene-d5	59		27 - 130	09/29/16 16:37	10/03/16 11:47	1
Phenol-d5	63		10 - 130	09/29/16 16:37	10/03/16 11:47	1
Terphenyl-d14	49		10 - 141	09/29/16 16:37	10/03/16 11:47	1
2,4,6-Tribromophenol	54		18 - 130	09/29/16 16:37	10/03/16 11:47	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00469	U	0.0563	0.00469	ug/L		09/29/16 09:08	09/29/16 20:25	1
alpha-BHC	0.00488	U	0.0563	0.00488	ug/L		09/29/16 09:08	09/29/16 20:25	1
alpha-Chlordane	0.00591	U	0.0563	0.00591	ug/L		09/29/16 09:08	09/29/16 20:25	1
beta-BHC	0.00469	U	0.0563	0.00469	ug/L		09/29/16 09:08	09/29/16 20:25	1
4,4'-DDD	0.00469	U	0.0563	0.00469	ug/L		09/29/16 09:08	09/29/16 20:25	1
4,4'-DDE	0.00469	U	0.0563	0.00469	ug/L		09/29/16 09:08	09/29/16 20:25	1
4,4'-DDT	0.00760	U	0.0563	0.00760	ug/L		09/29/16 09:08	09/29/16 20:25	1
delta-BHC	0.00469	U	0.0563	0.00469	ug/L		09/29/16 09:08	09/29/16 20:25	1
Dieldrin	0.0122	U	0.0563	0.0122	ug/L		09/29/16 09:08	09/29/16 20:25	1
Endosulfan I	0.00469	U	0.0563	0.00469	ug/L		09/29/16 09:08	09/29/16 20:25	1
Endosulfan II	0.00807	U	0.0563	0.00807	ug/L		09/29/16 09:08	09/29/16 20:25	1
Endosulfan sulfate	0.00826	U	0.0563	0.00826	ug/L		09/29/16 09:08	09/29/16 20:25	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS250 Trail**

**Lab Sample ID: 560-64002-4**

**Date Collected: 09/27/16 11:36**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	0.00723	U	0.0563	0.00723	ug/L		09/29/16 09:08	09/29/16 20:25	1
Endrin aldehyde	0.00469	U	0.0563	0.00469	ug/L		09/29/16 09:08	09/29/16 20:25	1
Endrin ketone	0.00769	U	0.0563	0.00769	ug/L		09/29/16 09:08	09/29/16 20:25	1
gamma-BHC (Lindane)	0.00422	U	0.0563	0.00422	ug/L		09/29/16 09:08	09/29/16 20:25	1
gamma-Chlordane	0.00629	U	0.0563	0.00629	ug/L		09/29/16 09:08	09/29/16 20:25	1
Heptachlor	0.00610	U	0.0563	0.00610	ug/L		09/29/16 09:08	09/29/16 20:25	1
Heptachlor epoxide	0.00488	U	0.0563	0.00488	ug/L		09/29/16 09:08	09/29/16 20:25	1
Methoxychlor	0.00938	U	0.0563	0.00938	ug/L		09/29/16 09:08	09/29/16 20:25	1
Toxaphene	0.638	U	5.63	0.638	ug/L		09/29/16 09:08	09/29/16 20:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	101		10 - 152				09/29/16 09:08	09/29/16 20:25	1
Tetrachloro-m-xylene	98		57 - 127				09/29/16 09:08	09/29/16 20:25	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.563	0.103	ug/L		09/29/16 09:08	09/29/16 18:41	1
Aroclor 1221	0.103	U	0.563	0.103	ug/L		09/29/16 09:08	09/29/16 18:41	1
Aroclor 1232	0.413	U	0.751	0.413	ug/L		09/29/16 09:08	09/29/16 18:41	1
Aroclor 1242	0.103	U	0.563	0.103	ug/L		09/29/16 09:08	09/29/16 18:41	1
Aroclor 1248	0.103	U	0.563	0.103	ug/L		09/29/16 09:08	09/29/16 18:41	1
Aroclor 1254	0.103	U	0.563	0.103	ug/L		09/29/16 09:08	09/29/16 18:41	1
Aroclor 1260	0.103	U	0.563	0.103	ug/L		09/29/16 09:08	09/29/16 18:41	1
Aroclor 1262	0.103	U	0.563	0.103	ug/L		09/29/16 09:08	09/29/16 18:41	1
Aroclor 1268	0.103	U	0.563	0.103	ug/L		09/29/16 09:08	09/29/16 18:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	116		10 - 150				09/29/16 09:08	09/29/16 18:41	1
DCB Decachlorobiphenyl	90		10 - 150				09/29/16 09:08	09/29/16 18:41	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00238	0.000160	mg/L		10/02/16 08:17	10/09/16 15:02	1
Bolstar	0.000299	U	0.000952	0.000299	mg/L		10/02/16 08:17	10/09/16 15:02	1
Chlorpyrifos	0.000343	U	0.00143	0.000343	mg/L		10/02/16 08:17	10/09/16 15:02	1
Coumaphos	0.000129	U	0.000952	0.000129	mg/L		10/02/16 08:17	10/09/16 15:02	1
Demeton-O	0.000133	U	0.000952	0.000133	mg/L		10/02/16 08:17	10/09/16 15:02	1
Demeton-S	0.0000657	U	0.00190	0.0000657	mg/L		10/02/16 08:17	10/09/16 15:02	1
Diazinon	0.000140	U	0.000476	0.000140	mg/L		10/02/16 08:17	10/09/16 15:02	1
Dichlorvos	0.000154	U	0.000476	0.000154	mg/L		10/02/16 08:17	10/09/16 15:02	1
Dimethoate	0.000427	U	0.00143	0.000427	mg/L		10/02/16 08:17	10/09/16 15:02	1
Disulfoton	0.000307	U	0.000952	0.000307	mg/L		10/02/16 08:17	10/09/16 15:02	1
EPN	0.000142	U	0.00114	0.000142	mg/L		10/02/16 08:17	10/09/16 15:02	1
Ethoprop	0.000169	U	0.00143	0.000169	mg/L		10/02/16 08:17	10/09/16 15:02	1
Ethyl Parathion	0.000137	U	0.000952	0.000137	mg/L		10/02/16 08:17	10/09/16 15:02	1
Famphur	0.000170	U	0.000952	0.000170	mg/L		10/02/16 08:17	10/09/16 15:02	1
Fensulfothion	0.000518	U	0.00238	0.000518	mg/L		10/02/16 08:17	10/09/16 15:02	1
Fenthion	0.000147	U	0.00238	0.000147	mg/L		10/02/16 08:17	10/09/16 15:02	1
Malathion	0.000127	U	0.00190	0.000127	mg/L		10/02/16 08:17	10/09/16 15:02	1
Merphos	0.000166	U	0.00476	0.000166	mg/L		10/02/16 08:17	10/09/16 15:02	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS250 Trail**

**Lab Sample ID: 560-64002-4**

**Date Collected: 09/27/16 11:36**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl parathion	0.000134	U	0.00381	0.000134	mg/L		10/02/16 08:17	10/09/16 15:02	1
Mevinphos	0.000438	U	0.00590	0.000438	mg/L		10/02/16 08:17	10/09/16 15:02	1
Naled	0.000762	U	0.00190	0.000762	mg/L		10/02/16 08:17	10/09/16 15:02	1
Phorate	0.000147	U	0.00114	0.000147	mg/L		10/02/16 08:17	10/09/16 15:02	1
Ronnel	0.000110	U	0.00952	0.000110	mg/L		10/02/16 08:17	10/09/16 15:02	1
Sulfotepp	0.000160	U	0.00143	0.000160	mg/L		10/02/16 08:17	10/09/16 15:02	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00333	0.000118	mg/L		10/02/16 08:17	10/09/16 15:02	1
Thionazin	0.000297	U	0.000952	0.000297	mg/L		10/02/16 08:17	10/09/16 15:02	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		10/02/16 08:17	10/09/16 15:02	1
Trichloronate	0.000230	U	0.00143	0.000230	mg/L		10/02/16 08:17	10/09/16 15:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	68		49 - 171				10/02/16 08:17	10/09/16 15:02	1
Triphenylphosphate	92		60 - 154				10/02/16 08:17	10/09/16 15:02	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0949	U	4.74	0.0949	ug/L		10/03/16 10:22	10/04/16 23:27	1
Dicamba	0.0806	U	0.474	0.0806	ug/L		10/03/16 10:22	10/04/16 23:27	1
Mecoprop	18.0	U	114	18.0	ug/L		10/03/16 10:22	10/04/16 23:27	1
MCPA	16.1	U	114	16.1	ug/L		10/03/16 10:22	10/04/16 23:27	1
Dichlorprop	0.142	U	0.474	0.142	ug/L		10/03/16 10:22	10/04/16 23:27	1
2,4-D	0.0351	U	0.474	0.0351	ug/L		10/03/16 10:22	10/04/16 23:27	1
Silvex (2,4,5-TP)	0.0588	U	0.237	0.0588	ug/L		10/03/16 10:22	10/04/16 23:27	1
2,4,5-T	0.0588	U	0.237	0.0588	ug/L		10/03/16 10:22	10/04/16 23:27	1
2,4-DB	0.142	U	0.474	0.142	ug/L		10/03/16 10:22	10/04/16 23:27	1
Dinoseb	0.152	U	0.949	0.152	ug/L		10/03/16 10:22	10/04/16 23:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	78		45 - 130				10/03/16 10:22	10/04/16 23:27	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	85.4		0.200	0.101	mg/L		09/28/16 10:00	09/28/16 13:51	1
Magnesium	15.8		0.200	0.0257	mg/L		09/28/16 10:00	09/28/16 13:51	1
Potassium	1.89		0.500	0.375	mg/L		09/28/16 10:00	09/28/16 13:51	1
Silicon	6.20		0.500	0.0707	mg/L		09/28/16 10:00	09/28/16 13:51	1
Sodium	11.8		1.00	0.310	mg/L		09/28/16 10:00	09/28/16 13:51	1
Strontium	0.663		0.00500	0.000700	mg/L		09/28/16 10:00	09/28/16 13:51	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/28/16 10:00	09/28/16 18:12	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/28/16 10:00	09/28/16 18:12	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/28/16 10:00	09/28/16 18:12	1
Barium	0.0507		0.00500	0.000810	mg/L		09/28/16 10:00	09/28/16 18:12	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/28/16 10:00	09/28/16 18:12	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/28/16 10:00	09/28/16 18:12	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/28/16 10:00	09/28/16 18:12	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/28/16 10:00	09/28/16 18:12	1
Iron	0.101	U	0.250	0.101	mg/L		09/28/16 10:00	09/28/16 18:12	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS250 Trail

Lab Sample ID: 560-64002-4

Date Collected: 09/27/16 11:36

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.000733	U	0.00500	0.000733	mg/L		09/28/16 10:00	09/28/16 18:12	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/28/16 10:00	09/28/16 18:12	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/28/16 10:00	09/28/16 18:12	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/28/16 10:00	09/28/16 18:12	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/28/16 10:00	09/28/16 18:12	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/28/16 10:00	09/28/16 18:12	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/28/16 10:00	09/28/16 18:12	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 17:00	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.458	J	1.00	0.315	mg/L			09/28/16 16:31	1
Chloride	16.6		1.00	0.192	mg/L			09/28/16 16:31	1
Nitrate as N	1.67		0.500	0.103	mg/L			09/28/16 16:31	1
Sulfate	22.4		1.00	0.377	mg/L			09/28/16 16:31	1
Fluoride	0.204		0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/05/16 12:17	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/05/16 11:49	10/06/16 10:30	1
Total Organic Carbon	0.820	J	1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1	0.1	SU			09/28/16 13:35	1
Total Alkalinity as CaCO3	210		5.00	5.00	mg/L			09/28/16 15:57	1
Bicarbonate Alkalinity as CaCO3	210		5.00	5.00	mg/L			09/28/16 15:57	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 15:57	1
Total Dissolved Solids	310		10.0	10.0	mg/L			09/29/16 14:11	1
Total Suspended Solids	2.60		2.00	2.00	mg/L			09/28/16 14:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.36		1.00	0.285	mg/L			10/05/16 12:09	1

Client Sample ID: HCS260 Trail

Lab Sample ID: 560-64002-5

Date Collected: 09/27/16 10:58

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/29/16 16:30	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/29/16 16:30	1
Benzene	0.330	U	1.00	0.330	ug/L			09/29/16 16:30	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/29/16 16:30	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 16:30	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/29/16 16:30	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/29/16 16:30	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/29/16 16:30	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/29/16 16:30	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/29/16 16:30	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS260 Trail

Lab Sample ID: 560-64002-5

Date Collected: 09/27/16 10:58

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/29/16 16:30	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/29/16 16:30	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/29/16 16:30	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/29/16 16:30	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/29/16 16:30	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/29/16 16:30	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/29/16 16:30	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/29/16 16:30	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/29/16 16:30	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/29/16 16:30	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/29/16 16:30	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 16:30	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/29/16 16:30	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/29/16 16:30	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/29/16 16:30	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/29/16 16:30	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/29/16 16:30	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/29/16 16:30	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/29/16 16:30	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 16:30	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/29/16 16:30	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/29/16 16:30	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/29/16 16:30	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/29/16 16:30	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/29/16 16:30	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/29/16 16:30	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/29/16 16:30	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/29/16 16:30	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/29/16 16:30	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/29/16 16:30	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/29/16 16:30	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/29/16 16:30	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/29/16 16:30	1
EDB	0.175	U	1.00	0.175	ug/L			09/29/16 16:30	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/29/16 16:30	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 16:30	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/29/16 16:30	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/29/16 16:30	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/29/16 16:30	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/29/16 16:30	1
Hexane	2.00	U	5.00	2.00	ug/L			09/29/16 16:30	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/29/16 16:30	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/29/16 16:30	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/29/16 16:30	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/29/16 16:30	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/29/16 16:30	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/29/16 16:30	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/29/16 16:30	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/29/16 16:30	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS260 Trail**

**Lab Sample ID: 560-64002-5**

**Date Collected: 09/27/16 10:58**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/29/16 16:30	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/29/16 16:30	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/29/16 16:30	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/29/16 16:30	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/29/16 16:30	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 16:30	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/29/16 16:30	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/29/16 16:30	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/29/16 16:30	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/29/16 16:30	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/29/16 16:30	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/29/16 16:30	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/29/16 16:30	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/29/16 16:30	1
Styrene	0.200	U	1.00	0.200	ug/L			09/29/16 16:30	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 16:30	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/29/16 16:30	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/29/16 16:30	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/29/16 16:30	1
Toluene	0.495	U	1.00	0.495	ug/L			09/29/16 16:30	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 16:30	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/29/16 16:30	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/29/16 16:30	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/29/16 16:30	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/29/16 16:30	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/29/16 16:30	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/29/16 16:30	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/29/16 16:30	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/29/16 16:30	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/29/16 16:30	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/29/16 16:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/29/16 16:30	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 16:30	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 16:30	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/29/16 16:30	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/29/16 16:30	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/29/16 16:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		09/29/16 16:30	1
Dibromofluoromethane (Surr)	102		69 - 130		09/29/16 16:30	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		09/29/16 16:30	1
Toluene-d8 (Surr)	100		70 - 130		09/29/16 16:30	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/29/16 16:37	10/03/16 12:13	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/29/16 16:37	10/03/16 12:13	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/29/16 16:37	10/03/16 12:13	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/29/16 16:37	10/03/16 12:13	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS260 Trail

Lab Sample ID: 560-64002-5

Date Collected: 09/27/16 10:58

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/29/16 16:37	10/03/16 12:13	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/29/16 16:37	10/03/16 12:13	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/29/16 16:37	10/03/16 12:13	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/29/16 16:37	10/03/16 12:13	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/29/16 16:37	10/03/16 12:13	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/29/16 16:37	10/03/16 12:13	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/29/16 16:37	10/03/16 12:13	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/29/16 16:37	10/03/16 12:13	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/29/16 16:37	10/03/16 12:13	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/29/16 16:37	10/03/16 12:13	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 12:13	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/29/16 16:37	10/03/16 12:13	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/29/16 16:37	10/03/16 12:13	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/29/16 16:37	10/03/16 12:13	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/29/16 16:37	10/03/16 12:13	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/29/16 16:37	10/03/16 12:13	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/29/16 16:37	10/03/16 12:13	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/29/16 16:37	10/03/16 12:13	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/29/16 16:37	10/03/16 12:13	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/29/16 16:37	10/03/16 12:13	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/29/16 16:37	10/03/16 12:13	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 12:13	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/29/16 16:37	10/03/16 12:13	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/29/16 16:37	10/03/16 12:13	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/29/16 16:37	10/03/16 12:13	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 12:13	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/29/16 16:37	10/03/16 12:13	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/29/16 16:37	10/03/16 12:13	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/29/16 16:37	10/03/16 12:13	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/29/16 16:37	10/03/16 12:13	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/29/16 16:37	10/03/16 12:13	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/29/16 16:37	10/03/16 12:13	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/29/16 16:37	10/03/16 12:13	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/29/16 16:37	10/03/16 12:13	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/29/16 16:37	10/03/16 12:13	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/29/16 16:37	10/03/16 12:13	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/29/16 16:37	10/03/16 12:13	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 12:13	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/29/16 16:37	10/03/16 12:13	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 12:13	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/29/16 16:37	10/03/16 12:13	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/29/16 16:37	10/03/16 12:13	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/29/16 16:37	10/03/16 12:13	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 12:13	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/29/16 16:37	10/03/16 12:13	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/29/16 16:37	10/03/16 12:13	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/29/16 16:37	10/03/16 12:13	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/29/16 16:37	10/03/16 12:13	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/29/16 16:37	10/03/16 12:13	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS260 Trail**

**Lab Sample ID: 560-64002-5**

**Date Collected: 09/27/16 10:58**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/29/16 16:37	10/03/16 12:13	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/29/16 16:37	10/03/16 12:13	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/29/16 16:37	10/03/16 12:13	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/29/16 16:37	10/03/16 12:13	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/29/16 16:37	10/03/16 12:13	1
Phenol	0.768	U	10.0	0.768	ug/L		09/29/16 16:37	10/03/16 12:13	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/29/16 16:37	10/03/16 12:13	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/29/16 16:37	10/03/16 12:13	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/29/16 16:37	10/03/16 12:13	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/29/16 16:37	10/03/16 12:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	66		23 - 130	09/29/16 16:37	10/03/16 12:13	1
2-Fluorophenol	65		10 - 130	09/29/16 16:37	10/03/16 12:13	1
Nitrobenzene-d5	67		27 - 130	09/29/16 16:37	10/03/16 12:13	1
Phenol-d5	67		10 - 130	09/29/16 16:37	10/03/16 12:13	1
Terphenyl-d14	24		10 - 141	09/29/16 16:37	10/03/16 12:13	1
2,4,6-Tribromophenol	54		18 - 130	09/29/16 16:37	10/03/16 12:13	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00467	U	0.0560	0.00467	ug/L		09/29/16 09:08	09/29/16 20:46	1
alpha-BHC	0.00485	U	0.0560	0.00485	ug/L		09/29/16 09:08	09/29/16 20:46	1
alpha-Chlordane	0.00588	U	0.0560	0.00588	ug/L		09/29/16 09:08	09/29/16 20:46	1
beta-BHC	0.00467	U	0.0560	0.00467	ug/L		09/29/16 09:08	09/29/16 20:46	1
4,4'-DDD	0.00467	U	0.0560	0.00467	ug/L		09/29/16 09:08	09/29/16 20:46	1
4,4'-DDE	0.00467	U	0.0560	0.00467	ug/L		09/29/16 09:08	09/29/16 20:46	1
4,4'-DDT	0.00756	U	0.0560	0.00756	ug/L		09/29/16 09:08	09/29/16 20:46	1
delta-BHC	0.00467	U	0.0560	0.00467	ug/L		09/29/16 09:08	09/29/16 20:46	1
Dieldrin	0.0121	U	0.0560	0.0121	ug/L		09/29/16 09:08	09/29/16 20:46	1
Endosulfan I	0.00467	U	0.0560	0.00467	ug/L		09/29/16 09:08	09/29/16 20:46	1
Endosulfan II	0.00803	U	0.0560	0.00803	ug/L		09/29/16 09:08	09/29/16 20:46	1
Endosulfan sulfate	0.00821	U	0.0560	0.00821	ug/L		09/29/16 09:08	09/29/16 20:46	1
Endrin	0.00719	U	0.0560	0.00719	ug/L		09/29/16 09:08	09/29/16 20:46	1
Endrin aldehyde	0.00467	U	0.0560	0.00467	ug/L		09/29/16 09:08	09/29/16 20:46	1
Endrin ketone	0.00765	U	0.0560	0.00765	ug/L		09/29/16 09:08	09/29/16 20:46	1
gamma-BHC (Lindane)	0.00420	U	0.0560	0.00420	ug/L		09/29/16 09:08	09/29/16 20:46	1
gamma-Chlordane	0.00625	U	0.0560	0.00625	ug/L		09/29/16 09:08	09/29/16 20:46	1
Heptachlor	0.00607	U	0.0560	0.00607	ug/L		09/29/16 09:08	09/29/16 20:46	1
Heptachlor epoxide	0.00485	U	0.0560	0.00485	ug/L		09/29/16 09:08	09/29/16 20:46	1
Methoxychlor	0.00933	U	0.0560	0.00933	ug/L		09/29/16 09:08	09/29/16 20:46	1
Toxaphene	0.635	U	5.60	0.635	ug/L		09/29/16 09:08	09/29/16 20:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	102		10 - 152	09/29/16 09:08	09/29/16 20:46	1
Tetrachloro-m-xylene	100		57 - 127	09/29/16 09:08	09/29/16 20:46	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.560	0.103	ug/L		09/29/16 09:08	09/29/16 18:59	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS260 Trail

Lab Sample ID: 560-64002-5

Date Collected: 09/27/16 10:58

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1221	0.103	U	0.560	0.103	ug/L		09/29/16 09:08	09/29/16 18:59	1
Aroclor 1232	0.411	U	0.747	0.411	ug/L		09/29/16 09:08	09/29/16 18:59	1
Aroclor 1242	0.103	U	0.560	0.103	ug/L		09/29/16 09:08	09/29/16 18:59	1
Aroclor 1248	0.103	U	0.560	0.103	ug/L		09/29/16 09:08	09/29/16 18:59	1
Aroclor 1254	0.103	U	0.560	0.103	ug/L		09/29/16 09:08	09/29/16 18:59	1
Aroclor 1260	0.103	U	0.560	0.103	ug/L		09/29/16 09:08	09/29/16 18:59	1
Aroclor 1262	0.103	U	0.560	0.103	ug/L		09/29/16 09:08	09/29/16 18:59	1
Aroclor 1268	0.103	U	0.560	0.103	ug/L		09/29/16 09:08	09/29/16 18:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	135		10 - 150	09/29/16 09:08	09/29/16 18:59	1
DCB Decachlorobiphenyl	104		10 - 150	09/29/16 09:08	09/29/16 18:59	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00238	0.000160	mg/L		10/02/16 08:17	10/09/16 15:33	1
Bolstar	0.000299	U	0.000951	0.000299	mg/L		10/02/16 08:17	10/09/16 15:33	1
Chlorpyrifos	0.000342	U	0.00143	0.000342	mg/L		10/02/16 08:17	10/09/16 15:33	1
Coumaphos	0.000128	U	0.000951	0.000128	mg/L		10/02/16 08:17	10/09/16 15:33	1
Demeton-O	0.000133	U	0.000951	0.000133	mg/L		10/02/16 08:17	10/09/16 15:33	1
Demeton-S	0.0000656	U	0.00190	0.0000656	mg/L		10/02/16 08:17	10/09/16 15:33	1
Diazinon	0.000140	U	0.000476	0.000140	mg/L		10/02/16 08:17	10/09/16 15:33	1
Dichlorvos	0.000154	U	0.000476	0.000154	mg/L		10/02/16 08:17	10/09/16 15:33	1
Dimethoate	0.000427	U	0.00143	0.000427	mg/L		10/02/16 08:17	10/09/16 15:33	1
Disulfoton	0.000306	U	0.000951	0.000306	mg/L		10/02/16 08:17	10/09/16 15:33	1
EPN	0.000142	U	0.00114	0.000142	mg/L		10/02/16 08:17	10/09/16 15:33	1
Ethoprop	0.000168	U	0.00143	0.000168	mg/L		10/02/16 08:17	10/09/16 15:33	1
Ethyl Parathion	0.000137	U	0.000951	0.000137	mg/L		10/02/16 08:17	10/09/16 15:33	1
Famphur	0.000170	U	0.000951	0.000170	mg/L		10/02/16 08:17	10/09/16 15:33	1
Fensulfothion	0.000518	U	0.00238	0.000518	mg/L		10/02/16 08:17	10/09/16 15:33	1
Fenthion	0.000146	U	0.00238	0.000146	mg/L		10/02/16 08:17	10/09/16 15:33	1
Malathion	0.000127	U	0.00190	0.000127	mg/L		10/02/16 08:17	10/09/16 15:33	1
Merphos	0.000166	U	0.00476	0.000166	mg/L		10/02/16 08:17	10/09/16 15:33	1
Methyl parathion	0.000134	U	0.00381	0.000134	mg/L		10/02/16 08:17	10/09/16 15:33	1
Mevinphos	0.000438	U	0.00590	0.000438	mg/L		10/02/16 08:17	10/09/16 15:33	1
Naled	0.000761	U	0.00190	0.000761	mg/L		10/02/16 08:17	10/09/16 15:33	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		10/02/16 08:17	10/09/16 15:33	1
Ronnel	0.000110	U	0.00951	0.000110	mg/L		10/02/16 08:17	10/09/16 15:33	1
Sulfotepp	0.000160	U	0.00143	0.000160	mg/L		10/02/16 08:17	10/09/16 15:33	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00333	0.000118	mg/L		10/02/16 08:17	10/09/16 15:33	1
Thionazin	0.000297	U	0.000951	0.000297	mg/L		10/02/16 08:17	10/09/16 15:33	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		10/02/16 08:17	10/09/16 15:33	1
Trichloronate	0.000230	U	0.00143	0.000230	mg/L		10/02/16 08:17	10/09/16 15:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	52		49 - 171	10/02/16 08:17	10/09/16 15:33	1
Triphenylphosphate	101		60 - 154	10/02/16 08:17	10/09/16 15:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS260 Trail**

**Lab Sample ID: 560-64002-5**

**Date Collected: 09/27/16 10:58**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0949	U	4.74	0.0949	ug/L		10/03/16 10:22	10/04/16 23:46	1
Dicamba	0.0806	U	0.474	0.0806	ug/L		10/03/16 10:22	10/04/16 23:46	1
Mecoprop	18.0	U	114	18.0	ug/L		10/03/16 10:22	10/04/16 23:46	1
MCPA	16.1	U	114	16.1	ug/L		10/03/16 10:22	10/04/16 23:46	1
Dichlorprop	0.142	U	0.474	0.142	ug/L		10/03/16 10:22	10/04/16 23:46	1
2,4-D	0.0351	U	0.474	0.0351	ug/L		10/03/16 10:22	10/04/16 23:46	1
Silvex (2,4,5-TP)	0.0588	U	0.237	0.0588	ug/L		10/03/16 10:22	10/04/16 23:46	1
2,4,5-T	0.0588	U	0.237	0.0588	ug/L		10/03/16 10:22	10/04/16 23:46	1
2,4-DB	0.142	U	0.474	0.142	ug/L		10/03/16 10:22	10/04/16 23:46	1
Dinoseb	0.152	U	0.949	0.152	ug/L		10/03/16 10:22	10/04/16 23:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	78		45 - 130	10/03/16 10:22	10/04/16 23:46	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	81.1		0.200	0.101	mg/L		09/28/16 10:00	09/28/16 13:54	1
Magnesium	14.5		0.200	0.0257	mg/L		09/28/16 10:00	09/28/16 13:54	1
Potassium	2.38		0.500	0.375	mg/L		09/28/16 10:00	09/28/16 13:54	1
Silicon	6.06		0.500	0.0707	mg/L		09/28/16 10:00	09/28/16 13:54	1
Sodium	12.1		1.00	0.310	mg/L		09/28/16 10:00	09/28/16 13:54	1
Strontium	0.603		0.00500	0.000700	mg/L		09/28/16 10:00	09/28/16 13:54	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/28/16 10:00	09/28/16 18:18	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/28/16 10:00	09/28/16 18:18	1
Arsenic	0.00110	J	0.00500	0.00109	mg/L		09/28/16 10:00	09/28/16 18:18	1
Barium	0.0518		0.00500	0.000810	mg/L		09/28/16 10:00	09/28/16 18:18	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/28/16 10:00	09/28/16 18:18	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/28/16 10:00	09/28/16 18:18	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/28/16 10:00	09/28/16 18:18	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/28/16 10:00	09/28/16 18:18	1
Iron	0.101	U	0.250	0.101	mg/L		09/28/16 10:00	09/28/16 18:18	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/28/16 10:00	09/28/16 18:18	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/28/16 10:00	09/28/16 18:18	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/28/16 10:00	09/28/16 18:18	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/28/16 10:00	09/28/16 18:18	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/28/16 10:00	09/28/16 18:18	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/28/16 10:00	09/28/16 18:18	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/28/16 10:00	09/28/16 18:18	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		10/04/16 10:00	10/04/16 14:31	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.458	J	1.00	0.315	mg/L			09/28/16 16:57	1
Chloride	16.3		1.00	0.192	mg/L			09/28/16 16:57	1
Nitrate as N	1.65		0.500	0.103	mg/L			09/28/16 16:57	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS260 Trail**

**Lab Sample ID: 560-64002-5**

**Date Collected: 09/27/16 10:58**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Sulfate</b>	<b>26.3</b>		1.00	0.377	mg/L			09/28/16 16:57	1
<b>Fluoride</b>	<b>0.224</b>		0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/05/16 12:18	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/05/16 11:49	10/06/16 10:35	1
<b>Total Organic Carbon</b>	<b>1.39</b>		1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.4</b>	<b>HF</b>	0.1	0.1	SU			09/28/16 13:35	1
<b>Total Alkalinity as CaCO3</b>	<b>205</b>		5.00	5.00	mg/L			09/28/16 15:57	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>205</b>		5.00	5.00	mg/L			09/28/16 15:57	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 15:57	1
<b>Total Dissolved Solids</b>	<b>308</b>		10.0	10.0	mg/L			09/29/16 14:11	1
<b>Total Suspended Solids</b>	<b>10.0</b>		2.00	2.00	mg/L			09/28/16 14:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Dissolved Organic Carbon</b>	<b>1.06</b>		1.00	0.285	mg/L			10/05/16 12:09	1

**Client Sample ID: FDHCS260 Trail**

**Lab Sample ID: 560-64002-6**

**Date Collected: 09/27/16 10:58**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/29/16 16:55	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/29/16 16:55	1
Benzene	0.330	U	1.00	0.330	ug/L			09/29/16 16:55	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/29/16 16:55	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 16:55	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/29/16 16:55	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/29/16 16:55	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/29/16 16:55	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/29/16 16:55	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/29/16 16:55	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/29/16 16:55	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/29/16 16:55	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/29/16 16:55	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/29/16 16:55	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/29/16 16:55	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/29/16 16:55	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/29/16 16:55	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/29/16 16:55	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/29/16 16:55	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/29/16 16:55	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/29/16 16:55	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 16:55	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/29/16 16:55	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/29/16 16:55	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/29/16 16:55	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/29/16 16:55	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/29/16 16:55	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: FDHCS260 Trail

Lab Sample ID: 560-64002-6

Date Collected: 09/27/16 10:58

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/29/16 16:55	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/29/16 16:55	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 16:55	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/29/16 16:55	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/29/16 16:55	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/29/16 16:55	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/29/16 16:55	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/29/16 16:55	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/29/16 16:55	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/29/16 16:55	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/29/16 16:55	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/29/16 16:55	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/29/16 16:55	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/29/16 16:55	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/29/16 16:55	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/29/16 16:55	1
EDB	0.175	U	1.00	0.175	ug/L			09/29/16 16:55	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/29/16 16:55	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 16:55	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/29/16 16:55	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/29/16 16:55	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/29/16 16:55	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/29/16 16:55	1
Hexane	2.00	U	5.00	2.00	ug/L			09/29/16 16:55	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/29/16 16:55	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/29/16 16:55	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/29/16 16:55	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/29/16 16:55	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/29/16 16:55	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/29/16 16:55	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/29/16 16:55	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/29/16 16:55	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/29/16 16:55	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/29/16 16:55	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/29/16 16:55	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/29/16 16:55	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/29/16 16:55	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 16:55	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/29/16 16:55	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/29/16 16:55	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/29/16 16:55	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/29/16 16:55	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/29/16 16:55	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/29/16 16:55	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/29/16 16:55	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/29/16 16:55	1
Styrene	0.200	U	1.00	0.200	ug/L			09/29/16 16:55	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 16:55	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/29/16 16:55	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: FDHCS260 Trail

Lab Sample ID: 560-64002-6

Date Collected: 09/27/16 10:58

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/29/16 16:55	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/29/16 16:55	1
Toluene	0.495	U	1.00	0.495	ug/L			09/29/16 16:55	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 16:55	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/29/16 16:55	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/29/16 16:55	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/29/16 16:55	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/29/16 16:55	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/29/16 16:55	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/29/16 16:55	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/29/16 16:55	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/29/16 16:55	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/29/16 16:55	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/29/16 16:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/29/16 16:55	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 16:55	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 16:55	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/29/16 16:55	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/29/16 16:55	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/29/16 16:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130		09/29/16 16:55	1
Dibromofluoromethane (Surr)	100		69 - 130		09/29/16 16:55	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		09/29/16 16:55	1
Toluene-d8 (Surr)	101		70 - 130		09/29/16 16:55	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/29/16 16:37	10/03/16 12:39	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/29/16 16:37	10/03/16 12:39	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/29/16 16:37	10/03/16 12:39	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/29/16 16:37	10/03/16 12:39	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/29/16 16:37	10/03/16 12:39	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/29/16 16:37	10/03/16 12:39	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/29/16 16:37	10/03/16 12:39	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/29/16 16:37	10/03/16 12:39	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/29/16 16:37	10/03/16 12:39	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/29/16 16:37	10/03/16 12:39	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/29/16 16:37	10/03/16 12:39	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/29/16 16:37	10/03/16 12:39	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/29/16 16:37	10/03/16 12:39	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/29/16 16:37	10/03/16 12:39	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 12:39	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/29/16 16:37	10/03/16 12:39	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/29/16 16:37	10/03/16 12:39	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/29/16 16:37	10/03/16 12:39	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/29/16 16:37	10/03/16 12:39	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/29/16 16:37	10/03/16 12:39	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/29/16 16:37	10/03/16 12:39	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: FDHCS260 Trail

Lab Sample ID: 560-64002-6

Date Collected: 09/27/16 10:58

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/29/16 16:37	10/03/16 12:39	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/29/16 16:37	10/03/16 12:39	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/29/16 16:37	10/03/16 12:39	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/29/16 16:37	10/03/16 12:39	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 12:39	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/29/16 16:37	10/03/16 12:39	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/29/16 16:37	10/03/16 12:39	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/29/16 16:37	10/03/16 12:39	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 12:39	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/29/16 16:37	10/03/16 12:39	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/29/16 16:37	10/03/16 12:39	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/29/16 16:37	10/03/16 12:39	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/29/16 16:37	10/03/16 12:39	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/29/16 16:37	10/03/16 12:39	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/29/16 16:37	10/03/16 12:39	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/29/16 16:37	10/03/16 12:39	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/29/16 16:37	10/03/16 12:39	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/29/16 16:37	10/03/16 12:39	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/29/16 16:37	10/03/16 12:39	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/29/16 16:37	10/03/16 12:39	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 12:39	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/29/16 16:37	10/03/16 12:39	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 12:39	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/29/16 16:37	10/03/16 12:39	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/29/16 16:37	10/03/16 12:39	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/29/16 16:37	10/03/16 12:39	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 12:39	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/29/16 16:37	10/03/16 12:39	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/29/16 16:37	10/03/16 12:39	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/29/16 16:37	10/03/16 12:39	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/29/16 16:37	10/03/16 12:39	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/29/16 16:37	10/03/16 12:39	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/29/16 16:37	10/03/16 12:39	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/29/16 16:37	10/03/16 12:39	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/29/16 16:37	10/03/16 12:39	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/29/16 16:37	10/03/16 12:39	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/29/16 16:37	10/03/16 12:39	1
Phenol	0.768	U	10.0	0.768	ug/L		09/29/16 16:37	10/03/16 12:39	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/29/16 16:37	10/03/16 12:39	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/29/16 16:37	10/03/16 12:39	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/29/16 16:37	10/03/16 12:39	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/29/16 16:37	10/03/16 12:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		23 - 130				09/29/16 16:37	10/03/16 12:39	1
2-Fluorophenol	63		10 - 130				09/29/16 16:37	10/03/16 12:39	1
Nitrobenzene-d5	65		27 - 130				09/29/16 16:37	10/03/16 12:39	1
Phenol-d5	68		10 - 130				09/29/16 16:37	10/03/16 12:39	1
Terphenyl-d14	45		10 - 141				09/29/16 16:37	10/03/16 12:39	1
2,4,6-Tribromophenol	53		18 - 130				09/29/16 16:37	10/03/16 12:39	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00478	U	0.0574	0.00478	ug/L		09/29/16 09:08	09/29/16 21:07	1
alpha-BHC	0.00497	U	0.0574	0.00497	ug/L		09/29/16 09:08	09/29/16 21:07	1
alpha-Chlordane	0.00602	U	0.0574	0.00602	ug/L		09/29/16 09:08	09/29/16 21:07	1
beta-BHC	0.00478	U	0.0574	0.00478	ug/L		09/29/16 09:08	09/29/16 21:07	1
4,4'-DDD	0.00478	U	0.0574	0.00478	ug/L		09/29/16 09:08	09/29/16 21:07	1
4,4'-DDE	0.00478	U	0.0574	0.00478	ug/L		09/29/16 09:08	09/29/16 21:07	1
4,4'-DDT	0.00775	U	0.0574	0.00775	ug/L		09/29/16 09:08	09/29/16 21:07	1
delta-BHC	0.00478	U	0.0574	0.00478	ug/L		09/29/16 09:08	09/29/16 21:07	1
Dieldrin	0.0124	U	0.0574	0.0124	ug/L		09/29/16 09:08	09/29/16 21:07	1
Endosulfan I	0.00478	U	0.0574	0.00478	ug/L		09/29/16 09:08	09/29/16 21:07	1
Endosulfan II	0.00822	U	0.0574	0.00822	ug/L		09/29/16 09:08	09/29/16 21:07	1
Endosulfan sulfate	0.00842	U	0.0574	0.00842	ug/L		09/29/16 09:08	09/29/16 21:07	1
Endrin	0.00736	U	0.0574	0.00736	ug/L		09/29/16 09:08	09/29/16 21:07	1
Endrin aldehyde	0.00478	U	0.0574	0.00478	ug/L		09/29/16 09:08	09/29/16 21:07	1
Endrin ketone	0.00784	U	0.0574	0.00784	ug/L		09/29/16 09:08	09/29/16 21:07	1
gamma-BHC (Lindane)	0.00430	U	0.0574	0.00430	ug/L		09/29/16 09:08	09/29/16 21:07	1
gamma-Chlordane	0.00641	U	0.0574	0.00641	ug/L		09/29/16 09:08	09/29/16 21:07	1
Heptachlor	0.00622	U	0.0574	0.00622	ug/L		09/29/16 09:08	09/29/16 21:07	1
Heptachlor epoxide	0.00497	U	0.0574	0.00497	ug/L		09/29/16 09:08	09/29/16 21:07	1
Methoxychlor	0.00956	U	0.0574	0.00956	ug/L		09/29/16 09:08	09/29/16 21:07	1
Toxaphene	0.650	U	5.74	0.650	ug/L		09/29/16 09:08	09/29/16 21:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	100		10 - 152	09/29/16 09:08	09/29/16 21:07	1
Tetrachloro-m-xylene	99		57 - 127	09/29/16 09:08	09/29/16 21:07	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.574	0.105	ug/L		09/29/16 09:08	09/29/16 19:16	1
Aroclor 1221	0.105	U	0.574	0.105	ug/L		09/29/16 09:08	09/29/16 19:16	1
Aroclor 1232	0.421	U	0.765	0.421	ug/L		09/29/16 09:08	09/29/16 19:16	1
Aroclor 1242	0.105	U	0.574	0.105	ug/L		09/29/16 09:08	09/29/16 19:16	1
Aroclor 1248	0.105	U	0.574	0.105	ug/L		09/29/16 09:08	09/29/16 19:16	1
Aroclor 1254	0.105	U	0.574	0.105	ug/L		09/29/16 09:08	09/29/16 19:16	1
Aroclor 1260	0.105	U	0.574	0.105	ug/L		09/29/16 09:08	09/29/16 19:16	1
Aroclor 1262	0.105	U	0.574	0.105	ug/L		09/29/16 09:08	09/29/16 19:16	1
Aroclor 1268	0.105	U	0.574	0.105	ug/L		09/29/16 09:08	09/29/16 19:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	123		10 - 150	09/29/16 09:08	09/29/16 19:16	1
DCB Decachlorobiphenyl	94		10 - 150	09/29/16 09:08	09/29/16 19:16	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00238	0.000160	mg/L		10/02/16 08:17	10/09/16 16:05	1
Bolstar	0.000298	U	0.000950	0.000298	mg/L		10/02/16 08:17	10/09/16 16:05	1
Chlorpyrifos	0.000342	U	0.00143	0.000342	mg/L		10/02/16 08:17	10/09/16 16:05	1
Coumaphos	0.000128	U	0.000950	0.000128	mg/L		10/02/16 08:17	10/09/16 16:05	1
Demeton-O	0.000133	U	0.000950	0.000133	mg/L		10/02/16 08:17	10/09/16 16:05	1
Demeton-S	0.0000656	U	0.00190	0.0000656	mg/L		10/02/16 08:17	10/09/16 16:05	1
Diazinon	0.000140	U	0.000475	0.000140	mg/L		10/02/16 08:17	10/09/16 16:05	1
Dichlorvos	0.000154	U	0.000475	0.000154	mg/L		10/02/16 08:17	10/09/16 16:05	1
Dimethoate	0.000427	U	0.00143	0.000427	mg/L		10/02/16 08:17	10/09/16 16:05	1
Disulfoton	0.000306	U	0.000950	0.000306	mg/L		10/02/16 08:17	10/09/16 16:05	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: FDHCS260 Trail

Lab Sample ID: 560-64002-6

Date Collected: 09/27/16 10:58

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
EPN	0.000142	U	0.00114	0.000142	mg/L		10/02/16 08:17	10/09/16 16:05	1
Ethoprop	0.000168	U	0.00143	0.000168	mg/L		10/02/16 08:17	10/09/16 16:05	1
Ethyl Parathion	0.000137	U	0.000950	0.000137	mg/L		10/02/16 08:17	10/09/16 16:05	1
Famphur	0.000170	U	0.000950	0.000170	mg/L		10/02/16 08:17	10/09/16 16:05	1
Fensulfothion	0.000517	U	0.00238	0.000517	mg/L		10/02/16 08:17	10/09/16 16:05	1
Fenthion	0.000146	U	0.00238	0.000146	mg/L		10/02/16 08:17	10/09/16 16:05	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		10/02/16 08:17	10/09/16 16:05	1
Merphos	0.000165	U	0.00475	0.000165	mg/L		10/02/16 08:17	10/09/16 16:05	1
Methyl parathion	0.000134	U	0.00380	0.000134	mg/L		10/02/16 08:17	10/09/16 16:05	1
Mevinphos	0.000437	U	0.00589	0.000437	mg/L		10/02/16 08:17	10/09/16 16:05	1
Naled	0.000760	U	0.00190	0.000760	mg/L		10/02/16 08:17	10/09/16 16:05	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		10/02/16 08:17	10/09/16 16:05	1
Ronnel	0.000110	U	0.00950	0.000110	mg/L		10/02/16 08:17	10/09/16 16:05	1
Sulfotepp	0.000160	U	0.00143	0.000160	mg/L		10/02/16 08:17	10/09/16 16:05	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00333	0.000118	mg/L		10/02/16 08:17	10/09/16 16:05	1
Thionazin	0.000296	U	0.000950	0.000296	mg/L		10/02/16 08:17	10/09/16 16:05	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		10/02/16 08:17	10/09/16 16:05	1
Trichloronate	0.000230	U	0.00143	0.000230	mg/L		10/02/16 08:17	10/09/16 16:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	72		49 - 171	10/02/16 08:17	10/09/16 16:05	1
Triphenylphosphate	99		60 - 154	10/02/16 08:17	10/09/16 16:05	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0946	U	4.73	0.0946	ug/L		10/03/16 10:22	10/05/16 00:06	1
Dicamba	0.0804	U	0.473	0.0804	ug/L		10/03/16 10:22	10/05/16 00:06	1
Mecoprop	18.0	U	114	18.0	ug/L		10/03/16 10:22	10/05/16 00:06	1
MCPA	16.1	U	114	16.1	ug/L		10/03/16 10:22	10/05/16 00:06	1
Dichlorprop	0.142	U	0.473	0.142	ug/L		10/03/16 10:22	10/05/16 00:06	1
2,4-D	0.0350	U	0.473	0.0350	ug/L		10/03/16 10:22	10/05/16 00:06	1
Silvex (2,4,5-TP)	0.0587	U	0.236	0.0587	ug/L		10/03/16 10:22	10/05/16 00:06	1
2,4,5-T	0.0587	U	0.236	0.0587	ug/L		10/03/16 10:22	10/05/16 00:06	1
2,4-DB	0.142	U	0.473	0.142	ug/L		10/03/16 10:22	10/05/16 00:06	1
Dinoseb	0.151	U	0.946	0.151	ug/L		10/03/16 10:22	10/05/16 00:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	75		45 - 130	10/03/16 10:22	10/05/16 00:06	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	82.9		0.200	0.101	mg/L		09/28/16 10:00	09/28/16 13:58	1
Magnesium	14.9		0.200	0.0257	mg/L		09/28/16 10:00	09/28/16 13:58	1
Potassium	2.28		0.500	0.375	mg/L		09/28/16 10:00	09/28/16 13:58	1
Silicon	6.27		0.500	0.0707	mg/L		09/28/16 10:00	09/28/16 13:58	1
Sodium	12.4		1.00	0.310	mg/L		09/28/16 10:00	09/28/16 13:58	1
Strontium	0.615		0.00500	0.000700	mg/L		09/28/16 10:00	09/28/16 13:58	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/28/16 10:00	09/28/16 18:23	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: FDHCS260 Trail

Lab Sample ID: 560-64002-6

Date Collected: 09/27/16 10:58

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/28/16 10:00	09/28/16 18:23	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/28/16 10:00	09/28/16 18:23	1
Barium	0.0518		0.00500	0.000810	mg/L		09/28/16 10:00	09/28/16 18:23	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/28/16 10:00	09/28/16 18:23	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/28/16 10:00	09/28/16 18:23	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/28/16 10:00	09/28/16 18:23	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/28/16 10:00	09/28/16 18:23	1
Iron	0.101	U	0.250	0.101	mg/L		09/28/16 10:00	09/28/16 18:23	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/28/16 10:00	09/28/16 18:23	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/28/16 10:00	09/28/16 18:23	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/28/16 10:00	09/28/16 18:23	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/28/16 10:00	09/28/16 18:23	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/28/16 10:00	09/28/16 18:23	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/28/16 10:00	09/28/16 18:23	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/28/16 10:00	09/28/16 18:23	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		10/04/16 10:00	10/04/16 14:33	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.458	J	1.00	0.315	mg/L			09/28/16 17:23	1
Chloride	16.2		1.00	0.192	mg/L			09/28/16 17:23	1
Nitrate as N	1.65		0.500	0.103	mg/L			09/28/16 17:23	1
Sulfate	26.2		1.00	0.377	mg/L			09/28/16 17:23	1
Fluoride	0.218		0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/05/16 12:19	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/05/16 11:49	10/06/16 10:34	1
Total Organic Carbon	1.01		1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	HF	0.1	0.1	SU			09/28/16 13:35	1
Total Alkalinity as CaCO3	200		5.00	5.00	mg/L			09/28/16 15:57	1
Bicarbonate Alkalinity as CaCO3	200		5.00	5.00	mg/L			09/28/16 15:57	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 15:57	1
Total Dissolved Solids	302		10.0	10.0	mg/L			09/29/16 14:11	1
Total Suspended Solids	10.4		2.00	2.00	mg/L			09/28/16 14:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.922	J	1.00	0.285	mg/L			10/05/16 12:09	1

Client Sample ID: HCS270 Trail

Lab Sample ID: 560-64002-12

Date Collected: 09/27/16 12:01

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/29/16 17:20	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/29/16 17:20	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS270 Trail

Lab Sample ID: 560-64002-12

Date Collected: 09/27/16 12:01

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.330	U	1.00	0.330	ug/L			09/29/16 17:20	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/29/16 17:20	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 17:20	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/29/16 17:20	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/29/16 17:20	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/29/16 17:20	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/29/16 17:20	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/29/16 17:20	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/29/16 17:20	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/29/16 17:20	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/29/16 17:20	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/29/16 17:20	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/29/16 17:20	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/29/16 17:20	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/29/16 17:20	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/29/16 17:20	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/29/16 17:20	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/29/16 17:20	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/29/16 17:20	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 17:20	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/29/16 17:20	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/29/16 17:20	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/29/16 17:20	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/29/16 17:20	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/29/16 17:20	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/29/16 17:20	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/29/16 17:20	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 17:20	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/29/16 17:20	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/29/16 17:20	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/29/16 17:20	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/29/16 17:20	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/29/16 17:20	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/29/16 17:20	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/29/16 17:20	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/29/16 17:20	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/29/16 17:20	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/29/16 17:20	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/29/16 17:20	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/29/16 17:20	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/29/16 17:20	1
EDB	0.175	U	1.00	0.175	ug/L			09/29/16 17:20	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/29/16 17:20	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 17:20	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/29/16 17:20	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/29/16 17:20	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/29/16 17:20	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/29/16 17:20	1
Hexane	2.00	U	5.00	2.00	ug/L			09/29/16 17:20	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS270 Trail

Lab Sample ID: 560-64002-12

Date Collected: 09/27/16 12:01

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/29/16 17:20	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/29/16 17:20	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/29/16 17:20	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/29/16 17:20	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/29/16 17:20	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/29/16 17:20	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/29/16 17:20	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/29/16 17:20	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/29/16 17:20	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/29/16 17:20	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/29/16 17:20	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/29/16 17:20	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/29/16 17:20	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 17:20	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/29/16 17:20	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/29/16 17:20	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/29/16 17:20	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/29/16 17:20	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/29/16 17:20	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/29/16 17:20	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/29/16 17:20	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/29/16 17:20	1
Styrene	0.200	U	1.00	0.200	ug/L			09/29/16 17:20	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 17:20	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/29/16 17:20	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/29/16 17:20	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/29/16 17:20	1
Toluene	0.495	U	1.00	0.495	ug/L			09/29/16 17:20	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 17:20	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/29/16 17:20	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/29/16 17:20	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/29/16 17:20	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/29/16 17:20	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/29/16 17:20	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/29/16 17:20	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/29/16 17:20	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/29/16 17:20	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/29/16 17:20	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/29/16 17:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/29/16 17:20	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 17:20	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 17:20	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/29/16 17:20	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/29/16 17:20	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/29/16 17:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130		09/29/16 17:20	1
Dibromofluoromethane (Surr)	100		69 - 130		09/29/16 17:20	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		09/29/16 17:20	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS270 Trail

Lab Sample ID: 560-64002-12

Date Collected: 09/27/16 12:01

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		09/29/16 17:20	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/29/16 16:37	10/03/16 13:04	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/29/16 16:37	10/03/16 13:04	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/29/16 16:37	10/03/16 13:04	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/29/16 16:37	10/03/16 13:04	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/29/16 16:37	10/03/16 13:04	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/29/16 16:37	10/03/16 13:04	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/29/16 16:37	10/03/16 13:04	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/29/16 16:37	10/03/16 13:04	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/29/16 16:37	10/03/16 13:04	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/29/16 16:37	10/03/16 13:04	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/29/16 16:37	10/03/16 13:04	1
Bis(2-ethylhexyl) phthalate	7.43	J	20.0	5.00	ug/L		09/29/16 16:37	10/03/16 13:04	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/29/16 16:37	10/03/16 13:04	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/29/16 16:37	10/03/16 13:04	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 13:04	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/29/16 16:37	10/03/16 13:04	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/29/16 16:37	10/03/16 13:04	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/29/16 16:37	10/03/16 13:04	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/29/16 16:37	10/03/16 13:04	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/29/16 16:37	10/03/16 13:04	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/29/16 16:37	10/03/16 13:04	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/29/16 16:37	10/03/16 13:04	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/29/16 16:37	10/03/16 13:04	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/29/16 16:37	10/03/16 13:04	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/29/16 16:37	10/03/16 13:04	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 13:04	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/29/16 16:37	10/03/16 13:04	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/29/16 16:37	10/03/16 13:04	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/29/16 16:37	10/03/16 13:04	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 13:04	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/29/16 16:37	10/03/16 13:04	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/29/16 16:37	10/03/16 13:04	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/29/16 16:37	10/03/16 13:04	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/29/16 16:37	10/03/16 13:04	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/29/16 16:37	10/03/16 13:04	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/29/16 16:37	10/03/16 13:04	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/29/16 16:37	10/03/16 13:04	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/29/16 16:37	10/03/16 13:04	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/29/16 16:37	10/03/16 13:04	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/29/16 16:37	10/03/16 13:04	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/29/16 16:37	10/03/16 13:04	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 13:04	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/29/16 16:37	10/03/16 13:04	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 13:04	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/29/16 16:37	10/03/16 13:04	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS270 Trail

Lab Sample ID: 560-64002-12

Date Collected: 09/27/16 12:01

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/29/16 16:37	10/03/16 13:04	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/29/16 16:37	10/03/16 13:04	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 13:04	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/29/16 16:37	10/03/16 13:04	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/29/16 16:37	10/03/16 13:04	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/29/16 16:37	10/03/16 13:04	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/29/16 16:37	10/03/16 13:04	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/29/16 16:37	10/03/16 13:04	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/29/16 16:37	10/03/16 13:04	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/29/16 16:37	10/03/16 13:04	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/29/16 16:37	10/03/16 13:04	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/29/16 16:37	10/03/16 13:04	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/29/16 16:37	10/03/16 13:04	1
Phenol	0.768	U	10.0	0.768	ug/L		09/29/16 16:37	10/03/16 13:04	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/29/16 16:37	10/03/16 13:04	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/29/16 16:37	10/03/16 13:04	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/29/16 16:37	10/03/16 13:04	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/29/16 16:37	10/03/16 13:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		23 - 130	09/29/16 16:37	10/03/16 13:04	1
2-Fluorophenol	66		10 - 130	09/29/16 16:37	10/03/16 13:04	1
Nitrobenzene-d5	66		27 - 130	09/29/16 16:37	10/03/16 13:04	1
Phenol-d5	69		10 - 130	09/29/16 16:37	10/03/16 13:04	1
Terphenyl-d14	35		10 - 141	09/29/16 16:37	10/03/16 13:04	1
2,4,6-Tribromophenol	51		18 - 130	09/29/16 16:37	10/03/16 13:04	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00470	U	0.0565	0.00470	ug/L		09/29/16 09:08	09/29/16 21:29	1
alpha-BHC	0.00489	U	0.0565	0.00489	ug/L		09/29/16 09:08	09/29/16 21:29	1
alpha-Chlordane	0.00593	U	0.0565	0.00593	ug/L		09/29/16 09:08	09/29/16 21:29	1
beta-BHC	0.00470	U	0.0565	0.00470	ug/L		09/29/16 09:08	09/29/16 21:29	1
4,4'-DDD	0.00470	U	0.0565	0.00470	ug/L		09/29/16 09:08	09/29/16 21:29	1
4,4'-DDE	0.00470	U	0.0565	0.00470	ug/L		09/29/16 09:08	09/29/16 21:29	1
4,4'-DDT	0.00762	U	0.0565	0.00762	ug/L		09/29/16 09:08	09/29/16 21:29	1
delta-BHC	0.00470	U	0.0565	0.00470	ug/L		09/29/16 09:08	09/29/16 21:29	1
Dieldrin	0.0122	U	0.0565	0.0122	ug/L		09/29/16 09:08	09/29/16 21:29	1
Endosulfan I	0.00470	U	0.0565	0.00470	ug/L		09/29/16 09:08	09/29/16 21:29	1
Endosulfan II	0.00809	U	0.0565	0.00809	ug/L		09/29/16 09:08	09/29/16 21:29	1
Endosulfan sulfate	0.00828	U	0.0565	0.00828	ug/L		09/29/16 09:08	09/29/16 21:29	1
Endrin	0.00724	U	0.0565	0.00724	ug/L		09/29/16 09:08	09/29/16 21:29	1
Endrin aldehyde	0.00470	U	0.0565	0.00470	ug/L		09/29/16 09:08	09/29/16 21:29	1
Endrin ketone	0.00772	U	0.0565	0.00772	ug/L		09/29/16 09:08	09/29/16 21:29	1
gamma-BHC (Lindane)	0.00423	U	0.0565	0.00423	ug/L		09/29/16 09:08	09/29/16 21:29	1
gamma-Chlordane	0.00630	U	0.0565	0.00630	ug/L		09/29/16 09:08	09/29/16 21:29	1
Heptachlor	0.00612	U	0.0565	0.00612	ug/L		09/29/16 09:08	09/29/16 21:29	1
Heptachlor epoxide	0.00489	U	0.0565	0.00489	ug/L		09/29/16 09:08	09/29/16 21:29	1
Methoxychlor	0.00941	U	0.0565	0.00941	ug/L		09/29/16 09:08	09/29/16 21:29	1
Toxaphene	0.640	U	5.65	0.640	ug/L		09/29/16 09:08	09/29/16 21:29	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS270 Trail**

**Lab Sample ID: 560-64002-12**

**Date Collected: 09/27/16 12:01**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	106		10 - 152	09/29/16 09:08	09/29/16 21:29	1
Tetrachloro-m-xylene	103		57 - 127	09/29/16 09:08	09/29/16 21:29	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.565	0.103	ug/L		09/29/16 09:08	09/29/16 19:34	1
Aroclor 1221	0.103	U	0.565	0.103	ug/L		09/29/16 09:08	09/29/16 19:34	1
Aroclor 1232	0.414	U	0.753	0.414	ug/L		09/29/16 09:08	09/29/16 19:34	1
Aroclor 1242	0.103	U	0.565	0.103	ug/L		09/29/16 09:08	09/29/16 19:34	1
Aroclor 1248	0.103	U	0.565	0.103	ug/L		09/29/16 09:08	09/29/16 19:34	1
Aroclor 1254	0.103	U	0.565	0.103	ug/L		09/29/16 09:08	09/29/16 19:34	1
Aroclor 1260	0.103	U	0.565	0.103	ug/L		09/29/16 09:08	09/29/16 19:34	1
Aroclor 1262	0.103	U	0.565	0.103	ug/L		09/29/16 09:08	09/29/16 19:34	1
Aroclor 1268	0.103	U	0.565	0.103	ug/L		09/29/16 09:08	09/29/16 19:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	117		10 - 150	09/29/16 09:08	09/29/16 19:34	1
DCB Decachlorobiphenyl	91		10 - 150	09/29/16 09:08	09/29/16 19:34	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000161	U	0.00240	0.000161	mg/L		10/02/16 08:17	10/09/16 16:36	1
Bolstar	0.000302	U	0.000961	0.000302	mg/L		10/02/16 08:17	10/09/16 16:36	1
Chlorpyrifos	0.000346	U	0.00144	0.000346	mg/L		10/02/16 08:17	10/09/16 16:36	1
Coumaphos	0.000130	U	0.000961	0.000130	mg/L		10/02/16 08:17	10/09/16 16:36	1
Demeton-O	0.000134	U	0.000961	0.000134	mg/L		10/02/16 08:17	10/09/16 16:36	1
Demeton-S	0.0000663	U	0.00192	0.0000663	mg/L		10/02/16 08:17	10/09/16 16:36	1
Diazinon	0.000141	U	0.000480	0.000141	mg/L		10/02/16 08:17	10/09/16 16:36	1
Dichlorvos	0.000156	U	0.000480	0.000156	mg/L		10/02/16 08:17	10/09/16 16:36	1
Dimethoate	0.000431	U	0.00144	0.000431	mg/L		10/02/16 08:17	10/09/16 16:36	1
Disulfoton	0.000309	U	0.000961	0.000309	mg/L		10/02/16 08:17	10/09/16 16:36	1
EPN	0.000143	U	0.00115	0.000143	mg/L		10/02/16 08:17	10/09/16 16:36	1
Ethoprop	0.000170	U	0.00144	0.000170	mg/L		10/02/16 08:17	10/09/16 16:36	1
Ethyl Parathion	0.000138	U	0.000961	0.000138	mg/L		10/02/16 08:17	10/09/16 16:36	1
Famphur	0.000172	U	0.000961	0.000172	mg/L		10/02/16 08:17	10/09/16 16:36	1
Fensulfothion	0.000523	U	0.00240	0.000523	mg/L		10/02/16 08:17	10/09/16 16:36	1
Fenthion	0.000148	U	0.00240	0.000148	mg/L		10/02/16 08:17	10/09/16 16:36	1
Malathion	0.000128	U	0.00192	0.000128	mg/L		10/02/16 08:17	10/09/16 16:36	1
Merphos	0.000167	U	0.00480	0.000167	mg/L		10/02/16 08:17	10/09/16 16:36	1
Methyl parathion	0.000135	U	0.00384	0.000135	mg/L		10/02/16 08:17	10/09/16 16:36	1
Mevinphos	0.000442	U	0.00596	0.000442	mg/L		10/02/16 08:17	10/09/16 16:36	1
Naled	0.000768	U	0.00192	0.000768	mg/L		10/02/16 08:17	10/09/16 16:36	1
Phorate	0.000148	U	0.00115	0.000148	mg/L		10/02/16 08:17	10/09/16 16:36	1
Ronnel	0.000111	U	0.00961	0.000111	mg/L		10/02/16 08:17	10/09/16 16:36	1
Sulfotepp	0.000161	U	0.00144	0.000161	mg/L		10/02/16 08:17	10/09/16 16:36	1
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00336	0.000119	mg/L		10/02/16 08:17	10/09/16 16:36	1
Thionazin	0.000300	U	0.000961	0.000300	mg/L		10/02/16 08:17	10/09/16 16:36	1
Tokuthion	0.000118	U	0.00154	0.000118	mg/L		10/02/16 08:17	10/09/16 16:36	1
Trichloronate	0.000232	U	0.00144	0.000232	mg/L		10/02/16 08:17	10/09/16 16:36	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: HCS270 Trail**

**Lab Sample ID: 560-64002-12**

**Date Collected: 09/27/16 12:01**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	55		49 - 171	10/02/16 08:17	10/09/16 16:36	1
Triphenylphosphate	97		60 - 154	10/02/16 08:17	10/09/16 16:36	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0951	U	4.76	0.0951	ug/L		10/03/16 10:22	10/05/16 00:26	1
Dicamba	0.0808	U	0.476	0.0808	ug/L		10/03/16 10:22	10/05/16 00:26	1
Mecoprop	18.1	U	114	18.1	ug/L		10/03/16 10:22	10/05/16 00:26	1
MCPA	16.2	U	114	16.2	ug/L		10/03/16 10:22	10/05/16 00:26	1
Dichlorprop	0.143	U	0.476	0.143	ug/L		10/03/16 10:22	10/05/16 00:26	1
2,4-D	0.0352	U	0.476	0.0352	ug/L		10/03/16 10:22	10/05/16 00:26	1
Silvex (2,4,5-TP)	0.0590	U	0.238	0.0590	ug/L		10/03/16 10:22	10/05/16 00:26	1
2,4,5-T	0.0590	U	0.238	0.0590	ug/L		10/03/16 10:22	10/05/16 00:26	1
2,4-DB	0.143	U	0.476	0.143	ug/L		10/03/16 10:22	10/05/16 00:26	1
Dinoseb	0.152	U	0.951	0.152	ug/L		10/03/16 10:22	10/05/16 00:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	74		45 - 130	10/03/16 10:22	10/05/16 00:26	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	85.2		0.200	0.101	mg/L		09/28/16 10:00	09/28/16 14:10	1
Magnesium	15.3		0.200	0.0257	mg/L		09/28/16 10:00	09/28/16 14:10	1
Potassium	2.49		0.500	0.375	mg/L		09/28/16 10:00	09/28/16 14:10	1
Silicon	6.42		0.500	0.0707	mg/L		09/28/16 10:00	09/28/16 14:10	1
Sodium	12.1		1.00	0.310	mg/L		09/28/16 10:00	09/28/16 14:10	1
Strontium	0.630		0.00500	0.000700	mg/L		09/28/16 10:00	09/28/16 14:10	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/28/16 10:00	09/28/16 18:28	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/28/16 10:00	09/28/16 18:28	1
Arsenic	0.00111	J	0.00500	0.00109	mg/L		09/28/16 10:00	09/28/16 18:28	1
Barium	0.0541		0.00500	0.000810	mg/L		09/28/16 10:00	09/28/16 18:28	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/28/16 10:00	09/28/16 18:28	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/28/16 10:00	09/28/16 18:28	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/28/16 10:00	09/28/16 18:28	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/28/16 10:00	09/28/16 18:28	1
Iron	0.101	U	0.250	0.101	mg/L		09/28/16 10:00	09/28/16 18:28	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/28/16 10:00	09/28/16 18:28	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/28/16 10:00	09/28/16 18:28	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/28/16 10:00	09/28/16 18:28	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/28/16 10:00	09/28/16 18:28	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/28/16 10:00	09/28/16 18:28	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/28/16 10:00	09/28/16 18:28	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/28/16 10:00	09/28/16 18:28	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 17:19	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: HCS270 Trail

Lab Sample ID: 560-64002-12

Date Collected: 09/27/16 12:01

Matrix: Water

Date Received: 09/28/16 08:00

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.467	J	1.00	0.315	mg/L			09/28/16 17:49	1
Chloride	16.4		1.00	0.192	mg/L			09/28/16 17:49	1
Nitrate as N	1.64		0.500	0.103	mg/L			09/28/16 17:49	1
Sulfate	25.9		1.00	0.377	mg/L			09/28/16 17:49	1
Fluoride	0.223		0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/06/16 11:37	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/05/16 11:49	10/06/16 10:32	1
Total Organic Carbon	1.51		1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1	0.1	SU			09/28/16 13:35	1
Total Alkalinity as CaCO3	204		5.00	5.00	mg/L			09/28/16 15:57	1
Bicarbonate Alkalinity as CaCO3	204		5.00	5.00	mg/L			09/28/16 15:57	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 15:57	1
Total Dissolved Solids	299		10.0	10.0	mg/L			09/29/16 14:11	1
Total Suspended Solids	14.0		2.00	2.00	mg/L			09/28/16 14:50	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.08		1.00	0.285	mg/L			10/05/16 12:09	1

Client Sample ID: FDHCS270 Trail

Lab Sample ID: 560-64002-13

Date Collected: 09/27/16 12:01

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/29/16 17:45	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/29/16 17:45	1
Benzene	0.330	U	1.00	0.330	ug/L			09/29/16 17:45	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/29/16 17:45	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 17:45	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/29/16 17:45	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/29/16 17:45	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/29/16 17:45	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/29/16 17:45	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/29/16 17:45	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/29/16 17:45	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/29/16 17:45	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/29/16 17:45	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/29/16 17:45	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/29/16 17:45	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/29/16 17:45	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/29/16 17:45	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/29/16 17:45	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/29/16 17:45	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/29/16 17:45	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/29/16 17:45	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 17:45	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/29/16 17:45	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/29/16 17:45	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: FDHCS270 Trail

Lab Sample ID: 560-64002-13

Date Collected: 09/27/16 12:01

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/29/16 17:45	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/29/16 17:45	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/29/16 17:45	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/29/16 17:45	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/29/16 17:45	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 17:45	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/29/16 17:45	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/29/16 17:45	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/29/16 17:45	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/29/16 17:45	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/29/16 17:45	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/29/16 17:45	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/29/16 17:45	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/29/16 17:45	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/29/16 17:45	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/29/16 17:45	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/29/16 17:45	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/29/16 17:45	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/29/16 17:45	1
EDB	0.175	U	1.00	0.175	ug/L			09/29/16 17:45	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/29/16 17:45	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 17:45	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/29/16 17:45	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/29/16 17:45	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/29/16 17:45	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/29/16 17:45	1
Hexane	2.00	U	5.00	2.00	ug/L			09/29/16 17:45	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/29/16 17:45	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/29/16 17:45	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/29/16 17:45	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/29/16 17:45	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/29/16 17:45	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/29/16 17:45	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/29/16 17:45	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/29/16 17:45	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/29/16 17:45	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/29/16 17:45	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/29/16 17:45	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/29/16 17:45	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/29/16 17:45	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 17:45	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/29/16 17:45	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/29/16 17:45	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/29/16 17:45	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/29/16 17:45	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/29/16 17:45	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/29/16 17:45	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/29/16 17:45	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/29/16 17:45	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: FDHCS270 Trail

Lab Sample ID: 560-64002-13

Date Collected: 09/27/16 12:01

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.200	U	1.00	0.200	ug/L			09/29/16 17:45	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 17:45	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/29/16 17:45	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/29/16 17:45	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/29/16 17:45	1
Toluene	0.495	U	1.00	0.495	ug/L			09/29/16 17:45	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 17:45	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/29/16 17:45	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/29/16 17:45	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/29/16 17:45	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/29/16 17:45	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/29/16 17:45	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/29/16 17:45	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/29/16 17:45	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/29/16 17:45	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/29/16 17:45	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/29/16 17:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/29/16 17:45	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 17:45	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 17:45	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/29/16 17:45	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/29/16 17:45	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/29/16 17:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		09/29/16 17:45	1
Dibromofluoromethane (Surr)	102		69 - 130		09/29/16 17:45	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		09/29/16 17:45	1
Toluene-d8 (Surr)	102		70 - 130		09/29/16 17:45	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		10/03/16 14:20	10/04/16 11:59	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		10/03/16 14:20	10/04/16 11:59	1
Anthracene	0.700	U	10.0	0.700	ug/L		10/03/16 14:20	10/04/16 11:59	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		10/03/16 14:20	10/04/16 11:59	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		10/03/16 14:20	10/04/16 11:59	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		10/03/16 14:20	10/04/16 11:59	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		10/03/16 14:20	10/04/16 11:59	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		10/03/16 14:20	10/04/16 11:59	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		10/03/16 14:20	10/04/16 11:59	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		10/03/16 14:20	10/04/16 11:59	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		10/03/16 14:20	10/04/16 11:59	1
Bis(2-ethylhexyl) phthalate	5.81	J	20.0	5.00	ug/L		10/03/16 14:20	10/04/16 11:59	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		10/03/16 14:20	10/04/16 11:59	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		10/03/16 14:20	10/04/16 11:59	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		10/03/16 14:20	10/04/16 11:59	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		10/03/16 14:20	10/04/16 11:59	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		10/03/16 14:20	10/04/16 11:59	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		10/03/16 14:20	10/04/16 11:59	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: FDHCS270 Trail

Lab Sample ID: 560-64002-13

Date Collected: 09/27/16 12:01

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		10/03/16 14:20	10/04/16 11:59	1
Chrysene	0.494	U	10.0	0.494	ug/L		10/03/16 14:20	10/04/16 11:59	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		10/03/16 14:20	10/04/16 11:59	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		10/03/16 14:20	10/04/16 11:59	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		10/03/16 14:20	10/04/16 11:59	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		10/03/16 14:20	10/04/16 11:59	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		10/03/16 14:20	10/04/16 11:59	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		10/03/16 14:20	10/04/16 11:59	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		10/03/16 14:20	10/04/16 11:59	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		10/03/16 14:20	10/04/16 11:59	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		10/03/16 14:20	10/04/16 11:59	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		10/03/16 14:20	10/04/16 11:59	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		10/03/16 14:20	10/04/16 11:59	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		10/03/16 14:20	10/04/16 11:59	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		10/03/16 14:20	10/04/16 11:59	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		10/03/16 14:20	10/04/16 11:59	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		10/03/16 14:20	10/04/16 11:59	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		10/03/16 14:20	10/04/16 11:59	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		10/03/16 14:20	10/04/16 11:59	1
Fluorene	0.421	U	10.0	0.421	ug/L		10/03/16 14:20	10/04/16 11:59	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		10/03/16 14:20	10/04/16 11:59	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		10/03/16 14:20	10/04/16 11:59	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		10/03/16 14:20	10/04/16 11:59	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		10/03/16 14:20	10/04/16 11:59	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		10/03/16 14:20	10/04/16 11:59	1
Isophorone	0.549	U	10.0	0.549	ug/L		10/03/16 14:20	10/04/16 11:59	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		10/03/16 14:20	10/04/16 11:59	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		10/03/16 14:20	10/04/16 11:59	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		10/03/16 14:20	10/04/16 11:59	1
Naphthalene	0.787	U	10.0	0.787	ug/L		10/03/16 14:20	10/04/16 11:59	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		10/03/16 14:20	10/04/16 11:59	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		10/03/16 14:20	10/04/16 11:59	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		10/03/16 14:20	10/04/16 11:59	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		10/03/16 14:20	10/04/16 11:59	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		10/03/16 14:20	10/04/16 11:59	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		10/03/16 14:20	10/04/16 11:59	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		10/03/16 14:20	10/04/16 11:59	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		10/03/16 14:20	10/04/16 11:59	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		10/03/16 14:20	10/04/16 11:59	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		10/03/16 14:20	10/04/16 11:59	1
Phenol	0.768	U	10.0	0.768	ug/L		10/03/16 14:20	10/04/16 11:59	1
Pyrene	0.440	U	10.0	0.440	ug/L		10/03/16 14:20	10/04/16 11:59	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		10/03/16 14:20	10/04/16 11:59	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		10/03/16 14:20	10/04/16 11:59	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		10/03/16 14:20	10/04/16 11:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	66		23 - 130	10/03/16 14:20	10/04/16 11:59	1
2-Fluorophenol	67		10 - 130	10/03/16 14:20	10/04/16 11:59	1
Nitrobenzene-d5	68		27 - 130	10/03/16 14:20	10/04/16 11:59	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: FDHCS270 Trail**

**Lab Sample ID: 560-64002-13**

**Date Collected: 09/27/16 12:01**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	71		10 - 130	10/03/16 14:20	10/04/16 11:59	1
Terphenyl-d14	69		10 - 141	10/03/16 14:20	10/04/16 11:59	1
2,4,6-Tribromophenol	72		18 - 130	10/03/16 14:20	10/04/16 11:59	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00472	U	0.0566	0.00472	ug/L		09/29/16 09:08	09/29/16 21:50	1
alpha-BHC	0.00491	U	0.0566	0.00491	ug/L		09/29/16 09:08	09/29/16 21:50	1
alpha-Chlordane	0.00594	U	0.0566	0.00594	ug/L		09/29/16 09:08	09/29/16 21:50	1
beta-BHC	0.00472	U	0.0566	0.00472	ug/L		09/29/16 09:08	09/29/16 21:50	1
4,4'-DDD	0.00472	U	0.0566	0.00472	ug/L		09/29/16 09:08	09/29/16 21:50	1
4,4'-DDE	0.00472	U	0.0566	0.00472	ug/L		09/29/16 09:08	09/29/16 21:50	1
4,4'-DDT	0.00764	U	0.0566	0.00764	ug/L		09/29/16 09:08	09/29/16 21:50	1
delta-BHC	0.00472	U	0.0566	0.00472	ug/L		09/29/16 09:08	09/29/16 21:50	1
Dieldrin	0.0123	U	0.0566	0.0123	ug/L		09/29/16 09:08	09/29/16 21:50	1
Endosulfan I	0.00472	U	0.0566	0.00472	ug/L		09/29/16 09:08	09/29/16 21:50	1
Endosulfan II	0.00811	U	0.0566	0.00811	ug/L		09/29/16 09:08	09/29/16 21:50	1
Endosulfan sulfate	0.00830	U	0.0566	0.00830	ug/L		09/29/16 09:08	09/29/16 21:50	1
Endrin	0.00726	U	0.0566	0.00726	ug/L		09/29/16 09:08	09/29/16 21:50	1
Endrin aldehyde	0.00472	U	0.0566	0.00472	ug/L		09/29/16 09:08	09/29/16 21:50	1
Endrin ketone	0.00774	U	0.0566	0.00774	ug/L		09/29/16 09:08	09/29/16 21:50	1
gamma-BHC (Lindane)	0.00425	U	0.0566	0.00425	ug/L		09/29/16 09:08	09/29/16 21:50	1
gamma-Chlordane	0.00632	U	0.0566	0.00632	ug/L		09/29/16 09:08	09/29/16 21:50	1
Heptachlor	0.00613	U	0.0566	0.00613	ug/L		09/29/16 09:08	09/29/16 21:50	1
Heptachlor epoxide	0.00491	U	0.0566	0.00491	ug/L		09/29/16 09:08	09/29/16 21:50	1
Methoxychlor	0.00943	U	0.0566	0.00943	ug/L		09/29/16 09:08	09/29/16 21:50	1
Toxaphene	0.642	U	5.66	0.642	ug/L		09/29/16 09:08	09/29/16 21:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	96		10 - 152	09/29/16 09:08	09/29/16 21:50	1
Tetrachloro-m-xylene	95		57 - 127	09/29/16 09:08	09/29/16 21:50	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.566	0.104	ug/L		09/29/16 09:08	09/29/16 19:51	1
Aroclor 1221	0.104	U	0.566	0.104	ug/L		09/29/16 09:08	09/29/16 19:51	1
Aroclor 1232	0.415	U	0.755	0.415	ug/L		09/29/16 09:08	09/29/16 19:51	1
Aroclor 1242	0.104	U	0.566	0.104	ug/L		09/29/16 09:08	09/29/16 19:51	1
Aroclor 1248	0.104	U	0.566	0.104	ug/L		09/29/16 09:08	09/29/16 19:51	1
Aroclor 1254	0.104	U	0.566	0.104	ug/L		09/29/16 09:08	09/29/16 19:51	1
Aroclor 1260	0.104	U	0.566	0.104	ug/L		09/29/16 09:08	09/29/16 19:51	1
Aroclor 1262	0.104	U	0.566	0.104	ug/L		09/29/16 09:08	09/29/16 19:51	1
Aroclor 1268	0.104	U	0.566	0.104	ug/L		09/29/16 09:08	09/29/16 19:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	109		10 - 150	09/29/16 09:08	09/29/16 19:51	1
DCB Decachlorobiphenyl	83		10 - 150	09/29/16 09:08	09/29/16 19:51	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: FDHCS270 Trail

Lab Sample ID: 560-64002-13

Date Collected: 09/27/16 12:01

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000162	U	0.00241	0.000162	mg/L		10/02/16 08:17	10/09/16 17:07	1
Bolstar	0.000303	U	0.000965	0.000303	mg/L		10/02/16 08:17	10/09/16 17:07	1
Chlorpyrifos	0.000347	U	0.00145	0.000347	mg/L		10/02/16 08:17	10/09/16 17:07	1
Coumaphos	0.000130	U	0.000965	0.000130	mg/L		10/02/16 08:17	10/09/16 17:07	1
Demeton-O	0.000135	U	0.000965	0.000135	mg/L		10/02/16 08:17	10/09/16 17:07	1
Demeton-S	0.0000666	U	0.00193	0.0000666	mg/L		10/02/16 08:17	10/09/16 17:07	1
Diazinon	0.000142	U	0.000482	0.000142	mg/L		10/02/16 08:17	10/09/16 17:07	1
Dichlorvos	0.000156	U	0.000482	0.000156	mg/L		10/02/16 08:17	10/09/16 17:07	1
Dimethoate	0.000433	U	0.00145	0.000433	mg/L		10/02/16 08:17	10/09/16 17:07	1
Disulfoton	0.000311	U	0.000965	0.000311	mg/L		10/02/16 08:17	10/09/16 17:07	1
EPN	0.000144	U	0.00116	0.000144	mg/L		10/02/16 08:17	10/09/16 17:07	1
Ethoprop	0.000171	U	0.00145	0.000171	mg/L		10/02/16 08:17	10/09/16 17:07	1
Ethyl Parathion	0.000139	U	0.000965	0.000139	mg/L		10/02/16 08:17	10/09/16 17:07	1
Famphur	0.000173	U	0.000965	0.000173	mg/L		10/02/16 08:17	10/09/16 17:07	1
Fensulfothion	0.000525	U	0.00241	0.000525	mg/L		10/02/16 08:17	10/09/16 17:07	1
Fenthion	0.000149	U	0.00241	0.000149	mg/L		10/02/16 08:17	10/09/16 17:07	1
Malathion	0.000128	U	0.00193	0.000128	mg/L		10/02/16 08:17	10/09/16 17:07	1
Merphos	0.000168	U	0.00482	0.000168	mg/L		10/02/16 08:17	10/09/16 17:07	1
Methyl parathion	0.000136	U	0.00386	0.000136	mg/L		10/02/16 08:17	10/09/16 17:07	1
Mevinphos	0.000444	U	0.00598	0.000444	mg/L		10/02/16 08:17	10/09/16 17:07	1
Naled	0.000772	U	0.00193	0.000772	mg/L		10/02/16 08:17	10/09/16 17:07	1
Phorate	0.000149	U	0.00116	0.000149	mg/L		10/02/16 08:17	10/09/16 17:07	1
Ronnel	0.000112	U	0.00965	0.000112	mg/L		10/02/16 08:17	10/09/16 17:07	1
Sulfotepp	0.000162	U	0.00145	0.000162	mg/L		10/02/16 08:17	10/09/16 17:07	1
Tetrachlorvinphos (Stirophos)	0.000120	U	0.00338	0.000120	mg/L		10/02/16 08:17	10/09/16 17:07	1
Thionazin	0.000301	U	0.000965	0.000301	mg/L		10/02/16 08:17	10/09/16 17:07	1
Tokuthion	0.000119	U	0.00154	0.000119	mg/L		10/02/16 08:17	10/09/16 17:07	1
Trichloronate	0.000233	U	0.00145	0.000233	mg/L		10/02/16 08:17	10/09/16 17:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	53		49 - 171				10/02/16 08:17	10/09/16 17:07	1
Triphenylphosphate	97		60 - 154				10/02/16 08:17	10/09/16 17:07	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0946	U	4.73	0.0946	ug/L		10/03/16 10:22	10/05/16 00:45	1
Dicamba	0.0804	U	0.473	0.0804	ug/L		10/03/16 10:22	10/05/16 00:45	1
Mecoprop	18.0	U	113	18.0	ug/L		10/03/16 10:22	10/05/16 00:45	1
MCPA	16.1	U	113	16.1	ug/L		10/03/16 10:22	10/05/16 00:45	1
Dichlorprop	0.142	U	0.473	0.142	ug/L		10/03/16 10:22	10/05/16 00:45	1
2,4-D	0.0350	U	0.473	0.0350	ug/L		10/03/16 10:22	10/05/16 00:45	1
Silvex (2,4,5-TP)	0.0586	U	0.236	0.0586	ug/L		10/03/16 10:22	10/05/16 00:45	1
2,4,5-T	0.0586	U	0.236	0.0586	ug/L		10/03/16 10:22	10/05/16 00:45	1
2,4-DB	0.142	U	0.473	0.142	ug/L		10/03/16 10:22	10/05/16 00:45	1
Dinoseb	0.151	U	0.946	0.151	ug/L		10/03/16 10:22	10/05/16 00:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	79		45 - 130				10/03/16 10:22	10/05/16 00:45	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: FDHCS270 Trail

Lab Sample ID: 560-64002-13

Date Collected: 09/27/16 12:01

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	82.7		0.200	0.101	mg/L		09/28/16 10:00	09/28/16 14:14	1
Magnesium	14.9		0.200	0.0257	mg/L		09/28/16 10:00	09/28/16 14:14	1
Potassium	2.31		0.500	0.375	mg/L		09/28/16 10:00	09/28/16 14:14	1
Silicon	6.20		0.500	0.0707	mg/L		09/28/16 10:00	09/28/16 14:14	1
Sodium	11.9		1.00	0.310	mg/L		09/28/16 10:00	09/28/16 14:14	1
Strontium	0.614		0.00500	0.000700	mg/L		09/28/16 10:00	09/28/16 14:14	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/28/16 10:00	09/28/16 18:33	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/28/16 10:00	09/28/16 18:33	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/28/16 10:00	09/28/16 18:33	1
Barium	0.0513		0.00500	0.000810	mg/L		09/28/16 10:00	09/28/16 18:33	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/28/16 10:00	09/28/16 18:33	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/28/16 10:00	09/28/16 18:33	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/28/16 10:00	09/28/16 18:33	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/28/16 10:00	09/28/16 18:33	1
Iron	0.101	U	0.250	0.101	mg/L		09/28/16 10:00	09/28/16 18:33	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/28/16 10:00	09/28/16 18:33	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/28/16 10:00	09/28/16 18:33	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/28/16 10:00	09/28/16 18:33	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/28/16 10:00	09/28/16 18:33	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/28/16 10:00	09/28/16 18:33	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/28/16 10:00	09/28/16 18:33	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/28/16 10:00	09/28/16 18:33	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 17:21	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.467	J	1.00	0.315	mg/L			09/28/16 18:15	1
Chloride	16.3		1.00	0.192	mg/L			09/28/16 18:15	1
Nitrate as N	1.63		0.500	0.103	mg/L			09/28/16 18:15	1
Sulfate	25.7		1.00	0.377	mg/L			09/28/16 18:15	1
Fluoride	0.217		0.100	0.0200	mg/L			10/06/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/06/16 11:40	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/05/16 11:49	10/06/16 10:33	1
Total Organic Carbon	1.17		1.00	0.285	mg/L			10/04/16 12:27	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5	HF	0.1	0.1	SU			09/28/16 13:35	1
Total Alkalinity as CaCO3	203		5.00	5.00	mg/L			09/28/16 15:57	1
Bicarbonate Alkalinity as CaCO3	203		5.00	5.00	mg/L			09/28/16 15:57	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 15:57	1
Total Dissolved Solids	310		10.0	10.0	mg/L			09/29/16 14:11	1
Total Suspended Solids	7.40		2.00	2.00	mg/L			09/28/16 14:50	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: FDHCS270 Trail**

**Lab Sample ID: 560-64002-13**

**Date Collected: 09/27/16 12:01**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.793	J	1.00	0.285	mg/L			10/05/16 12:09	1

**Client Sample ID: TB15**

**Lab Sample ID: 560-64002-14**

**Date Collected: 09/27/16 00:00**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/29/16 18:10	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/29/16 18:10	1
Benzene	0.330	U	1.00	0.330	ug/L			09/29/16 18:10	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/29/16 18:10	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 18:10	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/29/16 18:10	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/29/16 18:10	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/29/16 18:10	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/29/16 18:10	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/29/16 18:10	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/29/16 18:10	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/29/16 18:10	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/29/16 18:10	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/29/16 18:10	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/29/16 18:10	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/29/16 18:10	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/29/16 18:10	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/29/16 18:10	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/29/16 18:10	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/29/16 18:10	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/29/16 18:10	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 18:10	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/29/16 18:10	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/29/16 18:10	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/29/16 18:10	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/29/16 18:10	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/29/16 18:10	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/29/16 18:10	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/29/16 18:10	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 18:10	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/29/16 18:10	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/29/16 18:10	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/29/16 18:10	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/29/16 18:10	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/29/16 18:10	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/29/16 18:10	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/29/16 18:10	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/29/16 18:10	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/29/16 18:10	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/29/16 18:10	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/29/16 18:10	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/29/16 18:10	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Client Sample ID: TB15

Lab Sample ID: 560-64002-14

Date Collected: 09/27/16 00:00

Matrix: Water

Date Received: 09/28/16 08:00

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/29/16 18:10	1
EDB	0.175	U	1.00	0.175	ug/L			09/29/16 18:10	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/29/16 18:10	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 18:10	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/29/16 18:10	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/29/16 18:10	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/29/16 18:10	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/29/16 18:10	1
Hexane	2.00	U	5.00	2.00	ug/L			09/29/16 18:10	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/29/16 18:10	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/29/16 18:10	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/29/16 18:10	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/29/16 18:10	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/29/16 18:10	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/29/16 18:10	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/29/16 18:10	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/29/16 18:10	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/29/16 18:10	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/29/16 18:10	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/29/16 18:10	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/29/16 18:10	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/29/16 18:10	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 18:10	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/29/16 18:10	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/29/16 18:10	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/29/16 18:10	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/29/16 18:10	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/29/16 18:10	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/29/16 18:10	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/29/16 18:10	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/29/16 18:10	1
Styrene	0.200	U	1.00	0.200	ug/L			09/29/16 18:10	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 18:10	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/29/16 18:10	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/29/16 18:10	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/29/16 18:10	1
Toluene	0.495	U	1.00	0.495	ug/L			09/29/16 18:10	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 18:10	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/29/16 18:10	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/29/16 18:10	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/29/16 18:10	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/29/16 18:10	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/29/16 18:10	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/29/16 18:10	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/29/16 18:10	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/29/16 18:10	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/29/16 18:10	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/29/16 18:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/29/16 18:10	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

**Client Sample ID: TB15**

**Lab Sample ID: 560-64002-14**

**Date Collected: 09/27/16 00:00**

**Matrix: Water**

**Date Received: 09/28/16 08:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 18:10	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 18:10	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/29/16 18:10	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/29/16 18:10	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/29/16 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130		09/29/16 18:10	1
Dibromofluoromethane (Surr)	101		69 - 130		09/29/16 18:10	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		09/29/16 18:10	1
Toluene-d8 (Surr)	100		70 - 130		09/29/16 18:10	1

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-132278/6

Matrix: Water

Analysis Batch: 132278

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/29/16 14:49	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/29/16 14:49	1
Benzene	0.330	U	1.00	0.330	ug/L			09/29/16 14:49	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/29/16 14:49	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 14:49	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/29/16 14:49	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/29/16 14:49	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/29/16 14:49	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/29/16 14:49	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/29/16 14:49	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/29/16 14:49	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/29/16 14:49	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/29/16 14:49	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/29/16 14:49	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/29/16 14:49	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/29/16 14:49	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/29/16 14:49	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/29/16 14:49	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/29/16 14:49	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/29/16 14:49	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/29/16 14:49	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 14:49	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/29/16 14:49	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/29/16 14:49	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/29/16 14:49	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/29/16 14:49	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/29/16 14:49	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/29/16 14:49	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/29/16 14:49	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/29/16 14:49	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/29/16 14:49	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/29/16 14:49	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/29/16 14:49	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/29/16 14:49	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/29/16 14:49	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/29/16 14:49	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/29/16 14:49	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/29/16 14:49	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/29/16 14:49	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/29/16 14:49	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/29/16 14:49	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/29/16 14:49	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/29/16 14:49	1
EDB	0.175	U	1.00	0.175	ug/L			09/29/16 14:49	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/29/16 14:49	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 14:49	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/29/16 14:49	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/29/16 14:49	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132278/6

Matrix: Water

Analysis Batch: 132278

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/29/16 14:49	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/29/16 14:49	1
Hexane	2.00	U	5.00	2.00	ug/L			09/29/16 14:49	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/29/16 14:49	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/29/16 14:49	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/29/16 14:49	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/29/16 14:49	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/29/16 14:49	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/29/16 14:49	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/29/16 14:49	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/29/16 14:49	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/29/16 14:49	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/29/16 14:49	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/29/16 14:49	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/29/16 14:49	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/29/16 14:49	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/29/16 14:49	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/29/16 14:49	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/29/16 14:49	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/29/16 14:49	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/29/16 14:49	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/29/16 14:49	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/29/16 14:49	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/29/16 14:49	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/29/16 14:49	1
Styrene	0.200	U	1.00	0.200	ug/L			09/29/16 14:49	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 14:49	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/29/16 14:49	1
1,1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/29/16 14:49	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/29/16 14:49	1
Toluene	0.495	U	1.00	0.495	ug/L			09/29/16 14:49	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/29/16 14:49	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/29/16 14:49	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/29/16 14:49	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/29/16 14:49	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/29/16 14:49	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/29/16 14:49	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/29/16 14:49	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/29/16 14:49	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/29/16 14:49	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/29/16 14:49	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/29/16 14:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/29/16 14:49	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 14:49	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/29/16 14:49	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/29/16 14:49	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/29/16 14:49	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/29/16 14:49	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132278/6

Matrix: Water

Analysis Batch: 132278

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130		09/29/16 14:49	1
Dibromofluoromethane (Surr)	101		69 - 130		09/29/16 14:49	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		09/29/16 14:49	1
Toluene-d8 (Surr)	101		70 - 130		09/29/16 14:49	1

Lab Sample ID: LCS 560-132278/3

Matrix: Water

Analysis Batch: 132278

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	25.73		ug/L		103	60 - 150
Acetonitrile	250	300.5		ug/L		120	52 - 160
Benzene	25.0	25.27		ug/L		101	70 - 130
Benzyl chloride	25.0	31.11		ug/L		124	66 - 153
Bromobenzene	25.0	27.08		ug/L		108	70 - 130
Bromochloromethane	25.0	24.68		ug/L		99	70 - 130
Bromoform	25.0	24.64		ug/L		99	63 - 145
Bromomethane	25.0	22.87		ug/L		91	50 - 146
1,3-Butadiene	25.0	17.57		ug/L		70	40 - 138
2-Butanone (MEK)	25.0	22.65		ug/L		91	68 - 144
Carbon disulfide	25.0	23.88		ug/L		96	52 - 156
Carbon tetrachloride	25.0	27.01		ug/L		108	70 - 138
Chlorobenzene	25.0	25.01		ug/L		100	70 - 130
2-Chloro-1,3-butadiene	25.0	25.51		ug/L		102	69 - 140
Chlorodibromomethane	25.0	25.42		ug/L		102	70 - 137
Chloroethane	25.0	23.16		ug/L		93	54 - 141
Chloroform	25.0	25.16		ug/L		101	70 - 130
1-Chlorohexane	25.0	26.45		ug/L		106	64 - 130
Chloromethane	25.0	20.44		ug/L		82	46 - 142
2-Chlorotoluene	25.0	27.33		ug/L		109	70 - 130
4-Chlorotoluene	25.0	26.81		ug/L		107	70 - 130
cis-1,4-Dichloro-2-butene	25.0	43.39		ug/L		174	10 - 184
cis-1,2-Dichloroethene	25.0	26.61		ug/L		106	70 - 130
cis-1,3-Dichloropropene	25.0	25.30		ug/L		101	70 - 138
Cyclohexane	25.0	25.51		ug/L		102	40 - 141
Cyclohexanone	125	194.6		ug/L		156	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	24.54		ug/L		98	70 - 149
Dibromomethane	25.0	24.27		ug/L		97	70 - 130
1,2-Dichlorobenzene	25.0	26.20		ug/L		105	70 - 130
1,3-Dichlorobenzene	25.0	26.67		ug/L		107	70 - 130
1,4-Dichlorobenzene	25.0	25.43		ug/L		102	70 - 130
Dichlorobromomethane	25.0	25.33		ug/L		101	70 - 130
Dichlorodifluoromethane	25.0	13.62		ug/L		54	10 - 181
1,1-Dichloroethane	25.0	24.92		ug/L		100	70 - 130
1,2-Dichloroethane	25.0	23.63		ug/L		95	70 - 131
1,1-Dichloroethene	25.0	24.57		ug/L		98	70 - 139
1,2-Dichloropropane	25.0	25.17		ug/L		101	70 - 130
1,3-Dichloropropane	25.0	24.52		ug/L		98	70 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132278/3

Matrix: Water

Analysis Batch: 132278

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	29.00		ug/L		116	65 - 145
1,1-Dichloropropene	25.0	26.37		ug/L		105	70 - 130
1,4-Dioxane	500	595.3		ug/L		119	66 - 150
EDB	25.0	26.31		ug/L		105	70 - 130
Ethyl acetate	50.0	46.13		ug/L		92	59 - 200
Ethylbenzene	25.0	26.77		ug/L		107	70 - 130
Ethylene oxide	100	83.83		ug/L		84	10 - 200
Ethyl ether	25.0	24.34		ug/L		97	69 - 136
Ethyl methacrylate	25.0	25.53		ug/L		102	70 - 130
Hexachlorobutadiene	25.0	29.39		ug/L		118	68 - 165
Hexane	25.0	25.04		ug/L		100	10 - 185
2-Hexanone	25.0	25.62		ug/L		102	70 - 138
Iodomethane	25.0	25.35		ug/L		101	64 - 146
Isobutyl alcohol	625	688.6		ug/L		110	27 - 199
Isooctane	25.0	24.73		ug/L		99	10 - 181
Isopropylbenzene	25.0	29.24		ug/L		117	70 - 131
4-Isopropyltoluene	25.0	28.84		ug/L		115	70 - 130
Methacrylonitrile	250	231.7		ug/L		93	70 - 139
Methylene Chloride	25.0	23.28		ug/L		93	70 - 130
Methyl methacrylate	50.0	47.32		ug/L		95	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	26.31		ug/L		105	70 - 138
Methyl tert-butyl ether	25.0	24.87		ug/L		99	70 - 131
m-Xylene & p-Xylene	25.0	27.49		ug/L		110	70 - 139
Naphthalene	25.0	27.57		ug/L		110	70 - 159
n-Butylbenzene	25.0	28.95		ug/L		116	70 - 135
n-Heptane	25.0	24.57		ug/L		98	10 - 186
2-Nitropropane	50.0	53.61		ug/L		107	22 - 173
N-Propylbenzene	25.0	28.88		ug/L		116	70 - 131
1-Octene	25.0	27.87		ug/L		111	10 - 185
o-Xylene	25.0	26.82		ug/L		107	70 - 130
Pentachloroethane	25.0	28.58		ug/L		114	70 - 146
Propionitrile	250	245.2		ug/L		98	70 - 144
sec-Butylbenzene	25.0	28.62		ug/L		114	70 - 134
Styrene	25.0	24.87		ug/L		99	70 - 130
tert-Butylbenzene	25.0	27.60		ug/L		110	70 - 132
1,1,1,2-Tetrachloroethane	25.0	26.73		ug/L		107	65 - 130
1,1,2,2-Tetrachloroethane	25.0	26.19		ug/L		105	65 - 130
Tetrachloroethene	25.0	24.44		ug/L		98	70 - 135
Toluene	25.0	25.94		ug/L		104	70 - 130
trans-1,4-Dichloro-2-butene	25.0	32.99		ug/L		132	37 - 174
trans-1,2-Dichloroethene	25.0	26.07		ug/L		104	70 - 134
trans-1,3-Dichloropropene	25.0	26.46		ug/L		106	70 - 143
1,2,3-Trichlorobenzene	25.0	26.89		ug/L		108	70 - 158
1,2,4-Trichlorobenzene	25.0	28.65		ug/L		115	70 - 157
1,3,5-Trichlorobenzene	25.0	27.56		ug/L		110	70 - 131
1,1,1-Trichloroethane	25.0	25.88		ug/L		104	65 - 130
1,1,2-Trichloroethane	25.0	24.82		ug/L		99	70 - 130
Trichloroethene	25.0	26.19		ug/L		105	70 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132278/3

Matrix: Water

Analysis Batch: 132278

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	25.21		ug/L		101	39 - 146
1,2,3-Trichloropropane	25.0	25.75		ug/L		103	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.63		ug/L		95	27 - 148
1,2,4-Trimethylbenzene	25.0	27.77		ug/L		111	70 - 130
1,3,5-Trimethylbenzene	25.0	28.38		ug/L		114	70 - 131
Vinyl acetate	50.0	52.48		ug/L		105	18 - 200
Vinyl chloride	25.0	21.81		ug/L		87	49 - 140
Xylenes, Total	50.0	54.30		ug/L		109	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
Dibromofluoromethane (Surr)	98		69 - 130
1,2-Dichloroethane-d4 (Surr)	98		70 - 140
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: 560-64016-A-1 MS

Matrix: Water

Analysis Batch: 132278

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	2500	U	12500	13750		ug/L		110	32 - 157
Acetonitrile	5000	U	125000	146200		ug/L		117	10 - 182
Benzene	36100		12500	48820		ug/L		102	70 - 130
Benzyl chloride	139	U	12500	9138		ug/L		73	49 - 130
Bromobenzene	64.0	U	12500	12580		ug/L		101	69 - 130
Bromochloromethane	114	U	12500	12150		ug/L		97	70 - 130
Bromoform	250	U	12500	11090		ug/L		89	57 - 145
Bromomethane	196	U	12500	11640		ug/L		93	56 - 141
1,3-Butadiene	150	U	12500	9622		ug/L		77	25 - 196
2-Butanone (MEK)	500	U	12500	12820		ug/L		103	42 - 142
Carbon disulfide	250	U	12500	11690		ug/L		93	59 - 164
Carbon tetrachloride	126	U	12500	12460		ug/L		100	70 - 138
Chlorobenzene	68.0	U	12500	12030		ug/L		96	70 - 130
2-Chloro-1,3-butadiene	100	U	12500	12600		ug/L		101	55 - 144
Chlorodibromomethane	112	U	12500	11610		ug/L		93	62 - 145
Chloroethane	200	U	12500	11590		ug/L		93	62 - 142
Chloroform	86.5	U	12500	12070		ug/L		97	70 - 130
1-Chlorohexane	250	U	12500	12890		ug/L		103	64 - 130
Chloromethane	195	U	12500	10760		ug/L		86	57 - 148
2-Chlorotoluene	77.5	U	12500	12630		ug/L		101	70 - 130
4-Chlorotoluene	121	U	12500	12430		ug/L		99	69 - 130
cis-1,4-Dichloro-2-butene	250	U	12500	15350		ug/L		123	24 - 136
cis-1,2-Dichloroethene	60.5	U	12500	12610		ug/L		101	70 - 130
cis-1,3-Dichloropropene	73.0	U	12500	11440		ug/L		92	46 - 136
Cyclohexane	500	U	12500	12750		ug/L		102	46 - 144
Cyclohexanone	2500	U	62500	64270		ug/L		103	10 - 193
1,2-Dibromo-3-Chloropropane	175	U	12500	11680		ug/L		93	56 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64016-A-1 MS

Matrix: Water

Analysis Batch: 132278

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	82.5	U	12500	11820		ug/L		95	70 - 130
1,2-Dichlorobenzene	85.0	U	12500	12590		ug/L		101	70 - 130
1,3-Dichlorobenzene	64.0	U	12500	12380		ug/L		99	70 - 130
1,4-Dichlorobenzene	100	U	12500	11930		ug/L		95	70 - 130
Dichlorobromomethane	87.5	U	12500	11830		ug/L		95	70 - 130
Dichlorodifluoromethane	215	U	12500	6781		ug/L		54	14 - 198
1,1-Dichloroethane	84.0	U	12500	12150		ug/L		97	70 - 130
1,2-Dichloroethane	86.0	U	12500	12600		ug/L		101	65 - 130
1,1-Dichloroethene	150	U	12500	12010		ug/L		96	67 - 143
1,2-Dichloropropane	86.5	U	12500	12440		ug/L		100	70 - 130
1,3-Dichloropropane	73.0	U	12500	12390		ug/L		99	70 - 130
2,2-Dichloropropane	168	U	12500	10780		ug/L		86	65 - 150
1,1-Dichloropropene	92.5	U	12500	12530		ug/L		100	70 - 130
1,4-Dioxane	7950	U F2	250000	259400		ug/L		104	20 - 152
EDB	87.5	U	12500	12860		ug/L		103	70 - 130
Ethyl acetate	500	U	25000	23910		ug/L		96	53 - 144
Ethylbenzene	2150		12500	15170		ug/L		104	70 - 130
Ethylene oxide	15000	U	50000	37550		ug/L		75	12 - 185
Ethyl ether	160	U	12500	12300		ug/L		98	67 - 130
Ethyl methacrylate	250	U	12500	12150		ug/L		97	65 - 130
Hexachlorobutadiene	430	U	12500	12570		ug/L		101	52 - 143
Hexane	1000	U	12500	11260		ug/L		90	51 - 159
2-Hexanone	250	U	12500	12500		ug/L		100	56 - 130
Iodomethane	112	U	12500	12240		ug/L		98	70 - 162
Isobutyl alcohol	2500	U	313000	356900		ug/L		114	36 - 130
Isooctane	250	U	12500	11690		ug/L		94	52 - 150
Isopropylbenzene	100	U	12500	13860		ug/L		111	70 - 130
4-Isopropyltoluene	75.0	U	12500	13340		ug/L		107	69 - 130
Methacrylonitrile	1000	U	125000	117800		ug/L		94	61 - 130
Methylene Chloride	1000	U	12500	11460		ug/L		92	70 - 130
Methyl methacrylate	100	U	25000	23440		ug/L		94	63 - 130
4-Methyl-2-pentanone (MIBK)	255	U	12500	12870		ug/L		103	54 - 130
Methyl tert-butyl ether	100	U	12500	12070		ug/L		97	63 - 134
m-Xylene & p-Xylene	9790		12500	23270		ug/L		108	67 - 130
Naphthalene	100	U	12500	13450		ug/L		108	62 - 145
n-Butylbenzene	100	U	12500	13400		ug/L		107	67 - 130
n-Heptane	150	U	12500	10840		ug/L		87	55 - 150
2-Nitropropane	500	U	25000	23260		ug/L		93	22 - 173
N-Propylbenzene	323	J	12500	14070		ug/L		110	70 - 130
1-Octene	220	U	12500	12600		ug/L		101	63 - 134
o-Xylene	3630		12500	17040		ug/L		107	70 - 130
Pentachloroethane	151	U	12500	13010		ug/L		104	60 - 130
Propionitrile	1350	U	125000	128100		ug/L		102	39 - 130
sec-Butylbenzene	150	U	12500	13280		ug/L		106	67 - 130
Styrene	100	U	12500	12220		ug/L		98	28 - 150
tert-Butylbenzene	100	U	12500	12930		ug/L		103	70 - 130
1,1,1,2-Tetrachloroethane	105	U	12500	12650		ug/L		101	65 - 130
1,1,2,2-Tetrachloroethane	95.0	U	12500	12560		ug/L		100	65 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64016-A-1 MS

Matrix: Water

Analysis Batch: 132278

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	94.5	U	12500	11770		ug/L		94	69 - 130
Toluene	55700		12500	66670	4	ug/L		87	70 - 130
trans-1,4-Dichloro-2-butene	250	U	12500	12390		ug/L		99	35 - 130
trans-1,2-Dichloroethene	100	U	12500	12790		ug/L		102	57 - 148
trans-1,3-Dichloropropene	100	U	12500	11730		ug/L		94	44 - 139
1,2,3-Trichlorobenzene	109	U	12500	12790		ug/L		102	60 - 130
1,2,4-Trichlorobenzene	84.0	U	12500	12870		ug/L		103	60 - 142
1,3,5-Trichlorobenzene	102	U	12500	12490		ug/L		100	66 - 135
1,1,1-Trichloroethane	150	U	12500	12270		ug/L		98	65 - 133
1,1,2-Trichloroethane	86.5	U	12500	12290		ug/L		98	70 - 130
Trichloroethene	159	U	12500	12420		ug/L		99	70 - 130
Trichlorofluoromethane	122	U	12500	12590		ug/L		101	64 - 149
1,2,3-Trichloropropane	95.5	U	12500	12670		ug/L		101	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	205	U	12500	12160		ug/L		97	47 - 152
1,2,4-Trimethylbenzene	2780		12500	16540		ug/L		110	70 - 130
1,3,5-Trimethylbenzene	742	J	12500	14310		ug/L		109	70 - 130
Vinyl acetate	250	U	25000	25630		ug/L		103	36 - 171
Vinyl chloride	150	U	12500	11230		ug/L		90	49 - 158
Xylenes, Total	13400		25000	40310		ug/L		108	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
Dibromofluoromethane (Surr)	99		69 - 130
1,2-Dichloroethane-d4 (Surr)	98		70 - 140
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: 560-64016-A-1 MSD

Matrix: Water

Analysis Batch: 132278

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	2500	U	12500	14820		ug/L		119	32 - 157	7	20
Acetonitrile	5000	U	125000	136100		ug/L		109	10 - 182	7	20
Benzene	36100		12500	47960		ug/L		95	70 - 130	2	20
Benzyl chloride	139	U	12500	9420		ug/L		75	49 - 130	3	20
Bromobenzene	64.0	U	12500	12530		ug/L		100	69 - 130	0	20
Bromochloromethane	114	U	12500	12130		ug/L		97	70 - 130	0	20
Bromoform	250	U	12500	11140		ug/L		89	57 - 145	0	20
Bromomethane	196	U	12500	10510		ug/L		84	56 - 141	10	20
1,3-Butadiene	150	U	12500	9564		ug/L		77	25 - 196	1	20
2-Butanone (MEK)	500	U	12500	12990		ug/L		104	42 - 142	1	20
Carbon disulfide	250	U	12500	11250		ug/L		90	59 - 164	4	20
Carbon tetrachloride	126	U	12500	12310		ug/L		98	70 - 138	1	20
Chlorobenzene	68.0	U	12500	11870		ug/L		95	70 - 130	1	20
2-Chloro-1,3-butadiene	100	U	12500	12470		ug/L		100	55 - 144	1	20
Chlorodibromomethane	112	U	12500	11880		ug/L		95	62 - 145	2	20
Chloroethane	200	U	12500	10770		ug/L		86	62 - 142	7	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64016-A-1 MSD

Matrix: Water

Analysis Batch: 132278

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	86.5	U	12500	12000		ug/L		96	70 - 130	1	20
1-Chlorohexane	250	U	12500	12480		ug/L		100	64 - 130	3	20
Chloromethane	195	U	12500	10220		ug/L		82	57 - 148	5	20
2-Chlorotoluene	77.5	U	12500	12390		ug/L		99	70 - 130	2	20
4-Chlorotoluene	121	U	12500	12400		ug/L		99	69 - 130	0	20
cis-1,4-Dichloro-2-butene	250	U	12500	14290		ug/L		114	24 - 136	7	20
cis-1,2-Dichloroethene	60.5	U	12500	12500		ug/L		100	70 - 130	1	20
cis-1,3-Dichloropropene	73.0	U	12500	11560		ug/L		92	46 - 136	1	20
Cyclohexane	500	U	12500	12530		ug/L		100	46 - 144	2	20
Cyclohexanone	2500	U	62500	71730		ug/L		115	10 - 193	11	20
1,2-Dibromo-3-Chloropropane	175	U	12500	11710		ug/L		94	56 - 130	0	20
Dibromomethane	82.5	U	12500	11920		ug/L		95	70 - 130	1	20
1,2-Dichlorobenzene	85.0	U	12500	12310		ug/L		99	70 - 130	2	20
1,3-Dichlorobenzene	64.0	U	12500	12190		ug/L		97	70 - 130	2	20
1,4-Dichlorobenzene	100	U	12500	11850		ug/L		95	70 - 130	1	20
Dichlorobromomethane	87.5	U	12500	11770		ug/L		94	70 - 130	1	20
Dichlorodifluoromethane	215	U	12500	6388		ug/L		51	14 - 198	6	20
1,1-Dichloroethane	84.0	U	12500	12000		ug/L		96	70 - 130	1	20
1,2-Dichloroethane	86.0	U	12500	12620		ug/L		101	65 - 130	0	20
1,1-Dichloroethene	150	U	12500	11980		ug/L		96	67 - 143	0	20
1,2-Dichloropropane	86.5	U	12500	12430		ug/L		99	70 - 130	0	20
1,3-Dichloropropane	73.0	U	12500	12170		ug/L		97	70 - 130	2	20
2,2-Dichloropropane	168	U	12500	9899		ug/L		79	65 - 150	8	20
1,1-Dichloropropene	92.5	U	12500	12550		ug/L		100	70 - 130	0	20
1,4-Dioxane	7950	U F2	250000	325400	F2	ug/L		130	20 - 152	23	20
EDB	87.5	U	12500	12930		ug/L		103	70 - 130	1	20
Ethyl acetate	500	U	25000	24210		ug/L		97	53 - 144	1	20
Ethylbenzene	2150	U	12500	14690		ug/L		100	70 - 130	3	20
Ethylene oxide	15000	U	50000	37650		ug/L		75	12 - 185	0	20
Ethyl ether	160	U	12500	12480		ug/L		100	67 - 130	1	20
Ethyl methacrylate	250	U	12500	12700		ug/L		102	65 - 130	4	20
Hexachlorobutadiene	430	U	12500	12460		ug/L		100	52 - 143	1	20
Hexane	1000	U	12500	11070		ug/L		89	51 - 159	2	20
2-Hexanone	250	U	12500	12810		ug/L		102	56 - 130	2	20
Iodomethane	112	U	12500	12090		ug/L		97	70 - 162	1	20
Isobutyl alcohol	2500	U	313000	377900		ug/L		121	36 - 130	6	20
Isooctane	250	U	12500	11580		ug/L		93	52 - 150	1	20
Isopropylbenzene	100	U	12500	13320		ug/L		107	70 - 130	4	20
4-Isopropyltoluene	75.0	U	12500	12670		ug/L		101	69 - 130	5	20
Methacrylonitrile	1000	U	125000	120300		ug/L		96	61 - 130	2	20
Methylene Chloride	1000	U	12500	11420		ug/L		91	70 - 130	0	20
Methyl methacrylate	100	U	25000	24300		ug/L		97	63 - 130	4	20
4-Methyl-2-pentanone (MIBK)	255	U	12500	13350		ug/L		107	54 - 130	4	20
Methyl tert-butyl ether	100	U	12500	12270		ug/L		98	63 - 134	2	20
m-Xylene & p-Xylene	9790	U	12500	23050		ug/L		106	67 - 130	1	20
Naphthalene	100	U	12500	13480		ug/L		108	62 - 145	0	20
n-Butylbenzene	100	U	12500	12910		ug/L		103	67 - 130	4	20
n-Heptane	150	U	12500	10400		ug/L		83	55 - 150	4	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64016-A-1 MSD

Matrix: Water

Analysis Batch: 132278

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Nitropropane	500	U	25000	25200		ug/L		101	22 - 173	8	20
N-Propylbenzene	323	J	12500	13400		ug/L		105	70 - 130	5	20
1-Octene	220	U	12500	12190		ug/L		98	63 - 134	3	
o-Xylene	3630		12500	16390		ug/L		102	70 - 130	4	20
Pentachloroethane	151	U	12500	12480		ug/L		100	60 - 130	4	20
Propionitrile	1350	U	125000	134900		ug/L		108	39 - 130	5	20
sec-Butylbenzene	150	U	12500	12700		ug/L		102	67 - 130	4	20
Styrene	100	U	12500	11920		ug/L		95	28 - 150	2	20
tert-Butylbenzene	100	U	12500	12420		ug/L		99	70 - 130	4	20
1,1,1,2-Tetrachloroethane	105	U	12500	12100		ug/L		97	65 - 130	4	20
1,1,2,2-Tetrachloroethane	95.0	U	12500	12700		ug/L		102	65 - 130	1	20
Tetrachloroethene	94.5	U	12500	11450		ug/L		92	69 - 130	3	20
Toluene	55700		12500	65620	4	ug/L		79	70 - 130	2	20
trans-1,4-Dichloro-2-butene	250	U	12500	11310		ug/L		90	35 - 130	9	20
trans-1,2-Dichloroethene	100	U	12500	12630		ug/L		101	57 - 148	1	20
trans-1,3-Dichloropropene	100	U	12500	12010		ug/L		96	44 - 139	2	20
1,2,3-Trichlorobenzene	109	U	12500	12780		ug/L		102	60 - 130	0	20
1,2,4-Trichlorobenzene	84.0	U	12500	13060		ug/L		105	60 - 142	2	20
1,3,5-Trichlorobenzene	102	U	12500	12100		ug/L		97	66 - 135	3	20
1,1,1-Trichloroethane	150	U	12500	12020		ug/L		96	65 - 133	2	20
1,1,2-Trichloroethane	86.5	U	12500	12520		ug/L		100	70 - 130	2	20
Trichloroethene	159	U	12500	12520		ug/L		100	70 - 130	1	20
Trichlorofluoromethane	122	U	12500	11790		ug/L		94	64 - 149	7	20
1,2,3-Trichloropropane	95.5	U	12500	12620		ug/L		101	70 - 130	0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	205	U	12500	11470		ug/L		92	47 - 152	6	20
1,2,4-Trimethylbenzene	2780		12500	15900		ug/L		105	70 - 130	4	20
1,3,5-Trimethylbenzene	742	J	12500	13800		ug/L		104	70 - 130	4	20
Vinyl acetate	250	U	25000	26060		ug/L		104	36 - 171	2	20
Vinyl chloride	150	U	12500	10690		ug/L		85	49 - 158	5	20
Xylenes, Total	13400		25000	39440		ug/L		104	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
Dibromofluoromethane (Surr)	99		69 - 130
1,2-Dichloroethane-d4 (Surr)	98		70 - 140
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: MB 560-132311/6

Matrix: Water

Analysis Batch: 132311

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			09/30/16 10:58	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			09/30/16 10:58	1
Benzene	0.330	U	1.00	0.330	ug/L			09/30/16 10:58	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			09/30/16 10:58	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			09/30/16 10:58	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132311/6

Matrix: Water

Analysis Batch: 132311

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	0.228	U	1.00	0.228	ug/L			09/30/16 10:58	1
Bromoform	0.500	U	5.00	0.500	ug/L			09/30/16 10:58	1
Bromomethane	0.392	U	5.00	0.392	ug/L			09/30/16 10:58	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			09/30/16 10:58	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			09/30/16 10:58	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			09/30/16 10:58	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			09/30/16 10:58	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			09/30/16 10:58	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			09/30/16 10:58	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			09/30/16 10:58	1
Chloroethane	0.400	U	5.00	0.400	ug/L			09/30/16 10:58	1
Chloroform	0.173	U	1.00	0.173	ug/L			09/30/16 10:58	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			09/30/16 10:58	1
Chloromethane	0.390	U	5.00	0.390	ug/L			09/30/16 10:58	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			09/30/16 10:58	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			09/30/16 10:58	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/30/16 10:58	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			09/30/16 10:58	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			09/30/16 10:58	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			09/30/16 10:58	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			09/30/16 10:58	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			09/30/16 10:58	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			09/30/16 10:58	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			09/30/16 10:58	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			09/30/16 10:58	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			09/30/16 10:58	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			09/30/16 10:58	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			09/30/16 10:58	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			09/30/16 10:58	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			09/30/16 10:58	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			09/30/16 10:58	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			09/30/16 10:58	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			09/30/16 10:58	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			09/30/16 10:58	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			09/30/16 10:58	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			09/30/16 10:58	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			09/30/16 10:58	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			09/30/16 10:58	1
EDB	0.175	U	1.00	0.175	ug/L			09/30/16 10:58	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			09/30/16 10:58	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			09/30/16 10:58	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			09/30/16 10:58	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			09/30/16 10:58	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			09/30/16 10:58	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			09/30/16 10:58	1
Hexane	2.00	U	5.00	2.00	ug/L			09/30/16 10:58	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			09/30/16 10:58	1
Iodomethane	0.223	U	2.00	0.223	ug/L			09/30/16 10:58	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132311/6

Matrix: Water

Analysis Batch: 132311

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			09/30/16 10:58	1
Isooctane	0.500	U	5.00	0.500	ug/L			09/30/16 10:58	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			09/30/16 10:58	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			09/30/16 10:58	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			09/30/16 10:58	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			09/30/16 10:58	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			09/30/16 10:58	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			09/30/16 10:58	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			09/30/16 10:58	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			09/30/16 10:58	1
Naphthalene	0.200	U	5.00	0.200	ug/L			09/30/16 10:58	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			09/30/16 10:58	1
n-Heptane	0.300	U	5.00	0.300	ug/L			09/30/16 10:58	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			09/30/16 10:58	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			09/30/16 10:58	1
1-Octene	0.440	U	5.00	0.440	ug/L			09/30/16 10:58	1
o-Xylene	0.200	U	1.00	0.200	ug/L			09/30/16 10:58	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			09/30/16 10:58	1
Propionitrile	2.69	U	10.0	2.69	ug/L			09/30/16 10:58	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			09/30/16 10:58	1
Styrene	0.200	U	1.00	0.200	ug/L			09/30/16 10:58	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			09/30/16 10:58	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			09/30/16 10:58	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			09/30/16 10:58	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			09/30/16 10:58	1
Toluene	0.495	U	1.00	0.495	ug/L			09/30/16 10:58	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			09/30/16 10:58	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			09/30/16 10:58	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			09/30/16 10:58	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			09/30/16 10:58	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			09/30/16 10:58	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			09/30/16 10:58	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			09/30/16 10:58	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			09/30/16 10:58	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			09/30/16 10:58	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			09/30/16 10:58	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			09/30/16 10:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			09/30/16 10:58	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/30/16 10:58	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			09/30/16 10:58	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			09/30/16 10:58	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			09/30/16 10:58	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			09/30/16 10:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130		09/30/16 10:58	1
Dibromofluoromethane (Surr)	101		69 - 130		09/30/16 10:58	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		09/30/16 10:58	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132311/6

Matrix: Water

Analysis Batch: 132311

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		09/30/16 10:58	1

Lab Sample ID: LCS 560-132311/3

Matrix: Water

Analysis Batch: 132311

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	18.00		ug/L		72	60 - 150
Acetonitrile	250	194.8		ug/L		78	52 - 160
Benzene	25.0	26.24		ug/L		105	70 - 130
Benzyl chloride	25.0	31.64		ug/L		127	66 - 153
Bromobenzene	25.0	27.08		ug/L		108	70 - 130
Bromochloromethane	25.0	25.76		ug/L		103	70 - 130
Bromoform	25.0	26.03		ug/L		104	63 - 145
Bromomethane	25.0	24.74		ug/L		99	50 - 146
1,3-Butadiene	25.0	19.08		ug/L		76	40 - 138
2-Butanone (MEK)	25.0	20.91		ug/L		84	68 - 144
Carbon disulfide	25.0	24.97		ug/L		100	52 - 156
Carbon tetrachloride	25.0	28.02		ug/L		112	70 - 138
Chlorobenzene	25.0	25.70		ug/L		103	70 - 130
2-Chloro-1,3-butadiene	25.0	27.67		ug/L		111	69 - 140
Chlorodibromomethane	25.0	26.32		ug/L		105	70 - 137
Chloroethane	25.0	25.11		ug/L		100	54 - 141
Chloroform	25.0	26.13		ug/L		105	70 - 130
1-Chlorohexane	25.0	27.43		ug/L		110	64 - 130
Chloromethane	25.0	23.00		ug/L		92	46 - 142
2-Chlorotoluene	25.0	27.36		ug/L		109	70 - 130
4-Chlorotoluene	25.0	26.75		ug/L		107	70 - 130
cis-1,4-Dichloro-2-butene	25.0	45.42		ug/L		182	10 - 184
cis-1,2-Dichloroethene	25.0	27.55		ug/L		110	70 - 130
cis-1,3-Dichloropropene	25.0	26.51		ug/L		106	70 - 138
Cyclohexane	25.0	27.28		ug/L		109	40 - 141
Cyclohexanone	125	126.9		ug/L		102	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	24.73		ug/L		99	70 - 149
Dibromomethane	25.0	25.52		ug/L		102	70 - 130
1,2-Dichlorobenzene	25.0	26.64		ug/L		107	70 - 130
1,3-Dichlorobenzene	25.0	26.50		ug/L		106	70 - 130
1,4-Dichlorobenzene	25.0	26.07		ug/L		104	70 - 130
Dichlorobromomethane	25.0	25.83		ug/L		103	70 - 130
Dichlorodifluoromethane	25.0	14.73		ug/L		59	10 - 181
1,1-Dichloroethane	25.0	25.84		ug/L		103	70 - 130
1,2-Dichloroethane	25.0	24.98		ug/L		100	70 - 131
1,1-Dichloroethene	25.0	25.91		ug/L		104	70 - 139
1,2-Dichloropropane	25.0	26.58		ug/L		106	70 - 130
1,3-Dichloropropane	25.0	26.17		ug/L		105	70 - 130
2,2-Dichloropropane	25.0	28.78		ug/L		115	65 - 145
1,1-Dichloropropene	25.0	27.59		ug/L		110	70 - 130
1,4-Dioxane	500	350.1		ug/L		70	66 - 150

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132311/3

Matrix: Water

Analysis Batch: 132311

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
EDB	25.0	27.64		ug/L		111	70 - 130
Ethyl acetate	50.0	51.98		ug/L		104	59 - 200
Ethylbenzene	25.0	27.10		ug/L		108	70 - 130
Ethylene oxide	100	88.45		ug/L		88	10 - 200
Ethyl ether	25.0	25.85		ug/L		103	69 - 136
Ethyl methacrylate	25.0	26.82		ug/L		107	70 - 130
Hexachlorobutadiene	25.0	27.72		ug/L		111	68 - 165
Hexane	25.0	26.40		ug/L		106	10 - 185
2-Hexanone	25.0	32.11		ug/L		128	70 - 138
Iodomethane	25.0	26.35		ug/L		105	64 - 146
Isobutyl alcohol	625	499.7		ug/L		80	27 - 199
Isooctane	25.0	27.05		ug/L		108	10 - 181
Isopropylbenzene	25.0	29.90		ug/L		120	70 - 131
4-Isopropyltoluene	25.0	28.65		ug/L		115	70 - 130
Methacrylonitrile	250	251.9		ug/L		101	70 - 139
Methylene Chloride	25.0	24.38		ug/L		98	70 - 130
Methyl methacrylate	50.0	53.33		ug/L		107	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	28.90		ug/L		116	70 - 138
Methyl tert-butyl ether	25.0	25.56		ug/L		102	70 - 131
m-Xylene & p-Xylene	25.0	27.99		ug/L		112	70 - 139
Naphthalene	25.0	27.16		ug/L		109	70 - 159
n-Butylbenzene	25.0	28.81		ug/L		115	70 - 135
n-Heptane	25.0	28.00		ug/L		112	10 - 186
2-Nitropropane	50.0	59.47		ug/L		119	22 - 173
N-Propylbenzene	25.0	29.27		ug/L		117	70 - 131
1-Octene	25.0	29.04		ug/L		116	10 - 185
o-Xylene	25.0	27.35		ug/L		109	70 - 130
Pentachloroethane	25.0	28.56		ug/L		114	70 - 146
Propionitrile	250	216.3		ug/L		87	70 - 144
sec-Butylbenzene	25.0	28.84		ug/L		115	70 - 134
Styrene	25.0	25.41		ug/L		102	70 - 130
tert-Butylbenzene	25.0	27.71		ug/L		111	70 - 132
1,1,1,2-Tetrachloroethane	25.0	27.02		ug/L		108	65 - 130
1,1,2,2-Tetrachloroethane	25.0	26.99		ug/L		108	65 - 130
Tetrachloroethene	25.0	25.59		ug/L		102	70 - 135
Toluene	25.0	26.64		ug/L		107	70 - 130
trans-1,4-Dichloro-2-butene	25.0	37.01		ug/L		148	37 - 174
trans-1,2-Dichloroethene	25.0	27.91		ug/L		112	70 - 134
trans-1,3-Dichloropropene	25.0	27.13		ug/L		109	70 - 143
1,2,3-Trichlorobenzene	25.0	27.03		ug/L		108	70 - 158
1,2,4-Trichlorobenzene	25.0	27.96		ug/L		112	70 - 157
1,3,5-Trichlorobenzene	25.0	27.06		ug/L		108	70 - 131
1,1,1-Trichloroethane	25.0	26.58		ug/L		106	65 - 130
1,1,2-Trichloroethane	25.0	26.08		ug/L		104	70 - 130
Trichloroethene	25.0	26.76		ug/L		107	70 - 130
Trichlorofluoromethane	25.0	27.18		ug/L		109	39 - 146
1,2,3-Trichloropropane	25.0	27.06		ug/L		108	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132311/3

Matrix: Water

Analysis Batch: 132311

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.58		ug/L		102	27 - 148
1,2,4-Trimethylbenzene	25.0	27.93		ug/L		112	70 - 130
1,3,5-Trimethylbenzene	25.0	28.89		ug/L		116	70 - 131
Vinyl acetate	50.0	56.16		ug/L		112	18 - 200
Vinyl chloride	25.0	24.05		ug/L		96	49 - 140
Xylenes, Total	50.0	55.34		ug/L		111	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
Dibromofluoromethane (Surr)	100		69 - 130
1,2-Dichloroethane-d4 (Surr)	100		70 - 140
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132311

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	5.00	U	25.0	28.05		ug/L		112	32 - 157
Acetonitrile	10.0	U	250	329.2		ug/L		132	10 - 182
Benzene	0.330	U	25.0	26.73		ug/L		107	70 - 130
Benzyl chloride	0.278	U	25.0	30.58		ug/L		122	49 - 130
Bromobenzene	0.128	U	25.0	26.66		ug/L		107	69 - 130
Bromochloromethane	0.228	U	25.0	25.81		ug/L		103	70 - 130
Bromoform	0.500	U	25.0	22.98		ug/L		92	57 - 145
Bromomethane	0.392	U	25.0	26.63		ug/L		107	56 - 141
1,3-Butadiene	0.300	U	25.0	25.83		ug/L		103	25 - 196
2-Butanone (MEK)	1.00	U	25.0	24.98		ug/L		100	42 - 142
Carbon disulfide	0.500	U	25.0	26.73		ug/L		107	59 - 164
Carbon tetrachloride	0.251	U	25.0	27.08		ug/L		108	70 - 138
Chlorobenzene	0.136	U	25.0	26.06		ug/L		104	70 - 130
2-Chloro-1,3-butadiene	0.200	U	25.0	28.49		ug/L		114	55 - 144
Chlorodibromomethane	0.223	U	25.0	24.79		ug/L		99	62 - 145
Chloroethane	0.400	U	25.0	26.36		ug/L		105	62 - 142
Chloroform	0.173	U	25.0	26.21		ug/L		105	70 - 130
1-Chlorohexane	0.500	U	25.0	28.55		ug/L		114	64 - 130
Chloromethane	0.390	U	25.0	27.56		ug/L		110	57 - 148
2-Chlorotoluene	0.155	U	25.0	27.08		ug/L		108	70 - 130
4-Chlorotoluene	0.242	U	25.0	27.11		ug/L		108	69 - 130
cis-1,4-Dichloro-2-butene	0.500	U F1	25.0	36.44	F1	ug/L		146	24 - 136
cis-1,2-Dichloroethene	0.121	U	25.0	27.53		ug/L		110	70 - 130
cis-1,3-Dichloropropene	0.146	U	25.0	24.88		ug/L		100	46 - 136
Cyclohexane	1.00	U	25.0	28.63		ug/L		115	46 - 144
Cyclohexanone	5.00	U	125	149.8		ug/L		120	10 - 193
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	24.99		ug/L		100	56 - 130
Dibromomethane	0.165	U	25.0	25.69		ug/L		103	70 - 130
1,2-Dichlorobenzene	0.170	U	25.0	26.73		ug/L		107	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132311

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	0.128	U	25.0	27.09		ug/L		108	70 - 130
1,4-Dichlorobenzene	0.200	U	25.0	25.86		ug/L		103	70 - 130
Dichlorobromomethane	0.175	U	25.0	24.89		ug/L		100	70 - 130
Dichlorodifluoromethane	0.429	U	25.0	27.89		ug/L		112	14 - 198
1,1-Dichloroethane	0.168	U	25.0	26.81		ug/L		107	70 - 130
1,2-Dichloroethane	0.172	U	25.0	24.73		ug/L		99	65 - 130
1,1-Dichloroethene	0.300	U	25.0	27.35		ug/L		109	67 - 143
1,2-Dichloropropane	0.173	U	25.0	25.75		ug/L		103	70 - 130
1,3-Dichloropropane	0.146	U	25.0	25.69		ug/L		103	70 - 130
2,2-Dichloropropane	0.335	U	25.0	29.61		ug/L		118	65 - 150
1,1-Dichloropropene	0.185	U	25.0	28.04		ug/L		112	70 - 130
1,4-Dioxane	15.9	U	500	627.4		ug/L		125	20 - 152
EDB	0.175	U	25.0	26.79		ug/L		107	70 - 130
Ethyl acetate	1.00	U	50.0	54.71		ug/L		109	53 - 144
Ethylbenzene	0.200	U	25.0	27.39		ug/L		110	70 - 130
Ethylene oxide	30.0	U F1 F2	100	221.8	F1	ug/L		222	12 - 185
Ethyl ether	0.320	U	25.0	26.20		ug/L		105	67 - 130
Ethyl methacrylate	0.500	U	25.0	25.34		ug/L		101	65 - 130
Hexachlorobutadiene	0.860	U	25.0	28.77		ug/L		115	52 - 143
Hexane	2.00	U	25.0	28.36		ug/L		113	51 - 159
2-Hexanone	0.500	U	25.0	26.07		ug/L		104	56 - 130
Iodomethane	0.223	U	25.0	26.18		ug/L		105	70 - 162
Isobutyl alcohol	5.00	U F1	625	831.9	F1	ug/L		133	36 - 130
Isooctane	0.500	U	25.0	29.17		ug/L		117	52 - 150
Isopropylbenzene	0.200	U	25.0	29.76		ug/L		119	70 - 130
4-Isopropyltoluene	0.150	U	25.0	29.90		ug/L		120	69 - 130
Methacrylonitrile	2.00	U	250	264.1		ug/L		106	61 - 130
Methylene Chloride	2.00	U	25.0	25.10		ug/L		100	70 - 130
Methyl methacrylate	0.200	U	50.0	51.43		ug/L		103	63 - 130
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	25.06		ug/L		100	54 - 130
Methyl tert-butyl ether	0.200	U	25.0	26.18		ug/L		105	63 - 134
m-Xylene & p-Xylene	0.260	U	25.0	28.30		ug/L		113	67 - 130
Naphthalene	0.200	U	25.0	28.58		ug/L		114	62 - 145
n-Butylbenzene	0.200	U	25.0	30.42		ug/L		122	67 - 130
n-Heptane	0.300	U	25.0	28.41		ug/L		114	55 - 150
2-Nitropropane	1.00	U	50.0	52.80		ug/L		106	22 - 173
N-Propylbenzene	0.106	U	25.0	29.77		ug/L		119	70 - 130
1-Octene	0.440	U	25.0	30.06		ug/L		120	63 - 134
o-Xylene	0.200	U	25.0	28.03		ug/L		112	70 - 130
Pentachloroethane	0.302	U	25.0	26.73		ug/L		107	60 - 130
Propionitrile	2.69	U	250	292.2		ug/L		117	39 - 130
sec-Butylbenzene	0.300	U	25.0	29.53		ug/L		118	67 - 130
Styrene	0.200	U	25.0	25.96		ug/L		104	28 - 150
tert-Butylbenzene	0.200	U	25.0	27.63		ug/L		111	70 - 130
1,1,1,2-Tetrachloroethane	0.209	U	25.0	27.04		ug/L		108	65 - 130
1,1,2,2-Tetrachloroethane	0.190	U	25.0	27.69		ug/L		111	65 - 130
Tetrachloroethene	0.189	U	25.0	26.03		ug/L		104	69 - 130
Toluene	0.495	U	25.0	27.10		ug/L		108	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132311

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,4-Dichloro-2-butene	0.500	U F1	25.0	32.78	F1	ug/L		131	35 - 130
trans-1,2-Dichloroethene	0.200	U	25.0	27.34		ug/L		109	57 - 148
trans-1,3-Dichloropropene	0.200	U	25.0	26.68		ug/L		107	44 - 139
1,2,3-Trichlorobenzene	0.217	U	25.0	28.13		ug/L		113	60 - 130
1,2,4-Trichlorobenzene	0.168	U	25.0	28.35		ug/L		113	60 - 142
1,3,5-Trichlorobenzene	0.203	U	25.0	28.08		ug/L		112	66 - 135
1,1,1-Trichloroethane	0.300	U	25.0	26.80		ug/L		107	65 - 133
1,1,2-Trichloroethane	0.173	U	25.0	26.30		ug/L		105	70 - 130
Trichloroethene	0.317	U	25.0	26.79		ug/L		107	70 - 130
Trichlorofluoromethane	0.244	U	25.0	27.94		ug/L		112	64 - 149
1,2,3-Trichloropropane	0.191	U	25.0	26.49		ug/L		106	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	27.92		ug/L		112	47 - 152
1,2,4-Trimethylbenzene	0.200	U	25.0	28.78		ug/L		115	70 - 130
1,3,5-Trimethylbenzene	0.200	U	25.0	29.27		ug/L		117	70 - 130
Vinyl acetate	0.500	U	50.0	55.18		ug/L		110	36 - 171
Vinyl chloride	0.300	U	25.0	27.66		ug/L		111	49 - 158
Xylenes, Total	0.200	U	50.0	56.33		ug/L		113	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		70 - 130
Dibromofluoromethane (Surr)	99		69 - 130
1,2-Dichloroethane-d4 (Surr)	99		70 - 140
Toluene-d8 (Surr)	99		70 - 130

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132311

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	5.00	U	25.0	25.43		ug/L		102	32 - 157	10	20
Acetonitrile	10.0	U	250	308.1		ug/L		123	10 - 182	7	20
Benzene	0.330	U	25.0	26.71		ug/L		107	70 - 130	0	20
Benzyl chloride	0.278	U	25.0	30.54		ug/L		122	49 - 130	0	20
Bromobenzene	0.128	U	25.0	26.43		ug/L		106	69 - 130	1	20
Bromochloromethane	0.228	U	25.0	25.46		ug/L		102	70 - 130	1	20
Bromoform	0.500	U	25.0	22.15		ug/L		89	57 - 145	4	20
Bromomethane	0.392	U	25.0	25.15		ug/L		101	56 - 141	6	20
1,3-Butadiene	0.300	U	25.0	25.12		ug/L		100	25 - 196	3	20
2-Butanone (MEK)	1.00	U	25.0	23.67		ug/L		95	42 - 142	5	20
Carbon disulfide	0.500	U	25.0	26.01		ug/L		104	59 - 164	3	20
Carbon tetrachloride	0.251	U	25.0	26.93		ug/L		108	70 - 138	1	20
Chlorobenzene	0.136	U	25.0	25.96		ug/L		104	70 - 130	0	20
2-Chloro-1,3-butadiene	0.200	U	25.0	27.98		ug/L		112	55 - 144	2	20
Chlorodibromomethane	0.223	U	25.0	24.99		ug/L		100	62 - 145	1	20
Chloroethane	0.400	U	25.0	24.69		ug/L		99	62 - 142	7	20
Chloroform	0.173	U	25.0	25.74		ug/L		103	70 - 130	2	20
1-Chlorohexane	0.500	U	25.0	28.95		ug/L		116	64 - 130	1	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132311

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloromethane	0.390	U	25.0	26.32		ug/L		105	57 - 148	5	20
2-Chlorotoluene	0.155	U	25.0	27.32		ug/L		109	70 - 130	1	20
4-Chlorotoluene	0.242	U	25.0	27.13		ug/L		109	69 - 130	0	20
cis-1,4-Dichloro-2-butene	0.500	U F1	25.0	33.90		ug/L		136	24 - 136	7	20
cis-1,2-Dichloroethene	0.121	U	25.0	26.77		ug/L		107	70 - 130	3	20
cis-1,3-Dichloropropene	0.146	U	25.0	25.62		ug/L		102	46 - 136	3	20
Cyclohexane	1.00	U	25.0	28.42		ug/L		114	46 - 144	1	20
Cyclohexanone	5.00	U	125	149.5		ug/L		120	10 - 193	0	20
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	22.58		ug/L		90	56 - 130	10	20
Dibromomethane	0.165	U	25.0	25.14		ug/L		101	70 - 130	2	20
1,2-Dichlorobenzene	0.170	U	25.0	26.07		ug/L		104	70 - 130	3	20
1,3-Dichlorobenzene	0.128	U	25.0	26.58		ug/L		106	70 - 130	2	20
1,4-Dichlorobenzene	0.200	U	25.0	25.29		ug/L		101	70 - 130	2	20
Dichlorobromomethane	0.175	U	25.0	25.36		ug/L		101	70 - 130	2	20
Dichlorodifluoromethane	0.429	U	25.0	25.13		ug/L		101	14 - 198	10	20
1,1-Dichloroethane	0.168	U	25.0	26.22		ug/L		105	70 - 130	2	20
1,2-Dichloroethane	0.172	U	25.0	25.21		ug/L		101	65 - 130	2	20
1,1-Dichloroethene	0.300	U	25.0	27.08		ug/L		108	67 - 143	1	20
1,2-Dichloropropane	0.173	U	25.0	26.13		ug/L		105	70 - 130	1	20
1,3-Dichloropropane	0.146	U	25.0	26.17		ug/L		105	70 - 130	2	20
2,2-Dichloropropane	0.335	U	25.0	28.32		ug/L		113	65 - 150	4	20
1,1-Dichloropropene	0.185	U	25.0	28.11		ug/L		112	70 - 130	0	20
1,4-Dioxane	15.9	U	500	690.9		ug/L		138	20 - 152	10	20
EDB	0.175	U	25.0	26.44		ug/L		106	70 - 130	1	20
Ethyl acetate	1.00	U	50.0	51.74		ug/L		103	53 - 144	6	20
Ethylbenzene	0.200	U	25.0	27.97		ug/L		112	70 - 130	2	20
Ethylene oxide	30.0	U F1 F2	100	161.5	F2	ug/L		161	12 - 185	31	20
Ethyl ether	0.320	U	25.0	26.38		ug/L		106	67 - 130	1	20
Ethyl methacrylate	0.500	U	25.0	25.43		ug/L		102	65 - 130	0	20
Hexachlorobutadiene	0.860	U	25.0	27.49		ug/L		110	52 - 143	5	20
Hexane	2.00	U	25.0	29.60		ug/L		118	51 - 159	4	20
2-Hexanone	0.500	U	25.0	23.79		ug/L		95	56 - 130	9	20
Iodomethane	0.223	U	25.0	25.49		ug/L		102	70 - 162	3	20
Isobutyl alcohol	5.00	U F1	625	777.5		ug/L		124	36 - 130	7	20
Isooctane	0.500	U	25.0	29.06		ug/L		116	52 - 150	0	20
Isopropylbenzene	0.200	U	25.0	28.95		ug/L		116	70 - 130	3	20
4-Isopropyltoluene	0.150	U	25.0	28.95		ug/L		116	69 - 130	3	20
Methacrylonitrile	2.00	U	250	250.9		ug/L		100	61 - 130	5	20
Methylene Chloride	2.00	U	25.0	24.30		ug/L		97	70 - 130	3	20
Methyl methacrylate	0.200	U	50.0	50.67		ug/L		101	63 - 130	1	20
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	24.16		ug/L		97	54 - 130	4	20
Methyl tert-butyl ether	0.200	U	25.0	25.42		ug/L		102	63 - 134	3	20
m-Xylene & p-Xylene	0.260	U	25.0	28.54		ug/L		114	67 - 130	1	20
Naphthalene	0.200	U	25.0	27.32		ug/L		109	62 - 145	4	20
n-Butylbenzene	0.200	U	25.0	29.40		ug/L		118	67 - 130	3	20
n-Heptane	0.300	U	25.0	28.30		ug/L		113	55 - 150	0	20
2-Nitropropane	1.00	U	50.0	51.47		ug/L		103	22 - 173	3	20
N-Propylbenzene	0.106	U	25.0	29.26		ug/L		117	70 - 130	2	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132311

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Octene	0.440	U	25.0	30.37		ug/L		121	63 - 134	1	
o-Xylene	0.200	U	25.0	27.46		ug/L		110	70 - 130	2	20
Pentachloroethane	0.302	U	25.0	25.91		ug/L		104	60 - 130	3	20
Propionitrile	2.69	U	250	273.9		ug/L		110	39 - 130	6	20
sec-Butylbenzene	0.300	U	25.0	28.47		ug/L		114	67 - 130	4	20
Styrene	0.200	U	25.0	25.57		ug/L		102	28 - 150	2	20
tert-Butylbenzene	0.200	U	25.0	27.12		ug/L		108	70 - 130	2	20
1,1,1,2-Tetrachloroethane	0.209	U	25.0	26.08		ug/L		104	65 - 130	4	20
1,1,2,2-Tetrachloroethane	0.190	U	25.0	25.87		ug/L		103	65 - 130	7	20
Tetrachloroethene	0.189	U	25.0	25.76		ug/L		103	69 - 130	1	20
Toluene	0.495	U	25.0	26.85		ug/L		107	70 - 130	1	20
trans-1,4-Dichloro-2-butene	0.500	U F1	25.0	30.28		ug/L		121	35 - 130	8	20
trans-1,2-Dichloroethene	0.200	U	25.0	26.94		ug/L		108	57 - 148	1	20
trans-1,3-Dichloropropene	0.200	U	25.0	27.56		ug/L		110	44 - 139	3	20
1,2,3-Trichlorobenzene	0.217	U	25.0	27.10		ug/L		108	60 - 130	4	20
1,2,4-Trichlorobenzene	0.168	U	25.0	27.82		ug/L		111	60 - 142	2	20
1,3,5-Trichlorobenzene	0.203	U	25.0	27.39		ug/L		110	66 - 135	2	20
1,1,1-Trichloroethane	0.300	U	25.0	26.31		ug/L		105	65 - 133	2	20
1,1,2-Trichloroethane	0.173	U	25.0	26.13		ug/L		105	70 - 130	1	20
Trichloroethene	0.317	U	25.0	26.90		ug/L		108	70 - 130	0	20
Trichlorofluoromethane	0.244	U	25.0	26.64		ug/L		107	64 - 149	5	20
1,2,3-Trichloropropane	0.191	U	25.0	25.37		ug/L		101	70 - 130	4	20
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	27.92		ug/L		112	47 - 152	0	20
1,2,4-Trimethylbenzene	0.200	U	25.0	27.92		ug/L		112	70 - 130	3	20
1,3,5-Trimethylbenzene	0.200	U	25.0	28.36		ug/L		113	70 - 130	3	20
Vinyl acetate	0.500	U	50.0	54.43		ug/L		109	36 - 171	1	20
Vinyl chloride	0.300	U	25.0	26.56		ug/L		106	49 - 158	4	20
Xylenes, Total	0.200	U	50.0	56.00		ug/L		112	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
Dibromofluoromethane (Surr)	98		69 - 130
1,2-Dichloroethane-d4 (Surr)	98		70 - 140
Toluene-d8 (Surr)	100		70 - 130

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-132304/1-A

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		09/29/16 16:37	10/03/16 08:47	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		09/29/16 16:37	10/03/16 08:47	1
Anthracene	0.700	U	10.0	0.700	ug/L		09/29/16 16:37	10/03/16 08:47	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		09/29/16 16:37	10/03/16 08:47	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		09/29/16 16:37	10/03/16 08:47	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132304/1-A

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		09/29/16 16:37	10/03/16 08:47	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		09/29/16 16:37	10/03/16 08:47	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		09/29/16 16:37	10/03/16 08:47	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		09/29/16 16:37	10/03/16 08:47	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		09/29/16 16:37	10/03/16 08:47	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		09/29/16 16:37	10/03/16 08:47	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		09/29/16 16:37	10/03/16 08:47	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		09/29/16 16:37	10/03/16 08:47	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		09/29/16 16:37	10/03/16 08:47	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 08:47	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		09/29/16 16:37	10/03/16 08:47	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		09/29/16 16:37	10/03/16 08:47	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		09/29/16 16:37	10/03/16 08:47	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		09/29/16 16:37	10/03/16 08:47	1
Chrysene	0.494	U	10.0	0.494	ug/L		09/29/16 16:37	10/03/16 08:47	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		09/29/16 16:37	10/03/16 08:47	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		09/29/16 16:37	10/03/16 08:47	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		09/29/16 16:37	10/03/16 08:47	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		09/29/16 16:37	10/03/16 08:47	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		09/29/16 16:37	10/03/16 08:47	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 08:47	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		09/29/16 16:37	10/03/16 08:47	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		09/29/16 16:37	10/03/16 08:47	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		09/29/16 16:37	10/03/16 08:47	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 08:47	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		09/29/16 16:37	10/03/16 08:47	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		09/29/16 16:37	10/03/16 08:47	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		09/29/16 16:37	10/03/16 08:47	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		09/29/16 16:37	10/03/16 08:47	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		09/29/16 16:37	10/03/16 08:47	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		09/29/16 16:37	10/03/16 08:47	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		09/29/16 16:37	10/03/16 08:47	1
Fluorene	0.421	U	10.0	0.421	ug/L		09/29/16 16:37	10/03/16 08:47	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		09/29/16 16:37	10/03/16 08:47	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		09/29/16 16:37	10/03/16 08:47	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		09/29/16 16:37	10/03/16 08:47	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		09/29/16 16:37	10/03/16 08:47	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		09/29/16 16:37	10/03/16 08:47	1
Isophorone	0.549	U	10.0	0.549	ug/L		09/29/16 16:37	10/03/16 08:47	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		09/29/16 16:37	10/03/16 08:47	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		09/29/16 16:37	10/03/16 08:47	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		09/29/16 16:37	10/03/16 08:47	1
Naphthalene	0.787	U	10.0	0.787	ug/L		09/29/16 16:37	10/03/16 08:47	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		09/29/16 16:37	10/03/16 08:47	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		09/29/16 16:37	10/03/16 08:47	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		09/29/16 16:37	10/03/16 08:47	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		09/29/16 16:37	10/03/16 08:47	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		09/29/16 16:37	10/03/16 08:47	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132304/1-A

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		09/29/16 16:37	10/03/16 08:47	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		09/29/16 16:37	10/03/16 08:47	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		09/29/16 16:37	10/03/16 08:47	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		09/29/16 16:37	10/03/16 08:47	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		09/29/16 16:37	10/03/16 08:47	1
Phenol	0.768	U	10.0	0.768	ug/L		09/29/16 16:37	10/03/16 08:47	1
Pyrene	0.440	U	10.0	0.440	ug/L		09/29/16 16:37	10/03/16 08:47	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		09/29/16 16:37	10/03/16 08:47	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		09/29/16 16:37	10/03/16 08:47	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		09/29/16 16:37	10/03/16 08:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	69		23 - 130	09/29/16 16:37	10/03/16 08:47	1
2-Fluorophenol	73		10 - 130	09/29/16 16:37	10/03/16 08:47	1
Nitrobenzene-d5	71		27 - 130	09/29/16 16:37	10/03/16 08:47	1
Phenol-d5	77		10 - 130	09/29/16 16:37	10/03/16 08:47	1
Terphenyl-d14	82		10 - 141	09/29/16 16:37	10/03/16 08:47	1
2,4,6-Tribromophenol	64		18 - 130	09/29/16 16:37	10/03/16 08:47	1

Lab Sample ID: LCS 560-132304/2-A

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	200	158.7		ug/L		79	54 - 130
Acenaphthylene	200	145.2		ug/L		73	54 - 130
Anthracene	200	166.4		ug/L		83	67 - 130
Benzo[a]anthracene	200	179.6		ug/L		90	70 - 130
Benzo[a]pyrene	200	181.5		ug/L		91	70 - 130
Benzo[b]fluoranthene	200	196.0		ug/L		98	69 - 130
Benzo[g,h,i]perylene	200	154.2		ug/L		77	62 - 130
Benzo[k]fluoranthene	200	183.8		ug/L		92	68 - 130
Benzyl alcohol	200	161.3		ug/L		81	52 - 130
Bis(2-chloroethoxy)methane	200	169.3		ug/L		85	55 - 130
Bis(2-chloroethyl)ether	200	151.5		ug/L		76	52 - 130
Bis(2-ethylhexyl) phthalate	200	179.1		ug/L		90	68 - 130
4-Bromophenyl phenyl ether	200	175.6		ug/L		88	69 - 130
Butyl benzyl phthalate	200	187.5		ug/L		94	68 - 130
4-Chloroaniline	200	106.4		ug/L		53	30 - 130
4-Chloro-3-methylphenol	200	170.9		ug/L		85	52 - 130
2-Chloronaphthalene	200	147.8		ug/L		74	51 - 130
2-Chlorophenol	200	151.5		ug/L		76	51 - 130
4-Chlorophenyl phenyl ether	200	169.3		ug/L		85	59 - 130
Chrysene	200	189.2		ug/L		95	70 - 130
Dibenz(a,h)anthracene	200	155.1		ug/L		78	65 - 130
Dibenzofuran	200	169.0		ug/L		84	53 - 130
1,2-Dichlorobenzene	200	118.8		ug/L		59	43 - 130
1,3-Dichlorobenzene	200	112.3		ug/L		56	40 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132304/2-A

Matrix: Water

Analysis Batch: 132347

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	200	116.0		ug/L		58	42 - 130
3,3'-Dichlorobenzidine	200	154.1		ug/L		77	61 - 130
2,4-Dichlorophenol	200	162.7		ug/L		81	51 - 130
Diethyl phthalate	200	176.0		ug/L		88	59 - 130
2,4-Dimethylphenol	200	157.8		ug/L		79	51 - 130
Dimethyl phthalate	200	178.7		ug/L		89	63 - 130
Di-n-butyl phthalate	200	180.2		ug/L		90	67 - 130
4,6-Dinitro-2-methylphenol	400	356.2		ug/L		89	63 - 130
2,4-Dinitrophenol	400	336.9		ug/L		84	47 - 130
2,4-Dinitrotoluene	200	181.1		ug/L		91	67 - 130
2,6-Dinitrotoluene	200	171.6		ug/L		86	64 - 130
Di-n-octyl phthalate	200	177.3		ug/L		89	70 - 130
Fluoranthene	200	199.2		ug/L		100	65 - 130
Fluorene	200	165.5		ug/L		83	59 - 130
Hexachlorobenzene	200	175.6		ug/L		88	67 - 130
Hexachlorobutadiene	200	119.0		ug/L		59	44 - 130
Hexachlorocyclopentadiene	200	67.30		ug/L		34	10 - 130
Hexachloroethane	200	110.1		ug/L		55	38 - 130
Indeno[1,2,3-cd]pyrene	200	151.6		ug/L		76	66 - 130
Isophorone	200	167.3		ug/L		84	55 - 130
2-Methylnaphthalene	200	141.1		ug/L		71	54 - 130
2-Methylphenol	200	157.0		ug/L		79	47 - 130
3 & 4 Methylphenol	200	166.8		ug/L		83	41 - 130
Naphthalene	200	141.5		ug/L		71	51 - 130
2-Nitroaniline	200	170.8		ug/L		85	60 - 130
3-Nitroaniline	200	166.8		ug/L		83	57 - 130
4-Nitroaniline	200	166.7		ug/L		83	55 - 130
Nitrobenzene	200	156.1		ug/L		78	54 - 130
2-Nitrophenol	200	159.9		ug/L		80	54 - 130
4-Nitrophenol	400	354.5		ug/L		89	34 - 138
N-Nitrosodi-n-propylamine	200	173.8		ug/L		87	45 - 130
N-Nitrosodiphenylamine	200	157.0		ug/L		79	51 - 130
Pentachlorophenol	400	300.2		ug/L		75	55 - 130
Phenanthrene	200	173.0		ug/L		86	67 - 130
Phenol	200	150.7		ug/L		75	47 - 130
Pyrene	200	184.0		ug/L		92	66 - 130
1,2,4-Trichlorobenzene	200	128.2		ug/L		64	49 - 130
2,4,5-Trichlorophenol	200	167.2		ug/L		84	55 - 130
2,4,6-Trichlorophenol	200	162.9		ug/L		81	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	66		23 - 130
2-Fluorophenol	65		10 - 130
Nitrobenzene-d5	65		27 - 130
Phenol-d5	73		10 - 130
Terphenyl-d14	80		10 - 141
2,4,6-Tribromophenol	78		18 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132347

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 132304

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Acenaphthene	0.460	U	200	166.8		ug/L		83	54 - 130
Acenaphthylene	0.452	U	200	153.4		ug/L		77	54 - 130
Anthracene	0.700	U	200	164.9		ug/L		82	67 - 130
Benzo[a]anthracene	0.646	U	200	168.0		ug/L		84	70 - 130
Benzo[a]pyrene	0.742	U	200	160.8		ug/L		80	70 - 130
Benzo[b]fluoranthene	0.908	U	200	172.8		ug/L		86	69 - 130
Benzo[g,h,i]perylene	1.10	U F1	200	140.8		ug/L		70	62 - 130
Benzo[k]fluoranthene	1.49	U	200	177.8		ug/L		89	68 - 130
Benzyl alcohol	0.827	U	200	164.1		ug/L		82	52 - 130
Bis(2-chloroethoxy)methane	0.436	U	200	171.0		ug/L		85	55 - 130
Bis(2-chloroethyl)ether	1.55	U	200	158.7		ug/L		79	52 - 130
Bis(2-ethylhexyl) phthalate	5.00	U	200	165.2		ug/L		83	68 - 130
4-Bromophenyl phenyl ether	0.811	U	200	173.5		ug/L		87	69 - 130
Butyl benzyl phthalate	0.816	U	200	177.9		ug/L		89	68 - 130
4-Chloroaniline	0.549	U	200	102.6		ug/L		51	30 - 130
4-Chloro-3-methylphenol	0.586	U	200	172.1		ug/L		86	52 - 130
2-Chloronaphthalene	0.603	U	200	166.1		ug/L		83	51 - 130
2-Chlorophenol	0.729	U	200	155.1		ug/L		78	51 - 130
4-Chlorophenyl phenyl ether	0.529	U	200	172.4		ug/L		86	59 - 130
Chrysene	0.494	U	200	171.3		ug/L		86	70 - 130
Dibenz(a,h)anthracene	0.874	U F1	200	145.1		ug/L		73	65 - 130
Dibenzofuran	0.485	U	200	174.5		ug/L		87	53 - 130
1,2-Dichlorobenzene	0.775	U	200	143.2		ug/L		72	43 - 130
1,3-Dichlorobenzene	0.491	U	200	138.7		ug/L		69	40 - 130
1,4-Dichlorobenzene	0.815	U	200	140.7		ug/L		70	42 - 130
3,3'-Dichlorobenzidine	0.787	U F1	200	112.1	F1	ug/L		56	61 - 130
2,4-Dichlorophenol	0.704	U	200	165.3		ug/L		83	51 - 130
Diethyl phthalate	0.666	U	200	178.9		ug/L		89	59 - 130
2,4-Dimethylphenol	0.593	U	200	159.3		ug/L		80	51 - 130
Dimethyl phthalate	0.589	U	200	186.5		ug/L		93	63 - 130
Di-n-butyl phthalate	0.709	U	200	172.0		ug/L		86	67 - 130
4,6-Dinitro-2-methylphenol	0.959	U	400	366.6		ug/L		92	63 - 130
2,4-Dinitrophenol	2.69	U	400	356.4		ug/L		89	47 - 130
2,4-Dinitrotoluene	0.509	U	200	189.1		ug/L		95	67 - 130
2,6-Dinitrotoluene	0.762	U	200	176.0		ug/L		88	64 - 130
Di-n-octyl phthalate	1.11	U	200	167.0		ug/L		83	70 - 130
Fluoranthene	0.496	U	200	189.9		ug/L		95	65 - 130
Fluorene	0.421	U	200	170.8		ug/L		85	59 - 130
Hexachlorobenzene	0.602	U	200	167.3		ug/L		84	67 - 130
Hexachlorobutadiene	0.716	U	200	143.7		ug/L		72	44 - 130
Hexachlorocyclopentadiene	0.839	U	200	79.68		ug/L		40	10 - 130
Hexachloroethane	0.589	U	200	135.8		ug/L		68	38 - 130
Indeno[1,2,3-cd]pyrene	0.922	U F1	200	139.9		ug/L		70	66 - 130
Isophorone	0.549	U	200	166.2		ug/L		83	55 - 130
2-Methylnaphthalene	0.702	U	200	151.2		ug/L		76	54 - 130
2-Methylphenol	0.610	U	200	158.6		ug/L		79	47 - 130
3 & 4 Methylphenol	0.763	U	200	172.2		ug/L		86	41 - 130
Naphthalene	0.787	U	200	159.8		ug/L		80	51 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132347

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 132304

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitroaniline	0.766	U	200	164.2		ug/L		82	60 - 130
3-Nitroaniline	0.512	U	200	170.7		ug/L		85	57 - 130
4-Nitroaniline	0.819	U	200	165.2		ug/L		83	55 - 130
Nitrobenzene	0.587	U	200	164.5		ug/L		82	54 - 130
2-Nitrophenol	0.808	U	200	162.5		ug/L		81	54 - 130
4-Nitrophenol	1.73	U	400	362.5		ug/L		91	34 - 138
N-Nitrosodi-n-propylamine	0.620	U	200	174.5		ug/L		87	45 - 130
N-Nitrosodiphenylamine	1.03	U	200	151.9		ug/L		76	51 - 130
Pentachlorophenol	1.32	U	400	315.6		ug/L		79	55 - 130
Phenanthrene	0.591	U	200	172.0		ug/L		86	67 - 130
Phenol	0.768	U	200	153.7		ug/L		77	47 - 130
Pyrene	0.440	U	200	172.5		ug/L		86	66 - 130
1,2,4-Trichlorobenzene	0.647	U	200	149.2		ug/L		75	49 - 130
2,4,5-Trichlorophenol	0.861	U	200	175.8		ug/L		88	55 - 130
2,4,6-Trichlorophenol	0.658	U	200	172.2		ug/L		86	53 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	67		23 - 130
2-Fluorophenol	65		10 - 130
Nitrobenzene-d5	65		27 - 130
Phenol-d5	71		10 - 130
Terphenyl-d14	56		10 - 141
2,4,6-Tribromophenol	81		18 - 130

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132347

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 132304

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acenaphthene	0.460	U	200	154.5		ug/L		77	54 - 130	8	30
Acenaphthylene	0.452	U	200	144.8		ug/L		72	54 - 130	6	30
Anthracene	0.700	U	200	149.7		ug/L		75	67 - 130	10	30
Benzo[a]anthracene	0.646	U	200	142.3		ug/L		71	70 - 130	17	30
Benzo[a]pyrene	0.742	U	200	141.1		ug/L		71	70 - 130	13	30
Benzo[b]fluoranthene	0.908	U	200	153.0		ug/L		77	69 - 130	12	30
Benzo[g,h,i]perylene	1.10	U F1	200	122.6	F1	ug/L		61	62 - 130	14	30
Benzo[k]fluoranthene	1.49	U	200	148.0		ug/L		74	68 - 130	18	30
Benzyl alcohol	0.827	U	200	159.3		ug/L		80	52 - 130	3	30
Bis(2-chloroethoxy)methane	0.436	U	200	162.6		ug/L		81	55 - 130	5	30
Bis(2-chloroethyl)ether	1.55	U	200	158.9		ug/L		79	52 - 130	0	30
Bis(2-ethylhexyl) phthalate	5.00	U	200	147.6		ug/L		74	68 - 130	11	30
4-Bromophenyl phenyl ether	0.811	U	200	151.6		ug/L		76	69 - 130	13	30
Butyl benzyl phthalate	0.816	U	200	150.7		ug/L		75	68 - 130	17	30
4-Chloroaniline	0.549	U	200	90.10		ug/L		45	30 - 130	13	30
4-Chloro-3-methylphenol	0.586	U	200	163.3		ug/L		82	52 - 130	5	30
2-Chloronaphthalene	0.603	U	200	154.2		ug/L		77	51 - 130	7	30
2-Chlorophenol	0.729	U	200	156.9		ug/L		78	51 - 130	1	30
4-Chlorophenyl phenyl ether	0.529	U	200	152.3		ug/L		76	59 - 130	12	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132347

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 132304

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chrysene	0.494	U	200	147.3		ug/L		74	70 - 130	15	30
Dibenz(a,h)anthracene	0.874	U F1	200	126.3	F1	ug/L		63	65 - 130	14	30
Dibenzofuran	0.485	U	200	162.9		ug/L		81	53 - 130	7	30
1,2-Dichlorobenzene	0.775	U	200	142.6		ug/L		71	43 - 130	0	30
1,3-Dichlorobenzene	0.491	U	200	138.0		ug/L		69	40 - 130	1	30
1,4-Dichlorobenzene	0.815	U	200	142.4		ug/L		71	42 - 130	1	30
3,3'-Dichlorobenzidine	0.787	U F1	200	104.2	F1	ug/L		52	61 - 130	7	30
2,4-Dichlorophenol	0.704	U	200	159.6		ug/L		80	51 - 130	4	30
Diethyl phthalate	0.666	U	200	165.5		ug/L		83	59 - 130	8	30
2,4-Dimethylphenol	0.593	U	200	155.8		ug/L		78	51 - 130	2	30
Dimethyl phthalate	0.589	U	200	171.3		ug/L		86	63 - 130	8	30
Di-n-butyl phthalate	0.709	U	200	152.8		ug/L		76	67 - 130	12	30
4,6-Dinitro-2-methylphenol	0.959	U	400	341.4		ug/L		85	63 - 130	7	30
2,4-Dinitrophenol	2.69	U	400	335.9		ug/L		84	47 - 130	6	30
2,4-Dinitrotoluene	0.509	U	200	174.0		ug/L		87	67 - 130	8	30
2,6-Dinitrotoluene	0.762	U	200	169.9		ug/L		85	64 - 130	4	30
Di-n-octyl phthalate	1.11	U	200	146.2		ug/L		73	70 - 130	13	30
Fluoranthene	0.496	U	200	162.6		ug/L		81	65 - 130	15	30
Fluorene	0.421	U	200	156.5		ug/L		78	59 - 130	9	30
Hexachlorobenzene	0.602	U	200	142.5		ug/L		71	67 - 130	16	30
Hexachlorobutadiene	0.716	U	200	133.6		ug/L		67	44 - 130	7	30
Hexachlorocyclopentadiene	0.839	U	200	77.72		ug/L		39	10 - 130	2	30
Hexachloroethane	0.589	U	200	138.0		ug/L		69	38 - 130	2	30
Indeno[1,2,3-cd]pyrene	0.922	U F1	200	122.0	F1	ug/L		61	66 - 130	14	30
Isophorone	0.549	U	200	161.1		ug/L		81	55 - 130	3	30
2-Methylnaphthalene	0.702	U	200	145.0		ug/L		72	54 - 130	4	30
2-Methylphenol	0.610	U	200	158.3		ug/L		79	47 - 130	0	30
3 & 4 Methylphenol	0.763	U	200	165.0		ug/L		83	41 - 130	4	30
Naphthalene	0.787	U	200	154.5		ug/L		77	51 - 130	3	30
2-Nitroaniline	0.766	U	200	156.5		ug/L		78	60 - 130	5	35
3-Nitroaniline	0.512	U	200	160.4		ug/L		80	57 - 130	6	30
4-Nitroaniline	0.819	U	200	155.6		ug/L		78	55 - 130	6	30
Nitrobenzene	0.587	U	200	161.0		ug/L		81	54 - 130	2	30
2-Nitrophenol	0.808	U	200	160.5		ug/L		80	54 - 130	1	30
4-Nitrophenol	1.73	U	400	337.6		ug/L		84	34 - 138	7	30
N-Nitrosodi-n-propylamine	0.620	U	200	168.0		ug/L		84	45 - 130	4	30
N-Nitrosodiphenylamine	1.03	U	200	143.4		ug/L		72	51 - 130	6	30
Pentachlorophenol	1.32	U	400	293.4		ug/L		73	55 - 130	7	30
Phenanthrene	0.591	U	200	157.1		ug/L		79	67 - 130	9	30
Phenol	0.768	U	200	152.1		ug/L		76	47 - 130	1	30
Pyrene	0.440	U	200	148.5		ug/L		74	66 - 130	15	30
1,2,4-Trichlorobenzene	0.647	U	200	145.6		ug/L		73	49 - 130	2	30
2,4,5-Trichlorophenol	0.861	U	200	165.1		ug/L		83	55 - 130	6	30
2,4,6-Trichlorophenol	0.658	U	200	163.4		ug/L		82	53 - 130	5	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	63		23 - 130
2-Fluorophenol	67		10 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132347

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 132304

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Nitrobenzene-d5	65		27 - 130
Phenol-d5	71		10 - 130
Terphenyl-d14	44		10 - 141
2,4,6-Tribromophenol	75		18 - 130

Lab Sample ID: MB 560-132382/1-A

Matrix: Water

Analysis Batch: 132403

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132382

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		10/03/16 14:20	10/04/16 10:41	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		10/03/16 14:20	10/04/16 10:41	1
Anthracene	0.700	U	10.0	0.700	ug/L		10/03/16 14:20	10/04/16 10:41	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		10/03/16 14:20	10/04/16 10:41	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		10/03/16 14:20	10/04/16 10:41	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		10/03/16 14:20	10/04/16 10:41	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		10/03/16 14:20	10/04/16 10:41	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		10/03/16 14:20	10/04/16 10:41	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		10/03/16 14:20	10/04/16 10:41	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		10/03/16 14:20	10/04/16 10:41	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		10/03/16 14:20	10/04/16 10:41	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		10/03/16 14:20	10/04/16 10:41	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		10/03/16 14:20	10/04/16 10:41	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		10/03/16 14:20	10/04/16 10:41	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		10/03/16 14:20	10/04/16 10:41	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		10/03/16 14:20	10/04/16 10:41	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		10/03/16 14:20	10/04/16 10:41	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		10/03/16 14:20	10/04/16 10:41	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		10/03/16 14:20	10/04/16 10:41	1
Chrysene	0.494	U	10.0	0.494	ug/L		10/03/16 14:20	10/04/16 10:41	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		10/03/16 14:20	10/04/16 10:41	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		10/03/16 14:20	10/04/16 10:41	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		10/03/16 14:20	10/04/16 10:41	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		10/03/16 14:20	10/04/16 10:41	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		10/03/16 14:20	10/04/16 10:41	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		10/03/16 14:20	10/04/16 10:41	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		10/03/16 14:20	10/04/16 10:41	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		10/03/16 14:20	10/04/16 10:41	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		10/03/16 14:20	10/04/16 10:41	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		10/03/16 14:20	10/04/16 10:41	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		10/03/16 14:20	10/04/16 10:41	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		10/03/16 14:20	10/04/16 10:41	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		10/03/16 14:20	10/04/16 10:41	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		10/03/16 14:20	10/04/16 10:41	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		10/03/16 14:20	10/04/16 10:41	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		10/03/16 14:20	10/04/16 10:41	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		10/03/16 14:20	10/04/16 10:41	1
Fluorene	0.421	U	10.0	0.421	ug/L		10/03/16 14:20	10/04/16 10:41	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-132382/1-A

Matrix: Water

Analysis Batch: 132403

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132382

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		10/03/16 14:20	10/04/16 10:41	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		10/03/16 14:20	10/04/16 10:41	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		10/03/16 14:20	10/04/16 10:41	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		10/03/16 14:20	10/04/16 10:41	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		10/03/16 14:20	10/04/16 10:41	1
Isophorone	0.549	U	10.0	0.549	ug/L		10/03/16 14:20	10/04/16 10:41	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		10/03/16 14:20	10/04/16 10:41	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		10/03/16 14:20	10/04/16 10:41	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		10/03/16 14:20	10/04/16 10:41	1
Naphthalene	0.787	U	10.0	0.787	ug/L		10/03/16 14:20	10/04/16 10:41	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		10/03/16 14:20	10/04/16 10:41	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		10/03/16 14:20	10/04/16 10:41	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		10/03/16 14:20	10/04/16 10:41	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		10/03/16 14:20	10/04/16 10:41	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		10/03/16 14:20	10/04/16 10:41	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		10/03/16 14:20	10/04/16 10:41	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		10/03/16 14:20	10/04/16 10:41	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		10/03/16 14:20	10/04/16 10:41	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		10/03/16 14:20	10/04/16 10:41	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		10/03/16 14:20	10/04/16 10:41	1
Phenol	0.768	U	10.0	0.768	ug/L		10/03/16 14:20	10/04/16 10:41	1
Pyrene	0.440	U	10.0	0.440	ug/L		10/03/16 14:20	10/04/16 10:41	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		10/03/16 14:20	10/04/16 10:41	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		10/03/16 14:20	10/04/16 10:41	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		10/03/16 14:20	10/04/16 10:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		23 - 130	10/03/16 14:20	10/04/16 10:41	1
2-Fluorophenol	74		10 - 130	10/03/16 14:20	10/04/16 10:41	1
Nitrobenzene-d5	75		27 - 130	10/03/16 14:20	10/04/16 10:41	1
Phenol-d5	80		10 - 130	10/03/16 14:20	10/04/16 10:41	1
Terphenyl-d14	86		10 - 141	10/03/16 14:20	10/04/16 10:41	1
2,4,6-Tribromophenol	73		18 - 130	10/03/16 14:20	10/04/16 10:41	1

Lab Sample ID: LCS 560-132382/2-A

Matrix: Water

Analysis Batch: 132403

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	200	161.1		ug/L		81	54 - 130
Acenaphthylene	200	151.4		ug/L		76	54 - 130
Anthracene	200	161.9		ug/L		81	67 - 130
Benzo[a]anthracene	200	169.0		ug/L		84	70 - 130
Benzo[a]pyrene	200	172.3		ug/L		86	70 - 130
Benzo[b]fluoranthene	200	174.2		ug/L		87	69 - 130
Benzo[g,h,i]perylene	200	180.9		ug/L		90	62 - 130
Benzo[k]fluoranthene	200	177.4		ug/L		89	68 - 130
Benzyl alcohol	200	173.4		ug/L		87	52 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132382/2-A

Matrix: Water

Analysis Batch: 132403

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethoxy)methane	200	171.3		ug/L		86	55 - 130
Bis(2-chloroethyl)ether	200	174.7		ug/L		87	52 - 130
Bis(2-ethylhexyl) phthalate	200	166.7		ug/L		83	68 - 130
4-Bromophenyl phenyl ether	200	168.7		ug/L		84	69 - 130
Butyl benzyl phthalate	200	180.1		ug/L		90	68 - 130
4-Chloroaniline	200	134.0		ug/L		67	30 - 130
4-Chloro-3-methylphenol	200	169.5		ug/L		85	52 - 130
2-Chloronaphthalene	200	161.5		ug/L		81	51 - 130
2-Chlorophenol	200	168.5		ug/L		84	51 - 130
4-Chlorophenyl phenyl ether	200	171.5		ug/L		86	59 - 130
Chrysene	200	169.8		ug/L		85	70 - 130
Dibenz(a,h)anthracene	200	168.1		ug/L		84	65 - 130
Dibenzofuran	200	178.9		ug/L		89	53 - 130
1,2-Dichlorobenzene	200	145.0		ug/L		72	43 - 130
1,3-Dichlorobenzene	200	137.0		ug/L		69	40 - 130
1,4-Dichlorobenzene	200	141.0		ug/L		71	42 - 130
3,3'-Dichlorobenzidine	200	150.1		ug/L		75	61 - 130
2,4-Dichlorophenol	200	169.4		ug/L		85	51 - 130
Diethyl phthalate	200	168.9		ug/L		84	59 - 130
2,4-Dimethylphenol	200	161.1		ug/L		81	51 - 130
Dimethyl phthalate	200	173.4		ug/L		87	63 - 130
Di-n-butyl phthalate	200	167.4		ug/L		84	67 - 130
4,6-Dinitro-2-methylphenol	400	332.8		ug/L		83	63 - 130
2,4-Dinitrophenol	400	338.4		ug/L		85	47 - 130
2,4-Dinitrotoluene	200	178.3		ug/L		89	67 - 130
2,6-Dinitrotoluene	200	170.9		ug/L		85	64 - 130
Di-n-octyl phthalate	200	164.4		ug/L		82	70 - 130
Fluoranthene	200	181.9		ug/L		91	65 - 130
Fluorene	200	166.4		ug/L		83	59 - 130
Hexachlorobenzene	200	168.6		ug/L		84	67 - 130
Hexachlorobutadiene	200	136.7		ug/L		68	44 - 130
Hexachlorocyclopentadiene	200	109.5		ug/L		55	10 - 130
Hexachloroethane	200	134.9		ug/L		67	38 - 130
Indeno[1,2,3-cd]pyrene	200	166.9		ug/L		83	66 - 130
Isophorone	200	165.4		ug/L		83	55 - 130
2-Methylnaphthalene	200	149.9		ug/L		75	54 - 130
2-Methylphenol	200	171.0		ug/L		86	47 - 130
3 & 4 Methylphenol	200	183.6		ug/L		92	41 - 130
Naphthalene	200	156.3		ug/L		78	51 - 130
2-Nitroaniline	200	169.0		ug/L		85	60 - 130
3-Nitroaniline	200	167.4		ug/L		84	57 - 130
4-Nitroaniline	200	160.8		ug/L		80	55 - 130
Nitrobenzene	200	160.5		ug/L		80	54 - 130
2-Nitrophenol	200	168.6		ug/L		84	54 - 130
4-Nitrophenol	400	327.0		ug/L		82	34 - 138
N-Nitrosodi-n-propylamine	200	180.6		ug/L		90	45 - 130
N-Nitrosodiphenylamine	200	158.2		ug/L		79	51 - 130
Pentachlorophenol	400	280.1		ug/L		70	55 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-132382/2-A

Matrix: Water

Analysis Batch: 132403

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenanthrene	200	164.1		ug/L		82	67 - 130
Phenol	200	167.3		ug/L		84	47 - 130
Pyrene	200	177.0		ug/L		89	66 - 130
1,2,4-Trichlorobenzene	200	145.3		ug/L		73	49 - 130
2,4,5-Trichlorophenol	200	171.8		ug/L		86	55 - 130
2,4,6-Trichlorophenol	200	168.8		ug/L		84	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	71		23 - 130
2-Fluorophenol	73		10 - 130
Nitrobenzene-d5	74		27 - 130
Phenol-d5	80		10 - 130
Terphenyl-d14	81		10 - 141
2,4,6-Tribromophenol	76		18 - 130

## Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 560-132261/1-A

Matrix: Water

Analysis Batch: 132295

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132261

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00500	U	0.0600	0.00500	ug/L		09/29/16 09:08	09/29/16 17:35	1
alpha-BHC	0.00520	U	0.0600	0.00520	ug/L		09/29/16 09:08	09/29/16 17:35	1
alpha-Chlordane	0.00630	U	0.0600	0.00630	ug/L		09/29/16 09:08	09/29/16 17:35	1
beta-BHC	0.00500	U	0.0600	0.00500	ug/L		09/29/16 09:08	09/29/16 17:35	1
4,4'-DDD	0.00500	U	0.0600	0.00500	ug/L		09/29/16 09:08	09/29/16 17:35	1
4,4'-DDE	0.00500	U	0.0600	0.00500	ug/L		09/29/16 09:08	09/29/16 17:35	1
4,4'-DDT	0.00810	U	0.0600	0.00810	ug/L		09/29/16 09:08	09/29/16 17:35	1
delta-BHC	0.00500	U	0.0600	0.00500	ug/L		09/29/16 09:08	09/29/16 17:35	1
Dieldrin	0.0130	U	0.0600	0.0130	ug/L		09/29/16 09:08	09/29/16 17:35	1
Endosulfan I	0.00500	U	0.0600	0.00500	ug/L		09/29/16 09:08	09/29/16 17:35	1
Endosulfan II	0.00860	U	0.0600	0.00860	ug/L		09/29/16 09:08	09/29/16 17:35	1
Endosulfan sulfate	0.00880	U	0.0600	0.00880	ug/L		09/29/16 09:08	09/29/16 17:35	1
Endrin	0.00770	U	0.0600	0.00770	ug/L		09/29/16 09:08	09/29/16 17:35	1
Endrin aldehyde	0.00500	U	0.0600	0.00500	ug/L		09/29/16 09:08	09/29/16 17:35	1
Endrin ketone	0.00820	U	0.0600	0.00820	ug/L		09/29/16 09:08	09/29/16 17:35	1
gamma-BHC (Lindane)	0.00450	U	0.0600	0.00450	ug/L		09/29/16 09:08	09/29/16 17:35	1
gamma-Chlordane	0.00670	U	0.0600	0.00670	ug/L		09/29/16 09:08	09/29/16 17:35	1
Heptachlor	0.00650	U	0.0600	0.00650	ug/L		09/29/16 09:08	09/29/16 17:35	1
Heptachlor epoxide	0.00520	U	0.0600	0.00520	ug/L		09/29/16 09:08	09/29/16 17:35	1
Methoxychlor	0.0100	U	0.0600	0.0100	ug/L		09/29/16 09:08	09/29/16 17:35	1
Toxaphene	0.680	U	6.00	0.680	ug/L		09/29/16 09:08	09/29/16 17:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	102		10 - 152	09/29/16 09:08	09/29/16 17:35	1
Tetrachloro-m-xylene	100		57 - 127	09/29/16 09:08	09/29/16 17:35	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 560-132261/3-A

Matrix: Water

Analysis Batch: 132295

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132261

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.571	0.4773		ug/L		84	54 - 130
alpha-BHC	0.571	0.5018		ug/L		88	59 - 130
alpha-Chlordane	0.571	0.4666		ug/L		82	51 - 130
beta-BHC	0.571	0.4600		ug/L		81	56 - 130
4,4'-DDD	0.571	0.4708		ug/L		82	56 - 130
4,4'-DDE	0.571	0.4725		ug/L		83	53 - 130
4,4'-DDT	0.571	0.4768		ug/L		83	50 - 130
delta-BHC	0.571	0.4923		ug/L		86	56 - 130
Dieldrin	0.571	0.4808		ug/L		84	58 - 130
Endosulfan I	0.571	0.3470		ug/L		61	39 - 130
Endosulfan II	0.571	0.3807		ug/L		67	44 - 130
Endosulfan sulfate	0.571	0.4256		ug/L		74	52 - 130
Endrin	0.571	0.4672		ug/L		82	62 - 130
Endrin aldehyde	0.571	0.3961		ug/L		69	52 - 130
Endrin ketone	0.571	0.4358		ug/L		76	48 - 130
gamma-BHC (Lindane)	0.571	0.5000		ug/L		87	56 - 130
gamma-Chlordane	0.571	0.4754		ug/L		83	52 - 130
Heptachlor	0.571	0.4964		ug/L		87	57 - 130
Heptachlor epoxide	0.571	0.4488		ug/L		79	53 - 130
Methoxychlor	0.571	0.4660		ug/L		82	57 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	99		10 - 152
Tetrachloro-m-xylene	95		57 - 127

Lab Sample ID: LCS 560-132261/4-A

Matrix: Water

Analysis Batch: 132295

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132261

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toxaphene	11.4	11.18		ug/L		98	51 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	98		10 - 152
Tetrachloro-m-xylene	99		57 - 127

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132295

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 132261

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.00468	U	0.529	0.4866		ug/L		92	54 - 130
alpha-BHC	0.00487	U	0.529	0.5153		ug/L		97	59 - 130
alpha-Chlordane	0.00590	U	0.529	0.4721		ug/L		89	51 - 130
beta-BHC	0.00468	U	0.529	0.4696		ug/L		89	56 - 130
4,4'-DDD	0.00468	U	0.529	0.4793		ug/L		91	56 - 130
4,4'-DDE	0.00468	U	0.529	0.4813		ug/L		91	53 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132295

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 132261

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDT	0.00758	U	0.529	0.4811		ug/L		91	50 - 130
delta-BHC	0.00468	U	0.529	0.5048		ug/L		95	56 - 130
Dieldrin	0.0122	U	0.529	0.4904		ug/L		93	58 - 130
Endosulfan I	0.00468	U	0.529	0.3659		ug/L		69	39 - 130
Endosulfan II	0.00805	U	0.529	0.3983		ug/L		75	44 - 130
Endosulfan sulfate	0.00824	U	0.529	0.4352		ug/L		82	52 - 130
Endrin	0.00721	U	0.529	0.4864		ug/L		92	62 - 130
Endrin aldehyde	0.00468	U	0.529	0.4099		ug/L		77	52 - 130
Endrin ketone	0.00767	U	0.529	0.4426		ug/L		84	48 - 130
gamma-BHC (Lindane)	0.00421	U	0.529	0.5109		ug/L		97	56 - 130
gamma-Chlordane	0.00627	U	0.529	0.4675		ug/L		88	52 - 130
Heptachlor	0.00608	U	0.529	0.5069		ug/L		96	57 - 130
Heptachlor epoxide	0.00487	U	0.529	0.4642		ug/L		88	53 - 130
Methoxychlor	0.00936	U	0.529	0.4680		ug/L		88	57 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl	92		10 - 152
Tetrachloro-m-xylene	96		57 - 127

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132295

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 132261

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin	0.00468	U	0.531	0.4727		ug/L		89	54 - 130	3	30
alpha-BHC	0.00487	U	0.531	0.4978		ug/L		94	59 - 130	3	30
alpha-Chlordane	0.00590	U	0.531	0.4609		ug/L		87	51 - 130	2	30
beta-BHC	0.00468	U	0.531	0.4546		ug/L		86	56 - 130	3	30
4,4'-DDD	0.00468	U	0.531	0.4670		ug/L		88	56 - 130	3	30
4,4'-DDE	0.00468	U	0.531	0.4689		ug/L		88	53 - 130	3	30
4,4'-DDT	0.00758	U	0.531	0.4698		ug/L		89	50 - 130	5	30
delta-BHC	0.00468	U	0.531	0.4885		ug/L		92	56 - 130	3	30
Dieldrin	0.0122	U	0.531	0.4766		ug/L		90	58 - 130	3	30
Endosulfan I	0.00468	U	0.531	0.3508		ug/L		66	39 - 130	4	30
Endosulfan II	0.00805	U	0.531	0.3839		ug/L		72	44 - 130	4	30
Endosulfan sulfate	0.00824	U	0.531	0.3905		ug/L		74	52 - 130	11	30
Endrin	0.00721	U	0.531	0.4722		ug/L		89	62 - 130	3	30
Endrin aldehyde	0.00468	U	0.531	0.3997		ug/L		75	52 - 130	4	30
Endrin ketone	0.00767	U	0.531	0.4289		ug/L		81	48 - 130	3	30
gamma-BHC (Lindane)	0.00421	U	0.531	0.4945		ug/L		93	56 - 130	3	30
gamma-Chlordane	0.00627	U	0.531	0.4615		ug/L		87	52 - 130	1	30
Heptachlor	0.00608	U	0.531	0.4919		ug/L		93	57 - 130	3	30
Heptachlor epoxide	0.00487	U	0.531	0.4535		ug/L		85	53 - 130	3	30
Methoxychlor	0.00936	U	0.531	0.4577		ug/L		86	57 - 130	5	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	101		10 - 152

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132295

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 132261

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	101		57 - 127

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 560-132261/1-A

Matrix: Water

Analysis Batch: 132296

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132261

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.110	U	0.600	0.110	ug/L		09/29/16 09:08	09/29/16 16:56	1
Aroclor 1221	0.110	U	0.600	0.110	ug/L		09/29/16 09:08	09/29/16 16:56	1
Aroclor 1232	0.440	U	0.800	0.440	ug/L		09/29/16 09:08	09/29/16 16:56	1
Aroclor 1242	0.110	U	0.600	0.110	ug/L		09/29/16 09:08	09/29/16 16:56	1
Aroclor 1248	0.110	U	0.600	0.110	ug/L		09/29/16 09:08	09/29/16 16:56	1
Aroclor 1254	0.110	U	0.600	0.110	ug/L		09/29/16 09:08	09/29/16 16:56	1
Aroclor 1260	0.110	U	0.600	0.110	ug/L		09/29/16 09:08	09/29/16 16:56	1
Aroclor 1262	0.110	U	0.600	0.110	ug/L		09/29/16 09:08	09/29/16 16:56	1
Aroclor 1268	0.110	U	0.600	0.110	ug/L		09/29/16 09:08	09/29/16 16:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	109		10 - 150	09/29/16 09:08	09/29/16 16:56	1
DCB Decachlorobiphenyl	86		10 - 150	09/29/16 09:08	09/29/16 16:56	1

Lab Sample ID: LCS 560-132261/2-A

Matrix: Water

Analysis Batch: 132296

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132261

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	11.4	14.40		ug/L		126	50 - 135
Aroclor 1260	11.4	12.48		ug/L		109	50 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	117		10 - 150
DCB Decachlorobiphenyl	88		10 - 150

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132296

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 132261

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	0.103	U	10.9	13.83		ug/L		127	50 - 135
Aroclor 1260	0.103	U	10.9	12.18		ug/L		112	50 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	115		10 - 150
DCB Decachlorobiphenyl	91		10 - 150

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132296

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 132261

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016	0.103	U	10.7	13.15		ug/L		123	50 - 135	5	30
Aroclor 1260	0.103	U	10.7	12.10		ug/L		113	50 - 135	1	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Tetrachloro-m-xylene	123		10 - 150								
DCB Decachlorobiphenyl	89		10 - 150								

## Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 280-344653/1-A

Matrix: Water

Analysis Batch: 345644

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 344653

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000168	U	0.00250	0.000168	mg/L		10/02/16 08:17	10/09/16 05:06	1
Bolstar	0.000314	U	0.00100	0.000314	mg/L		10/02/16 08:17	10/09/16 05:06	1
Chlorpyrifos	0.000360	U	0.00150	0.000360	mg/L		10/02/16 08:17	10/09/16 05:06	1
Coumaphos	0.000135	U	0.00100	0.000135	mg/L		10/02/16 08:17	10/09/16 05:06	1
Demeton-O	0.000140	U	0.00100	0.000140	mg/L		10/02/16 08:17	10/09/16 05:06	1
Demeton-S	0.0000690	U	0.00200	0.0000690	mg/L		10/02/16 08:17	10/09/16 05:06	1
Diazinon	0.000147	U	0.000500	0.000147	mg/L		10/02/16 08:17	10/09/16 05:06	1
Dichlorvos	0.000162	U	0.000500	0.000162	mg/L		10/02/16 08:17	10/09/16 05:06	1
Dimethoate	0.000449	U	0.00150	0.000449	mg/L		10/02/16 08:17	10/09/16 05:06	1
Disulfoton	0.000322	U	0.00100	0.000322	mg/L		10/02/16 08:17	10/09/16 05:06	1
EPN	0.000149	U	0.00120	0.000149	mg/L		10/02/16 08:17	10/09/16 05:06	1
Ethoprop	0.000177	U	0.00150	0.000177	mg/L		10/02/16 08:17	10/09/16 05:06	1
Ethyl Parathion	0.000144	U	0.00100	0.000144	mg/L		10/02/16 08:17	10/09/16 05:06	1
Famphur	0.000179	U	0.00100	0.000179	mg/L		10/02/16 08:17	10/09/16 05:06	1
Fensulfothion	0.000544	U	0.00250	0.000544	mg/L		10/02/16 08:17	10/09/16 05:06	1
Fenthion	0.000154	U	0.00250	0.000154	mg/L		10/02/16 08:17	10/09/16 05:06	1
Malathion	0.000133	U	0.00200	0.000133	mg/L		10/02/16 08:17	10/09/16 05:06	1
Merphos	0.000174	U	0.00500	0.000174	mg/L		10/02/16 08:17	10/09/16 05:06	1
Methyl parathion	0.000141	U	0.00400	0.000141	mg/L		10/02/16 08:17	10/09/16 05:06	1
Mevinphos	0.000460	U	0.00620	0.000460	mg/L		10/02/16 08:17	10/09/16 05:06	1
Naled	0.000800	U	0.00200	0.000800	mg/L		10/02/16 08:17	10/09/16 05:06	1
Phorate	0.000154	U	0.00120	0.000154	mg/L		10/02/16 08:17	10/09/16 05:06	1
Ronnel	0.000116	U	0.0100	0.000116	mg/L		10/02/16 08:17	10/09/16 05:06	1
Sulfotepp	0.000168	U	0.00150	0.000168	mg/L		10/02/16 08:17	10/09/16 05:06	1
Tetrachlorvinphos (Stirophos)	0.000124	U	0.00350	0.000124	mg/L		10/02/16 08:17	10/09/16 05:06	1
Thionazin	0.000312	U	0.00100	0.000312	mg/L		10/02/16 08:17	10/09/16 05:06	1
Tokuthion	0.000123	U	0.00160	0.000123	mg/L		10/02/16 08:17	10/09/16 05:06	1
Trichloronate	0.000242	U	0.00150	0.000242	mg/L		10/02/16 08:17	10/09/16 05:06	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	66		49 - 171				10/02/16 08:17	10/09/16 05:06	1
Triphenylphosphate	101		60 - 154				10/02/16 08:17	10/09/16 05:06	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCS 280-344653/2-A

Matrix: Water

Analysis Batch: 345644

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 344653

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	0.00400	0.003380		mg/L		84	59 - 115
Chlorpyrifos	0.00400	0.003073		mg/L		77	54 - 115
Coumaphos	0.00400	0.003769		mg/L		94	63 - 118
Diazinon	0.00400	0.002875		mg/L		72	47 - 115
Dichlorvos	0.00400	0.002917		mg/L		73	53 - 128
Dimethoate	0.00400	0.003216		mg/L		80	42 - 115
Disulfoton	0.00400	0.002372		mg/L		59	45 - 115
EPN	0.00400	0.003509		mg/L		88	56 - 115
Ethoprop	0.00400	0.002883		mg/L		72	50 - 115
Ethyl Parathion	0.00400	0.003558		mg/L		89	55 - 115
Famphur	0.00400	0.003754		mg/L		94	62 - 115
Fensulfothion	0.00400	0.003461		mg/L		87	50 - 115
Fenthion	0.00400	0.003051		mg/L		76	55 - 115
Malathion	0.00400	0.003333		mg/L		83	52 - 115
Merphos	0.00400	0.001695	J	mg/L		42	31 - 115
Methyl parathion	0.00400	0.003205	J	mg/L		80	58 - 115
Mevinphos	0.00400	0.002484	J	mg/L		62	42 - 115
Phorate	0.00400	0.002210		mg/L		55	40 - 115
Ronnel	0.00400	0.002937	J	mg/L		73	55 - 115
Sulfotepp	0.00400	0.003313		mg/L		83	53 - 115
Tetrachlorvinphos (Stirophos)	0.00400	0.003316	J	mg/L		83	54 - 115
Thionazin	0.00400	0.003163		mg/L		79	54 - 115
Trichloronate	0.00400	0.002524		mg/L		63	48 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Chlormefos	62		49 - 171
Triphenylphosphate	102		60 - 154

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 345644

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 344653

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	0.000160	U	0.00391	0.003028		mg/L		77	59 - 115
Chlorpyrifos	0.000342	U	0.00391	0.002957		mg/L		76	54 - 115
Coumaphos	0.000128	U	0.00391	0.003319		mg/L		85	63 - 118
Diazinon	0.000140	U	0.00391	0.002699		mg/L		69	47 - 115
Dichlorvos	0.000154	U	0.00391	0.002669		mg/L		68	53 - 128
Dimethoate	0.000427	U	0.00391	0.002811		mg/L		72	42 - 115
Disulfoton	0.000306	U	0.00391	0.001819		mg/L		47	45 - 115
EPN	0.000142	U	0.00391	0.003100		mg/L		79	56 - 115
Ethoprop	0.000168	U	0.00391	0.002655		mg/L		68	50 - 115
Ethyl Parathion	0.000137	U	0.00391	0.003205		mg/L		82	55 - 115
Famphur	0.000170	U	0.00391	0.003491		mg/L		89	62 - 115
Fensulfothion	0.000517	U	0.00391	0.003297		mg/L		84	50 - 115
Fenthion	0.000146	U	0.00391	0.002602		mg/L		67	55 - 115
Malathion	0.000126	U	0.00391	0.003161		mg/L		81	52 - 115
Merphos	0.000165	U	0.00391	0.002140	J	mg/L		55	31 - 115

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 345644

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 344653

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl parathion	0.000134	U	0.00391	0.002939	J	mg/L		75	58 - 115
Mevinphos	0.000437	U	0.00391	0.002226	J	mg/L		57	42 - 115
Phorate	0.000146	U	0.00391	0.001992		mg/L		51	40 - 115
Ronnel	0.000110	U	0.00391	0.003117	J	mg/L		80	55 - 115
Sulfotepp	0.000160	U	0.00391	0.003144		mg/L		80	53 - 115
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00391	0.003088	J	mg/L		79	54 - 115
Thionazin	0.000297	U	0.00391	0.002925		mg/L		75	54 - 115
Trichloronate	0.000230	U	0.00391	0.002782		mg/L		71	48 - 115

Surrogate	MS %Recovery	MS Qualifier	Limits
Chlormefos	60		49 - 171
Triphenylphosphate	99		60 - 154

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 345644

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 344653

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	0.000160	U	0.00392	0.003169		mg/L		81	59 - 115	5	20
Chlorpyrifos	0.000342	U	0.00392	0.003131		mg/L		80	54 - 115	6	24
Coumaphos	0.000128	U	0.00392	0.003517		mg/L		90	63 - 118	6	20
Diazinon	0.000140	U	0.00392	0.002799		mg/L		71	47 - 115	4	37
Dichlorvos	0.000154	U	0.00392	0.003529		mg/L		90	53 - 128	28	37
Dimethoate	0.000427	U	0.00392	0.003411		mg/L		87	42 - 115	19	38
Disulfoton	0.000306	U	0.00392	0.002170		mg/L		55	45 - 115	18	31
EPN	0.000142	U	0.00392	0.003216		mg/L		82	56 - 115	4	20
Ethoprop	0.000168	U	0.00392	0.002936		mg/L		75	50 - 115	10	29
Ethyl Parathion	0.000137	U	0.00392	0.003319		mg/L		85	55 - 115	3	20
Famphur	0.000170	U	0.00392	0.003618		mg/L		92	62 - 115	4	20
Fensulfothion	0.000517	U	0.00392	0.003485		mg/L		89	50 - 115	6	27
Fenthion	0.000146	U	0.00392	0.002917		mg/L		74	55 - 115	11	22
Malathion	0.000126	U	0.00392	0.003152		mg/L		80	52 - 115	0	20
Merphos	0.000165	U	0.00392	0.002217	J	mg/L		57	31 - 115	4	25
Methyl parathion	0.000134	U	0.00392	0.003045	J	mg/L		78	58 - 115	4	20
Mevinphos	0.000437	U	0.00392	0.002544	J	mg/L		65	42 - 115	13	27
Phorate	0.000146	U	0.00392	0.002277		mg/L		58	40 - 115	13	32
Ronnel	0.000110	U	0.00392	0.003292	J	mg/L		84	55 - 115	5	28
Sulfotepp	0.000160	U	0.00392	0.003388		mg/L		86	53 - 115	7	27
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00392	0.003244	J	mg/L		83	54 - 115	5	20
Thionazin	0.000297	U	0.00392	0.003193		mg/L		81	54 - 115	9	27
Trichloronate	0.000230	U	0.00392	0.002965		mg/L		76	48 - 115	6	26

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Chlormefos	70		49 - 171
Triphenylphosphate	103		60 - 154

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 680-452022/18-A

Matrix: Water

Analysis Batch: 452263

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 452022

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.100	U	5.00	0.100	ug/L		10/03/16 10:22	10/04/16 18:13	1
Dicamba	0.0850	U	0.500	0.0850	ug/L		10/03/16 10:22	10/04/16 18:13	1
Mecoprop	19.0	U	120	19.0	ug/L		10/03/16 10:22	10/04/16 18:13	1
MCPA	17.0	U	120	17.0	ug/L		10/03/16 10:22	10/04/16 18:13	1
Dichlorprop	0.150	U	0.500	0.150	ug/L		10/03/16 10:22	10/04/16 18:13	1
2,4-D	0.0370	U	0.500	0.0370	ug/L		10/03/16 10:22	10/04/16 18:13	1
Silvex (2,4,5-TP)	0.0620	U	0.250	0.0620	ug/L		10/03/16 10:22	10/04/16 18:13	1
2,4,5-T	0.0620	U	0.250	0.0620	ug/L		10/03/16 10:22	10/04/16 18:13	1
2,4-DB	0.150	U	0.500	0.150	ug/L		10/03/16 10:22	10/04/16 18:13	1
Dinoseb	0.160	U	1.00	0.160	ug/L		10/03/16 10:22	10/04/16 18:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	71		45 - 130	10/03/16 10:22	10/04/16 18:13	1

Lab Sample ID: LCS 680-452022/19-A

Matrix: Water

Analysis Batch: 452263

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452022

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	2.00	1.247	J p	ug/L		62	40 - 130
Dicamba	1.00	0.7541		ug/L		75	64 - 130
Mecoprop	200	143.0		ug/L		71	55 - 134
MCPA	200	140.6		ug/L		70	52 - 130
Dichlorprop	2.00	1.519		ug/L		76	52 - 130
2,4-D	2.00	1.436		ug/L		72	55 - 130
Silvex (2,4,5-TP)	0.500	0.4138		ug/L		83	60 - 130
2,4,5-T	0.500	0.3613		ug/L		72	58 - 130
2,4-DB	2.00	1.529		ug/L		76	60 - 147
Dinoseb	2.00	0.3303	J p	ug/L		17	14 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid	73		45 - 130

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 452263

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 452022

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	0.0955	U F1	1.94	1.044	J p	ug/L		54	40 - 130
Dicamba	0.0812	U	0.972	0.7900		ug/L		81	64 - 130
Mecoprop	18.2	U	194	164.9		ug/L		85	55 - 134
MCPA	16.2	U	194	169.1		ug/L		87	52 - 130
Dichlorprop	0.143	U	1.94	1.993		ug/L		102	52 - 130
2,4-D	0.0368	J p	1.94	1.629		ug/L		82	55 - 130
Silvex (2,4,5-TP)	0.0592	U	0.486	0.4195		ug/L		86	60 - 130
2,4,5-T	0.0592	U	0.486	0.4597		ug/L		95	58 - 130
2,4-DB	0.143	U	1.94	2.418		ug/L		124	60 - 147

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 452263

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 452022

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dinoseb	0.153	U	1.94	1.113		ug/L		57	14 - 130
<b>Surrogate</b>	<b>%Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
2,4-Dichlorophenylacetic acid	79		45 - 130						

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 452263

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 452022

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dalapon	0.0955	U F1	1.93	1.062	J p	ug/L		55	40 - 130	2	50
Dicamba	0.0812	U	0.965	0.7171		ug/L		74	64 - 130	10	50
Mecoprop	18.2	U	193	149.2		ug/L		77	55 - 134	10	50
MCPA	16.2	U	193	152.7		ug/L		79	52 - 130	10	50
Dichlorprop	0.143	U	1.93	1.875		ug/L		97	52 - 130	6	50
2,4-D	0.0368	J p	1.93	1.508		ug/L		76	55 - 130	8	50
Silvex (2,4,5-TP)	0.0592	U	0.483	0.3935		ug/L		82	60 - 130	6	50
2,4,5-T	0.0592	U	0.483	0.4168		ug/L		86	58 - 130	10	50
2,4-DB	0.143	U	1.93	2.176		ug/L		113	60 - 147	11	50
Dinoseb	0.153	U	1.93	1.038		ug/L		54	14 - 130	7	50
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
2,4-Dichlorophenylacetic acid	70		45 - 130								

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 560-132235/1-A

Matrix: Water

Analysis Batch: 132252

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132235

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.101	U	0.200	0.101	mg/L		09/28/16 10:00	09/28/16 13:24	1
Magnesium	0.0257	U	0.200	0.0257	mg/L		09/28/16 10:00	09/28/16 13:24	1
Potassium	0.375	U	0.500	0.375	mg/L		09/28/16 10:00	09/28/16 13:24	1
Silicon	0.0707	U	0.500	0.0707	mg/L		09/28/16 10:00	09/28/16 13:24	1
Sodium	0.310	U	1.00	0.310	mg/L		09/28/16 10:00	09/28/16 13:24	1
Strontium	0.000700	U	0.00500	0.000700	mg/L		09/28/16 10:00	09/28/16 13:24	1

Lab Sample ID: LCS 560-132235/2-A

Matrix: Water

Analysis Batch: 132252

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132235

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	25.0	26.34		mg/L		105	80 - 120
Magnesium	25.0	26.50		mg/L		106	80 - 120
Potassium	25.0	28.01		mg/L		112	80 - 120
Silicon	10.0	10.40		mg/L		104	80 - 120
Sodium	25.0	26.79		mg/L		107	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 560-132235/2-A

Matrix: Water

Analysis Batch: 132252

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132235

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Strontium	0.250	0.2717		mg/L		109	80 - 120

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132252

Client Sample ID: HCS210 Trail

Prep Type: Dissolved

Prep Batch: 132235

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	29.0		25.0	54.37		mg/L		101	80 - 120
Magnesium	1.08		25.0	27.33		mg/L		105	80 - 120
Potassium	4.23		25.0	32.02		mg/L		111	80 - 120
Silicon	5.49		10.0	15.17		mg/L		97	80 - 120
Sodium	0.870	J	25.0	27.60		mg/L		107	80 - 120
Strontium	0.0319		0.250	0.2987		mg/L		107	80 - 120

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132252

Client Sample ID: HCS210 Trail

Prep Type: Dissolved

Prep Batch: 132235

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Calcium	29.0		25.0	53.41		mg/L		97	80 - 120	2	20
Magnesium	1.08		25.0	26.81		mg/L		103	80 - 120	2	20
Potassium	4.23		25.0	31.33		mg/L		108	80 - 120	2	20
Silicon	5.49		10.0	15.25		mg/L		98	80 - 120	1	20
Sodium	0.870	J	25.0	26.69		mg/L		103	80 - 120	3	20
Strontium	0.0319		0.250	0.2926		mg/L		104	80 - 120	2	20

## Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 560-132234/1-A

Matrix: Water

Analysis Batch: 132254

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132234

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		09/28/16 10:00	09/28/16 17:05	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		09/28/16 10:00	09/28/16 17:05	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		09/28/16 10:00	09/28/16 17:05	1
Barium	0.000810	U	0.00500	0.000810	mg/L		09/28/16 10:00	09/28/16 17:05	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		09/28/16 10:00	09/28/16 17:05	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		09/28/16 10:00	09/28/16 17:05	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		09/28/16 10:00	09/28/16 17:05	1
Copper	0.00200	U	0.0100	0.00200	mg/L		09/28/16 10:00	09/28/16 17:05	1
Iron	0.101	U	0.250	0.101	mg/L		09/28/16 10:00	09/28/16 17:05	1
Lead	0.000733	U	0.00500	0.000733	mg/L		09/28/16 10:00	09/28/16 17:05	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		09/28/16 10:00	09/28/16 17:05	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		09/28/16 10:00	09/28/16 17:05	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		09/28/16 10:00	09/28/16 17:05	1
Silver	0.000941	U	0.00500	0.000941	mg/L		09/28/16 10:00	09/28/16 17:05	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		09/28/16 10:00	09/28/16 17:05	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		09/28/16 10:00	09/28/16 17:05	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Lab Sample ID: LCS 560-132234/2-A

Matrix: Water

Analysis Batch: 132254

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132234

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	
Aluminum	25.0	22.69		mg/L		91	80 - 120	
Antimony	0.250	0.2375		mg/L		95	80 - 120	
Arsenic	0.250	0.2389		mg/L		96	80 - 120	
Barium	0.250	0.2409		mg/L		96	80 - 120	
Beryllium	0.250	0.2254		mg/L		90	80 - 120	
Cadmium	0.250	0.2365		mg/L		95	80 - 120	
Chromium	0.250	0.2292		mg/L		92	80 - 120	
Copper	0.250	0.2228		mg/L		89	80 - 120	
Iron	25.0	22.41		mg/L		90	80 - 120	
Lead	0.250	0.2245		mg/L		90	80 - 120	
Manganese	2.50	2.335		mg/L		93	80 - 120	
Nickel	0.250	0.2299		mg/L		92	80 - 120	
Selenium	0.250	0.2361		mg/L		94	80 - 120	
Silver	0.250	0.2259		mg/L		90	80 - 120	
Thallium	0.100	0.09551		mg/L		96	80 - 120	
Zinc	0.250	0.2292		mg/L		92	80 - 120	

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132254

Client Sample ID: HCS210 Trail

Prep Type: Dissolved

Prep Batch: 132234

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.	
									Limits	
Aluminum	0.336		25.0	22.89		mg/L		90	80 - 120	
Antimony	0.00161	U	0.250	0.2383		mg/L		95	80 - 120	
Arsenic	0.00150	J	0.250	0.2391		mg/L		95	80 - 120	
Barium	0.0109		0.250	0.2482		mg/L		95	80 - 120	
Beryllium	0.00124	U	0.250	0.2306		mg/L		92	80 - 120	
Cadmium	0.000854	U	0.250	0.2384		mg/L		95	80 - 120	
Chromium	0.00140	U	0.250	0.2295		mg/L		92	80 - 120	
Copper	0.00200	U	0.250	0.2257		mg/L		90	80 - 120	
Iron	0.297		25.0	22.83		mg/L		90	80 - 120	
Lead	0.000733	U	0.250	0.2226		mg/L		89	80 - 120	
Manganese	0.0116	U	2.50	2.351		mg/L		94	80 - 120	
Nickel	0.00217	U	0.250	0.2297		mg/L		92	80 - 120	
Selenium	0.00108	U	0.250	0.2346		mg/L		94	80 - 120	
Silver	0.000941	U	0.250	0.2268		mg/L		91	80 - 120	
Thallium	0.000693	U	0.100	0.09346		mg/L		93	80 - 120	
Zinc	0.00355	U	0.250	0.2298		mg/L		92	80 - 120	

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132254

Client Sample ID: HCS210 Trail

Prep Type: Dissolved

Prep Batch: 132234

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec.		RPD	
									Limits		RPD	Limit
Aluminum	0.336		25.0	22.59		mg/L		89	80 - 120		1	20
Antimony	0.00161	U	0.250	0.2339		mg/L		94	80 - 120		2	20
Arsenic	0.00150	J	0.250	0.2389		mg/L		95	80 - 120		0	20
Barium	0.0109		0.250	0.2505		mg/L		96	80 - 120		1	20
Beryllium	0.00124	U	0.250	0.2280		mg/L		91	80 - 120		1	20
Cadmium	0.000854	U	0.250	0.2382		mg/L		95	80 - 120		0	20
Chromium	0.00140	U	0.250	0.2285		mg/L		91	80 - 120		0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132254

Client Sample ID: HCS210 Trail

Prep Type: Dissolved

Prep Batch: 132234

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Copper	0.00200	U	0.250	0.2181		mg/L		87	80 - 120	3	20
Iron	0.297		25.0	22.53		mg/L		89	80 - 120	1	20
Lead	0.000733	U	0.250	0.2182		mg/L		87	80 - 120	2	20
Manganese	0.0116	U	2.50	2.327		mg/L		93	80 - 120	1	20
Nickel	0.00217	U	0.250	0.2262		mg/L		90	80 - 120	2	20
Selenium	0.00108	U	0.250	0.2331		mg/L		93	80 - 120	1	20
Silver	0.000941	U	0.250	0.2340		mg/L		94	80 - 120	3	20
Thallium	0.000693	U	0.100	0.09296		mg/L		93	80 - 120	1	20
Zinc	0.00355	U	0.250	0.2235		mg/L		89	80 - 120	3	20

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 560-132307/28-A

Matrix: Water

Analysis Batch: 132308

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132307

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 17:07	1

Lab Sample ID: MB 560-132307/4-A

Matrix: Water

Analysis Batch: 132308

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132307

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		09/29/16 10:00	09/29/16 15:16	1

Lab Sample ID: LCS 560-132307/29-A

Matrix: Water

Analysis Batch: 132308

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132307

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.004130		mg/L		83	80 - 120

Lab Sample ID: LCS 560-132307/5-A

Matrix: Water

Analysis Batch: 132308

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132307

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.005440		mg/L		109	80 - 120

Lab Sample ID: MB 560-132432/4-A

Matrix: Water

Analysis Batch: 132434

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 132432

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		10/04/16 10:00	10/04/16 14:11	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 560-132432/5-A

Matrix: Water

Analysis Batch: 132434

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 132432

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.005110		mg/L		102	80 - 120

Lab Sample ID: 560-64099-A-1-B MS

Matrix: Water

Analysis Batch: 132434

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 132432

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U	0.00500	0.004740		mg/L		95	80 - 120

Lab Sample ID: 560-64099-A-1-C MSD

Matrix: Water

Analysis Batch: 132434

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 132432

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000130	U	0.00500	0.004610		mg/L		92	80 - 120	3	20

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132308

Client Sample ID: HCS210 Trail

Prep Type: Dissolved

Prep Batch: 132307

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U	0.00500	0.004180		mg/L		84	80 - 120

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132308

Client Sample ID: HCS210 Trail

Prep Type: Dissolved

Prep Batch: 132307

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000130	U	0.00500	0.004110		mg/L		82	80 - 120	2	20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 560-132249/4

Matrix: Water

Analysis Batch: 132249

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L			09/28/16 13:55	1
Chloride	0.192	U	1.00	0.192	mg/L			09/28/16 13:55	1
Nitrate as N	0.103	U	0.500	0.103	mg/L			09/28/16 13:55	1
Sulfate	0.377	U	1.00	0.377	mg/L			09/28/16 13:55	1

Lab Sample ID: LCS 560-132249/5

Matrix: Water

Analysis Batch: 132249

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.783		mg/L		96	90 - 110
Chloride	10.0	10.61		mg/L		106	90 - 110

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 560-132249/5

Matrix: Water

Analysis Batch: 132249

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	5.00	5.054		mg/L		101	90 - 110
Sulfate	20.0	20.14		mg/L		101	90 - 110

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132249

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.315	U	5.00	4.663		mg/L		93	80 - 120
Chloride	1.73		10.0	11.32		mg/L		96	80 - 120
Nitrate as N	0.565		5.00	5.242		mg/L		94	80 - 120
Sulfate	4.03		20.0	23.54		mg/L		98	80 - 120

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132249

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.315	U	5.00	4.549		mg/L		91	80 - 120	2	20
Chloride	1.73		10.0	10.94		mg/L		92	80 - 120	3	20
Nitrate as N	0.565		5.00	5.041		mg/L		90	80 - 120	4	20
Sulfate	4.03		20.0	22.92		mg/L		94	80 - 120	3	20

## Method: 340.2 - Fluoride

Lab Sample ID: MB 560-132541/3

Matrix: Water

Analysis Batch: 132541

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			10/06/16 12:00	1

Lab Sample ID: LCS 560-132541/4

Matrix: Water

Analysis Batch: 132541

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.8060		mg/L		101	85 - 115

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132541

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.0322	J	0.500	0.5290		mg/L		99	75 - 125

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 340.2 - Fluoride (Continued)

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132541

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.0322	J	0.500	0.5300		mg/L		100	75 - 125	0	20

## Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 600-198138/10

Matrix: Water

Analysis Batch: 198138

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/05/16 12:12	1

Lab Sample ID: LCS 600-198138/11

Matrix: Water

Analysis Batch: 198138

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	9.927		mg/L		99	90 - 110

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 198138

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	10.30		mg/L		103	90 - 110

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 198138

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U	10.0	10.38		mg/L		104	90 - 110	1	20

Lab Sample ID: MB 600-198226/11

Matrix: Water

Analysis Batch: 198226

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			10/06/16 11:35	1

Lab Sample ID: LCS 600-198226/12

Matrix: Water

Analysis Batch: 198226

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	10.86		mg/L		109	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: 560-64002-12 MS

Matrix: Water

Analysis Batch: 198226

Client Sample ID: HCS270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	10.42		mg/L		104	90 - 110

## Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 680-452402/1-A

Matrix: Water

Analysis Batch: 452577

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 452402

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		10/05/16 11:49	10/06/16 10:16	1

Lab Sample ID: LCS 680-452402/2-A

Matrix: Water

Analysis Batch: 452577

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 452402

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	1.950		mg/L		98	60 - 140

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 452577

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 452402

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	0.155		2.00	2.280		mg/L		106	60 - 140

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 452577

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Prep Batch: 452402

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phosphorus	0.155		2.00	2.050		mg/L		95	60 - 140	11	40

## Method: 9040C - pH

Lab Sample ID: LCS 560-132259/2

Matrix: Water

Analysis Batch: 132259

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	5.00	5.0		SU		100	98 - 102

Lab Sample ID: 560-64002-2 DU

Matrix: Water

Analysis Batch: 132259

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.4	HF	7.4		SU		0.3	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 560-132450/32

Matrix: Water

Analysis Batch: 132450

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			10/04/16 12:27	1

Lab Sample ID: LCS 560-132450/33

Matrix: Water

Analysis Batch: 132450

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	24.59		mg/L		98	80 - 120

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132450

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	7.06		10.0	17.12		mg/L		101	75 - 125

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132450

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	7.06		10.0	16.84		mg/L		98	75 - 125	2	20

## Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 560-132496/4

Matrix: Water

Analysis Batch: 132496

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			10/05/16 12:09	1

Lab Sample ID: LCS 560-132496/5

Matrix: Water

Analysis Batch: 132496

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	25.00		mg/L		100	80 - 120

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132496

Client Sample ID: HCS210 Trail

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	7.29		10.0	16.35		mg/L		91	75 - 125

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Method: 9060 - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132496

Client Sample ID: HCS210 Trail

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	7.29		10.0	16.71		mg/L		94	75 - 125	2	20

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 560-132263/1

Matrix: Water

Analysis Batch: 132263

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 15:57	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 15:57	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			09/28/16 15:57	1

Lab Sample ID: LCS 560-132263/2

Matrix: Water

Analysis Batch: 132263

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	93.47		mg/L		93	85 - 115

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132263

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	64.9		100	150.8		mg/L		86	75 - 125

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132263

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	64.9		100	154.2		mg/L		89	75 - 125	2	20

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 560-132294/1

Matrix: Water

Analysis Batch: 132294

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			09/29/16 14:11	1

Lab Sample ID: LCS 560-132294/2

Matrix: Water

Analysis Batch: 132294

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	2250	2112		mg/L		94	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Lab Sample ID: 560-64002-2 MS

Matrix: Water

Analysis Batch: 132294

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	94.0		2250	2136		mg/L		91	75 - 125

Lab Sample ID: 560-64002-2 MSD

Matrix: Water

Analysis Batch: 132294

Client Sample ID: HCS210 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	94.0		2250	2164		mg/L		92	75 - 125	1	20

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 560-132250/1

Matrix: Water

Analysis Batch: 132250

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.00	U	2.00	2.00	mg/L			09/28/16 14:50	1

Lab Sample ID: LCS 560-132250/2

Matrix: Water

Analysis Batch: 132250

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	198.5		mg/L		99	90 - 110

Lab Sample ID: 560-63970-A-2 DU

Matrix: Water

Analysis Batch: 132250

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	119		120.0		mg/L		0.8	20

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-17
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Laboratory: TestAmerica Denver

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-17
Arizona	State Program	9	AZ0713	12-19-16
Arkansas DEQ	State Program	6	88-0687	06-01-17
California	State Program	9	2513	08-31-16 *
Connecticut	State Program	1	PH-0686	09-30-18
Florida	NELAP	4	E87667	06-30-17
Georgia	State Program	4	N/A	01-09-17
Illinois	NELAP	5	200017	04-30-17
Iowa	State Program	7	370	11-30-16
Kansas	NELAP	7	E-10166	04-30-17
Louisiana	NELAP	6	02096	06-30-17
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-16
Nevada	State Program	9	CO0026	07-31-17
New Hampshire	NELAP	1	205310	04-28-17
New Jersey	NELAP	2	CO004	06-30-17
New York	NELAP	2	11964	04-01-17
North Carolina (WW/SW)	State Program	4	358	12-31-16
North Dakota	State Program	8	R-034	01-09-17
Oklahoma	State Program	6	8614	08-31-17
Oregon	NELAP	10	4025	01-09-17
Pennsylvania	NELAP	3	68-00664	07-31-17
South Carolina	State Program	4	72002001	01-09-17
Texas	NELAP	6	T104704183-15-11	09-30-17
USDA	Federal		P330-13-00369	12-17-16
Utah	NELAP	8	CO00026	07-31-17
Virginia	NELAP	3	460232	06-14-17
Washington	State Program	10	C583	08-03-17
West Virginia DEP	State Program	3	354	11-30-16
Wisconsin	State Program	5	999615430	08-31-17
Wyoming (UST)	A2LA	8	2907.01	10-31-17

## Laboratory: TestAmerica Houston

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	16-046-0	08-04-17
Louisiana	NELAP	6	01967	06-30-17
Oklahoma	State Program	6	2015-050	08-31-17
Texas	NELAP	6	T104704223-16-19	10-31-16 *

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi



# Certification Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

## Laboratory: TestAmerica Houston (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
USDA	Federal		P330-14-00192	06-06-17

## Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-17
A2LA	ISO/IEC 17025		399.01	02-28-17
Alabama	State Program	4	41450	06-30-17
Alaska (UST)	State Program	10	UST-104	11-05-16
Arkansas DEQ	State Program	6	88-0692	01-31-17
California	State Program	9	2939	07-31-16 *
Colorado	State Program	8	N/A	12-31-16
Connecticut	State Program	1	PH-0161	03-31-17
Florida	NELAP	4	E87052	06-30-17
GA Dept. of Agriculture	State Program	4	N/A	06-12-17
Georgia	State Program	4	N/A	06-30-17
Georgia	State Program	4	803	06-30-17
Guam	State Program	9	15-005r	04-16-17
Hawaii	State Program	9	N/A	06-30-17
Illinois	NELAP	5	200022	11-30-16
Indiana	State Program	5	N/A	06-30-17
Iowa	State Program	7	353	06-30-17
Kentucky (DW)	State Program	4	90084	12-31-16
Kentucky (UST)	State Program	4	18	06-30-17
Kentucky (WW)	State Program	4	90084	12-31-16
Louisiana	NELAP	6	30690	06-30-17
Louisiana (DW)	NELAP	6	LA160019	12-31-16
Maine	State Program	1	GA00006	09-24-18
Maryland	State Program	3	250	12-31-16
Massachusetts	State Program	1	M-GA006	06-30-17
Michigan	State Program	5	9925	06-30-17
Mississippi	State Program	4	N/A	06-30-16 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-17
New Jersey	NELAP	2	GA769	06-30-17
New Mexico	State Program	6	N/A	06-30-17
New York	NELAP	2	10842	03-31-17
North Carolina (DW)	State Program	4	13701	07-31-17
North Carolina (WW/SW)	State Program	4	269	12-31-16
Oklahoma	State Program	6	9984	08-31-17
Pennsylvania	NELAP	3	68-00474	06-30-17
Puerto Rico	State Program	2	GA00006	12-31-16
South Carolina	State Program	4	98001	06-30-17
Tennessee	State Program	4	TN02961	06-30-17
Texas	NELAP	6	T104704185-15-8	11-30-16
USDA	Federal		SAV 3-04	06-11-17
Virginia	NELAP	3	460161	06-14-17
Washington	State Program	10	C805	06-10-17
West Virginia (DW)	State Program	3	9950C	12-31-16

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

## Certification Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

### Laboratory: TestAmerica Savannah (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	094	08-31-16 *
Wisconsin	State Program	5	999819810	08-31-17
Wyoming	State Program	8	8TMS-L	06-30-16 *

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

## Method Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CC
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CC
8081B	Organochlorine Pesticides (GC)	SW846	TAL CC
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CC
8141A	Organophosphorous Pesticides (GC)	SW846	TAL DEN
8151A	Herbicides (GC)	SW846	TAL SAV
6010B	Metals (ICP)	SW846	TAL CC
6020	Metals (ICP/MS)	SW846	TAL CC
7470A	Mercury (CVAA)	SW846	TAL CC
300.0	Anions, Ion Chromatography	MCAWW	TAL CC
340.2	Fluoride	MCAWW	TAL CC
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL HOU
365.4	Phosphorus, Total	EPA	TAL SAV
9040C	pH	SW846	TAL CC
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL CC
9060	Organic Carbon, Total (TOC)	SW846	TAL CC
SM 2320B	Alkalinity	SM	TAL CC
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CC

### Protocol References:

EPA = US Environmental Protection Agency  
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.  
SM = "Standard Methods For The Examination Of Water And Wastewater",  
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673  
TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100  
TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444  
TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

## Sample Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-64002-2	HCS210 Trail	Water	09/27/16 09:54	09/28/16 08:00
560-64002-3	HCS240 Trail	Water	09/27/16 10:28	09/28/16 08:00
560-64002-4	HCS250 Trail	Water	09/27/16 11:36	09/28/16 08:00
560-64002-5	HCS260 Trail	Water	09/27/16 10:58	09/28/16 08:00
560-64002-6	FDHCS260 Trail	Water	09/27/16 10:58	09/28/16 08:00
560-64002-12	HCS270 Trail	Water	09/27/16 12:01	09/28/16 08:00
560-64002-13	FDHCS270 Trail	Water	09/27/16 12:01	09/28/16 08:00
560-64002-14	TB15	Water	09/27/16 00:00	09/28/16 08:00

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

San Antonio

stAmerica  
LABORATORY TESTING

Loc: 560  
332-2626.1  
64002  
of 1

Client Information	Lab PM:
Client Contact:	Maingot, Lindy
Philip Pearce	E-Mail:
Company:	lindy.maingot@testamerica.com
SWCA, Inc.	

Address:	Due Date Requested:
6200 UTSA Boulevard Suite 102	
City:	TAT Requested (days):
San Antonio	STANDARD
State, Zip:	
TX, 78248	
Phone:	PO #:
210-877-2847(Tel)	27122.01
Email:	WO #:
PPearce@swca.com	
Project Name:	Project #:
EAA STORMWATER	56005790
Site:	SSOW#:
COMAL SPRINGS	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastefoil, BT=trace, AS=sk)	Field Filtered Sample (Yes or No)	8141A - Organo-P Pesticide (DENVER)	8081B, 8082A	8270C - SVOCs	SUBCONTRACT - caffeine 1694 - (WECK)	2320B, 300, 340, 2, 9040C	6010B, 6020, 7470A	9060, 9060, Diss	8260B - VOCs	2540C, 2540D	351, 2, NP - Nitrogen, Kjeldahl (HOUSTON)	8151A - Herbicides (SAVANNAH)	355, 4 - Phosphorus (SAVANNAH)	Total Number of containers	Special Instructions/Note:
HCS210 Trail	9/27/16	0954	G	W	N	N	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
MS/MSDHC210 Trail	9/27/16	0954	G	W	N	Y	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HCS240 Trail	9/27/16	1020	G	W	N	N	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HCS250 Trail	9/27/16	1136	G	W	N	N	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HCS260 Trail	9/27/16	1058	G	W	N	N	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
FDHCS260 Trail	9/27/16	1058	G	W	N	N	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HCS270 Trail	9/27/16	1201	G	W	N	N	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
FDHCS270 Trail	9/27/16	1201	G	W	N	N	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
TB 15	9/27/16												X						

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological	<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:
Relinquished by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:
Custody Seals Intact:	Custody Seal No.:	
Δ Yes Δ No		

Relinquished by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:
Cooler Temperature(s) °C and Other Remarks:		
1.5 1.9 2.3 2.6 2.9 3.4		

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)		Lab PM:		Carrier Tracking No(s):		COC No:	
Client Contact: Shipping/Receiving		E-Mail: lindy.maingot@testamericainc.com		Maingot, Lindy		560-14210.1	
Company: TestAmerica Laboratories, Inc.		Due Date Requested: 10/10/2016		Analysis Requested		Job #: 560-64002-1	
Address: 4955 Yarrow Street, City: Arvada State, Zip: CO, 80002		TAT Requested (days):		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)	
Phone: 303-736-0100(Tel) 303-431-7171(Fax)		PO #:		Field Filtered Sample (Yes or No)		Total Number of Containers	
Email: 303-736-0100(Tel) 303-431-7171(Fax)		WO #:		Perform MS/MSD (Yes or No)		Special Instructions/Note:	
Project Name: Comal Springs		Project #: 56005790		Sample Date		Sample Time	
Site: SSOW#		Sample Type (C=Comp, G=grab)		Sample Time		Matrix (W=water, S=solid, O=wastefoil, BT=Tissue, A=Air)	
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Preservation Code	
HCS210 Trail (560-64002-2)		9/27/16		09:54 Central		Water	
HCS210 Trail (560-64002-2MS)		9/27/16		09:54 Central		Water	
HCS210 Trail (560-64002-2MSD)		9/27/16		09:54 Central		Water	
HCS240 Trail (560-64002-3)		9/27/16		10:28 Central		Water	
HCS250 Trail (560-64002-4)		9/27/16		11:36 Central		Water	
HCS260 Trail (560-64002-5)		9/27/16		10:58 Central		Water	
FDHCS260 Trail (560-64002-6)		9/27/16		10:58 Central		Water	
HCS270 Trail (560-64002-12)		9/27/16		12:01 Central		Water	
FDHCS270 Trail (560-64002-13)		9/27/16		12:01 Central		Water	
Possible Hazard Identification		Unconfirmed		Deliverable Requested: I, II, III, IV, Other (specify)		Primary Deliverable Rank: 2	
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: <i>Cay</i>		Date/Time: 9-29-16 1700		Company: TAC		Received by: <i>Red Pitt</i>	
Relinquished by:		Date/Time:		Company:		Received by:	
Relinquished by:		Date/Time:		Company:		Received by:	
Custody Seals Intact: <i>Yes</i>		Custody Seal No: <i>3.6, 2.6, 3.9, 5.3</i>		Cooler Temperature(s) °C and Other Remarks		Date/Time: 9-30-16 1030	
Company: <i>TAC</i>		Date/Time: 9-30-16 1030		Company: <i>TAC</i>		Date/Time: 9-30-16 1030	
Company:		Date/Time:		Company:		Date/Time:	
Company:		Date/Time:		Company:		Date/Time:	



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Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information (Sub Contract Lab)</b>		Sampler: Lab PM		Carrier Tracking No(s):		COC No: 560-14208.1					
Client Contact: Maingol, Lindy		E-Mail: lindy.maingol@testamericainc.com		Page: Page 1 of 1		Job # 560-64002-1					
Shipping/Receiving		Due Date Requested: 10/10/2016		Analysis Requested		Preservation Codes:					
City: Houston		TAT Requested (days):		Field Filtered Sample (Yes or No)		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:					
State, Zip: TX, 77040		PO #:		Perform MS/MSD (Yes or No)		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)					
Phone: 713-690-4444(Tel) 713-690-5646(Fax)		WO #:		361.2 NP		Total Number of containers					
Email:		Project #:		Field Filtered Sample (Yes or No)		Special Instructions/Note:					
Project Name: Comal Springs		56005790		X		1					
Site:		SSOW#:		X		1					
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)		Preservation Code	
HCS210 Trail (560-64002-2)		9/27/16		09:54		Central		Water		Water	
HCS210 Trail (560-64002-2MS)		9/27/16		09:54		Central		MS		Water	
HCS210 Trail (560-64002-2MSD)		9/27/16		09:54		Central		MSD		Water	
HCS240 Trail (560-64002-3)		9/27/16		10:28		Central		Water		Water	
HCS250 Trail (560-64002-4)		9/27/16		11:36		Central		Water		Water	
HCS260 Trail (560-64002-5)		9/27/16		10:58		Central		Water		Water	
FDHCS260 Trail (560-64002-6)		9/27/16		10:58		Central		Water		Water	
HCS270 Trail (560-64002-12)		9/27/16		12:01		Central		Water		Water	
FDHCS270 Trail (560-64002-13)		9/27/16		12:01		Central		Water		Water	
Possible Hazard Identification		Unconfirmed		Primary Deliverable Rank: 2		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Return To Client		Disposal By Lab	
Deliverable Requested: I, II, III, IV, Other (specify)		Date:		Time:		Special Instructions/QC Requirements:		Archive For		Months	
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:		Received by:		Company	
Relinquished by: Coy Soto		9-29-16		1600		TAR		Received by:		Company	
Relinquished by:		Date/Time:		Date/Time:		Company		Received by:		Company	
Relinquished by:		Date/Time:		Date/Time:		Company		Received by:		Company	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks							



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64002-1

Login Number: 64002

List Source: TestAmerica Corpus Christi

List Number: 1

Creator: Etter, Corey M

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64002-1

**Login Number: 64002**

**List Number: 6**

**Creator: Pottruff, Reed W**

**List Source: TestAmerica Denver**

**List Creation: 09/30/16 04:57 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64002-1

**Login Number: 64002**

**List Source: TestAmerica Houston**

**List Number: 4**

**List Creation: 09/30/16 02:19 PM**

**Creator: Crafton, Tommie S**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64002-1

**Login Number: 64002**

**List Source: TestAmerica Houston**

**List Number: 5**

**List Creation: 09/30/16 02:47 PM**

**Creator: Crafton, Tommie S**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64002-1

**Login Number: 64002**

**List Source: TestAmerica Savannah**

**List Number: 2**

**List Creation: 09/30/16 12:18 PM**

**Creator: Flanagan, Naomi V**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64002-1

Login Number: 64002

List Number: 3

Creator: Lake, Rowan K

List Source: TestAmerica Savannah

List Creation: 09/30/16 02:18 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-63977-2

Client Project/Site: EAA Stormwater

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
10/25/2016 4:58:47 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

Review your project  
results through

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-2

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-2

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-17
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Method Summary

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-2

Method	Method Description	Protocol	Laboratory
Local Method	General Sub Contract Method	NONE	Weck Lab

**Protocol References:**

NONE = NONE

**Laboratory References:**

Weck Lab = Weck Laboratories, Inc., 14859 East Clark Avenue, City of Industry, CA 917451396

## Sample Summary

Client: SWCA, Inc.  
Project/Site: EAA Stormwater

TestAmerica Job ID: 560-63977-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-63977-1	HCS210 Peak 2	Water	09/26/16 07:28	09/27/16 08:00
560-63977-2	HCS240 Peak 2	Water	09/26/16 07:49	09/27/16 08:00
560-63977-3	HCS250 Peak 2	Water	09/26/16 07:24	09/27/16 08:00
560-63977-4	HCS260 Peak 2	Water	09/26/16 08:04	09/27/16 08:00
560-63977-5	HCS270 Peak 2	Water	09/26/16 07:40	09/27/16 08:00

Work Orders: 6130083

Project: 560-63977-1

Attn: Lindy Maingot

Client: TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

Report Date: 10/25/2016

Received Date: 9/30/2016

Turnaround Time: Normal

Phones: (210) 344-9751

Fax: -

P.O. #:

DoD-ELAP #L15-366 • ELAP-CA #1132 • EPA-UCMR #CA00211 • HW-DOH # • ISO 17025 #L15-365 • LACSD #10143 • NELAP-OR  
#4047 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

*This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.*

Dear Lindy Maingot,

Enclosed are the results of analyses for samples received 9/30/16 with the Chain-of-Custody document. The samples were received in good condition, at 1.3 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Reviewed by:



Chris Samatmanakit  
Project Manager





WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63977-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:18

## Sample Summary

Sample ID	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
HCS210 Peak 2 (560-63977-1)	Client	6I30083-01	Water	09/26/16 05:28	
HCS240 Peak 2 (560-63977-2)	Client	6I30083-02	Water	09/26/16 05:49	
HCS250 Peak 2 (560-63977-3)	Client	6I30083-03	Water	09/26/16 05:24	
HCS260 Peak 2 (560-63977-4)	Client	6I30083-04	Water	09/26/16 06:04	
HCS270 Peak 2 (560-63977-5)	Client	6I30083-05	Water	09/26/16 05:40	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63977-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:18

## Sample Results

Sample: HCS210 Peak 2 (560-63977-1)

Sampled: 09/26/16 5:28 by Client

6I30083-01 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>280</b>	5.0	ng/l	1	10/22/16 00:21	





WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63977-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

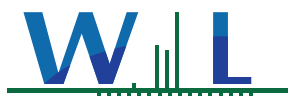
10/25/2016 12:18

## Sample Results

(Continued)

Sample: HCS240 Peak 2 (560-63977-2) Sampled: 09/26/16 5:49 by Client  
6I30083-02 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>67</b>	5.0	ng/l	1	10/22/16 00:28	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63977-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:18

## Sample Results

(Continued)

Sample: HCS250 Peak 2 (560-63977-3) Sampled: 09/26/16 5:24 by Client  
6I30083-03 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>450</b>	5.0	ng/l	1	10/22/16 00:36	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63977-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:18

## Sample Results

(Continued)

Sample: HCS260 Peak 2 (560-63977-4) Sampled: 09/26/16 6:04 by Client  
6I30083-04 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>150</b>	5.0	ng/l	1	10/22/16 00:43	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63977-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:18

## Sample Results

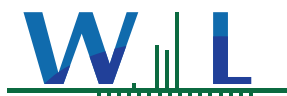
(Continued)

Sample: HCS270 Peak 2 (560-63977-5)

Sampled: 09/26/16 5:40 by Client

6I30083-05 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>400</b>	5.0	ng/l	1	10/22/16 00:50	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

Project Number: 560-63977-1

Project Manager: Lindy Maingot

# Certificate of Analysis

FINAL REPORT

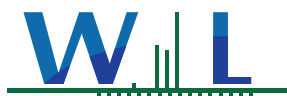
Reported:

10/25/2016 12:18

## Quality Control Results

PPCPs - Pharmaceuticals by LC/MSMS-ESI+

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W6J0278 - EPA 1694M-ESI+										
Blank (W6J0278-BLK1)										
Caffeine	ND	5.0	ng/l							
Prepared: 10/06/16 Analyzed: 10/21/16										
LCS (W6J0278-BS1)										
Caffeine	6.00	5.0	ng/l	5.00		120	55-152			
Prepared: 10/06/16 Analyzed: 10/21/16										
Matrix Spike (W6J0278-MS1)										
Caffeine	187	5.0	ng/l	5.00	172	305	58-146			MS-02
Source: 6I30084-01										
Prepared: 10/06/16 Analyzed: 10/21/16										
Matrix Spike Dup (W6J0278-MSD1)										
Caffeine	190	5.0	ng/l	5.00	172	362	58-146	2	30	MS-02
Source: 6I30084-01										



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63977-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:18

## Notes and Definitions

Item	Definition
MS-02	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.


Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

## Chain of Custody Record

<b>Client Information</b> Client Contact: Philip Pearce Company: SWCA, Inc. Address: 6200 UTSA Boulevard Suite 102 City: San Antonio State, Zip: TX, 78249 Phone: 210-877-2847 (Tel) Email: P.Pearce@swca.com Project Name: EAA STORMWATER Site: COMAL SPRINGS		<b>Sampler:</b> Jennifer Moreland <b>Lab PM:</b> Maingot, Lindy <b>E-Mail:</b> lindy.maingot@testamericainc.com <b>Phone:</b> 210-877-2847		<b>Carrier Tracking No(s):</b> COC No: 560-21032-2626 Page: _____ of _____ Job #: _____	
<b>Due Date Requested:</b> TAT Requested (days): STANDARD PO #: 27122.01 WO #: _____ Project #: 56005790 SSOW#: _____		<b>Analysis Requested</b>			
<b>Sample Identification</b> Sample Date: 9/26/16 Sample Time: 0728 Sample Type (C=comp, G=grab): G Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=air): W		<b>Field Filtered Sample (Yes or No)</b> 814A - Organo-Pesticide (DENVER) N 8081B, 8082A N 8270C - SVOCs N SUBCONTRACT - Caffeine 1694 - (WECK) N 2320B, 300, 340.2, 9040C N 6010B, 6020, 7470A N 9060, 9060, Diss N 8260B - VOCs N 2640C, 2640D N 361.2, NP - Nitrogen, Kjeldahl (HOUSTON) N 8151A - Herbicides (SAVANNAH) N 365.4 - Phosphorus (SAVANNAH) N			
<b>Special Instructions/Note:</b> METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED		<b>Preservation Codes:</b> A - HCL B - NaOH C - AsNaO2 D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: Sodium Azide M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)			
<b>Sample Identification</b> HCS210 Peak 2 HCS240 Peak 2 HCS250 Peak 2 HCS260 Peak 2 HCS270 Peak 2 TB14		<b>Special Instructions/Note:</b> METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED			
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		<b>San Antonio</b>  561			
<b>Empty Kit Relinquished by:</b> [Signature] Relinquished by: [Signature] Relinquished by: [Signature]		<b>Special Instructions/QC Requirements:</b> Total (A fee may be assessed if samples are) <input type="checkbox"/> To Client <input type="checkbox"/> Disposal By Lab 560-63977 Chain of Custody			
<b>Custody Seal No.:</b> [Signature] Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<b>Relinquished by:</b> [Signature] Relinquished by: [Signature] Relinquished by: [Signature]			
<b>Date/Time:</b> 9/26/16 1530 Date/Time: 9/26/16 4:30 PM Date/Time: 9/26/16 4:30 PM		<b>Date/Time:</b> 9/26/16 4:30 PM Date/Time: 9/26/16 4:30 PM Date/Time: 9/26/16 4:30 PM			
<b>Cooler Temperature(s) °C and Other Remarks:</b>		<b>Company:</b> SWCA <b>Company:</b> SWCA <b>Company:</b> SWCA			



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63977-2

Login Number: 63977

List Source: TestAmerica Corpus Christi

List Number: 1

Creator: Gilmore, Matthew

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-64002-2

Client Project/Site: Comal Springs

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
10/25/2016 4:46:17 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-2

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-2

**Job ID: 560-64002-2**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

**Job Narrative**  
**560-64002-2**

## Comments

No additional comments.

## Receipt

The samples were received on 9/28/2016 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 8 coolers at receipt time were 2.1° C, 2.3° C, 2.4° C, 2.6° C, 2.7° C, 2.8° C, 2.8° C and 3.0° C.

# Certification Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-2

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-17
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Method Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-2

Method	Method Description	Protocol	Laboratory
Local Method	General Sub Contract Method	NONE	Weck Lab

**Protocol References:**

NONE = NONE

**Laboratory References:**

Weck Lab = Weck Laboratories, Inc., 14859 East Clark Avenue, City of Industry, CA 917451396

# Sample Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-64002-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-64002-2	HCS210 Trail	Water	09/27/16 09:54	09/28/16 08:00
560-64002-3	HCS240 Trail	Water	09/27/16 10:28	09/28/16 08:00
560-64002-4	HCS250 Trail	Water	09/27/16 11:36	09/28/16 08:00
560-64002-5	HCS260 Trail	Water	09/27/16 10:58	09/28/16 08:00
560-64002-6	FDHCS260 Trail	Water	09/27/16 10:58	09/28/16 08:00
560-64002-12	HCS270 Trail	Water	09/27/16 12:01	09/28/16 08:00
560-64002-13	FDHCS270 Trail	Water	09/27/16 12:01	09/28/16 08:00



Work Orders: 6130084

Project: 560-64002-1

Attn: Lindy Maingot

Client: TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

Report Date: 10/25/2016

Received Date: 9/30/2016

Turnaround Time: Normal

Phones: (210) 344-9751

Fax: -

P.O. #:

DoD-ELAP #L15-366 • ELAP-CA #1132 • EPA-UCMR #CA00211 • HW-DOH # • ISO 17025 #L15-365 • LACSD #10143 • NELAP-OR  
#4047 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

*This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.*

Dear Lindy Maingot,

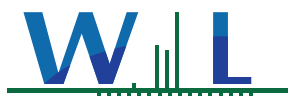
Enclosed are the results of analyses for samples received 9/30/16 with the Chain-of-Custody document. The samples were received in good condition, at 1.3 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Reviewed by:



Chris Samatmanakit  
Project Manager





WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64002-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:20

## Sample Summary

Sample ID	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
HCS210 Trail (560-64002-2)	Client	6I30084-01	Water	09/27/16 07:54	
HCS240 Trail (560-64002-3)	Client	6I30084-02	Water	09/27/16 08:28	
HCS250 Trail (560-64002-4)	Client	6I30084-03	Water	09/27/16 09:36	
HCS260 Trail (560-64002-5)	Client	6I30084-04	Water	09/27/16 08:58	
FDHCS260 Trail (560-64002-6)	Client	6I30084-05	Water	09/27/16 08:58	
HCS270 Trail (560-64002-12)	Client	6I30084-06	Water	09/27/16 10:01	
FDHCS270 Trail (560-64002-13)	Client	6I30084-07	Water	09/27/16 10:01	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64002-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:20

## Sample Results

Sample: HCS210 Trail (560-64002-2)

Sampled: 09/27/16 7:54 by Client

6I30084-01 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01	<b>Analyst:</b> AGU			
<b>Caffeine</b> .....	<b>170</b>	5.0	ng/l	1	10/22/16 02:06	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64002-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:20

## Sample Results

(Continued)

Sample: HCS240 Trail (560-64002-3)

Sampled: 09/27/16 8:28 by Client

6I30084-02 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>30</b>	5.0	ng/l	1	10/22/16 02:13	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64002-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:20

## Sample Results

(Continued)

Sample: HCS250 Trail (560-64002-4)

Sampled: 09/27/16 9:36 by Client

6I30084-03 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>54</b>	5.0	ng/l	1	10/22/16 02:20	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64002-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:20

## Sample Results

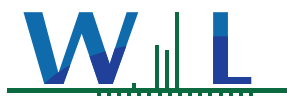
(Continued)

Sample: HCS260 Trail (560-64002-5)

Sampled: 09/27/16 8:58 by Client

6I30084-04 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	13	5.0	ng/l	1	10/22/16 02:27	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64002-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:20

## Sample Results

(Continued)

Sample: FDHCS260 Trail (560-64002-6) Sampled: 09/27/16 8:58 by Client  
6I30084-05 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>36</b>	5.0	ng/l	1	10/22/16 02:34	





WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64002-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:20

## Sample Results

(Continued)

Sample: HCS270 Trail (560-64002-12)

Sampled: 09/27/16 10:01 by Client

6I30084-06 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>920</b>	5.0	ng/l	1	10/22/16 02:41	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64002-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:20

## Sample Results

(Continued)

Sample: FDHCS270 Trail (560-64002-13)

Sampled: 09/27/16 10:01 by Client

6I30084-07 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>35</b>	5.0	ng/l	1	10/22/16 02:48	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64002-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:20

## Quality Control Results

PPCPs - Pharmaceuticals by LC/MSMS-ESI+

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>Batch: W6J0278 - EPA 1694M-ESI+</b>										
<b>Blank (W6J0278-BLK1)</b>				<b>Prepared: 10/06/16 Analyzed: 10/21/16</b>						
Caffeine .....	ND	5.0	ng/l							
<b>LCS (W6J0278-BS1)</b>				<b>Prepared: 10/06/16 Analyzed: 10/21/16</b>						
Caffeine .....	6.00	5.0	ng/l	5.00		120	55-152			
<b>Matrix Spike (W6J0278-MS1)</b>				<b>Source: 6I30084-01 Prepared: 10/06/16 Analyzed: 10/21/16</b>						
Caffeine .....	187	5.0	ng/l	5.00	172	305	58-146			MS-02
<b>Matrix Spike Dup (W6J0278-MSD1)</b>				<b>Source: 6I30084-01 Prepared: 10/06/16 Analyzed: 10/21/16</b>						
Caffeine .....	190	5.0	ng/l	5.00	172	362	58-146	2	30	MS-02



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64002-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:20

## Notes and Definitions

Item	Definition
MS-02	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

San Antonio

stAmerica  
LABORATORY TESTING

Loc: 560  
332-2626.1  
64002  
of 1

Client Information	Lab PM:
Client Contact:	Maingot, Lindy
Philip Pearce	E-Mail:
Company:	lindy.maingot@testamerica.com
SWCA, Inc.	

Address:	Due Date Requested:
6200 UTSA Boulevard Suite 102	
City:	TAT Requested (days):
San Antonio	STANDARD
State, Zip:	
TX, 78249	
Phone:	PO #:
210-877-2847(Tel)	27122.01
Email:	WO #:
PPearce@swca.com	
Project Name:	Project #:
EAA STORMWATER	56005790
Site:	SSOW#:
COMAL SPRINGS	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastefoil, BT=trace, AS=sk)	Field Filtered Sample (Yes or No)	8141A - Organo-P Pesticide (DENVER)	8081B, 8082A	8270C - SVOCs	SUBCONTRACT - caffeine 1694 - (WECK)	2320B, 300, 340.2, 9040C	6010B, 6020, 7470A	9060, 9060, Diss	8260B - VOCs	2540C, 2540D	351.2, NP - Nitrogen, Kjeldahl (HOUSTON)	8151A - Herbicides (SAVANNAH)	355.4 - Phosphorus (SAVANNAH)	Total Number of containers	Special Instructions/Note:
HCS210 Trail	9/27/16	0954	G	W	N	N	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
MS/MSDHC210 Trail	9/27/16	0954	G	W	N	Y	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HCS240 Trail	9/27/16	1020	G	W	N	N	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HCS250 Trail	9/27/16	1136	G	W	N	N	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HCS260 Trail	9/27/16	1058	G	W	N	N	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
FDHCS260 Trail	9/27/16	1058	G	W	N	N	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HCS270 Trail	9/27/16	1201	G	W	N	N	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
FDHCS270 Trail	9/27/16	1201	G	W	N	N	X	X	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
TB 15	9/27/16												X						

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological	<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Time:	Date:
Relinquished by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:
Custody Seals Intact:	Custody Seal No.:	
Δ Yes Δ No		

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64002-2

Login Number: 64002

List Number: 1

Creator: Etter, Corey M

List Source: TestAmerica Corpus Christi

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-63976-2

Client Project/Site: Comal Springs

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
10/25/2016 5:05:49 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-2

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Certification Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-2

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-17
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Method Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-2

Method	Method Description	Protocol	Laboratory
Local Method	General Sub Contract Method	NONE	Weck Lab

**Protocol References:**

NONE = NONE

**Laboratory References:**

Weck Lab = Weck Laboratories, Inc., 14859 East Clark Avenue, City of Industry, CA 917451396

## Sample Summary

Client: SWCA, Inc.  
Project/Site: Comal Springs

TestAmerica Job ID: 560-63976-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-63976-1	HCS210 Lead	Water	09/26/16 03:15	09/27/16 08:00
560-63976-2	HCS240 Lead	Water	09/26/16 03:36	09/27/16 08:00
560-63976-3	HCS250 Lead	Water	09/26/16 03:10	09/27/16 08:00
560-63976-4	HCS260 Lead	Water	09/26/16 03:46	09/27/16 08:00
560-63976-5	HCS270 Lead	Water	09/26/16 03:32	09/27/16 08:00

Work Orders: 6130082

Project: 560-63976-1

Attn: Lindy Maingot

Client: TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

Report Date: 10/25/2016

Received Date: 9/30/2016

Turnaround Time: Normal

Phones: (210) 344-9751

Fax: -

P.O. #:

DoD-ELAP #L15-366 • ELAP-CA #1132 • EPA-UCMR #CA00211 • HW-DOH # • ISO 17025 #L15-365 • LACSD #10143 • NELAP-OR  
#4047 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

*This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.*

Dear Lindy Maingot,

Enclosed are the results of analyses for samples received 9/30/16 with the Chain-of-Custody document. The samples were received in good condition, at 1.3 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Reviewed by:



Chris Samatmanakit  
Project Manager





WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63976-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:16

## Sample Summary

Sample ID	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
HCS210 Lead (560-63976-1)	Client	6I30082-01	Water	09/26/16 01:15	
HCS240 Lead (560-63976-2)	Client	6I30082-02	Water	09/26/16 01:36	
HCS250 Lead (560-63976-3)	Client	6I30082-03	Water	09/26/16 01:10	
HCS260 Lead (560-63976-4)	Client	6I30082-04	Water	09/26/16 01:46	
HCS270 Lead (560-63976-5)	Client	6I30082-05	Water	09/26/16 01:32	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63976-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:16

## Sample Results

Sample: HCS210 Lead (560-63976-1)

Sampled: 09/26/16 1:15 by Client

6I30082-01 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>480</b>	5.0	ng/l	1	10/21/16 23:46	





WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63976-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:16

## Sample Results

(Continued)

Sample: HCS240 Lead (560-63976-2)

Sampled: 09/26/16 1:36 by Client

6I30082-02 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>300</b>	5.0	ng/l	1	10/21/16 23:53	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63976-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:16

## Sample Results

(Continued)

Sample: HCS250 Lead (560-63976-3)

Sampled: 09/26/16 1:10 by Client

6I30082-03 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>240</b>	5.0	ng/l	1	10/22/16 00:00	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63976-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:16

## Sample Results

(Continued)

Sample: HCS260 Lead (560-63976-4)

Sampled: 09/26/16 1:46 by Client

6I30082-04 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>97</b>	5.0	ng/l	1	10/22/16 00:07	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63976-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:16

## Sample Results

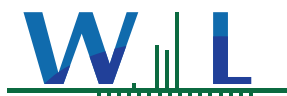
(Continued)

Sample: HCS270 Lead (560-63976-5)

Sampled: 09/26/16 1:32 by Client

6I30082-05 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6J0278	<b>Prepared:</b> 10/06/16 12:01				<b>Analyst:</b> AGU
<b>Caffeine</b> .....	<b>380</b>	5.0	ng/l	1	10/22/16 00:14	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63976-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

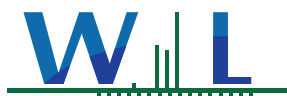
**Reported:**

10/25/2016 12:16

## Quality Control Results

PPCPs - Pharmaceuticals by LC/MSMS-ESI+

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>Batch: W6J0278 - EPA 1694M-ESI+</b>										
<b>Blank (W6J0278-BLK1)</b>				<b>Prepared: 10/06/16 Analyzed: 10/21/16</b>						
Caffeine .....	ND	5.0	ng/l							
<b>LCS (W6J0278-BS1)</b>				<b>Prepared: 10/06/16 Analyzed: 10/21/16</b>						
Caffeine .....	6.00	5.0	ng/l	5.00		120	55-152			
<b>Matrix Spike (W6J0278-MS1)</b>				<b>Source: 6I30084-01 Prepared: 10/06/16 Analyzed: 10/21/16</b>						
Caffeine .....	187	5.0	ng/l	5.00	172	305	58-146			MS-02
<b>Matrix Spike Dup (W6J0278-MSD1)</b>				<b>Source: 6I30084-01 Prepared: 10/06/16 Analyzed: 10/21/16</b>						
Caffeine .....	190	5.0	ng/l	5.00	172	362	58-146	2	30	MS-02



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-63976-1

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

10/25/2016 12:16

## Notes and Definitions

Item	Definition
MS-02	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.



**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b> Client Contact: Jennifer Howland Phone: 210-877-2847 E-Mail: jindy.maingot@testamericainc.com		Lab P/N: Malingot, Lindy E-Mail: jindy.maingot@testamericainc.com		CQC No: 560-21032-2626.1 Page: 1 of 2 Job #:	
<b>Company:</b> SWCA, Inc. Address: 6200 UTSA Boulevard Suite 102 City: San Antonio State Zip: TX, 78249 Phone: 210-877-2847 (Tel) Email: P Pearce@swca.com Project Name: EAA STORMWATER Site: COMAL SPRINGS		<b>Analysis Requested</b>			
Due Date Requested: TAT Requested (days): STANDARD PO #: 27122.01 WFO #: 56005790 Project #: 56005790 SSOW#:		<b>Preservation Codes:</b> A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: Sodium Azide			
<b>Sample Identification</b>		<b>Special Instructions/Note:</b>			
Sample Date Sample Time Sample Type (C=comp, G=grab) Matrix (W=water, S=solid, O=wastefoli, BT=Tissue, Asch) Preservation Code:		Total Number of containers			
HCS210 Lead 9/26/16 0315 G W		METALS, DOC FIELD FILTERED			
HCS240 Lead 9/26/16 0336 G W		METALS, DOC FIELD FILTERED			
HCS250 Lead 9/26/16 0310 G W		METALS, DOC FIELD FILTERED			
HCS260 Lead 9/26/16 0346 G W		METALS, DOC FIELD FILTERED			
HCS270 Lead 9/26/16 0352 G W		METALS, DOC FIELD FILTERED			
TB13 9/26/16   		    			
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months			
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Time:			
Relinquished by:		Date:			
Relinquished by:		Date:			
Relinquished by:		Date:			
Custody Seals Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Cooler Temperature(s) °C and Other Remarks: See Attached			



## Chain of Custody Record

<b>Client Information</b> Client Contact: Philip Pearce Company: SWCA, Inc. Address: 6200 UTSA Boulevard Suite 102 City: San Antonio State: TX Zip: 78249 Phone: 210-877-2847 (Tel) Email: P.Pearce@swca.com Project Name: EAA STORMWATER Site: COMAL SPRINGS		Sampler: Jennifer Novland Lab PM: Maingot, Lindy E-Mail: lindy.maingot@testamericainc.com Phone: 210-877-2847		Carrier Tracking No(s): COC No: 560-21032-2626.1 Page: 2 of 2 Job #:					
Due Date Requested: TAT Requested (days): STANDARD PO #: 27122.01 WO #: 56005790 Project #: 56005790 SSOW#:		<b>Analysis Requested</b>							
Sample Identification HCS210 Peak HCS240 Peak HCS250 Peak HCS260 Peak HCS270 Peak		Sample Date 9/26/16 9/26/16 9/26/16 9/26/16 9/26/16	Sample Time 0522 0540 0510 0553 0535	Sample Type (C=Comp, G=grab) G G G G G	Matrix (W=water, S=solid, O=waste/soil, BT=tissue, A=air) W W W W W	Field Filtered Sample (Yes or No) N N N N N	8141A - Organo-P Pesticide (DENVER) 8081B, 8082A 8270C - SVOCs SUBCONTRACT - Caffeine 1694 - (WECK) 2320B, 300, 340.2, 9040C 6010B, 6020, 7470A 9060, 9060, Diss 8260B - VOCs 2540C, 2540D 351.2 NP - Nitrogen, Kjeldahl (HOUSTON) 8151A - Herbicides (SAVANNAH) 355.4 - Phosphorus (SAVANNAH)	Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: Sodium Azide	Special Instructions/Note: METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED METALS, DOC FIELD FILTERED
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological									
Deliverable Requested: I, II, III, IV, Other (specify)									
Empty Kit Relinquished by:									
Relinquished by: [Signature] Date/Time: 9/26/16 0955 Company: SWCA		Relinquished by: [Signature] Date/Time: 9/26/16 1136 Company: SWCA		Relinquished by: [Signature] Date/Time: 9/26/16 955 Company:					
Custody Seals Intact: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks: See Attached							

## 63976 Temps

0.6°C/1.1°C

1.4°C/2.2°C

1.4°C/2.2°C

0.8°C/1.6°C

3.8°C/4.6°C

1.2°C/2.0°C

0.6°C/1.1°C

1.4°C/2.2°C

3.2°C/4.0°C

2.2°C/3.0°C

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-63976-2

Login Number: 63976

List Source: TestAmerica Corpus Christi

List Number: 1

Creator: Gilmore, Matthew

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Refer to Job Narrative for details.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



September 28, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HCS210 LEAD  
**Sample Number:** AB04848  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 03:15  
**Receipt Date/Time:** 9/26/16 10:56

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer proceed with analyses, regardless of hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04848-A	E. coli	√	SM 9223B-2004	16000	MPN/100 mL	H	1	49074	9/26/16	12:56	HH/MSR
AB04848-A	E. Coli Holding Time - IDEXX Colilert		NA	9.68	hours		0.00	49073	9/26/16	12:56	HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 28, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49074

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/28/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

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## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



September 28, 2016

Page 1 of 2

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**Sample Location:** HCS240 LEAD  
**Sample Number:** AB04849  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 03:36  
**Receipt Date/Time:** 9/26/16 10:56

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer proceed with analyses, regardless of hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04849-A	E. coli	√	SM 9223B-2004	13000	MPN/100 mL	H	1	49074	9/26/16	12:56	HH/MSR
AB04849-A	E. Coli Holding Time - IDEXX Colilert		NA	9.33	hours		0.00	49073	9/26/16	12:56	HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 28, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49074

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/28/2016

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**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



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**Sample Location:** HCS250 LEAD  
**Sample Number:** AB04850  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 03:10  
**Receipt Date/Time:** 9/26/16 10:56

**CASE NARRATIVE**

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer proceed with analyses, regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04850-A	E. coli	√	SM 9223B-2004	14000	MPN/100 mL	H	1	49074	9/26/16	12:56	HH/MSR
AB04850-A	E. Coli Holding Time - IDEXX Colilert		NA	9.77	hours		0.00	49073	9/26/16	12:56	HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 28, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49074

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
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**Sample Location:** HCS260 LEAD  
**Sample Number:** AB04851  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 03:46  
**Receipt Date/Time:** 9/26/16 10:56

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer proceed with analyses, regardless of hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04851-A	E. coli	√	SM 9223B-2004	9200	MPN/100 mL	H	1	49074	9/26/16	12:56	HH/MSR
AB04851-A	E. Coli Holding Time - IDEXX Colilert		NA	9.17	hours		0.00	49073	9/26/16	12:56	HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 28, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49074

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
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9/28/2016

Date

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**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 28, 2016

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**Sample Location:** HCS270 LEAD  
**Sample Number:** AB04852  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 03:32  
**Receipt Date/Time:** 9/26/16 10:56

**CASE NARRATIVE**

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer proceed with analyses, regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04852-A	E. coli	√	SM 9223B-2004	20000	MPN/100 mL	H	1	49074	9/26/16	12:56	HH/MSR
AB04852-A	E. Coli Holding Time - IDEXX Colilert		NA	9.40	hours		0.00	49073	9/26/16	12:56	HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 28, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49074

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/28/2016

Date

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**Sample Location:** HCS210 PEAK  
**Sample Number:** AB04853  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 05:22  
**Receipt Date/Time:** 9/26/16 10:56

### CASE NARRATIVE

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**Sample Comments:** Per customer proceed with analyses, regardless of hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04853-A	E. coli	√	SM 9223B-2004	17000	MPN/100 mL		1	49074	9/26/16	12:56	HH/MSR
AB04853-A	E. Coli Holding Time - IDEXX Colilert		NA	7.57	hours		0.00	49073	9/26/16	12:56	HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
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H - Hold Time for preparation or analysis exceeded  
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\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 28, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49074

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



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Water Quality Planner / QAO

9/28/2016

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## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



September 28, 2016

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**Sample Location:** HCS240 PEAK  
**Sample Number:** AB04854  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 05:40  
**Receipt Date/Time:** 9/26/16 10:56

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer proceed with analyses, regardless of hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04854-A	E. coli	√	SM 9223B-2004	6100	MPN/100 mL		1	49074	9/26/16	12:56	HH/MSR
AB04854-A	E. Coli Holding Time - IDEXX Colilert		NA	7.27	hours		0.00	49073	9/26/16	12:56	HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
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\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 28, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49074

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/28/2016

Date

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H - Hold Time for preparation or analysis exceeded  
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## Environmental Sciences Department Laboratory

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**Sample Location:** HCS250 PEAK  
**Sample Number:** AB04855  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 05:10  
**Receipt Date/Time:** 9/26/16 10:56

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer proceed with analyses, regardless of hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04855-A	E. coli	√	SM 9223B-2004	9200	MPN/100 mL		1	49074	9/26/16	12:56	HH/MSR
AB04855-A	E. Coli Holding Time - IDEXX Colilert		NA	7.77	hours		0.00	49073	9/26/16	12:56	HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 28, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49074

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/28/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

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**Sample Location:** HCS260 PEAK  
**Sample Number:** AB04856  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 05:53  
**Receipt Date/Time:** 9/26/16 10:56

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer proceed with analyses, regardless of hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04856-A	E. coli	√	SM 9223B-2004	16000	MPN/100 mL		1	49074	9/26/16	12:56	HH/MSR
AB04856-A	E. Coli Holding Time - IDEXX Colilert		NA	7.05	hours		0.00	49073	9/26/16	12:56	HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 28, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49074

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



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9/28/2016

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T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 28, 2016

Page 1 of 2

**Client:** SWCA

Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HCS270 PEAK  
**Sample Number:** AB04857  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 05:35  
**Receipt Date/Time:** 9/26/16 10:56

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer proceed with analyses, regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04857-A	E. coli	√	SM 9223B-2004	17000	MPN/100 mL		1	49076	9/26/16	12:56	HH/MSR
AB04857-A	E. Coli Holding Time - IDEXX Colilert		NA	7.35	hours		0.00	49075	9/26/16	12:56	HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

Environmental Sciences Department Laboratory  
ANALYTICAL REPORT



September 28, 2016

Page 2 of 2

QC ANALYTICAL RESULTS

QC Batch Name: E\_COLI\_QUANTITRAY-49076

Acceptance Criteria

QC Analyte Name

Initial Blank for E. coli

Result

Absent

Units

Qualifier

Lower

---

Target

Absent

Upper

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/28/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 30, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
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San Antonio, Tx. 78249

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**Sample Location:** HCS210 PEAK 2  
**Sample Number:** AB04866  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 07:28  
**Receipt Date/Time:** 9/26/16 15:53

**CASE NARRATIVE**

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer proceed with analyses regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04866-A	E. coli	√	SM 9223B-2004	240000	MPN/100 mL	H	1	49081	9/26/16	16:23	KAB/HH/MSR
AB04866-A	E. Coli Holding Time - IDEXX Colilert		NA	8.92	hours		0.00	49080	9/26/16	16:23	KAB/HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 30, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49081

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/30/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 30, 2016

Page 1 of 2

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**Sample Location:** HCS240 PEAK 2  
**Sample Number:** AB04867  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 07:49  
**Receipt Date/Time:** 9/26/16 15:53

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer proceed with analyses regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04867-A	E. coli	√	SM 9223B-2004	3700	MPN/100 mL	H	1	49081	9/26/16	16:23	KAB/HH/MSR
AB04867-A	E. Coli Holding Time - IDEXX Colilert		NA	8.57	hours		0.00	49080	9/26/16	16:23	KAB/HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 30, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49081

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
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9/30/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
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**Environmental Sciences Department Laboratory**  
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**Sample Location:** HCS250 PEAK 2  
**Sample Number:** AB04868  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 07:24  
**Receipt Date/Time:** 9/26/16 15:53

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer proceed with analyses regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04868-A	E. coli	√	SM 9223B-2004	13000	MPN/100 mL	H	1	49081	9/26/16	16:23	KAB/HH/MSR
AB04868-A	E. Coli Holding Time - IDEXX Colilert		NA	8.98	hours		0.00	49080	9/26/16	16:23	KAB/HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 30, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49081

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
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9/30/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

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--- - Not Applicable

**Environmental Sciences Department Laboratory**  
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**Sample Location:** HCS260 PEAK 2  
**Sample Number:** AB04869  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 08:04  
**Receipt Date/Time:** 9/26/16 15:53

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer proceed with analyses regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04869-A	E. coli	√	SM 9223B-2004	9800	MPN/100 mL	H	1	49081	9/26/16	16:23	KAB/HH/MSR
AB04869-A	E. Coli Holding Time - IDEXX Colilert		NA	8.32	hours		0.00	49080	9/26/16	16:23	KAB/HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 30, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49081

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/30/2016

Date

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--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



September 30, 2016

Page 1 of 2

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**Sample Location:** HCS270 PEAK 2  
**Sample Number:** AB04870  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/26/16 07:40  
**Receipt Date/Time:** 9/26/16 15:53

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer proceed with analyses regardless of hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04870-A	E. coli	√	SM 9223B-2004	11000	MPN/100 mL	H	1	49081	9/26/16	16:23	KAB/HH/MSR
AB04870-A	E. Coli Holding Time - IDEXX Colilert		NA	8.72	hours		0.00	49080	9/26/16	16:23	KAB/HH/MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 30, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49081

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/30/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
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Page 1 of 2

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**Sample Location:** HCS210 TRAIL  
**Sample Number:** AB04882  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/27/16 09:54  
**Receipt Date/Time:** 9/27/16 13:57

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer please process regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04882-A	E. coli	√	SM 9223B-2004	4000	MPN/100 mL		1	49091	9/27/16	15:50	MSR
AB04882-A	E. Coli Holding Time - IDEXX Colilert		NA	5.93	hours		0.00	49090	9/27/16	15:50	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 29, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49091

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/29/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 29, 2016

Page 1 of 2

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**Sample Location:** HCS240 TRAIL  
**Sample Number:** AB04883  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/27/16 10:28  
**Receipt Date/Time:** 9/27/16 13:57

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer please process regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04883-A	E. coli	√	SM 9223B-2004	1100	MPN/100 mL		1	49091	9/27/16	15:50	MSR
AB04883-A	E. Coli Holding Time - IDEXX Colilert		NA	5.37	hours		0.00	49090	9/27/16	15:50	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 29, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49091

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/29/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

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**Sample Location:** HCS250 TRAIL  
**Sample Number:** AB04884  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/27/16 11:36  
**Receipt Date/Time:** 9/27/16 13:57

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer please process regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04884-A	E. coli	√	SM 9223B-2004	1300	MPN/100 mL		1	49091	9/27/16	15:50	MSR
AB04884-A	E. Coli Holding Time - IDEXX Colilert		NA	4.23	hours		0.00	49090	9/27/16	15:50	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 29, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49091

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/29/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

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**Sample Location:** HCS260 TRAIL  
**Sample Number:** AB04885  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/27/16 10:58  
**Receipt Date/Time:** 9/27/16 13:57

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer please process regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04885-A	E. coli	√	SM 9223B-2004	1500	MPN/100 mL		1	49091	9/27/16	15:50	MSR
AB04885-A	E. Coli Holding Time - IDEXX Colilert		NA	4.87	hours		0.00	49090	9/27/16	15:50	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
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September 29, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49091

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/29/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



September 29, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** FDHCS260 TRAIL  
**Sample Number:** AB04886  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/27/16 10:58  
**Receipt Date/Time:** 9/27/16 13:57

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer please process regardless of hold time.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04886-A	E. coli	√	SM 9223B-2004	1300	MPN/100 mL		1	49091	9/27/16	15:50	MSR
AB04886-A	E. Coli Holding Time - IDEXX Colilert		NA	4.87	hours		0.00	49090	9/27/16	15:50	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 29, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49091

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/29/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 29, 2016

Page 1 of 2

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**Sample Location:** HCS270 TRAIL  
**Sample Number:** AB04887  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/27/16 12:01  
**Receipt Date/Time:** 9/27/16 13:57

**CASE NARRATIVE**

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer please process regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04887-A	E. coli	√	SM 9223B-2004	1900	MPN/100 mL		1	49091	9/27/16	15:50	MSR
AB04887-A	E. Coli Holding Time - IDEXX Colilert		NA	3.82	hours		0.00	49090	9/27/16	15:50	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 29, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49091

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/29/2016

Date

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H - Hold Time for preparation or analysis exceeded  
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--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 29, 2016

Page 1 of 2

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**Sample Location:** FDHCS270 TRAIL  
**Sample Number:** AB04888  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 9/27/16 12:01  
**Receipt Date/Time:** 9/27/16 13:57

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Per customer please process regardless of hold time.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB04888-A	E. coli	√	SM 9223B-2004	1300	MPN/100 mL		1	49091	9/27/16	15:50	MSR
AB04888-A	E. Coli Holding Time - IDEXX Colilert		NA	3.82	hours		0.00	49090	9/27/16	15:50	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



September 29, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49091

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

9/29/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

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**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
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San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HSM 210 LEAD  
**Sample Number:** AB00643  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 01:36  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Exceeded hold time, proceed per customer request.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00643-A	E. coli	√	SM 9223B-2004	75	MPN/100 mL	H	1	46578	3/9/16	11:57	KAB/HH
AB00643-A	E. Coli Holding Time - IDEXX Colilert		NA	10.35	hours		0.00	46577	3/9/16	11:57	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46578

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



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**Sample Location:** HSM 230 LEAD  
**Sample Number:** AB00644  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 01:52  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Exceeded hold time, proceed per customer request.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00644-A	E. coli	√	SM 9223B-2004	61000	MPN/100 mL	H	1	46578	3/9/16	11:57	KAB/HH
AB00644-A	E. Coli Holding Time - IDEXX Colilert		NA	10.08	hours		0.00	46577	3/9/16	11:57	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46578

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

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**Sample Location:** HSM 231 LEAD  
**Sample Number:** AB00645  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 02:10  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

**Sample Comments:** Exceeded hold time, proceed per customer request.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00645-A	E. coli	√	SM 9223B-2004	7300	MPN/100 mL	H	1	46578	3/9/16	11:57	KAB/HH
AB00645-A	E. Coli Holding Time - IDEXX Colilert		NA	9.78	hours		0.00	46577	3/9/16	11:57	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46578

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

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**Sample Location:** HSM 240 LEAD  
**Sample Number:** AB00646  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 01:50  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Exceeded hold time, proceed per customer request.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00646-A	E. coli	√	SM 9223B-2004	6100	MPN/100 mL	H	1	46578	3/9/16	11:57	KAB/HH
AB00646-A	E. Coli Holding Time - IDEXX Colilert		NA	10.12	hours		0.00	46577	3/9/16	11:57	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46578

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

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**Sample Location:** HSM 250 LEAD  
**Sample Number:** AB00647  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 01:37  
**Receipt Date/Time:** 3/9/16 10:11

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Exceeded hold time, proceed per customer request.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00647-A	E. coli	√	SM 9223B-2004	6900	MPN/100 mL	H	1	46578	3/9/16	11:57	KAB/HH
AB00647-A	E. Coli Holding Time - IDEXX Colilert		NA	10.33	hours		0.00	46577	3/9/16	11:57	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46578

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



May 05, 2016

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**Sample Location:** HSM 260 LEAD  
**Sample Number:** AB00648  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 01:55  
**Receipt Date/Time:** 3/9/16 10:11

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Exceeded hold time, proceed per customer request.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00648-A	E. coli	√	SM 9223B-2004	990	MPN/100 mL	H	1	46578	3/9/16	11:57	KAB/HH
AB00648-A	E. Coli Holding Time - IDEXX Colilert		NA	10.03	hours		0.00	46577	3/9/16	11:57	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46578

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
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\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
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**Sample Location:** HSM 270 LEAD  
**Sample Number:** AB00649  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 02:11  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Exceeded hold time, proceed per customer request.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00649-A	E. coli	√	SM 9223B-2004	25000	MPN/100 mL	H	1	46578	3/9/16	11:57	KAB/HH
AB00649-A	E. Coli Holding Time - IDEXX Colilert		NA	9.77	hours		0.00	46577	3/9/16	11:57	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46578

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



May 05, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HSM 240 TRAIL  
**Sample Number:** AB00650  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 05:51  
**Receipt Date/Time:** 3/9/16 10:11

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00650-A	E. coli	√	SM 9223B-2004	1700	MPN/100 mL		1	46576	3/9/16	11:39	KAB/HH
AB00650-A	E. Coli Holding Time - IDEXX Colilert		NA	5.80	hours		0.00	46575	3/9/16	11:39	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46576

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

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**Sample Location:** HSM 250 TRAIL  
**Sample Number:** AB00651  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 06:16  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00651-A	E. coli	√	SM 9223B-2004	2400	MPN/100 mL		1	46576	3/9/16	11:39	KAB/HH
AB00651-A	E. Coli Holding Time - IDEXX Colilert		NA	5.38	hours		0.00	46575	3/9/16	11:39	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46576

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

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**Sample Location:** HSM 260 TRAIL  
**Sample Number:** AB00652  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 06:40  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00652-A	E. coli	√	SM 9223B-2004	4600	MPN/100 mL		1	46576	3/9/16	11:39	KAB/HH
AB00652-A	E. Coli Holding Time - IDEXX Colilert		NA	4.98	hours		0.00	46575	3/9/16	11:39	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46576

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



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5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

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**Sample Location:** HSM 270 TRAIL  
**Sample Number:** AB00653  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 07:18  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00653-A	E. coli	√	SM 9223B-2004	5800	MPN/100 mL		1	46576	3/9/16	11:39	KAB/HH
AB00653-A	E. Coli Holding Time - IDEXX Colilert		NA	4.35	hours		0.00	46575	3/9/16	11:39	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46576

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

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**Sample Location:** HSM 210 TRAIL  
**Sample Number:** AB00654  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 05:51  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00654-A	E. coli	√	SM 9223B-2004	2000	MPN/100 mL		1	46574	3/9/16	11:24	KAB/HH
AB00654-A	E. Coli Holding Time - IDEXX Colilert		NA	5.55	hours		0.00	46573	3/9/16	11:24	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46574

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



May 05, 2016

Page 1 of 2

**Client:** SWCA

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San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** FDHSM 210 TRAIL  
**Sample Number:** AB00655  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 05:51  
**Receipt Date/Time:** 3/9/16 10:11

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00655-A	E. coli	√	SM 9223B-2004	2400	MPN/100 mL		1	46574	3/9/16	11:24	KAB/HH
AB00655-A	E. Coli Holding Time - IDEXX Colilert		NA	5.55	hours		0.00	46573	3/9/16	11:24	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46574

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



May 05, 2016

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**Sample Location:** HSM 230 TRAIL  
**Sample Number:** AB00656  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 06:14  
**Receipt Date/Time:** 3/9/16 10:11

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00656-A	E. coli	√	SM 9223B-2004	14000	MPN/100 mL		1	46576	3/9/16	11:39	KAB/HH
AB00656-A	E. Coli Holding Time - IDEXX Colilert		NA	5.42	hours		0.00	46575	3/9/16	11:39	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46576

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



May 05, 2016

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**Sample Location:** FDHSM 230 TRAIL  
**Sample Number:** AB00657  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 06:14  
**Receipt Date/Time:** 3/9/16 10:11

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00657-A	E. coli	√	SM 9223B-2004	26000	MPN/100 mL		1	46576	3/9/16	11:39	KAB/HH
AB00657-A	E. Coli Holding Time - IDEXX Colilert		NA	5.42	hours		0.00	46575	3/9/16	11:39	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46576

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



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5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
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**ANALYTICAL REPORT**



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**Sample Location:** HSM 231 TRAIL  
**Sample Number:** AB00658  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 06:45  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00658-A	E. coli	√	SM 9223B-2004	880	MPN/100 mL		1	46576	3/9/16	11:39	KAB/HH
AB00658-A	E. Coli Holding Time - IDEXX Colilert		NA	4.90	hours		0.00	46575	3/9/16	11:39	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46576

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

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D - Outside lower acceptance criteria  
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**Environmental Sciences Department Laboratory**  
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**Sample Location:** FDHSM 231 TRAIL  
**Sample Number:** AB00659  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 06:45  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00659-A	E. coli	√	SM 9223B-2004	1400	MPN/100 mL		1	46576	3/9/16	11:39	KAB/HH
AB00659-A	E. Coli Holding Time - IDEXX Colilert		NA	4.90	hours		0.00	46575	3/9/16	11:39	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46576

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Client:** SWCA

Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

This analytical report is intended exclusively for the individual or entity to which it is addressed. Recipient is not authorized to print or copy this report, except in full without written approval of the laboratory. If you have received this report in error, please notify the San Antonio River Authority.

**Sample Location:** HSM 270 PEAK  
**Sample Number:** AB00660  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 04:35  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00660-A	E. coli	√	SM 9223B-2004	14000	MPN/100 mL		1	46574	3/9/16	11:24	KAB/HH
AB00660-A	E. Coli Holding Time - IDEXX Colilert		NA	6.82	hours		0.00	46573	3/9/16	11:24	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46574

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



May 05, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HSM 210 PEAK  
**Sample Number:** AB00661  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 04:10  
**Receipt Date/Time:** 3/9/16 10:11

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00661-A	E. coli	√	SM 9223B-2004	960	MPN/100 mL		1	46574	3/9/16	11:24	KAB/HH
AB00661-A	E. Coli Holding Time - IDEXX Colilert		NA	7.23	hours		0.00	46573	3/9/16	11:24	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46574

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

**Client:** SWCA

Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

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**Sample Location:** HSM 230 PEAK  
**Sample Number:** AB00662  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 04:25  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00662-A	E. coli	√	SM 9223B-2004	49000	MPN/100 mL		1	46574	3/9/16	11:24	KAB/HH
AB00662-A	E. Coli Holding Time - IDEXX Colilert		NA	6.98	hours		0.00	46573	3/9/16	11:24	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46574

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Client:** SWCA

Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HSM 231 PEAK  
**Sample Number:** AB00663  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 04:11  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00663-A	E. coli	√	SM 9223B-2004	7700	MPN/100 mL		1	46574	3/9/16	11:24	KAB/HH
AB00663-A	E. Coli Holding Time - IDEXX Colilert		NA	7.22	hours		0.00	46573	3/9/16	11:24	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46574

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Client:** SWCA

Philip Pearce  
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San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HSM 240 PEAK  
**Sample Number:** AB00664  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 04:25  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00664-A	E. coli	√	SM 9223B-2004	5800	MPN/100 mL		1	46574	3/9/16	11:24	KAB/HH
AB00664-A	E. Coli Holding Time - IDEXX Colilert		NA	6.98	hours		0.00	46573	3/9/16	11:24	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46574

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 1 of 2

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Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

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**Sample Location:** HSM 250 PEAK  
**Sample Number:** AB00665  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 04:04  
**Receipt Date/Time:** 3/9/16 10:11

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

No sample and/or analysis comment(s)

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00665-A	E. coli	√	SM 9223B-2004	20000	MPN/100 mL		1	46574	3/9/16	11:24	KAB/HH
AB00665-A	E. Coli Holding Time - IDEXX Colilert		NA	7.33	hours		0.00	46573	3/9/16	11:24	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46574

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



May 05, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HSM 260 PEAK  
**Sample Number:** AB00666  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 3/9/16 04:22  
**Receipt Date/Time:** 3/9/16 10:11

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

No sample and/or analysis comment(s)

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB00666-A	E. coli	√	SM 9223B-2004	17000	MPN/100 mL		1	46574	3/9/16	11:24	KAB/HH
AB00666-A	E. Coli Holding Time - IDEXX Colilert		NA	7.03	hours		0.00	46573	3/9/16	11:24	KAB/HH

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



May 05, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-46574

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

5/5/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-60183-1

Client Project/Site: 2016 - Stormwater Sampling  
Revision: 1

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
7/20/2016 11:01:45 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

Review your project  
results through

TotalAccess

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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# Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits
F1	MS and/or MSD Recovery is outside acceptance limits.

### GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits
X	Surrogate is outside control limits

### GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

## Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.

## General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated

TestAmerica Corpus Christi

## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

### Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



# Case Narrative

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Job ID: 560-60183-1**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

### Job Narrative 560-60183-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/9/2016 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 28 coolers at receipt time were 0.4° C, 0.7° C, 0.7° C, 0.8° C, 0.9° C, 0.9° C, 1.2° C, 1.4° C, 1.8° C, 2.2° C, 2.5° C, 2.6° C, 2.6° C, 2.6° C, 2.8° C, 2.9° C, 3.1° C, 3.2° C, 3.3° C, 3.4° C, 3.4° C, 3.6° C, 3.8° C, 3.9° C, 3.9° C, 4.4° C, 4.6° C and 5.6° C.

#### Receipt Exceptions

The laboratory received 11 coolers 3/9/16 at 17:30. The other 17 coolers were received 3/10/16 at 8:00, this is noted at the bottom of each COC. The following samples received 3/9/16 are:

HSM231 Trail  
HSM230 Peak  
HSM250 Lead  
HSM210 Lead  
HSM231 Lead  
HSM230 Trail  
FDHSM230 Trail  
HSM240 Lead  
HSM231 Peak  
HSM230 Lead

Caffeine sample for 560-60183-10 (HSM230 PEAK) was broken in transit to Wreck Laboratories. Client unable to resample, and therefore caffeine analysis is canceled for this sample.

#### GC/MS VOA

Method 8260B: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 560-125954 was outside control limits for ethylene oxide. Sample matrix interference is suspected because the associated laboratory control sample (LCS) was within acceptance limits.

Method 8260B: The relative percent deviation (RPD) was outside acceptable limits for Ethylene oxide in the MS/MSD pair associated with sample 560-60183-24. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method 8270C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 560-126050 and analytical batch 560-126070 were outside control limits for various analytes. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8270C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 560-125968 and analytical batch 560-125986 were outside control limits for Indeno{1,2,3-cd}pyrene. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8270C: The relative percent deviation (RPD) was outside acceptable limits for various analytes in the MS/MSD pair associated with sample 560-60183-5. The LCS was within acceptable limits. Therefore, data are reported.

Method 8270C: Surrogate recovery for the following sample was outside control limits: (560-60183-I-5-A MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8270C: The method blank for preparation batch 560-126050 and analytical batch 560-126070 contained bis(2-ethylhexyl) phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction

## Case Narrative

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

### Job ID: 560-60183-1 (Continued)

#### Laboratory: TestAmerica Corpus Christi (Continued)

and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

Method 8141A: The continuing calibration verification (CCV) associated with batch 280-317060 recovered above the upper control limit for dichlorvos on the confirmation column. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data has been reported. The following samples are impacted: FDHSM231 TRAIL (560-60183-21), HSM240 TRAIL (560-60183-22), HSM250 TRAIL (560-60183-23), HSM 270 TRAIL (560-60183-25), HSM 270 TRAIL (560-60183-25[MS]), HSM 270 TRAIL (560-60183-25[MSD]), (CCV 280-317060/20), (LCS 280-316661/2-A) and (MB 280-316661/1-A).

8141 / A-317060 / P - 316661

CCV1: OK for all

CCV2: OK for all

---MB, LCS, 560-60183-21, 22, 23, 25, 25MS, 25MSD

CCV3

primary: OK for all

confirmation: dichlorvos +17% (Avg = 4%)

Method 8141A: The continuing calibration verification (CCV) associated with batch 280-317425 recovered above the upper control limit for dichlorvos on the confirmation column. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data has been reported. The following samples are impacted: HSM231 PEAK (560-60183-11), HSM240 PEAK (560-60183-12), HSM250 PEAK (560-60183-13), HSM260 PEAK (560-60183-14), HSM270 PEAK (560-60183-15), HSM210 TRAIL (560-60183-16), FDHSM210 TRAIL (560-60183-17), HSM230 TRAIL (560-60183-18), FDHSM230 TRAIL (560-60183-19), HSM231 TRAIL (560-60183-20), HSM260TRAIL (560-60183-24), HSM260TRAIL (560-60183-24[MS]), HSM260TRAIL (560-60183-24[MSD]) and (CCV 280-317425/26).

8141 / A-317425 / P-316652

CCV1: OK for all

---560-60183-2, 3, 4, 5, 6, 7, 9

CCV2: OK for all

---560-60183-11, 12, 13, 14, 15, 16, 17, 18, 19

CCV3

primary: OK for all

confirmation: dichlorvos +18% (avg = 5%)

---560-60183-20, 24, 24MS, 24MSD

CCV4: OK for all

Method 8082A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 560-125982 and analytical batch 560-126039 were outside control limits for Aroclor 1260. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method 6020: The serial dilution performed for the following sample associated with batch 560-125994 was outside control limits: Al 11% (560-60182-A-1-A SD)

Method 6020: The continuing calibration verification (CCV) associated with batch 560-125994 recovered above the upper control limit for Be. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 6020: The continuing calibration verification (CCV) associated with batch 560-125994 recovered above the upper control limit for Be. The recoveries were in the middle of the acceptance range so that the high CCV did not effect whether the samples met the pass/fail criteria.

Method 6010B: The method blank for preparation batch 560-126005 and analytical batch 560-126018 contained Na above the method

# Case Narrative

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Job ID: 560-60183-1 (Continued)

### Laboratory: TestAmerica Corpus Christi (Continued)

detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 6020: The method blank for preparation batch 560-125967 and analytical batch 560-125994 contained Selenium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 6020: The continuing calibration verification (CCV) associated with batch 560-126076 recovered above the upper control limit for Be. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: FDHSM231 TRAIL (560-60183-21), HSM240 TRAIL (560-60183-22), HSM250 TRAIL (560-60183-23), HSM260TRAIL (560-60183-24), HSM260TRAIL (560-60183-24[MS]), HSM260TRAIL (560-60183-24[MSD]), HSM 270 TRAIL (560-60183-25), HSM 270 TRAIL (560-60183-25[MS]), HSM 270 TRAIL (560-60183-25[MSD]), (LCS 560-126005/2-A), (LCS 560-126006/2-A), (MB 560-126005/1-A), (MB 560-126006/1-A) and (560-60183-A-24-A SD). All the QA/QC were in the middle of the acceptance range and not effected the high CCV.

Method 7470A: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 126107 were outside acceptable limits for Mercury. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### General Chemistry

Method 9040C: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples have been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe. 560-60183-1-7 and 9-25

Method SM 2320B: There is no substituent recovery of Carbonate Alkalinity and Bicarbonate Alkalinity for Matrix Spike / Matrix Spike Duplicate. HSM260TRAIL (560-60183-24[MS]), HSM260TRAIL (560-60183-24[MSD]), HSM 270 TRAIL (560-60183-25[MS]) and HSM 270 TRAIL (560-60183-25[MSD])

Method 351.2: The matrix spike duplicate (MSD) recoveries for <184408> were outside control limits for TKN. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 351.2: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for <184530> were outside control limits TKN. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 300: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for <125971> were outside control limits Chloride and/or Sulfate and/or Bromide. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 351.2: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with sample 560-60183-24 were outside acceptable limits for TKN. The LCS was within acceptable limits. Therefore, data are reported.

Method 300: The method blank for analytical batch 560- 125971 contained Chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Organic Prep

Method(s) 3510C: The following samples formed emulsions during the extraction procedure: HSM230 LEAD (560-60183-2), HSM230 TRAIL (560-60183-18) and FDHSM230 TRAIL (560-60183-19). The emulsions were broken up using a pour back on all the first extraction. analytical batch 280-316652

Method: 3510C/8141A

## Case Narrative

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

### Job ID: 560-60183-1 (Continued)

#### Laboratory: TestAmerica Corpus Christi (Continued)

Method(s) 3520C: Elevated reporting limits are provided for the following samples due to insufficient sample provided for 3520C preparation/analysis: HSM240 LEAD (560-60183-4), HSM260 LEAD (560-60183-6), HSM210 PEAK (560-60183-9), HSM230 TRAIL (560-60183-18) and HSM260TRAIL (560-60183-24[MSD]).

Method(s) 3520C: Elevated reporting limits are provided for the following samples due to insufficient sample provided for 3520C preparation/analysis: HSM240 PEAK (560-60183-12), FDHSM231 TRAIL (560-60183-21) and HSM240 TRAIL (560-60183-22). Batch 125968

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: HSM210 LEAD

## Lab Sample ID: 560-60183-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	86.0		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	19.0		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.63		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.29		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	16.1		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.667		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	33.9		5.00	0.810	ug/L	1		6020	Dissolved
Lead	1.50	J	5.00	0.733	ug/L	1		6020	Dissolved
Manganese	119		50.0	11.6	ug/L	1		6020	Dissolved
Selenium	1.13	J B	5.00	1.08	ug/L	1		6020	Dissolved
Bromide	0.592	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	26.1		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.728		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	31.8		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.227		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0461	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	1.10		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.584	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.05	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	236		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	236		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	374		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HSM230 LEAD

## Lab Sample ID: 560-60183-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	5.45	J	10.0	5.00	ug/L	1		8260B	Total/NA
Calcium	46.8		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	7.05		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.30		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	2.65		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	7.51		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.241		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	20.4		5.00	0.810	ug/L	1		6020	Dissolved
Manganese	29.1	J	50.0	11.6	ug/L	1		6020	Dissolved
Zinc	15.4	J	25.0	3.55	ug/L	1		6020	Dissolved
Bromide	0.503	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	10.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.922		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	12.8		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.122		0.100	0.0200	mg/L	1		340.2	Total/NA
Nitrogen, Kjeldahl	1.73		1.00	0.432	mg/L	1		351.2	Total/NA
Phosphorus	0.141		0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	7.07		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	7.19		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.15	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	113		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	113		5.00	5.00	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: HSM230 LEAD (Continued)

## Lab Sample ID: 560-60183-2

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	179		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	29.6		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HSM231 LEAD

## Lab Sample ID: 560-60183-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	8.09	J	10.0	5.00	ug/L	1		8260B	Total/NA
Calcium	73.7		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	13.4		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.49		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.14		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	9.39		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.437		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	31.4		5.00	0.810	ug/L	1		6020	Dissolved
Copper	3.02	J	10.0	2.00	ug/L	1		6020	Dissolved
Selenium	1.13	J B	5.00	1.08	ug/L	1		6020	Dissolved
Zinc	7.83	J	25.0	3.55	ug/L	1		6020	Dissolved
Bromide	0.543	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.3		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.24		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.5		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.176		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0577	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.822	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.983	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.15	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	207		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	207		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	298		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	12.0		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HSM240 LEAD

## Lab Sample ID: 560-60183-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	9.88	J	20.8	5.21	ug/L	1		8270C	Total/NA
Calcium	82.4		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.2		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.38		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.74		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	10.2		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.488		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	35.1		5.00	0.810	ug/L	1		6020	Dissolved
Zinc	6.37	J	25.0	3.55	ug/L	1		6020	Dissolved
Bromide	0.546	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	16.8		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.20		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	22.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.172		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0533	J	0.100	0.0410	mg/L	1		365.4	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: HSM240 LEAD (Continued)

## Lab Sample ID: 560-60183-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Total Organic Carbon	0.944	J	1.00	0.285	mg/L	1			9060	Total/NA
Dissolved Organic Carbon	1.33		1.00	0.285	mg/L	1			9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.23	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	222		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	222		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	322		10.0	10.0	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	26.0		3.00	3.00	mg/L	1			SM 2540D	Total/NA

## Client Sample ID: HSM250 LEAD

## Lab Sample ID: 560-60183-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	12.4		10.0	5.00	ug/L	1			8260B	Total/NA
Calcium	80.7		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	14.8		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.28		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	4.58		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	9.99		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.479		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	32.3		5.00	0.810	ug/L	1			6020	Dissolved
Zinc	8.48	J	25.0	3.55	ug/L	1			6020	Dissolved
Bromide	0.540	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	16.5		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.18		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	22.3		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.178		0.100	0.0200	mg/L	1			340.2	Total/NA
Phosphorus	0.0993	J	0.100	0.0410	mg/L	1			365.4	Total/NA
Total Organic Carbon	1.53		1.00	0.285	mg/L	1			9060	Total/NA
Dissolved Organic Carbon	1.46		1.00	0.285	mg/L	1			9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.18	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	221		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	221		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	317		10.0	10.0	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	32.8		3.00	3.00	mg/L	1			SM 2540D	Total/NA

## Client Sample ID: HSM260 LEAD

## Lab Sample ID: 560-60183-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	86.6		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	16.2		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.26		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	4.92		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	11.5		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.515		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	33.0		5.00	0.810	ug/L	1			6020	Dissolved
Bromide	0.544	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	17.7		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.25		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	23.9		1.00	0.377	mg/L	1			300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: HSM260 LEAD (Continued)

## Lab Sample ID: 560-60183-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.178		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0482	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.674	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.394	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.29	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	238		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	238		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	345		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	13.8		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HSM270 LEAD

## Lab Sample ID: 560-60183-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	78.8		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.3		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.37		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.49		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	12.8		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.471		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	35.9		5.00	0.810	ug/L	1		6020	Dissolved
Manganese	21.9	J	50.0	11.6	ug/L	1		6020	Dissolved
Bromide	0.547	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.7		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.13		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.191		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.161		0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	1.96		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	2.14		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.41	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	222		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	222		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	320		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	114		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: TB04

## Lab Sample ID: 560-60183-8

No Detections.

## Client Sample ID: HSM210 PEAK

## Lab Sample ID: 560-60183-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	84.9		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	18.8		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.61		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.18		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	16.5		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.667		0.00500	0.000700	mg/L	1		6010B	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: HSM210 PEAK (Continued)

## Lab Sample ID: 560-60183-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Barium	34.3		5.00	0.810	ug/L	1			6020	Dissolved
Manganese	128		50.0	11.6	ug/L	1			6020	Dissolved
Bromide	0.589	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	26.1		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	0.723		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	32.1		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.220		0.100	0.0200	mg/L	1			340.2	Total/NA
Total Organic Carbon	1.05		1.00	0.285	mg/L	1			9060	Total/NA
Dissolved Organic Carbon	0.958	J	1.00	0.285	mg/L	1			9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.24	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	231		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	231		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	366		10.0	10.0	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	3.00		3.00	3.00	mg/L	1			SM 2540D	Total/NA

## Client Sample ID: HSM230 PEAK

## Lab Sample ID: 560-60183-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	56.2		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	7.64		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.76		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	3.25		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	7.75		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.267		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	23.8		5.00	0.810	ug/L	1			6020	Dissolved
Manganese	18.8	J	50.0	11.6	ug/L	1			6020	Dissolved
Zinc	4.85	J	25.0	3.55	ug/L	1			6020	Dissolved
Bromide	0.513	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	11.7		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.10		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	22.5		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.144		0.100	0.0200	mg/L	1			340.2	Total/NA
Phosphorus	0.108		0.100	0.0410	mg/L	1			365.4	Total/NA
Total Organic Carbon	2.76		1.00	0.285	mg/L	1			9060	Total/NA
Dissolved Organic Carbon	2.64		1.00	0.285	mg/L	1			9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.22	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	156		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	156		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	240		10.0	10.0	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	68.8		3.00	3.00	mg/L	1			SM 2540D	Total/NA

## Client Sample ID: HSM231 PEAK

## Lab Sample ID: 560-60183-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	84.3		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	15.7		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.28		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	4.76		0.500	0.0707	mg/L	1			6010B	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: HSM231 PEAK (Continued)

## Lab Sample ID: 560-60183-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium	10.3		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.511		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	31.5		5.00	0.810	ug/L	1		6020	Dissolved
Bromide	0.541	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	16.7		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.20		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.4		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.158		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0434	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.665	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.404	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.13	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	227		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	227		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	327		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	14.8		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HSM240 PEAK

## Lab Sample ID: 560-60183-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	85.5		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.9		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.20		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.86		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	10.4		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.519		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	32.7		5.00	0.810	ug/L	1		6020	Dissolved
Bromide	0.543	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.23		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.6		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.170		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0848	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.452	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.570	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.25	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	225		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	225		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	333		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	8.40		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HSM250 PEAK

## Lab Sample ID: 560-60183-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	67.8		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	12.4		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.39		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	3.81		0.500	0.0707	mg/L	1		6010B	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: HSM250 PEAK (Continued)

## Lab Sample ID: 560-60183-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium	8.46		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.399		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	27.1		5.00	0.810	ug/L	1		6020	Dissolved
Zinc	3.64	J	25.0	3.55	ug/L	1		6020	Dissolved
Bromide	0.527	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	13.9		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.03		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	19.0		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.147		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0843	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	1.59		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.28		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.23	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	187		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	187		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	267		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	44.8		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HSM260 PEAK

## Lab Sample ID: 560-60183-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	6.49	J	10.0	5.00	ug/L	1		8260B	Total/NA
Calcium	56.0		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	9.91		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.54		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	3.17		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	7.39		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.328		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	24.0		5.00	0.810	ug/L	1		6020	Dissolved
Zinc	5.26	J	25.0	3.55	ug/L	1		6020	Dissolved
Bromide	0.517	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	11.8		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.875		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	15.8		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.133		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.100		0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	2.45		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	2.18		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.31	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	154		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	154		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	220		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	64.8		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HSM270 PEAK

## Lab Sample ID: 560-60183-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	55.1		0.200	0.101	mg/L	1		6010B	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: HSM270 PEAK (Continued)

## Lab Sample ID: 560-60183-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	9.74		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.55		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	3.13		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	7.79		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.327		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	25.6		5.00	0.810	ug/L	1		6020	Dissolved
Manganese	11.7	J	50.0	11.6	ug/L	1		6020	Dissolved
Bromide	0.520	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	12.4		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.889		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	17.1		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.141		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.109		0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	2.54		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	2.31		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.34	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	155		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	155		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	219		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	78.8		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HSM210 TRAIL

## Lab Sample ID: 560-60183-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	82.6		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	18.1		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.70		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.05		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	16.3		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.636		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	33.6		5.00	0.810	ug/L	1		6020	Dissolved
Manganese	162		50.0	11.6	ug/L	1		6020	Dissolved
Bromide	0.584	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	25.3		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.743		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	31.9		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.216		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	1.40		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.32		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.21	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	226		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	226		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	348		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	5.20		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: FDHSM210 TRAIL

## Lab Sample ID: 560-60183-17

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: FDHSM210 TRAIL (Continued)

## Lab Sample ID: 560-60183-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	6.27	J	10.0	5.00	ug/L	1			8260B	Total/NA
Calcium	82.5		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	18.0		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.68		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	5.06		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	15.9		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.636		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	32.6		5.00	0.810	ug/L	1			6020	Dissolved
Manganese	173		50.0	11.6	ug/L	1			6020	Dissolved
Mercury	0.000235	J	0.00200	0.000130	mg/L	1			7470A	Dissolved
Bromide	0.582	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	24.9	B	1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	0.687		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	31.6		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.217		0.100	0.0200	mg/L	1			340.2	Total/NA
Phosphorus	0.0423	J	0.100	0.0410	mg/L	1			365.4	Total/NA
Total Organic Carbon	1.66		1.00	0.285	mg/L	1			9060	Total/NA
Dissolved Organic Carbon	1.31		1.00	0.285	mg/L	1			9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.13	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	227		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	227		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	346		10.0	10.0	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	5.20		3.00	3.00	mg/L	1			SM 2540D	Total/NA

## Client Sample ID: HSM230 TRAIL

## Lab Sample ID: 560-60183-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	7.75	J	10.0	5.00	ug/L	1			8260B	Total/NA
Calcium	64.0		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	9.28		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.58		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	3.88		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	8.64		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.320		0.00500	0.000700	mg/L	1			6010B	Dissolved
Aluminum	118		100	50.0	ug/L	1			6020	Dissolved
Barium	27.4		5.00	0.810	ug/L	1			6020	Dissolved
Manganese	16.7	J	50.0	11.6	ug/L	1			6020	Dissolved
Zinc	5.68	J	25.0	3.55	ug/L	1			6020	Dissolved
Bromide	0.521	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	13.3		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.21		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	23.1		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.158		0.100	0.0200	mg/L	1			340.2	Total/NA
Phosphorus	0.0811	J	0.100	0.0410	mg/L	1			365.4	Total/NA
Total Organic Carbon	2.06		1.00	0.285	mg/L	1			9060	Total/NA
Dissolved Organic Carbon	1.85		1.00	0.285	mg/L	1			9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.15	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	180		5.00	5.00	mg/L	1			SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: HSM230 TRAIL (Continued)

## Lab Sample ID: 560-60183-18

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	180		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	257		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	14.0		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: FDHSM230 TRAIL

## Lab Sample ID: 560-60183-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	62.8		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	9.19		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.55		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	3.63		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	8.71		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.315		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	25.8		5.00	0.810	ug/L	1		6020	Dissolved
Manganese	15.2	J	50.0	11.6	ug/L	1		6020	Dissolved
Selenium	1.26	J B	5.00	1.08	ug/L	1		6020	Dissolved
Zinc	4.98	J	25.0	3.55	ug/L	1		6020	Dissolved
Bromide	0.521	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	13.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.20		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.0		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.163		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0913	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	2.19		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.92		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.13	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	177		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	177		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	249		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	14.8		3.00	3.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HSM231 TRAIL

## Lab Sample ID: 560-60183-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	90.6		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	17.2		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.16		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.13		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	12.3		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.552		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	34.4		5.00	0.810	ug/L	1		6020	Dissolved
Bromide	0.547	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.0		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.26		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.6		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.183		0.100	0.0200	mg/L	1		340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.20	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	237		5.00	5.00	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: HSM231 TRAIL (Continued)

## Lab Sample ID: 560-60183-20

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	237		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	347		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: FDHSM231 TRAIL

## Lab Sample ID: 560-60183-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	5.61	J	10.0	5.00	ug/L	1		8260B	Total/NA
Calcium	88.4		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	16.7		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.33		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.31		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	12.0	B	1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.534		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	36.0		5.00	0.810	ug/L	1		6020	Dissolved
Selenium	1.67	J	5.00	1.08	ug/L	1		6020	Dissolved
Bromide	0.547	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.1		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.27		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.8		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.181		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.638	J	1.00	0.285	mg/L	1		9060	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.18	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	247		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	247		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	332		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HSM240 TRAIL

## Lab Sample ID: 560-60183-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	87.0		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	16.5		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.27		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.31		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.6	B	1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.528		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	35.7		5.00	0.810	ug/L	1		6020	Dissolved
Selenium	1.22	J	5.00	1.08	ug/L	1		6020	Dissolved
Bromide	0.546	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.1		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.26		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.191		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0492	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.652	J	1.00	0.285	mg/L	1		9060	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.31	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	244		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	244		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	341		10.0	10.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: HSM240 TRAIL (Continued)

## Lab Sample ID: 560-60183-22

Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
Total Suspended Solids	7.60		3.00	3.00	mg/L	1			SM 2540D	Total/NA

## Client Sample ID: HSM250 TRAIL

## Lab Sample ID: 560-60183-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	87.4		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	16.4		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.31		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	5.25		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	11.6	B	1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.532		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	36.2		5.00	0.810	ug/L	1			6020	Dissolved
Bromide	0.545	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	17.5		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.23		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	23.9		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.170		0.100	0.0200	mg/L	1			340.2	Total/NA
Total Organic Carbon	0.381	J	1.00	0.285	mg/L	1			9060	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.24	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	235		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	235		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	340		10.0	10.0	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	5.40		3.00	3.00	mg/L	1			SM 2540D	Total/NA

## Client Sample ID: HSM260TRAIL

## Lab Sample ID: 560-60183-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Calcium	80.7		0.200	0.101	mg/L	1			6010B	Dissolved
Magnesium	15.0		0.200	0.0257	mg/L	1			6010B	Dissolved
Potassium	1.48		0.500	0.375	mg/L	1			6010B	Dissolved
Silicon	4.65		0.500	0.0707	mg/L	1			6010B	Dissolved
Sodium	10.9		1.00	0.310	mg/L	1			6010B	Dissolved
Strontium	0.489		0.00500	0.000700	mg/L	1			6010B	Dissolved
Barium	33.1		5.00	0.810	ug/L	1			6020	Dissolved
Zinc	6.69	J	25.0	3.55	ug/L	1			6020	Dissolved
Bromide	0.540	J	1.00	0.315	mg/L	1			300.0	Total/NA
Chloride	16.3		1.00	0.192	mg/L	1			300.0	Total/NA
Nitrate as N	1.15		0.500	0.103	mg/L	1			300.0	Total/NA
Sulfate	22.4		1.00	0.377	mg/L	1			300.0	Total/NA
Fluoride	0.172		0.100	0.0200	mg/L	1			340.2	Total/NA
Total Organic Carbon	0.675	J	1.00	0.285	mg/L	1			9060	Total/NA
Dissolved Organic Carbon	0.800	J	1.00	0.285	mg/L	1			9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil	Fac	D	Method	Prep Type
pH	7.32	HF	0.100	0.100	SU	1			9040C	Total/NA
Total Alkalinity as CaCO3	217		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	217		5.00	5.00	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids	321		10.0	10.0	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	12.4		3.00	3.00	mg/L	1			SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM 270 TRAIL**

**Lab Sample ID: 560-60183-25**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	6.41	J	10.0	5.00	ug/L	1		8260B	Total/NA
Calcium	76.9		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.0		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.65		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.45		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	10.7		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.443		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	32.7		5.00	0.810	ug/L	1		6020	Dissolved
Bromide	0.533	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	14.9		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.06		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	21.0		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.164		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0423	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	1.24		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.01		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.38	HF	0.100	0.100	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	202		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	202		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	293		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	23.6		3.00	3.00	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 LEAD**

**Date Collected: 03/09/16 13:36**

**Date Received: 03/09/16 17:30**

**Lab Sample ID: 560-60183-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/10/16 19:23	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 19:23	1
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 19:23	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 19:23	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 19:23	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 19:23	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 19:23	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 19:23	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 19:23	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 19:23	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 19:23	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 19:23	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 19:23	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 19:23	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 19:23	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 19:23	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 19:23	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 19:23	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 19:23	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 19:23	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 19:23	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 19:23	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 19:23	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 19:23	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 19:23	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 19:23	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 19:23	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 19:23	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 19:23	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 19:23	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 19:23	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 19:23	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 19:23	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 19:23	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 19:23	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 19:23	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 19:23	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 19:23	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 19:23	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 19:23	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 19:23	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 19:23	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 19:23	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 19:23	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 19:23	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 19:23	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 19:23	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 19:23	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 19:23	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 LEAD**

**Lab Sample ID: 560-60183-1**

**Date Collected: 03/09/16 13:36**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 19:23	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 19:23	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 19:23	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 19:23	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 19:23	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 19:23	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 19:23	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 19:23	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 19:23	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 19:23	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 19:23	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 19:23	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 19:23	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 19:23	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 19:23	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 19:23	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 19:23	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 19:23	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 19:23	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 19:23	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 19:23	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 19:23	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 19:23	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 19:23	1
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 19:23	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 19:23	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 19:23	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 19:23	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 19:23	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 19:23	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 19:23	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 19:23	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 19:23	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 19:23	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 19:23	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 19:23	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 19:23	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 19:23	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 19:23	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 19:23	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 19:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 19:23	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 19:23	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 19:23	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 19:23	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 19:23	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 19:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		03/10/16 19:23	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 LEAD**

**Lab Sample ID: 560-60183-1**

**Date Collected: 03/09/16 13:36**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	103		69 - 130		03/10/16 19:23	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		03/10/16 19:23	1
Toluene-d8 (Surr)	101		70 - 130		03/10/16 19:23	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/10/16 15:00	03/11/16 18:17	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/10/16 15:00	03/11/16 18:17	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/10/16 15:00	03/11/16 18:17	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/10/16 15:00	03/11/16 18:17	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/10/16 15:00	03/11/16 18:17	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/10/16 15:00	03/11/16 18:17	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/10/16 15:00	03/11/16 18:17	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/10/16 15:00	03/11/16 18:17	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/10/16 15:00	03/11/16 18:17	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/10/16 15:00	03/11/16 18:17	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/10/16 15:00	03/11/16 18:17	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/10/16 15:00	03/11/16 18:17	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/10/16 15:00	03/11/16 18:17	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/10/16 15:00	03/11/16 18:17	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 18:17	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/10/16 15:00	03/11/16 18:17	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/10/16 15:00	03/11/16 18:17	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/10/16 15:00	03/11/16 18:17	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/10/16 15:00	03/11/16 18:17	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/10/16 15:00	03/11/16 18:17	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/10/16 15:00	03/11/16 18:17	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/10/16 15:00	03/11/16 18:17	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/10/16 15:00	03/11/16 18:17	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/10/16 15:00	03/11/16 18:17	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/10/16 15:00	03/11/16 18:17	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 18:17	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/10/16 15:00	03/11/16 18:17	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/10/16 15:00	03/11/16 18:17	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/10/16 15:00	03/11/16 18:17	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 18:17	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/10/16 15:00	03/11/16 18:17	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/10/16 15:00	03/11/16 18:17	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/10/16 15:00	03/11/16 18:17	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/10/16 15:00	03/11/16 18:17	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/10/16 15:00	03/11/16 18:17	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/10/16 15:00	03/11/16 18:17	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/10/16 15:00	03/11/16 18:17	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/10/16 15:00	03/11/16 18:17	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/10/16 15:00	03/11/16 18:17	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/10/16 15:00	03/11/16 18:17	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/10/16 15:00	03/11/16 18:17	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 18:17	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/10/16 15:00	03/11/16 18:17	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 LEAD**

**Lab Sample ID: 560-60183-1**

**Date Collected: 03/09/16 13:36**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 18:17	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/10/16 15:00	03/11/16 18:17	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/10/16 15:00	03/11/16 18:17	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/10/16 15:00	03/11/16 18:17	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 18:17	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/10/16 15:00	03/11/16 18:17	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/10/16 15:00	03/11/16 18:17	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/10/16 15:00	03/11/16 18:17	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/10/16 15:00	03/11/16 18:17	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/10/16 15:00	03/11/16 18:17	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/10/16 15:00	03/11/16 18:17	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/10/16 15:00	03/11/16 18:17	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/10/16 15:00	03/11/16 18:17	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/10/16 15:00	03/11/16 18:17	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/10/16 15:00	03/11/16 18:17	1
Phenol	0.768	U	10.0	0.768	ug/L		03/10/16 15:00	03/11/16 18:17	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/10/16 15:00	03/11/16 18:17	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/10/16 15:00	03/11/16 18:17	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/10/16 15:00	03/11/16 18:17	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/10/16 15:00	03/11/16 18:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	44		23 - 130	03/10/16 15:00	03/11/16 18:17	1
2-Fluorophenol	46		10 - 130	03/10/16 15:00	03/11/16 18:17	1
Nitrobenzene-d5	47		27 - 130	03/10/16 15:00	03/11/16 18:17	1
Phenol-d5	49		10 - 130	03/10/16 15:00	03/11/16 18:17	1
Terphenyl-d14	39		10 - 141	03/10/16 15:00	03/11/16 18:17	1
2,4,6-Tribromophenol	48		18 - 130	03/10/16 15:00	03/11/16 18:17	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00485	U	0.0582	0.00485	ug/L		03/11/16 13:04	03/14/16 17:33	1
alpha-BHC	0.00504	U	0.0582	0.00504	ug/L		03/11/16 13:04	03/14/16 17:33	1
alpha-Chlordane	0.00611	U	0.0582	0.00611	ug/L		03/11/16 13:04	03/14/16 17:33	1
beta-BHC	0.00485	U	0.0582	0.00485	ug/L		03/11/16 13:04	03/14/16 17:33	1
4,4'-DDD	0.00485	U	0.0582	0.00485	ug/L		03/11/16 13:04	03/14/16 17:33	1
4,4'-DDE	0.00485	U	0.0582	0.00485	ug/L		03/11/16 13:04	03/14/16 17:33	1
4,4'-DDT	0.00785	U	0.0582	0.00785	ug/L		03/11/16 13:04	03/14/16 17:33	1
delta-BHC	0.00485	U	0.0582	0.00485	ug/L		03/11/16 13:04	03/14/16 17:33	1
Dieldrin	0.0126	U	0.0582	0.0126	ug/L		03/11/16 13:04	03/14/16 17:33	1
Endosulfan I	0.00485	U	0.0582	0.00485	ug/L		03/11/16 13:04	03/14/16 17:33	1
Endosulfan II	0.00834	U	0.0582	0.00834	ug/L		03/11/16 13:04	03/14/16 17:33	1
Endosulfan sulfate	0.00853	U	0.0582	0.00853	ug/L		03/11/16 13:04	03/14/16 17:33	1
Endrin	0.00747	U	0.0582	0.00747	ug/L		03/11/16 13:04	03/14/16 17:33	1
Endrin aldehyde	0.00485	U	0.0582	0.00485	ug/L		03/11/16 13:04	03/14/16 17:33	1
Endrin ketone	0.00795	U	0.0582	0.00795	ug/L		03/11/16 13:04	03/14/16 17:33	1
gamma-BHC (Lindane)	0.00436	U	0.0582	0.00436	ug/L		03/11/16 13:04	03/14/16 17:33	1
gamma-Chlordane	0.00650	U	0.0582	0.00650	ug/L		03/11/16 13:04	03/14/16 17:33	1
Heptachlor	0.00630	U	0.0582	0.00630	ug/L		03/11/16 13:04	03/14/16 17:33	1
Heptachlor epoxide	0.00504	U	0.0582	0.00504	ug/L		03/11/16 13:04	03/14/16 17:33	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 LEAD**

**Lab Sample ID: 560-60183-1**

**Date Collected: 03/09/16 13:36**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	0.00970	U	0.0582	0.00970	ug/L		03/11/16 13:04	03/14/16 17:33	1
Toxaphene	0.659	U	5.82	0.659	ug/L		03/11/16 13:04	03/14/16 17:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	52		10 - 152				03/11/16 13:04	03/14/16 17:33	1
Tetrachloro-m-xylene	75		57 - 127				03/11/16 13:04	03/14/16 17:33	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:14	1
Aroclor 1221	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:14	1
Aroclor 1232	0.427	U	0.776	0.427	ug/L		03/11/16 13:04	03/14/16 12:14	1
Aroclor 1242	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:14	1
Aroclor 1248	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:14	1
Aroclor 1254	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:14	1
Aroclor 1260	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:14	1
Aroclor 1262	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:14	1
Aroclor 1268	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	121		10 - 150				03/11/16 13:04	03/14/16 12:14	1
DCB Decachlorobiphenyl	103		10 - 150				03/11/16 13:04	03/14/16 12:14	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.179	U	2.66	0.179	ug/L		03/11/16 19:29	03/21/16 19:39	1
Bolstar	0.334	U	1.06	0.334	ug/L		03/11/16 19:29	03/21/16 19:39	1
Chlorpyrifos	0.383	U	1.60	0.383	ug/L		03/11/16 19:29	03/21/16 19:39	1
Coumaphos	0.144	U	1.06	0.144	ug/L		03/11/16 19:29	03/21/16 19:39	1
Demeton-O	0.149	U	1.06	0.149	ug/L		03/11/16 19:29	03/21/16 19:39	1
Demeton-S	0.0735	U	2.13	0.0735	ug/L		03/11/16 19:29	03/21/16 19:39	1
Diazinon	0.156	U	0.532	0.156	ug/L		03/11/16 19:29	03/21/16 19:39	1
Dichlorvos	0.172	U	0.532	0.172	ug/L		03/11/16 19:29	03/21/16 19:39	1
Dimethoate	0.478	U	1.60	0.478	ug/L		03/11/16 19:29	03/21/16 19:39	1
Disulfoton	0.343	U	1.06	0.343	ug/L		03/11/16 19:29	03/21/16 19:39	1
EPN	0.159	U	1.28	0.159	ug/L		03/11/16 19:29	03/21/16 19:39	1
Ethoprop	0.188	U	1.60	0.188	ug/L		03/11/16 19:29	03/21/16 19:39	1
Ethyl Parathion	0.153	U	1.06	0.153	ug/L		03/11/16 19:29	03/21/16 19:39	1
Famphur	0.191	U	1.06	0.191	ug/L		03/11/16 19:29	03/21/16 19:39	1
Fensulfothion	0.579	U	2.66	0.579	ug/L		03/11/16 19:29	03/21/16 19:39	1
Fenthion	0.164	U	2.66	0.164	ug/L		03/11/16 19:29	03/21/16 19:39	1
Malathion	0.142	U	2.13	0.142	ug/L		03/11/16 19:29	03/21/16 19:39	1
Merphos	0.185	U	5.32	0.185	ug/L		03/11/16 19:29	03/21/16 19:39	1
Methyl parathion	0.150	U	4.26	0.150	ug/L		03/11/16 19:29	03/21/16 19:39	1
Mevinphos	0.490	U	6.60	0.490	ug/L		03/11/16 19:29	03/21/16 19:39	1
Naled	0.852	U	2.13	0.852	ug/L		03/11/16 19:29	03/21/16 19:39	1
Phorate	0.164	U	1.28	0.164	ug/L		03/11/16 19:29	03/21/16 19:39	1
Ronnel	0.123	U	10.6	0.123	ug/L		03/11/16 19:29	03/21/16 19:39	1
Sulfotepp	0.179	U	1.60	0.179	ug/L		03/11/16 19:29	03/21/16 19:39	1
Tetrachlorvinphos (Stirophos)	0.132	U	3.73	0.132	ug/L		03/11/16 19:29	03/21/16 19:39	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 LEAD**

**Lab Sample ID: 560-60183-1**

**Date Collected: 03/09/16 13:36**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thionazin	0.332	U	1.06	0.332	ug/L		03/11/16 19:29	03/21/16 19:39	1
Tokuthion	0.131	U	1.70	0.131	ug/L		03/11/16 19:29	03/21/16 19:39	1
Trichloronate	0.258	U	1.60	0.258	ug/L		03/11/16 19:29	03/21/16 19:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	91		49 - 171				03/11/16 19:29	03/21/16 19:39	1
Triphenylphosphate	107		60 - 154				03/11/16 19:29	03/21/16 19:39	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.104	U	5.20	0.104	ug/L		03/15/16 08:29	03/16/16 18:03	1
Dicamba	0.0884	U	0.520	0.0884	ug/L		03/15/16 08:29	03/16/16 18:03	1
Mecoprop	19.8	U	125	19.8	ug/L		03/15/16 08:29	03/16/16 18:03	1
MCPA	17.7	U	125	17.7	ug/L		03/15/16 08:29	03/16/16 18:03	1
Dichlorprop	0.156	U	0.520	0.156	ug/L		03/15/16 08:29	03/16/16 18:03	1
2,4-D	0.0385	U	0.520	0.0385	ug/L		03/15/16 08:29	03/16/16 18:03	1
Silvex (2,4,5-TP)	0.0645	U	0.260	0.0645	ug/L		03/15/16 08:29	03/16/16 18:03	1
2,4,5-T	0.0645	U	0.260	0.0645	ug/L		03/15/16 08:29	03/16/16 18:03	1
2,4-DB	0.156	U	0.520	0.156	ug/L		03/15/16 08:29	03/16/16 18:03	1
Dinoseb	0.166	U	1.04	0.166	ug/L		03/15/16 08:29	03/16/16 18:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	97		45 - 130				03/15/16 08:29	03/16/16 18:03	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	86.0		0.200	0.101	mg/L		03/11/16 10:00	03/11/16 15:35	1
Magnesium	19.0		0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 15:35	1
Potassium	1.63		0.500	0.375	mg/L		03/11/16 10:00	03/11/16 15:35	1
Silicon	5.29		0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 15:35	1
Sodium	16.1		1.00	0.310	mg/L		03/11/16 10:00	03/11/16 15:35	1
Strontium	0.667		0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 15:35	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/11/16 10:00	03/11/16 17:56	1
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 17:56	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 17:56	1
Barium	33.9		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 17:56	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 17:56	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 17:56	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 17:56	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 17:56	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 17:56	1
Lead	1.50	J	5.00	0.733	ug/L		03/11/16 10:00	03/11/16 17:56	1
Manganese	119		50.0	11.6	ug/L		03/11/16 10:00	03/11/16 17:56	1
Nickel	2.17	U	5.00	2.17	ug/L		03/11/16 10:00	03/11/16 17:56	1
Selenium	1.13	J B	5.00	1.08	ug/L		03/11/16 10:00	03/11/16 17:56	1
Silver	0.941	U	5.00	0.941	ug/L		03/11/16 10:00	03/11/16 17:56	1
Thallium	0.693	U	2.00	0.693	ug/L		03/11/16 10:00	03/11/16 17:56	1
Zinc	3.55	U	25.0	3.55	ug/L		03/11/16 10:00	03/11/16 17:56	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/14/16 10:00	03/14/16 16:42	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.592	J	1.00	0.315	mg/L			03/10/16 20:03	1
Chloride	26.1		1.00	0.192	mg/L			03/10/16 20:03	1
Nitrate as N	0.728		0.500	0.103	mg/L			03/10/16 20:03	1
Sulfate	31.8		1.00	0.377	mg/L			03/10/16 20:03	1
Fluoride	0.227		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/16/16 12:08	1
Phosphorus	0.0461	J	0.100	0.0410	mg/L		03/21/16 10:03	03/22/16 11:08	1
Total Organic Carbon	1.10		1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.05	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	236		5.00	5.00	mg/L			03/21/16 16:00	1
Bicarbonate Alkalinity as CaCO3	236		5.00	5.00	mg/L			03/21/16 16:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/21/16 16:00	1
Total Dissolved Solids	374		10.0	10.0	mg/L			03/11/16 09:50	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.584	J	1.00	0.285	mg/L			03/21/16 12:00	1

Client Sample ID: HSM230 LEAD

Lab Sample ID: 560-60183-2

Date Collected: 03/09/16 13:52

Matrix: Water

Date Received: 03/09/16 17:30

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.45	J	10.0	5.00	ug/L			03/10/16 19:48	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 19:48	1
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 19:48	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 19:48	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 19:48	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 19:48	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 19:48	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 19:48	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 19:48	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 19:48	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 19:48	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 19:48	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 19:48	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 19:48	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 19:48	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 19:48	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 19:48	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 19:48	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 19:48	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 19:48	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 19:48	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 19:48	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 19:48	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 19:48	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 LEAD**

**Lab Sample ID: 560-60183-2**

**Date Collected: 03/09/16 13:52**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 19:48	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 19:48	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 19:48	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 19:48	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 19:48	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 19:48	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 19:48	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 19:48	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 19:48	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 19:48	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 19:48	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 19:48	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 19:48	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 19:48	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 19:48	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 19:48	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 19:48	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 19:48	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 19:48	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 19:48	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 19:48	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 19:48	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 19:48	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 19:48	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 19:48	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 19:48	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 19:48	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 19:48	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 19:48	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 19:48	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 19:48	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 19:48	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 19:48	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 19:48	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 19:48	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 19:48	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 19:48	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 19:48	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 19:48	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 19:48	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 19:48	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 19:48	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 19:48	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 19:48	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 19:48	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 19:48	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 19:48	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 19:48	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 19:48	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 LEAD**

**Lab Sample ID: 560-60183-2**

**Date Collected: 03/09/16 13:52**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 19:48	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 19:48	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 19:48	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 19:48	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 19:48	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 19:48	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 19:48	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 19:48	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 19:48	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 19:48	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 19:48	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 19:48	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 19:48	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 19:48	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 19:48	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 19:48	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 19:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 19:48	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 19:48	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 19:48	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 19:48	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 19:48	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 19:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/10/16 19:48	1
Dibromofluoromethane (Surr)	100		69 - 130		03/10/16 19:48	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		03/10/16 19:48	1
Toluene-d8 (Surr)	101		70 - 130		03/10/16 19:48	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/10/16 15:00	03/11/16 18:43	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/10/16 15:00	03/11/16 18:43	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/10/16 15:00	03/11/16 18:43	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/10/16 15:00	03/11/16 18:43	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/10/16 15:00	03/11/16 18:43	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/10/16 15:00	03/11/16 18:43	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/10/16 15:00	03/11/16 18:43	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/10/16 15:00	03/11/16 18:43	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/10/16 15:00	03/11/16 18:43	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/10/16 15:00	03/11/16 18:43	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/10/16 15:00	03/11/16 18:43	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/10/16 15:00	03/11/16 18:43	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/10/16 15:00	03/11/16 18:43	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/10/16 15:00	03/11/16 18:43	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 18:43	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/10/16 15:00	03/11/16 18:43	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/10/16 15:00	03/11/16 18:43	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/10/16 15:00	03/11/16 18:43	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 LEAD**

**Lab Sample ID: 560-60183-2**

**Date Collected: 03/09/16 13:52**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/10/16 15:00	03/11/16 18:43	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/10/16 15:00	03/11/16 18:43	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/10/16 15:00	03/11/16 18:43	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/10/16 15:00	03/11/16 18:43	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/10/16 15:00	03/11/16 18:43	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/10/16 15:00	03/11/16 18:43	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/10/16 15:00	03/11/16 18:43	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 18:43	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/10/16 15:00	03/11/16 18:43	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/10/16 15:00	03/11/16 18:43	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/10/16 15:00	03/11/16 18:43	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 18:43	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/10/16 15:00	03/11/16 18:43	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/10/16 15:00	03/11/16 18:43	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/10/16 15:00	03/11/16 18:43	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/10/16 15:00	03/11/16 18:43	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/10/16 15:00	03/11/16 18:43	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/10/16 15:00	03/11/16 18:43	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/10/16 15:00	03/11/16 18:43	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/10/16 15:00	03/11/16 18:43	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/10/16 15:00	03/11/16 18:43	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/10/16 15:00	03/11/16 18:43	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/10/16 15:00	03/11/16 18:43	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 18:43	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/10/16 15:00	03/11/16 18:43	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 18:43	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/10/16 15:00	03/11/16 18:43	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/10/16 15:00	03/11/16 18:43	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/10/16 15:00	03/11/16 18:43	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 18:43	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/10/16 15:00	03/11/16 18:43	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/10/16 15:00	03/11/16 18:43	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/10/16 15:00	03/11/16 18:43	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/10/16 15:00	03/11/16 18:43	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/10/16 15:00	03/11/16 18:43	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/10/16 15:00	03/11/16 18:43	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/10/16 15:00	03/11/16 18:43	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/10/16 15:00	03/11/16 18:43	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/10/16 15:00	03/11/16 18:43	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/10/16 15:00	03/11/16 18:43	1
Phenol	0.768	U	10.0	0.768	ug/L		03/10/16 15:00	03/11/16 18:43	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/10/16 15:00	03/11/16 18:43	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/10/16 15:00	03/11/16 18:43	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/10/16 15:00	03/11/16 18:43	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/10/16 15:00	03/11/16 18:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	36		23 - 130	03/10/16 15:00	03/11/16 18:43	1
2-Fluorophenol	35		10 - 130	03/10/16 15:00	03/11/16 18:43	1
Nitrobenzene-d5	36		27 - 130	03/10/16 15:00	03/11/16 18:43	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 LEAD**

**Lab Sample ID: 560-60183-2**

**Date Collected: 03/09/16 13:52**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	38		10 - 130	03/10/16 15:00	03/11/16 18:43	1
Terphenyl-d14	16		10 - 141	03/10/16 15:00	03/11/16 18:43	1
2,4,6-Tribromophenol	47		18 - 130	03/10/16 15:00	03/11/16 18:43	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00485	U	0.0582	0.00485	ug/L		03/11/16 13:04	03/14/16 17:58	1
alpha-BHC	0.00504	U	0.0582	0.00504	ug/L		03/11/16 13:04	03/14/16 17:58	1
alpha-Chlordane	0.00611	U	0.0582	0.00611	ug/L		03/11/16 13:04	03/14/16 17:58	1
beta-BHC	0.00485	U	0.0582	0.00485	ug/L		03/11/16 13:04	03/14/16 17:58	1
4,4'-DDD	0.00485	U	0.0582	0.00485	ug/L		03/11/16 13:04	03/14/16 17:58	1
4,4'-DDE	0.00485	U	0.0582	0.00485	ug/L		03/11/16 13:04	03/14/16 17:58	1
4,4'-DDT	0.00785	U	0.0582	0.00785	ug/L		03/11/16 13:04	03/14/16 17:58	1
delta-BHC	0.00485	U	0.0582	0.00485	ug/L		03/11/16 13:04	03/14/16 17:58	1
Dieldrin	0.0126	U	0.0582	0.0126	ug/L		03/11/16 13:04	03/14/16 17:58	1
Endosulfan I	0.00485	U	0.0582	0.00485	ug/L		03/11/16 13:04	03/14/16 17:58	1
Endosulfan II	0.00834	U	0.0582	0.00834	ug/L		03/11/16 13:04	03/14/16 17:58	1
Endosulfan sulfate	0.00853	U	0.0582	0.00853	ug/L		03/11/16 13:04	03/14/16 17:58	1
Endrin	0.00747	U	0.0582	0.00747	ug/L		03/11/16 13:04	03/14/16 17:58	1
Endrin aldehyde	0.00485	U	0.0582	0.00485	ug/L		03/11/16 13:04	03/14/16 17:58	1
Endrin ketone	0.00795	U	0.0582	0.00795	ug/L		03/11/16 13:04	03/14/16 17:58	1
gamma-BHC (Lindane)	0.00436	U	0.0582	0.00436	ug/L		03/11/16 13:04	03/14/16 17:58	1
gamma-Chlordane	0.00650	U	0.0582	0.00650	ug/L		03/11/16 13:04	03/14/16 17:58	1
Heptachlor	0.00630	U	0.0582	0.00630	ug/L		03/11/16 13:04	03/14/16 17:58	1
Heptachlor epoxide	0.00504	U	0.0582	0.00504	ug/L		03/11/16 13:04	03/14/16 17:58	1
Methoxychlor	0.00970	U	0.0582	0.00970	ug/L		03/11/16 13:04	03/14/16 17:58	1
Toxaphene	0.659	U	5.82	0.659	ug/L		03/11/16 13:04	03/14/16 17:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	33		10 - 152	03/11/16 13:04	03/14/16 17:58	1
Tetrachloro-m-xylene	79		57 - 127	03/11/16 13:04	03/14/16 17:58	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:32	1
Aroclor 1221	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:32	1
Aroclor 1232	0.427	U	0.776	0.427	ug/L		03/11/16 13:04	03/14/16 12:32	1
Aroclor 1242	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:32	1
Aroclor 1248	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:32	1
Aroclor 1254	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:32	1
Aroclor 1260	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:32	1
Aroclor 1262	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:32	1
Aroclor 1268	0.107	U	0.582	0.107	ug/L		03/11/16 13:04	03/14/16 12:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	121		10 - 150	03/11/16 13:04	03/14/16 12:32	1
DCB Decachlorobiphenyl	67		10 - 150	03/11/16 13:04	03/14/16 12:32	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 LEAD**

**Lab Sample ID: 560-60183-2**

**Date Collected: 03/09/16 13:52**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.185	U	2.75	0.185	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Bolstar	0.346	U	1.10	0.346	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Chlorpyrifos	0.396	U	1.65	0.396	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Coumaphos	0.149	U	1.10	0.149	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Demeton-O	0.154	U	1.10	0.154	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Demeton-S	0.0760	U	2.20	0.0760	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Diazinon	0.162	U	0.551	0.162	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Dichlorvos	0.178	U	0.551	0.178	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Dimethoate	0.494	U	1.65	0.494	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Disulfoton	0.355	U	1.10	0.355	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
EPN	0.164	U	1.32	0.164	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Ethoprop	0.195	U	1.65	0.195	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Ethyl Parathion	0.159	U	1.10	0.159	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Famphur	0.197	U	1.10	0.197	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Fensulfothion	0.599	U	2.75	0.599	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Fenthion	0.170	U	2.75	0.170	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Malathion	0.146	U	2.20	0.146	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Merphos	0.192	U	5.51	0.192	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Methyl parathion	0.155	U	4.41	0.155	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Mevinphos	0.507	U	6.83	0.507	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Naled	0.881	U	2.20	0.881	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Phorate	0.170	U	1.32	0.170	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Ronnel	0.128	U	11.0	0.128	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Sulfotepp	0.185	U	1.65	0.185	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Tetrachlorvinphos (Stirophos)	0.137	U	3.85	0.137	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Thionazin	0.344	U	1.10	0.344	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Tokuthion	0.135	U	1.76	0.135	ug/L	-	03/11/16 19:29	03/19/16 00:29	1
Trichloronate	0.267	U	1.65	0.267	ug/L	-	03/11/16 19:29	03/19/16 00:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	71		49 - 171	03/11/16 19:29	03/19/16 00:29	1
Triphenylphosphate	95		60 - 154	03/11/16 19:29	03/19/16 00:29	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.108	U	5.39	0.108	ug/L	-	03/15/16 08:29	03/16/16 18:23	1
Dicamba	0.0917	U	0.539	0.0917	ug/L	-	03/15/16 08:29	03/16/16 18:23	1
Mecoprop	20.5	U	129	20.5	ug/L	-	03/15/16 08:29	03/16/16 18:23	1
MCPA	18.3	U	129	18.3	ug/L	-	03/15/16 08:29	03/16/16 18:23	1
Dichlorprop	0.162	U	0.539	0.162	ug/L	-	03/15/16 08:29	03/16/16 18:23	1
2,4-D	0.0399	U	0.539	0.0399	ug/L	-	03/15/16 08:29	03/16/16 18:23	1
Silvex (2,4,5-TP)	0.0669	U	0.270	0.0669	ug/L	-	03/15/16 08:29	03/16/16 18:23	1
2,4,5-T	0.0669	U	0.270	0.0669	ug/L	-	03/15/16 08:29	03/16/16 18:23	1
2,4-DB	0.162	U	0.539	0.162	ug/L	-	03/15/16 08:29	03/16/16 18:23	1
Dinoseb	0.173	U	1.08	0.173	ug/L	-	03/15/16 08:29	03/16/16 18:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	95		45 - 130	03/15/16 08:29	03/16/16 18:23	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 LEAD**

**Lab Sample ID: 560-60183-2**

Date Collected: 03/09/16 13:52

Matrix: Water

Date Received: 03/09/16 17:30

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	46.8		0.200	0.101	mg/L		03/11/16 10:00	03/11/16 15:39	1
Magnesium	7.05		0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 15:39	1
Potassium	2.30		0.500	0.375	mg/L		03/11/16 10:00	03/11/16 15:39	1
Silicon	2.65		0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 15:39	1
Sodium	7.51		1.00	0.310	mg/L		03/11/16 10:00	03/11/16 15:39	1
Strontium	0.241		0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 15:39	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/11/16 10:00	03/11/16 18:01	1
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 18:01	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 18:01	1
Barium	20.4		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 18:01	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 18:01	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 18:01	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 18:01	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 18:01	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 18:01	1
Lead	0.733	U	5.00	0.733	ug/L		03/11/16 10:00	03/11/16 18:01	1
Manganese	29.1	J	50.0	11.6	ug/L		03/11/16 10:00	03/11/16 18:01	1
Nickel	2.17	U	5.00	2.17	ug/L		03/11/16 10:00	03/11/16 18:01	1
Selenium	1.08	U	5.00	1.08	ug/L		03/11/16 10:00	03/11/16 18:01	1
Silver	0.941	U	5.00	0.941	ug/L		03/11/16 10:00	03/11/16 18:01	1
Thallium	0.693	U	2.00	0.693	ug/L		03/11/16 10:00	03/11/16 18:01	1
Zinc	15.4	J	25.0	3.55	ug/L		03/11/16 10:00	03/11/16 18:01	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/14/16 10:00	03/14/16 16:44	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.503	J	1.00	0.315	mg/L			03/10/16 20:29	1
Chloride	10.2		1.00	0.192	mg/L			03/10/16 20:29	1
Nitrate as N	0.922		0.500	0.103	mg/L			03/10/16 20:29	1
Sulfate	12.8		1.00	0.377	mg/L			03/10/16 20:29	1
Fluoride	0.122		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	1.73		1.00	0.432	mg/L			03/16/16 12:11	1
Phosphorus	0.141		0.100	0.0410	mg/L		03/21/16 10:03	03/22/16 11:09	1
Total Organic Carbon	7.07		1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.15	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	113		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	113		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	179		10.0	10.0	mg/L			03/11/16 09:50	1
Total Suspended Solids	29.6		3.00	3.00	mg/L			03/14/16 16:45	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: HSM230 LEAD

Date Collected: 03/09/16 13:52

Date Received: 03/09/16 17:30

## Lab Sample ID: 560-60183-2

Matrix: Water

### General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	7.19		1.00	0.285	mg/L			03/21/16 12:00	1

## Client Sample ID: HSM231 LEAD

Date Collected: 03/09/16 14:10

Date Received: 03/09/16 17:30

## Lab Sample ID: 560-60183-3

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	8.09	J	10.0	5.00	ug/L			03/10/16 20:13	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 20:13	1
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 20:13	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 20:13	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 20:13	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 20:13	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 20:13	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 20:13	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 20:13	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 20:13	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 20:13	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 20:13	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 20:13	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 20:13	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 20:13	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 20:13	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 20:13	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 20:13	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 20:13	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 20:13	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 20:13	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 20:13	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 20:13	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 20:13	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 20:13	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 20:13	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 20:13	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 20:13	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 20:13	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 20:13	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 20:13	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 20:13	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 20:13	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 20:13	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 20:13	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 20:13	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 20:13	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 20:13	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 20:13	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 20:13	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 20:13	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 20:13	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 LEAD**

**Lab Sample ID: 560-60183-3**

**Date Collected: 03/09/16 14:10**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 20:13	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 20:13	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 20:13	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 20:13	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 20:13	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 20:13	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 20:13	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 20:13	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 20:13	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 20:13	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 20:13	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 20:13	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 20:13	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 20:13	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 20:13	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 20:13	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 20:13	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 20:13	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 20:13	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 20:13	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 20:13	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 20:13	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 20:13	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 20:13	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 20:13	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 20:13	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 20:13	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 20:13	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 20:13	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 20:13	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 20:13	1
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 20:13	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 20:13	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 20:13	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 20:13	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 20:13	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 20:13	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 20:13	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 20:13	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 20:13	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 20:13	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 20:13	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 20:13	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 20:13	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 20:13	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 20:13	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 20:13	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 20:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 20:13	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 LEAD**

**Lab Sample ID: 560-60183-3**

**Date Collected: 03/09/16 14:10**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 20:13	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 20:13	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 20:13	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 20:13	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 20:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/10/16 20:13	1
Dibromofluoromethane (Surr)	102		69 - 130		03/10/16 20:13	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		03/10/16 20:13	1
Toluene-d8 (Surr)	101		70 - 130		03/10/16 20:13	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/10/16 15:00	03/11/16 14:00	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/10/16 15:00	03/11/16 14:00	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/10/16 15:00	03/11/16 14:00	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/10/16 15:00	03/11/16 14:00	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/10/16 15:00	03/11/16 14:00	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/10/16 15:00	03/11/16 14:00	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/10/16 15:00	03/11/16 14:00	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/10/16 15:00	03/11/16 14:00	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/10/16 15:00	03/11/16 14:00	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/10/16 15:00	03/11/16 14:00	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/10/16 15:00	03/11/16 14:00	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/10/16 15:00	03/11/16 14:00	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/10/16 15:00	03/11/16 14:00	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/10/16 15:00	03/11/16 14:00	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 14:00	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/10/16 15:00	03/11/16 14:00	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/10/16 15:00	03/11/16 14:00	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/10/16 15:00	03/11/16 14:00	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/10/16 15:00	03/11/16 14:00	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/10/16 15:00	03/11/16 14:00	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/10/16 15:00	03/11/16 14:00	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/10/16 15:00	03/11/16 14:00	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/10/16 15:00	03/11/16 14:00	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/10/16 15:00	03/11/16 14:00	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/10/16 15:00	03/11/16 14:00	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 14:00	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/10/16 15:00	03/11/16 14:00	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/10/16 15:00	03/11/16 14:00	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/10/16 15:00	03/11/16 14:00	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 14:00	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/10/16 15:00	03/11/16 14:00	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/10/16 15:00	03/11/16 14:00	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/10/16 15:00	03/11/16 14:00	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/10/16 15:00	03/11/16 14:00	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/10/16 15:00	03/11/16 14:00	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/10/16 15:00	03/11/16 14:00	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 LEAD**

**Lab Sample ID: 560-60183-3**

**Date Collected: 03/09/16 14:10**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/10/16 15:00	03/11/16 14:00	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/10/16 15:00	03/11/16 14:00	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/10/16 15:00	03/11/16 14:00	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/10/16 15:00	03/11/16 14:00	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/10/16 15:00	03/11/16 14:00	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 14:00	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/10/16 15:00	03/11/16 14:00	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 14:00	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/10/16 15:00	03/11/16 14:00	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/10/16 15:00	03/11/16 14:00	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/10/16 15:00	03/11/16 14:00	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 14:00	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/10/16 15:00	03/11/16 14:00	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/10/16 15:00	03/11/16 14:00	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/10/16 15:00	03/11/16 14:00	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/10/16 15:00	03/11/16 14:00	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/10/16 15:00	03/11/16 14:00	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/10/16 15:00	03/11/16 14:00	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/10/16 15:00	03/11/16 14:00	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/10/16 15:00	03/11/16 14:00	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/10/16 15:00	03/11/16 14:00	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/10/16 15:00	03/11/16 14:00	1
Phenol	0.768	U	10.0	0.768	ug/L		03/10/16 15:00	03/11/16 14:00	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/10/16 15:00	03/11/16 14:00	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/10/16 15:00	03/11/16 14:00	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/10/16 15:00	03/11/16 14:00	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/10/16 15:00	03/11/16 14:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	50		23 - 130	03/10/16 15:00	03/11/16 14:00	1
2-Fluorophenol	53		10 - 130	03/10/16 15:00	03/11/16 14:00	1
Nitrobenzene-d5	53		27 - 130	03/10/16 15:00	03/11/16 14:00	1
Phenol-d5	56		10 - 130	03/10/16 15:00	03/11/16 14:00	1
Terphenyl-d14	61		10 - 141	03/10/16 15:00	03/11/16 14:00	1
2,4,6-Tribromophenol	66		18 - 130	03/10/16 15:00	03/11/16 14:00	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00479	U	0.0575	0.00479	ug/L		03/11/16 13:04	03/14/16 18:23	1
alpha-BHC	0.00499	U	0.0575	0.00499	ug/L		03/11/16 13:04	03/14/16 18:23	1
alpha-Chlordane	0.00604	U	0.0575	0.00604	ug/L		03/11/16 13:04	03/14/16 18:23	1
beta-BHC	0.00479	U	0.0575	0.00479	ug/L		03/11/16 13:04	03/14/16 18:23	1
4,4'-DDD	0.00479	U	0.0575	0.00479	ug/L		03/11/16 13:04	03/14/16 18:23	1
4,4'-DDE	0.00479	U	0.0575	0.00479	ug/L		03/11/16 13:04	03/14/16 18:23	1
4,4'-DDT	0.00777	U	0.0575	0.00777	ug/L		03/11/16 13:04	03/14/16 18:23	1
delta-BHC	0.00479	U	0.0575	0.00479	ug/L		03/11/16 13:04	03/14/16 18:23	1
Dieldrin	0.0125	U	0.0575	0.0125	ug/L		03/11/16 13:04	03/14/16 18:23	1
Endosulfan I	0.00479	U	0.0575	0.00479	ug/L		03/11/16 13:04	03/14/16 18:23	1
Endosulfan II	0.00825	U	0.0575	0.00825	ug/L		03/11/16 13:04	03/14/16 18:23	1
Endosulfan sulfate	0.00844	U	0.0575	0.00844	ug/L		03/11/16 13:04	03/14/16 18:23	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 LEAD**

**Lab Sample ID: 560-60183-3**

**Date Collected: 03/09/16 14:10**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	0.00738	U	0.0575	0.00738	ug/L		03/11/16 13:04	03/14/16 18:23	1
Endrin aldehyde	0.00479	U	0.0575	0.00479	ug/L		03/11/16 13:04	03/14/16 18:23	1
Endrin ketone	0.00786	U	0.0575	0.00786	ug/L		03/11/16 13:04	03/14/16 18:23	1
gamma-BHC (Lindane)	0.00432	U	0.0575	0.00432	ug/L		03/11/16 13:04	03/14/16 18:23	1
gamma-Chlordane	0.00642	U	0.0575	0.00642	ug/L		03/11/16 13:04	03/14/16 18:23	1
Heptachlor	0.00623	U	0.0575	0.00623	ug/L		03/11/16 13:04	03/14/16 18:23	1
Heptachlor epoxide	0.00499	U	0.0575	0.00499	ug/L		03/11/16 13:04	03/14/16 18:23	1
Methoxychlor	0.00959	U	0.0575	0.00959	ug/L		03/11/16 13:04	03/14/16 18:23	1
Toxaphene	0.652	U	5.75	0.652	ug/L		03/11/16 13:04	03/14/16 18:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	45		10 - 152	03/11/16 13:04	03/14/16 18:23	1
Tetrachloro-m-xylene	77		57 - 127	03/11/16 13:04	03/14/16 18:23	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.575	0.105	ug/L		03/11/16 13:04	03/14/16 12:49	1
Aroclor 1221	0.105	U	0.575	0.105	ug/L		03/11/16 13:04	03/14/16 12:49	1
Aroclor 1232	0.422	U	0.767	0.422	ug/L		03/11/16 13:04	03/14/16 12:49	1
Aroclor 1242	0.105	U	0.575	0.105	ug/L		03/11/16 13:04	03/14/16 12:49	1
Aroclor 1248	0.105	U	0.575	0.105	ug/L		03/11/16 13:04	03/14/16 12:49	1
Aroclor 1254	0.105	U	0.575	0.105	ug/L		03/11/16 13:04	03/14/16 12:49	1
Aroclor 1260	0.105	U	0.575	0.105	ug/L		03/11/16 13:04	03/14/16 12:49	1
Aroclor 1262	0.105	U	0.575	0.105	ug/L		03/11/16 13:04	03/14/16 12:49	1
Aroclor 1268	0.105	U	0.575	0.105	ug/L		03/11/16 13:04	03/14/16 12:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	126		10 - 150	03/11/16 13:04	03/14/16 12:49	1
DCB Decachlorobiphenyl	93		10 - 150	03/11/16 13:04	03/14/16 12:49	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.159	U	2.37	0.159	ug/L		03/11/16 19:29	03/19/16 01:00	1
Bolstar	0.298	U	0.948	0.298	ug/L		03/11/16 19:29	03/19/16 01:00	1
Chlorpyrifos	0.341	U	1.42	0.341	ug/L		03/11/16 19:29	03/19/16 01:00	1
Coumaphos	0.128	U	0.948	0.128	ug/L		03/11/16 19:29	03/19/16 01:00	1
Demeton-O	0.133	U	0.948	0.133	ug/L		03/11/16 19:29	03/19/16 01:00	1
Demeton-S	0.0654	U	1.90	0.0654	ug/L		03/11/16 19:29	03/19/16 01:00	1
Diazinon	0.139	U	0.474	0.139	ug/L		03/11/16 19:29	03/19/16 01:00	1
Dichlorvos	0.153	U	0.474	0.153	ug/L		03/11/16 19:29	03/19/16 01:00	1
Dimethoate	0.425	U	1.42	0.425	ug/L		03/11/16 19:29	03/19/16 01:00	1
Disulfoton	0.305	U	0.948	0.305	ug/L		03/11/16 19:29	03/19/16 01:00	1
EPN	0.141	U	1.14	0.141	ug/L		03/11/16 19:29	03/19/16 01:00	1
Ethoprop	0.168	U	1.42	0.168	ug/L		03/11/16 19:29	03/19/16 01:00	1
Ethyl Parathion	0.136	U	0.948	0.136	ug/L		03/11/16 19:29	03/19/16 01:00	1
Famphur	0.170	U	0.948	0.170	ug/L		03/11/16 19:29	03/19/16 01:00	1
Fensulfothion	0.515	U	2.37	0.515	ug/L		03/11/16 19:29	03/19/16 01:00	1
Fenthion	0.146	U	2.37	0.146	ug/L		03/11/16 19:29	03/19/16 01:00	1
Malathion	0.126	U	1.90	0.126	ug/L		03/11/16 19:29	03/19/16 01:00	1
Merphos	0.165	U	4.74	0.165	ug/L		03/11/16 19:29	03/19/16 01:00	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 LEAD**

**Lab Sample ID: 560-60183-3**

**Date Collected: 03/09/16 14:10**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl parathion	0.134	U	3.79	0.134	ug/L		03/11/16 19:29	03/19/16 01:00	1
Mevinphos	0.436	U	5.87	0.436	ug/L		03/11/16 19:29	03/19/16 01:00	1
Naled	0.758	U	1.90	0.758	ug/L		03/11/16 19:29	03/19/16 01:00	1
Phorate	0.146	U	1.14	0.146	ug/L		03/11/16 19:29	03/19/16 01:00	1
Ronnel	0.110	U	9.48	0.110	ug/L		03/11/16 19:29	03/19/16 01:00	1
Sulfotepp	0.159	U	1.42	0.159	ug/L		03/11/16 19:29	03/19/16 01:00	1
Tetrachlorvinphos (Stirophos)	0.117	U	3.32	0.117	ug/L		03/11/16 19:29	03/19/16 01:00	1
Thionazin	0.296	U	0.948	0.296	ug/L		03/11/16 19:29	03/19/16 01:00	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/11/16 19:29	03/19/16 01:00	1
Trichloronate	0.229	U	1.42	0.229	ug/L		03/11/16 19:29	03/19/16 01:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	55		49 - 171				03/11/16 19:29	03/19/16 01:00	1
Triphenylphosphate	92		60 - 154				03/11/16 19:29	03/19/16 01:00	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.108	U	5.39	0.108	ug/L		03/15/16 08:29	03/16/16 18:42	1
Dicamba	0.0916	U	0.539	0.0916	ug/L		03/15/16 08:29	03/16/16 18:42	1
Mecoprop	20.5	U	129	20.5	ug/L		03/15/16 08:29	03/16/16 18:42	1
MCPA	18.3	U	129	18.3	ug/L		03/15/16 08:29	03/16/16 18:42	1
Dichlorprop	0.162	U	0.539	0.162	ug/L		03/15/16 08:29	03/16/16 18:42	1
2,4-D	0.0399	U	0.539	0.0399	ug/L		03/15/16 08:29	03/16/16 18:42	1
Silvex (2,4,5-TP)	0.0668	U	0.270	0.0668	ug/L		03/15/16 08:29	03/16/16 18:42	1
2,4,5-T	0.0668	U	0.270	0.0668	ug/L		03/15/16 08:29	03/16/16 18:42	1
2,4-DB	0.162	U	0.539	0.162	ug/L		03/15/16 08:29	03/16/16 18:42	1
Dinoseb	0.173	U	1.08	0.173	ug/L		03/15/16 08:29	03/16/16 18:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	90		45 - 130				03/15/16 08:29	03/16/16 18:42	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	73.7		0.200	0.101	mg/L		03/11/16 10:00	03/11/16 15:43	1
Magnesium	13.4		0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 15:43	1
Potassium	1.49		0.500	0.375	mg/L		03/11/16 10:00	03/11/16 15:43	1
Silicon	4.14		0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 15:43	1
Sodium	9.39		1.00	0.310	mg/L		03/11/16 10:00	03/11/16 15:43	1
Strontium	0.437		0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 15:43	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/11/16 10:00	03/11/16 18:06	1
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 18:06	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 18:06	1
Barium	31.4		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 18:06	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 18:06	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 18:06	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 18:06	1
Copper	3.02	J	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 18:06	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 18:06	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 LEAD**

**Lab Sample ID: 560-60183-3**

**Date Collected: 03/09/16 14:10**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.733	U	5.00	0.733	ug/L	-	03/11/16 10:00	03/11/16 18:06	1
Manganese	11.6	U	50.0	11.6	ug/L	-	03/11/16 10:00	03/11/16 18:06	1
Nickel	2.17	U	5.00	2.17	ug/L	-	03/11/16 10:00	03/11/16 18:06	1
Selenium	1.13	J B	5.00	1.08	ug/L	-	03/11/16 10:00	03/11/16 18:06	1
Silver	0.941	U	5.00	0.941	ug/L	-	03/11/16 10:00	03/11/16 18:06	1
Thallium	0.693	U	2.00	0.693	ug/L	-	03/11/16 10:00	03/11/16 18:06	1
Zinc	7.83	J	25.0	3.55	ug/L	-	03/11/16 10:00	03/11/16 18:06	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/14/16 10:00	03/14/16 16:46	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.543	J	1.00	0.315	mg/L	-		03/10/16 20:55	1
Chloride	17.3		1.00	0.192	mg/L	-		03/10/16 20:55	1
Nitrate as N	1.24		0.500	0.103	mg/L	-		03/10/16 20:55	1
Sulfate	23.5		1.00	0.377	mg/L	-		03/10/16 20:55	1
Fluoride	0.176		0.100	0.0200	mg/L	-		03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U F1	1.00	0.432	mg/L	-		03/17/16 11:56	1
Phosphorus	0.0577	J	0.100	0.0410	mg/L	-	03/21/16 10:03	03/22/16 11:13	1
Total Organic Carbon	0.822	J	1.00	0.285	mg/L	-		03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.15	HF	0.100	0.100	SU	-		03/10/16 15:11	1
Total Alkalinity as CaCO3	207		5.00	5.00	mg/L	-		03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	207		5.00	5.00	mg/L	-		03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		03/22/16 14:05	1
Total Dissolved Solids	298		10.0	10.0	mg/L	-		03/11/16 09:50	1
Total Suspended Solids	12.0		3.00	3.00	mg/L	-		03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.983	J	1.00	0.285	mg/L	-		03/21/16 12:00	1

**Client Sample ID: HSM240 LEAD**

**Lab Sample ID: 560-60183-4**

**Date Collected: 03/09/16 13:50**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		03/10/16 20:38	1
Acetonitrile	10.0	U	50.0	10.0	ug/L	-		03/10/16 20:38	1
Benzene	0.330	U	1.00	0.330	ug/L	-		03/10/16 20:38	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L	-		03/10/16 20:38	1
Bromobenzene	0.128	U	1.00	0.128	ug/L	-		03/10/16 20:38	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L	-		03/10/16 20:38	1
Bromoform	0.500	U	5.00	0.500	ug/L	-		03/10/16 20:38	1
Bromomethane	0.392	U	5.00	0.392	ug/L	-		03/10/16 20:38	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L	-		03/10/16 20:38	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L	-		03/10/16 20:38	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 LEAD**

**Lab Sample ID: 560-60183-4**

**Date Collected: 03/09/16 13:50**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 20:38	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 20:38	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 20:38	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 20:38	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 20:38	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 20:38	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 20:38	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 20:38	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 20:38	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 20:38	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 20:38	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 20:38	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 20:38	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 20:38	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 20:38	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 20:38	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 20:38	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 20:38	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 20:38	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 20:38	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 20:38	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 20:38	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 20:38	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 20:38	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 20:38	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 20:38	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 20:38	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 20:38	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 20:38	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 20:38	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 20:38	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 20:38	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 20:38	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 20:38	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 20:38	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 20:38	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 20:38	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 20:38	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 20:38	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 20:38	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 20:38	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 20:38	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 20:38	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 20:38	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 20:38	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 20:38	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 20:38	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 20:38	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 20:38	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 LEAD**

**Lab Sample ID: 560-60183-4**

**Date Collected: 03/09/16 13:50**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 20:38	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 20:38	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 20:38	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 20:38	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 20:38	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 20:38	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 20:38	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 20:38	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 20:38	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 20:38	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 20:38	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 20:38	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 20:38	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 20:38	1
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 20:38	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 20:38	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 20:38	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 20:38	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 20:38	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 20:38	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 20:38	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 20:38	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 20:38	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 20:38	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 20:38	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 20:38	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 20:38	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 20:38	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 20:38	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 20:38	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 20:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 20:38	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 20:38	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 20:38	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 20:38	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 20:38	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 20:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		03/10/16 20:38	1
Dibromofluoromethane (Surr)	103		69 - 130		03/10/16 20:38	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		03/10/16 20:38	1
Toluene-d8 (Surr)	101		70 - 130		03/10/16 20:38	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.479	U	10.4	0.479	ug/L		03/10/16 15:00	03/11/16 14:26	1
Acenaphthylene	0.471	U	10.4	0.471	ug/L		03/10/16 15:00	03/11/16 14:26	1
Anthracene	0.729	U	10.4	0.729	ug/L		03/10/16 15:00	03/11/16 14:26	1
Benzo[a]anthracene	0.673	U	10.4	0.673	ug/L		03/10/16 15:00	03/11/16 14:26	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 LEAD**

**Lab Sample ID: 560-60183-4**

**Date Collected: 03/09/16 13:50**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	0.773	U	10.4	0.773	ug/L		03/10/16 15:00	03/11/16 14:26	1
Benzo[b]fluoranthene	0.946	U	10.4	0.946	ug/L		03/10/16 15:00	03/11/16 14:26	1
Benzo[g,h,i]perylene	1.14	U	10.4	1.14	ug/L		03/10/16 15:00	03/11/16 14:26	1
Benzo[k]fluoranthene	1.55	U	10.4	1.55	ug/L		03/10/16 15:00	03/11/16 14:26	1
Benzyl alcohol	0.861	U	10.4	0.861	ug/L		03/10/16 15:00	03/11/16 14:26	1
Bis(2-chloroethoxy)methane	0.454	U	10.4	0.454	ug/L		03/10/16 15:00	03/11/16 14:26	1
Bis(2-chloroethyl)ether	1.62	U	10.4	1.62	ug/L		03/10/16 15:00	03/11/16 14:26	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>9.88</b>	<b>J</b>	20.8	5.21	ug/L		03/10/16 15:00	03/11/16 14:26	1
4-Bromophenyl phenyl ether	0.845	U	10.4	0.845	ug/L		03/10/16 15:00	03/11/16 14:26	1
Butyl benzyl phthalate	0.850	U	10.4	0.850	ug/L		03/10/16 15:00	03/11/16 14:26	1
4-Chloroaniline	0.572	U	10.4	0.572	ug/L		03/10/16 15:00	03/11/16 14:26	1
4-Chloro-3-methylphenol	0.610	U	10.4	0.610	ug/L		03/10/16 15:00	03/11/16 14:26	1
2-Chloronaphthalene	0.628	U	10.4	0.628	ug/L		03/10/16 15:00	03/11/16 14:26	1
2-Chlorophenol	0.759	U	10.4	0.759	ug/L		03/10/16 15:00	03/11/16 14:26	1
4-Chlorophenyl phenyl ether	0.551	U	10.4	0.551	ug/L		03/10/16 15:00	03/11/16 14:26	1
Chrysene	0.515	U	10.4	0.515	ug/L		03/10/16 15:00	03/11/16 14:26	1
Dibenz(a,h)anthracene	0.910	U	10.4	0.910	ug/L		03/10/16 15:00	03/11/16 14:26	1
Dibenzofuran	0.505	U	10.4	0.505	ug/L		03/10/16 15:00	03/11/16 14:26	1
1,2-Dichlorobenzene	0.807	U	10.4	0.807	ug/L		03/10/16 15:00	03/11/16 14:26	1
1,3-Dichlorobenzene	0.511	U	10.4	0.511	ug/L		03/10/16 15:00	03/11/16 14:26	1
1,4-Dichlorobenzene	0.849	U	10.4	0.849	ug/L		03/10/16 15:00	03/11/16 14:26	1
3,3'-Dichlorobenzidine	0.820	U	10.4	0.820	ug/L		03/10/16 15:00	03/11/16 14:26	1
2,4-Dichlorophenol	0.733	U	10.4	0.733	ug/L		03/10/16 15:00	03/11/16 14:26	1
Diethyl phthalate	0.694	U	10.4	0.694	ug/L		03/10/16 15:00	03/11/16 14:26	1
2,4-Dimethylphenol	0.618	U	10.4	0.618	ug/L		03/10/16 15:00	03/11/16 14:26	1
Dimethyl phthalate	0.614	U	10.4	0.614	ug/L		03/10/16 15:00	03/11/16 14:26	1
Di-n-butyl phthalate	0.739	U	10.4	0.739	ug/L		03/10/16 15:00	03/11/16 14:26	1
4,6-Dinitro-2-methylphenol	0.999	U	10.4	0.999	ug/L		03/10/16 15:00	03/11/16 14:26	1
2,4-Dinitrophenol	2.80	U	20.8	2.80	ug/L		03/10/16 15:00	03/11/16 14:26	1
2,4-Dinitrotoluene	0.530	U	20.8	0.530	ug/L		03/10/16 15:00	03/11/16 14:26	1
2,6-Dinitrotoluene	0.794	U	10.4	0.794	ug/L		03/10/16 15:00	03/11/16 14:26	1
Di-n-octyl phthalate	1.15	U	10.4	1.15	ug/L		03/10/16 15:00	03/11/16 14:26	1
Fluoranthene	0.517	U	10.4	0.517	ug/L		03/10/16 15:00	03/11/16 14:26	1
Fluorene	0.439	U	10.4	0.439	ug/L		03/10/16 15:00	03/11/16 14:26	1
Hexachlorobenzene	0.627	U	10.4	0.627	ug/L		03/10/16 15:00	03/11/16 14:26	1
Hexachlorobutadiene	0.746	U	10.4	0.746	ug/L		03/10/16 15:00	03/11/16 14:26	1
Hexachlorocyclopentadiene	0.874	U	10.4	0.874	ug/L		03/10/16 15:00	03/11/16 14:26	1
Hexachloroethane	0.614	U	10.4	0.614	ug/L		03/10/16 15:00	03/11/16 14:26	1
Indeno[1,2,3-cd]pyrene	0.960	U	10.4	0.960	ug/L		03/10/16 15:00	03/11/16 14:26	1
Isophorone	0.572	U	10.4	0.572	ug/L		03/10/16 15:00	03/11/16 14:26	1
2-Methylnaphthalene	0.731	U	10.4	0.731	ug/L		03/10/16 15:00	03/11/16 14:26	1
2-Methylphenol	0.635	U	10.4	0.635	ug/L		03/10/16 15:00	03/11/16 14:26	1
3 & 4 Methylphenol	0.795	U	20.8	0.795	ug/L		03/10/16 15:00	03/11/16 14:26	1
Naphthalene	0.820	U	10.4	0.820	ug/L		03/10/16 15:00	03/11/16 14:26	1
2-Nitroaniline	0.798	U	10.4	0.798	ug/L		03/10/16 15:00	03/11/16 14:26	1
3-Nitroaniline	0.533	U	10.4	0.533	ug/L		03/10/16 15:00	03/11/16 14:26	1
4-Nitroaniline	0.853	U	10.4	0.853	ug/L		03/10/16 15:00	03/11/16 14:26	1
Nitrobenzene	0.611	U	10.4	0.611	ug/L		03/10/16 15:00	03/11/16 14:26	1
2-Nitrophenol	0.842	U	10.4	0.842	ug/L		03/10/16 15:00	03/11/16 14:26	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 LEAD**

**Lab Sample ID: 560-60183-4**

**Date Collected: 03/09/16 13:50**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	1.81	U	10.4	1.81	ug/L		03/10/16 15:00	03/11/16 14:26	1
N-Nitrosodi-n-propylamine	0.646	U	10.4	0.646	ug/L		03/10/16 15:00	03/11/16 14:26	1
N-Nitrosodiphenylamine	1.07	U	10.4	1.07	ug/L		03/10/16 15:00	03/11/16 14:26	1
Pentachlorophenol	1.38	U	20.8	1.38	ug/L		03/10/16 15:00	03/11/16 14:26	1
Phenanthrene	0.616	U	10.4	0.616	ug/L		03/10/16 15:00	03/11/16 14:26	1
Phenol	0.800	U	10.4	0.800	ug/L		03/10/16 15:00	03/11/16 14:26	1
Pyrene	0.458	U	10.4	0.458	ug/L		03/10/16 15:00	03/11/16 14:26	1
1,2,4-Trichlorobenzene	0.674	U	10.4	0.674	ug/L		03/10/16 15:00	03/11/16 14:26	1
2,4,5-Trichlorophenol	0.897	U	10.4	0.897	ug/L		03/10/16 15:00	03/11/16 14:26	1
2,4,6-Trichlorophenol	0.685	U	10.4	0.685	ug/L		03/10/16 15:00	03/11/16 14:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	57		23 - 130	03/10/16 15:00	03/11/16 14:26	1
2-Fluorophenol	57		10 - 130	03/10/16 15:00	03/11/16 14:26	1
Nitrobenzene-d5	57		27 - 130	03/10/16 15:00	03/11/16 14:26	1
Phenol-d5	61		10 - 130	03/10/16 15:00	03/11/16 14:26	1
Terphenyl-d14	58		10 - 141	03/10/16 15:00	03/11/16 14:26	1
2,4,6-Tribromophenol	66		18 - 130	03/10/16 15:00	03/11/16 14:26	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00481	U	0.0577	0.00481	ug/L		03/11/16 13:04	03/14/16 18:49	1
alpha-BHC	0.00500	U	0.0577	0.00500	ug/L		03/11/16 13:04	03/14/16 18:49	1
alpha-Chlordane	0.00606	U	0.0577	0.00606	ug/L		03/11/16 13:04	03/14/16 18:49	1
beta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/11/16 13:04	03/14/16 18:49	1
4,4'-DDD	0.00481	U	0.0577	0.00481	ug/L		03/11/16 13:04	03/14/16 18:49	1
4,4'-DDE	0.00481	U	0.0577	0.00481	ug/L		03/11/16 13:04	03/14/16 18:49	1
4,4'-DDT	0.00779	U	0.0577	0.00779	ug/L		03/11/16 13:04	03/14/16 18:49	1
delta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/11/16 13:04	03/14/16 18:49	1
Dieldrin	0.0125	U	0.0577	0.0125	ug/L		03/11/16 13:04	03/14/16 18:49	1
Endosulfan I	0.00481	U	0.0577	0.00481	ug/L		03/11/16 13:04	03/14/16 18:49	1
Endosulfan II	0.00827	U	0.0577	0.00827	ug/L		03/11/16 13:04	03/14/16 18:49	1
Endosulfan sulfate	0.00846	U	0.0577	0.00846	ug/L		03/11/16 13:04	03/14/16 18:49	1
Endrin	0.00740	U	0.0577	0.00740	ug/L		03/11/16 13:04	03/14/16 18:49	1
Endrin aldehyde	0.00481	U	0.0577	0.00481	ug/L		03/11/16 13:04	03/14/16 18:49	1
Endrin ketone	0.00788	U	0.0577	0.00788	ug/L		03/11/16 13:04	03/14/16 18:49	1
gamma-BHC (Lindane)	0.00433	U	0.0577	0.00433	ug/L		03/11/16 13:04	03/14/16 18:49	1
gamma-Chlordane	0.00644	U	0.0577	0.00644	ug/L		03/11/16 13:04	03/14/16 18:49	1
Heptachlor	0.00625	U	0.0577	0.00625	ug/L		03/11/16 13:04	03/14/16 18:49	1
Heptachlor epoxide	0.00500	U	0.0577	0.00500	ug/L		03/11/16 13:04	03/14/16 18:49	1
Methoxychlor	0.00962	U	0.0577	0.00962	ug/L		03/11/16 13:04	03/14/16 18:49	1
Toxaphene	0.654	U	5.77	0.654	ug/L		03/11/16 13:04	03/14/16 18:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	49		10 - 152	03/11/16 13:04	03/14/16 18:49	1
Tetrachloro-m-xylene	79		57 - 127	03/11/16 13:04	03/14/16 18:49	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 13:07	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 LEAD**

**Lab Sample ID: 560-60183-4**

**Date Collected: 03/09/16 13:50**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1221	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 13:07	1
Aroclor 1232	0.423	U	0.769	0.423	ug/L		03/11/16 13:04	03/14/16 13:07	1
Aroclor 1242	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 13:07	1
Aroclor 1248	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 13:07	1
Aroclor 1254	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 13:07	1
Aroclor 1260	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 13:07	1
Aroclor 1262	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 13:07	1
Aroclor 1268	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 13:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	131		10 - 150				03/11/16 13:04	03/14/16 13:07	1
DCB Decachlorobiphenyl	103		10 - 150				03/11/16 13:04	03/14/16 13:07	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.160	U	2.38	0.160	ug/L		03/11/16 19:29	03/19/16 01:32	1
Bolstar	0.298	U	0.950	0.298	ug/L		03/11/16 19:29	03/19/16 01:32	1
Chlorpyrifos	0.342	U	1.43	0.342	ug/L		03/11/16 19:29	03/19/16 01:32	1
Coumaphos	0.128	U	0.950	0.128	ug/L		03/11/16 19:29	03/19/16 01:32	1
Demeton-O	0.133	U	0.950	0.133	ug/L		03/11/16 19:29	03/19/16 01:32	1
Demeton-S	0.0656	U	1.90	0.0656	ug/L		03/11/16 19:29	03/19/16 01:32	1
Diazinon	0.140	U	0.475	0.140	ug/L		03/11/16 19:29	03/19/16 01:32	1
Dichlorvos	0.154	U	0.475	0.154	ug/L		03/11/16 19:29	03/19/16 01:32	1
Dimethoate	0.427	U	1.43	0.427	ug/L		03/11/16 19:29	03/19/16 01:32	1
Disulfoton	0.306	U	0.950	0.306	ug/L		03/11/16 19:29	03/19/16 01:32	1
EPN	0.142	U	1.14	0.142	ug/L		03/11/16 19:29	03/19/16 01:32	1
Ethoprop	0.168	U	1.43	0.168	ug/L		03/11/16 19:29	03/19/16 01:32	1
Ethyl Parathion	0.137	U	0.950	0.137	ug/L		03/11/16 19:29	03/19/16 01:32	1
Famphur	0.170	U	0.950	0.170	ug/L		03/11/16 19:29	03/19/16 01:32	1
Fensulfothion	0.517	U	2.38	0.517	ug/L		03/11/16 19:29	03/19/16 01:32	1
Fenthion	0.146	U	2.38	0.146	ug/L		03/11/16 19:29	03/19/16 01:32	1
Malathion	0.126	U	1.90	0.126	ug/L		03/11/16 19:29	03/19/16 01:32	1
Merphos	0.165	U	4.75	0.165	ug/L		03/11/16 19:29	03/19/16 01:32	1
Methyl parathion	0.134	U	3.80	0.134	ug/L		03/11/16 19:29	03/19/16 01:32	1
Mevinphos	0.437	U	5.89	0.437	ug/L		03/11/16 19:29	03/19/16 01:32	1
Naled	0.760	U	1.90	0.760	ug/L		03/11/16 19:29	03/19/16 01:32	1
Phorate	0.146	U	1.14	0.146	ug/L		03/11/16 19:29	03/19/16 01:32	1
Ronnel	0.110	U	9.50	0.110	ug/L		03/11/16 19:29	03/19/16 01:32	1
Sulfotepp	0.160	U	1.43	0.160	ug/L		03/11/16 19:29	03/19/16 01:32	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.33	0.118	ug/L		03/11/16 19:29	03/19/16 01:32	1
Thionazin	0.297	U	0.950	0.297	ug/L		03/11/16 19:29	03/19/16 01:32	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/11/16 19:29	03/19/16 01:32	1
Trichloronate	0.230	U	1.43	0.230	ug/L		03/11/16 19:29	03/19/16 01:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	71		49 - 171				03/11/16 19:29	03/19/16 01:32	1
Triphenylphosphate	95		60 - 154				03/11/16 19:29	03/19/16 01:32	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 LEAD**

**Lab Sample ID: 560-60183-4**

**Date Collected: 03/09/16 13:50**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0956	U	4.78	0.0956	ug/L	-	03/15/16 08:29	03/16/16 19:02	1
Dicamba	0.0813	U	0.478	0.0813	ug/L	-	03/15/16 08:29	03/16/16 19:02	1
Mecoprop	18.2	U	115	18.2	ug/L	-	03/15/16 08:29	03/16/16 19:02	1
MCPA	16.3	U	115	16.3	ug/L	-	03/15/16 08:29	03/16/16 19:02	1
Dichlorprop	0.143	U	0.478	0.143	ug/L	-	03/15/16 08:29	03/16/16 19:02	1
2,4-D	0.0354	U	0.478	0.0354	ug/L	-	03/15/16 08:29	03/16/16 19:02	1
Silvex (2,4,5-TP)	0.0593	U	0.239	0.0593	ug/L	-	03/15/16 08:29	03/16/16 19:02	1
2,4,5-T	0.0593	U	0.239	0.0593	ug/L	-	03/15/16 08:29	03/16/16 19:02	1
2,4-DB	0.143	U	0.478	0.143	ug/L	-	03/15/16 08:29	03/16/16 19:02	1
Dinoseb	0.153	U	0.956	0.153	ug/L	-	03/15/16 08:29	03/16/16 19:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	64		45 - 130	03/15/16 08:29	03/16/16 19:02	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	82.4		0.200	0.101	mg/L	-	03/11/16 10:00	03/11/16 15:47	1
Magnesium	15.2		0.200	0.0257	mg/L	-	03/11/16 10:00	03/11/16 15:47	1
Potassium	1.38		0.500	0.375	mg/L	-	03/11/16 10:00	03/11/16 15:47	1
Silicon	4.74		0.500	0.0707	mg/L	-	03/11/16 10:00	03/11/16 15:47	1
Sodium	10.2		1.00	0.310	mg/L	-	03/11/16 10:00	03/11/16 15:47	1
Strontium	0.488		0.00500	0.000700	mg/L	-	03/11/16 10:00	03/11/16 15:47	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Antimony	1.61	U	5.00	1.61	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Arsenic	1.09	U	5.00	1.09	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Barium	35.1		5.00	0.810	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Beryllium	1.24	U ^	4.00	1.24	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Cadmium	0.854	U	2.00	0.854	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Chromium	1.40	U	5.00	1.40	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Copper	2.00	U	10.0	2.00	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Iron	101	U	250	101	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Lead	0.733	U	5.00	0.733	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Manganese	11.6	U	50.0	11.6	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Nickel	2.17	U	5.00	2.17	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Selenium	1.08	U	5.00	1.08	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Silver	0.941	U	5.00	0.941	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Thallium	0.693	U	2.00	0.693	ug/L	-	03/11/16 10:00	03/11/16 18:27	1
Zinc	6.37	J	25.0	3.55	ug/L	-	03/11/16 10:00	03/11/16 18:27	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/14/16 10:00	03/14/16 16:48	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.546	J	1.00	0.315	mg/L	-		03/10/16 21:21	1
Chloride	16.8		1.00	0.192	mg/L	-		03/10/16 21:21	1
Nitrate as N	1.20		0.500	0.103	mg/L	-		03/10/16 21:21	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 LEAD**

**Lab Sample ID: 560-60183-4**

**Date Collected: 03/09/16 13:50**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	22.7		1.00	0.377	mg/L			03/10/16 21:21	1
Fluoride	0.172		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/17/16 11:59	1
Phosphorus	0.0533	J	0.100	0.0410	mg/L		03/21/16 10:03	03/22/16 11:14	1
Total Organic Carbon	0.944	J	1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.23	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	222		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	222		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	322		10.0	10.0	mg/L			03/11/16 09:50	1
Total Suspended Solids	26.0		3.00	3.00	mg/L			03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.33		1.00	0.285	mg/L			03/21/16 12:00	1

**Client Sample ID: HSM250 LEAD**

**Lab Sample ID: 560-60183-5**

**Date Collected: 03/09/16 13:37**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	12.4		10.0	5.00	ug/L			03/10/16 21:04	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 21:04	1
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 21:04	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 21:04	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 21:04	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 21:04	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 21:04	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 21:04	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 21:04	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 21:04	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 21:04	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 21:04	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 21:04	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 21:04	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 21:04	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 21:04	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 21:04	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 21:04	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 21:04	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 21:04	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 21:04	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 21:04	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 21:04	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 21:04	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 21:04	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 21:04	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 21:04	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 LEAD**

**Lab Sample ID: 560-60183-5**

**Date Collected: 03/09/16 13:37**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 21:04	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 21:04	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 21:04	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 21:04	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 21:04	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 21:04	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 21:04	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 21:04	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 21:04	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 21:04	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 21:04	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 21:04	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 21:04	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 21:04	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 21:04	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 21:04	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 21:04	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 21:04	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 21:04	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 21:04	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 21:04	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 21:04	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 21:04	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 21:04	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 21:04	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 21:04	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 21:04	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 21:04	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 21:04	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 21:04	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 21:04	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 21:04	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 21:04	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 21:04	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 21:04	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 21:04	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 21:04	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 21:04	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 21:04	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 21:04	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 21:04	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 21:04	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 21:04	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 21:04	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 21:04	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 21:04	1
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 21:04	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 21:04	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 21:04	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 LEAD**

**Lab Sample ID: 560-60183-5**

**Date Collected: 03/09/16 13:37**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 21:04	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 21:04	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 21:04	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 21:04	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 21:04	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 21:04	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 21:04	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 21:04	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 21:04	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 21:04	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 21:04	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 21:04	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 21:04	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 21:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 21:04	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 21:04	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 21:04	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 21:04	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 21:04	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 21:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/10/16 21:04	1
Dibromofluoromethane (Surr)	104		69 - 130		03/10/16 21:04	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		03/10/16 21:04	1
Toluene-d8 (Surr)	101		70 - 130		03/10/16 21:04	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U F2 F1	10.0	0.460	ug/L		03/15/16 14:04	03/16/16 10:21	1
Acenaphthylene	0.452	U F2 F1	10.0	0.452	ug/L		03/15/16 14:04	03/16/16 10:21	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/15/16 14:04	03/16/16 10:21	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/15/16 14:04	03/16/16 10:21	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/15/16 14:04	03/16/16 10:21	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/15/16 14:04	03/16/16 10:21	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/15/16 14:04	03/16/16 10:21	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/15/16 14:04	03/16/16 10:21	1
Benzyl alcohol	0.827	U F2 F1	10.0	0.827	ug/L		03/15/16 14:04	03/16/16 10:21	1
Bis(2-chloroethoxy)methane	0.436	U F2 F1	10.0	0.436	ug/L		03/15/16 14:04	03/16/16 10:21	1
Bis(2-chloroethyl)ether	1.55	U F2 F1	10.0	1.55	ug/L		03/15/16 14:04	03/16/16 10:21	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/15/16 14:04	03/16/16 10:21	1
4-Bromophenyl phenyl ether	0.811	U F2 F1	10.0	0.811	ug/L		03/15/16 14:04	03/16/16 10:21	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/15/16 14:04	03/16/16 10:21	1
4-Chloroaniline	0.549	U F2 F1	10.0	0.549	ug/L		03/15/16 14:04	03/16/16 10:21	1
4-Chloro-3-methylphenol	0.586	U F2 F1	10.0	0.586	ug/L		03/15/16 14:04	03/16/16 10:21	1
2-Chloronaphthalene	0.603	U F2 F1	10.0	0.603	ug/L		03/15/16 14:04	03/16/16 10:21	1
2-Chlorophenol	0.729	U F2 F1	10.0	0.729	ug/L		03/15/16 14:04	03/16/16 10:21	1
4-Chlorophenyl phenyl ether	0.529	U F2 F1	10.0	0.529	ug/L		03/15/16 14:04	03/16/16 10:21	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/15/16 14:04	03/16/16 10:21	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/15/16 14:04	03/16/16 10:21	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 LEAD**

**Lab Sample ID: 560-60183-5**

**Date Collected: 03/09/16 13:37**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.485	U F2 F1	10.0	0.485	ug/L		03/15/16 14:04	03/16/16 10:21	1
1,2-Dichlorobenzene	0.775	U F2 F1	10.0	0.775	ug/L		03/15/16 14:04	03/16/16 10:21	1
1,3-Dichlorobenzene	0.491	U F2 F1	10.0	0.491	ug/L		03/15/16 14:04	03/16/16 10:21	1
1,4-Dichlorobenzene	0.815	U F2 F1	10.0	0.815	ug/L		03/15/16 14:04	03/16/16 10:21	1
3,3'-Dichlorobenzidine	0.787	U F1	10.0	0.787	ug/L		03/15/16 14:04	03/16/16 10:21	1
2,4-Dichlorophenol	0.704	U F2 F1	10.0	0.704	ug/L		03/15/16 14:04	03/16/16 10:21	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/15/16 14:04	03/16/16 10:21	1
2,4-Dimethylphenol	0.593	U F2 F1	10.0	0.593	ug/L		03/15/16 14:04	03/16/16 10:21	1
Dimethyl phthalate	0.589	U F2 F1	10.0	0.589	ug/L		03/15/16 14:04	03/16/16 10:21	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/15/16 14:04	03/16/16 10:21	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/15/16 14:04	03/16/16 10:21	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/15/16 14:04	03/16/16 10:21	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/15/16 14:04	03/16/16 10:21	1
2,6-Dinitrotoluene	0.762	U F2 F1	10.0	0.762	ug/L		03/15/16 14:04	03/16/16 10:21	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/15/16 14:04	03/16/16 10:21	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/15/16 14:04	03/16/16 10:21	1
Fluorene	0.421	U F2 F1	10.0	0.421	ug/L		03/15/16 14:04	03/16/16 10:21	1
Hexachlorobenzene	0.602	U F1	10.0	0.602	ug/L		03/15/16 14:04	03/16/16 10:21	1
Hexachlorobutadiene	0.716	U F2 F1	10.0	0.716	ug/L		03/15/16 14:04	03/16/16 10:21	1
Hexachlorocyclopentadiene	0.839	U F2 F1	10.0	0.839	ug/L		03/15/16 14:04	03/16/16 10:21	1
Hexachloroethane	0.589	U F2 F1	10.0	0.589	ug/L		03/15/16 14:04	03/16/16 10:21	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/15/16 14:04	03/16/16 10:21	1
Isophorone	0.549	U F2 F1	10.0	0.549	ug/L		03/15/16 14:04	03/16/16 10:21	1
2-Methylnaphthalene	0.702	U F2 F1	10.0	0.702	ug/L		03/15/16 14:04	03/16/16 10:21	1
2-Methylphenol	0.610	U F2 F1	10.0	0.610	ug/L		03/15/16 14:04	03/16/16 10:21	1
3 & 4 Methylphenol	0.763	U F2 F1	20.0	0.763	ug/L		03/15/16 14:04	03/16/16 10:21	1
Naphthalene	0.787	U F2 F1	10.0	0.787	ug/L		03/15/16 14:04	03/16/16 10:21	1
2-Nitroaniline	0.766	U F2 F1	10.0	0.766	ug/L		03/15/16 14:04	03/16/16 10:21	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/15/16 14:04	03/16/16 10:21	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/15/16 14:04	03/16/16 10:21	1
Nitrobenzene	0.587	U F2 F1	10.0	0.587	ug/L		03/15/16 14:04	03/16/16 10:21	1
2-Nitrophenol	0.808	U F2 F1	10.0	0.808	ug/L		03/15/16 14:04	03/16/16 10:21	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/15/16 14:04	03/16/16 10:21	1
N-Nitrosodi-n-propylamine	0.620	U F2 F1	10.0	0.620	ug/L		03/15/16 14:04	03/16/16 10:21	1
N-Nitrosodiphenylamine	1.03	U F2	10.0	1.03	ug/L		03/15/16 14:04	03/16/16 10:21	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/15/16 14:04	03/16/16 10:21	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/15/16 14:04	03/16/16 10:21	1
Phenol	0.768	U F2 F1	10.0	0.768	ug/L		03/15/16 14:04	03/16/16 10:21	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/15/16 14:04	03/16/16 10:21	1
1,2,4-Trichlorobenzene	0.647	U F2 F1	10.0	0.647	ug/L		03/15/16 14:04	03/16/16 10:21	1
2,4,5-Trichlorophenol	0.861	U F2 F1	10.0	0.861	ug/L		03/15/16 14:04	03/16/16 10:21	1
2,4,6-Trichlorophenol	0.658	U F2 F1	10.0	0.658	ug/L		03/15/16 14:04	03/16/16 10:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	26		23 - 130	03/15/16 14:04	03/16/16 10:21	1
2-Fluorophenol	26		10 - 130	03/15/16 14:04	03/16/16 10:21	1
Nitrobenzene-d5	27		27 - 130	03/15/16 14:04	03/16/16 10:21	1
Phenol-d5	28		10 - 130	03/15/16 14:04	03/16/16 10:21	1
Terphenyl-d14	34		10 - 141	03/15/16 14:04	03/16/16 10:21	1
2,4,6-Tribromophenol	38		18 - 130	03/15/16 14:04	03/16/16 10:21	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00473	U	0.0568	0.00473	ug/L		03/11/16 13:04	03/14/16 19:14	1
alpha-BHC	0.00492	U	0.0568	0.00492	ug/L		03/11/16 13:04	03/14/16 19:14	1
alpha-Chlordane	0.00596	U	0.0568	0.00596	ug/L		03/11/16 13:04	03/14/16 19:14	1
beta-BHC	0.00473	U	0.0568	0.00473	ug/L		03/11/16 13:04	03/14/16 19:14	1
4,4'-DDD	0.00473	U	0.0568	0.00473	ug/L		03/11/16 13:04	03/14/16 19:14	1
4,4'-DDE	0.00473	U	0.0568	0.00473	ug/L		03/11/16 13:04	03/14/16 19:14	1
4,4'-DDT	0.00766	U	0.0568	0.00766	ug/L		03/11/16 13:04	03/14/16 19:14	1
delta-BHC	0.00473	U	0.0568	0.00473	ug/L		03/11/16 13:04	03/14/16 19:14	1
Dieldrin	0.0123	U	0.0568	0.0123	ug/L		03/11/16 13:04	03/14/16 19:14	1
Endosulfan I	0.00473	U	0.0568	0.00473	ug/L		03/11/16 13:04	03/14/16 19:14	1
Endosulfan II	0.00814	U	0.0568	0.00814	ug/L		03/11/16 13:04	03/14/16 19:14	1
Endosulfan sulfate	0.00832	U	0.0568	0.00832	ug/L		03/11/16 13:04	03/14/16 19:14	1
Endrin	0.00728	U	0.0568	0.00728	ug/L		03/11/16 13:04	03/14/16 19:14	1
Endrin aldehyde	0.00473	U	0.0568	0.00473	ug/L		03/11/16 13:04	03/14/16 19:14	1
Endrin ketone	0.00776	U	0.0568	0.00776	ug/L		03/11/16 13:04	03/14/16 19:14	1
gamma-BHC (Lindane)	0.00426	U	0.0568	0.00426	ug/L		03/11/16 13:04	03/14/16 19:14	1
gamma-Chlordane	0.00634	U	0.0568	0.00634	ug/L		03/11/16 13:04	03/14/16 19:14	1
Heptachlor	0.00615	U	0.0568	0.00615	ug/L		03/11/16 13:04	03/14/16 19:14	1
Heptachlor epoxide	0.00492	U	0.0568	0.00492	ug/L		03/11/16 13:04	03/14/16 19:14	1
Methoxychlor	0.00946	U	0.0568	0.00946	ug/L		03/11/16 13:04	03/14/16 19:14	1
Toxaphene	0.643	U	5.68	0.643	ug/L		03/11/16 13:04	03/14/16 19:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	48		10 - 152	03/11/16 13:04	03/14/16 19:14	1
Tetrachloro-m-xylene	80		57 - 127	03/11/16 13:04	03/14/16 19:14	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.568	0.104	ug/L		03/11/16 13:04	03/14/16 14:11	1
Aroclor 1221	0.104	U	0.568	0.104	ug/L		03/11/16 13:04	03/14/16 14:11	1
Aroclor 1232	0.416	U	0.757	0.416	ug/L		03/11/16 13:04	03/14/16 14:11	1
Aroclor 1242	0.104	U	0.568	0.104	ug/L		03/11/16 13:04	03/14/16 14:11	1
Aroclor 1248	0.104	U	0.568	0.104	ug/L		03/11/16 13:04	03/14/16 14:11	1
Aroclor 1254	0.104	U	0.568	0.104	ug/L		03/11/16 13:04	03/14/16 14:11	1
Aroclor 1260	0.104	U	0.568	0.104	ug/L		03/11/16 13:04	03/14/16 14:11	1
Aroclor 1262	0.104	U	0.568	0.104	ug/L		03/11/16 13:04	03/14/16 14:11	1
Aroclor 1268	0.104	U	0.568	0.104	ug/L		03/11/16 13:04	03/14/16 14:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	121		10 - 150	03/11/16 13:04	03/14/16 14:11	1
DCB Decachlorobiphenyl	95		10 - 150	03/11/16 13:04	03/14/16 14:11	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.162	U	2.41	0.162	ug/L		03/11/16 19:29	03/19/16 02:03	1
Bolstar	0.302	U	0.963	0.302	ug/L		03/11/16 19:29	03/19/16 02:03	1
Chlorpyrifos	0.347	U	1.44	0.347	ug/L		03/11/16 19:29	03/19/16 02:03	1
Coumaphos	0.130	U	0.963	0.130	ug/L		03/11/16 19:29	03/19/16 02:03	1
Demeton-O	0.135	U	0.963	0.135	ug/L		03/11/16 19:29	03/19/16 02:03	1
Demeton-S	0.0664	U	1.93	0.0664	ug/L		03/11/16 19:29	03/19/16 02:03	1
Diazinon	0.141	U	0.481	0.141	ug/L		03/11/16 19:29	03/19/16 02:03	1
Dichlorvos	0.156	U	0.481	0.156	ug/L		03/11/16 19:29	03/19/16 02:03	1
Dimethoate	0.432	U	1.44	0.432	ug/L		03/11/16 19:29	03/19/16 02:03	1
Disulfoton	0.310	U	0.963	0.310	ug/L		03/11/16 19:29	03/19/16 02:03	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 LEAD**

**Lab Sample ID: 560-60183-5**

**Date Collected: 03/09/16 13:37**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
EPN	0.143	U	1.16	0.143	ug/L		03/11/16 19:29	03/19/16 02:03	1
Ethoprop	0.170	U	1.44	0.170	ug/L		03/11/16 19:29	03/19/16 02:03	1
Ethyl Parathion	0.139	U	0.963	0.139	ug/L		03/11/16 19:29	03/19/16 02:03	1
Famphur	0.172	U	0.963	0.172	ug/L		03/11/16 19:29	03/19/16 02:03	1
Fensulfothion	0.524	U	2.41	0.524	ug/L		03/11/16 19:29	03/19/16 02:03	1
Fenthion	0.148	U	2.41	0.148	ug/L		03/11/16 19:29	03/19/16 02:03	1
Malathion	0.128	U	1.93	0.128	ug/L		03/11/16 19:29	03/19/16 02:03	1
Merphos	0.167	U	4.81	0.167	ug/L		03/11/16 19:29	03/19/16 02:03	1
Methyl parathion	0.136	U	3.85	0.136	ug/L		03/11/16 19:29	03/19/16 02:03	1
Mevinphos	0.443	U	5.97	0.443	ug/L		03/11/16 19:29	03/19/16 02:03	1
Naled	0.770	U	1.93	0.770	ug/L		03/11/16 19:29	03/19/16 02:03	1
Phorate	0.148	U	1.16	0.148	ug/L		03/11/16 19:29	03/19/16 02:03	1
Ronnel	0.112	U	9.63	0.112	ug/L		03/11/16 19:29	03/19/16 02:03	1
Sulfotepp	0.162	U	1.44	0.162	ug/L		03/11/16 19:29	03/19/16 02:03	1
Tetrachlorvinphos (Stirophos)	0.119	U	3.37	0.119	ug/L		03/11/16 19:29	03/19/16 02:03	1
Thionazin	0.300	U	0.963	0.300	ug/L		03/11/16 19:29	03/19/16 02:03	1
Tokuthion	0.118	U	1.54	0.118	ug/L		03/11/16 19:29	03/19/16 02:03	1
Trichloronate	0.233	U	1.44	0.233	ug/L		03/11/16 19:29	03/19/16 02:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	71		49 - 171	03/11/16 19:29	03/19/16 02:03	1
Triphenylphosphate	94		60 - 154	03/11/16 19:29	03/19/16 02:03	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0952	U	4.76	0.0952	ug/L		03/15/16 08:29	03/16/16 19:22	1
Dicamba	0.0809	U	0.476	0.0809	ug/L		03/15/16 08:29	03/16/16 19:22	1
Mecoprop	18.1	U	114	18.1	ug/L		03/15/16 08:29	03/16/16 19:22	1
MCPA	16.2	U	114	16.2	ug/L		03/15/16 08:29	03/16/16 19:22	1
Dichlorprop	0.143	U	0.476	0.143	ug/L		03/15/16 08:29	03/16/16 19:22	1
2,4-D	0.0352	U	0.476	0.0352	ug/L		03/15/16 08:29	03/16/16 19:22	1
Silvex (2,4,5-TP)	0.0590	U	0.238	0.0590	ug/L		03/15/16 08:29	03/16/16 19:22	1
2,4,5-T	0.0590	U	0.238	0.0590	ug/L		03/15/16 08:29	03/16/16 19:22	1
2,4-DB	0.143	U	0.476	0.143	ug/L		03/15/16 08:29	03/16/16 19:22	1
Dinoseb	0.152	U	0.952	0.152	ug/L		03/15/16 08:29	03/16/16 19:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	90		45 - 130	03/15/16 08:29	03/16/16 19:22	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	80.7		0.200	0.101	mg/L		03/11/16 10:00	03/11/16 15:51	1
Magnesium	14.8		0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 15:51	1
Potassium	1.28		0.500	0.375	mg/L		03/11/16 10:00	03/11/16 15:51	1
Silicon	4.58		0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 15:51	1
Sodium	9.99		1.00	0.310	mg/L		03/11/16 10:00	03/11/16 15:51	1
Strontium	0.479		0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 15:51	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/11/16 10:00	03/11/16 18:32	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 LEAD**

**Lab Sample ID: 560-60183-5**

Date Collected: 03/09/16 13:37

Matrix: Water

Date Received: 03/09/16 17:30

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 18:32	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 18:32	1
Barium	32.3		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 18:32	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 18:32	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 18:32	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 18:32	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 18:32	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 18:32	1
Lead	0.733	U	5.00	0.733	ug/L		03/11/16 10:00	03/11/16 18:32	1
Manganese	11.6	U	50.0	11.6	ug/L		03/11/16 10:00	03/11/16 18:32	1
Nickel	2.17	U	5.00	2.17	ug/L		03/11/16 10:00	03/11/16 18:32	1
Selenium	1.08	U	5.00	1.08	ug/L		03/11/16 10:00	03/11/16 18:32	1
Silver	0.941	U	5.00	0.941	ug/L		03/11/16 10:00	03/11/16 18:32	1
Thallium	0.693	U	2.00	0.693	ug/L		03/11/16 10:00	03/11/16 18:32	1
Zinc	8.48	J	25.0	3.55	ug/L		03/11/16 10:00	03/11/16 18:32	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/14/16 10:00	03/14/16 16:50	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.540	J	1.00	0.315	mg/L			03/10/16 21:47	1
Chloride	16.5		1.00	0.192	mg/L			03/10/16 21:47	1
Nitrate as N	1.18		0.500	0.103	mg/L			03/10/16 21:47	1
Sulfate	22.3		1.00	0.377	mg/L			03/10/16 21:47	1
Fluoride	0.178		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/17/16 12:00	1
Phosphorus	0.0993	J	0.100	0.0410	mg/L		03/21/16 10:03	03/22/16 11:22	1
Total Organic Carbon	1.53		1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.18	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	221		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	221		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	317		10.0	10.0	mg/L			03/11/16 09:50	1
Total Suspended Solids	32.8		3.00	3.00	mg/L			03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.46		1.00	0.285	mg/L			03/21/16 12:00	1

**Client Sample ID: HSM260 LEAD**

**Lab Sample ID: 560-60183-6**

Date Collected: 03/09/16 13:55

Matrix: Water

Date Received: 03/09/16 17:30

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/11/16 14:21	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/11/16 14:21	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260 LEAD**

**Lab Sample ID: 560-60183-6**

**Date Collected: 03/09/16 13:55**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.330	U	1.00	0.330	ug/L			03/11/16 14:21	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/11/16 14:21	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 14:21	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/11/16 14:21	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/11/16 14:21	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/11/16 14:21	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/11/16 14:21	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/11/16 14:21	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 14:21	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 14:21	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 14:21	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 14:21	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 14:21	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 14:21	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 14:21	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 14:21	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 14:21	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 14:21	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 14:21	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 14:21	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 14:21	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 14:21	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 14:21	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 14:21	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 14:21	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 14:21	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 14:21	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 14:21	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 14:21	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 14:21	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 14:21	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 14:21	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 14:21	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 14:21	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 14:21	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 14:21	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 14:21	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 14:21	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 14:21	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 14:21	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 14:21	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 14:21	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 14:21	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 14:21	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/11/16 14:21	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 14:21	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 14:21	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 14:21	1
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 14:21	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260 LEAD**

**Lab Sample ID: 560-60183-6**

**Date Collected: 03/09/16 13:55**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 14:21	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 14:21	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 14:21	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 14:21	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 14:21	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 14:21	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 14:21	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 14:21	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 14:21	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 14:21	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 14:21	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 14:21	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 14:21	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 14:21	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 14:21	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 14:21	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 14:21	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 14:21	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 14:21	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 14:21	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 14:21	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 14:21	1
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 14:21	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 14:21	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 14:21	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 14:21	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 14:21	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 14:21	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 14:21	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 14:21	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 14:21	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 14:21	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 14:21	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 14:21	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 14:21	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 14:21	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 14:21	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 14:21	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 14:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 14:21	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 14:21	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 14:21	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 14:21	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 14:21	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 14:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		03/11/16 14:21	1
Dibromofluoromethane (Surr)	105		69 - 130		03/11/16 14:21	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		03/11/16 14:21	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260 LEAD**

**Lab Sample ID: 560-60183-6**

**Date Collected: 03/09/16 13:55**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		70 - 130		03/11/16 14:21	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.479	U	10.4	0.479	ug/L		03/10/16 15:00	03/11/16 15:18	1
Acenaphthylene	0.471	U	10.4	0.471	ug/L		03/10/16 15:00	03/11/16 15:18	1
Anthracene	0.729	U	10.4	0.729	ug/L		03/10/16 15:00	03/11/16 15:18	1
Benzo[a]anthracene	0.673	U	10.4	0.673	ug/L		03/10/16 15:00	03/11/16 15:18	1
Benzo[a]pyrene	0.773	U	10.4	0.773	ug/L		03/10/16 15:00	03/11/16 15:18	1
Benzo[b]fluoranthene	0.946	U	10.4	0.946	ug/L		03/10/16 15:00	03/11/16 15:18	1
Benzo[g,h,i]perylene	1.14	U	10.4	1.14	ug/L		03/10/16 15:00	03/11/16 15:18	1
Benzo[k]fluoranthene	1.55	U	10.4	1.55	ug/L		03/10/16 15:00	03/11/16 15:18	1
Benzyl alcohol	0.861	U	10.4	0.861	ug/L		03/10/16 15:00	03/11/16 15:18	1
Bis(2-chloroethoxy)methane	0.454	U	10.4	0.454	ug/L		03/10/16 15:00	03/11/16 15:18	1
Bis(2-chloroethyl)ether	1.62	U	10.4	1.62	ug/L		03/10/16 15:00	03/11/16 15:18	1
Bis(2-ethylhexyl) phthalate	5.21	U	20.8	5.21	ug/L		03/10/16 15:00	03/11/16 15:18	1
4-Bromophenyl phenyl ether	0.845	U	10.4	0.845	ug/L		03/10/16 15:00	03/11/16 15:18	1
Butyl benzyl phthalate	0.850	U	10.4	0.850	ug/L		03/10/16 15:00	03/11/16 15:18	1
4-Chloroaniline	0.572	U	10.4	0.572	ug/L		03/10/16 15:00	03/11/16 15:18	1
4-Chloro-3-methylphenol	0.610	U	10.4	0.610	ug/L		03/10/16 15:00	03/11/16 15:18	1
2-Chloronaphthalene	0.628	U	10.4	0.628	ug/L		03/10/16 15:00	03/11/16 15:18	1
2-Chlorophenol	0.759	U	10.4	0.759	ug/L		03/10/16 15:00	03/11/16 15:18	1
4-Chlorophenyl phenyl ether	0.551	U	10.4	0.551	ug/L		03/10/16 15:00	03/11/16 15:18	1
Chrysene	0.515	U	10.4	0.515	ug/L		03/10/16 15:00	03/11/16 15:18	1
Dibenz(a,h)anthracene	0.910	U	10.4	0.910	ug/L		03/10/16 15:00	03/11/16 15:18	1
Dibenzofuran	0.505	U	10.4	0.505	ug/L		03/10/16 15:00	03/11/16 15:18	1
1,2-Dichlorobenzene	0.807	U	10.4	0.807	ug/L		03/10/16 15:00	03/11/16 15:18	1
1,3-Dichlorobenzene	0.511	U	10.4	0.511	ug/L		03/10/16 15:00	03/11/16 15:18	1
1,4-Dichlorobenzene	0.849	U	10.4	0.849	ug/L		03/10/16 15:00	03/11/16 15:18	1
3,3'-Dichlorobenzidine	0.820	U	10.4	0.820	ug/L		03/10/16 15:00	03/11/16 15:18	1
2,4-Dichlorophenol	0.733	U	10.4	0.733	ug/L		03/10/16 15:00	03/11/16 15:18	1
Diethyl phthalate	0.694	U	10.4	0.694	ug/L		03/10/16 15:00	03/11/16 15:18	1
2,4-Dimethylphenol	0.618	U	10.4	0.618	ug/L		03/10/16 15:00	03/11/16 15:18	1
Dimethyl phthalate	0.614	U	10.4	0.614	ug/L		03/10/16 15:00	03/11/16 15:18	1
Di-n-butyl phthalate	0.739	U	10.4	0.739	ug/L		03/10/16 15:00	03/11/16 15:18	1
4,6-Dinitro-2-methylphenol	0.999	U	10.4	0.999	ug/L		03/10/16 15:00	03/11/16 15:18	1
2,4-Dinitrophenol	2.80	U	20.8	2.80	ug/L		03/10/16 15:00	03/11/16 15:18	1
2,4-Dinitrotoluene	0.530	U	20.8	0.530	ug/L		03/10/16 15:00	03/11/16 15:18	1
2,6-Dinitrotoluene	0.794	U	10.4	0.794	ug/L		03/10/16 15:00	03/11/16 15:18	1
Di-n-octyl phthalate	1.15	U	10.4	1.15	ug/L		03/10/16 15:00	03/11/16 15:18	1
Fluoranthene	0.517	U	10.4	0.517	ug/L		03/10/16 15:00	03/11/16 15:18	1
Fluorene	0.439	U	10.4	0.439	ug/L		03/10/16 15:00	03/11/16 15:18	1
Hexachlorobenzene	0.627	U	10.4	0.627	ug/L		03/10/16 15:00	03/11/16 15:18	1
Hexachlorobutadiene	0.746	U	10.4	0.746	ug/L		03/10/16 15:00	03/11/16 15:18	1
Hexachlorocyclopentadiene	0.874	U	10.4	0.874	ug/L		03/10/16 15:00	03/11/16 15:18	1
Hexachloroethane	0.614	U	10.4	0.614	ug/L		03/10/16 15:00	03/11/16 15:18	1
Indeno[1,2,3-cd]pyrene	0.960	U	10.4	0.960	ug/L		03/10/16 15:00	03/11/16 15:18	1
Isophorone	0.572	U	10.4	0.572	ug/L		03/10/16 15:00	03/11/16 15:18	1
2-Methylnaphthalene	0.731	U	10.4	0.731	ug/L		03/10/16 15:00	03/11/16 15:18	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260 LEAD**

**Lab Sample ID: 560-60183-6**

**Date Collected: 03/09/16 13:55**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.635	U	10.4	0.635	ug/L		03/10/16 15:00	03/11/16 15:18	1
3 & 4 Methylphenol	0.795	U	20.8	0.795	ug/L		03/10/16 15:00	03/11/16 15:18	1
Naphthalene	0.820	U	10.4	0.820	ug/L		03/10/16 15:00	03/11/16 15:18	1
2-Nitroaniline	0.798	U	10.4	0.798	ug/L		03/10/16 15:00	03/11/16 15:18	1
3-Nitroaniline	0.533	U	10.4	0.533	ug/L		03/10/16 15:00	03/11/16 15:18	1
4-Nitroaniline	0.853	U	10.4	0.853	ug/L		03/10/16 15:00	03/11/16 15:18	1
Nitrobenzene	0.611	U	10.4	0.611	ug/L		03/10/16 15:00	03/11/16 15:18	1
2-Nitrophenol	0.842	U	10.4	0.842	ug/L		03/10/16 15:00	03/11/16 15:18	1
4-Nitrophenol	1.81	U	10.4	1.81	ug/L		03/10/16 15:00	03/11/16 15:18	1
N-Nitrosodi-n-propylamine	0.646	U	10.4	0.646	ug/L		03/10/16 15:00	03/11/16 15:18	1
N-Nitrosodiphenylamine	1.07	U	10.4	1.07	ug/L		03/10/16 15:00	03/11/16 15:18	1
Pentachlorophenol	1.38	U	20.8	1.38	ug/L		03/10/16 15:00	03/11/16 15:18	1
Phenanthrene	0.616	U	10.4	0.616	ug/L		03/10/16 15:00	03/11/16 15:18	1
Phenol	0.800	U	10.4	0.800	ug/L		03/10/16 15:00	03/11/16 15:18	1
Pyrene	0.458	U	10.4	0.458	ug/L		03/10/16 15:00	03/11/16 15:18	1
1,2,4-Trichlorobenzene	0.674	U	10.4	0.674	ug/L		03/10/16 15:00	03/11/16 15:18	1
2,4,5-Trichlorophenol	0.897	U	10.4	0.897	ug/L		03/10/16 15:00	03/11/16 15:18	1
2,4,6-Trichlorophenol	0.685	U	10.4	0.685	ug/L		03/10/16 15:00	03/11/16 15:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	33		23 - 130	03/10/16 15:00	03/11/16 15:18	1
2-Fluorophenol	34		10 - 130	03/10/16 15:00	03/11/16 15:18	1
Nitrobenzene-d5	34		27 - 130	03/10/16 15:00	03/11/16 15:18	1
Phenol-d5	37		10 - 130	03/10/16 15:00	03/11/16 15:18	1
Terphenyl-d14	43		10 - 141	03/10/16 15:00	03/11/16 15:18	1
2,4,6-Tribromophenol	35		18 - 130	03/10/16 15:00	03/11/16 15:18	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00476	U	0.0571	0.00476	ug/L		03/11/16 13:04	03/14/16 19:39	1
alpha-BHC	0.00495	U	0.0571	0.00495	ug/L		03/11/16 13:04	03/14/16 19:39	1
alpha-Chlordane	0.00599	U	0.0571	0.00599	ug/L		03/11/16 13:04	03/14/16 19:39	1
beta-BHC	0.00476	U	0.0571	0.00476	ug/L		03/11/16 13:04	03/14/16 19:39	1
4,4'-DDD	0.00476	U	0.0571	0.00476	ug/L		03/11/16 13:04	03/14/16 19:39	1
4,4'-DDE	0.00476	U	0.0571	0.00476	ug/L		03/11/16 13:04	03/14/16 19:39	1
4,4'-DDT	0.00770	U	0.0571	0.00770	ug/L		03/11/16 13:04	03/14/16 19:39	1
delta-BHC	0.00476	U	0.0571	0.00476	ug/L		03/11/16 13:04	03/14/16 19:39	1
Dieldrin	0.0124	U	0.0571	0.0124	ug/L		03/11/16 13:04	03/14/16 19:39	1
Endosulfan I	0.00476	U	0.0571	0.00476	ug/L		03/11/16 13:04	03/14/16 19:39	1
Endosulfan II	0.00818	U	0.0571	0.00818	ug/L		03/11/16 13:04	03/14/16 19:39	1
Endosulfan sulfate	0.00837	U	0.0571	0.00837	ug/L		03/11/16 13:04	03/14/16 19:39	1
Endrin	0.00732	U	0.0571	0.00732	ug/L		03/11/16 13:04	03/14/16 19:39	1
Endrin aldehyde	0.00476	U	0.0571	0.00476	ug/L		03/11/16 13:04	03/14/16 19:39	1
Endrin ketone	0.00780	U	0.0571	0.00780	ug/L		03/11/16 13:04	03/14/16 19:39	1
gamma-BHC (Lindane)	0.00428	U	0.0571	0.00428	ug/L		03/11/16 13:04	03/14/16 19:39	1
gamma-Chlordane	0.00637	U	0.0571	0.00637	ug/L		03/11/16 13:04	03/14/16 19:39	1
Heptachlor	0.00618	U	0.0571	0.00618	ug/L		03/11/16 13:04	03/14/16 19:39	1
Heptachlor epoxide	0.00495	U	0.0571	0.00495	ug/L		03/11/16 13:04	03/14/16 19:39	1
Methoxychlor	0.00951	U	0.0571	0.00951	ug/L		03/11/16 13:04	03/14/16 19:39	1
Toxaphene	0.647	U	5.71	0.647	ug/L		03/11/16 13:04	03/14/16 19:39	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260 LEAD**

**Lab Sample ID: 560-60183-6**

**Date Collected: 03/09/16 13:55**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	51		10 - 152	03/11/16 13:04	03/14/16 19:39	1
Tetrachloro-m-xylene	78		57 - 127	03/11/16 13:04	03/14/16 19:39	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.571	0.105	ug/L		03/11/16 13:04	03/14/16 14:29	1
Aroclor 1221	0.105	U	0.571	0.105	ug/L		03/11/16 13:04	03/14/16 14:29	1
Aroclor 1232	0.418	U	0.761	0.418	ug/L		03/11/16 13:04	03/14/16 14:29	1
Aroclor 1242	0.105	U	0.571	0.105	ug/L		03/11/16 13:04	03/14/16 14:29	1
Aroclor 1248	0.105	U	0.571	0.105	ug/L		03/11/16 13:04	03/14/16 14:29	1
Aroclor 1254	0.105	U	0.571	0.105	ug/L		03/11/16 13:04	03/14/16 14:29	1
Aroclor 1260	0.105	U	0.571	0.105	ug/L		03/11/16 13:04	03/14/16 14:29	1
Aroclor 1262	0.105	U	0.571	0.105	ug/L		03/11/16 13:04	03/14/16 14:29	1
Aroclor 1268	0.105	U	0.571	0.105	ug/L		03/11/16 13:04	03/14/16 14:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	132		10 - 150	03/11/16 13:04	03/14/16 14:29	1
DCB Decachlorobiphenyl	112		10 - 150	03/11/16 13:04	03/14/16 14:29	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.160	U	2.38	0.160	ug/L		03/11/16 19:29	03/19/16 02:34	1
Bolstar	0.298	U	0.950	0.298	ug/L		03/11/16 19:29	03/19/16 02:34	1
Chlorpyrifos	0.342	U	1.43	0.342	ug/L		03/11/16 19:29	03/19/16 02:34	1
Coumaphos	0.128	U	0.950	0.128	ug/L		03/11/16 19:29	03/19/16 02:34	1
Demeton-O	0.133	U	0.950	0.133	ug/L		03/11/16 19:29	03/19/16 02:34	1
Demeton-S	0.0656	U	1.90	0.0656	ug/L		03/11/16 19:29	03/19/16 02:34	1
Diazinon	0.140	U	0.475	0.140	ug/L		03/11/16 19:29	03/19/16 02:34	1
Dichlorvos	0.154	U	0.475	0.154	ug/L		03/11/16 19:29	03/19/16 02:34	1
Dimethoate	0.427	U	1.43	0.427	ug/L		03/11/16 19:29	03/19/16 02:34	1
Disulfoton	0.306	U	0.950	0.306	ug/L		03/11/16 19:29	03/19/16 02:34	1
EPN	0.142	U	1.14	0.142	ug/L		03/11/16 19:29	03/19/16 02:34	1
Ethoprop	0.168	U	1.43	0.168	ug/L		03/11/16 19:29	03/19/16 02:34	1
Ethyl Parathion	0.137	U	0.950	0.137	ug/L		03/11/16 19:29	03/19/16 02:34	1
Famphur	0.170	U	0.950	0.170	ug/L		03/11/16 19:29	03/19/16 02:34	1
Fensulfothion	0.517	U	2.38	0.517	ug/L		03/11/16 19:29	03/19/16 02:34	1
Fenthion	0.146	U	2.38	0.146	ug/L		03/11/16 19:29	03/19/16 02:34	1
Malathion	0.126	U	1.90	0.126	ug/L		03/11/16 19:29	03/19/16 02:34	1
Merphos	0.165	U	4.75	0.165	ug/L		03/11/16 19:29	03/19/16 02:34	1
Methyl parathion	0.134	U	3.80	0.134	ug/L		03/11/16 19:29	03/19/16 02:34	1
Mevinphos	0.437	U	5.89	0.437	ug/L		03/11/16 19:29	03/19/16 02:34	1
Naled	0.760	U	1.90	0.760	ug/L		03/11/16 19:29	03/19/16 02:34	1
Phorate	0.146	U	1.14	0.146	ug/L		03/11/16 19:29	03/19/16 02:34	1
Ronnel	0.110	U	9.50	0.110	ug/L		03/11/16 19:29	03/19/16 02:34	1
Sulfotepp	0.160	U	1.43	0.160	ug/L		03/11/16 19:29	03/19/16 02:34	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.33	0.118	ug/L		03/11/16 19:29	03/19/16 02:34	1
Thionazin	0.296	U	0.950	0.296	ug/L		03/11/16 19:29	03/19/16 02:34	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/11/16 19:29	03/19/16 02:34	1
Trichloronate	0.230	U	1.43	0.230	ug/L		03/11/16 19:29	03/19/16 02:34	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260 LEAD**

**Lab Sample ID: 560-60183-6**

**Date Collected: 03/09/16 13:55**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	63		49 - 171	03/11/16 19:29	03/19/16 02:34	1
Triphenylphosphate	89		60 - 154	03/11/16 19:29	03/19/16 02:34	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0962	U	4.81	0.0962	ug/L		03/15/16 08:29	03/16/16 19:42	1
Dicamba	0.0818	U	0.481	0.0818	ug/L		03/15/16 08:29	03/16/16 19:42	1
Mecoprop	18.3	U	115	18.3	ug/L		03/15/16 08:29	03/16/16 19:42	1
MCPA	16.4	U	115	16.4	ug/L		03/15/16 08:29	03/16/16 19:42	1
Dichlorprop	0.144	U	0.481	0.144	ug/L		03/15/16 08:29	03/16/16 19:42	1
2,4-D	0.0356	U	0.481	0.0356	ug/L		03/15/16 08:29	03/16/16 19:42	1
Silvex (2,4,5-TP)	0.0597	U	0.241	0.0597	ug/L		03/15/16 08:29	03/16/16 19:42	1
2,4,5-T	0.0597	U	0.241	0.0597	ug/L		03/15/16 08:29	03/16/16 19:42	1
2,4-DB	0.144	U	0.481	0.144	ug/L		03/15/16 08:29	03/16/16 19:42	1
Dinoseb	0.154	U	0.962	0.154	ug/L		03/15/16 08:29	03/16/16 19:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	92		45 - 130				03/15/16 08:29	03/16/16 19:42	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	86.6		0.200	0.101	mg/L		03/11/16 10:00	03/11/16 15:55	1
Magnesium	16.2		0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 15:55	1
Potassium	1.26		0.500	0.375	mg/L		03/11/16 10:00	03/11/16 15:55	1
Silicon	4.92		0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 15:55	1
Sodium	11.5		1.00	0.310	mg/L		03/11/16 10:00	03/11/16 15:55	1
Strontium	0.515		0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 15:55	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/11/16 10:00	03/11/16 18:37	1
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 18:37	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 18:37	1
Barium	33.0		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 18:37	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 18:37	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 18:37	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 18:37	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 18:37	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 18:37	1
Lead	0.733	U	5.00	0.733	ug/L		03/11/16 10:00	03/11/16 18:37	1
Manganese	11.6	U	50.0	11.6	ug/L		03/11/16 10:00	03/11/16 18:37	1
Nickel	2.17	U	5.00	2.17	ug/L		03/11/16 10:00	03/11/16 18:37	1
Selenium	1.08	U	5.00	1.08	ug/L		03/11/16 10:00	03/11/16 18:37	1
Silver	0.941	U	5.00	0.941	ug/L		03/11/16 10:00	03/11/16 18:37	1
Thallium	0.693	U	2.00	0.693	ug/L		03/11/16 10:00	03/11/16 18:37	1
Zinc	3.55	U	25.0	3.55	ug/L		03/11/16 10:00	03/11/16 18:37	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/14/16 10:00	03/14/16 16:52	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260 LEAD**

**Lab Sample ID: 560-60183-6**

**Date Collected: 03/09/16 13:55**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.544	J	1.00	0.315	mg/L			03/10/16 22:13	1
Chloride	17.7		1.00	0.192	mg/L			03/10/16 22:13	1
Nitrate as N	1.25		0.500	0.103	mg/L			03/10/16 22:13	1
Sulfate	23.9		1.00	0.377	mg/L			03/10/16 22:13	1
Fluoride	0.178		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/17/16 12:01	1
Phosphorus	0.0482	J	0.100	0.0410	mg/L		03/21/16 10:03	03/22/16 11:16	1
Total Organic Carbon	0.674	J	1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.29	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	238		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	238		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	345		10.0	10.0	mg/L			03/11/16 09:50	1
Total Suspended Solids	13.8		3.00	3.00	mg/L			03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.394	J	1.00	0.285	mg/L			03/21/16 12:00	1

**Client Sample ID: HSM270 LEAD**

**Lab Sample ID: 560-60183-7**

**Date Collected: 03/09/16 14:11**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/11/16 13:06	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/11/16 13:06	1
Benzene	0.330	U	1.00	0.330	ug/L			03/11/16 13:06	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/11/16 13:06	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 13:06	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/11/16 13:06	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/11/16 13:06	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/11/16 13:06	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/11/16 13:06	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/11/16 13:06	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 13:06	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 13:06	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 13:06	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 13:06	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 13:06	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 13:06	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 13:06	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 13:06	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 13:06	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 13:06	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 13:06	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 13:06	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 13:06	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 13:06	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM270 LEAD**

**Lab Sample ID: 560-60183-7**

**Date Collected: 03/09/16 14:11**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 13:06	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 13:06	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 13:06	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 13:06	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 13:06	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 13:06	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 13:06	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 13:06	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 13:06	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 13:06	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 13:06	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 13:06	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 13:06	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 13:06	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 13:06	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 13:06	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 13:06	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 13:06	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 13:06	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 13:06	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 13:06	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 13:06	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/11/16 13:06	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 13:06	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 13:06	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 13:06	1
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 13:06	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 13:06	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 13:06	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 13:06	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 13:06	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 13:06	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 13:06	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 13:06	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 13:06	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 13:06	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 13:06	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 13:06	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 13:06	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 13:06	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 13:06	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 13:06	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 13:06	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 13:06	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 13:06	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 13:06	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 13:06	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 13:06	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 13:06	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM270 LEAD**

**Lab Sample ID: 560-60183-7**

**Date Collected: 03/09/16 14:11**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 13:06	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 13:06	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 13:06	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 13:06	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 13:06	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 13:06	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 13:06	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 13:06	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 13:06	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 13:06	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 13:06	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 13:06	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 13:06	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 13:06	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 13:06	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 13:06	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 13:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 13:06	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 13:06	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 13:06	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 13:06	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 13:06	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 13:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		70 - 130		03/11/16 13:06	1
Dibromofluoromethane (Surr)	104		69 - 130		03/11/16 13:06	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 140		03/11/16 13:06	1
Toluene-d8 (Surr)	101		70 - 130		03/11/16 13:06	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/10/16 15:00	03/11/16 15:43	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/10/16 15:00	03/11/16 15:43	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/10/16 15:00	03/11/16 15:43	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/10/16 15:00	03/11/16 15:43	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/10/16 15:00	03/11/16 15:43	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/10/16 15:00	03/11/16 15:43	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/10/16 15:00	03/11/16 15:43	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/10/16 15:00	03/11/16 15:43	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/10/16 15:00	03/11/16 15:43	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/10/16 15:00	03/11/16 15:43	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/10/16 15:00	03/11/16 15:43	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/10/16 15:00	03/11/16 15:43	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/10/16 15:00	03/11/16 15:43	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/10/16 15:00	03/11/16 15:43	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 15:43	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/10/16 15:00	03/11/16 15:43	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/10/16 15:00	03/11/16 15:43	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/10/16 15:00	03/11/16 15:43	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM270 LEAD**

**Lab Sample ID: 560-60183-7**

**Date Collected: 03/09/16 14:11**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/10/16 15:00	03/11/16 15:43	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/10/16 15:00	03/11/16 15:43	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/10/16 15:00	03/11/16 15:43	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/10/16 15:00	03/11/16 15:43	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/10/16 15:00	03/11/16 15:43	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/10/16 15:00	03/11/16 15:43	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/10/16 15:00	03/11/16 15:43	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 15:43	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/10/16 15:00	03/11/16 15:43	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/10/16 15:00	03/11/16 15:43	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/10/16 15:00	03/11/16 15:43	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 15:43	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/10/16 15:00	03/11/16 15:43	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/10/16 15:00	03/11/16 15:43	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/10/16 15:00	03/11/16 15:43	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/10/16 15:00	03/11/16 15:43	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/10/16 15:00	03/11/16 15:43	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/10/16 15:00	03/11/16 15:43	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/10/16 15:00	03/11/16 15:43	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/10/16 15:00	03/11/16 15:43	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/10/16 15:00	03/11/16 15:43	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/10/16 15:00	03/11/16 15:43	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/10/16 15:00	03/11/16 15:43	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 15:43	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/10/16 15:00	03/11/16 15:43	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 15:43	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/10/16 15:00	03/11/16 15:43	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/10/16 15:00	03/11/16 15:43	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/10/16 15:00	03/11/16 15:43	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 15:43	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/10/16 15:00	03/11/16 15:43	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/10/16 15:00	03/11/16 15:43	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/10/16 15:00	03/11/16 15:43	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/10/16 15:00	03/11/16 15:43	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/10/16 15:00	03/11/16 15:43	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/10/16 15:00	03/11/16 15:43	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/10/16 15:00	03/11/16 15:43	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/10/16 15:00	03/11/16 15:43	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/10/16 15:00	03/11/16 15:43	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/10/16 15:00	03/11/16 15:43	1
Phenol	0.768	U	10.0	0.768	ug/L		03/10/16 15:00	03/11/16 15:43	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/10/16 15:00	03/11/16 15:43	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/10/16 15:00	03/11/16 15:43	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/10/16 15:00	03/11/16 15:43	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/10/16 15:00	03/11/16 15:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	32		23 - 130	03/10/16 15:00	03/11/16 15:43	1
2-Fluorophenol	32		10 - 130	03/10/16 15:00	03/11/16 15:43	1
Nitrobenzene-d5	33		27 - 130	03/10/16 15:00	03/11/16 15:43	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM270 LEAD**

**Lab Sample ID: 560-60183-7**

**Date Collected: 03/09/16 14:11**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	35		10 - 130	03/10/16 15:00	03/11/16 15:43	1
Terphenyl-d14	24		10 - 141	03/10/16 15:00	03/11/16 15:43	1
2,4,6-Tribromophenol	40		18 - 130	03/10/16 15:00	03/11/16 15:43	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00483	U	0.0580	0.00483	ug/L		03/11/16 13:04	03/14/16 20:04	1
alpha-BHC	0.00503	U	0.0580	0.00503	ug/L		03/11/16 13:04	03/14/16 20:04	1
alpha-Chlordane	0.00609	U	0.0580	0.00609	ug/L		03/11/16 13:04	03/14/16 20:04	1
beta-BHC	0.00483	U	0.0580	0.00483	ug/L		03/11/16 13:04	03/14/16 20:04	1
4,4'-DDD	0.00483	U	0.0580	0.00483	ug/L		03/11/16 13:04	03/14/16 20:04	1
4,4'-DDE	0.00483	U	0.0580	0.00483	ug/L		03/11/16 13:04	03/14/16 20:04	1
4,4'-DDT	0.00783	U	0.0580	0.00783	ug/L		03/11/16 13:04	03/14/16 20:04	1
delta-BHC	0.00483	U	0.0580	0.00483	ug/L		03/11/16 13:04	03/14/16 20:04	1
Dieldrin	0.0126	U	0.0580	0.0126	ug/L		03/11/16 13:04	03/14/16 20:04	1
Endosulfan I	0.00483	U	0.0580	0.00483	ug/L		03/11/16 13:04	03/14/16 20:04	1
Endosulfan II	0.00831	U	0.0580	0.00831	ug/L		03/11/16 13:04	03/14/16 20:04	1
Endosulfan sulfate	0.00851	U	0.0580	0.00851	ug/L		03/11/16 13:04	03/14/16 20:04	1
Endrin	0.00744	U	0.0580	0.00744	ug/L		03/11/16 13:04	03/14/16 20:04	1
Endrin aldehyde	0.00483	U	0.0580	0.00483	ug/L		03/11/16 13:04	03/14/16 20:04	1
Endrin ketone	0.00793	U	0.0580	0.00793	ug/L		03/11/16 13:04	03/14/16 20:04	1
gamma-BHC (Lindane)	0.00435	U	0.0580	0.00435	ug/L		03/11/16 13:04	03/14/16 20:04	1
gamma-Chlordane	0.00648	U	0.0580	0.00648	ug/L		03/11/16 13:04	03/14/16 20:04	1
Heptachlor	0.00628	U	0.0580	0.00628	ug/L		03/11/16 13:04	03/14/16 20:04	1
Heptachlor epoxide	0.00503	U	0.0580	0.00503	ug/L		03/11/16 13:04	03/14/16 20:04	1
Methoxychlor	0.00967	U	0.0580	0.00967	ug/L		03/11/16 13:04	03/14/16 20:04	1
Toxaphene	0.657	U	5.80	0.657	ug/L		03/11/16 13:04	03/14/16 20:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	44		10 - 152	03/11/16 13:04	03/14/16 20:04	1
Tetrachloro-m-xylene	77		57 - 127	03/11/16 13:04	03/14/16 20:04	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.580	0.106	ug/L		03/11/16 13:04	03/14/16 14:47	1
Aroclor 1221	0.106	U	0.580	0.106	ug/L		03/11/16 13:04	03/14/16 14:47	1
Aroclor 1232	0.425	U	0.773	0.425	ug/L		03/11/16 13:04	03/14/16 14:47	1
Aroclor 1242	0.106	U	0.580	0.106	ug/L		03/11/16 13:04	03/14/16 14:47	1
Aroclor 1248	0.106	U	0.580	0.106	ug/L		03/11/16 13:04	03/14/16 14:47	1
Aroclor 1254	0.106	U	0.580	0.106	ug/L		03/11/16 13:04	03/14/16 14:47	1
Aroclor 1260	0.106	U	0.580	0.106	ug/L		03/11/16 13:04	03/14/16 14:47	1
Aroclor 1262	0.106	U	0.580	0.106	ug/L		03/11/16 13:04	03/14/16 14:47	1
Aroclor 1268	0.106	U	0.580	0.106	ug/L		03/11/16 13:04	03/14/16 14:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	127		10 - 150	03/11/16 13:04	03/14/16 14:47	1
DCB Decachlorobiphenyl	95		10 - 150	03/11/16 13:04	03/14/16 14:47	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM270 LEAD**

**Lab Sample ID: 560-60183-7**

**Date Collected: 03/09/16 14:11**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.162	U	2.41	0.162	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Bolstar	0.303	U	0.964	0.303	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Chlorpyrifos	0.347	U	1.45	0.347	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Coumaphos	0.130	U	0.964	0.130	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Demeton-O	0.135	U	0.964	0.135	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Demeton-S	0.0665	U	1.93	0.0665	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Diazinon	0.142	U	0.482	0.142	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Dichlorvos	0.156	U	0.482	0.156	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Dimethoate	0.433	U	1.45	0.433	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Disulfoton	0.310	U	0.964	0.310	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
EPN	0.144	U	1.16	0.144	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Ethoprop	0.171	U	1.45	0.171	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Ethyl Parathion	0.139	U	0.964	0.139	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Famphur	0.173	U	0.964	0.173	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Fensulfothion	0.524	U	2.41	0.524	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Fenthion	0.148	U	2.41	0.148	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Malathion	0.128	U	1.93	0.128	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Merphos	0.168	U	4.82	0.168	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Methyl parathion	0.136	U	3.86	0.136	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Mevinphos	0.443	U	5.98	0.443	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Naled	0.771	U	1.93	0.771	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Phorate	0.148	U	1.16	0.148	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Ronnel	0.112	U	9.64	0.112	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Sulfotepp	0.162	U	1.45	0.162	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Tetrachlorvinphos (Stirophos)	0.120	U	3.37	0.120	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Thionazin	0.301	U	0.964	0.301	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Tokuthion	0.119	U	1.54	0.119	ug/L	-	03/11/16 19:29	03/19/16 03:06	1
Trichloronate	0.233	U	1.45	0.233	ug/L	-	03/11/16 19:29	03/19/16 03:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	61		49 - 171	03/11/16 19:29	03/19/16 03:06	1
Triphenylphosphate	91		60 - 154	03/11/16 19:29	03/19/16 03:06	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0992	U	4.96	0.0992	ug/L	-	03/15/16 08:29	03/16/16 20:01	1
Dicamba	0.0843	U	0.496	0.0843	ug/L	-	03/15/16 08:29	03/16/16 20:01	1
Mecoprop	18.8	U	119	18.8	ug/L	-	03/15/16 08:29	03/16/16 20:01	1
MCPA	16.9	U	119	16.9	ug/L	-	03/15/16 08:29	03/16/16 20:01	1
Dichlorprop	0.149	U	0.496	0.149	ug/L	-	03/15/16 08:29	03/16/16 20:01	1
2,4-D	0.0367	U	0.496	0.0367	ug/L	-	03/15/16 08:29	03/16/16 20:01	1
Silvex (2,4,5-TP)	0.0615	U	0.248	0.0615	ug/L	-	03/15/16 08:29	03/16/16 20:01	1
2,4,5-T	0.0615	U	0.248	0.0615	ug/L	-	03/15/16 08:29	03/16/16 20:01	1
2,4-DB	0.149	U	0.496	0.149	ug/L	-	03/15/16 08:29	03/16/16 20:01	1
Dinoseb	0.159	U	0.992	0.159	ug/L	-	03/15/16 08:29	03/16/16 20:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	85		45 - 130	03/15/16 08:29	03/16/16 20:01	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM270 LEAD**

**Lab Sample ID: 560-60183-7**

**Date Collected: 03/09/16 14:11**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	78.8		0.200	0.101	mg/L		03/11/16 10:00	03/11/16 15:59	1
Magnesium	14.3		0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 15:59	1
Potassium	1.37		0.500	0.375	mg/L		03/11/16 10:00	03/11/16 15:59	1
Silicon	4.49		0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 15:59	1
Sodium	12.8		1.00	0.310	mg/L		03/11/16 10:00	03/11/16 15:59	1
Strontium	0.471		0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 15:59	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/11/16 10:00	03/11/16 18:42	1
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 18:42	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 18:42	1
Barium	35.9		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 18:42	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 18:42	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 18:42	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 18:42	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 18:42	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 18:42	1
Lead	0.733	U	5.00	0.733	ug/L		03/11/16 10:00	03/11/16 18:42	1
Manganese	21.9	J	50.0	11.6	ug/L		03/11/16 10:00	03/11/16 18:42	1
Nickel	2.17	U	5.00	2.17	ug/L		03/11/16 10:00	03/11/16 18:42	1
Selenium	1.08	U	5.00	1.08	ug/L		03/11/16 10:00	03/11/16 18:42	1
Silver	0.941	U	5.00	0.941	ug/L		03/11/16 10:00	03/11/16 18:42	1
Thallium	0.693	U	2.00	0.693	ug/L		03/11/16 10:00	03/11/16 18:42	1
Zinc	3.55	U	25.0	3.55	ug/L		03/11/16 10:00	03/11/16 18:42	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/14/16 10:00	03/14/16 16:55	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.547	J	1.00	0.315	mg/L			03/10/16 23:31	1
Chloride	17.7		1.00	0.192	mg/L			03/10/16 23:31	1
Nitrate as N	1.13		0.500	0.103	mg/L			03/10/16 23:31	1
Sulfate	23.7		1.00	0.377	mg/L			03/10/16 23:31	1
Fluoride	0.191		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/17/16 12:02	1
Phosphorus	0.161		0.100	0.0410	mg/L		03/21/16 10:03	03/22/16 11:19	1
Total Organic Carbon	1.96		1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.41	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	222		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	222		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	320		10.0	10.0	mg/L			03/11/16 09:50	1
Total Suspended Solids	114		3.00	3.00	mg/L			03/14/16 16:45	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: HSM270 LEAD

Date Collected: 03/09/16 14:11

Date Received: 03/09/16 17:30

## Lab Sample ID: 560-60183-7

Matrix: Water

### General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.14		1.00	0.285	mg/L			03/21/16 12:00	1

## Client Sample ID: TB04

Date Collected: 03/09/16 00:00

Date Received: 03/09/16 17:30

## Lab Sample ID: 560-60183-8

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/11/16 13:31	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/11/16 13:31	1
Benzene	0.330	U	1.00	0.330	ug/L			03/11/16 13:31	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/11/16 13:31	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 13:31	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/11/16 13:31	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/11/16 13:31	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/11/16 13:31	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/11/16 13:31	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/11/16 13:31	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 13:31	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 13:31	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 13:31	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 13:31	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 13:31	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 13:31	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 13:31	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 13:31	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 13:31	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 13:31	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 13:31	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 13:31	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 13:31	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 13:31	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 13:31	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 13:31	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 13:31	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 13:31	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 13:31	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 13:31	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 13:31	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 13:31	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 13:31	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 13:31	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 13:31	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 13:31	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 13:31	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 13:31	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 13:31	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 13:31	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 13:31	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 13:31	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: TB04**

**Date Collected: 03/09/16 00:00**

**Date Received: 03/09/16 17:30**

**Lab Sample ID: 560-60183-8**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 13:31	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 13:31	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 13:31	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 13:31	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/11/16 13:31	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 13:31	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 13:31	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 13:31	1
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 13:31	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 13:31	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 13:31	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 13:31	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 13:31	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 13:31	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 13:31	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 13:31	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 13:31	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 13:31	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 13:31	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 13:31	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 13:31	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 13:31	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 13:31	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 13:31	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 13:31	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 13:31	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 13:31	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 13:31	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 13:31	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 13:31	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 13:31	1
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 13:31	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 13:31	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 13:31	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 13:31	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 13:31	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 13:31	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 13:31	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 13:31	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 13:31	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 13:31	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 13:31	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 13:31	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 13:31	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 13:31	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 13:31	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 13:31	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 13:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 13:31	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: TB04**

**Date Collected: 03/09/16 00:00**

**Date Received: 03/09/16 17:30**

**Lab Sample ID: 560-60183-8**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 13:31	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 13:31	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 13:31	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 13:31	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 13:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/11/16 13:31	1
Dibromofluoromethane (Surr)	104		69 - 130		03/11/16 13:31	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/11/16 13:31	1
Toluene-d8 (Surr)	101		70 - 130		03/11/16 13:31	1

**Client Sample ID: HSM210 PEAK**

**Date Collected: 03/09/16 16:10**

**Date Received: 03/09/16 17:30**

**Lab Sample ID: 560-60183-9**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/11/16 14:46	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/11/16 14:46	1
Benzene	0.330	U	1.00	0.330	ug/L			03/11/16 14:46	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/11/16 14:46	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 14:46	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/11/16 14:46	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/11/16 14:46	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/11/16 14:46	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/11/16 14:46	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/11/16 14:46	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 14:46	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 14:46	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 14:46	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 14:46	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 14:46	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 14:46	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 14:46	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 14:46	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 14:46	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 14:46	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 14:46	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 14:46	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 14:46	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 14:46	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 14:46	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 14:46	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 14:46	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 14:46	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 14:46	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 14:46	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 14:46	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 14:46	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 PEAK**

**Lab Sample ID: 560-60183-9**

**Date Collected: 03/09/16 16:10**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 14:46	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 14:46	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 14:46	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 14:46	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 14:46	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 14:46	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 14:46	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 14:46	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 14:46	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 14:46	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 14:46	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 14:46	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 14:46	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 14:46	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/11/16 14:46	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 14:46	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 14:46	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 14:46	1
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 14:46	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 14:46	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 14:46	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 14:46	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 14:46	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 14:46	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 14:46	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 14:46	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 14:46	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 14:46	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 14:46	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 14:46	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 14:46	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 14:46	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 14:46	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 14:46	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 14:46	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 14:46	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 14:46	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 14:46	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 14:46	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 14:46	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 14:46	1
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 14:46	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 14:46	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 14:46	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 14:46	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 14:46	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 14:46	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 14:46	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 14:46	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 PEAK**

**Lab Sample ID: 560-60183-9**

**Date Collected: 03/09/16 16:10**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 14:46	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 14:46	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 14:46	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 14:46	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 14:46	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 14:46	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 14:46	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 14:46	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 14:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 14:46	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 14:46	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 14:46	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 14:46	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 14:46	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 14:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		03/11/16 14:46	1
Dibromofluoromethane (Surr)	106		69 - 130		03/11/16 14:46	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/11/16 14:46	1
Toluene-d8 (Surr)	100		70 - 130		03/11/16 14:46	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.500	U	10.9	0.500	ug/L		03/10/16 15:00	03/11/16 16:09	1
Acenaphthylene	0.491	U	10.9	0.491	ug/L		03/10/16 15:00	03/11/16 16:09	1
Anthracene	0.761	U	10.9	0.761	ug/L		03/10/16 15:00	03/11/16 16:09	1
Benzo[a]anthracene	0.702	U	10.9	0.702	ug/L		03/10/16 15:00	03/11/16 16:09	1
Benzo[a]pyrene	0.807	U	10.9	0.807	ug/L		03/10/16 15:00	03/11/16 16:09	1
Benzo[b]fluoranthene	0.987	U	10.9	0.987	ug/L		03/10/16 15:00	03/11/16 16:09	1
Benzo[g,h,i]perylene	1.19	U	10.9	1.19	ug/L		03/10/16 15:00	03/11/16 16:09	1
Benzo[k]fluoranthene	1.61	U	10.9	1.61	ug/L		03/10/16 15:00	03/11/16 16:09	1
Benzyl alcohol	0.899	U	10.9	0.899	ug/L		03/10/16 15:00	03/11/16 16:09	1
Bis(2-chloroethoxy)methane	0.474	U	10.9	0.474	ug/L		03/10/16 15:00	03/11/16 16:09	1
Bis(2-chloroethyl)ether	1.69	U	10.9	1.69	ug/L		03/10/16 15:00	03/11/16 16:09	1
Bis(2-ethylhexyl) phthalate	5.43	U	21.7	5.43	ug/L		03/10/16 15:00	03/11/16 16:09	1
4-Bromophenyl phenyl ether	0.882	U	10.9	0.882	ug/L		03/10/16 15:00	03/11/16 16:09	1
Butyl benzyl phthalate	0.887	U	10.9	0.887	ug/L		03/10/16 15:00	03/11/16 16:09	1
4-Chloroaniline	0.597	U	10.9	0.597	ug/L		03/10/16 15:00	03/11/16 16:09	1
4-Chloro-3-methylphenol	0.637	U	10.9	0.637	ug/L		03/10/16 15:00	03/11/16 16:09	1
2-Chloronaphthalene	0.655	U	10.9	0.655	ug/L		03/10/16 15:00	03/11/16 16:09	1
2-Chlorophenol	0.792	U	10.9	0.792	ug/L		03/10/16 15:00	03/11/16 16:09	1
4-Chlorophenyl phenyl ether	0.575	U	10.9	0.575	ug/L		03/10/16 15:00	03/11/16 16:09	1
Chrysene	0.537	U	10.9	0.537	ug/L		03/10/16 15:00	03/11/16 16:09	1
Dibenz(a,h)anthracene	0.950	U	10.9	0.950	ug/L		03/10/16 15:00	03/11/16 16:09	1
Dibenzofuran	0.527	U	10.9	0.527	ug/L		03/10/16 15:00	03/11/16 16:09	1
1,2-Dichlorobenzene	0.842	U	10.9	0.842	ug/L		03/10/16 15:00	03/11/16 16:09	1
1,3-Dichlorobenzene	0.534	U	10.9	0.534	ug/L		03/10/16 15:00	03/11/16 16:09	1
1,4-Dichlorobenzene	0.886	U	10.9	0.886	ug/L		03/10/16 15:00	03/11/16 16:09	1
3,3'-Dichlorobenzidine	0.855	U	10.9	0.855	ug/L		03/10/16 15:00	03/11/16 16:09	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 PEAK**

**Lab Sample ID: 560-60183-9**

**Date Collected: 03/09/16 16:10**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	0.765	U	10.9	0.765	ug/L		03/10/16 15:00	03/11/16 16:09	1
Diethyl phthalate	0.724	U	10.9	0.724	ug/L		03/10/16 15:00	03/11/16 16:09	1
2,4-Dimethylphenol	0.645	U	10.9	0.645	ug/L		03/10/16 15:00	03/11/16 16:09	1
Dimethyl phthalate	0.640	U	10.9	0.640	ug/L		03/10/16 15:00	03/11/16 16:09	1
Di-n-butyl phthalate	0.771	U	10.9	0.771	ug/L		03/10/16 15:00	03/11/16 16:09	1
4,6-Dinitro-2-methylphenol	1.04	U	10.9	1.04	ug/L		03/10/16 15:00	03/11/16 16:09	1
2,4-Dinitrophenol	2.92	U	21.7	2.92	ug/L		03/10/16 15:00	03/11/16 16:09	1
2,4-Dinitrotoluene	0.553	U	21.7	0.553	ug/L		03/10/16 15:00	03/11/16 16:09	1
2,6-Dinitrotoluene	0.828	U	10.9	0.828	ug/L		03/10/16 15:00	03/11/16 16:09	1
Di-n-octyl phthalate	1.20	U	10.9	1.20	ug/L		03/10/16 15:00	03/11/16 16:09	1
Fluoranthene	0.539	U	10.9	0.539	ug/L		03/10/16 15:00	03/11/16 16:09	1
Fluorene	0.458	U	10.9	0.458	ug/L		03/10/16 15:00	03/11/16 16:09	1
Hexachlorobenzene	0.654	U	10.9	0.654	ug/L		03/10/16 15:00	03/11/16 16:09	1
Hexachlorobutadiene	0.778	U	10.9	0.778	ug/L		03/10/16 15:00	03/11/16 16:09	1
Hexachlorocyclopentadiene	0.912	U	10.9	0.912	ug/L		03/10/16 15:00	03/11/16 16:09	1
Hexachloroethane	0.640	U	10.9	0.640	ug/L		03/10/16 15:00	03/11/16 16:09	1
Indeno[1,2,3-cd]pyrene	1.00	U	10.9	1.00	ug/L		03/10/16 15:00	03/11/16 16:09	1
Isophorone	0.597	U	10.9	0.597	ug/L		03/10/16 15:00	03/11/16 16:09	1
2-Methylnaphthalene	0.763	U	10.9	0.763	ug/L		03/10/16 15:00	03/11/16 16:09	1
2-Methylphenol	0.663	U	10.9	0.663	ug/L		03/10/16 15:00	03/11/16 16:09	1
3 & 4 Methylphenol	0.829	U	21.7	0.829	ug/L		03/10/16 15:00	03/11/16 16:09	1
Naphthalene	0.855	U	10.9	0.855	ug/L		03/10/16 15:00	03/11/16 16:09	1
2-Nitroaniline	0.833	U	10.9	0.833	ug/L		03/10/16 15:00	03/11/16 16:09	1
3-Nitroaniline	0.557	U	10.9	0.557	ug/L		03/10/16 15:00	03/11/16 16:09	1
4-Nitroaniline	0.890	U	10.9	0.890	ug/L		03/10/16 15:00	03/11/16 16:09	1
Nitrobenzene	0.638	U	10.9	0.638	ug/L		03/10/16 15:00	03/11/16 16:09	1
2-Nitrophenol	0.878	U	10.9	0.878	ug/L		03/10/16 15:00	03/11/16 16:09	1
4-Nitrophenol	1.88	U	10.9	1.88	ug/L		03/10/16 15:00	03/11/16 16:09	1
N-Nitrosodi-n-propylamine	0.674	U	10.9	0.674	ug/L		03/10/16 15:00	03/11/16 16:09	1
N-Nitrosodiphenylamine	1.12	U	10.9	1.12	ug/L		03/10/16 15:00	03/11/16 16:09	1
Pentachlorophenol	1.44	U	21.7	1.44	ug/L		03/10/16 15:00	03/11/16 16:09	1
Phenanthrene	0.642	U	10.9	0.642	ug/L		03/10/16 15:00	03/11/16 16:09	1
Phenol	0.835	U	10.9	0.835	ug/L		03/10/16 15:00	03/11/16 16:09	1
Pyrene	0.478	U	10.9	0.478	ug/L		03/10/16 15:00	03/11/16 16:09	1
1,2,4-Trichlorobenzene	0.703	U	10.9	0.703	ug/L		03/10/16 15:00	03/11/16 16:09	1
2,4,5-Trichlorophenol	0.936	U	10.9	0.936	ug/L		03/10/16 15:00	03/11/16 16:09	1
2,4,6-Trichlorophenol	0.715	U	10.9	0.715	ug/L		03/10/16 15:00	03/11/16 16:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	38		23 - 130	03/10/16 15:00	03/11/16 16:09	1
2-Fluorophenol	39		10 - 130	03/10/16 15:00	03/11/16 16:09	1
Nitrobenzene-d5	40		27 - 130	03/10/16 15:00	03/11/16 16:09	1
Phenol-d5	42		10 - 130	03/10/16 15:00	03/11/16 16:09	1
Terphenyl-d14	37		10 - 141	03/10/16 15:00	03/11/16 16:09	1
2,4,6-Tribromophenol	42		18 - 130	03/10/16 15:00	03/11/16 16:09	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00481	U	0.0577	0.00481	ug/L		03/11/16 13:04	03/14/16 20:30	1
alpha-BHC	0.00500	U	0.0577	0.00500	ug/L		03/11/16 13:04	03/14/16 20:30	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 PEAK**

**Lab Sample ID: 560-60183-9**

**Date Collected: 03/09/16 16:10**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-Chlordane	0.00606	U	0.0577	0.00606	ug/L		03/11/16 13:04	03/14/16 20:30	1
beta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/11/16 13:04	03/14/16 20:30	1
4,4'-DDD	0.00481	U	0.0577	0.00481	ug/L		03/11/16 13:04	03/14/16 20:30	1
4,4'-DDE	0.00481	U	0.0577	0.00481	ug/L		03/11/16 13:04	03/14/16 20:30	1
4,4'-DDT	0.00779	U	0.0577	0.00779	ug/L		03/11/16 13:04	03/14/16 20:30	1
delta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/11/16 13:04	03/14/16 20:30	1
Dieldrin	0.0125	U	0.0577	0.0125	ug/L		03/11/16 13:04	03/14/16 20:30	1
Endosulfan I	0.00481	U	0.0577	0.00481	ug/L		03/11/16 13:04	03/14/16 20:30	1
Endosulfan II	0.00827	U	0.0577	0.00827	ug/L		03/11/16 13:04	03/14/16 20:30	1
Endosulfan sulfate	0.00846	U	0.0577	0.00846	ug/L		03/11/16 13:04	03/14/16 20:30	1
Endrin	0.00740	U	0.0577	0.00740	ug/L		03/11/16 13:04	03/14/16 20:30	1
Endrin aldehyde	0.00481	U	0.0577	0.00481	ug/L		03/11/16 13:04	03/14/16 20:30	1
Endrin ketone	0.00788	U	0.0577	0.00788	ug/L		03/11/16 13:04	03/14/16 20:30	1
gamma-BHC (Lindane)	0.00433	U	0.0577	0.00433	ug/L		03/11/16 13:04	03/14/16 20:30	1
gamma-Chlordane	0.00644	U	0.0577	0.00644	ug/L		03/11/16 13:04	03/14/16 20:30	1
Heptachlor	0.00625	U	0.0577	0.00625	ug/L		03/11/16 13:04	03/14/16 20:30	1
Heptachlor epoxide	0.00500	U	0.0577	0.00500	ug/L		03/11/16 13:04	03/14/16 20:30	1
Methoxychlor	0.00962	U	0.0577	0.00962	ug/L		03/11/16 13:04	03/14/16 20:30	1
Toxaphene	0.654	U	5.77	0.654	ug/L		03/11/16 13:04	03/14/16 20:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	51		10 - 152	03/11/16 13:04	03/14/16 20:30	1
Tetrachloro-m-xylene	78		57 - 127	03/11/16 13:04	03/14/16 20:30	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 15:04	1
Aroclor 1221	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 15:04	1
Aroclor 1232	0.423	U	0.769	0.423	ug/L		03/11/16 13:04	03/14/16 15:04	1
Aroclor 1242	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 15:04	1
Aroclor 1248	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 15:04	1
Aroclor 1254	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 15:04	1
Aroclor 1260	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 15:04	1
Aroclor 1262	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 15:04	1
Aroclor 1268	0.106	U	0.577	0.106	ug/L		03/11/16 13:04	03/14/16 15:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	135		10 - 150	03/11/16 13:04	03/14/16 15:04	1
DCB Decachlorobiphenyl	109		10 - 150	03/11/16 13:04	03/14/16 15:04	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.171	U	2.55	0.171	ug/L		03/11/16 19:29	03/19/16 03:37	1
Bolstar	0.320	U	1.02	0.320	ug/L		03/11/16 19:29	03/19/16 03:37	1
Chlorpyrifos	0.367	U	1.53	0.367	ug/L		03/11/16 19:29	03/19/16 03:37	1
Coumaphos	0.138	U	1.02	0.138	ug/L		03/11/16 19:29	03/19/16 03:37	1
Demeton-O	0.143	U	1.02	0.143	ug/L		03/11/16 19:29	03/19/16 03:37	1
Demeton-S	0.0703	U	2.04	0.0703	ug/L		03/11/16 19:29	03/19/16 03:37	1
Diazinon	0.150	U	0.510	0.150	ug/L		03/11/16 19:29	03/19/16 03:37	1
Dichlorvos	0.165	U	0.510	0.165	ug/L		03/11/16 19:29	03/19/16 03:37	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 PEAK**

**Lab Sample ID: 560-60183-9**

**Date Collected: 03/09/16 16:10**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	0.458	U	1.53	0.458	ug/L		03/11/16 19:29	03/19/16 03:37	1
Disulfoton	0.328	U	1.02	0.328	ug/L		03/11/16 19:29	03/19/16 03:37	1
EPN	0.152	U	1.22	0.152	ug/L		03/11/16 19:29	03/19/16 03:37	1
Ethoprop	0.180	U	1.53	0.180	ug/L		03/11/16 19:29	03/19/16 03:37	1
Ethyl Parathion	0.147	U	1.02	0.147	ug/L		03/11/16 19:29	03/19/16 03:37	1
Famphur	0.182	U	1.02	0.182	ug/L		03/11/16 19:29	03/19/16 03:37	1
Fensulfothion	0.555	U	2.55	0.555	ug/L		03/11/16 19:29	03/19/16 03:37	1
Fenthion	0.157	U	2.55	0.157	ug/L		03/11/16 19:29	03/19/16 03:37	1
Malathion	0.136	U	2.04	0.136	ug/L		03/11/16 19:29	03/19/16 03:37	1
Merphos	0.177	U	5.10	0.177	ug/L		03/11/16 19:29	03/19/16 03:37	1
Methyl parathion	0.144	U	4.08	0.144	ug/L		03/11/16 19:29	03/19/16 03:37	1
Mevinphos	0.469	U	6.32	0.469	ug/L		03/11/16 19:29	03/19/16 03:37	1
Naled	0.816	U	2.04	0.816	ug/L		03/11/16 19:29	03/19/16 03:37	1
Phorate	0.157	U	1.22	0.157	ug/L		03/11/16 19:29	03/19/16 03:37	1
Ronnel	0.118	U	10.2	0.118	ug/L		03/11/16 19:29	03/19/16 03:37	1
Sulfotepp	0.171	U	1.53	0.171	ug/L		03/11/16 19:29	03/19/16 03:37	1
Tetrachlorvinphos (Stirophos)	0.126	U	3.57	0.126	ug/L		03/11/16 19:29	03/19/16 03:37	1
Thionazin	0.318	U	1.02	0.318	ug/L		03/11/16 19:29	03/19/16 03:37	1
Tokuthion	0.125	U	1.63	0.125	ug/L		03/11/16 19:29	03/19/16 03:37	1
Trichloronate	0.247	U	1.53	0.247	ug/L		03/11/16 19:29	03/19/16 03:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	58		49 - 171	03/11/16 19:29	03/19/16 03:37	1
Triphenylphosphate	96		60 - 154	03/11/16 19:29	03/19/16 03:37	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0999	U	5.00	0.0999	ug/L		03/15/16 08:29	03/16/16 20:21	1
Dicamba	0.0849	U	0.500	0.0849	ug/L		03/15/16 08:29	03/16/16 20:21	1
Mecoprop	19.0	U	120	19.0	ug/L		03/15/16 08:29	03/16/16 20:21	1
MCPA	17.0	U	120	17.0	ug/L		03/15/16 08:29	03/16/16 20:21	1
Dichlorprop	0.150	U	0.500	0.150	ug/L		03/15/16 08:29	03/16/16 20:21	1
2,4-D	0.0370	U	0.500	0.0370	ug/L		03/15/16 08:29	03/16/16 20:21	1
Silvex (2,4,5-TP)	0.0620	U	0.250	0.0620	ug/L		03/15/16 08:29	03/16/16 20:21	1
2,4,5-T	0.0620	U	0.250	0.0620	ug/L		03/15/16 08:29	03/16/16 20:21	1
2,4-DB	0.150	U	0.500	0.150	ug/L		03/15/16 08:29	03/16/16 20:21	1
Dinoseb	0.160	U	0.999	0.160	ug/L		03/15/16 08:29	03/16/16 20:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	95		45 - 130	03/15/16 08:29	03/16/16 20:21	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	84.9		0.200	0.101	mg/L		03/11/16 10:00	03/11/16 16:11	1
Magnesium	18.8		0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 16:11	1
Potassium	1.61		0.500	0.375	mg/L		03/11/16 10:00	03/11/16 16:11	1
Silicon	5.18		0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 16:11	1
Sodium	16.5		1.00	0.310	mg/L		03/11/16 10:00	03/11/16 16:11	1
Strontium	0.667		0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 16:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 PEAK**

**Lab Sample ID: 560-60183-9**

**Date Collected: 03/09/16 16:10**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Antimony	1.61	U	5.00	1.61	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Arsenic	1.09	U	5.00	1.09	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Barium	34.3		5.00	0.810	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Beryllium	1.24	U ^	4.00	1.24	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Cadmium	0.854	U	2.00	0.854	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Chromium	1.40	U	5.00	1.40	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Copper	2.00	U	10.0	2.00	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Iron	101	U	250	101	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Lead	0.733	U	5.00	0.733	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Manganese	128		50.0	11.6	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Nickel	2.17	U	5.00	2.17	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Selenium	1.08	U	5.00	1.08	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Silver	0.941	U	5.00	0.941	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Thallium	0.693	U	2.00	0.693	ug/L	-	03/11/16 10:00	03/11/16 18:47	1
Zinc	3.55	U	25.0	3.55	ug/L	-	03/11/16 10:00	03/11/16 18:47	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/16/16 10:00	03/16/16 16:19	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.589	J	1.00	0.315	mg/L	-		03/10/16 23:57	1
Chloride	26.1		1.00	0.192	mg/L	-		03/10/16 23:57	1
Nitrate as N	0.723		0.500	0.103	mg/L	-		03/10/16 23:57	1
Sulfate	32.1		1.00	0.377	mg/L	-		03/10/16 23:57	1
Fluoride	0.220		0.100	0.0200	mg/L	-		03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		03/17/16 12:04	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L	-	03/21/16 10:03	03/22/16 11:17	1
Total Organic Carbon	1.05		1.00	0.285	mg/L	-		03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.24	HF	0.100	0.100	SU	-		03/10/16 15:11	1
Total Alkalinity as CaCO3	231		5.00	5.00	mg/L	-		03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	231		5.00	5.00	mg/L	-		03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		03/22/16 14:05	1
Total Dissolved Solids	366		10.0	10.0	mg/L	-		03/11/16 09:50	1
Total Suspended Solids	3.00		3.00	3.00	mg/L	-		03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.958	J	1.00	0.285	mg/L	-		03/21/16 12:00	1

**Client Sample ID: HSM230 PEAK**

**Lab Sample ID: 560-60183-10**

**Date Collected: 03/09/16 16:25**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		03/11/16 15:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 PEAK**

**Lab Sample ID: 560-60183-10**

**Date Collected: 03/09/16 16:25**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/11/16 15:11	1
Benzene	0.330	U	1.00	0.330	ug/L			03/11/16 15:11	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/11/16 15:11	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 15:11	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/11/16 15:11	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/11/16 15:11	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/11/16 15:11	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/11/16 15:11	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/11/16 15:11	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 15:11	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 15:11	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 15:11	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 15:11	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 15:11	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 15:11	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 15:11	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 15:11	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 15:11	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 15:11	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 15:11	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 15:11	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 15:11	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 15:11	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 15:11	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 15:11	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 15:11	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 15:11	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 15:11	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 15:11	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 15:11	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 15:11	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 15:11	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 15:11	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 15:11	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 15:11	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 15:11	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 15:11	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 15:11	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 15:11	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 15:11	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 15:11	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 15:11	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 15:11	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 15:11	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 15:11	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/11/16 15:11	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 15:11	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 15:11	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 15:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 PEAK**

**Lab Sample ID: 560-60183-10**

**Date Collected: 03/09/16 16:25**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 15:11	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 15:11	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 15:11	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 15:11	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 15:11	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 15:11	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 15:11	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 15:11	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 15:11	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 15:11	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 15:11	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 15:11	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 15:11	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 15:11	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 15:11	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 15:11	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 15:11	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 15:11	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 15:11	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 15:11	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 15:11	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 15:11	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 15:11	1
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 15:11	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 15:11	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 15:11	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 15:11	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 15:11	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 15:11	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 15:11	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 15:11	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 15:11	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 15:11	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 15:11	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 15:11	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 15:11	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 15:11	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 15:11	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 15:11	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 15:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 15:11	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 15:11	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 15:11	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 15:11	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 15:11	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 15:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		03/11/16 15:11	1
Dibromofluoromethane (Surr)	105		69 - 130		03/11/16 15:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 PEAK**

**Lab Sample ID: 560-60183-10**

**Date Collected: 03/09/16 16:25**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/11/16 15:11	1
Toluene-d8 (Surr)	101		70 - 130		03/11/16 15:11	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/10/16 15:00	03/11/16 16:34	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/10/16 15:00	03/11/16 16:34	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/10/16 15:00	03/11/16 16:34	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/10/16 15:00	03/11/16 16:34	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/10/16 15:00	03/11/16 16:34	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/10/16 15:00	03/11/16 16:34	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/10/16 15:00	03/11/16 16:34	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/10/16 15:00	03/11/16 16:34	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/10/16 15:00	03/11/16 16:34	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/10/16 15:00	03/11/16 16:34	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/10/16 15:00	03/11/16 16:34	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/10/16 15:00	03/11/16 16:34	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/10/16 15:00	03/11/16 16:34	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/10/16 15:00	03/11/16 16:34	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 16:34	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/10/16 15:00	03/11/16 16:34	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/10/16 15:00	03/11/16 16:34	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/10/16 15:00	03/11/16 16:34	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/10/16 15:00	03/11/16 16:34	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/10/16 15:00	03/11/16 16:34	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/10/16 15:00	03/11/16 16:34	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/10/16 15:00	03/11/16 16:34	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/10/16 15:00	03/11/16 16:34	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/10/16 15:00	03/11/16 16:34	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/10/16 15:00	03/11/16 16:34	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 16:34	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/10/16 15:00	03/11/16 16:34	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/10/16 15:00	03/11/16 16:34	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/10/16 15:00	03/11/16 16:34	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 16:34	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/10/16 15:00	03/11/16 16:34	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/10/16 15:00	03/11/16 16:34	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/10/16 15:00	03/11/16 16:34	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/10/16 15:00	03/11/16 16:34	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/10/16 15:00	03/11/16 16:34	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/10/16 15:00	03/11/16 16:34	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/10/16 15:00	03/11/16 16:34	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/10/16 15:00	03/11/16 16:34	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/10/16 15:00	03/11/16 16:34	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/10/16 15:00	03/11/16 16:34	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/10/16 15:00	03/11/16 16:34	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 16:34	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/10/16 15:00	03/11/16 16:34	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 16:34	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 PEAK**

**Lab Sample ID: 560-60183-10**

**Date Collected: 03/09/16 16:25**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/10/16 15:00	03/11/16 16:34	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/10/16 15:00	03/11/16 16:34	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/10/16 15:00	03/11/16 16:34	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 16:34	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/10/16 15:00	03/11/16 16:34	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/10/16 15:00	03/11/16 16:34	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/10/16 15:00	03/11/16 16:34	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/10/16 15:00	03/11/16 16:34	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/10/16 15:00	03/11/16 16:34	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/10/16 15:00	03/11/16 16:34	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/10/16 15:00	03/11/16 16:34	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/10/16 15:00	03/11/16 16:34	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/10/16 15:00	03/11/16 16:34	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/10/16 15:00	03/11/16 16:34	1
Phenol	0.768	U	10.0	0.768	ug/L		03/10/16 15:00	03/11/16 16:34	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/10/16 15:00	03/11/16 16:34	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/10/16 15:00	03/11/16 16:34	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/10/16 15:00	03/11/16 16:34	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/10/16 15:00	03/11/16 16:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	47		23 - 130	03/10/16 15:00	03/11/16 16:34	1
2-Fluorophenol	47		10 - 130	03/10/16 15:00	03/11/16 16:34	1
Nitrobenzene-d5	48		27 - 130	03/10/16 15:00	03/11/16 16:34	1
Phenol-d5	49		10 - 130	03/10/16 15:00	03/11/16 16:34	1
Terphenyl-d14	35		10 - 141	03/10/16 15:00	03/11/16 16:34	1
2,4,6-Tribromophenol	60		18 - 130	03/10/16 15:00	03/11/16 16:34	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00482	U	0.0579	0.00482	ug/L		03/11/16 13:04	03/14/16 20:55	1
alpha-BHC	0.00501	U	0.0579	0.00501	ug/L		03/11/16 13:04	03/14/16 20:55	1
alpha-Chlordane	0.00607	U	0.0579	0.00607	ug/L		03/11/16 13:04	03/14/16 20:55	1
beta-BHC	0.00482	U	0.0579	0.00482	ug/L		03/11/16 13:04	03/14/16 20:55	1
4,4'-DDD	0.00482	U	0.0579	0.00482	ug/L		03/11/16 13:04	03/14/16 20:55	1
4,4'-DDE	0.00482	U	0.0579	0.00482	ug/L		03/11/16 13:04	03/14/16 20:55	1
4,4'-DDT	0.00781	U	0.0579	0.00781	ug/L		03/11/16 13:04	03/14/16 20:55	1
delta-BHC	0.00482	U	0.0579	0.00482	ug/L		03/11/16 13:04	03/14/16 20:55	1
Dieldrin	0.0125	U	0.0579	0.0125	ug/L		03/11/16 13:04	03/14/16 20:55	1
Endosulfan I	0.00482	U	0.0579	0.00482	ug/L		03/11/16 13:04	03/14/16 20:55	1
Endosulfan II	0.00829	U	0.0579	0.00829	ug/L		03/11/16 13:04	03/14/16 20:55	1
Endosulfan sulfate	0.00848	U	0.0579	0.00848	ug/L		03/11/16 13:04	03/14/16 20:55	1
Endrin	0.00742	U	0.0579	0.00742	ug/L		03/11/16 13:04	03/14/16 20:55	1
Endrin aldehyde	0.00482	U	0.0579	0.00482	ug/L		03/11/16 13:04	03/14/16 20:55	1
Endrin ketone	0.00791	U	0.0579	0.00791	ug/L		03/11/16 13:04	03/14/16 20:55	1
gamma-BHC (Lindane)	0.00434	U	0.0579	0.00434	ug/L		03/11/16 13:04	03/14/16 20:55	1
gamma-Chlordane	0.00646	U	0.0579	0.00646	ug/L		03/11/16 13:04	03/14/16 20:55	1
Heptachlor	0.00627	U	0.0579	0.00627	ug/L		03/11/16 13:04	03/14/16 20:55	1
Heptachlor epoxide	0.00501	U	0.0579	0.00501	ug/L		03/11/16 13:04	03/14/16 20:55	1
Methoxychlor	0.00964	U	0.0579	0.00964	ug/L		03/11/16 13:04	03/14/16 20:55	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 PEAK**

**Lab Sample ID: 560-60183-10**

**Date Collected: 03/09/16 16:25**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.656	U	5.79	0.656	ug/L	-	03/11/16 13:04	03/14/16 20:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	42		10 - 152				03/11/16 13:04	03/14/16 20:55	1
Tetrachloro-m-xylene	82		57 - 127				03/11/16 13:04	03/14/16 20:55	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.579	0.106	ug/L	-	03/11/16 13:04	03/14/16 15:22	1
Aroclor 1221	0.106	U	0.579	0.106	ug/L	-	03/11/16 13:04	03/14/16 15:22	1
Aroclor 1232	0.424	U	0.771	0.424	ug/L	-	03/11/16 13:04	03/14/16 15:22	1
Aroclor 1242	0.106	U	0.579	0.106	ug/L	-	03/11/16 13:04	03/14/16 15:22	1
Aroclor 1248	0.106	U	0.579	0.106	ug/L	-	03/11/16 13:04	03/14/16 15:22	1
Aroclor 1254	0.106	U	0.579	0.106	ug/L	-	03/11/16 13:04	03/14/16 15:22	1
Aroclor 1260	0.106	U	0.579	0.106	ug/L	-	03/11/16 13:04	03/14/16 15:22	1
Aroclor 1262	0.106	U	0.579	0.106	ug/L	-	03/11/16 13:04	03/14/16 15:22	1
Aroclor 1268	0.106	U	0.579	0.106	ug/L	-	03/11/16 13:04	03/14/16 15:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	138		10 - 150				03/11/16 13:04	03/14/16 15:22	1
DCB Decachlorobiphenyl	92		10 - 150				03/11/16 13:04	03/14/16 15:22	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.185	U	2.76	0.185	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Bolstar	0.346	U	1.10	0.346	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Chlorpyrifos	0.397	U	1.65	0.397	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Coumaphos	0.149	U	1.10	0.149	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Demeton-O	0.154	U	1.10	0.154	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Demeton-S	0.0761	U	2.21	0.0761	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Diazinon	0.162	U	0.552	0.162	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Dichlorvos	0.179	U	0.552	0.179	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Dimethoate	0.495	U	1.65	0.495	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Disulfoton	0.355	U	1.10	0.355	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
EPN	0.164	U	1.32	0.164	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Ethoprop	0.195	U	1.65	0.195	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Ethyl Parathion	0.159	U	1.10	0.159	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Famphur	0.197	U	1.10	0.197	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Fensulfothion	0.600	U	2.76	0.600	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Fenthion	0.170	U	2.76	0.170	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Malathion	0.147	U	2.21	0.147	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Merphos	0.192	U	5.52	0.192	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Methyl parathion	0.156	U	4.41	0.156	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Mevinphos	0.507	U	6.84	0.507	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Naled	0.883	U	2.21	0.883	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Phorate	0.170	U	1.32	0.170	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Ronnel	0.128	U	11.0	0.128	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Sulfotepp	0.185	U	1.65	0.185	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Tetrachlorvinphos (Stirophos)	0.137	U	3.86	0.137	ug/L	-	03/11/16 19:29	03/21/16 20:10	1
Thionazin	0.344	U	1.10	0.344	ug/L	-	03/11/16 19:29	03/21/16 20:10	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 PEAK**

**Lab Sample ID: 560-60183-10**

**Date Collected: 03/09/16 16:25**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tokuthion	0.136	U	1.77	0.136	ug/L		03/11/16 19:29	03/21/16 20:10	1
Trichloronate	0.267	U	1.65	0.267	ug/L		03/11/16 19:29	03/21/16 20:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	68		49 - 171				03/11/16 19:29	03/21/16 20:10	1
Triphenylphosphate	95		60 - 154				03/11/16 19:29	03/21/16 20:10	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.109	U	5.44	0.109	ug/L		03/15/16 08:29	03/16/16 20:41	1
Dicamba	0.0925	U	0.544	0.0925	ug/L		03/15/16 08:29	03/16/16 20:41	1
Mecoprop	20.7	U	131	20.7	ug/L		03/15/16 08:29	03/16/16 20:41	1
MCPA	18.5	U	131	18.5	ug/L		03/15/16 08:29	03/16/16 20:41	1
Dichlorprop	0.163	U	0.544	0.163	ug/L		03/15/16 08:29	03/16/16 20:41	1
2,4-D	0.0403	U	0.544	0.0403	ug/L		03/15/16 08:29	03/16/16 20:41	1
Silvex (2,4,5-TP)	0.0675	U	0.272	0.0675	ug/L		03/15/16 08:29	03/16/16 20:41	1
2,4,5-T	0.0675	U	0.272	0.0675	ug/L		03/15/16 08:29	03/16/16 20:41	1
2,4-DB	0.163	U	0.544	0.163	ug/L		03/15/16 08:29	03/16/16 20:41	1
Dinoseb	0.174	U	1.09	0.174	ug/L		03/15/16 08:29	03/16/16 20:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	89		45 - 130				03/15/16 08:29	03/16/16 20:41	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	56.2		0.200	0.101	mg/L		03/11/16 10:00	03/11/16 16:15	1
Magnesium	7.64		0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 16:15	1
Potassium	1.76		0.500	0.375	mg/L		03/11/16 10:00	03/11/16 16:15	1
Silicon	3.25		0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 16:15	1
Sodium	7.75		1.00	0.310	mg/L		03/11/16 10:00	03/11/16 16:15	1
Strontium	0.267		0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 16:15	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/11/16 10:00	03/11/16 18:52	1
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 18:52	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 18:52	1
Barium	23.8		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 18:52	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 18:52	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 18:52	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 18:52	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 18:52	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 18:52	1
Lead	0.733	U	5.00	0.733	ug/L		03/11/16 10:00	03/11/16 18:52	1
Manganese	18.8	J	50.0	11.6	ug/L		03/11/16 10:00	03/11/16 18:52	1
Nickel	2.17	U	5.00	2.17	ug/L		03/11/16 10:00	03/11/16 18:52	1
Selenium	1.08	U	5.00	1.08	ug/L		03/11/16 10:00	03/11/16 18:52	1
Silver	0.941	U	5.00	0.941	ug/L		03/11/16 10:00	03/11/16 18:52	1
Thallium	0.693	U	2.00	0.693	ug/L		03/11/16 10:00	03/11/16 18:52	1
Zinc	4.85	J	25.0	3.55	ug/L		03/11/16 10:00	03/11/16 18:52	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 PEAK**

**Lab Sample ID: 560-60183-10**

**Date Collected: 03/09/16 16:25**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/16/16 10:00	03/16/16 16:21	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.513	J	1.00	0.315	mg/L			03/11/16 00:23	1
Chloride	11.7		1.00	0.192	mg/L			03/11/16 00:23	1
Nitrate as N	1.10		0.500	0.103	mg/L			03/11/16 00:23	1
Sulfate	22.5		1.00	0.377	mg/L			03/11/16 00:23	1
Fluoride	0.144		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/17/16 12:05	1
Phosphorus	0.108		0.100	0.0410	mg/L		03/21/16 10:03	03/22/16 11:20	1
Total Organic Carbon	2.76		1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.22	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	156		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	156		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	240		10.0	10.0	mg/L			03/11/16 09:50	1
Total Suspended Solids	68.8		3.00	3.00	mg/L			03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.64		1.00	0.285	mg/L			03/21/16 12:00	1

**Client Sample ID: HSM231 PEAK**

**Lab Sample ID: 560-60183-11**

**Date Collected: 03/09/16 16:11**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/11/16 15:36	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/11/16 15:36	1
Benzene	0.330	U	1.00	0.330	ug/L			03/11/16 15:36	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/11/16 15:36	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 15:36	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/11/16 15:36	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/11/16 15:36	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/11/16 15:36	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/11/16 15:36	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/11/16 15:36	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 15:36	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 15:36	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 15:36	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 15:36	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 15:36	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 15:36	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 15:36	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 15:36	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 15:36	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 15:36	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 PEAK**

**Lab Sample ID: 560-60183-11**

**Date Collected: 03/09/16 16:11**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 15:36	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 15:36	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 15:36	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 15:36	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 15:36	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 15:36	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 15:36	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 15:36	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 15:36	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 15:36	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 15:36	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 15:36	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 15:36	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 15:36	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 15:36	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 15:36	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 15:36	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 15:36	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 15:36	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 15:36	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 15:36	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 15:36	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 15:36	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 15:36	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 15:36	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 15:36	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/11/16 15:36	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 15:36	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 15:36	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 15:36	1
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 15:36	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 15:36	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 15:36	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 15:36	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 15:36	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 15:36	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 15:36	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 15:36	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 15:36	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 15:36	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 15:36	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 15:36	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 15:36	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 15:36	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 15:36	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 15:36	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 15:36	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 15:36	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 15:36	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 PEAK**

**Lab Sample ID: 560-60183-11**

**Date Collected: 03/09/16 16:11**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 15:36	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 15:36	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 15:36	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 15:36	1
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 15:36	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 15:36	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 15:36	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 15:36	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 15:36	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 15:36	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 15:36	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 15:36	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 15:36	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 15:36	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 15:36	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 15:36	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 15:36	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 15:36	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 15:36	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 15:36	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 15:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 15:36	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 15:36	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 15:36	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 15:36	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 15:36	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 15:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/11/16 15:36	1
Dibromofluoromethane (Surr)	105		69 - 130		03/11/16 15:36	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		03/11/16 15:36	1
Toluene-d8 (Surr)	101		70 - 130		03/11/16 15:36	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/10/16 15:00	03/11/16 17:00	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/10/16 15:00	03/11/16 17:00	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/10/16 15:00	03/11/16 17:00	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/10/16 15:00	03/11/16 17:00	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/10/16 15:00	03/11/16 17:00	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/10/16 15:00	03/11/16 17:00	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/10/16 15:00	03/11/16 17:00	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/10/16 15:00	03/11/16 17:00	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/10/16 15:00	03/11/16 17:00	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/10/16 15:00	03/11/16 17:00	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/10/16 15:00	03/11/16 17:00	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/10/16 15:00	03/11/16 17:00	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/10/16 15:00	03/11/16 17:00	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/10/16 15:00	03/11/16 17:00	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 PEAK**

**Lab Sample ID: 560-60183-11**

**Date Collected: 03/09/16 16:11**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 17:00	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/10/16 15:00	03/11/16 17:00	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/10/16 15:00	03/11/16 17:00	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/10/16 15:00	03/11/16 17:00	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/10/16 15:00	03/11/16 17:00	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/10/16 15:00	03/11/16 17:00	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/10/16 15:00	03/11/16 17:00	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/10/16 15:00	03/11/16 17:00	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/10/16 15:00	03/11/16 17:00	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/10/16 15:00	03/11/16 17:00	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/10/16 15:00	03/11/16 17:00	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 17:00	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/10/16 15:00	03/11/16 17:00	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/10/16 15:00	03/11/16 17:00	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/10/16 15:00	03/11/16 17:00	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 17:00	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/10/16 15:00	03/11/16 17:00	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/10/16 15:00	03/11/16 17:00	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/10/16 15:00	03/11/16 17:00	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/10/16 15:00	03/11/16 17:00	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/10/16 15:00	03/11/16 17:00	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/10/16 15:00	03/11/16 17:00	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/10/16 15:00	03/11/16 17:00	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/10/16 15:00	03/11/16 17:00	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/10/16 15:00	03/11/16 17:00	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/10/16 15:00	03/11/16 17:00	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/10/16 15:00	03/11/16 17:00	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 17:00	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/10/16 15:00	03/11/16 17:00	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 17:00	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/10/16 15:00	03/11/16 17:00	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/10/16 15:00	03/11/16 17:00	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/10/16 15:00	03/11/16 17:00	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 17:00	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/10/16 15:00	03/11/16 17:00	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/10/16 15:00	03/11/16 17:00	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/10/16 15:00	03/11/16 17:00	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/10/16 15:00	03/11/16 17:00	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/10/16 15:00	03/11/16 17:00	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/10/16 15:00	03/11/16 17:00	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/10/16 15:00	03/11/16 17:00	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/10/16 15:00	03/11/16 17:00	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/10/16 15:00	03/11/16 17:00	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/10/16 15:00	03/11/16 17:00	1
Phenol	0.768	U	10.0	0.768	ug/L		03/10/16 15:00	03/11/16 17:00	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/10/16 15:00	03/11/16 17:00	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/10/16 15:00	03/11/16 17:00	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/10/16 15:00	03/11/16 17:00	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/10/16 15:00	03/11/16 17:00	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 PEAK**

**Lab Sample ID: 560-60183-11**

**Date Collected: 03/09/16 16:11**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	37		23 - 130	03/10/16 15:00	03/11/16 17:00	1
2-Fluorophenol	38		10 - 130	03/10/16 15:00	03/11/16 17:00	1
Nitrobenzene-d5	39		27 - 130	03/10/16 15:00	03/11/16 17:00	1
Phenol-d5	41		10 - 130	03/10/16 15:00	03/11/16 17:00	1
Terphenyl-d14	48		10 - 141	03/10/16 15:00	03/11/16 17:00	1
2,4,6-Tribromophenol	44		18 - 130	03/10/16 15:00	03/11/16 17:00	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00479	U	0.0575	0.00479	ug/L		03/12/16 07:37	03/15/16 17:22	1
alpha-BHC	0.00499	U	0.0575	0.00499	ug/L		03/12/16 07:37	03/15/16 17:22	1
alpha-Chlordane	0.00604	U	0.0575	0.00604	ug/L		03/12/16 07:37	03/15/16 17:22	1
beta-BHC	0.00479	U	0.0575	0.00479	ug/L		03/12/16 07:37	03/15/16 17:22	1
4,4'-DDD	0.00479	U	0.0575	0.00479	ug/L		03/12/16 07:37	03/15/16 17:22	1
4,4'-DDE	0.00479	U	0.0575	0.00479	ug/L		03/12/16 07:37	03/15/16 17:22	1
4,4'-DDT	0.00777	U	0.0575	0.00777	ug/L		03/12/16 07:37	03/15/16 17:22	1
delta-BHC	0.00479	U	0.0575	0.00479	ug/L		03/12/16 07:37	03/15/16 17:22	1
Dieldrin	0.0125	U	0.0575	0.0125	ug/L		03/12/16 07:37	03/15/16 17:22	1
Endosulfan I	0.00479	U	0.0575	0.00479	ug/L		03/12/16 07:37	03/15/16 17:22	1
Endosulfan II	0.00825	U	0.0575	0.00825	ug/L		03/12/16 07:37	03/15/16 17:22	1
Endosulfan sulfate	0.00844	U	0.0575	0.00844	ug/L		03/12/16 07:37	03/15/16 17:22	1
Endrin	0.00738	U	0.0575	0.00738	ug/L		03/12/16 07:37	03/15/16 17:22	1
Endrin aldehyde	0.00479	U	0.0575	0.00479	ug/L		03/12/16 07:37	03/15/16 17:22	1
Endrin ketone	0.00786	U	0.0575	0.00786	ug/L		03/12/16 07:37	03/15/16 17:22	1
gamma-BHC (Lindane)	0.00432	U	0.0575	0.00432	ug/L		03/12/16 07:37	03/15/16 17:22	1
gamma-Chlordane	0.00642	U	0.0575	0.00642	ug/L		03/12/16 07:37	03/15/16 17:22	1
Heptachlor	0.00623	U	0.0575	0.00623	ug/L		03/12/16 07:37	03/15/16 17:22	1
Heptachlor epoxide	0.00499	U	0.0575	0.00499	ug/L		03/12/16 07:37	03/15/16 17:22	1
Methoxychlor	0.00959	U	0.0575	0.00959	ug/L		03/12/16 07:37	03/15/16 17:22	1
Toxaphene	0.652	U	5.75	0.652	ug/L		03/12/16 07:37	03/15/16 17:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	47		10 - 152	03/12/16 07:37	03/15/16 17:22	1
Tetrachloro-m-xylene	79		57 - 127	03/12/16 07:37	03/15/16 17:22	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 14:57	1
Aroclor 1221	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 14:57	1
Aroclor 1232	0.422	U	0.767	0.422	ug/L		03/12/16 07:37	03/15/16 14:57	1
Aroclor 1242	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 14:57	1
Aroclor 1248	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 14:57	1
Aroclor 1254	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 14:57	1
Aroclor 1260	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 14:57	1
Aroclor 1262	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 14:57	1
Aroclor 1268	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 14:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	121		10 - 150	03/12/16 07:37	03/15/16 14:57	1
DCB Decachlorobiphenyl	93		10 - 150	03/12/16 07:37	03/15/16 14:57	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 PEAK**

**Lab Sample ID: 560-60183-11**

**Date Collected: 03/09/16 16:11**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.168	U	2.50	0.168	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Bolstar	0.314	U	0.999	0.314	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Chlorpyrifos	0.360	U	1.50	0.360	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Coumaphos	0.135	U	0.999	0.135	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Demeton-O	0.140	U	0.999	0.140	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Demeton-S	0.0689	U	2.00	0.0689	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Diazinon	0.147	U	0.500	0.147	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Dichlorvos	0.162	U	0.500	0.162	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Dimethoate	0.449	U	1.50	0.449	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Disulfoton	0.322	U	0.999	0.322	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
EPN	0.149	U	1.20	0.149	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Ethoprop	0.177	U	1.50	0.177	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Ethyl Parathion	0.144	U	0.999	0.144	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Famphur	0.179	U	0.999	0.179	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Fensulfothion	0.544	U	2.50	0.544	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Fenthion	0.154	U	2.50	0.154	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Malathion	0.133	U	2.00	0.133	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Merphos	0.174	U	5.00	0.174	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Methyl parathion	0.141	U	4.00	0.141	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Mevinphos	0.460	U	6.20	0.460	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Naled	0.799	U	2.00	0.799	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Phorate	0.154	U	1.20	0.154	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Ronnel	0.116	U	9.99	0.116	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Sulfotepp	0.168	U	1.50	0.168	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Tetrachlorvinphos (Stirophos)	0.124	U	3.50	0.124	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Thionazin	0.312	U	0.999	0.312	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Tokuthion	0.123	U	1.60	0.123	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Trichloronate	0.242	U	1.50	0.242	ug/L	-	03/11/16 19:29	03/19/16 05:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	59		49 - 171				03/11/16 19:29	03/19/16 05:42	1
Triphenylphosphate	93		60 - 154				03/11/16 19:29	03/19/16 05:42	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0953	U	4.77	0.0953	ug/L	-	03/15/16 08:29	03/16/16 21:00	1
Dicamba	0.0810	U	0.477	0.0810	ug/L	-	03/15/16 08:29	03/16/16 21:00	1
Mecoprop	18.1	U	114	18.1	ug/L	-	03/15/16 08:29	03/16/16 21:00	1
MCPA	16.2	U	114	16.2	ug/L	-	03/15/16 08:29	03/16/16 21:00	1
Dichlorprop	0.143	U	0.477	0.143	ug/L	-	03/15/16 08:29	03/16/16 21:00	1
2,4-D	0.0353	U	0.477	0.0353	ug/L	-	03/15/16 08:29	03/16/16 21:00	1
Silvex (2,4,5-TP)	0.0591	U	0.238	0.0591	ug/L	-	03/15/16 08:29	03/16/16 21:00	1
2,4,5-T	0.0591	U	0.238	0.0591	ug/L	-	03/15/16 08:29	03/16/16 21:00	1
2,4-DB	0.143	U	0.477	0.143	ug/L	-	03/15/16 08:29	03/16/16 21:00	1
Dinoseb	0.153	U	0.953	0.153	ug/L	-	03/15/16 08:29	03/16/16 21:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	91		45 - 130				03/15/16 08:29	03/16/16 21:00	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 PEAK**

**Lab Sample ID: 560-60183-11**

Date Collected: 03/09/16 16:11

Matrix: Water

Date Received: 03/09/16 17:30

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	84.3		0.200	0.101	mg/L		03/11/16 10:00	03/11/16 16:19	1
Magnesium	15.7		0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 16:19	1
Potassium	1.28		0.500	0.375	mg/L		03/11/16 10:00	03/11/16 16:19	1
Silicon	4.76		0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 16:19	1
Sodium	10.3		1.00	0.310	mg/L		03/11/16 10:00	03/11/16 16:19	1
Strontium	0.511		0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 16:19	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/11/16 10:00	03/11/16 18:58	1
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 18:58	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 18:58	1
Barium	31.5		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 18:58	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 18:58	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 18:58	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 18:58	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 18:58	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 18:58	1
Lead	0.733	U	5.00	0.733	ug/L		03/11/16 10:00	03/11/16 18:58	1
Manganese	11.6	U	50.0	11.6	ug/L		03/11/16 10:00	03/11/16 18:58	1
Nickel	2.17	U	5.00	2.17	ug/L		03/11/16 10:00	03/11/16 18:58	1
Selenium	1.08	U	5.00	1.08	ug/L		03/11/16 10:00	03/11/16 18:58	1
Silver	0.941	U	5.00	0.941	ug/L		03/11/16 10:00	03/11/16 18:58	1
Thallium	0.693	U	2.00	0.693	ug/L		03/11/16 10:00	03/11/16 18:58	1
Zinc	3.55	U	25.0	3.55	ug/L		03/11/16 10:00	03/11/16 18:58	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/14/16 10:00	03/14/16 17:07	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.541	J	1.00	0.315	mg/L			03/11/16 00:49	1
Chloride	16.7		1.00	0.192	mg/L			03/11/16 00:49	1
Nitrate as N	1.20		0.500	0.103	mg/L			03/11/16 00:49	1
Sulfate	23.4		1.00	0.377	mg/L			03/11/16 00:49	1
Fluoride	0.158		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/16/16 12:01	1
Phosphorus	0.0434	J	0.100	0.0410	mg/L		03/21/16 10:03	03/22/16 11:21	1
Total Organic Carbon	0.665	J	1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.13	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	227		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	227		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	327		10.0	10.0	mg/L			03/11/16 09:50	1
Total Suspended Solids	14.8		3.00	3.00	mg/L			03/14/16 16:45	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Client Sample ID: HSM231 PEAK

Date Collected: 03/09/16 16:11

Date Received: 03/09/16 17:30

## Lab Sample ID: 560-60183-11

Matrix: Water

### General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.404	J	1.00	0.285	mg/L			03/21/16 12:00	1

## Client Sample ID: HSM240 PEAK

Date Collected: 03/09/16 16:25

Date Received: 03/09/16 17:30

## Lab Sample ID: 560-60183-12

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/11/16 16:01	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/11/16 16:01	1
Benzene	0.330	U	1.00	0.330	ug/L			03/11/16 16:01	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/11/16 16:01	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 16:01	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/11/16 16:01	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/11/16 16:01	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/11/16 16:01	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/11/16 16:01	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/11/16 16:01	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 16:01	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 16:01	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 16:01	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 16:01	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 16:01	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 16:01	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 16:01	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 16:01	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 16:01	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 16:01	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 16:01	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 16:01	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 16:01	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 16:01	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 16:01	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 16:01	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 16:01	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 16:01	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 16:01	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 16:01	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 16:01	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 16:01	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 16:01	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 16:01	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 16:01	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 16:01	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 16:01	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 16:01	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 16:01	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 16:01	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 16:01	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 16:01	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 PEAK**

**Lab Sample ID: 560-60183-12**

**Date Collected: 03/09/16 16:25**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 16:01	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 16:01	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 16:01	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 16:01	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/11/16 16:01	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 16:01	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 16:01	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 16:01	1
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 16:01	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 16:01	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 16:01	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 16:01	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 16:01	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 16:01	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 16:01	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 16:01	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 16:01	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 16:01	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 16:01	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 16:01	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 16:01	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 16:01	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 16:01	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 16:01	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 16:01	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 16:01	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 16:01	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 16:01	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 16:01	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 16:01	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 16:01	1
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 16:01	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 16:01	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 16:01	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 16:01	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 16:01	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 16:01	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 16:01	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 16:01	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 16:01	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 16:01	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 16:01	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 16:01	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 16:01	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 16:01	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 16:01	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 16:01	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 16:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 16:01	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 PEAK**

**Lab Sample ID: 560-60183-12**

**Date Collected: 03/09/16 16:25**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 16:01	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 16:01	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 16:01	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 16:01	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 16:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/11/16 16:01	1
Dibromofluoromethane (Surr)	106		69 - 130		03/11/16 16:01	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/11/16 16:01	1
Toluene-d8 (Surr)	101		70 - 130		03/11/16 16:01	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.523	U	11.4	0.523	ug/L		03/11/16 14:32	03/14/16 07:54	1
Acenaphthylene	0.514	U	11.4	0.514	ug/L		03/11/16 14:32	03/14/16 07:54	1
Anthracene	0.795	U	11.4	0.795	ug/L		03/11/16 14:32	03/14/16 07:54	1
Benzo[a]anthracene	0.734	U	11.4	0.734	ug/L		03/11/16 14:32	03/14/16 07:54	1
Benzo[a]pyrene	0.843	U	11.4	0.843	ug/L		03/11/16 14:32	03/14/16 07:54	1
Benzo[b]fluoranthene	1.03	U	11.4	1.03	ug/L		03/11/16 14:32	03/14/16 07:54	1
Benzo[g,h,i]perylene	1.25	U	11.4	1.25	ug/L		03/11/16 14:32	03/14/16 07:54	1
Benzo[k]fluoranthene	1.69	U	11.4	1.69	ug/L		03/11/16 14:32	03/14/16 07:54	1
Benzyl alcohol	0.940	U	11.4	0.940	ug/L		03/11/16 14:32	03/14/16 07:54	1
Bis(2-chloroethoxy)methane	0.495	U	11.4	0.495	ug/L		03/11/16 14:32	03/14/16 07:54	1
Bis(2-chloroethyl)ether	1.76	U	11.4	1.76	ug/L		03/11/16 14:32	03/14/16 07:54	1
Bis(2-ethylhexyl) phthalate	5.68	U	22.7	5.68	ug/L		03/11/16 14:32	03/14/16 07:54	1
4-Bromophenyl phenyl ether	0.922	U	11.4	0.922	ug/L		03/11/16 14:32	03/14/16 07:54	1
Butyl benzyl phthalate	0.927	U	11.4	0.927	ug/L		03/11/16 14:32	03/14/16 07:54	1
4-Chloroaniline	0.624	U	11.4	0.624	ug/L		03/11/16 14:32	03/14/16 07:54	1
4-Chloro-3-methylphenol	0.666	U	11.4	0.666	ug/L		03/11/16 14:32	03/14/16 07:54	1
2-Chloronaphthalene	0.685	U	11.4	0.685	ug/L		03/11/16 14:32	03/14/16 07:54	1
2-Chlorophenol	0.828	U	11.4	0.828	ug/L		03/11/16 14:32	03/14/16 07:54	1
4-Chlorophenyl phenyl ether	0.601	U	11.4	0.601	ug/L		03/11/16 14:32	03/14/16 07:54	1
Chrysene	0.561	U	11.4	0.561	ug/L		03/11/16 14:32	03/14/16 07:54	1
Dibenz(a,h)anthracene	0.993	U	11.4	0.993	ug/L		03/11/16 14:32	03/14/16 07:54	1
Dibenzofuran	0.551	U	11.4	0.551	ug/L		03/11/16 14:32	03/14/16 07:54	1
1,2-Dichlorobenzene	0.881	U	11.4	0.881	ug/L		03/11/16 14:32	03/14/16 07:54	1
1,3-Dichlorobenzene	0.558	U	11.4	0.558	ug/L		03/11/16 14:32	03/14/16 07:54	1
1,4-Dichlorobenzene	0.926	U	11.4	0.926	ug/L		03/11/16 14:32	03/14/16 07:54	1
3,3'-Dichlorobenzidine	0.894	U	11.4	0.894	ug/L		03/11/16 14:32	03/14/16 07:54	1
2,4-Dichlorophenol	0.800	U	11.4	0.800	ug/L		03/11/16 14:32	03/14/16 07:54	1
Diethyl phthalate	0.757	U	11.4	0.757	ug/L		03/11/16 14:32	03/14/16 07:54	1
2,4-Dimethylphenol	0.674	U	11.4	0.674	ug/L		03/11/16 14:32	03/14/16 07:54	1
Dimethyl phthalate	0.669	U	11.4	0.669	ug/L		03/11/16 14:32	03/14/16 07:54	1
Di-n-butyl phthalate	0.806	U	11.4	0.806	ug/L		03/11/16 14:32	03/14/16 07:54	1
4,6-Dinitro-2-methylphenol	1.09	U	11.4	1.09	ug/L		03/11/16 14:32	03/14/16 07:54	1
2,4-Dinitrophenol	3.05	U	22.7	3.05	ug/L		03/11/16 14:32	03/14/16 07:54	1
2,4-Dinitrotoluene	0.578	U	22.7	0.578	ug/L		03/11/16 14:32	03/14/16 07:54	1
2,6-Dinitrotoluene	0.866	U	11.4	0.866	ug/L		03/11/16 14:32	03/14/16 07:54	1
Di-n-octyl phthalate	1.26	U	11.4	1.26	ug/L		03/11/16 14:32	03/14/16 07:54	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 PEAK**

**Lab Sample ID: 560-60183-12**

**Date Collected: 03/09/16 16:25**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	0.564	U	11.4	0.564	ug/L		03/11/16 14:32	03/14/16 07:54	1
Fluorene	0.478	U	11.4	0.478	ug/L		03/11/16 14:32	03/14/16 07:54	1
Hexachlorobenzene	0.684	U	11.4	0.684	ug/L		03/11/16 14:32	03/14/16 07:54	1
Hexachlorobutadiene	0.814	U	11.4	0.814	ug/L		03/11/16 14:32	03/14/16 07:54	1
Hexachlorocyclopentadiene	0.953	U	11.4	0.953	ug/L		03/11/16 14:32	03/14/16 07:54	1
Hexachloroethane	0.669	U	11.4	0.669	ug/L		03/11/16 14:32	03/14/16 07:54	1
Indeno[1,2,3-cd]pyrene	1.05	U	11.4	1.05	ug/L		03/11/16 14:32	03/14/16 07:54	1
Isophorone	0.624	U	11.4	0.624	ug/L		03/11/16 14:32	03/14/16 07:54	1
2-Methylnaphthalene	0.798	U	11.4	0.798	ug/L		03/11/16 14:32	03/14/16 07:54	1
2-Methylphenol	0.693	U	11.4	0.693	ug/L		03/11/16 14:32	03/14/16 07:54	1
3 & 4 Methylphenol	0.867	U	22.7	0.867	ug/L		03/11/16 14:32	03/14/16 07:54	1
Naphthalene	0.894	U	11.4	0.894	ug/L		03/11/16 14:32	03/14/16 07:54	1
2-Nitroaniline	0.870	U	11.4	0.870	ug/L		03/11/16 14:32	03/14/16 07:54	1
3-Nitroaniline	0.582	U	11.4	0.582	ug/L		03/11/16 14:32	03/14/16 07:54	1
4-Nitroaniline	0.931	U	11.4	0.931	ug/L		03/11/16 14:32	03/14/16 07:54	1
Nitrobenzene	0.667	U	11.4	0.667	ug/L		03/11/16 14:32	03/14/16 07:54	1
2-Nitrophenol	0.918	U	11.4	0.918	ug/L		03/11/16 14:32	03/14/16 07:54	1
4-Nitrophenol	1.97	U	11.4	1.97	ug/L		03/11/16 14:32	03/14/16 07:54	1
N-Nitrosodi-n-propylamine	0.705	U	11.4	0.705	ug/L		03/11/16 14:32	03/14/16 07:54	1
N-Nitrosodiphenylamine	1.17	U	11.4	1.17	ug/L		03/11/16 14:32	03/14/16 07:54	1
Pentachlorophenol	1.50	U	22.7	1.50	ug/L		03/11/16 14:32	03/14/16 07:54	1
Phenanthrene	0.672	U	11.4	0.672	ug/L		03/11/16 14:32	03/14/16 07:54	1
Phenol	0.873	U	11.4	0.873	ug/L		03/11/16 14:32	03/14/16 07:54	1
Pyrene	0.500	U	11.4	0.500	ug/L		03/11/16 14:32	03/14/16 07:54	1
1,2,4-Trichlorobenzene	0.735	U	11.4	0.735	ug/L		03/11/16 14:32	03/14/16 07:54	1
2,4,5-Trichlorophenol	0.978	U	11.4	0.978	ug/L		03/11/16 14:32	03/14/16 07:54	1
2,4,6-Trichlorophenol	0.748	U	11.4	0.748	ug/L		03/11/16 14:32	03/14/16 07:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	59		23 - 130	03/11/16 14:32	03/14/16 07:54	1
2-Fluorophenol	58		10 - 130	03/11/16 14:32	03/14/16 07:54	1
Nitrobenzene-d5	60		27 - 130	03/11/16 14:32	03/14/16 07:54	1
Phenol-d5	62		10 - 130	03/11/16 14:32	03/14/16 07:54	1
Terphenyl-d14	51		10 - 141	03/11/16 14:32	03/14/16 07:54	1
2,4,6-Tribromophenol	65		18 - 130	03/11/16 14:32	03/14/16 07:54	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 17:47	1
alpha-BHC	0.00503	U	0.0580	0.00503	ug/L		03/12/16 07:37	03/15/16 17:47	1
alpha-Chlordane	0.00609	U	0.0580	0.00609	ug/L		03/12/16 07:37	03/15/16 17:47	1
beta-BHC	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 17:47	1
4,4'-DDD	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 17:47	1
4,4'-DDE	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 17:47	1
4,4'-DDT	0.00783	U	0.0580	0.00783	ug/L		03/12/16 07:37	03/15/16 17:47	1
delta-BHC	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 17:47	1
Dieldrin	0.0126	U	0.0580	0.0126	ug/L		03/12/16 07:37	03/15/16 17:47	1
Endosulfan I	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 17:47	1
Endosulfan II	0.00831	U	0.0580	0.00831	ug/L		03/12/16 07:37	03/15/16 17:47	1
Endosulfan sulfate	0.00851	U	0.0580	0.00851	ug/L		03/12/16 07:37	03/15/16 17:47	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 PEAK**

**Lab Sample ID: 560-60183-12**

**Date Collected: 03/09/16 16:25**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	0.00744	U	0.0580	0.00744	ug/L		03/12/16 07:37	03/15/16 17:47	1
Endrin aldehyde	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 17:47	1
Endrin ketone	0.00793	U	0.0580	0.00793	ug/L		03/12/16 07:37	03/15/16 17:47	1
gamma-BHC (Lindane)	0.00435	U	0.0580	0.00435	ug/L		03/12/16 07:37	03/15/16 17:47	1
gamma-Chlordane	0.00648	U	0.0580	0.00648	ug/L		03/12/16 07:37	03/15/16 17:47	1
Heptachlor	0.00628	U	0.0580	0.00628	ug/L		03/12/16 07:37	03/15/16 17:47	1
Heptachlor epoxide	0.00503	U	0.0580	0.00503	ug/L		03/12/16 07:37	03/15/16 17:47	1
Methoxychlor	0.00967	U	0.0580	0.00967	ug/L		03/12/16 07:37	03/15/16 17:47	1
Toxaphene	0.657	U	5.80	0.657	ug/L		03/12/16 07:37	03/15/16 17:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	50		10 - 152	03/12/16 07:37	03/15/16 17:47	1
Tetrachloro-m-xylene	86		57 - 127	03/12/16 07:37	03/15/16 17:47	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 15:14	1
Aroclor 1221	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 15:14	1
Aroclor 1232	0.425	U	0.773	0.425	ug/L		03/12/16 07:37	03/15/16 15:14	1
Aroclor 1242	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 15:14	1
Aroclor 1248	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 15:14	1
Aroclor 1254	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 15:14	1
Aroclor 1260	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 15:14	1
Aroclor 1262	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 15:14	1
Aroclor 1268	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 15:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	128		10 - 150	03/12/16 07:37	03/15/16 15:14	1
DCB Decachlorobiphenyl	101		10 - 150	03/12/16 07:37	03/15/16 15:14	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.162	U	2.42	0.162	ug/L		03/11/16 19:29	03/19/16 06:14	1
Bolstar	0.303	U	0.966	0.303	ug/L		03/11/16 19:29	03/19/16 06:14	1
Chlorpyrifos	0.348	U	1.45	0.348	ug/L		03/11/16 19:29	03/19/16 06:14	1
Coumaphos	0.130	U	0.966	0.130	ug/L		03/11/16 19:29	03/19/16 06:14	1
Demeton-O	0.135	U	0.966	0.135	ug/L		03/11/16 19:29	03/19/16 06:14	1
Demeton-S	0.0667	U	1.93	0.0667	ug/L		03/11/16 19:29	03/19/16 06:14	1
Diazinon	0.142	U	0.483	0.142	ug/L		03/11/16 19:29	03/19/16 06:14	1
Dichlorvos	0.157	U	0.483	0.157	ug/L		03/11/16 19:29	03/19/16 06:14	1
Dimethoate	0.434	U	1.45	0.434	ug/L		03/11/16 19:29	03/19/16 06:14	1
Disulfoton	0.311	U	0.966	0.311	ug/L		03/11/16 19:29	03/19/16 06:14	1
EPN	0.144	U	1.16	0.144	ug/L		03/11/16 19:29	03/19/16 06:14	1
Ethoprop	0.171	U	1.45	0.171	ug/L		03/11/16 19:29	03/19/16 06:14	1
Ethyl Parathion	0.139	U	0.966	0.139	ug/L		03/11/16 19:29	03/19/16 06:14	1
Famphur	0.173	U	0.966	0.173	ug/L		03/11/16 19:29	03/19/16 06:14	1
Fensulfothion	0.526	U	2.42	0.526	ug/L		03/11/16 19:29	03/19/16 06:14	1
Fenthion	0.149	U	2.42	0.149	ug/L		03/11/16 19:29	03/19/16 06:14	1
Malathion	0.129	U	1.93	0.129	ug/L		03/11/16 19:29	03/19/16 06:14	1
Merphos	0.168	U	4.83	0.168	ug/L		03/11/16 19:29	03/19/16 06:14	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 PEAK**

**Lab Sample ID: 560-60183-12**

**Date Collected: 03/09/16 16:25**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl parathion	0.136	U	3.86	0.136	ug/L		03/11/16 19:29	03/19/16 06:14	1
Mevinphos	0.444	U	5.99	0.444	ug/L		03/11/16 19:29	03/19/16 06:14	1
Naled	0.773	U	1.93	0.773	ug/L		03/11/16 19:29	03/19/16 06:14	1
Phorate	0.149	U	1.16	0.149	ug/L		03/11/16 19:29	03/19/16 06:14	1
Ronnel	0.112	U	9.66	0.112	ug/L		03/11/16 19:29	03/19/16 06:14	1
Sulfotepp	0.162	U	1.45	0.162	ug/L		03/11/16 19:29	03/19/16 06:14	1
Tetrachlorvinphos (Stirophos)	0.120	U	3.38	0.120	ug/L		03/11/16 19:29	03/19/16 06:14	1
Thionazin	0.301	U	0.966	0.301	ug/L		03/11/16 19:29	03/19/16 06:14	1
Tokuthion	0.119	U	1.55	0.119	ug/L		03/11/16 19:29	03/19/16 06:14	1
Trichloronate	0.234	U	1.45	0.234	ug/L		03/11/16 19:29	03/19/16 06:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	63		49 - 171				03/11/16 19:29	03/19/16 06:14	1
Triphenylphosphate	85		60 - 154				03/11/16 19:29	03/19/16 06:14	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0953	U	4.77	0.0953	ug/L		03/15/16 08:29	03/16/16 21:59	1
Dicamba	0.0810	U	0.477	0.0810	ug/L		03/15/16 08:29	03/16/16 21:59	1
Mecoprop	18.1	U	114	18.1	ug/L		03/15/16 08:29	03/16/16 21:59	1
MCPA	16.2	U	114	16.2	ug/L		03/15/16 08:29	03/16/16 21:59	1
Dichlorprop	0.143	U	0.477	0.143	ug/L		03/15/16 08:29	03/16/16 21:59	1
2,4-D	0.0353	U	0.477	0.0353	ug/L		03/15/16 08:29	03/16/16 21:59	1
Silvex (2,4,5-TP)	0.0591	U	0.238	0.0591	ug/L		03/15/16 08:29	03/16/16 21:59	1
2,4,5-T	0.0591	U	0.238	0.0591	ug/L		03/15/16 08:29	03/16/16 21:59	1
2,4-DB	0.143	U	0.477	0.143	ug/L		03/15/16 08:29	03/16/16 21:59	1
Dinoseb	0.153	U	0.953	0.153	ug/L		03/15/16 08:29	03/16/16 21:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	94		45 - 130				03/15/16 08:29	03/16/16 21:59	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	85.5		0.200	0.101	mg/L		03/11/16 10:00	03/11/16 16:23	1
Magnesium	15.9		0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 16:23	1
Potassium	1.20		0.500	0.375	mg/L		03/11/16 10:00	03/11/16 16:23	1
Silicon	4.86		0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 16:23	1
Sodium	10.4		1.00	0.310	mg/L		03/11/16 10:00	03/11/16 16:23	1
Strontium	0.519		0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 16:23	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/11/16 10:00	03/11/16 19:03	1
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 19:03	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 19:03	1
Barium	32.7		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 19:03	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 19:03	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 19:03	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 19:03	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 19:03	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 19:03	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 PEAK**

**Lab Sample ID: 560-60183-12**

**Date Collected: 03/09/16 16:25**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.733	U	5.00	0.733	ug/L	-	03/11/16 10:00	03/11/16 19:03	1
Manganese	11.6	U	50.0	11.6	ug/L	-	03/11/16 10:00	03/11/16 19:03	1
Nickel	2.17	U	5.00	2.17	ug/L	-	03/11/16 10:00	03/11/16 19:03	1
Selenium	1.08	U	5.00	1.08	ug/L	-	03/11/16 10:00	03/11/16 19:03	1
Silver	0.941	U	5.00	0.941	ug/L	-	03/11/16 10:00	03/11/16 19:03	1
Thallium	0.693	U	2.00	0.693	ug/L	-	03/11/16 10:00	03/11/16 19:03	1
Zinc	3.55	U	25.0	3.55	ug/L	-	03/11/16 10:00	03/11/16 19:03	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/16/16 10:00	03/16/16 16:24	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.543	J	1.00	0.315	mg/L	-		03/11/16 01:15	1
Chloride	17.2		1.00	0.192	mg/L	-		03/11/16 01:15	1
Nitrate as N	1.23		0.500	0.103	mg/L	-		03/11/16 01:15	1
Sulfate	23.6		1.00	0.377	mg/L	-		03/11/16 01:15	1
Fluoride	0.170		0.100	0.0200	mg/L	-		03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		03/16/16 12:02	1
Phosphorus	0.0848	J	0.100	0.0410	mg/L	-	03/21/16 10:03	03/22/16 11:26	1
Total Organic Carbon	0.452	J	1.00	0.285	mg/L	-		03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.25	HF	0.100	0.100	SU	-		03/10/16 15:11	1
Total Alkalinity as CaCO3	225		5.00	5.00	mg/L	-		03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	225		5.00	5.00	mg/L	-		03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		03/22/16 14:05	1
Total Dissolved Solids	333		10.0	10.0	mg/L	-		03/11/16 09:50	1
Total Suspended Solids	8.40		3.00	3.00	mg/L	-		03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.570	J	1.00	0.285	mg/L	-		03/21/16 12:00	1

**Client Sample ID: HSM250 PEAK**

**Lab Sample ID: 560-60183-13**

**Date Collected: 03/09/16 16:04**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		03/11/16 16:27	1
Acetonitrile	10.0	U	50.0	10.0	ug/L	-		03/11/16 16:27	1
Benzene	0.330	U	1.00	0.330	ug/L	-		03/11/16 16:27	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L	-		03/11/16 16:27	1
Bromobenzene	0.128	U	1.00	0.128	ug/L	-		03/11/16 16:27	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L	-		03/11/16 16:27	1
Bromoform	0.500	U	5.00	0.500	ug/L	-		03/11/16 16:27	1
Bromomethane	0.392	U	5.00	0.392	ug/L	-		03/11/16 16:27	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L	-		03/11/16 16:27	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L	-		03/11/16 16:27	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 PEAK**

**Lab Sample ID: 560-60183-13**

**Date Collected: 03/09/16 16:04**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 16:27	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 16:27	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 16:27	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 16:27	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 16:27	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 16:27	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 16:27	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 16:27	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 16:27	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 16:27	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 16:27	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 16:27	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 16:27	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 16:27	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 16:27	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 16:27	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 16:27	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 16:27	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 16:27	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 16:27	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 16:27	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 16:27	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 16:27	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 16:27	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 16:27	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 16:27	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 16:27	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 16:27	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 16:27	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 16:27	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 16:27	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 16:27	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 16:27	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 16:27	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 16:27	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 16:27	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/11/16 16:27	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 16:27	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 16:27	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 16:27	1
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 16:27	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 16:27	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 16:27	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 16:27	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 16:27	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 16:27	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 16:27	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 16:27	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 16:27	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 PEAK**

**Lab Sample ID: 560-60183-13**

**Date Collected: 03/09/16 16:04**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 16:27	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 16:27	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 16:27	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 16:27	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 16:27	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 16:27	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 16:27	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 16:27	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 16:27	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 16:27	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 16:27	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 16:27	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 16:27	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 16:27	1
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 16:27	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 16:27	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 16:27	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 16:27	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 16:27	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 16:27	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 16:27	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 16:27	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 16:27	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 16:27	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 16:27	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 16:27	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 16:27	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 16:27	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 16:27	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 16:27	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 16:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 16:27	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 16:27	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 16:27	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 16:27	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 16:27	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 16:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130		03/11/16 16:27	1
Dibromofluoromethane (Surr)	105		69 - 130		03/11/16 16:27	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		03/11/16 16:27	1
Toluene-d8 (Surr)	101		70 - 130		03/11/16 16:27	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/10/16 15:00	03/11/16 17:26	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/10/16 15:00	03/11/16 17:26	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/10/16 15:00	03/11/16 17:26	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/10/16 15:00	03/11/16 17:26	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 PEAK**

**Lab Sample ID: 560-60183-13**

**Date Collected: 03/09/16 16:04**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/10/16 15:00	03/11/16 17:26	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/10/16 15:00	03/11/16 17:26	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/10/16 15:00	03/11/16 17:26	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/10/16 15:00	03/11/16 17:26	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/10/16 15:00	03/11/16 17:26	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/10/16 15:00	03/11/16 17:26	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/10/16 15:00	03/11/16 17:26	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/10/16 15:00	03/11/16 17:26	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/10/16 15:00	03/11/16 17:26	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/10/16 15:00	03/11/16 17:26	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 17:26	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/10/16 15:00	03/11/16 17:26	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/10/16 15:00	03/11/16 17:26	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/10/16 15:00	03/11/16 17:26	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/10/16 15:00	03/11/16 17:26	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/10/16 15:00	03/11/16 17:26	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/10/16 15:00	03/11/16 17:26	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/10/16 15:00	03/11/16 17:26	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/10/16 15:00	03/11/16 17:26	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/10/16 15:00	03/11/16 17:26	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/10/16 15:00	03/11/16 17:26	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 17:26	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/10/16 15:00	03/11/16 17:26	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/10/16 15:00	03/11/16 17:26	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/10/16 15:00	03/11/16 17:26	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 17:26	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/10/16 15:00	03/11/16 17:26	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/10/16 15:00	03/11/16 17:26	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/10/16 15:00	03/11/16 17:26	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/10/16 15:00	03/11/16 17:26	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/10/16 15:00	03/11/16 17:26	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/10/16 15:00	03/11/16 17:26	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/10/16 15:00	03/11/16 17:26	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/10/16 15:00	03/11/16 17:26	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/10/16 15:00	03/11/16 17:26	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/10/16 15:00	03/11/16 17:26	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/10/16 15:00	03/11/16 17:26	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 17:26	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/10/16 15:00	03/11/16 17:26	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 17:26	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/10/16 15:00	03/11/16 17:26	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/10/16 15:00	03/11/16 17:26	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/10/16 15:00	03/11/16 17:26	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 17:26	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/10/16 15:00	03/11/16 17:26	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/10/16 15:00	03/11/16 17:26	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/10/16 15:00	03/11/16 17:26	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/10/16 15:00	03/11/16 17:26	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/10/16 15:00	03/11/16 17:26	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 PEAK**

**Lab Sample ID: 560-60183-13**

**Date Collected: 03/09/16 16:04**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/10/16 15:00	03/11/16 17:26	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/10/16 15:00	03/11/16 17:26	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/10/16 15:00	03/11/16 17:26	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/10/16 15:00	03/11/16 17:26	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/10/16 15:00	03/11/16 17:26	1
Phenol	0.768	U	10.0	0.768	ug/L		03/10/16 15:00	03/11/16 17:26	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/10/16 15:00	03/11/16 17:26	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/10/16 15:00	03/11/16 17:26	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/10/16 15:00	03/11/16 17:26	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/10/16 15:00	03/11/16 17:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	34		23 - 130	03/10/16 15:00	03/11/16 17:26	1
2-Fluorophenol	32		10 - 130	03/10/16 15:00	03/11/16 17:26	1
Nitrobenzene-d5	34		27 - 130	03/10/16 15:00	03/11/16 17:26	1
Phenol-d5	35		10 - 130	03/10/16 15:00	03/11/16 17:26	1
Terphenyl-d14	25		10 - 141	03/10/16 15:00	03/11/16 17:26	1
2,4,6-Tribromophenol	44		18 - 130	03/10/16 15:00	03/11/16 17:26	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 18:13	1
alpha-BHC	0.00500	U	0.0577	0.00500	ug/L		03/12/16 07:37	03/15/16 18:13	1
alpha-Chlordane	0.00606	U	0.0577	0.00606	ug/L		03/12/16 07:37	03/15/16 18:13	1
beta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 18:13	1
4,4'-DDD	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 18:13	1
4,4'-DDE	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 18:13	1
4,4'-DDT	0.00779	U	0.0577	0.00779	ug/L		03/12/16 07:37	03/15/16 18:13	1
delta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 18:13	1
Dieldrin	0.0125	U	0.0577	0.0125	ug/L		03/12/16 07:37	03/15/16 18:13	1
Endosulfan I	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 18:13	1
Endosulfan II	0.00827	U	0.0577	0.00827	ug/L		03/12/16 07:37	03/15/16 18:13	1
Endosulfan sulfate	0.00846	U	0.0577	0.00846	ug/L		03/12/16 07:37	03/15/16 18:13	1
Endrin	0.00740	U	0.0577	0.00740	ug/L		03/12/16 07:37	03/15/16 18:13	1
Endrin aldehyde	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 18:13	1
Endrin ketone	0.00788	U	0.0577	0.00788	ug/L		03/12/16 07:37	03/15/16 18:13	1
gamma-BHC (Lindane)	0.00433	U	0.0577	0.00433	ug/L		03/12/16 07:37	03/15/16 18:13	1
gamma-Chlordane	0.00644	U	0.0577	0.00644	ug/L		03/12/16 07:37	03/15/16 18:13	1
Heptachlor	0.00625	U	0.0577	0.00625	ug/L		03/12/16 07:37	03/15/16 18:13	1
Heptachlor epoxide	0.00500	U	0.0577	0.00500	ug/L		03/12/16 07:37	03/15/16 18:13	1
Methoxychlor	0.00962	U	0.0577	0.00962	ug/L		03/12/16 07:37	03/15/16 18:13	1
Toxaphene	0.654	U	5.77	0.654	ug/L		03/12/16 07:37	03/15/16 18:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	47		10 - 152	03/12/16 07:37	03/15/16 18:13	1
Tetrachloro-m-xylene	84		57 - 127	03/12/16 07:37	03/15/16 18:13	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 15:32	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 PEAK**

**Lab Sample ID: 560-60183-13**

**Date Collected: 03/09/16 16:04**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1221	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 15:32	1
Aroclor 1232	0.423	U	0.769	0.423	ug/L		03/12/16 07:37	03/15/16 15:32	1
Aroclor 1242	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 15:32	1
Aroclor 1248	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 15:32	1
Aroclor 1254	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 15:32	1
Aroclor 1260	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 15:32	1
Aroclor 1262	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 15:32	1
Aroclor 1268	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 15:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	132		10 - 150				03/12/16 07:37	03/15/16 15:32	1
DCB Decachlorobiphenyl	97		10 - 150				03/12/16 07:37	03/15/16 15:32	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.162	U	2.42	0.162	ug/L		03/11/16 19:29	03/19/16 06:45	1
Bolstar	0.303	U	0.966	0.303	ug/L		03/11/16 19:29	03/19/16 06:45	1
Chlorpyrifos	0.348	U	1.45	0.348	ug/L		03/11/16 19:29	03/19/16 06:45	1
Coumaphos	0.130	U	0.966	0.130	ug/L		03/11/16 19:29	03/19/16 06:45	1
Demeton-O	0.135	U	0.966	0.135	ug/L		03/11/16 19:29	03/19/16 06:45	1
Demeton-S	0.0667	U	1.93	0.0667	ug/L		03/11/16 19:29	03/19/16 06:45	1
Diazinon	0.142	U	0.483	0.142	ug/L		03/11/16 19:29	03/19/16 06:45	1
Dichlorvos	0.157	U	0.483	0.157	ug/L		03/11/16 19:29	03/19/16 06:45	1
Dimethoate	0.434	U	1.45	0.434	ug/L		03/11/16 19:29	03/19/16 06:45	1
Disulfoton	0.311	U	0.966	0.311	ug/L		03/11/16 19:29	03/19/16 06:45	1
EPN	0.144	U	1.16	0.144	ug/L		03/11/16 19:29	03/19/16 06:45	1
Ethoprop	0.171	U	1.45	0.171	ug/L		03/11/16 19:29	03/19/16 06:45	1
Ethyl Parathion	0.139	U	0.966	0.139	ug/L		03/11/16 19:29	03/19/16 06:45	1
Famphur	0.173	U	0.966	0.173	ug/L		03/11/16 19:29	03/19/16 06:45	1
Fensulfothion	0.526	U	2.42	0.526	ug/L		03/11/16 19:29	03/19/16 06:45	1
Fenthion	0.149	U	2.42	0.149	ug/L		03/11/16 19:29	03/19/16 06:45	1
Malathion	0.129	U	1.93	0.129	ug/L		03/11/16 19:29	03/19/16 06:45	1
Merphos	0.168	U	4.83	0.168	ug/L		03/11/16 19:29	03/19/16 06:45	1
Methyl parathion	0.136	U	3.87	0.136	ug/L		03/11/16 19:29	03/19/16 06:45	1
Mevinphos	0.444	U	5.99	0.444	ug/L		03/11/16 19:29	03/19/16 06:45	1
Naled	0.773	U	1.93	0.773	ug/L		03/11/16 19:29	03/19/16 06:45	1
Phorate	0.149	U	1.16	0.149	ug/L		03/11/16 19:29	03/19/16 06:45	1
Ronnel	0.112	U	9.66	0.112	ug/L		03/11/16 19:29	03/19/16 06:45	1
Sulfotepp	0.162	U	1.45	0.162	ug/L		03/11/16 19:29	03/19/16 06:45	1
Tetrachlorvinphos (Stirophos)	0.120	U	3.38	0.120	ug/L		03/11/16 19:29	03/19/16 06:45	1
Thionazin	0.301	U	0.966	0.301	ug/L		03/11/16 19:29	03/19/16 06:45	1
Tokuthion	0.119	U	1.55	0.119	ug/L		03/11/16 19:29	03/19/16 06:45	1
Trichloronate	0.234	U	1.45	0.234	ug/L		03/11/16 19:29	03/19/16 06:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	65		49 - 171				03/11/16 19:29	03/19/16 06:45	1
Triphenylphosphate	88		60 - 154				03/11/16 19:29	03/19/16 06:45	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 PEAK**

**Lab Sample ID: 560-60183-13**

**Date Collected: 03/09/16 16:04**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.107	U	5.35	0.107	ug/L	-	03/15/16 08:29	03/16/16 22:19	1
Dicamba	0.0909	U	0.535	0.0909	ug/L	-	03/15/16 08:29	03/16/16 22:19	1
Mecoprop	20.3	U	128	20.3	ug/L	-	03/15/16 08:29	03/16/16 22:19	1
MCPA	18.2	U	128	18.2	ug/L	-	03/15/16 08:29	03/16/16 22:19	1
Dichlorprop	0.160	U	0.535	0.160	ug/L	-	03/15/16 08:29	03/16/16 22:19	1
2,4-D	0.0396	U	0.535	0.0396	ug/L	-	03/15/16 08:29	03/16/16 22:19	1
Silvex (2,4,5-TP)	0.0663	U	0.267	0.0663	ug/L	-	03/15/16 08:29	03/16/16 22:19	1
2,4,5-T	0.0663	U	0.267	0.0663	ug/L	-	03/15/16 08:29	03/16/16 22:19	1
2,4-DB	0.160	U	0.535	0.160	ug/L	-	03/15/16 08:29	03/16/16 22:19	1
Dinoseb	0.171	U	1.07	0.171	ug/L	-	03/15/16 08:29	03/16/16 22:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	90		45 - 130	03/15/16 08:29	03/16/16 22:19	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	67.8		0.200	0.101	mg/L	-	03/11/16 10:00	03/11/16 16:27	1
Magnesium	12.4		0.200	0.0257	mg/L	-	03/11/16 10:00	03/11/16 16:27	1
Potassium	1.39		0.500	0.375	mg/L	-	03/11/16 10:00	03/11/16 16:27	1
Silicon	3.81		0.500	0.0707	mg/L	-	03/11/16 10:00	03/11/16 16:27	1
Sodium	8.46		1.00	0.310	mg/L	-	03/11/16 10:00	03/11/16 16:27	1
Strontium	0.399		0.00500	0.000700	mg/L	-	03/11/16 10:00	03/11/16 16:27	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Antimony	1.61	U	5.00	1.61	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Arsenic	1.09	U	5.00	1.09	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Barium	27.1		5.00	0.810	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Beryllium	1.24	U ^	4.00	1.24	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Cadmium	0.854	U	2.00	0.854	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Chromium	1.40	U	5.00	1.40	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Copper	2.00	U	10.0	2.00	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Iron	101	U	250	101	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Lead	0.733	U	5.00	0.733	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Manganese	11.6	U	50.0	11.6	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Nickel	2.17	U	5.00	2.17	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Selenium	1.08	U	5.00	1.08	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Silver	0.941	U	5.00	0.941	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Thallium	0.693	U	2.00	0.693	ug/L	-	03/11/16 10:00	03/11/16 19:08	1
Zinc	3.64	J	25.0	3.55	ug/L	-	03/11/16 10:00	03/11/16 19:08	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/16/16 10:00	03/16/16 16:26	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.527	J	1.00	0.315	mg/L	-		03/11/16 01:41	1
Chloride	13.9		1.00	0.192	mg/L	-		03/11/16 01:41	1
Nitrate as N	1.03		0.500	0.103	mg/L	-		03/11/16 01:41	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 PEAK**

**Lab Sample ID: 560-60183-13**

**Date Collected: 03/09/16 16:04**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	19.0		1.00	0.377	mg/L			03/11/16 01:41	1
Fluoride	0.147		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/16/16 12:05	1
Phosphorus	0.0843	J	0.100	0.0410	mg/L		03/21/16 10:03	03/22/16 11:18	1
Total Organic Carbon	1.59		1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.23	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	187		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	187		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	267		10.0	10.0	mg/L			03/11/16 09:50	1
Total Suspended Solids	44.8		3.00	3.00	mg/L			03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.28		1.00	0.285	mg/L			03/21/16 12:00	1

**Client Sample ID: HSM260 PEAK**

**Lab Sample ID: 560-60183-14**

**Date Collected: 03/09/16 16:22**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	6.49	J	10.0	5.00	ug/L			03/11/16 16:52	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/11/16 16:52	1
Benzene	0.330	U	1.00	0.330	ug/L			03/11/16 16:52	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/11/16 16:52	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 16:52	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/11/16 16:52	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/11/16 16:52	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/11/16 16:52	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/11/16 16:52	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/11/16 16:52	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 16:52	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 16:52	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 16:52	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 16:52	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 16:52	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 16:52	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 16:52	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 16:52	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 16:52	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 16:52	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 16:52	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 16:52	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 16:52	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 16:52	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 16:52	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 16:52	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 16:52	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260 PEAK**

**Lab Sample ID: 560-60183-14**

**Date Collected: 03/09/16 16:22**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 16:52	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 16:52	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 16:52	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 16:52	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 16:52	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 16:52	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 16:52	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 16:52	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 16:52	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 16:52	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 16:52	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 16:52	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 16:52	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 16:52	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 16:52	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 16:52	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 16:52	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 16:52	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 16:52	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/11/16 16:52	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 16:52	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 16:52	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 16:52	1
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 16:52	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 16:52	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 16:52	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 16:52	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 16:52	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 16:52	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 16:52	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 16:52	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 16:52	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 16:52	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 16:52	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 16:52	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 16:52	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 16:52	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 16:52	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 16:52	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 16:52	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 16:52	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 16:52	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 16:52	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 16:52	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 16:52	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 16:52	1
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 16:52	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 16:52	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 16:52	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260 PEAK**

**Lab Sample ID: 560-60183-14**

**Date Collected: 03/09/16 16:22**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 16:52	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 16:52	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 16:52	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 16:52	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 16:52	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 16:52	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 16:52	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 16:52	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 16:52	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 16:52	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 16:52	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 16:52	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 16:52	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 16:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 16:52	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 16:52	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 16:52	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 16:52	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 16:52	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 16:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/11/16 16:52	1
Dibromofluoromethane (Surr)	104		69 - 130		03/11/16 16:52	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/11/16 16:52	1
Toluene-d8 (Surr)	101		70 - 130		03/11/16 16:52	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/11/16 14:32	03/14/16 08:20	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/11/16 14:32	03/14/16 08:20	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/11/16 14:32	03/14/16 08:20	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/11/16 14:32	03/14/16 08:20	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/11/16 14:32	03/14/16 08:20	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/11/16 14:32	03/14/16 08:20	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/11/16 14:32	03/14/16 08:20	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/11/16 14:32	03/14/16 08:20	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/11/16 14:32	03/14/16 08:20	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/11/16 14:32	03/14/16 08:20	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/11/16 14:32	03/14/16 08:20	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/11/16 14:32	03/14/16 08:20	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/11/16 14:32	03/14/16 08:20	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/11/16 14:32	03/14/16 08:20	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 08:20	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/11/16 14:32	03/14/16 08:20	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/11/16 14:32	03/14/16 08:20	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/11/16 14:32	03/14/16 08:20	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/11/16 14:32	03/14/16 08:20	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/11/16 14:32	03/14/16 08:20	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/11/16 14:32	03/14/16 08:20	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260 PEAK**

**Lab Sample ID: 560-60183-14**

**Date Collected: 03/09/16 16:22**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/11/16 14:32	03/14/16 08:20	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/11/16 14:32	03/14/16 08:20	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/11/16 14:32	03/14/16 08:20	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/11/16 14:32	03/14/16 08:20	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 08:20	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/11/16 14:32	03/14/16 08:20	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/11/16 14:32	03/14/16 08:20	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/11/16 14:32	03/14/16 08:20	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 08:20	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/11/16 14:32	03/14/16 08:20	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/11/16 14:32	03/14/16 08:20	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/11/16 14:32	03/14/16 08:20	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/11/16 14:32	03/14/16 08:20	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/11/16 14:32	03/14/16 08:20	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/11/16 14:32	03/14/16 08:20	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/11/16 14:32	03/14/16 08:20	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/11/16 14:32	03/14/16 08:20	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/11/16 14:32	03/14/16 08:20	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/11/16 14:32	03/14/16 08:20	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/11/16 14:32	03/14/16 08:20	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 08:20	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/11/16 14:32	03/14/16 08:20	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 08:20	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/11/16 14:32	03/14/16 08:20	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/11/16 14:32	03/14/16 08:20	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/11/16 14:32	03/14/16 08:20	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 08:20	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/11/16 14:32	03/14/16 08:20	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/11/16 14:32	03/14/16 08:20	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/11/16 14:32	03/14/16 08:20	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/11/16 14:32	03/14/16 08:20	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/11/16 14:32	03/14/16 08:20	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/11/16 14:32	03/14/16 08:20	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/11/16 14:32	03/14/16 08:20	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/11/16 14:32	03/14/16 08:20	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/11/16 14:32	03/14/16 08:20	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/11/16 14:32	03/14/16 08:20	1
Phenol	0.768	U	10.0	0.768	ug/L		03/11/16 14:32	03/14/16 08:20	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/11/16 14:32	03/14/16 08:20	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/11/16 14:32	03/14/16 08:20	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/11/16 14:32	03/14/16 08:20	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/11/16 14:32	03/14/16 08:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	45		23 - 130	03/11/16 14:32	03/14/16 08:20	1
2-Fluorophenol	46		10 - 130	03/11/16 14:32	03/14/16 08:20	1
Nitrobenzene-d5	49		27 - 130	03/11/16 14:32	03/14/16 08:20	1
Phenol-d5	49		10 - 130	03/11/16 14:32	03/14/16 08:20	1
Terphenyl-d14	30		10 - 141	03/11/16 14:32	03/14/16 08:20	1
2,4,6-Tribromophenol	57		18 - 130	03/11/16 14:32	03/14/16 08:20	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00478	U	0.0574	0.00478	ug/L		03/12/16 07:37	03/15/16 18:38	1
alpha-BHC	0.00497	U	0.0574	0.00497	ug/L		03/12/16 07:37	03/15/16 18:38	1
alpha-Chlordane	0.00602	U	0.0574	0.00602	ug/L		03/12/16 07:37	03/15/16 18:38	1
beta-BHC	0.00478	U	0.0574	0.00478	ug/L		03/12/16 07:37	03/15/16 18:38	1
4,4'-DDD	0.00478	U	0.0574	0.00478	ug/L		03/12/16 07:37	03/15/16 18:38	1
4,4'-DDE	0.00478	U	0.0574	0.00478	ug/L		03/12/16 07:37	03/15/16 18:38	1
4,4'-DDT	0.00775	U	0.0574	0.00775	ug/L		03/12/16 07:37	03/15/16 18:38	1
delta-BHC	0.00478	U	0.0574	0.00478	ug/L		03/12/16 07:37	03/15/16 18:38	1
Dieldrin	0.0124	U	0.0574	0.0124	ug/L		03/12/16 07:37	03/15/16 18:38	1
Endosulfan I	0.00478	U	0.0574	0.00478	ug/L		03/12/16 07:37	03/15/16 18:38	1
Endosulfan II	0.00822	U	0.0574	0.00822	ug/L		03/12/16 07:37	03/15/16 18:38	1
Endosulfan sulfate	0.00842	U	0.0574	0.00842	ug/L		03/12/16 07:37	03/15/16 18:38	1
Endrin	0.00736	U	0.0574	0.00736	ug/L		03/12/16 07:37	03/15/16 18:38	1
Endrin aldehyde	0.00478	U	0.0574	0.00478	ug/L		03/12/16 07:37	03/15/16 18:38	1
Endrin ketone	0.00784	U	0.0574	0.00784	ug/L		03/12/16 07:37	03/15/16 18:38	1
gamma-BHC (Lindane)	0.00430	U	0.0574	0.00430	ug/L		03/12/16 07:37	03/15/16 18:38	1
gamma-Chlordane	0.00641	U	0.0574	0.00641	ug/L		03/12/16 07:37	03/15/16 18:38	1
Heptachlor	0.00622	U	0.0574	0.00622	ug/L		03/12/16 07:37	03/15/16 18:38	1
Heptachlor epoxide	0.00497	U	0.0574	0.00497	ug/L		03/12/16 07:37	03/15/16 18:38	1
Methoxychlor	0.00956	U	0.0574	0.00956	ug/L		03/12/16 07:37	03/15/16 18:38	1
Toxaphene	0.650	U	5.74	0.650	ug/L		03/12/16 07:37	03/15/16 18:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	45		10 - 152	03/12/16 07:37	03/15/16 18:38	1
Tetrachloro-m-xylene	83		57 - 127	03/12/16 07:37	03/15/16 18:38	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.574	0.105	ug/L		03/12/16 07:37	03/15/16 15:49	1
Aroclor 1221	0.105	U	0.574	0.105	ug/L		03/12/16 07:37	03/15/16 15:49	1
Aroclor 1232	0.421	U	0.765	0.421	ug/L		03/12/16 07:37	03/15/16 15:49	1
Aroclor 1242	0.105	U	0.574	0.105	ug/L		03/12/16 07:37	03/15/16 15:49	1
Aroclor 1248	0.105	U	0.574	0.105	ug/L		03/12/16 07:37	03/15/16 15:49	1
Aroclor 1254	0.105	U	0.574	0.105	ug/L		03/12/16 07:37	03/15/16 15:49	1
Aroclor 1260	0.105	U	0.574	0.105	ug/L		03/12/16 07:37	03/15/16 15:49	1
Aroclor 1262	0.105	U	0.574	0.105	ug/L		03/12/16 07:37	03/15/16 15:49	1
Aroclor 1268	0.105	U	0.574	0.105	ug/L		03/12/16 07:37	03/15/16 15:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	128		10 - 150	03/12/16 07:37	03/15/16 15:49	1
DCB Decachlorobiphenyl	95		10 - 150	03/12/16 07:37	03/15/16 15:49	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.166	U	2.48	0.166	ug/L		03/11/16 19:29	03/19/16 07:16	1
Bolstar	0.311	U	0.990	0.311	ug/L		03/11/16 19:29	03/19/16 07:16	1
Chlorpyrifos	0.356	U	1.49	0.356	ug/L		03/11/16 19:29	03/19/16 07:16	1
Coumaphos	0.134	U	0.990	0.134	ug/L		03/11/16 19:29	03/19/16 07:16	1
Demeton-O	0.139	U	0.990	0.139	ug/L		03/11/16 19:29	03/19/16 07:16	1
Demeton-S	0.0683	U	1.98	0.0683	ug/L		03/11/16 19:29	03/19/16 07:16	1
Diazinon	0.146	U	0.495	0.146	ug/L		03/11/16 19:29	03/19/16 07:16	1
Dichlorvos	0.160	U	0.495	0.160	ug/L		03/11/16 19:29	03/19/16 07:16	1
Dimethoate	0.445	U	1.49	0.445	ug/L		03/11/16 19:29	03/19/16 07:16	1
Disulfoton	0.319	U	0.990	0.319	ug/L		03/11/16 19:29	03/19/16 07:16	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260 PEAK**

**Lab Sample ID: 560-60183-14**

**Date Collected: 03/09/16 16:22**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
EPN	0.148	U	1.19	0.148	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Ethoprop	0.175	U	1.49	0.175	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Ethyl Parathion	0.143	U	0.990	0.143	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Famphur	0.177	U	0.990	0.177	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Fensulfothion	0.539	U	2.48	0.539	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Fenthion	0.152	U	2.48	0.152	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Malathion	0.132	U	1.98	0.132	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Merphos	0.172	U	4.95	0.172	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Methyl parathion	0.140	U	3.96	0.140	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Mevinphos	0.455	U	6.14	0.455	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Naled	0.792	U	1.98	0.792	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Phorate	0.152	U	1.19	0.152	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Ronnel	0.115	U	9.90	0.115	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Sulfotepp	0.166	U	1.49	0.166	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Tetrachlorvinphos (Stirophos)	0.123	U	3.47	0.123	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Thionazin	0.309	U	0.990	0.309	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Tokuthion	0.122	U	1.58	0.122	ug/L	-	03/11/16 19:29	03/19/16 07:16	1
Trichloronate	0.240	U	1.49	0.240	ug/L	-	03/11/16 19:29	03/19/16 07:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	66		49 - 171	03/11/16 19:29	03/19/16 07:16	1
Triphenylphosphate	95		60 - 154	03/11/16 19:29	03/19/16 07:16	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0949	U	4.74	0.0949	ug/L	-	03/15/16 08:29	03/16/16 22:39	1
Dicamba	0.0806	U	0.474	0.0806	ug/L	-	03/15/16 08:29	03/16/16 22:39	1
Mecoprop	18.0	U	114	18.0	ug/L	-	03/15/16 08:29	03/16/16 22:39	1
MCPA	16.1	U	114	16.1	ug/L	-	03/15/16 08:29	03/16/16 22:39	1
Dichlorprop	0.142	U	0.474	0.142	ug/L	-	03/15/16 08:29	03/16/16 22:39	1
2,4-D	0.0351	U	0.474	0.0351	ug/L	-	03/15/16 08:29	03/16/16 22:39	1
Silvex (2,4,5-TP)	0.0588	U	0.237	0.0588	ug/L	-	03/15/16 08:29	03/16/16 22:39	1
2,4,5-T	0.0588	U	0.237	0.0588	ug/L	-	03/15/16 08:29	03/16/16 22:39	1
2,4-DB	0.142	U	0.474	0.142	ug/L	-	03/15/16 08:29	03/16/16 22:39	1
Dinoseb	0.152	U	0.949	0.152	ug/L	-	03/15/16 08:29	03/16/16 22:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	93		45 - 130	03/15/16 08:29	03/16/16 22:39	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	56.0		0.200	0.101	mg/L	-	03/11/16 10:00	03/11/16 16:31	1
Magnesium	9.91		0.200	0.0257	mg/L	-	03/11/16 10:00	03/11/16 16:31	1
Potassium	1.54		0.500	0.375	mg/L	-	03/11/16 10:00	03/11/16 16:31	1
Silicon	3.17		0.500	0.0707	mg/L	-	03/11/16 10:00	03/11/16 16:31	1
Sodium	7.39		1.00	0.310	mg/L	-	03/11/16 10:00	03/11/16 16:31	1
Strontium	0.328		0.00500	0.000700	mg/L	-	03/11/16 10:00	03/11/16 16:31	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L	-	03/11/16 10:00	03/11/16 19:13	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260 PEAK**

**Lab Sample ID: 560-60183-14**

**Date Collected: 03/09/16 16:22**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 19:13	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 19:13	1
Barium	24.0		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 19:13	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 19:13	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 19:13	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 19:13	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 19:13	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 19:13	1
Lead	0.733	U	5.00	0.733	ug/L		03/11/16 10:00	03/11/16 19:13	1
Manganese	11.6	U	50.0	11.6	ug/L		03/11/16 10:00	03/11/16 19:13	1
Nickel	2.17	U	5.00	2.17	ug/L		03/11/16 10:00	03/11/16 19:13	1
Selenium	1.08	U	5.00	1.08	ug/L		03/11/16 10:00	03/11/16 19:13	1
Silver	0.941	U	5.00	0.941	ug/L		03/11/16 10:00	03/11/16 19:13	1
Thallium	0.693	U	2.00	0.693	ug/L		03/11/16 10:00	03/11/16 19:13	1
Zinc	5.26	J	25.0	3.55	ug/L		03/11/16 10:00	03/11/16 19:13	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/16/16 10:00	03/16/16 16:28	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.517	J	1.00	0.315	mg/L			03/11/16 02:07	1
Chloride	11.8		1.00	0.192	mg/L			03/11/16 02:07	1
Nitrate as N	0.875		0.500	0.103	mg/L			03/11/16 02:07	1
Sulfate	15.8		1.00	0.377	mg/L			03/11/16 02:07	1
Fluoride	0.133		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/16/16 12:06	1
Phosphorus	0.100		0.100	0.0410	mg/L		03/22/16 09:37	03/23/16 12:37	1
Total Organic Carbon	2.45		1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.31	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	154		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	154		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	220		10.0	10.0	mg/L			03/11/16 09:50	1
Total Suspended Solids	64.8		3.00	3.00	mg/L			03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.18		1.00	0.285	mg/L			03/21/16 12:00	1

**Client Sample ID: HSM270 PEAK**

**Lab Sample ID: 560-60183-15**

**Date Collected: 03/09/16 16:35**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/11/16 17:17	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/11/16 17:17	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM270 PEAK**

**Lab Sample ID: 560-60183-15**

**Date Collected: 03/09/16 16:35**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.330	U	1.00	0.330	ug/L			03/11/16 17:17	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/11/16 17:17	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 17:17	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/11/16 17:17	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/11/16 17:17	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/11/16 17:17	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/11/16 17:17	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/11/16 17:17	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 17:17	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 17:17	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 17:17	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 17:17	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 17:17	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 17:17	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 17:17	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 17:17	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 17:17	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 17:17	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 17:17	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 17:17	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 17:17	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 17:17	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 17:17	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 17:17	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 17:17	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 17:17	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 17:17	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 17:17	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 17:17	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 17:17	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 17:17	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 17:17	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 17:17	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 17:17	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 17:17	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 17:17	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 17:17	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 17:17	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 17:17	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 17:17	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 17:17	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 17:17	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 17:17	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 17:17	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/11/16 17:17	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 17:17	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 17:17	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 17:17	1
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 17:17	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM270 PEAK**

**Lab Sample ID: 560-60183-15**

**Date Collected: 03/09/16 16:35**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 17:17	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 17:17	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 17:17	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 17:17	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 17:17	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 17:17	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 17:17	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 17:17	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 17:17	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 17:17	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 17:17	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 17:17	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 17:17	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 17:17	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 17:17	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 17:17	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 17:17	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 17:17	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 17:17	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 17:17	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 17:17	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 17:17	1
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 17:17	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 17:17	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 17:17	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 17:17	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 17:17	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 17:17	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 17:17	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 17:17	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 17:17	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 17:17	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 17:17	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 17:17	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 17:17	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 17:17	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 17:17	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 17:17	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 17:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 17:17	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 17:17	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 17:17	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 17:17	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 17:17	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 17:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		03/11/16 17:17	1
Dibromofluoromethane (Surr)	104		69 - 130		03/11/16 17:17	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/11/16 17:17	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM270 PEAK**

**Lab Sample ID: 560-60183-15**

**Date Collected: 03/09/16 16:35**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		03/11/16 17:17	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/11/16 14:32	03/14/16 08:46	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/11/16 14:32	03/14/16 08:46	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/11/16 14:32	03/14/16 08:46	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/11/16 14:32	03/14/16 08:46	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/11/16 14:32	03/14/16 08:46	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/11/16 14:32	03/14/16 08:46	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/11/16 14:32	03/14/16 08:46	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/11/16 14:32	03/14/16 08:46	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/11/16 14:32	03/14/16 08:46	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/11/16 14:32	03/14/16 08:46	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/11/16 14:32	03/14/16 08:46	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/11/16 14:32	03/14/16 08:46	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/11/16 14:32	03/14/16 08:46	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/11/16 14:32	03/14/16 08:46	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 08:46	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/11/16 14:32	03/14/16 08:46	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/11/16 14:32	03/14/16 08:46	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/11/16 14:32	03/14/16 08:46	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/11/16 14:32	03/14/16 08:46	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/11/16 14:32	03/14/16 08:46	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/11/16 14:32	03/14/16 08:46	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/11/16 14:32	03/14/16 08:46	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/11/16 14:32	03/14/16 08:46	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/11/16 14:32	03/14/16 08:46	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/11/16 14:32	03/14/16 08:46	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 08:46	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/11/16 14:32	03/14/16 08:46	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/11/16 14:32	03/14/16 08:46	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/11/16 14:32	03/14/16 08:46	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 08:46	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/11/16 14:32	03/14/16 08:46	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/11/16 14:32	03/14/16 08:46	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/11/16 14:32	03/14/16 08:46	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/11/16 14:32	03/14/16 08:46	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/11/16 14:32	03/14/16 08:46	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/11/16 14:32	03/14/16 08:46	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/11/16 14:32	03/14/16 08:46	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/11/16 14:32	03/14/16 08:46	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/11/16 14:32	03/14/16 08:46	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/11/16 14:32	03/14/16 08:46	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/11/16 14:32	03/14/16 08:46	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 08:46	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/11/16 14:32	03/14/16 08:46	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 08:46	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/11/16 14:32	03/14/16 08:46	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM270 PEAK**

**Lab Sample ID: 560-60183-15**

**Date Collected: 03/09/16 16:35**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/11/16 14:32	03/14/16 08:46	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/11/16 14:32	03/14/16 08:46	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 08:46	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/11/16 14:32	03/14/16 08:46	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/11/16 14:32	03/14/16 08:46	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/11/16 14:32	03/14/16 08:46	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/11/16 14:32	03/14/16 08:46	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/11/16 14:32	03/14/16 08:46	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/11/16 14:32	03/14/16 08:46	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/11/16 14:32	03/14/16 08:46	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/11/16 14:32	03/14/16 08:46	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/11/16 14:32	03/14/16 08:46	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/11/16 14:32	03/14/16 08:46	1
Phenol	0.768	U	10.0	0.768	ug/L		03/11/16 14:32	03/14/16 08:46	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/11/16 14:32	03/14/16 08:46	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/11/16 14:32	03/14/16 08:46	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/11/16 14:32	03/14/16 08:46	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/11/16 14:32	03/14/16 08:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	42		23 - 130	03/11/16 14:32	03/14/16 08:46	1
2-Fluorophenol	45		10 - 130	03/11/16 14:32	03/14/16 08:46	1
Nitrobenzene-d5	45		27 - 130	03/11/16 14:32	03/14/16 08:46	1
Phenol-d5	48		10 - 130	03/11/16 14:32	03/14/16 08:46	1
Terphenyl-d14	69		10 - 141	03/11/16 14:32	03/14/16 08:46	1
2,4,6-Tribromophenol	60		18 - 130	03/11/16 14:32	03/14/16 08:46	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 19:03	1
alpha-BHC	0.00503	U	0.0580	0.00503	ug/L		03/12/16 07:37	03/15/16 19:03	1
alpha-Chlordane	0.00609	U	0.0580	0.00609	ug/L		03/12/16 07:37	03/15/16 19:03	1
beta-BHC	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 19:03	1
4,4'-DDD	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 19:03	1
4,4'-DDE	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 19:03	1
4,4'-DDT	0.00783	U	0.0580	0.00783	ug/L		03/12/16 07:37	03/15/16 19:03	1
delta-BHC	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 19:03	1
Dieldrin	0.0126	U	0.0580	0.0126	ug/L		03/12/16 07:37	03/15/16 19:03	1
Endosulfan I	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 19:03	1
Endosulfan II	0.00831	U	0.0580	0.00831	ug/L		03/12/16 07:37	03/15/16 19:03	1
Endosulfan sulfate	0.00851	U	0.0580	0.00851	ug/L		03/12/16 07:37	03/15/16 19:03	1
Endrin	0.00744	U	0.0580	0.00744	ug/L		03/12/16 07:37	03/15/16 19:03	1
Endrin aldehyde	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 19:03	1
Endrin ketone	0.00793	U	0.0580	0.00793	ug/L		03/12/16 07:37	03/15/16 19:03	1
gamma-BHC (Lindane)	0.00435	U	0.0580	0.00435	ug/L		03/12/16 07:37	03/15/16 19:03	1
gamma-Chlordane	0.00648	U	0.0580	0.00648	ug/L		03/12/16 07:37	03/15/16 19:03	1
Heptachlor	0.00628	U	0.0580	0.00628	ug/L		03/12/16 07:37	03/15/16 19:03	1
Heptachlor epoxide	0.00503	U	0.0580	0.00503	ug/L		03/12/16 07:37	03/15/16 19:03	1
Methoxychlor	0.00967	U	0.0580	0.00967	ug/L		03/12/16 07:37	03/15/16 19:03	1
Toxaphene	0.657	U	5.80	0.657	ug/L		03/12/16 07:37	03/15/16 19:03	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM270 PEAK**

**Lab Sample ID: 560-60183-15**

**Date Collected: 03/09/16 16:35**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	40		10 - 152	03/12/16 07:37	03/15/16 19:03	1
Tetrachloro-m-xylene	83		57 - 127	03/12/16 07:37	03/15/16 19:03	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 16:07	1
Aroclor 1221	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 16:07	1
Aroclor 1232	0.425	U	0.773	0.425	ug/L		03/12/16 07:37	03/15/16 16:07	1
Aroclor 1242	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 16:07	1
Aroclor 1248	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 16:07	1
Aroclor 1254	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 16:07	1
Aroclor 1260	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 16:07	1
Aroclor 1262	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 16:07	1
Aroclor 1268	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 16:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	131		10 - 150	03/12/16 07:37	03/15/16 16:07	1
DCB Decachlorobiphenyl	86		10 - 150	03/12/16 07:37	03/15/16 16:07	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.159	U	2.37	0.159	ug/L		03/11/16 19:29	03/19/16 07:48	1
Bolstar	0.298	U	0.948	0.298	ug/L		03/11/16 19:29	03/19/16 07:48	1
Chlorpyrifos	0.341	U	1.42	0.341	ug/L		03/11/16 19:29	03/19/16 07:48	1
Coumaphos	0.128	U	0.948	0.128	ug/L		03/11/16 19:29	03/19/16 07:48	1
Demeton-O	0.133	U	0.948	0.133	ug/L		03/11/16 19:29	03/19/16 07:48	1
Demeton-S	0.0654	U	1.90	0.0654	ug/L		03/11/16 19:29	03/19/16 07:48	1
Diazinon	0.139	U	0.474	0.139	ug/L		03/11/16 19:29	03/19/16 07:48	1
Dichlorvos	0.154	U	0.474	0.154	ug/L		03/11/16 19:29	03/19/16 07:48	1
Dimethoate	0.426	U	1.42	0.426	ug/L		03/11/16 19:29	03/19/16 07:48	1
Disulfoton	0.305	U	0.948	0.305	ug/L		03/11/16 19:29	03/19/16 07:48	1
EPN	0.141	U	1.14	0.141	ug/L		03/11/16 19:29	03/19/16 07:48	1
Ethoprop	0.168	U	1.42	0.168	ug/L		03/11/16 19:29	03/19/16 07:48	1
Ethyl Parathion	0.137	U	0.948	0.137	ug/L		03/11/16 19:29	03/19/16 07:48	1
Famphur	0.170	U	0.948	0.170	ug/L		03/11/16 19:29	03/19/16 07:48	1
Fensulfothion	0.516	U	2.37	0.516	ug/L		03/11/16 19:29	03/19/16 07:48	1
Fenthion	0.146	U	2.37	0.146	ug/L		03/11/16 19:29	03/19/16 07:48	1
Malathion	0.126	U	1.90	0.126	ug/L		03/11/16 19:29	03/19/16 07:48	1
Merphos	0.165	U	4.74	0.165	ug/L		03/11/16 19:29	03/19/16 07:48	1
Methyl parathion	0.134	U	3.79	0.134	ug/L		03/11/16 19:29	03/19/16 07:48	1
Mevinphos	0.436	U	5.88	0.436	ug/L		03/11/16 19:29	03/19/16 07:48	1
Naled	0.759	U	1.90	0.759	ug/L		03/11/16 19:29	03/19/16 07:48	1
Phorate	0.146	U	1.14	0.146	ug/L		03/11/16 19:29	03/19/16 07:48	1
Ronnel	0.110	U	9.48	0.110	ug/L		03/11/16 19:29	03/19/16 07:48	1
Sulfotepp	0.159	U	1.42	0.159	ug/L		03/11/16 19:29	03/19/16 07:48	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.32	0.118	ug/L		03/11/16 19:29	03/19/16 07:48	1
Thionazin	0.296	U	0.948	0.296	ug/L		03/11/16 19:29	03/19/16 07:48	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/11/16 19:29	03/19/16 07:48	1
Trichloronate	0.229	U	1.42	0.229	ug/L		03/11/16 19:29	03/19/16 07:48	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM270 PEAK**

**Lab Sample ID: 560-60183-15**

**Date Collected: 03/09/16 16:35**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	71		49 - 171	03/11/16 19:29	03/19/16 07:48	1
Triphenylphosphate	92		60 - 154	03/11/16 19:29	03/19/16 07:48	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0953	U	4.76	0.0953	ug/L		03/15/16 08:29	03/16/16 22:58	1
Dicamba	0.0810	U	0.476	0.0810	ug/L		03/15/16 08:29	03/16/16 22:58	1
Mecoprop	18.1	U	114	18.1	ug/L		03/15/16 08:29	03/16/16 22:58	1
MCPA	16.2	U	114	16.2	ug/L		03/15/16 08:29	03/16/16 22:58	1
Dichlorprop	0.143	U	0.476	0.143	ug/L		03/15/16 08:29	03/16/16 22:58	1
2,4-D	0.0352	U	0.476	0.0352	ug/L		03/15/16 08:29	03/16/16 22:58	1
Silvex (2,4,5-TP)	0.0591	U	0.238	0.0591	ug/L		03/15/16 08:29	03/16/16 22:58	1
2,4,5-T	0.0591	U	0.238	0.0591	ug/L		03/15/16 08:29	03/16/16 22:58	1
2,4-DB	0.143	U	0.476	0.143	ug/L		03/15/16 08:29	03/16/16 22:58	1
Dinoseb	0.152	U	0.953	0.152	ug/L		03/15/16 08:29	03/16/16 22:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	96		45 - 130				03/15/16 08:29	03/16/16 22:58	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	55.1		0.200	0.101	mg/L		03/11/16 10:00	03/11/16 16:35	1
Magnesium	9.74		0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 16:35	1
Potassium	1.55		0.500	0.375	mg/L		03/11/16 10:00	03/11/16 16:35	1
Silicon	3.13		0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 16:35	1
Sodium	7.79		1.00	0.310	mg/L		03/11/16 10:00	03/11/16 16:35	1
Strontium	0.327		0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 16:35	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/11/16 10:00	03/11/16 19:33	1
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 19:33	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 19:33	1
Barium	25.6		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 19:33	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 19:33	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 19:33	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 19:33	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 19:33	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 19:33	1
Lead	0.733	U	5.00	0.733	ug/L		03/11/16 10:00	03/11/16 19:33	1
Manganese	11.7	J	50.0	11.6	ug/L		03/11/16 10:00	03/11/16 19:33	1
Nickel	2.17	U	5.00	2.17	ug/L		03/11/16 10:00	03/11/16 19:33	1
Selenium	1.08	U	5.00	1.08	ug/L		03/11/16 10:00	03/11/16 19:33	1
Silver	0.941	U	5.00	0.941	ug/L		03/11/16 10:00	03/11/16 19:33	1
Thallium	0.693	U	2.00	0.693	ug/L		03/11/16 10:00	03/11/16 19:33	1
Zinc	3.55	U	25.0	3.55	ug/L		03/11/16 10:00	03/11/16 19:33	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/16/16 10:00	03/16/16 16:30	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM270 PEAK**

**Lab Sample ID: 560-60183-15**

**Date Collected: 03/09/16 16:35**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.520	J	1.00	0.315	mg/L			03/11/16 02:33	1
Chloride	12.4		1.00	0.192	mg/L			03/11/16 02:33	1
Nitrate as N	0.889		0.500	0.103	mg/L			03/11/16 02:33	1
Sulfate	17.1		1.00	0.377	mg/L			03/11/16 02:33	1
Fluoride	0.141		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/16/16 12:07	1
Phosphorus	0.109		0.100	0.0410	mg/L		03/22/16 09:37	03/23/16 12:39	1
Total Organic Carbon	2.54		1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.34	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	155		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	155		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	219		10.0	10.0	mg/L			03/15/16 10:15	1
Total Suspended Solids	78.8		3.00	3.00	mg/L			03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.31		1.00	0.285	mg/L			03/21/16 12:00	1

**Client Sample ID: HSM210 TRAIL**

**Lab Sample ID: 560-60183-16**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/11/16 17:42	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/11/16 17:42	1
Benzene	0.330	U	1.00	0.330	ug/L			03/11/16 17:42	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/11/16 17:42	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 17:42	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/11/16 17:42	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/11/16 17:42	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/11/16 17:42	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/11/16 17:42	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/11/16 17:42	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 17:42	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 17:42	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 17:42	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 17:42	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 17:42	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 17:42	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 17:42	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 17:42	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 17:42	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 17:42	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 17:42	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 17:42	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 17:42	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 17:42	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 TRAIL**

**Lab Sample ID: 560-60183-16**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 17:42	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 17:42	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 17:42	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 17:42	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 17:42	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 17:42	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 17:42	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 17:42	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 17:42	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 17:42	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 17:42	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 17:42	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 17:42	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 17:42	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 17:42	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 17:42	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 17:42	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 17:42	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 17:42	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 17:42	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 17:42	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 17:42	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/11/16 17:42	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 17:42	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 17:42	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 17:42	1
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 17:42	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 17:42	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 17:42	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 17:42	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 17:42	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 17:42	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 17:42	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 17:42	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 17:42	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 17:42	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 17:42	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 17:42	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 17:42	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 17:42	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 17:42	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 17:42	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 17:42	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 17:42	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 17:42	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 17:42	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 17:42	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 17:42	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 17:42	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 TRAIL**

**Lab Sample ID: 560-60183-16**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 17:42	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 17:42	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 17:42	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 17:42	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 17:42	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 17:42	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 17:42	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 17:42	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 17:42	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 17:42	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 17:42	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 17:42	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 17:42	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 17:42	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 17:42	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 17:42	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 17:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 17:42	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 17:42	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 17:42	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 17:42	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 17:42	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 17:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/11/16 17:42	1
Dibromofluoromethane (Surr)	105		69 - 130		03/11/16 17:42	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		03/11/16 17:42	1
Toluene-d8 (Surr)	101		70 - 130		03/11/16 17:42	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/11/16 14:32	03/14/16 09:11	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/11/16 14:32	03/14/16 09:11	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/11/16 14:32	03/14/16 09:11	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/11/16 14:32	03/14/16 09:11	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/11/16 14:32	03/14/16 09:11	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/11/16 14:32	03/14/16 09:11	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/11/16 14:32	03/14/16 09:11	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/11/16 14:32	03/14/16 09:11	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/11/16 14:32	03/14/16 09:11	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/11/16 14:32	03/14/16 09:11	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/11/16 14:32	03/14/16 09:11	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/11/16 14:32	03/14/16 09:11	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/11/16 14:32	03/14/16 09:11	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/11/16 14:32	03/14/16 09:11	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 09:11	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/11/16 14:32	03/14/16 09:11	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/11/16 14:32	03/14/16 09:11	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/11/16 14:32	03/14/16 09:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 TRAIL**

**Lab Sample ID: 560-60183-16**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/11/16 14:32	03/14/16 09:11	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/11/16 14:32	03/14/16 09:11	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/11/16 14:32	03/14/16 09:11	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/11/16 14:32	03/14/16 09:11	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/11/16 14:32	03/14/16 09:11	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/11/16 14:32	03/14/16 09:11	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/11/16 14:32	03/14/16 09:11	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 09:11	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/11/16 14:32	03/14/16 09:11	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/11/16 14:32	03/14/16 09:11	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/11/16 14:32	03/14/16 09:11	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 09:11	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/11/16 14:32	03/14/16 09:11	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/11/16 14:32	03/14/16 09:11	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/11/16 14:32	03/14/16 09:11	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/11/16 14:32	03/14/16 09:11	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/11/16 14:32	03/14/16 09:11	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/11/16 14:32	03/14/16 09:11	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/11/16 14:32	03/14/16 09:11	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/11/16 14:32	03/14/16 09:11	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/11/16 14:32	03/14/16 09:11	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/11/16 14:32	03/14/16 09:11	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/11/16 14:32	03/14/16 09:11	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 09:11	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/11/16 14:32	03/14/16 09:11	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 09:11	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/11/16 14:32	03/14/16 09:11	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/11/16 14:32	03/14/16 09:11	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/11/16 14:32	03/14/16 09:11	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 09:11	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/11/16 14:32	03/14/16 09:11	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/11/16 14:32	03/14/16 09:11	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/11/16 14:32	03/14/16 09:11	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/11/16 14:32	03/14/16 09:11	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/11/16 14:32	03/14/16 09:11	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/11/16 14:32	03/14/16 09:11	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/11/16 14:32	03/14/16 09:11	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/11/16 14:32	03/14/16 09:11	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/11/16 14:32	03/14/16 09:11	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/11/16 14:32	03/14/16 09:11	1
Phenol	0.768	U	10.0	0.768	ug/L		03/11/16 14:32	03/14/16 09:11	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/11/16 14:32	03/14/16 09:11	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/11/16 14:32	03/14/16 09:11	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/11/16 14:32	03/14/16 09:11	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/11/16 14:32	03/14/16 09:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	57		23 - 130	03/11/16 14:32	03/14/16 09:11	1
2-Fluorophenol	57		10 - 130	03/11/16 14:32	03/14/16 09:11	1
Nitrobenzene-d5	60		27 - 130	03/11/16 14:32	03/14/16 09:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 TRAIL**

**Lab Sample ID: 560-60183-16**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	62		10 - 130	03/11/16 14:32	03/14/16 09:11	1
Terphenyl-d14	46		10 - 141	03/11/16 14:32	03/14/16 09:11	1
2,4,6-Tribromophenol	63		18 - 130	03/11/16 14:32	03/14/16 09:11	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 19:28	1
alpha-BHC	0.00500	U	0.0577	0.00500	ug/L		03/12/16 07:37	03/15/16 19:28	1
alpha-Chlordane	0.00606	U	0.0577	0.00606	ug/L		03/12/16 07:37	03/15/16 19:28	1
beta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 19:28	1
4,4'-DDD	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 19:28	1
4,4'-DDE	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 19:28	1
4,4'-DDT	0.00779	U	0.0577	0.00779	ug/L		03/12/16 07:37	03/15/16 19:28	1
delta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 19:28	1
Dieldrin	0.0125	U	0.0577	0.0125	ug/L		03/12/16 07:37	03/15/16 19:28	1
Endosulfan I	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 19:28	1
Endosulfan II	0.00827	U	0.0577	0.00827	ug/L		03/12/16 07:37	03/15/16 19:28	1
Endosulfan sulfate	0.00846	U	0.0577	0.00846	ug/L		03/12/16 07:37	03/15/16 19:28	1
Endrin	0.00740	U	0.0577	0.00740	ug/L		03/12/16 07:37	03/15/16 19:28	1
Endrin aldehyde	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 19:28	1
Endrin ketone	0.00788	U	0.0577	0.00788	ug/L		03/12/16 07:37	03/15/16 19:28	1
gamma-BHC (Lindane)	0.00433	U	0.0577	0.00433	ug/L		03/12/16 07:37	03/15/16 19:28	1
gamma-Chlordane	0.00644	U	0.0577	0.00644	ug/L		03/12/16 07:37	03/15/16 19:28	1
Heptachlor	0.00625	U	0.0577	0.00625	ug/L		03/12/16 07:37	03/15/16 19:28	1
Heptachlor epoxide	0.00500	U	0.0577	0.00500	ug/L		03/12/16 07:37	03/15/16 19:28	1
Methoxychlor	0.00962	U	0.0577	0.00962	ug/L		03/12/16 07:37	03/15/16 19:28	1
Toxaphene	0.654	U	5.77	0.654	ug/L		03/12/16 07:37	03/15/16 19:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	53		10 - 152	03/12/16 07:37	03/15/16 19:28	1
Tetrachloro-m-xylene	85		57 - 127	03/12/16 07:37	03/15/16 19:28	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 16:25	1
Aroclor 1221	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 16:25	1
Aroclor 1232	0.423	U	0.769	0.423	ug/L		03/12/16 07:37	03/15/16 16:25	1
Aroclor 1242	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 16:25	1
Aroclor 1248	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 16:25	1
Aroclor 1254	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 16:25	1
Aroclor 1260	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 16:25	1
Aroclor 1262	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 16:25	1
Aroclor 1268	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 16:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	131		10 - 150	03/12/16 07:37	03/15/16 16:25	1
DCB Decachlorobiphenyl	107		10 - 150	03/12/16 07:37	03/15/16 16:25	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 TRAIL**

**Lab Sample ID: 560-60183-16**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.169	U	2.52	0.169	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Bolstar	0.316	U	1.01	0.316	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Chlorpyrifos	0.362	U	1.51	0.362	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Coumaphos	0.136	U	1.01	0.136	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Demeton-O	0.141	U	1.01	0.141	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Demeton-S	0.0694	U	2.01	0.0694	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Diazinon	0.148	U	0.503	0.148	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Dichlorvos	0.163	U	0.503	0.163	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Dimethoate	0.452	U	1.51	0.452	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Disulfoton	0.324	U	1.01	0.324	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
EPN	0.150	U	1.21	0.150	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Ethoprop	0.178	U	1.51	0.178	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Ethyl Parathion	0.145	U	1.01	0.145	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Famphur	0.180	U	1.01	0.180	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Fensulfothion	0.547	U	2.52	0.547	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Fenthion	0.155	U	2.52	0.155	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Malathion	0.134	U	2.01	0.134	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Merphos	0.175	U	5.03	0.175	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Methyl parathion	0.142	U	4.02	0.142	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Mevinphos	0.463	U	6.24	0.463	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Naled	0.805	U	2.01	0.805	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Phorate	0.155	U	1.21	0.155	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Ronnel	0.117	U	10.1	0.117	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Sulfotepp	0.169	U	1.51	0.169	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Tetrachlorvinphos (Stirophos)	0.125	U	3.52	0.125	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Thionazin	0.314	U	1.01	0.314	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Tokuthion	0.124	U	1.61	0.124	ug/L	-	03/11/16 19:29	03/19/16 08:19	1
Trichloronate	0.243	U	1.51	0.243	ug/L	-	03/11/16 19:29	03/19/16 08:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	73		49 - 171	03/11/16 19:29	03/19/16 08:19	1
Triphenylphosphate	96		60 - 154	03/11/16 19:29	03/19/16 08:19	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.108	U	5.42	0.108	ug/L	-	03/15/16 08:29	03/16/16 23:18	1
Dicamba	0.0922	U	0.542	0.0922	ug/L	-	03/15/16 08:29	03/16/16 23:18	1
Mecoprop	20.6	U	130	20.6	ug/L	-	03/15/16 08:29	03/16/16 23:18	1
MCPA	18.4	U	130	18.4	ug/L	-	03/15/16 08:29	03/16/16 23:18	1
Dichlorprop	0.163	U	0.542	0.163	ug/L	-	03/15/16 08:29	03/16/16 23:18	1
2,4-D	0.0401	U	0.542	0.0401	ug/L	-	03/15/16 08:29	03/16/16 23:18	1
Silvex (2,4,5-TP)	0.0673	U	0.271	0.0673	ug/L	-	03/15/16 08:29	03/16/16 23:18	1
2,4,5-T	0.0673	U	0.271	0.0673	ug/L	-	03/15/16 08:29	03/16/16 23:18	1
2,4-DB	0.163	U	0.542	0.163	ug/L	-	03/15/16 08:29	03/16/16 23:18	1
Dinoseb	0.174	U	1.08	0.174	ug/L	-	03/15/16 08:29	03/16/16 23:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	90		45 - 130	03/15/16 08:29	03/16/16 23:18	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 TRAIL**

**Lab Sample ID: 560-60183-16**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	82.6		0.200	0.101	mg/L		03/11/16 10:00	03/11/16 16:39	1
Magnesium	18.1		0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 16:39	1
Potassium	1.70		0.500	0.375	mg/L		03/11/16 10:00	03/11/16 16:39	1
Silicon	5.05		0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 16:39	1
Sodium	16.3		1.00	0.310	mg/L		03/11/16 10:00	03/11/16 16:39	1
Strontium	0.636		0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 16:39	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/11/16 10:00	03/11/16 19:39	1
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 19:39	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 19:39	1
Barium	33.6		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 19:39	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 19:39	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 19:39	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 19:39	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 19:39	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 19:39	1
Lead	0.733	U	5.00	0.733	ug/L		03/11/16 10:00	03/11/16 19:39	1
Manganese	162		50.0	11.6	ug/L		03/11/16 10:00	03/11/16 19:39	1
Nickel	2.17	U	5.00	2.17	ug/L		03/11/16 10:00	03/11/16 19:39	1
Selenium	1.08	U	5.00	1.08	ug/L		03/11/16 10:00	03/11/16 19:39	1
Silver	0.941	U	5.00	0.941	ug/L		03/11/16 10:00	03/11/16 19:39	1
Thallium	0.693	U	2.00	0.693	ug/L		03/11/16 10:00	03/11/16 19:39	1
Zinc	3.55	U	25.0	3.55	ug/L		03/11/16 10:00	03/11/16 19:39	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/14/16 10:00	03/14/16 17:17	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.584	J	1.00	0.315	mg/L			03/11/16 02:59	1
Chloride	25.3		1.00	0.192	mg/L			03/11/16 02:59	1
Nitrate as N	0.743		0.500	0.103	mg/L			03/11/16 02:59	1
Sulfate	31.9		1.00	0.377	mg/L			03/11/16 02:59	1
Fluoride	0.216		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/16/16 12:07	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/22/16 09:37	03/23/16 12:42	1
Total Organic Carbon	1.40		1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.21	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	226		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	226		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	348		10.0	10.0	mg/L			03/15/16 10:15	1
Total Suspended Solids	5.20		3.00	3.00	mg/L			03/14/16 16:45	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM210 TRAIL**

**Lab Sample ID: 560-60183-16**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.32		1.00	0.285	mg/L			03/21/16 12:00	1

**Client Sample ID: FDHSM210 TRAIL**

**Lab Sample ID: 560-60183-17**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	6.27	J	10.0	5.00	ug/L			03/11/16 18:07	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/11/16 18:07	1
Benzene	0.330	U	1.00	0.330	ug/L			03/11/16 18:07	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/11/16 18:07	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 18:07	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/11/16 18:07	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/11/16 18:07	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/11/16 18:07	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/11/16 18:07	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/11/16 18:07	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 18:07	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 18:07	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 18:07	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 18:07	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 18:07	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 18:07	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 18:07	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 18:07	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 18:07	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 18:07	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 18:07	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 18:07	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 18:07	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 18:07	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 18:07	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 18:07	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 18:07	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 18:07	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 18:07	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 18:07	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 18:07	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 18:07	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 18:07	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 18:07	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 18:07	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 18:07	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 18:07	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 18:07	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 18:07	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 18:07	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 18:07	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 18:07	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM210 TRAIL**

**Lab Sample ID: 560-60183-17**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 18:07	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 18:07	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 18:07	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 18:07	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/11/16 18:07	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 18:07	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 18:07	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 18:07	1
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 18:07	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 18:07	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 18:07	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 18:07	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 18:07	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 18:07	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 18:07	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 18:07	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 18:07	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 18:07	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 18:07	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 18:07	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 18:07	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 18:07	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 18:07	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 18:07	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 18:07	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 18:07	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 18:07	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 18:07	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 18:07	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 18:07	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 18:07	1
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 18:07	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 18:07	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 18:07	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 18:07	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 18:07	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 18:07	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 18:07	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 18:07	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 18:07	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 18:07	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 18:07	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 18:07	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 18:07	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 18:07	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 18:07	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 18:07	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 18:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 18:07	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM210 TRAIL**

**Lab Sample ID: 560-60183-17**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 18:07	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 18:07	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 18:07	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 18:07	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 18:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/11/16 18:07	1
Dibromofluoromethane (Surr)	105		69 - 130		03/11/16 18:07	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/11/16 18:07	1
Toluene-d8 (Surr)	101		70 - 130		03/11/16 18:07	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/11/16 14:32	03/14/16 09:37	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/11/16 14:32	03/14/16 09:37	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/11/16 14:32	03/14/16 09:37	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/11/16 14:32	03/14/16 09:37	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/11/16 14:32	03/14/16 09:37	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/11/16 14:32	03/14/16 09:37	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/11/16 14:32	03/14/16 09:37	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/11/16 14:32	03/14/16 09:37	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/11/16 14:32	03/14/16 09:37	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/11/16 14:32	03/14/16 09:37	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/11/16 14:32	03/14/16 09:37	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/11/16 14:32	03/14/16 09:37	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/11/16 14:32	03/14/16 09:37	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/11/16 14:32	03/14/16 09:37	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 09:37	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/11/16 14:32	03/14/16 09:37	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/11/16 14:32	03/14/16 09:37	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/11/16 14:32	03/14/16 09:37	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/11/16 14:32	03/14/16 09:37	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/11/16 14:32	03/14/16 09:37	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/11/16 14:32	03/14/16 09:37	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/11/16 14:32	03/14/16 09:37	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/11/16 14:32	03/14/16 09:37	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/11/16 14:32	03/14/16 09:37	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/11/16 14:32	03/14/16 09:37	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 09:37	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/11/16 14:32	03/14/16 09:37	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/11/16 14:32	03/14/16 09:37	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/11/16 14:32	03/14/16 09:37	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 09:37	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/11/16 14:32	03/14/16 09:37	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/11/16 14:32	03/14/16 09:37	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/11/16 14:32	03/14/16 09:37	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/11/16 14:32	03/14/16 09:37	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/11/16 14:32	03/14/16 09:37	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/11/16 14:32	03/14/16 09:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM210 TRAIL**

**Lab Sample ID: 560-60183-17**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/11/16 14:32	03/14/16 09:37	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/11/16 14:32	03/14/16 09:37	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/11/16 14:32	03/14/16 09:37	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/11/16 14:32	03/14/16 09:37	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/11/16 14:32	03/14/16 09:37	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 09:37	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/11/16 14:32	03/14/16 09:37	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 09:37	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/11/16 14:32	03/14/16 09:37	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/11/16 14:32	03/14/16 09:37	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/11/16 14:32	03/14/16 09:37	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 09:37	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/11/16 14:32	03/14/16 09:37	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/11/16 14:32	03/14/16 09:37	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/11/16 14:32	03/14/16 09:37	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/11/16 14:32	03/14/16 09:37	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/11/16 14:32	03/14/16 09:37	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/11/16 14:32	03/14/16 09:37	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/11/16 14:32	03/14/16 09:37	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/11/16 14:32	03/14/16 09:37	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/11/16 14:32	03/14/16 09:37	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/11/16 14:32	03/14/16 09:37	1
Phenol	0.768	U	10.0	0.768	ug/L		03/11/16 14:32	03/14/16 09:37	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/11/16 14:32	03/14/16 09:37	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/11/16 14:32	03/14/16 09:37	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/11/16 14:32	03/14/16 09:37	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/11/16 14:32	03/14/16 09:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	60		23 - 130	03/11/16 14:32	03/14/16 09:37	1
2-Fluorophenol	59		10 - 130	03/11/16 14:32	03/14/16 09:37	1
Nitrobenzene-d5	63		27 - 130	03/11/16 14:32	03/14/16 09:37	1
Phenol-d5	64		10 - 130	03/11/16 14:32	03/14/16 09:37	1
Terphenyl-d14	43		10 - 141	03/11/16 14:32	03/14/16 09:37	1
2,4,6-Tribromophenol	65		18 - 130	03/11/16 14:32	03/14/16 09:37	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00479	U	0.0575	0.00479	ug/L		03/12/16 07:37	03/15/16 19:54	1
alpha-BHC	0.00499	U	0.0575	0.00499	ug/L		03/12/16 07:37	03/15/16 19:54	1
alpha-Chlordane	0.00604	U	0.0575	0.00604	ug/L		03/12/16 07:37	03/15/16 19:54	1
beta-BHC	0.00479	U	0.0575	0.00479	ug/L		03/12/16 07:37	03/15/16 19:54	1
4,4'-DDD	0.00479	U	0.0575	0.00479	ug/L		03/12/16 07:37	03/15/16 19:54	1
4,4'-DDE	0.00479	U	0.0575	0.00479	ug/L		03/12/16 07:37	03/15/16 19:54	1
4,4'-DDT	0.00777	U	0.0575	0.00777	ug/L		03/12/16 07:37	03/15/16 19:54	1
delta-BHC	0.00479	U	0.0575	0.00479	ug/L		03/12/16 07:37	03/15/16 19:54	1
Dieldrin	0.0125	U	0.0575	0.0125	ug/L		03/12/16 07:37	03/15/16 19:54	1
Endosulfan I	0.00479	U	0.0575	0.00479	ug/L		03/12/16 07:37	03/15/16 19:54	1
Endosulfan II	0.00825	U	0.0575	0.00825	ug/L		03/12/16 07:37	03/15/16 19:54	1
Endosulfan sulfate	0.00844	U	0.0575	0.00844	ug/L		03/12/16 07:37	03/15/16 19:54	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM210 TRAIL**

**Lab Sample ID: 560-60183-17**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	0.00738	U	0.0575	0.00738	ug/L		03/12/16 07:37	03/15/16 19:54	1
Endrin aldehyde	0.00479	U	0.0575	0.00479	ug/L		03/12/16 07:37	03/15/16 19:54	1
Endrin ketone	0.00786	U	0.0575	0.00786	ug/L		03/12/16 07:37	03/15/16 19:54	1
gamma-BHC (Lindane)	0.00432	U	0.0575	0.00432	ug/L		03/12/16 07:37	03/15/16 19:54	1
gamma-Chlordane	0.00642	U	0.0575	0.00642	ug/L		03/12/16 07:37	03/15/16 19:54	1
Heptachlor	0.00623	U	0.0575	0.00623	ug/L		03/12/16 07:37	03/15/16 19:54	1
Heptachlor epoxide	0.00499	U	0.0575	0.00499	ug/L		03/12/16 07:37	03/15/16 19:54	1
Methoxychlor	0.00959	U	0.0575	0.00959	ug/L		03/12/16 07:37	03/15/16 19:54	1
Toxaphene	0.652	U	5.75	0.652	ug/L		03/12/16 07:37	03/15/16 19:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	50		10 - 152	03/12/16 07:37	03/15/16 19:54	1
Tetrachloro-m-xylene	83		57 - 127	03/12/16 07:37	03/15/16 19:54	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 16:42	1
Aroclor 1221	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 16:42	1
Aroclor 1232	0.422	U	0.767	0.422	ug/L		03/12/16 07:37	03/15/16 16:42	1
Aroclor 1242	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 16:42	1
Aroclor 1248	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 16:42	1
Aroclor 1254	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 16:42	1
Aroclor 1260	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 16:42	1
Aroclor 1262	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 16:42	1
Aroclor 1268	0.105	U	0.575	0.105	ug/L		03/12/16 07:37	03/15/16 16:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	136		10 - 150	03/12/16 07:37	03/15/16 16:42	1
DCB Decachlorobiphenyl	106		10 - 150	03/12/16 07:37	03/15/16 16:42	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.167	U	2.49	0.167	ug/L		03/11/16 19:29	03/19/16 08:50	1
Bolstar	0.313	U	0.997	0.313	ug/L		03/11/16 19:29	03/19/16 08:50	1
Chlorpyrifos	0.359	U	1.50	0.359	ug/L		03/11/16 19:29	03/19/16 08:50	1
Coumaphos	0.135	U	0.997	0.135	ug/L		03/11/16 19:29	03/19/16 08:50	1
Demeton-O	0.140	U	0.997	0.140	ug/L		03/11/16 19:29	03/19/16 08:50	1
Demeton-S	0.0688	U	1.99	0.0688	ug/L		03/11/16 19:29	03/19/16 08:50	1
Diazinon	0.147	U	0.498	0.147	ug/L		03/11/16 19:29	03/19/16 08:50	1
Dichlorvos	0.161	U	0.498	0.161	ug/L		03/11/16 19:29	03/19/16 08:50	1
Dimethoate	0.448	U	1.50	0.448	ug/L		03/11/16 19:29	03/19/16 08:50	1
Disulfoton	0.321	U	0.997	0.321	ug/L		03/11/16 19:29	03/19/16 08:50	1
EPN	0.149	U	1.20	0.149	ug/L		03/11/16 19:29	03/19/16 08:50	1
Ethoprop	0.176	U	1.50	0.176	ug/L		03/11/16 19:29	03/19/16 08:50	1
Ethyl Parathion	0.144	U	0.997	0.144	ug/L		03/11/16 19:29	03/19/16 08:50	1
Famphur	0.178	U	0.997	0.178	ug/L		03/11/16 19:29	03/19/16 08:50	1
Fensulfothion	0.542	U	2.49	0.542	ug/L		03/11/16 19:29	03/19/16 08:50	1
Fenthion	0.154	U	2.49	0.154	ug/L		03/11/16 19:29	03/19/16 08:50	1
Malathion	0.133	U	1.99	0.133	ug/L		03/11/16 19:29	03/19/16 08:50	1
Merphos	0.173	U	4.98	0.173	ug/L		03/11/16 19:29	03/19/16 08:50	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM210 TRAIL**

**Lab Sample ID: 560-60183-17**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl parathion	0.141	U	3.99	0.141	ug/L		03/11/16 19:29	03/19/16 08:50	1
Mevinphos	0.459	U	6.18	0.459	ug/L		03/11/16 19:29	03/19/16 08:50	1
Naled	0.797	U	1.99	0.797	ug/L		03/11/16 19:29	03/19/16 08:50	1
Phorate	0.154	U	1.20	0.154	ug/L		03/11/16 19:29	03/19/16 08:50	1
Ronnel	0.116	U	9.97	0.116	ug/L		03/11/16 19:29	03/19/16 08:50	1
Sulfotepp	0.167	U	1.50	0.167	ug/L		03/11/16 19:29	03/19/16 08:50	1
Tetrachlorvinphos (Stirophos)	0.124	U	3.49	0.124	ug/L		03/11/16 19:29	03/19/16 08:50	1
Thionazin	0.311	U	0.997	0.311	ug/L		03/11/16 19:29	03/19/16 08:50	1
Tokuthion	0.123	U	1.59	0.123	ug/L		03/11/16 19:29	03/19/16 08:50	1
Trichloronate	0.241	U	1.50	0.241	ug/L		03/11/16 19:29	03/19/16 08:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	64		49 - 171				03/11/16 19:29	03/19/16 08:50	1
Triphenylphosphate	90		60 - 154				03/11/16 19:29	03/19/16 08:50	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.110	U	5.50	0.110	ug/L		03/15/16 08:29	03/16/16 23:38	1
Dicamba	0.0934	U	0.550	0.0934	ug/L		03/15/16 08:29	03/16/16 23:38	1
Mecoprop	20.9	U	132	20.9	ug/L		03/15/16 08:29	03/16/16 23:38	1
MCPA	18.7	U	132	18.7	ug/L		03/15/16 08:29	03/16/16 23:38	1
Dichlorprop	0.165	U	0.550	0.165	ug/L		03/15/16 08:29	03/16/16 23:38	1
2,4-D	0.0407	U	0.550	0.0407	ug/L		03/15/16 08:29	03/16/16 23:38	1
Silvex (2,4,5-TP)	0.0682	U	0.275	0.0682	ug/L		03/15/16 08:29	03/16/16 23:38	1
2,4,5-T	0.0682	U	0.275	0.0682	ug/L		03/15/16 08:29	03/16/16 23:38	1
2,4-DB	0.165	U	0.550	0.165	ug/L		03/15/16 08:29	03/16/16 23:38	1
Dinoseb	0.176	U	1.10	0.176	ug/L		03/15/16 08:29	03/16/16 23:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	83		45 - 130				03/15/16 08:29	03/16/16 23:38	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	82.5		0.200	0.101	mg/L		03/11/16 10:00	03/11/16 16:43	1
Magnesium	18.0		0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 16:43	1
Potassium	1.68		0.500	0.375	mg/L		03/11/16 10:00	03/11/16 16:43	1
Silicon	5.06		0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 16:43	1
Sodium	15.9		1.00	0.310	mg/L		03/11/16 10:00	03/11/16 16:43	1
Strontium	0.636		0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 16:43	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/11/16 10:00	03/11/16 19:44	1
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 19:44	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 19:44	1
Barium	32.6		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 19:44	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 19:44	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 19:44	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 19:44	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 19:44	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 19:44	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM210 TRAIL**

**Lab Sample ID: 560-60183-17**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.733	U	5.00	0.733	ug/L	-	03/11/16 10:00	03/11/16 19:44	1
<b>Manganese</b>	<b>173</b>		50.0	11.6	ug/L	-	03/11/16 10:00	03/11/16 19:44	1
Nickel	2.17	U	5.00	2.17	ug/L	-	03/11/16 10:00	03/11/16 19:44	1
Selenium	1.08	U	5.00	1.08	ug/L	-	03/11/16 10:00	03/11/16 19:44	1
Silver	0.941	U	5.00	0.941	ug/L	-	03/11/16 10:00	03/11/16 19:44	1
Thallium	0.693	U	2.00	0.693	ug/L	-	03/11/16 10:00	03/11/16 19:44	1
Zinc	3.55	U	25.0	3.55	ug/L	-	03/11/16 10:00	03/11/16 19:44	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Mercury</b>	<b>0.000235</b>	<b>J</b>	0.00200	0.000130	mg/L	-	03/16/16 10:00	03/16/16 16:32	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>0.582</b>	<b>J</b>	1.00	0.315	mg/L	-		03/11/16 04:17	1
<b>Chloride</b>	<b>24.9</b>	<b>B</b>	1.00	0.192	mg/L	-		03/11/16 04:17	1
<b>Nitrate as N</b>	<b>0.687</b>		0.500	0.103	mg/L	-		03/11/16 04:17	1
<b>Sulfate</b>	<b>31.6</b>		1.00	0.377	mg/L	-		03/11/16 04:17	1
<b>Fluoride</b>	<b>0.217</b>		0.100	0.0200	mg/L	-		03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		03/16/16 12:12	1
<b>Phosphorus</b>	<b>0.0423</b>	<b>J</b>	0.100	0.0410	mg/L	-	03/22/16 09:37	03/23/16 12:44	1
<b>Total Organic Carbon</b>	<b>1.66</b>		1.00	0.285	mg/L	-		03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.13</b>	<b>HF</b>	0.100	0.100	SU	-		03/10/16 15:11	1
<b>Total Alkalinity as CaCO3</b>	<b>227</b>		5.00	5.00	mg/L	-		03/22/16 14:05	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>227</b>		5.00	5.00	mg/L	-		03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		03/22/16 14:05	1
<b>Total Dissolved Solids</b>	<b>346</b>		10.0	10.0	mg/L	-		03/15/16 10:15	1
<b>Total Suspended Solids</b>	<b>5.20</b>		3.00	3.00	mg/L	-		03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Dissolved Organic Carbon</b>	<b>1.31</b>		1.00	0.285	mg/L	-		03/21/16 12:00	1

**Client Sample ID: HSM230 TRAIL**

**Lab Sample ID: 560-60183-18**

**Date Collected: 03/09/16 18:14**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>7.75</b>	<b>J</b>	10.0	5.00	ug/L	-		03/14/16 15:27	1
Acetonitrile	10.0	U	50.0	10.0	ug/L	-		03/14/16 15:27	1
Benzene	0.330	U	1.00	0.330	ug/L	-		03/14/16 15:27	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L	-		03/14/16 15:27	1
Bromobenzene	0.128	U	1.00	0.128	ug/L	-		03/14/16 15:27	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L	-		03/14/16 15:27	1
Bromoform	0.500	U	5.00	0.500	ug/L	-		03/14/16 15:27	1
Bromomethane	0.392	U	5.00	0.392	ug/L	-		03/14/16 15:27	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L	-		03/14/16 15:27	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L	-		03/14/16 15:27	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 TRAIL**

**Lab Sample ID: 560-60183-18**

**Date Collected: 03/09/16 18:14**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/14/16 15:27	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/14/16 15:27	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/14/16 15:27	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/14/16 15:27	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/14/16 15:27	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/14/16 15:27	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/14/16 15:27	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/14/16 15:27	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/14/16 15:27	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/14/16 15:27	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/14/16 15:27	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/14/16 15:27	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/14/16 15:27	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/14/16 15:27	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/14/16 15:27	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/14/16 15:27	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/14/16 15:27	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/14/16 15:27	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/14/16 15:27	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/14/16 15:27	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/14/16 15:27	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/14/16 15:27	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/14/16 15:27	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/14/16 15:27	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/14/16 15:27	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/14/16 15:27	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/14/16 15:27	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/14/16 15:27	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/14/16 15:27	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/14/16 15:27	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/14/16 15:27	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/14/16 15:27	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/14/16 15:27	1
EDB	0.175	U	1.00	0.175	ug/L			03/14/16 15:27	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/14/16 15:27	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/14/16 15:27	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/14/16 15:27	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/14/16 15:27	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/14/16 15:27	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/14/16 15:27	1
Hexane	2.00	U	5.00	2.00	ug/L			03/14/16 15:27	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/14/16 15:27	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/14/16 15:27	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/14/16 15:27	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/14/16 15:27	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/14/16 15:27	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/14/16 15:27	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/14/16 15:27	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/14/16 15:27	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 TRAIL**

**Lab Sample ID: 560-60183-18**

**Date Collected: 03/09/16 18:14**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/14/16 15:27	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/14/16 15:27	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/14/16 15:27	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/14/16 15:27	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/14/16 15:27	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/14/16 15:27	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/14/16 15:27	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/14/16 15:27	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/14/16 15:27	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/14/16 15:27	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/14/16 15:27	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/14/16 15:27	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/14/16 15:27	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/14/16 15:27	1
Styrene	0.200	U	1.00	0.200	ug/L			03/14/16 15:27	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 15:27	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/14/16 15:27	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/14/16 15:27	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/14/16 15:27	1
Toluene	0.495	U	1.00	0.495	ug/L			03/14/16 15:27	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/14/16 15:27	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/14/16 15:27	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/14/16 15:27	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/14/16 15:27	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/14/16 15:27	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/14/16 15:27	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/14/16 15:27	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/14/16 15:27	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/14/16 15:27	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/14/16 15:27	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/14/16 15:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/14/16 15:27	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 15:27	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 15:27	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/14/16 15:27	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/14/16 15:27	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/14/16 15:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/14/16 15:27	1
Dibromofluoromethane (Surr)	105		69 - 130		03/14/16 15:27	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		03/14/16 15:27	1
Toluene-d8 (Surr)	101		70 - 130		03/14/16 15:27	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.523	U	11.4	0.523	ug/L		03/10/16 15:00	03/11/16 17:51	1
Acenaphthylene	0.514	U	11.4	0.514	ug/L		03/10/16 15:00	03/11/16 17:51	1
Anthracene	0.795	U	11.4	0.795	ug/L		03/10/16 15:00	03/11/16 17:51	1
Benzo[a]anthracene	0.734	U	11.4	0.734	ug/L		03/10/16 15:00	03/11/16 17:51	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 TRAIL**

**Lab Sample ID: 560-60183-18**

**Date Collected: 03/09/16 18:14**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	0.843	U	11.4	0.843	ug/L		03/10/16 15:00	03/11/16 17:51	1
Benzo[b]fluoranthene	1.03	U	11.4	1.03	ug/L		03/10/16 15:00	03/11/16 17:51	1
Benzo[g,h,i]perylene	1.25	U	11.4	1.25	ug/L		03/10/16 15:00	03/11/16 17:51	1
Benzo[k]fluoranthene	1.69	U	11.4	1.69	ug/L		03/10/16 15:00	03/11/16 17:51	1
Benzyl alcohol	0.940	U	11.4	0.940	ug/L		03/10/16 15:00	03/11/16 17:51	1
Bis(2-chloroethoxy)methane	0.495	U	11.4	0.495	ug/L		03/10/16 15:00	03/11/16 17:51	1
Bis(2-chloroethyl)ether	1.76	U	11.4	1.76	ug/L		03/10/16 15:00	03/11/16 17:51	1
Bis(2-ethylhexyl) phthalate	5.68	U	22.7	5.68	ug/L		03/10/16 15:00	03/11/16 17:51	1
4-Bromophenyl phenyl ether	0.922	U	11.4	0.922	ug/L		03/10/16 15:00	03/11/16 17:51	1
Butyl benzyl phthalate	0.927	U	11.4	0.927	ug/L		03/10/16 15:00	03/11/16 17:51	1
4-Chloroaniline	0.624	U	11.4	0.624	ug/L		03/10/16 15:00	03/11/16 17:51	1
4-Chloro-3-methylphenol	0.666	U	11.4	0.666	ug/L		03/10/16 15:00	03/11/16 17:51	1
2-Chloronaphthalene	0.685	U	11.4	0.685	ug/L		03/10/16 15:00	03/11/16 17:51	1
2-Chlorophenol	0.828	U	11.4	0.828	ug/L		03/10/16 15:00	03/11/16 17:51	1
4-Chlorophenyl phenyl ether	0.601	U	11.4	0.601	ug/L		03/10/16 15:00	03/11/16 17:51	1
Chrysene	0.561	U	11.4	0.561	ug/L		03/10/16 15:00	03/11/16 17:51	1
Dibenz(a,h)anthracene	0.993	U	11.4	0.993	ug/L		03/10/16 15:00	03/11/16 17:51	1
Dibenzofuran	0.551	U	11.4	0.551	ug/L		03/10/16 15:00	03/11/16 17:51	1
1,2-Dichlorobenzene	0.881	U	11.4	0.881	ug/L		03/10/16 15:00	03/11/16 17:51	1
1,3-Dichlorobenzene	0.558	U	11.4	0.558	ug/L		03/10/16 15:00	03/11/16 17:51	1
1,4-Dichlorobenzene	0.926	U	11.4	0.926	ug/L		03/10/16 15:00	03/11/16 17:51	1
3,3'-Dichlorobenzidine	0.894	U	11.4	0.894	ug/L		03/10/16 15:00	03/11/16 17:51	1
2,4-Dichlorophenol	0.800	U	11.4	0.800	ug/L		03/10/16 15:00	03/11/16 17:51	1
Diethyl phthalate	0.757	U	11.4	0.757	ug/L		03/10/16 15:00	03/11/16 17:51	1
2,4-Dimethylphenol	0.674	U	11.4	0.674	ug/L		03/10/16 15:00	03/11/16 17:51	1
Dimethyl phthalate	0.669	U	11.4	0.669	ug/L		03/10/16 15:00	03/11/16 17:51	1
Di-n-butyl phthalate	0.806	U	11.4	0.806	ug/L		03/10/16 15:00	03/11/16 17:51	1
4,6-Dinitro-2-methylphenol	1.09	U	11.4	1.09	ug/L		03/10/16 15:00	03/11/16 17:51	1
2,4-Dinitrophenol	3.05	U	22.7	3.05	ug/L		03/10/16 15:00	03/11/16 17:51	1
2,4-Dinitrotoluene	0.578	U	22.7	0.578	ug/L		03/10/16 15:00	03/11/16 17:51	1
2,6-Dinitrotoluene	0.866	U	11.4	0.866	ug/L		03/10/16 15:00	03/11/16 17:51	1
Di-n-octyl phthalate	1.26	U	11.4	1.26	ug/L		03/10/16 15:00	03/11/16 17:51	1
Fluoranthene	0.564	U	11.4	0.564	ug/L		03/10/16 15:00	03/11/16 17:51	1
Fluorene	0.478	U	11.4	0.478	ug/L		03/10/16 15:00	03/11/16 17:51	1
Hexachlorobenzene	0.684	U	11.4	0.684	ug/L		03/10/16 15:00	03/11/16 17:51	1
Hexachlorobutadiene	0.814	U	11.4	0.814	ug/L		03/10/16 15:00	03/11/16 17:51	1
Hexachlorocyclopentadiene	0.953	U	11.4	0.953	ug/L		03/10/16 15:00	03/11/16 17:51	1
Hexachloroethane	0.669	U	11.4	0.669	ug/L		03/10/16 15:00	03/11/16 17:51	1
Indeno[1,2,3-cd]pyrene	1.05	U	11.4	1.05	ug/L		03/10/16 15:00	03/11/16 17:51	1
Isophorone	0.624	U	11.4	0.624	ug/L		03/10/16 15:00	03/11/16 17:51	1
2-Methylnaphthalene	0.798	U	11.4	0.798	ug/L		03/10/16 15:00	03/11/16 17:51	1
2-Methylphenol	0.693	U	11.4	0.693	ug/L		03/10/16 15:00	03/11/16 17:51	1
3 & 4 Methylphenol	0.867	U	22.7	0.867	ug/L		03/10/16 15:00	03/11/16 17:51	1
Naphthalene	0.894	U	11.4	0.894	ug/L		03/10/16 15:00	03/11/16 17:51	1
2-Nitroaniline	0.870	U	11.4	0.870	ug/L		03/10/16 15:00	03/11/16 17:51	1
3-Nitroaniline	0.582	U	11.4	0.582	ug/L		03/10/16 15:00	03/11/16 17:51	1
4-Nitroaniline	0.931	U	11.4	0.931	ug/L		03/10/16 15:00	03/11/16 17:51	1
Nitrobenzene	0.667	U	11.4	0.667	ug/L		03/10/16 15:00	03/11/16 17:51	1
2-Nitrophenol	0.918	U	11.4	0.918	ug/L		03/10/16 15:00	03/11/16 17:51	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 TRAIL**

**Lab Sample ID: 560-60183-18**

**Date Collected: 03/09/16 18:14**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	1.97	U	11.4	1.97	ug/L		03/10/16 15:00	03/11/16 17:51	1
N-Nitrosodi-n-propylamine	0.705	U	11.4	0.705	ug/L		03/10/16 15:00	03/11/16 17:51	1
N-Nitrosodiphenylamine	1.17	U	11.4	1.17	ug/L		03/10/16 15:00	03/11/16 17:51	1
Pentachlorophenol	1.50	U	22.7	1.50	ug/L		03/10/16 15:00	03/11/16 17:51	1
Phenanthrene	0.672	U	11.4	0.672	ug/L		03/10/16 15:00	03/11/16 17:51	1
Phenol	0.873	U	11.4	0.873	ug/L		03/10/16 15:00	03/11/16 17:51	1
Pyrene	0.500	U	11.4	0.500	ug/L		03/10/16 15:00	03/11/16 17:51	1
1,2,4-Trichlorobenzene	0.735	U	11.4	0.735	ug/L		03/10/16 15:00	03/11/16 17:51	1
2,4,5-Trichlorophenol	0.978	U	11.4	0.978	ug/L		03/10/16 15:00	03/11/16 17:51	1
2,4,6-Trichlorophenol	0.748	U	11.4	0.748	ug/L		03/10/16 15:00	03/11/16 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	42		23 - 130	03/10/16 15:00	03/11/16 17:51	1
2-Fluorophenol	41		10 - 130	03/10/16 15:00	03/11/16 17:51	1
Nitrobenzene-d5	42		27 - 130	03/10/16 15:00	03/11/16 17:51	1
Phenol-d5	45		10 - 130	03/10/16 15:00	03/11/16 17:51	1
Terphenyl-d14	31		10 - 141	03/10/16 15:00	03/11/16 17:51	1
2,4,6-Tribromophenol	51		18 - 130	03/10/16 15:00	03/11/16 17:51	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00474	U	0.0569	0.00474	ug/L		03/12/16 07:37	03/15/16 20:19	1
alpha-BHC	0.00493	U	0.0569	0.00493	ug/L		03/12/16 07:37	03/15/16 20:19	1
alpha-Chlordane	0.00598	U	0.0569	0.00598	ug/L		03/12/16 07:37	03/15/16 20:19	1
beta-BHC	0.00474	U	0.0569	0.00474	ug/L		03/12/16 07:37	03/15/16 20:19	1
4,4'-DDD	0.00474	U	0.0569	0.00474	ug/L		03/12/16 07:37	03/15/16 20:19	1
4,4'-DDE	0.00474	U	0.0569	0.00474	ug/L		03/12/16 07:37	03/15/16 20:19	1
4,4'-DDT	0.00768	U	0.0569	0.00768	ug/L		03/12/16 07:37	03/15/16 20:19	1
delta-BHC	0.00474	U	0.0569	0.00474	ug/L		03/12/16 07:37	03/15/16 20:19	1
Dieldrin	0.0123	U	0.0569	0.0123	ug/L		03/12/16 07:37	03/15/16 20:19	1
Endosulfan I	0.00474	U	0.0569	0.00474	ug/L		03/12/16 07:37	03/15/16 20:19	1
Endosulfan II	0.00816	U	0.0569	0.00816	ug/L		03/12/16 07:37	03/15/16 20:19	1
Endosulfan sulfate	0.00835	U	0.0569	0.00835	ug/L		03/12/16 07:37	03/15/16 20:19	1
Endrin	0.00730	U	0.0569	0.00730	ug/L		03/12/16 07:37	03/15/16 20:19	1
Endrin aldehyde	0.00474	U	0.0569	0.00474	ug/L		03/12/16 07:37	03/15/16 20:19	1
Endrin ketone	0.00778	U	0.0569	0.00778	ug/L		03/12/16 07:37	03/15/16 20:19	1
gamma-BHC (Lindane)	0.00427	U	0.0569	0.00427	ug/L		03/12/16 07:37	03/15/16 20:19	1
gamma-Chlordane	0.00636	U	0.0569	0.00636	ug/L		03/12/16 07:37	03/15/16 20:19	1
Heptachlor	0.00617	U	0.0569	0.00617	ug/L		03/12/16 07:37	03/15/16 20:19	1
Heptachlor epoxide	0.00493	U	0.0569	0.00493	ug/L		03/12/16 07:37	03/15/16 20:19	1
Methoxychlor	0.00949	U	0.0569	0.00949	ug/L		03/12/16 07:37	03/15/16 20:19	1
Toxaphene	0.645	U	5.69	0.645	ug/L		03/12/16 07:37	03/15/16 20:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	46		10 - 152	03/12/16 07:37	03/15/16 20:19	1
Tetrachloro-m-xylene	83		57 - 127	03/12/16 07:37	03/15/16 20:19	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.569	0.104	ug/L		03/12/16 07:37	03/15/16 17:00	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 TRAIL**

**Lab Sample ID: 560-60183-18**

**Date Collected: 03/09/16 18:14**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1221	0.104	U	0.569	0.104	ug/L		03/12/16 07:37	03/15/16 17:00	1
Aroclor 1232	0.417	U	0.759	0.417	ug/L		03/12/16 07:37	03/15/16 17:00	1
Aroclor 1242	0.104	U	0.569	0.104	ug/L		03/12/16 07:37	03/15/16 17:00	1
Aroclor 1248	0.104	U	0.569	0.104	ug/L		03/12/16 07:37	03/15/16 17:00	1
Aroclor 1254	0.104	U	0.569	0.104	ug/L		03/12/16 07:37	03/15/16 17:00	1
Aroclor 1260	0.104	U	0.569	0.104	ug/L		03/12/16 07:37	03/15/16 17:00	1
Aroclor 1262	0.104	U	0.569	0.104	ug/L		03/12/16 07:37	03/15/16 17:00	1
Aroclor 1268	0.104	U	0.569	0.104	ug/L		03/12/16 07:37	03/15/16 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	131		10 - 150	03/12/16 07:37	03/15/16 17:00	1
DCB Decachlorobiphenyl	93		10 - 150	03/12/16 07:37	03/15/16 17:00	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.173	U	2.57	0.173	ug/L		03/11/16 19:29	03/19/16 09:22	1
Bolstar	0.323	U	1.03	0.323	ug/L		03/11/16 19:29	03/19/16 09:22	1
Chlorpyrifos	0.370	U	1.54	0.370	ug/L		03/11/16 19:29	03/19/16 09:22	1
Coumaphos	0.139	U	1.03	0.139	ug/L		03/11/16 19:29	03/19/16 09:22	1
Demeton-O	0.144	U	1.03	0.144	ug/L		03/11/16 19:29	03/19/16 09:22	1
Demeton-S	0.0709	U	2.05	0.0709	ug/L		03/11/16 19:29	03/19/16 09:22	1
Diazinon	0.151	U	0.514	0.151	ug/L		03/11/16 19:29	03/19/16 09:22	1
Dichlorvos	0.166	U	0.514	0.166	ug/L		03/11/16 19:29	03/19/16 09:22	1
Dimethoate	0.461	U	1.54	0.461	ug/L		03/11/16 19:29	03/19/16 09:22	1
Disulfoton	0.331	U	1.03	0.331	ug/L		03/11/16 19:29	03/19/16 09:22	1
EPN	0.153	U	1.23	0.153	ug/L		03/11/16 19:29	03/19/16 09:22	1
Ethoprop	0.182	U	1.54	0.182	ug/L		03/11/16 19:29	03/19/16 09:22	1
Ethyl Parathion	0.148	U	1.03	0.148	ug/L		03/11/16 19:29	03/19/16 09:22	1
Famphur	0.184	U	1.03	0.184	ug/L		03/11/16 19:29	03/19/16 09:22	1
Fensulfothion	0.559	U	2.57	0.559	ug/L		03/11/16 19:29	03/19/16 09:22	1
Fenthion	0.158	U	2.57	0.158	ug/L		03/11/16 19:29	03/19/16 09:22	1
Malathion	0.137	U	2.05	0.137	ug/L		03/11/16 19:29	03/19/16 09:22	1
Merphos	0.179	U	5.14	0.179	ug/L		03/11/16 19:29	03/19/16 09:22	1
Methyl parathion	0.145	U	4.11	0.145	ug/L		03/11/16 19:29	03/19/16 09:22	1
Mevinphos	0.473	U	6.37	0.473	ug/L		03/11/16 19:29	03/19/16 09:22	1
Naled	0.822	U	2.05	0.822	ug/L		03/11/16 19:29	03/19/16 09:22	1
Phorate	0.158	U	1.23	0.158	ug/L		03/11/16 19:29	03/19/16 09:22	1
Ronnel	0.119	U	10.3	0.119	ug/L		03/11/16 19:29	03/19/16 09:22	1
Sulfotepp	0.173	U	1.54	0.173	ug/L		03/11/16 19:29	03/19/16 09:22	1
Tetrachlorvinphos (Stirophos)	0.127	U	3.60	0.127	ug/L		03/11/16 19:29	03/19/16 09:22	1
Thionazin	0.321	U	1.03	0.321	ug/L		03/11/16 19:29	03/19/16 09:22	1
Tokuthion	0.126	U	1.64	0.126	ug/L		03/11/16 19:29	03/19/16 09:22	1
Trichloronate	0.249	U	1.54	0.249	ug/L		03/11/16 19:29	03/19/16 09:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	62		49 - 171	03/11/16 19:29	03/19/16 09:22	1
Triphenylphosphate	88		60 - 154	03/11/16 19:29	03/19/16 09:22	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 TRAIL**

**Lab Sample ID: 560-60183-18**

**Date Collected: 03/09/16 18:14**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.108	U	5.41	0.108	ug/L	-	03/15/16 08:29	03/16/16 23:58	1
Dicamba	0.0920	U	0.541	0.0920	ug/L	-	03/15/16 08:29	03/16/16 23:58	1
Mecoprop	20.6	U	130	20.6	ug/L	-	03/15/16 08:29	03/16/16 23:58	1
MCPA	18.4	U	130	18.4	ug/L	-	03/15/16 08:29	03/16/16 23:58	1
Dichlorprop	0.162	U	0.541	0.162	ug/L	-	03/15/16 08:29	03/16/16 23:58	1
2,4-D	0.0401	U	0.541	0.0401	ug/L	-	03/15/16 08:29	03/16/16 23:58	1
Silvex (2,4,5-TP)	0.0671	U	0.271	0.0671	ug/L	-	03/15/16 08:29	03/16/16 23:58	1
2,4,5-T	0.0671	U	0.271	0.0671	ug/L	-	03/15/16 08:29	03/16/16 23:58	1
2,4-DB	0.162	U	0.541	0.162	ug/L	-	03/15/16 08:29	03/16/16 23:58	1
Dinoseb	0.173	U	1.08	0.173	ug/L	-	03/15/16 08:29	03/16/16 23:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	88		45 - 130	03/15/16 08:29	03/16/16 23:58	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	64.0		0.200	0.101	mg/L	-	03/11/16 10:00	03/11/16 16:47	1
Magnesium	9.28		0.200	0.0257	mg/L	-	03/11/16 10:00	03/11/16 16:47	1
Potassium	1.58		0.500	0.375	mg/L	-	03/11/16 10:00	03/11/16 16:47	1
Silicon	3.88		0.500	0.0707	mg/L	-	03/11/16 10:00	03/11/16 16:47	1
Sodium	8.64		1.00	0.310	mg/L	-	03/11/16 10:00	03/11/16 16:47	1
Strontium	0.320		0.00500	0.000700	mg/L	-	03/11/16 10:00	03/11/16 16:47	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	118		100	50.0	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Antimony	1.61	U	5.00	1.61	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Arsenic	1.09	U	5.00	1.09	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Barium	27.4		5.00	0.810	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Beryllium	1.24	U ^	4.00	1.24	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Cadmium	0.854	U	2.00	0.854	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Chromium	1.40	U	5.00	1.40	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Copper	2.00	U	10.0	2.00	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Iron	101	U	250	101	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Lead	0.733	U	5.00	0.733	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Manganese	16.7	J	50.0	11.6	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Nickel	2.17	U	5.00	2.17	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Selenium	1.08	U	5.00	1.08	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Silver	0.941	U	5.00	0.941	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Thallium	0.693	U	2.00	0.693	ug/L	-	03/11/16 10:00	03/11/16 19:49	1
Zinc	5.68	J	25.0	3.55	ug/L	-	03/11/16 10:00	03/11/16 19:49	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/16/16 10:00	03/16/16 16:34	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.521	J	1.00	0.315	mg/L	-		03/11/16 05:35	1
Chloride	13.3		1.00	0.192	mg/L	-		03/11/16 05:35	1
Nitrate as N	1.21		0.500	0.103	mg/L	-		03/11/16 05:35	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM230 TRAIL**

**Lab Sample ID: 560-60183-18**

**Date Collected: 03/09/16 18:14**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	23.1		1.00	0.377	mg/L			03/11/16 05:35	1
Fluoride	0.158		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/16/16 12:13	1
Phosphorus	0.0811	J	0.100	0.0410	mg/L		03/22/16 09:37	03/23/16 12:46	1
Total Organic Carbon	2.06		1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.15	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	180		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	180		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	257		10.0	10.0	mg/L			03/15/16 10:15	1
Total Suspended Solids	14.0		3.00	3.00	mg/L			03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.85		1.00	0.285	mg/L			03/21/16 12:00	1

**Client Sample ID: FDHSM230 TRAIL**

**Lab Sample ID: 560-60183-19**

**Date Collected: 03/09/16 18:14**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/14/16 15:52	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/14/16 15:52	1
Benzene	0.330	U	1.00	0.330	ug/L			03/14/16 15:52	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/14/16 15:52	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/14/16 15:52	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/14/16 15:52	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/14/16 15:52	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/14/16 15:52	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/14/16 15:52	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/14/16 15:52	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/14/16 15:52	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/14/16 15:52	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/14/16 15:52	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/14/16 15:52	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/14/16 15:52	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/14/16 15:52	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/14/16 15:52	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/14/16 15:52	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/14/16 15:52	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/14/16 15:52	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/14/16 15:52	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/14/16 15:52	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/14/16 15:52	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/14/16 15:52	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/14/16 15:52	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/14/16 15:52	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/14/16 15:52	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM230 TRAIL**

**Lab Sample ID: 560-60183-19**

**Date Collected: 03/09/16 18:14**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/14/16 15:52	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/14/16 15:52	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/14/16 15:52	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/14/16 15:52	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/14/16 15:52	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/14/16 15:52	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/14/16 15:52	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/14/16 15:52	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/14/16 15:52	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/14/16 15:52	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/14/16 15:52	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/14/16 15:52	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/14/16 15:52	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/14/16 15:52	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/14/16 15:52	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/14/16 15:52	1
EDB	0.175	U	1.00	0.175	ug/L			03/14/16 15:52	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/14/16 15:52	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/14/16 15:52	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/14/16 15:52	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/14/16 15:52	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/14/16 15:52	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/14/16 15:52	1
Hexane	2.00	U	5.00	2.00	ug/L			03/14/16 15:52	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/14/16 15:52	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/14/16 15:52	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/14/16 15:52	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/14/16 15:52	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/14/16 15:52	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/14/16 15:52	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/14/16 15:52	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/14/16 15:52	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/14/16 15:52	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/14/16 15:52	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/14/16 15:52	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/14/16 15:52	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/14/16 15:52	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/14/16 15:52	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/14/16 15:52	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/14/16 15:52	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/14/16 15:52	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/14/16 15:52	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/14/16 15:52	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/14/16 15:52	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/14/16 15:52	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/14/16 15:52	1
Styrene	0.200	U	1.00	0.200	ug/L			03/14/16 15:52	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 15:52	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/14/16 15:52	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM230 TRAIL**

**Lab Sample ID: 560-60183-19**

**Date Collected: 03/09/16 18:14**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/14/16 15:52	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/14/16 15:52	1
Toluene	0.495	U	1.00	0.495	ug/L			03/14/16 15:52	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/14/16 15:52	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/14/16 15:52	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/14/16 15:52	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/14/16 15:52	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/14/16 15:52	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/14/16 15:52	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/14/16 15:52	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/14/16 15:52	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/14/16 15:52	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/14/16 15:52	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/14/16 15:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/14/16 15:52	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 15:52	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 15:52	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/14/16 15:52	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/14/16 15:52	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/14/16 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130		03/14/16 15:52	1
Dibromofluoromethane (Surr)	103		69 - 130		03/14/16 15:52	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		03/14/16 15:52	1
Toluene-d8 (Surr)	101		70 - 130		03/14/16 15:52	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/10/16 15:00	03/11/16 13:35	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/10/16 15:00	03/11/16 13:35	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/10/16 15:00	03/11/16 13:35	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/10/16 15:00	03/11/16 13:35	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/10/16 15:00	03/11/16 13:35	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/10/16 15:00	03/11/16 13:35	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/10/16 15:00	03/11/16 13:35	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/10/16 15:00	03/11/16 13:35	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/10/16 15:00	03/11/16 13:35	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/10/16 15:00	03/11/16 13:35	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/10/16 15:00	03/11/16 13:35	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/10/16 15:00	03/11/16 13:35	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/10/16 15:00	03/11/16 13:35	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/10/16 15:00	03/11/16 13:35	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 13:35	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/10/16 15:00	03/11/16 13:35	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/10/16 15:00	03/11/16 13:35	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/10/16 15:00	03/11/16 13:35	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/10/16 15:00	03/11/16 13:35	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/10/16 15:00	03/11/16 13:35	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/10/16 15:00	03/11/16 13:35	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM230 TRAIL**

**Lab Sample ID: 560-60183-19**

**Date Collected: 03/09/16 18:14**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/10/16 15:00	03/11/16 13:35	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/10/16 15:00	03/11/16 13:35	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/10/16 15:00	03/11/16 13:35	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/10/16 15:00	03/11/16 13:35	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 13:35	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/10/16 15:00	03/11/16 13:35	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/10/16 15:00	03/11/16 13:35	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/10/16 15:00	03/11/16 13:35	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 13:35	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/10/16 15:00	03/11/16 13:35	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/10/16 15:00	03/11/16 13:35	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/10/16 15:00	03/11/16 13:35	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/10/16 15:00	03/11/16 13:35	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/10/16 15:00	03/11/16 13:35	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/10/16 15:00	03/11/16 13:35	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/10/16 15:00	03/11/16 13:35	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/10/16 15:00	03/11/16 13:35	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/10/16 15:00	03/11/16 13:35	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/10/16 15:00	03/11/16 13:35	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/10/16 15:00	03/11/16 13:35	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 13:35	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/10/16 15:00	03/11/16 13:35	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 13:35	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/10/16 15:00	03/11/16 13:35	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/10/16 15:00	03/11/16 13:35	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/10/16 15:00	03/11/16 13:35	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 13:35	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/10/16 15:00	03/11/16 13:35	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/10/16 15:00	03/11/16 13:35	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/10/16 15:00	03/11/16 13:35	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/10/16 15:00	03/11/16 13:35	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/10/16 15:00	03/11/16 13:35	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/10/16 15:00	03/11/16 13:35	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/10/16 15:00	03/11/16 13:35	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/10/16 15:00	03/11/16 13:35	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/10/16 15:00	03/11/16 13:35	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/10/16 15:00	03/11/16 13:35	1
Phenol	0.768	U	10.0	0.768	ug/L		03/10/16 15:00	03/11/16 13:35	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/10/16 15:00	03/11/16 13:35	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/10/16 15:00	03/11/16 13:35	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/10/16 15:00	03/11/16 13:35	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/10/16 15:00	03/11/16 13:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	60		23 - 130	03/10/16 15:00	03/11/16 13:35	1
2-Fluorophenol	57		10 - 130	03/10/16 15:00	03/11/16 13:35	1
Nitrobenzene-d5	58		27 - 130	03/10/16 15:00	03/11/16 13:35	1
Phenol-d5	63		10 - 130	03/10/16 15:00	03/11/16 13:35	1
Terphenyl-d14	37		10 - 141	03/10/16 15:00	03/11/16 13:35	1
2,4,6-Tribromophenol	67		18 - 130	03/10/16 15:00	03/11/16 13:35	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00482	U	0.0579	0.00482	ug/L		03/12/16 07:37	03/15/16 20:44	1
alpha-BHC	0.00501	U	0.0579	0.00501	ug/L		03/12/16 07:37	03/15/16 20:44	1
alpha-Chlordane	0.00607	U	0.0579	0.00607	ug/L		03/12/16 07:37	03/15/16 20:44	1
beta-BHC	0.00482	U	0.0579	0.00482	ug/L		03/12/16 07:37	03/15/16 20:44	1
4,4'-DDD	0.00482	U	0.0579	0.00482	ug/L		03/12/16 07:37	03/15/16 20:44	1
4,4'-DDE	0.00482	U	0.0579	0.00482	ug/L		03/12/16 07:37	03/15/16 20:44	1
4,4'-DDT	0.00781	U	0.0579	0.00781	ug/L		03/12/16 07:37	03/15/16 20:44	1
delta-BHC	0.00482	U	0.0579	0.00482	ug/L		03/12/16 07:37	03/15/16 20:44	1
Dieldrin	0.0125	U	0.0579	0.0125	ug/L		03/12/16 07:37	03/15/16 20:44	1
Endosulfan I	0.00482	U	0.0579	0.00482	ug/L		03/12/16 07:37	03/15/16 20:44	1
Endosulfan II	0.00829	U	0.0579	0.00829	ug/L		03/12/16 07:37	03/15/16 20:44	1
Endosulfan sulfate	0.00848	U	0.0579	0.00848	ug/L		03/12/16 07:37	03/15/16 20:44	1
Endrin	0.00742	U	0.0579	0.00742	ug/L		03/12/16 07:37	03/15/16 20:44	1
Endrin aldehyde	0.00482	U	0.0579	0.00482	ug/L		03/12/16 07:37	03/15/16 20:44	1
Endrin ketone	0.00791	U	0.0579	0.00791	ug/L		03/12/16 07:37	03/15/16 20:44	1
gamma-BHC (Lindane)	0.00434	U	0.0579	0.00434	ug/L		03/12/16 07:37	03/15/16 20:44	1
gamma-Chlordane	0.00646	U	0.0579	0.00646	ug/L		03/12/16 07:37	03/15/16 20:44	1
Heptachlor	0.00627	U	0.0579	0.00627	ug/L		03/12/16 07:37	03/15/16 20:44	1
Heptachlor epoxide	0.00501	U	0.0579	0.00501	ug/L		03/12/16 07:37	03/15/16 20:44	1
Methoxychlor	0.00964	U	0.0579	0.00964	ug/L		03/12/16 07:37	03/15/16 20:44	1
Toxaphene	0.656	U	5.79	0.656	ug/L		03/12/16 07:37	03/15/16 20:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	42		10 - 152	03/12/16 07:37	03/15/16 20:44	1
Tetrachloro-m-xylene	84		57 - 127	03/12/16 07:37	03/15/16 20:44	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.579	0.106	ug/L		03/12/16 07:37	03/15/16 17:17	1
Aroclor 1221	0.106	U	0.579	0.106	ug/L		03/12/16 07:37	03/15/16 17:17	1
Aroclor 1232	0.424	U	0.771	0.424	ug/L		03/12/16 07:37	03/15/16 17:17	1
Aroclor 1242	0.106	U	0.579	0.106	ug/L		03/12/16 07:37	03/15/16 17:17	1
Aroclor 1248	0.106	U	0.579	0.106	ug/L		03/12/16 07:37	03/15/16 17:17	1
Aroclor 1254	0.106	U	0.579	0.106	ug/L		03/12/16 07:37	03/15/16 17:17	1
Aroclor 1260	0.106	U	0.579	0.106	ug/L		03/12/16 07:37	03/15/16 17:17	1
Aroclor 1262	0.106	U	0.579	0.106	ug/L		03/12/16 07:37	03/15/16 17:17	1
Aroclor 1268	0.106	U	0.579	0.106	ug/L		03/12/16 07:37	03/15/16 17:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	131		10 - 150	03/12/16 07:37	03/15/16 17:17	1
DCB Decachlorobiphenyl	88		10 - 150	03/12/16 07:37	03/15/16 17:17	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.176	U	2.62	0.176	ug/L		03/11/16 19:29	03/19/16 09:53	1
Bolstar	0.329	U	1.05	0.329	ug/L		03/11/16 19:29	03/19/16 09:53	1
Chlorpyrifos	0.377	U	1.57	0.377	ug/L		03/11/16 19:29	03/19/16 09:53	1
Coumaphos	0.141	U	1.05	0.141	ug/L		03/11/16 19:29	03/19/16 09:53	1
Demeton-O	0.147	U	1.05	0.147	ug/L		03/11/16 19:29	03/19/16 09:53	1
Demeton-S	0.0723	U	2.09	0.0723	ug/L		03/11/16 19:29	03/19/16 09:53	1
Diazinon	0.154	U	0.524	0.154	ug/L		03/11/16 19:29	03/19/16 09:53	1
Dichlorvos	0.170	U	0.524	0.170	ug/L		03/11/16 19:29	03/19/16 09:53	1
Dimethoate	0.470	U	1.57	0.470	ug/L		03/11/16 19:29	03/19/16 09:53	1
Disulfoton	0.337	U	1.05	0.337	ug/L		03/11/16 19:29	03/19/16 09:53	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM230 TRAIL**

**Lab Sample ID: 560-60183-19**

**Date Collected: 03/09/16 18:14**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
EPN	0.156	U	1.26	0.156	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Ethoprop	0.185	U	1.57	0.185	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Ethyl Parathion	0.151	U	1.05	0.151	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Famphur	0.187	U	1.05	0.187	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Fensulfothion	0.570	U	2.62	0.570	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Fenthion	0.161	U	2.62	0.161	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Malathion	0.139	U	2.09	0.139	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Merphos	0.182	U	5.24	0.182	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Methyl parathion	0.148	U	4.19	0.148	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Mevinphos	0.482	U	6.49	0.482	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Naled	0.838	U	2.09	0.838	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Phorate	0.161	U	1.26	0.161	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Ronnel	0.121	U	10.5	0.121	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Sulfotepp	0.176	U	1.57	0.176	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Tetrachlorvinphos (Stirophos)	0.130	U	3.66	0.130	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Thionazin	0.327	U	1.05	0.327	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Tokuthion	0.129	U	1.68	0.129	ug/L	-	03/11/16 19:29	03/19/16 09:53	1
Trichloronate	0.253	U	1.57	0.253	ug/L	-	03/11/16 19:29	03/19/16 09:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	69		49 - 171	03/11/16 19:29	03/19/16 09:53	1
Triphenylphosphate	89		60 - 154	03/11/16 19:29	03/19/16 09:53	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.105	U	5.23	0.105	ug/L	-	03/15/16 08:29	03/17/16 00:17	1
Dicamba	0.0889	U	0.523	0.0889	ug/L	-	03/15/16 08:29	03/17/16 00:17	1
Mecoprop	19.9	U	125	19.9	ug/L	-	03/15/16 08:29	03/17/16 00:17	1
MCPA	17.8	U	125	17.8	ug/L	-	03/15/16 08:29	03/17/16 00:17	1
Dichlorprop	0.157	U	0.523	0.157	ug/L	-	03/15/16 08:29	03/17/16 00:17	1
2,4-D	0.0387	U	0.523	0.0387	ug/L	-	03/15/16 08:29	03/17/16 00:17	1
Silvex (2,4,5-TP)	0.0648	U	0.261	0.0648	ug/L	-	03/15/16 08:29	03/17/16 00:17	1
2,4,5-T	0.0648	U	0.261	0.0648	ug/L	-	03/15/16 08:29	03/17/16 00:17	1
2,4-DB	0.157	U	0.523	0.157	ug/L	-	03/15/16 08:29	03/17/16 00:17	1
Dinoseb	0.167	U	1.05	0.167	ug/L	-	03/15/16 08:29	03/17/16 00:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	81		45 - 130	03/15/16 08:29	03/17/16 00:17	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	62.8		0.200	0.101	mg/L	-	03/11/16 10:00	03/11/16 16:59	1
Magnesium	9.19		0.200	0.0257	mg/L	-	03/11/16 10:00	03/11/16 16:59	1
Potassium	1.55		0.500	0.375	mg/L	-	03/11/16 10:00	03/11/16 16:59	1
Silicon	3.63		0.500	0.0707	mg/L	-	03/11/16 10:00	03/11/16 16:59	1
Sodium	8.71		1.00	0.310	mg/L	-	03/11/16 10:00	03/11/16 16:59	1
Strontium	0.315		0.00500	0.000700	mg/L	-	03/11/16 10:00	03/11/16 16:59	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L	-	03/11/16 10:00	03/11/16 19:54	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM230 TRAIL**

**Lab Sample ID: 560-60183-19**

**Date Collected: 03/09/16 18:14**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 19:54	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 19:54	1
<b>Barium</b>	<b>25.8</b>		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 19:54	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 19:54	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 19:54	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 19:54	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 19:54	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 19:54	1
Lead	0.733	U	5.00	0.733	ug/L		03/11/16 10:00	03/11/16 19:54	1
<b>Manganese</b>	<b>15.2</b>	<b>J</b>	50.0	11.6	ug/L		03/11/16 10:00	03/11/16 19:54	1
Nickel	2.17	U	5.00	2.17	ug/L		03/11/16 10:00	03/11/16 19:54	1
<b>Selenium</b>	<b>1.26</b>	<b>J B</b>	5.00	1.08	ug/L		03/11/16 10:00	03/11/16 19:54	1
Silver	0.941	U	5.00	0.941	ug/L		03/11/16 10:00	03/11/16 19:54	1
Thallium	0.693	U	2.00	0.693	ug/L		03/11/16 10:00	03/11/16 19:54	1
<b>Zinc</b>	<b>4.98</b>	<b>J</b>	25.0	3.55	ug/L		03/11/16 10:00	03/11/16 19:54	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/16/16 10:00	03/16/16 16:36	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>0.521</b>	<b>J</b>	1.00	0.315	mg/L			03/11/16 06:01	1
<b>Chloride</b>	<b>13.2</b>		1.00	0.192	mg/L			03/11/16 06:01	1
<b>Nitrate as N</b>	<b>1.20</b>		0.500	0.103	mg/L			03/11/16 06:01	1
<b>Sulfate</b>	<b>23.0</b>		1.00	0.377	mg/L			03/11/16 06:01	1
<b>Fluoride</b>	<b>0.163</b>		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/16/16 12:15	1
<b>Phosphorus</b>	<b>0.0913</b>	<b>J</b>	0.100	0.0410	mg/L		03/22/16 09:37	03/23/16 12:43	1
<b>Total Organic Carbon</b>	<b>2.19</b>		1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.13</b>	<b>HF</b>	0.100	0.100	SU			03/10/16 15:11	1
<b>Total Alkalinity as CaCO3</b>	<b>177</b>		5.00	5.00	mg/L			03/22/16 14:05	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>177</b>		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
<b>Total Dissolved Solids</b>	<b>249</b>		10.0	10.0	mg/L			03/15/16 10:15	1
<b>Total Suspended Solids</b>	<b>14.8</b>		3.00	3.00	mg/L			03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Dissolved Organic Carbon</b>	<b>1.92</b>		1.00	0.285	mg/L			03/21/16 12:00	1

**Client Sample ID: HSM231 TRAIL**

**Lab Sample ID: 560-60183-20**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/14/16 16:17	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/14/16 16:17	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 TRAIL**

**Lab Sample ID: 560-60183-20**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.330	U	1.00	0.330	ug/L			03/14/16 16:17	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/14/16 16:17	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/14/16 16:17	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/14/16 16:17	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/14/16 16:17	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/14/16 16:17	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/14/16 16:17	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/14/16 16:17	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/14/16 16:17	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/14/16 16:17	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/14/16 16:17	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/14/16 16:17	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/14/16 16:17	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/14/16 16:17	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/14/16 16:17	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/14/16 16:17	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/14/16 16:17	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/14/16 16:17	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/14/16 16:17	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/14/16 16:17	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/14/16 16:17	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/14/16 16:17	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/14/16 16:17	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/14/16 16:17	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/14/16 16:17	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/14/16 16:17	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/14/16 16:17	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/14/16 16:17	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/14/16 16:17	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/14/16 16:17	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/14/16 16:17	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/14/16 16:17	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/14/16 16:17	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/14/16 16:17	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/14/16 16:17	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/14/16 16:17	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/14/16 16:17	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/14/16 16:17	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/14/16 16:17	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/14/16 16:17	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/14/16 16:17	1
EDB	0.175	U	1.00	0.175	ug/L			03/14/16 16:17	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/14/16 16:17	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/14/16 16:17	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/14/16 16:17	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/14/16 16:17	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/14/16 16:17	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/14/16 16:17	1
Hexane	2.00	U	5.00	2.00	ug/L			03/14/16 16:17	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 TRAIL**

**Lab Sample ID: 560-60183-20**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/14/16 16:17	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/14/16 16:17	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/14/16 16:17	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/14/16 16:17	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/14/16 16:17	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/14/16 16:17	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/14/16 16:17	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/14/16 16:17	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/14/16 16:17	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/14/16 16:17	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/14/16 16:17	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/14/16 16:17	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/14/16 16:17	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/14/16 16:17	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/14/16 16:17	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/14/16 16:17	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/14/16 16:17	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/14/16 16:17	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/14/16 16:17	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/14/16 16:17	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/14/16 16:17	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/14/16 16:17	1
Styrene	0.200	U	1.00	0.200	ug/L			03/14/16 16:17	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 16:17	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/14/16 16:17	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/14/16 16:17	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/14/16 16:17	1
Toluene	0.495	U	1.00	0.495	ug/L			03/14/16 16:17	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/14/16 16:17	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/14/16 16:17	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/14/16 16:17	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/14/16 16:17	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/14/16 16:17	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/14/16 16:17	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/14/16 16:17	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/14/16 16:17	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/14/16 16:17	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/14/16 16:17	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/14/16 16:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/14/16 16:17	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 16:17	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 16:17	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/14/16 16:17	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/14/16 16:17	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/14/16 16:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		03/14/16 16:17	1
Dibromofluoromethane (Surr)	105		69 - 130		03/14/16 16:17	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		03/14/16 16:17	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 TRAIL**

**Lab Sample ID: 560-60183-20**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		03/14/16 16:17	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/11/16 14:32	03/14/16 10:03	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/11/16 14:32	03/14/16 10:03	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/11/16 14:32	03/14/16 10:03	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/11/16 14:32	03/14/16 10:03	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/11/16 14:32	03/14/16 10:03	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/11/16 14:32	03/14/16 10:03	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/11/16 14:32	03/14/16 10:03	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/11/16 14:32	03/14/16 10:03	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/11/16 14:32	03/14/16 10:03	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/11/16 14:32	03/14/16 10:03	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/11/16 14:32	03/14/16 10:03	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/11/16 14:32	03/14/16 10:03	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/11/16 14:32	03/14/16 10:03	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/11/16 14:32	03/14/16 10:03	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 10:03	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/11/16 14:32	03/14/16 10:03	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/11/16 14:32	03/14/16 10:03	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/11/16 14:32	03/14/16 10:03	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/11/16 14:32	03/14/16 10:03	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/11/16 14:32	03/14/16 10:03	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/11/16 14:32	03/14/16 10:03	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/11/16 14:32	03/14/16 10:03	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/11/16 14:32	03/14/16 10:03	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/11/16 14:32	03/14/16 10:03	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/11/16 14:32	03/14/16 10:03	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 10:03	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/11/16 14:32	03/14/16 10:03	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/11/16 14:32	03/14/16 10:03	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/11/16 14:32	03/14/16 10:03	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 10:03	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/11/16 14:32	03/14/16 10:03	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/11/16 14:32	03/14/16 10:03	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/11/16 14:32	03/14/16 10:03	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/11/16 14:32	03/14/16 10:03	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/11/16 14:32	03/14/16 10:03	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/11/16 14:32	03/14/16 10:03	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/11/16 14:32	03/14/16 10:03	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/11/16 14:32	03/14/16 10:03	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/11/16 14:32	03/14/16 10:03	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/11/16 14:32	03/14/16 10:03	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/11/16 14:32	03/14/16 10:03	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 10:03	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/11/16 14:32	03/14/16 10:03	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 10:03	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/11/16 14:32	03/14/16 10:03	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 TRAIL**

**Lab Sample ID: 560-60183-20**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/11/16 14:32	03/14/16 10:03	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/11/16 14:32	03/14/16 10:03	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 10:03	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/11/16 14:32	03/14/16 10:03	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/11/16 14:32	03/14/16 10:03	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/11/16 14:32	03/14/16 10:03	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/11/16 14:32	03/14/16 10:03	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/11/16 14:32	03/14/16 10:03	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/11/16 14:32	03/14/16 10:03	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/11/16 14:32	03/14/16 10:03	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/11/16 14:32	03/14/16 10:03	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/11/16 14:32	03/14/16 10:03	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/11/16 14:32	03/14/16 10:03	1
Phenol	0.768	U	10.0	0.768	ug/L		03/11/16 14:32	03/14/16 10:03	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/11/16 14:32	03/14/16 10:03	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/11/16 14:32	03/14/16 10:03	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/11/16 14:32	03/14/16 10:03	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/11/16 14:32	03/14/16 10:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		23 - 130	03/11/16 14:32	03/14/16 10:03	1
2-Fluorophenol	63		10 - 130	03/11/16 14:32	03/14/16 10:03	1
Nitrobenzene-d5	63		27 - 130	03/11/16 14:32	03/14/16 10:03	1
Phenol-d5	68		10 - 130	03/11/16 14:32	03/14/16 10:03	1
Terphenyl-d14	76		10 - 141	03/11/16 14:32	03/14/16 10:03	1
2,4,6-Tribromophenol	70		18 - 130	03/11/16 14:32	03/14/16 10:03	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 21:09	1
alpha-BHC	0.00500	U	0.0577	0.00500	ug/L		03/12/16 07:37	03/15/16 21:09	1
alpha-Chlordane	0.00606	U	0.0577	0.00606	ug/L		03/12/16 07:37	03/15/16 21:09	1
beta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 21:09	1
4,4'-DDD	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 21:09	1
4,4'-DDE	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 21:09	1
4,4'-DDT	0.00779	U	0.0577	0.00779	ug/L		03/12/16 07:37	03/15/16 21:09	1
delta-BHC	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 21:09	1
Dieldrin	0.0125	U	0.0577	0.0125	ug/L		03/12/16 07:37	03/15/16 21:09	1
Endosulfan I	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 21:09	1
Endosulfan II	0.00827	U	0.0577	0.00827	ug/L		03/12/16 07:37	03/15/16 21:09	1
Endosulfan sulfate	0.00846	U	0.0577	0.00846	ug/L		03/12/16 07:37	03/15/16 21:09	1
Endrin	0.00740	U	0.0577	0.00740	ug/L		03/12/16 07:37	03/15/16 21:09	1
Endrin aldehyde	0.00481	U	0.0577	0.00481	ug/L		03/12/16 07:37	03/15/16 21:09	1
Endrin ketone	0.00788	U	0.0577	0.00788	ug/L		03/12/16 07:37	03/15/16 21:09	1
gamma-BHC (Lindane)	0.00433	U	0.0577	0.00433	ug/L		03/12/16 07:37	03/15/16 21:09	1
gamma-Chlordane	0.00644	U	0.0577	0.00644	ug/L		03/12/16 07:37	03/15/16 21:09	1
Heptachlor	0.00625	U	0.0577	0.00625	ug/L		03/12/16 07:37	03/15/16 21:09	1
Heptachlor epoxide	0.00500	U	0.0577	0.00500	ug/L		03/12/16 07:37	03/15/16 21:09	1
Methoxychlor	0.00962	U	0.0577	0.00962	ug/L		03/12/16 07:37	03/15/16 21:09	1
Toxaphene	0.654	U	5.77	0.654	ug/L		03/12/16 07:37	03/15/16 21:09	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 TRAIL**

**Lab Sample ID: 560-60183-20**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	54		10 - 152	03/12/16 07:37	03/15/16 21:09	1
Tetrachloro-m-xylene	82		57 - 127	03/12/16 07:37	03/15/16 21:09	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 17:35	1
Aroclor 1221	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 17:35	1
Aroclor 1232	0.423	U	0.769	0.423	ug/L		03/12/16 07:37	03/15/16 17:35	1
Aroclor 1242	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 17:35	1
Aroclor 1248	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 17:35	1
Aroclor 1254	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 17:35	1
Aroclor 1260	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 17:35	1
Aroclor 1262	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 17:35	1
Aroclor 1268	0.106	U	0.577	0.106	ug/L		03/12/16 07:37	03/15/16 17:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	137		10 - 150	03/12/16 07:37	03/15/16 17:35	1
DCB Decachlorobiphenyl	117		10 - 150	03/12/16 07:37	03/15/16 17:35	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.171	U	2.55	0.171	ug/L		03/11/16 19:29	03/19/16 11:27	1
Bolstar	0.320	U	1.02	0.320	ug/L		03/11/16 19:29	03/19/16 11:27	1
Chlorpyrifos	0.367	U	1.53	0.367	ug/L		03/11/16 19:29	03/19/16 11:27	1
Coumaphos	0.138	U	1.02	0.138	ug/L		03/11/16 19:29	03/19/16 11:27	1
Demeton-O	0.143	U	1.02	0.143	ug/L		03/11/16 19:29	03/19/16 11:27	1
Demeton-S	0.0703	U	2.04	0.0703	ug/L		03/11/16 19:29	03/19/16 11:27	1
Diazinon	0.150	U	0.510	0.150	ug/L		03/11/16 19:29	03/19/16 11:27	1
Dichlorvos	0.165	U	0.510	0.165	ug/L		03/11/16 19:29	03/19/16 11:27	1
Dimethoate	0.458	U	1.53	0.458	ug/L		03/11/16 19:29	03/19/16 11:27	1
Disulfoton	0.328	U	1.02	0.328	ug/L		03/11/16 19:29	03/19/16 11:27	1
EPN	0.152	U	1.22	0.152	ug/L		03/11/16 19:29	03/19/16 11:27	1
Ethoprop	0.180	U	1.53	0.180	ug/L		03/11/16 19:29	03/19/16 11:27	1
Ethyl Parathion	0.147	U	1.02	0.147	ug/L		03/11/16 19:29	03/19/16 11:27	1
Famphur	0.182	U	1.02	0.182	ug/L		03/11/16 19:29	03/19/16 11:27	1
Fensulfothion	0.554	U	2.55	0.554	ug/L		03/11/16 19:29	03/19/16 11:27	1
Fenthion	0.157	U	2.55	0.157	ug/L		03/11/16 19:29	03/19/16 11:27	1
Malathion	0.136	U	2.04	0.136	ug/L		03/11/16 19:29	03/19/16 11:27	1
Merphos	0.177	U	5.10	0.177	ug/L		03/11/16 19:29	03/19/16 11:27	1
Methyl parathion	0.144	U	4.08	0.144	ug/L		03/11/16 19:29	03/19/16 11:27	1
Mevinphos	0.469	U	6.32	0.469	ug/L		03/11/16 19:29	03/19/16 11:27	1
Naled	0.815	U	2.04	0.815	ug/L		03/11/16 19:29	03/19/16 11:27	1
Phorate	0.157	U	1.22	0.157	ug/L		03/11/16 19:29	03/19/16 11:27	1
Ronnel	0.118	U	10.2	0.118	ug/L		03/11/16 19:29	03/19/16 11:27	1
Sulfotepp	0.171	U	1.53	0.171	ug/L		03/11/16 19:29	03/19/16 11:27	1
Tetrachlorvinphos (Stirophos)	0.126	U	3.57	0.126	ug/L		03/11/16 19:29	03/19/16 11:27	1
Thionazin	0.318	U	1.02	0.318	ug/L		03/11/16 19:29	03/19/16 11:27	1
Tokuthion	0.125	U	1.63	0.125	ug/L		03/11/16 19:29	03/19/16 11:27	1
Trichloronate	0.247	U	1.53	0.247	ug/L		03/11/16 19:29	03/19/16 11:27	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 TRAIL**

**Lab Sample ID: 560-60183-20**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	67		49 - 171	03/11/16 19:29	03/19/16 11:27	1
Triphenylphosphate	86		60 - 154	03/11/16 19:29	03/19/16 11:27	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.105	U	5.25	0.105	ug/L		03/15/16 08:29	03/17/16 00:37	1
Dicamba	0.0893	U	0.525	0.0893	ug/L		03/15/16 08:29	03/17/16 00:37	1
Mecoprop	20.0	U	126	20.0	ug/L		03/15/16 08:29	03/17/16 00:37	1
MCPA	17.9	U	126	17.9	ug/L		03/15/16 08:29	03/17/16 00:37	1
Dichlorprop	0.158	U	0.525	0.158	ug/L		03/15/16 08:29	03/17/16 00:37	1
2,4-D	0.0389	U	0.525	0.0389	ug/L		03/15/16 08:29	03/17/16 00:37	1
Silvex (2,4,5-TP)	0.0651	U	0.263	0.0651	ug/L		03/15/16 08:29	03/17/16 00:37	1
2,4,5-T	0.0651	U	0.263	0.0651	ug/L		03/15/16 08:29	03/17/16 00:37	1
2,4-DB	0.158	U	0.525	0.158	ug/L		03/15/16 08:29	03/17/16 00:37	1
Dinoseb	0.168	U	1.05	0.168	ug/L		03/15/16 08:29	03/17/16 00:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	86		45 - 130				03/15/16 08:29	03/17/16 00:37	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	90.6		0.200	0.101	mg/L		03/11/16 10:00	03/11/16 17:03	1
Magnesium	17.2		0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 17:03	1
Potassium	1.16		0.500	0.375	mg/L		03/11/16 10:00	03/11/16 17:03	1
Silicon	5.13		0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 17:03	1
Sodium	12.3		1.00	0.310	mg/L		03/11/16 10:00	03/11/16 17:03	1
Strontium	0.552		0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 17:03	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/11/16 10:00	03/11/16 19:59	1
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 19:59	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 19:59	1
Barium	34.4		5.00	0.810	ug/L		03/11/16 10:00	03/11/16 19:59	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 19:59	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 19:59	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 19:59	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 19:59	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 19:59	1
Lead	0.733	U	5.00	0.733	ug/L		03/11/16 10:00	03/11/16 19:59	1
Manganese	11.6	U	50.0	11.6	ug/L		03/11/16 10:00	03/11/16 19:59	1
Nickel	2.17	U	5.00	2.17	ug/L		03/11/16 10:00	03/11/16 19:59	1
Selenium	1.08	U	5.00	1.08	ug/L		03/11/16 10:00	03/11/16 19:59	1
Silver	0.941	U	5.00	0.941	ug/L		03/11/16 10:00	03/11/16 19:59	1
Thallium	0.693	U	2.00	0.693	ug/L		03/11/16 10:00	03/11/16 19:59	1
Zinc	3.55	U	25.0	3.55	ug/L		03/11/16 10:00	03/11/16 19:59	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/16/16 10:00	03/16/16 16:42	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM231 TRAIL**

**Lab Sample ID: 560-60183-20**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.547	J	1.00	0.315	mg/L			03/11/16 06:27	1
Chloride	18.0		1.00	0.192	mg/L			03/11/16 06:27	1
Nitrate as N	1.26		0.500	0.103	mg/L			03/11/16 06:27	1
Sulfate	24.6		1.00	0.377	mg/L			03/11/16 06:27	1
Fluoride	0.183		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/17/16 12:06	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/22/16 09:37	03/23/16 12:36	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.20	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	237		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	237		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	347		10.0	10.0	mg/L			03/15/16 10:15	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/21/16 12:00	1

**Client Sample ID: FDHSM231 TRAIL**

**Lab Sample ID: 560-60183-21**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.61	J	10.0	5.00	ug/L			03/14/16 16:43	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/14/16 16:43	1
Benzene	0.330	U	1.00	0.330	ug/L			03/14/16 16:43	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/14/16 16:43	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/14/16 16:43	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/14/16 16:43	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/14/16 16:43	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/14/16 16:43	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/14/16 16:43	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/14/16 16:43	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/14/16 16:43	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/14/16 16:43	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/14/16 16:43	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/14/16 16:43	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/14/16 16:43	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/14/16 16:43	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/14/16 16:43	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/14/16 16:43	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/14/16 16:43	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/14/16 16:43	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/14/16 16:43	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/14/16 16:43	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/14/16 16:43	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/14/16 16:43	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM231 TRAIL**

**Lab Sample ID: 560-60183-21**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/14/16 16:43	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/14/16 16:43	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/14/16 16:43	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/14/16 16:43	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/14/16 16:43	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/14/16 16:43	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/14/16 16:43	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/14/16 16:43	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/14/16 16:43	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/14/16 16:43	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/14/16 16:43	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/14/16 16:43	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/14/16 16:43	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/14/16 16:43	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/14/16 16:43	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/14/16 16:43	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/14/16 16:43	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/14/16 16:43	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/14/16 16:43	1
EDB	0.175	U	1.00	0.175	ug/L			03/14/16 16:43	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/14/16 16:43	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/14/16 16:43	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/14/16 16:43	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/14/16 16:43	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/14/16 16:43	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/14/16 16:43	1
Hexane	2.00	U	5.00	2.00	ug/L			03/14/16 16:43	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/14/16 16:43	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/14/16 16:43	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/14/16 16:43	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/14/16 16:43	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/14/16 16:43	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/14/16 16:43	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/14/16 16:43	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/14/16 16:43	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/14/16 16:43	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/14/16 16:43	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/14/16 16:43	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/14/16 16:43	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/14/16 16:43	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/14/16 16:43	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/14/16 16:43	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/14/16 16:43	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/14/16 16:43	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/14/16 16:43	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/14/16 16:43	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/14/16 16:43	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/14/16 16:43	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/14/16 16:43	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM231 TRAIL**

**Lab Sample ID: 560-60183-21**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.200	U	1.00	0.200	ug/L			03/14/16 16:43	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 16:43	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/14/16 16:43	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/14/16 16:43	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/14/16 16:43	1
Toluene	0.495	U	1.00	0.495	ug/L			03/14/16 16:43	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/14/16 16:43	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/14/16 16:43	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/14/16 16:43	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/14/16 16:43	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/14/16 16:43	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/14/16 16:43	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/14/16 16:43	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/14/16 16:43	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/14/16 16:43	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/14/16 16:43	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/14/16 16:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/14/16 16:43	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 16:43	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 16:43	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/14/16 16:43	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/14/16 16:43	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/14/16 16:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		03/14/16 16:43	1
Dibromofluoromethane (Surr)	104		69 - 130		03/14/16 16:43	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/14/16 16:43	1
Toluene-d8 (Surr)	100		70 - 130		03/14/16 16:43	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.479	U	10.4	0.479	ug/L		03/11/16 14:32	03/14/16 10:28	1
Acenaphthylene	0.471	U	10.4	0.471	ug/L		03/11/16 14:32	03/14/16 10:28	1
Anthracene	0.729	U	10.4	0.729	ug/L		03/11/16 14:32	03/14/16 10:28	1
Benzo[a]anthracene	0.673	U	10.4	0.673	ug/L		03/11/16 14:32	03/14/16 10:28	1
Benzo[a]pyrene	0.773	U	10.4	0.773	ug/L		03/11/16 14:32	03/14/16 10:28	1
Benzo[b]fluoranthene	0.946	U	10.4	0.946	ug/L		03/11/16 14:32	03/14/16 10:28	1
Benzo[g,h,i]perylene	1.14	U	10.4	1.14	ug/L		03/11/16 14:32	03/14/16 10:28	1
Benzo[k]fluoranthene	1.55	U	10.4	1.55	ug/L		03/11/16 14:32	03/14/16 10:28	1
Benzyl alcohol	0.861	U	10.4	0.861	ug/L		03/11/16 14:32	03/14/16 10:28	1
Bis(2-chloroethoxy)methane	0.454	U	10.4	0.454	ug/L		03/11/16 14:32	03/14/16 10:28	1
Bis(2-chloroethyl)ether	1.62	U	10.4	1.62	ug/L		03/11/16 14:32	03/14/16 10:28	1
Bis(2-ethylhexyl) phthalate	5.21	U	20.8	5.21	ug/L		03/11/16 14:32	03/14/16 10:28	1
4-Bromophenyl phenyl ether	0.845	U	10.4	0.845	ug/L		03/11/16 14:32	03/14/16 10:28	1
Butyl benzyl phthalate	0.850	U	10.4	0.850	ug/L		03/11/16 14:32	03/14/16 10:28	1
4-Chloroaniline	0.572	U	10.4	0.572	ug/L		03/11/16 14:32	03/14/16 10:28	1
4-Chloro-3-methylphenol	0.610	U	10.4	0.610	ug/L		03/11/16 14:32	03/14/16 10:28	1
2-Chloronaphthalene	0.628	U	10.4	0.628	ug/L		03/11/16 14:32	03/14/16 10:28	1
2-Chlorophenol	0.759	U	10.4	0.759	ug/L		03/11/16 14:32	03/14/16 10:28	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM231 TRAIL**

**Lab Sample ID: 560-60183-21**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	0.551	U	10.4	0.551	ug/L		03/11/16 14:32	03/14/16 10:28	1
Chrysene	0.515	U	10.4	0.515	ug/L		03/11/16 14:32	03/14/16 10:28	1
Dibenz(a,h)anthracene	0.910	U	10.4	0.910	ug/L		03/11/16 14:32	03/14/16 10:28	1
Dibenzofuran	0.505	U	10.4	0.505	ug/L		03/11/16 14:32	03/14/16 10:28	1
1,2-Dichlorobenzene	0.807	U	10.4	0.807	ug/L		03/11/16 14:32	03/14/16 10:28	1
1,3-Dichlorobenzene	0.511	U	10.4	0.511	ug/L		03/11/16 14:32	03/14/16 10:28	1
1,4-Dichlorobenzene	0.849	U	10.4	0.849	ug/L		03/11/16 14:32	03/14/16 10:28	1
3,3'-Dichlorobenzidine	0.820	U	10.4	0.820	ug/L		03/11/16 14:32	03/14/16 10:28	1
2,4-Dichlorophenol	0.733	U	10.4	0.733	ug/L		03/11/16 14:32	03/14/16 10:28	1
Diethyl phthalate	0.694	U	10.4	0.694	ug/L		03/11/16 14:32	03/14/16 10:28	1
2,4-Dimethylphenol	0.618	U	10.4	0.618	ug/L		03/11/16 14:32	03/14/16 10:28	1
Dimethyl phthalate	0.614	U	10.4	0.614	ug/L		03/11/16 14:32	03/14/16 10:28	1
Di-n-butyl phthalate	0.739	U	10.4	0.739	ug/L		03/11/16 14:32	03/14/16 10:28	1
4,6-Dinitro-2-methylphenol	0.999	U	10.4	0.999	ug/L		03/11/16 14:32	03/14/16 10:28	1
2,4-Dinitrophenol	2.80	U	20.8	2.80	ug/L		03/11/16 14:32	03/14/16 10:28	1
2,4-Dinitrotoluene	0.530	U	20.8	0.530	ug/L		03/11/16 14:32	03/14/16 10:28	1
2,6-Dinitrotoluene	0.794	U	10.4	0.794	ug/L		03/11/16 14:32	03/14/16 10:28	1
Di-n-octyl phthalate	1.15	U	10.4	1.15	ug/L		03/11/16 14:32	03/14/16 10:28	1
Fluoranthene	0.517	U	10.4	0.517	ug/L		03/11/16 14:32	03/14/16 10:28	1
Fluorene	0.439	U	10.4	0.439	ug/L		03/11/16 14:32	03/14/16 10:28	1
Hexachlorobenzene	0.627	U	10.4	0.627	ug/L		03/11/16 14:32	03/14/16 10:28	1
Hexachlorobutadiene	0.746	U	10.4	0.746	ug/L		03/11/16 14:32	03/14/16 10:28	1
Hexachlorocyclopentadiene	0.874	U	10.4	0.874	ug/L		03/11/16 14:32	03/14/16 10:28	1
Hexachloroethane	0.614	U	10.4	0.614	ug/L		03/11/16 14:32	03/14/16 10:28	1
Indeno[1,2,3-cd]pyrene	0.960	U	10.4	0.960	ug/L		03/11/16 14:32	03/14/16 10:28	1
Isophorone	0.572	U	10.4	0.572	ug/L		03/11/16 14:32	03/14/16 10:28	1
2-Methylnaphthalene	0.731	U	10.4	0.731	ug/L		03/11/16 14:32	03/14/16 10:28	1
2-Methylphenol	0.635	U	10.4	0.635	ug/L		03/11/16 14:32	03/14/16 10:28	1
3 & 4 Methylphenol	0.795	U	20.8	0.795	ug/L		03/11/16 14:32	03/14/16 10:28	1
Naphthalene	0.820	U	10.4	0.820	ug/L		03/11/16 14:32	03/14/16 10:28	1
2-Nitroaniline	0.798	U	10.4	0.798	ug/L		03/11/16 14:32	03/14/16 10:28	1
3-Nitroaniline	0.533	U	10.4	0.533	ug/L		03/11/16 14:32	03/14/16 10:28	1
4-Nitroaniline	0.853	U	10.4	0.853	ug/L		03/11/16 14:32	03/14/16 10:28	1
Nitrobenzene	0.611	U	10.4	0.611	ug/L		03/11/16 14:32	03/14/16 10:28	1
2-Nitrophenol	0.842	U	10.4	0.842	ug/L		03/11/16 14:32	03/14/16 10:28	1
4-Nitrophenol	1.81	U	10.4	1.81	ug/L		03/11/16 14:32	03/14/16 10:28	1
N-Nitrosodi-n-propylamine	0.646	U	10.4	0.646	ug/L		03/11/16 14:32	03/14/16 10:28	1
N-Nitrosodiphenylamine	1.07	U	10.4	1.07	ug/L		03/11/16 14:32	03/14/16 10:28	1
Pentachlorophenol	1.38	U	20.8	1.38	ug/L		03/11/16 14:32	03/14/16 10:28	1
Phenanthrene	0.616	U	10.4	0.616	ug/L		03/11/16 14:32	03/14/16 10:28	1
Phenol	0.800	U	10.4	0.800	ug/L		03/11/16 14:32	03/14/16 10:28	1
Pyrene	0.458	U	10.4	0.458	ug/L		03/11/16 14:32	03/14/16 10:28	1
1,2,4-Trichlorobenzene	0.674	U	10.4	0.674	ug/L		03/11/16 14:32	03/14/16 10:28	1
2,4,5-Trichlorophenol	0.897	U	10.4	0.897	ug/L		03/11/16 14:32	03/14/16 10:28	1
2,4,6-Trichlorophenol	0.685	U	10.4	0.685	ug/L		03/11/16 14:32	03/14/16 10:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	58		23 - 130	03/11/16 14:32	03/14/16 10:28	1
2-Fluorophenol	58		10 - 130	03/11/16 14:32	03/14/16 10:28	1
Nitrobenzene-d5	61		27 - 130	03/11/16 14:32	03/14/16 10:28	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM231 TRAIL**

**Lab Sample ID: 560-60183-21**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	61		10 - 130	03/11/16 14:32	03/14/16 10:28	1
Terphenyl-d14	69		10 - 141	03/11/16 14:32	03/14/16 10:28	1
2,4,6-Tribromophenol	62		18 - 130	03/11/16 14:32	03/14/16 10:28	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00473	U	0.0568	0.00473	ug/L		03/12/16 07:37	03/15/16 21:35	1
alpha-BHC	0.00492	U	0.0568	0.00492	ug/L		03/12/16 07:37	03/15/16 21:35	1
alpha-Chlordane	0.00596	U	0.0568	0.00596	ug/L		03/12/16 07:37	03/15/16 21:35	1
beta-BHC	0.00473	U	0.0568	0.00473	ug/L		03/12/16 07:37	03/15/16 21:35	1
4,4'-DDD	0.00473	U	0.0568	0.00473	ug/L		03/12/16 07:37	03/15/16 21:35	1
4,4'-DDE	0.00473	U	0.0568	0.00473	ug/L		03/12/16 07:37	03/15/16 21:35	1
4,4'-DDT	0.00766	U	0.0568	0.00766	ug/L		03/12/16 07:37	03/15/16 21:35	1
delta-BHC	0.00473	U	0.0568	0.00473	ug/L		03/12/16 07:37	03/15/16 21:35	1
Dieldrin	0.0123	U	0.0568	0.0123	ug/L		03/12/16 07:37	03/15/16 21:35	1
Endosulfan I	0.00473	U	0.0568	0.00473	ug/L		03/12/16 07:37	03/15/16 21:35	1
Endosulfan II	0.00814	U	0.0568	0.00814	ug/L		03/12/16 07:37	03/15/16 21:35	1
Endosulfan sulfate	0.00832	U	0.0568	0.00832	ug/L		03/12/16 07:37	03/15/16 21:35	1
Endrin	0.00728	U	0.0568	0.00728	ug/L		03/12/16 07:37	03/15/16 21:35	1
Endrin aldehyde	0.00473	U	0.0568	0.00473	ug/L		03/12/16 07:37	03/15/16 21:35	1
Endrin ketone	0.00776	U	0.0568	0.00776	ug/L		03/12/16 07:37	03/15/16 21:35	1
gamma-BHC (Lindane)	0.00426	U	0.0568	0.00426	ug/L		03/12/16 07:37	03/15/16 21:35	1
gamma-Chlordane	0.00634	U	0.0568	0.00634	ug/L		03/12/16 07:37	03/15/16 21:35	1
Heptachlor	0.00615	U	0.0568	0.00615	ug/L		03/12/16 07:37	03/15/16 21:35	1
Heptachlor epoxide	0.00492	U	0.0568	0.00492	ug/L		03/12/16 07:37	03/15/16 21:35	1
Methoxychlor	0.00946	U	0.0568	0.00946	ug/L		03/12/16 07:37	03/15/16 21:35	1
Toxaphene	0.643	U	5.68	0.643	ug/L		03/12/16 07:37	03/15/16 21:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	56		10 - 152	03/12/16 07:37	03/15/16 21:35	1
Tetrachloro-m-xylene	84		57 - 127	03/12/16 07:37	03/15/16 21:35	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.568	0.104	ug/L		03/12/16 07:37	03/15/16 17:52	1
Aroclor 1221	0.104	U	0.568	0.104	ug/L		03/12/16 07:37	03/15/16 17:52	1
Aroclor 1232	0.416	U	0.757	0.416	ug/L		03/12/16 07:37	03/15/16 17:52	1
Aroclor 1242	0.104	U	0.568	0.104	ug/L		03/12/16 07:37	03/15/16 17:52	1
Aroclor 1248	0.104	U	0.568	0.104	ug/L		03/12/16 07:37	03/15/16 17:52	1
Aroclor 1254	0.104	U	0.568	0.104	ug/L		03/12/16 07:37	03/15/16 17:52	1
Aroclor 1260	0.104	U	0.568	0.104	ug/L		03/12/16 07:37	03/15/16 17:52	1
Aroclor 1262	0.104	U	0.568	0.104	ug/L		03/12/16 07:37	03/15/16 17:52	1
Aroclor 1268	0.104	U	0.568	0.104	ug/L		03/12/16 07:37	03/15/16 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	135		10 - 150	03/12/16 07:37	03/15/16 17:52	1
DCB Decachlorobiphenyl	116		10 - 150	03/12/16 07:37	03/15/16 17:52	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM231 TRAIL**

**Lab Sample ID: 560-60183-21**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.172	U	2.56	0.172	ug/L		03/11/16 22:51	03/16/16 23:13	1
Bolstar	0.321	U	1.02	0.321	ug/L		03/11/16 22:51	03/16/16 23:13	1
Chlorpyrifos	0.368	U	1.53	0.368	ug/L		03/11/16 22:51	03/16/16 23:13	1
Coumaphos	0.138	U	1.02	0.138	ug/L		03/11/16 22:51	03/16/16 23:13	1
Demeton-O	0.143	U	1.02	0.143	ug/L		03/11/16 22:51	03/16/16 23:13	1
Demeton-S	0.0706	U	2.05	0.0706	ug/L		03/11/16 22:51	03/16/16 23:13	1
Diazinon	0.150	U	0.512	0.150	ug/L		03/11/16 22:51	03/16/16 23:13	1
Dichlorvos	0.166	U	0.512	0.166	ug/L		03/11/16 22:51	03/16/16 23:13	1
Dimethoate	0.459	U	1.53	0.459	ug/L		03/11/16 22:51	03/16/16 23:13	1
Disulfoton	0.330	U	1.02	0.330	ug/L		03/11/16 22:51	03/16/16 23:13	1
EPN	0.152	U	1.23	0.152	ug/L		03/11/16 22:51	03/16/16 23:13	1
Ethoprop	0.181	U	1.53	0.181	ug/L		03/11/16 22:51	03/16/16 23:13	1
Ethyl Parathion	0.147	U	1.02	0.147	ug/L		03/11/16 22:51	03/16/16 23:13	1
Famphur	0.183	U	1.02	0.183	ug/L		03/11/16 22:51	03/16/16 23:13	1
Fensulfothion	0.557	U	2.56	0.557	ug/L		03/11/16 22:51	03/16/16 23:13	1
Fenthion	0.158	U	2.56	0.158	ug/L		03/11/16 22:51	03/16/16 23:13	1
Malathion	0.136	U	2.05	0.136	ug/L		03/11/16 22:51	03/16/16 23:13	1
Merphos	0.178	U	5.12	0.178	ug/L		03/11/16 22:51	03/16/16 23:13	1
Methyl parathion	0.144	U	4.09	0.144	ug/L		03/11/16 22:51	03/16/16 23:13	1
Mevinphos	0.471	U	6.34	0.471	ug/L		03/11/16 22:51	03/16/16 23:13	1
Naled	0.819	U	2.05	0.819	ug/L		03/11/16 22:51	03/16/16 23:13	1
Phorate	0.158	U	1.23	0.158	ug/L		03/11/16 22:51	03/16/16 23:13	1
Ronnel	0.119	U	10.2	0.119	ug/L		03/11/16 22:51	03/16/16 23:13	1
Sulfotepp	0.172	U	1.53	0.172	ug/L		03/11/16 22:51	03/16/16 23:13	1
Tetrachlorvinphos (Stirophos)	0.127	U	3.58	0.127	ug/L		03/11/16 22:51	03/16/16 23:13	1
Thionazin	0.319	U	1.02	0.319	ug/L		03/11/16 22:51	03/16/16 23:13	1
Tokuthion	0.126	U	1.64	0.126	ug/L		03/11/16 22:51	03/16/16 23:13	1
Trichloronate	0.248	U	1.53	0.248	ug/L		03/11/16 22:51	03/16/16 23:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	70		49 - 171	03/11/16 22:51	03/16/16 23:13	1
Triphenylphosphate	89		60 - 154	03/11/16 22:51	03/16/16 23:13	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0981	U	4.91	0.0981	ug/L		03/16/16 07:45	03/17/16 21:16	1
Dicamba	0.0834	U	0.491	0.0834	ug/L		03/16/16 07:45	03/17/16 21:16	1
Mecoprop	18.6	U	118	18.6	ug/L		03/16/16 07:45	03/17/16 21:16	1
MCPA	16.7	U	118	16.7	ug/L		03/16/16 07:45	03/17/16 21:16	1
Dichlorprop	0.147	U	0.491	0.147	ug/L		03/16/16 07:45	03/17/16 21:16	1
2,4-D	0.0363	U	0.491	0.0363	ug/L		03/16/16 07:45	03/17/16 21:16	1
Silvex (2,4,5-TP)	0.0608	U	0.245	0.0608	ug/L		03/16/16 07:45	03/17/16 21:16	1
2,4,5-T	0.0608	U	0.245	0.0608	ug/L		03/16/16 07:45	03/17/16 21:16	1
2,4-DB	0.147	U	0.491	0.147	ug/L		03/16/16 07:45	03/17/16 21:16	1
Dinoseb	0.157	U	0.981	0.157	ug/L		03/16/16 07:45	03/17/16 21:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	91		45 - 130	03/16/16 07:45	03/17/16 21:16	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM231 TRAIL**

**Lab Sample ID: 560-60183-21**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	88.4		0.200	0.101	mg/L		03/14/16 11:00	03/14/16 14:45	1
Magnesium	16.7		0.200	0.0257	mg/L		03/14/16 11:00	03/14/16 14:45	1
Potassium	1.33		0.500	0.375	mg/L		03/14/16 11:00	03/15/16 13:46	1
Silicon	5.31		0.500	0.0707	mg/L		03/14/16 11:00	03/15/16 13:46	1
Sodium	12.0	B	1.00	0.310	mg/L		03/14/16 11:00	03/14/16 14:45	1
Strontium	0.534		0.00500	0.000700	mg/L		03/14/16 11:00	03/14/16 14:45	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/14/16 11:00	03/15/16 14:31	1
Antimony	1.61	U	5.00	1.61	ug/L		03/14/16 11:00	03/14/16 17:28	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/14/16 11:00	03/15/16 14:31	1
Barium	36.0		5.00	0.810	ug/L		03/14/16 11:00	03/14/16 17:28	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/14/16 11:00	03/15/16 14:31	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/14/16 11:00	03/14/16 17:28	1
Chromium	1.40	U	5.00	1.40	ug/L		03/14/16 11:00	03/14/16 17:28	1
Copper	2.00	U	10.0	2.00	ug/L		03/14/16 11:00	03/14/16 17:28	1
Iron	101	U	250	101	ug/L		03/14/16 11:00	03/14/16 17:28	1
Lead	0.733	U	5.00	0.733	ug/L		03/14/16 11:00	03/14/16 17:28	1
Manganese	11.6	U	50.0	11.6	ug/L		03/14/16 11:00	03/14/16 17:28	1
Nickel	2.17	U	5.00	2.17	ug/L		03/14/16 11:00	03/14/16 17:28	1
Selenium	1.67	J	5.00	1.08	ug/L		03/14/16 11:00	03/15/16 14:31	1
Silver	0.941	U	5.00	0.941	ug/L		03/14/16 11:00	03/14/16 17:28	1
Thallium	0.693	U	2.00	0.693	ug/L		03/14/16 11:00	03/14/16 17:28	1
Zinc	3.55	U	25.0	3.55	ug/L		03/14/16 11:00	03/14/16 17:28	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/16/16 10:00	03/16/16 16:44	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.547	J	1.00	0.315	mg/L			03/11/16 06:53	1
Chloride	18.1		1.00	0.192	mg/L			03/11/16 06:53	1
Nitrate as N	1.27		0.500	0.103	mg/L			03/11/16 06:53	1
Sulfate	24.8		1.00	0.377	mg/L			03/11/16 06:53	1
Fluoride	0.181		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/17/16 12:07	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/22/16 09:37	03/23/16 12:38	1
Total Organic Carbon	0.638	J	1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.18	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	247		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	247		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	332		10.0	10.0	mg/L			03/15/16 10:15	1
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/14/16 16:45	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: FDHSM231 TRAIL**

**Lab Sample ID: 560-60183-21**

**Date Collected: 03/09/16 18:45**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/21/16 12:00	1

**Client Sample ID: HSM240 TRAIL**

**Lab Sample ID: 560-60183-22**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/14/16 17:08	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/14/16 17:08	1
Benzene	0.330	U	1.00	0.330	ug/L			03/14/16 17:08	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/14/16 17:08	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/14/16 17:08	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/14/16 17:08	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/14/16 17:08	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/14/16 17:08	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/14/16 17:08	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/14/16 17:08	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/14/16 17:08	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/14/16 17:08	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/14/16 17:08	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/14/16 17:08	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/14/16 17:08	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/14/16 17:08	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/14/16 17:08	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/14/16 17:08	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/14/16 17:08	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/14/16 17:08	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/14/16 17:08	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/14/16 17:08	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/14/16 17:08	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/14/16 17:08	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/14/16 17:08	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/14/16 17:08	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/14/16 17:08	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/14/16 17:08	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/14/16 17:08	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/14/16 17:08	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/14/16 17:08	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/14/16 17:08	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/14/16 17:08	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/14/16 17:08	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/14/16 17:08	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/14/16 17:08	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/14/16 17:08	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/14/16 17:08	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/14/16 17:08	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/14/16 17:08	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/14/16 17:08	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/14/16 17:08	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 TRAIL**

**Lab Sample ID: 560-60183-22**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/14/16 17:08	1
EDB	0.175	U	1.00	0.175	ug/L			03/14/16 17:08	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/14/16 17:08	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/14/16 17:08	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/14/16 17:08	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/14/16 17:08	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/14/16 17:08	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/14/16 17:08	1
Hexane	2.00	U	5.00	2.00	ug/L			03/14/16 17:08	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/14/16 17:08	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/14/16 17:08	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/14/16 17:08	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/14/16 17:08	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/14/16 17:08	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/14/16 17:08	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/14/16 17:08	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/14/16 17:08	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/14/16 17:08	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/14/16 17:08	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/14/16 17:08	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/14/16 17:08	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/14/16 17:08	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/14/16 17:08	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/14/16 17:08	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/14/16 17:08	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/14/16 17:08	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/14/16 17:08	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/14/16 17:08	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/14/16 17:08	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/14/16 17:08	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/14/16 17:08	1
Styrene	0.200	U	1.00	0.200	ug/L			03/14/16 17:08	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 17:08	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/14/16 17:08	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/14/16 17:08	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/14/16 17:08	1
Toluene	0.495	U	1.00	0.495	ug/L			03/14/16 17:08	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/14/16 17:08	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/14/16 17:08	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/14/16 17:08	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/14/16 17:08	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/14/16 17:08	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/14/16 17:08	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/14/16 17:08	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/14/16 17:08	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/14/16 17:08	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/14/16 17:08	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/14/16 17:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/14/16 17:08	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 TRAIL**

**Lab Sample ID: 560-60183-22**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 17:08	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 17:08	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/14/16 17:08	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/14/16 17:08	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/14/16 17:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130		03/14/16 17:08	1
Dibromofluoromethane (Surr)	102		69 - 130		03/14/16 17:08	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/14/16 17:08	1
Toluene-d8 (Surr)	101		70 - 130		03/14/16 17:08	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.479	U	10.4	0.479	ug/L		03/11/16 14:32	03/14/16 10:54	1
Acenaphthylene	0.471	U	10.4	0.471	ug/L		03/11/16 14:32	03/14/16 10:54	1
Anthracene	0.729	U	10.4	0.729	ug/L		03/11/16 14:32	03/14/16 10:54	1
Benzo[a]anthracene	0.673	U	10.4	0.673	ug/L		03/11/16 14:32	03/14/16 10:54	1
Benzo[a]pyrene	0.773	U	10.4	0.773	ug/L		03/11/16 14:32	03/14/16 10:54	1
Benzo[b]fluoranthene	0.946	U	10.4	0.946	ug/L		03/11/16 14:32	03/14/16 10:54	1
Benzo[g,h,i]perylene	1.14	U	10.4	1.14	ug/L		03/11/16 14:32	03/14/16 10:54	1
Benzo[k]fluoranthene	1.55	U	10.4	1.55	ug/L		03/11/16 14:32	03/14/16 10:54	1
Benzyl alcohol	0.861	U	10.4	0.861	ug/L		03/11/16 14:32	03/14/16 10:54	1
Bis(2-chloroethoxy)methane	0.454	U	10.4	0.454	ug/L		03/11/16 14:32	03/14/16 10:54	1
Bis(2-chloroethyl)ether	1.62	U	10.4	1.62	ug/L		03/11/16 14:32	03/14/16 10:54	1
Bis(2-ethylhexyl) phthalate	5.21	U	20.8	5.21	ug/L		03/11/16 14:32	03/14/16 10:54	1
4-Bromophenyl phenyl ether	0.845	U	10.4	0.845	ug/L		03/11/16 14:32	03/14/16 10:54	1
Butyl benzyl phthalate	0.850	U	10.4	0.850	ug/L		03/11/16 14:32	03/14/16 10:54	1
4-Chloroaniline	0.572	U	10.4	0.572	ug/L		03/11/16 14:32	03/14/16 10:54	1
4-Chloro-3-methylphenol	0.610	U	10.4	0.610	ug/L		03/11/16 14:32	03/14/16 10:54	1
2-Chloronaphthalene	0.628	U	10.4	0.628	ug/L		03/11/16 14:32	03/14/16 10:54	1
2-Chlorophenol	0.759	U	10.4	0.759	ug/L		03/11/16 14:32	03/14/16 10:54	1
4-Chlorophenyl phenyl ether	0.551	U	10.4	0.551	ug/L		03/11/16 14:32	03/14/16 10:54	1
Chrysene	0.515	U	10.4	0.515	ug/L		03/11/16 14:32	03/14/16 10:54	1
Dibenz(a,h)anthracene	0.910	U	10.4	0.910	ug/L		03/11/16 14:32	03/14/16 10:54	1
Dibenzofuran	0.505	U	10.4	0.505	ug/L		03/11/16 14:32	03/14/16 10:54	1
1,2-Dichlorobenzene	0.807	U	10.4	0.807	ug/L		03/11/16 14:32	03/14/16 10:54	1
1,3-Dichlorobenzene	0.511	U	10.4	0.511	ug/L		03/11/16 14:32	03/14/16 10:54	1
1,4-Dichlorobenzene	0.849	U	10.4	0.849	ug/L		03/11/16 14:32	03/14/16 10:54	1
3,3'-Dichlorobenzidine	0.820	U	10.4	0.820	ug/L		03/11/16 14:32	03/14/16 10:54	1
2,4-Dichlorophenol	0.733	U	10.4	0.733	ug/L		03/11/16 14:32	03/14/16 10:54	1
Diethyl phthalate	0.694	U	10.4	0.694	ug/L		03/11/16 14:32	03/14/16 10:54	1
2,4-Dimethylphenol	0.618	U	10.4	0.618	ug/L		03/11/16 14:32	03/14/16 10:54	1
Dimethyl phthalate	0.614	U	10.4	0.614	ug/L		03/11/16 14:32	03/14/16 10:54	1
Di-n-butyl phthalate	0.739	U	10.4	0.739	ug/L		03/11/16 14:32	03/14/16 10:54	1
4,6-Dinitro-2-methylphenol	0.999	U	10.4	0.999	ug/L		03/11/16 14:32	03/14/16 10:54	1
2,4-Dinitrophenol	2.80	U	20.8	2.80	ug/L		03/11/16 14:32	03/14/16 10:54	1
2,4-Dinitrotoluene	0.530	U	20.8	0.530	ug/L		03/11/16 14:32	03/14/16 10:54	1
2,6-Dinitrotoluene	0.794	U	10.4	0.794	ug/L		03/11/16 14:32	03/14/16 10:54	1
Di-n-octyl phthalate	1.15	U	10.4	1.15	ug/L		03/11/16 14:32	03/14/16 10:54	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 TRAIL**

**Lab Sample ID: 560-60183-22**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	0.517	U	10.4	0.517	ug/L		03/11/16 14:32	03/14/16 10:54	1
Fluorene	0.439	U	10.4	0.439	ug/L		03/11/16 14:32	03/14/16 10:54	1
Hexachlorobenzene	0.627	U	10.4	0.627	ug/L		03/11/16 14:32	03/14/16 10:54	1
Hexachlorobutadiene	0.746	U	10.4	0.746	ug/L		03/11/16 14:32	03/14/16 10:54	1
Hexachlorocyclopentadiene	0.874	U	10.4	0.874	ug/L		03/11/16 14:32	03/14/16 10:54	1
Hexachloroethane	0.614	U	10.4	0.614	ug/L		03/11/16 14:32	03/14/16 10:54	1
Indeno[1,2,3-cd]pyrene	0.960	U	10.4	0.960	ug/L		03/11/16 14:32	03/14/16 10:54	1
Isophorone	0.572	U	10.4	0.572	ug/L		03/11/16 14:32	03/14/16 10:54	1
2-Methylnaphthalene	0.731	U	10.4	0.731	ug/L		03/11/16 14:32	03/14/16 10:54	1
2-Methylphenol	0.635	U	10.4	0.635	ug/L		03/11/16 14:32	03/14/16 10:54	1
3 & 4 Methylphenol	0.795	U	20.8	0.795	ug/L		03/11/16 14:32	03/14/16 10:54	1
Naphthalene	0.820	U	10.4	0.820	ug/L		03/11/16 14:32	03/14/16 10:54	1
2-Nitroaniline	0.798	U	10.4	0.798	ug/L		03/11/16 14:32	03/14/16 10:54	1
3-Nitroaniline	0.533	U	10.4	0.533	ug/L		03/11/16 14:32	03/14/16 10:54	1
4-Nitroaniline	0.853	U	10.4	0.853	ug/L		03/11/16 14:32	03/14/16 10:54	1
Nitrobenzene	0.611	U	10.4	0.611	ug/L		03/11/16 14:32	03/14/16 10:54	1
2-Nitrophenol	0.842	U	10.4	0.842	ug/L		03/11/16 14:32	03/14/16 10:54	1
4-Nitrophenol	1.81	U	10.4	1.81	ug/L		03/11/16 14:32	03/14/16 10:54	1
N-Nitrosodi-n-propylamine	0.646	U	10.4	0.646	ug/L		03/11/16 14:32	03/14/16 10:54	1
N-Nitrosodiphenylamine	1.07	U	10.4	1.07	ug/L		03/11/16 14:32	03/14/16 10:54	1
Pentachlorophenol	1.38	U	20.8	1.38	ug/L		03/11/16 14:32	03/14/16 10:54	1
Phenanthrene	0.616	U	10.4	0.616	ug/L		03/11/16 14:32	03/14/16 10:54	1
Phenol	0.800	U	10.4	0.800	ug/L		03/11/16 14:32	03/14/16 10:54	1
Pyrene	0.458	U	10.4	0.458	ug/L		03/11/16 14:32	03/14/16 10:54	1
1,2,4-Trichlorobenzene	0.674	U	10.4	0.674	ug/L		03/11/16 14:32	03/14/16 10:54	1
2,4,5-Trichlorophenol	0.897	U	10.4	0.897	ug/L		03/11/16 14:32	03/14/16 10:54	1
2,4,6-Trichlorophenol	0.685	U	10.4	0.685	ug/L		03/11/16 14:32	03/14/16 10:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	66		23 - 130	03/11/16 14:32	03/14/16 10:54	1
2-Fluorophenol	65		10 - 130	03/11/16 14:32	03/14/16 10:54	1
Nitrobenzene-d5	68		27 - 130	03/11/16 14:32	03/14/16 10:54	1
Phenol-d5	70		10 - 130	03/11/16 14:32	03/14/16 10:54	1
Terphenyl-d14	80		10 - 141	03/11/16 14:32	03/14/16 10:54	1
2,4,6-Tribromophenol	72		18 - 130	03/11/16 14:32	03/14/16 10:54	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 22:00	1
alpha-BHC	0.00503	U	0.0580	0.00503	ug/L		03/12/16 07:37	03/15/16 22:00	1
alpha-Chlordane	0.00609	U	0.0580	0.00609	ug/L		03/12/16 07:37	03/15/16 22:00	1
beta-BHC	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 22:00	1
4,4'-DDD	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 22:00	1
4,4'-DDE	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 22:00	1
4,4'-DDT	0.00783	U	0.0580	0.00783	ug/L		03/12/16 07:37	03/15/16 22:00	1
delta-BHC	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 22:00	1
Dieldrin	0.0126	U	0.0580	0.0126	ug/L		03/12/16 07:37	03/15/16 22:00	1
Endosulfan I	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 22:00	1
Endosulfan II	0.00831	U	0.0580	0.00831	ug/L		03/12/16 07:37	03/15/16 22:00	1
Endosulfan sulfate	0.00851	U	0.0580	0.00851	ug/L		03/12/16 07:37	03/15/16 22:00	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 TRAIL**

**Lab Sample ID: 560-60183-22**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	0.00744	U	0.0580	0.00744	ug/L		03/12/16 07:37	03/15/16 22:00	1
Endrin aldehyde	0.00483	U	0.0580	0.00483	ug/L		03/12/16 07:37	03/15/16 22:00	1
Endrin ketone	0.00793	U	0.0580	0.00793	ug/L		03/12/16 07:37	03/15/16 22:00	1
gamma-BHC (Lindane)	0.00435	U	0.0580	0.00435	ug/L		03/12/16 07:37	03/15/16 22:00	1
gamma-Chlordane	0.00648	U	0.0580	0.00648	ug/L		03/12/16 07:37	03/15/16 22:00	1
Heptachlor	0.00628	U	0.0580	0.00628	ug/L		03/12/16 07:37	03/15/16 22:00	1
Heptachlor epoxide	0.00503	U	0.0580	0.00503	ug/L		03/12/16 07:37	03/15/16 22:00	1
Methoxychlor	0.00967	U	0.0580	0.00967	ug/L		03/12/16 07:37	03/15/16 22:00	1
Toxaphene	0.657	U	5.80	0.657	ug/L		03/12/16 07:37	03/15/16 22:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	53		10 - 152				03/12/16 07:37	03/15/16 22:00	1
Tetrachloro-m-xylene	84		57 - 127				03/12/16 07:37	03/15/16 22:00	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 18:10	1
Aroclor 1221	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 18:10	1
Aroclor 1232	0.425	U	0.773	0.425	ug/L		03/12/16 07:37	03/15/16 18:10	1
Aroclor 1242	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 18:10	1
Aroclor 1248	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 18:10	1
Aroclor 1254	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 18:10	1
Aroclor 1260	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 18:10	1
Aroclor 1262	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 18:10	1
Aroclor 1268	0.106	U	0.580	0.106	ug/L		03/12/16 07:37	03/15/16 18:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	141		10 - 150				03/12/16 07:37	03/15/16 18:10	1
DCB Decachlorobiphenyl	120		10 - 150				03/12/16 07:37	03/15/16 18:10	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.160	U	2.38	0.160	ug/L		03/11/16 22:51	03/16/16 23:44	1
Bolstar	0.299	U	0.952	0.299	ug/L		03/11/16 22:51	03/16/16 23:44	1
Chlorpyrifos	0.343	U	1.43	0.343	ug/L		03/11/16 22:51	03/16/16 23:44	1
Coumaphos	0.129	U	0.952	0.129	ug/L		03/11/16 22:51	03/16/16 23:44	1
Demeton-O	0.133	U	0.952	0.133	ug/L		03/11/16 22:51	03/16/16 23:44	1
Demeton-S	0.0657	U	1.90	0.0657	ug/L		03/11/16 22:51	03/16/16 23:44	1
Diazinon	0.140	U	0.476	0.140	ug/L		03/11/16 22:51	03/16/16 23:44	1
Dichlorvos	0.154	U	0.476	0.154	ug/L		03/11/16 22:51	03/16/16 23:44	1
Dimethoate	0.428	U	1.43	0.428	ug/L		03/11/16 22:51	03/16/16 23:44	1
Disulfoton	0.307	U	0.952	0.307	ug/L		03/11/16 22:51	03/16/16 23:44	1
EPN	0.142	U	1.14	0.142	ug/L		03/11/16 22:51	03/16/16 23:44	1
Ethoprop	0.169	U	1.43	0.169	ug/L		03/11/16 22:51	03/16/16 23:44	1
Ethyl Parathion	0.137	U	0.952	0.137	ug/L		03/11/16 22:51	03/16/16 23:44	1
Famphur	0.170	U	0.952	0.170	ug/L		03/11/16 22:51	03/16/16 23:44	1
Fensulfothion	0.518	U	2.38	0.518	ug/L		03/11/16 22:51	03/16/16 23:44	1
Fenthion	0.147	U	2.38	0.147	ug/L		03/11/16 22:51	03/16/16 23:44	1
Malathion	0.127	U	1.90	0.127	ug/L		03/11/16 22:51	03/16/16 23:44	1
Merphos	0.166	U	4.76	0.166	ug/L		03/11/16 22:51	03/16/16 23:44	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 TRAIL**

**Lab Sample ID: 560-60183-22**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl parathion	0.134	U	3.81	0.134	ug/L		03/11/16 22:51	03/16/16 23:44	1
Mevinphos	0.438	U	5.90	0.438	ug/L		03/11/16 22:51	03/16/16 23:44	1
Naled	0.762	U	1.90	0.762	ug/L		03/11/16 22:51	03/16/16 23:44	1
Phorate	0.147	U	1.14	0.147	ug/L		03/11/16 22:51	03/16/16 23:44	1
Ronnel	0.110	U	9.52	0.110	ug/L		03/11/16 22:51	03/16/16 23:44	1
Sulfotepp	0.160	U	1.43	0.160	ug/L		03/11/16 22:51	03/16/16 23:44	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.33	0.118	ug/L		03/11/16 22:51	03/16/16 23:44	1
Thionazin	0.297	U	0.952	0.297	ug/L		03/11/16 22:51	03/16/16 23:44	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/11/16 22:51	03/16/16 23:44	1
Trichloronate	0.230	U	1.43	0.230	ug/L		03/11/16 22:51	03/16/16 23:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	74		49 - 171				03/11/16 22:51	03/16/16 23:44	1
Triphenylphosphate	91		60 - 154				03/11/16 22:51	03/16/16 23:44	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0956	U	4.78	0.0956	ug/L		03/16/16 07:45	03/17/16 21:36	1
Dicamba	0.0812	U	0.478	0.0812	ug/L		03/16/16 07:45	03/17/16 21:36	1
Mecoprop	18.2	U	115	18.2	ug/L		03/16/16 07:45	03/17/16 21:36	1
MCPA	16.2	U	115	16.2	ug/L		03/16/16 07:45	03/17/16 21:36	1
Dichlorprop	0.143	U	0.478	0.143	ug/L		03/16/16 07:45	03/17/16 21:36	1
2,4-D	0.0354	U	0.478	0.0354	ug/L		03/16/16 07:45	03/17/16 21:36	1
Silvex (2,4,5-TP)	0.0593	U	0.239	0.0593	ug/L		03/16/16 07:45	03/17/16 21:36	1
2,4,5-T	0.0593	U	0.239	0.0593	ug/L		03/16/16 07:45	03/17/16 21:36	1
2,4-DB	0.143	U	0.478	0.143	ug/L		03/16/16 07:45	03/17/16 21:36	1
Dinoseb	0.153	U	0.956	0.153	ug/L		03/16/16 07:45	03/17/16 21:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	90		45 - 130				03/16/16 07:45	03/17/16 21:36	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	87.0		0.200	0.101	mg/L		03/14/16 11:00	03/14/16 14:49	1
Magnesium	16.5		0.200	0.0257	mg/L		03/14/16 11:00	03/14/16 14:49	1
Potassium	1.27		0.500	0.375	mg/L		03/14/16 11:00	03/15/16 13:50	1
Silicon	5.31		0.500	0.0707	mg/L		03/14/16 11:00	03/15/16 13:50	1
Sodium	11.6	B	1.00	0.310	mg/L		03/14/16 11:00	03/14/16 14:49	1
Strontium	0.528		0.00500	0.000700	mg/L		03/14/16 11:00	03/14/16 14:49	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/14/16 11:00	03/15/16 14:36	1
Antimony	1.61	U	5.00	1.61	ug/L		03/14/16 11:00	03/14/16 17:33	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/14/16 11:00	03/15/16 14:36	1
Barium	35.7		5.00	0.810	ug/L		03/14/16 11:00	03/14/16 17:33	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/14/16 11:00	03/15/16 14:36	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/14/16 11:00	03/14/16 17:33	1
Chromium	1.40	U	5.00	1.40	ug/L		03/14/16 11:00	03/14/16 17:33	1
Copper	2.00	U	10.0	2.00	ug/L		03/14/16 11:00	03/14/16 17:33	1
Iron	101	U	250	101	ug/L		03/14/16 11:00	03/14/16 17:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM240 TRAIL**

**Lab Sample ID: 560-60183-22**

**Date Collected: 03/09/16 17:51**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.733	U	5.00	0.733	ug/L	-	03/14/16 11:00	03/14/16 17:33	1
Manganese	11.6	U	50.0	11.6	ug/L	-	03/14/16 11:00	03/14/16 17:33	1
Nickel	2.17	U	5.00	2.17	ug/L	-	03/14/16 11:00	03/14/16 17:33	1
Selenium	1.22	J	5.00	1.08	ug/L	-	03/14/16 11:00	03/15/16 14:36	1
Silver	0.941	U	5.00	0.941	ug/L	-	03/14/16 11:00	03/14/16 17:33	1
Thallium	0.693	U	2.00	0.693	ug/L	-	03/14/16 11:00	03/14/16 17:33	1
Zinc	3.55	U	25.0	3.55	ug/L	-	03/14/16 11:00	03/14/16 17:33	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/16/16 10:00	03/16/16 16:46	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.546	J	1.00	0.315	mg/L	-		03/11/16 07:19	1
Chloride	18.1		1.00	0.192	mg/L	-		03/11/16 07:19	1
Nitrate as N	1.26		0.500	0.103	mg/L	-		03/11/16 07:19	1
Sulfate	24.7		1.00	0.377	mg/L	-		03/11/16 07:19	1
Fluoride	0.191		0.100	0.0200	mg/L	-		03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	-		03/21/16 11:44	1
Phosphorus	0.0492	J	0.100	0.0410	mg/L	-	03/22/16 09:37	03/23/16 12:45	1
Total Organic Carbon	0.652	J	1.00	0.285	mg/L	-		03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.31	HF	0.100	0.100	SU	-		03/10/16 15:11	1
Total Alkalinity as CaCO3	244		5.00	5.00	mg/L	-		03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	244		5.00	5.00	mg/L	-		03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L	-		03/22/16 14:05	1
Total Dissolved Solids	341		10.0	10.0	mg/L	-		03/15/16 10:15	1
Total Suspended Solids	7.60		3.00	3.00	mg/L	-		03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L	-		03/21/16 12:00	1

**Client Sample ID: HSM250 TRAIL**

**Lab Sample ID: 560-60183-23**

**Date Collected: 03/09/16 18:16**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		03/14/16 17:33	1
Acetonitrile	10.0	U	50.0	10.0	ug/L	-		03/14/16 17:33	1
Benzene	0.330	U	1.00	0.330	ug/L	-		03/14/16 17:33	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L	-		03/14/16 17:33	1
Bromobenzene	0.128	U	1.00	0.128	ug/L	-		03/14/16 17:33	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L	-		03/14/16 17:33	1
Bromoform	0.500	U	5.00	0.500	ug/L	-		03/14/16 17:33	1
Bromomethane	0.392	U	5.00	0.392	ug/L	-		03/14/16 17:33	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L	-		03/14/16 17:33	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L	-		03/14/16 17:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 TRAIL**

**Lab Sample ID: 560-60183-23**

**Date Collected: 03/09/16 18:16**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/14/16 17:33	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/14/16 17:33	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/14/16 17:33	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/14/16 17:33	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/14/16 17:33	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/14/16 17:33	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/14/16 17:33	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/14/16 17:33	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/14/16 17:33	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/14/16 17:33	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/14/16 17:33	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/14/16 17:33	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/14/16 17:33	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/14/16 17:33	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/14/16 17:33	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/14/16 17:33	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/14/16 17:33	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/14/16 17:33	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/14/16 17:33	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/14/16 17:33	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/14/16 17:33	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/14/16 17:33	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/14/16 17:33	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/14/16 17:33	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/14/16 17:33	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/14/16 17:33	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/14/16 17:33	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/14/16 17:33	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/14/16 17:33	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/14/16 17:33	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/14/16 17:33	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/14/16 17:33	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/14/16 17:33	1
EDB	0.175	U	1.00	0.175	ug/L			03/14/16 17:33	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/14/16 17:33	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/14/16 17:33	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/14/16 17:33	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/14/16 17:33	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/14/16 17:33	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/14/16 17:33	1
Hexane	2.00	U	5.00	2.00	ug/L			03/14/16 17:33	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/14/16 17:33	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/14/16 17:33	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/14/16 17:33	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/14/16 17:33	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/14/16 17:33	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/14/16 17:33	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/14/16 17:33	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/14/16 17:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 TRAIL**

**Lab Sample ID: 560-60183-23**

**Date Collected: 03/09/16 18:16**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/14/16 17:33	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/14/16 17:33	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/14/16 17:33	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/14/16 17:33	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/14/16 17:33	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/14/16 17:33	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/14/16 17:33	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/14/16 17:33	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/14/16 17:33	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/14/16 17:33	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/14/16 17:33	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/14/16 17:33	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/14/16 17:33	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/14/16 17:33	1
Styrene	0.200	U	1.00	0.200	ug/L			03/14/16 17:33	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 17:33	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/14/16 17:33	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/14/16 17:33	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/14/16 17:33	1
Toluene	0.495	U	1.00	0.495	ug/L			03/14/16 17:33	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/14/16 17:33	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/14/16 17:33	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/14/16 17:33	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/14/16 17:33	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/14/16 17:33	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/14/16 17:33	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/14/16 17:33	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/14/16 17:33	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/14/16 17:33	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/14/16 17:33	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/14/16 17:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/14/16 17:33	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 17:33	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 17:33	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/14/16 17:33	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/14/16 17:33	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/14/16 17:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		03/14/16 17:33	1
Dibromofluoromethane (Surr)	104		69 - 130		03/14/16 17:33	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/14/16 17:33	1
Toluene-d8 (Surr)	101		70 - 130		03/14/16 17:33	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/11/16 14:32	03/14/16 11:20	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/11/16 14:32	03/14/16 11:20	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/11/16 14:32	03/14/16 11:20	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/11/16 14:32	03/14/16 11:20	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 TRAIL**

**Lab Sample ID: 560-60183-23**

**Date Collected: 03/09/16 18:16**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/11/16 14:32	03/14/16 11:20	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/11/16 14:32	03/14/16 11:20	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/11/16 14:32	03/14/16 11:20	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/11/16 14:32	03/14/16 11:20	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/11/16 14:32	03/14/16 11:20	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/11/16 14:32	03/14/16 11:20	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/11/16 14:32	03/14/16 11:20	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/11/16 14:32	03/14/16 11:20	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/11/16 14:32	03/14/16 11:20	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/11/16 14:32	03/14/16 11:20	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 11:20	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/11/16 14:32	03/14/16 11:20	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/11/16 14:32	03/14/16 11:20	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/11/16 14:32	03/14/16 11:20	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/11/16 14:32	03/14/16 11:20	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/11/16 14:32	03/14/16 11:20	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/11/16 14:32	03/14/16 11:20	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/11/16 14:32	03/14/16 11:20	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/11/16 14:32	03/14/16 11:20	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/11/16 14:32	03/14/16 11:20	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/11/16 14:32	03/14/16 11:20	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 11:20	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/11/16 14:32	03/14/16 11:20	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/11/16 14:32	03/14/16 11:20	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/11/16 14:32	03/14/16 11:20	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 11:20	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/11/16 14:32	03/14/16 11:20	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/11/16 14:32	03/14/16 11:20	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/11/16 14:32	03/14/16 11:20	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/11/16 14:32	03/14/16 11:20	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/11/16 14:32	03/14/16 11:20	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/11/16 14:32	03/14/16 11:20	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/11/16 14:32	03/14/16 11:20	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/11/16 14:32	03/14/16 11:20	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/11/16 14:32	03/14/16 11:20	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/11/16 14:32	03/14/16 11:20	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/11/16 14:32	03/14/16 11:20	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 11:20	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/11/16 14:32	03/14/16 11:20	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 11:20	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/11/16 14:32	03/14/16 11:20	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/11/16 14:32	03/14/16 11:20	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/11/16 14:32	03/14/16 11:20	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 11:20	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/11/16 14:32	03/14/16 11:20	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/11/16 14:32	03/14/16 11:20	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/11/16 14:32	03/14/16 11:20	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/11/16 14:32	03/14/16 11:20	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/11/16 14:32	03/14/16 11:20	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 TRAIL**

**Lab Sample ID: 560-60183-23**

**Date Collected: 03/09/16 18:16**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/11/16 14:32	03/14/16 11:20	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/11/16 14:32	03/14/16 11:20	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/11/16 14:32	03/14/16 11:20	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/11/16 14:32	03/14/16 11:20	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/11/16 14:32	03/14/16 11:20	1
Phenol	0.768	U	10.0	0.768	ug/L		03/11/16 14:32	03/14/16 11:20	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/11/16 14:32	03/14/16 11:20	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/11/16 14:32	03/14/16 11:20	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/11/16 14:32	03/14/16 11:20	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/11/16 14:32	03/14/16 11:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		23 - 130	03/11/16 14:32	03/14/16 11:20	1
2-Fluorophenol	75		10 - 130	03/11/16 14:32	03/14/16 11:20	1
Nitrobenzene-d5	75		27 - 130	03/11/16 14:32	03/14/16 11:20	1
Phenol-d5	80		10 - 130	03/11/16 14:32	03/14/16 11:20	1
Terphenyl-d14	84		10 - 141	03/11/16 14:32	03/14/16 11:20	1
2,4,6-Tribromophenol	78		18 - 130	03/11/16 14:32	03/14/16 11:20	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00486	U	0.0583	0.00486	ug/L		03/12/16 07:37	03/15/16 22:25	1
alpha-BHC	0.00506	U	0.0583	0.00506	ug/L		03/12/16 07:37	03/15/16 22:25	1
alpha-Chlordane	0.00613	U	0.0583	0.00613	ug/L		03/12/16 07:37	03/15/16 22:25	1
beta-BHC	0.00486	U	0.0583	0.00486	ug/L		03/12/16 07:37	03/15/16 22:25	1
4,4'-DDD	0.00486	U	0.0583	0.00486	ug/L		03/12/16 07:37	03/15/16 22:25	1
4,4'-DDE	0.00486	U	0.0583	0.00486	ug/L		03/12/16 07:37	03/15/16 22:25	1
4,4'-DDT	0.00788	U	0.0583	0.00788	ug/L		03/12/16 07:37	03/15/16 22:25	1
delta-BHC	0.00486	U	0.0583	0.00486	ug/L		03/12/16 07:37	03/15/16 22:25	1
Dieldrin	0.0126	U	0.0583	0.0126	ug/L		03/12/16 07:37	03/15/16 22:25	1
Endosulfan I	0.00486	U	0.0583	0.00486	ug/L		03/12/16 07:37	03/15/16 22:25	1
Endosulfan II	0.00836	U	0.0583	0.00836	ug/L		03/12/16 07:37	03/15/16 22:25	1
Endosulfan sulfate	0.00856	U	0.0583	0.00856	ug/L		03/12/16 07:37	03/15/16 22:25	1
Endrin	0.00749	U	0.0583	0.00749	ug/L		03/12/16 07:37	03/15/16 22:25	1
Endrin aldehyde	0.00486	U	0.0583	0.00486	ug/L		03/12/16 07:37	03/15/16 22:25	1
Endrin ketone	0.00797	U	0.0583	0.00797	ug/L		03/12/16 07:37	03/15/16 22:25	1
gamma-BHC (Lindane)	0.00438	U	0.0583	0.00438	ug/L		03/12/16 07:37	03/15/16 22:25	1
gamma-Chlordane	0.00651	U	0.0583	0.00651	ug/L		03/12/16 07:37	03/15/16 22:25	1
Heptachlor	0.00632	U	0.0583	0.00632	ug/L		03/12/16 07:37	03/15/16 22:25	1
Heptachlor epoxide	0.00506	U	0.0583	0.00506	ug/L		03/12/16 07:37	03/15/16 22:25	1
Methoxychlor	0.00972	U	0.0583	0.00972	ug/L		03/12/16 07:37	03/15/16 22:25	1
Toxaphene	0.661	U	5.83	0.661	ug/L		03/12/16 07:37	03/15/16 22:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	53		10 - 152	03/12/16 07:37	03/15/16 22:25	1
Tetrachloro-m-xylene	85		57 - 127	03/12/16 07:37	03/15/16 22:25	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.107	U	0.583	0.107	ug/L		03/12/16 07:37	03/15/16 18:27	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 TRAIL**

**Lab Sample ID: 560-60183-23**

**Date Collected: 03/09/16 18:16**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1221	0.107	U	0.583	0.107	ug/L		03/12/16 07:37	03/15/16 18:27	1
Aroclor 1232	0.428	U	0.778	0.428	ug/L		03/12/16 07:37	03/15/16 18:27	1
Aroclor 1242	0.107	U	0.583	0.107	ug/L		03/12/16 07:37	03/15/16 18:27	1
Aroclor 1248	0.107	U	0.583	0.107	ug/L		03/12/16 07:37	03/15/16 18:27	1
Aroclor 1254	0.107	U	0.583	0.107	ug/L		03/12/16 07:37	03/15/16 18:27	1
Aroclor 1260	0.107	U	0.583	0.107	ug/L		03/12/16 07:37	03/15/16 18:27	1
Aroclor 1262	0.107	U	0.583	0.107	ug/L		03/12/16 07:37	03/15/16 18:27	1
Aroclor 1268	0.107	U	0.583	0.107	ug/L		03/12/16 07:37	03/15/16 18:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	136		10 - 150				03/12/16 07:37	03/15/16 18:27	1
DCB Decachlorobiphenyl	112		10 - 150				03/12/16 07:37	03/15/16 18:27	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.159	U	2.37	0.159	ug/L		03/11/16 22:51	03/17/16 00:16	1
Bolstar	0.297	U	0.947	0.297	ug/L		03/11/16 22:51	03/17/16 00:16	1
Chlorpyrifos	0.341	U	1.42	0.341	ug/L		03/11/16 22:51	03/17/16 00:16	1
Coumaphos	0.128	U	0.947	0.128	ug/L		03/11/16 22:51	03/17/16 00:16	1
Demeton-O	0.133	U	0.947	0.133	ug/L		03/11/16 22:51	03/17/16 00:16	1
Demeton-S	0.0653	U	1.89	0.0653	ug/L		03/11/16 22:51	03/17/16 00:16	1
Diazinon	0.139	U	0.473	0.139	ug/L		03/11/16 22:51	03/17/16 00:16	1
Dichlorvos	0.153	U	0.473	0.153	ug/L		03/11/16 22:51	03/17/16 00:16	1
Dimethoate	0.425	U	1.42	0.425	ug/L		03/11/16 22:51	03/17/16 00:16	1
Disulfoton	0.305	U	0.947	0.305	ug/L		03/11/16 22:51	03/17/16 00:16	1
EPN	0.141	U	1.14	0.141	ug/L		03/11/16 22:51	03/17/16 00:16	1
Ethoprop	0.168	U	1.42	0.168	ug/L		03/11/16 22:51	03/17/16 00:16	1
Ethyl Parathion	0.136	U	0.947	0.136	ug/L		03/11/16 22:51	03/17/16 00:16	1
Famphur	0.169	U	0.947	0.169	ug/L		03/11/16 22:51	03/17/16 00:16	1
Fensulfothion	0.515	U	2.37	0.515	ug/L		03/11/16 22:51	03/17/16 00:16	1
Fenthion	0.146	U	2.37	0.146	ug/L		03/11/16 22:51	03/17/16 00:16	1
Malathion	0.126	U	1.89	0.126	ug/L		03/11/16 22:51	03/17/16 00:16	1
Merphos	0.165	U	4.73	0.165	ug/L		03/11/16 22:51	03/17/16 00:16	1
Methyl parathion	0.133	U	3.79	0.133	ug/L		03/11/16 22:51	03/17/16 00:16	1
Mevinphos	0.436	U	5.87	0.436	ug/L		03/11/16 22:51	03/17/16 00:16	1
Naled	0.757	U	1.89	0.757	ug/L		03/11/16 22:51	03/17/16 00:16	1
Phorate	0.146	U	1.14	0.146	ug/L		03/11/16 22:51	03/17/16 00:16	1
Ronnel	0.110	U	9.47	0.110	ug/L		03/11/16 22:51	03/17/16 00:16	1
Sulfotepp	0.159	U	1.42	0.159	ug/L		03/11/16 22:51	03/17/16 00:16	1
Tetrachlorvinphos (Stirophos)	0.117	U	3.31	0.117	ug/L		03/11/16 22:51	03/17/16 00:16	1
Thionazin	0.295	U	0.947	0.295	ug/L		03/11/16 22:51	03/17/16 00:16	1
Tokuthion	0.116	U	1.51	0.116	ug/L		03/11/16 22:51	03/17/16 00:16	1
Trichloronate	0.229	U	1.42	0.229	ug/L		03/11/16 22:51	03/17/16 00:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	74		49 - 171				03/11/16 22:51	03/17/16 00:16	1
Triphenylphosphate	86		60 - 154				03/11/16 22:51	03/17/16 00:16	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 TRAIL**

**Lab Sample ID: 560-60183-23**

**Date Collected: 03/09/16 18:16**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.105	U	5.26	0.105	ug/L	-	03/16/16 07:45	03/17/16 21:56	1
Dicamba	0.0894	U	0.526	0.0894	ug/L	-	03/16/16 07:45	03/17/16 21:56	1
Mecoprop	20.0	U	126	20.0	ug/L	-	03/16/16 07:45	03/17/16 21:56	1
MCPA	17.9	U	126	17.9	ug/L	-	03/16/16 07:45	03/17/16 21:56	1
Dichlorprop	0.158	U	0.526	0.158	ug/L	-	03/16/16 07:45	03/17/16 21:56	1
2,4-D	0.0389	U	0.526	0.0389	ug/L	-	03/16/16 07:45	03/17/16 21:56	1
Silvex (2,4,5-TP)	0.0652	U	0.263	0.0652	ug/L	-	03/16/16 07:45	03/17/16 21:56	1
2,4,5-T	0.0652	U	0.263	0.0652	ug/L	-	03/16/16 07:45	03/17/16 21:56	1
2,4-DB	0.158	U	0.526	0.158	ug/L	-	03/16/16 07:45	03/17/16 21:56	1
Dinoseb	0.168	U	1.05	0.168	ug/L	-	03/16/16 07:45	03/17/16 21:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	89		45 - 130	03/16/16 07:45	03/17/16 21:56	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	87.4		0.200	0.101	mg/L	-	03/14/16 11:00	03/14/16 15:01	1
Magnesium	16.4		0.200	0.0257	mg/L	-	03/14/16 11:00	03/14/16 15:01	1
Potassium	1.31		0.500	0.375	mg/L	-	03/14/16 11:00	03/15/16 14:02	1
Silicon	5.25		0.500	0.0707	mg/L	-	03/14/16 11:00	03/15/16 14:02	1
Sodium	11.6	B	1.00	0.310	mg/L	-	03/14/16 11:00	03/14/16 15:01	1
Strontium	0.532		0.00500	0.000700	mg/L	-	03/14/16 11:00	03/14/16 15:01	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L	-	03/14/16 11:00	03/15/16 14:42	1
Antimony	1.61	U	5.00	1.61	ug/L	-	03/14/16 11:00	03/14/16 17:38	1
Arsenic	1.09	U	5.00	1.09	ug/L	-	03/14/16 11:00	03/15/16 14:42	1
Barium	36.2		5.00	0.810	ug/L	-	03/14/16 11:00	03/14/16 17:38	1
Beryllium	1.24	U ^	4.00	1.24	ug/L	-	03/14/16 11:00	03/15/16 14:42	1
Cadmium	0.854	U	2.00	0.854	ug/L	-	03/14/16 11:00	03/14/16 17:38	1
Chromium	1.40	U	5.00	1.40	ug/L	-	03/14/16 11:00	03/14/16 17:38	1
Copper	2.00	U	10.0	2.00	ug/L	-	03/14/16 11:00	03/14/16 17:38	1
Iron	101	U	250	101	ug/L	-	03/14/16 11:00	03/14/16 17:38	1
Lead	0.733	U	5.00	0.733	ug/L	-	03/14/16 11:00	03/14/16 17:38	1
Manganese	11.6	U	50.0	11.6	ug/L	-	03/14/16 11:00	03/14/16 17:38	1
Nickel	2.17	U	5.00	2.17	ug/L	-	03/14/16 11:00	03/14/16 17:38	1
Selenium	1.08	U	5.00	1.08	ug/L	-	03/14/16 11:00	03/15/16 14:42	1
Silver	0.941	U	5.00	0.941	ug/L	-	03/14/16 11:00	03/14/16 17:38	1
Thallium	0.693	U	2.00	0.693	ug/L	-	03/14/16 11:00	03/14/16 17:38	1
Zinc	3.55	U	25.0	3.55	ug/L	-	03/14/16 11:00	03/14/16 17:38	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/16/16 10:00	03/16/16 16:48	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.545	J	1.00	0.315	mg/L	-		03/11/16 07:45	1
Chloride	17.5		1.00	0.192	mg/L	-		03/11/16 07:45	1
Nitrate as N	1.23		0.500	0.103	mg/L	-		03/11/16 07:45	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM250 TRAIL**

**Lab Sample ID: 560-60183-23**

**Date Collected: 03/09/16 18:16**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	23.9		1.00	0.377	mg/L			03/11/16 07:45	1
Fluoride	0.170		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/21/16 11:45	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/22/16 09:37	03/23/16 12:48	1
Total Organic Carbon	0.381	J	1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.24	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	235		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	235		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	340		10.0	10.0	mg/L			03/15/16 10:15	1
Total Suspended Solids	5.40		3.00	3.00	mg/L			03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/21/16 12:00	1

**Client Sample ID: HSM260TRAIL**

**Lab Sample ID: 560-60183-24**

**Date Collected: 03/09/16 18:40**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/11/16 12:16	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/11/16 12:16	1
Benzene	0.330	U	1.00	0.330	ug/L			03/11/16 12:16	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/11/16 12:16	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 12:16	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/11/16 12:16	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/11/16 12:16	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/11/16 12:16	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/11/16 12:16	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/11/16 12:16	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 12:16	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 12:16	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 12:16	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 12:16	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 12:16	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 12:16	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 12:16	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 12:16	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 12:16	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 12:16	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 12:16	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 12:16	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 12:16	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 12:16	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 12:16	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 12:16	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 12:16	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260TRAIL**

**Lab Sample ID: 560-60183-24**

**Date Collected: 03/09/16 18:40**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 12:16	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 12:16	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 12:16	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 12:16	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 12:16	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 12:16	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 12:16	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 12:16	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 12:16	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 12:16	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 12:16	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 12:16	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 12:16	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 12:16	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 12:16	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 12:16	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 12:16	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 12:16	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 12:16	1
Ethylene oxide	30.0	U F2	50.0	30.0	ug/L			03/11/16 12:16	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 12:16	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 12:16	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 12:16	1
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 12:16	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 12:16	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 12:16	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 12:16	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 12:16	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 12:16	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 12:16	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 12:16	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 12:16	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 12:16	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 12:16	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 12:16	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 12:16	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 12:16	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 12:16	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 12:16	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 12:16	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 12:16	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 12:16	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 12:16	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 12:16	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 12:16	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 12:16	1
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 12:16	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 12:16	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 12:16	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260TRAIL**

**Lab Sample ID: 560-60183-24**

**Date Collected: 03/09/16 18:40**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 12:16	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 12:16	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 12:16	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 12:16	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 12:16	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 12:16	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 12:16	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 12:16	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 12:16	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 12:16	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 12:16	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 12:16	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 12:16	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 12:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 12:16	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 12:16	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 12:16	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 12:16	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 12:16	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 12:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/11/16 12:16	1
Dibromofluoromethane (Surr)	106		69 - 130		03/11/16 12:16	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 140		03/11/16 12:16	1
Toluene-d8 (Surr)	101		70 - 130		03/11/16 12:16	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.479	U	10.4	0.479	ug/L		03/10/16 17:07	03/11/16 13:09	1
Acenaphthylene	0.471	U	10.4	0.471	ug/L		03/10/16 17:07	03/11/16 13:09	1
Anthracene	0.729	U	10.4	0.729	ug/L		03/10/16 17:07	03/11/16 13:09	1
Benzo[a]anthracene	0.673	U	10.4	0.673	ug/L		03/10/16 17:07	03/11/16 13:09	1
Benzo[a]pyrene	0.773	U	10.4	0.773	ug/L		03/10/16 17:07	03/11/16 13:09	1
Benzo[b]fluoranthene	0.946	U	10.4	0.946	ug/L		03/10/16 17:07	03/11/16 13:09	1
Benzo[g,h,i]perylene	1.14	U	10.4	1.14	ug/L		03/10/16 17:07	03/11/16 13:09	1
Benzo[k]fluoranthene	1.55	U	10.4	1.55	ug/L		03/10/16 17:07	03/11/16 13:09	1
Benzyl alcohol	0.861	U	10.4	0.861	ug/L		03/10/16 17:07	03/11/16 13:09	1
Bis(2-chloroethoxy)methane	0.454	U	10.4	0.454	ug/L		03/10/16 17:07	03/11/16 13:09	1
Bis(2-chloroethyl)ether	1.62	U	10.4	1.62	ug/L		03/10/16 17:07	03/11/16 13:09	1
Bis(2-ethylhexyl) phthalate	5.21	U	20.8	5.21	ug/L		03/10/16 17:07	03/11/16 13:09	1
4-Bromophenyl phenyl ether	0.845	U	10.4	0.845	ug/L		03/10/16 17:07	03/11/16 13:09	1
Butyl benzyl phthalate	0.850	U	10.4	0.850	ug/L		03/10/16 17:07	03/11/16 13:09	1
4-Chloroaniline	0.572	U	10.4	0.572	ug/L		03/10/16 17:07	03/11/16 13:09	1
4-Chloro-3-methylphenol	0.610	U	10.4	0.610	ug/L		03/10/16 17:07	03/11/16 13:09	1
2-Chloronaphthalene	0.628	U	10.4	0.628	ug/L		03/10/16 17:07	03/11/16 13:09	1
2-Chlorophenol	0.759	U	10.4	0.759	ug/L		03/10/16 17:07	03/11/16 13:09	1
4-Chlorophenyl phenyl ether	0.551	U	10.4	0.551	ug/L		03/10/16 17:07	03/11/16 13:09	1
Chrysene	0.515	U	10.4	0.515	ug/L		03/10/16 17:07	03/11/16 13:09	1
Dibenz(a,h)anthracene	0.910	U	10.4	0.910	ug/L		03/10/16 17:07	03/11/16 13:09	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260TRAIL**

**Lab Sample ID: 560-60183-24**

**Date Collected: 03/09/16 18:40**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.505	U	10.4	0.505	ug/L		03/10/16 17:07	03/11/16 13:09	1
1,2-Dichlorobenzene	0.807	U	10.4	0.807	ug/L		03/10/16 17:07	03/11/16 13:09	1
1,3-Dichlorobenzene	0.511	U	10.4	0.511	ug/L		03/10/16 17:07	03/11/16 13:09	1
1,4-Dichlorobenzene	0.849	U	10.4	0.849	ug/L		03/10/16 17:07	03/11/16 13:09	1
3,3'-Dichlorobenzidine	0.820	U	10.4	0.820	ug/L		03/10/16 17:07	03/11/16 13:09	1
2,4-Dichlorophenol	0.733	U	10.4	0.733	ug/L		03/10/16 17:07	03/11/16 13:09	1
Diethyl phthalate	0.694	U	10.4	0.694	ug/L		03/10/16 17:07	03/11/16 13:09	1
2,4-Dimethylphenol	0.618	U	10.4	0.618	ug/L		03/10/16 17:07	03/11/16 13:09	1
Dimethyl phthalate	0.614	U	10.4	0.614	ug/L		03/10/16 17:07	03/11/16 13:09	1
Di-n-butyl phthalate	0.739	U	10.4	0.739	ug/L		03/10/16 17:07	03/11/16 13:09	1
4,6-Dinitro-2-methylphenol	0.999	U	10.4	0.999	ug/L		03/10/16 17:07	03/11/16 13:09	1
2,4-Dinitrophenol	2.80	U	20.8	2.80	ug/L		03/10/16 17:07	03/11/16 13:09	1
2,4-Dinitrotoluene	0.530	U	20.8	0.530	ug/L		03/10/16 17:07	03/11/16 13:09	1
2,6-Dinitrotoluene	0.794	U	10.4	0.794	ug/L		03/10/16 17:07	03/11/16 13:09	1
Di-n-octyl phthalate	1.15	U	10.4	1.15	ug/L		03/10/16 17:07	03/11/16 13:09	1
Fluoranthene	0.517	U	10.4	0.517	ug/L		03/10/16 17:07	03/11/16 13:09	1
Fluorene	0.439	U	10.4	0.439	ug/L		03/10/16 17:07	03/11/16 13:09	1
Hexachlorobenzene	0.627	U	10.4	0.627	ug/L		03/10/16 17:07	03/11/16 13:09	1
Hexachlorobutadiene	0.746	U	10.4	0.746	ug/L		03/10/16 17:07	03/11/16 13:09	1
Hexachlorocyclopentadiene	0.874	U	10.4	0.874	ug/L		03/10/16 17:07	03/11/16 13:09	1
Hexachloroethane	0.614	U	10.4	0.614	ug/L		03/10/16 17:07	03/11/16 13:09	1
Indeno[1,2,3-cd]pyrene	0.960	U	10.4	0.960	ug/L		03/10/16 17:07	03/11/16 13:09	1
Isophorone	0.572	U	10.4	0.572	ug/L		03/10/16 17:07	03/11/16 13:09	1
2-Methylnaphthalene	0.731	U	10.4	0.731	ug/L		03/10/16 17:07	03/11/16 13:09	1
2-Methylphenol	0.635	U	10.4	0.635	ug/L		03/10/16 17:07	03/11/16 13:09	1
3 & 4 Methylphenol	0.795	U	20.8	0.795	ug/L		03/10/16 17:07	03/11/16 13:09	1
Naphthalene	0.820	U	10.4	0.820	ug/L		03/10/16 17:07	03/11/16 13:09	1
2-Nitroaniline	0.798	U	10.4	0.798	ug/L		03/10/16 17:07	03/11/16 13:09	1
3-Nitroaniline	0.533	U	10.4	0.533	ug/L		03/10/16 17:07	03/11/16 13:09	1
4-Nitroaniline	0.853	U	10.4	0.853	ug/L		03/10/16 17:07	03/11/16 13:09	1
Nitrobenzene	0.611	U	10.4	0.611	ug/L		03/10/16 17:07	03/11/16 13:09	1
2-Nitrophenol	0.842	U	10.4	0.842	ug/L		03/10/16 17:07	03/11/16 13:09	1
4-Nitrophenol	1.81	U	10.4	1.81	ug/L		03/10/16 17:07	03/11/16 13:09	1
N-Nitrosodi-n-propylamine	0.646	U	10.4	0.646	ug/L		03/10/16 17:07	03/11/16 13:09	1
N-Nitrosodiphenylamine	1.07	U	10.4	1.07	ug/L		03/10/16 17:07	03/11/16 13:09	1
Pentachlorophenol	1.38	U	20.8	1.38	ug/L		03/10/16 17:07	03/11/16 13:09	1
Phenanthrene	0.616	U	10.4	0.616	ug/L		03/10/16 17:07	03/11/16 13:09	1
Phenol	0.800	U	10.4	0.800	ug/L		03/10/16 17:07	03/11/16 13:09	1
Pyrene	0.458	U	10.4	0.458	ug/L		03/10/16 17:07	03/11/16 13:09	1
1,2,4-Trichlorobenzene	0.674	U	10.4	0.674	ug/L		03/10/16 17:07	03/11/16 13:09	1
2,4,5-Trichlorophenol	0.897	U	10.4	0.897	ug/L		03/10/16 17:07	03/11/16 13:09	1
2,4,6-Trichlorophenol	0.685	U	10.4	0.685	ug/L		03/10/16 17:07	03/11/16 13:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	53		23 - 130	03/10/16 17:07	03/11/16 13:09	1
2-Fluorophenol	53		10 - 130	03/10/16 17:07	03/11/16 13:09	1
Nitrobenzene-d5	54		27 - 130	03/10/16 17:07	03/11/16 13:09	1
Phenol-d5	56		10 - 130	03/10/16 17:07	03/11/16 13:09	1
Terphenyl-d14	38		10 - 141	03/10/16 17:07	03/11/16 13:09	1
2,4,6-Tribromophenol	59		18 - 130	03/10/16 17:07	03/11/16 13:09	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00470	U	0.0565	0.00470	ug/L		03/11/16 13:04	03/14/16 16:17	1
alpha-BHC	0.00489	U	0.0565	0.00489	ug/L		03/11/16 13:04	03/14/16 16:17	1
alpha-Chlordane	0.00593	U	0.0565	0.00593	ug/L		03/11/16 13:04	03/14/16 16:17	1
beta-BHC	0.00470	U	0.0565	0.00470	ug/L		03/11/16 13:04	03/14/16 16:17	1
4,4'-DDD	0.00470	U	0.0565	0.00470	ug/L		03/11/16 13:04	03/14/16 16:17	1
4,4'-DDE	0.00470	U	0.0565	0.00470	ug/L		03/11/16 13:04	03/14/16 16:17	1
4,4'-DDT	0.00762	U	0.0565	0.00762	ug/L		03/11/16 13:04	03/14/16 16:17	1
delta-BHC	0.00470	U	0.0565	0.00470	ug/L		03/11/16 13:04	03/14/16 16:17	1
Dieldrin	0.0122	U	0.0565	0.0122	ug/L		03/11/16 13:04	03/14/16 16:17	1
Endosulfan I	0.00470	U	0.0565	0.00470	ug/L		03/11/16 13:04	03/14/16 16:17	1
Endosulfan II	0.00809	U	0.0565	0.00809	ug/L		03/11/16 13:04	03/14/16 16:17	1
Endosulfan sulfate	0.00828	U	0.0565	0.00828	ug/L		03/11/16 13:04	03/14/16 16:17	1
Endrin	0.00724	U	0.0565	0.00724	ug/L		03/11/16 13:04	03/14/16 16:17	1
Endrin aldehyde	0.00470	U	0.0565	0.00470	ug/L		03/11/16 13:04	03/14/16 16:17	1
Endrin ketone	0.00772	U	0.0565	0.00772	ug/L		03/11/16 13:04	03/14/16 16:17	1
gamma-BHC (Lindane)	0.00423	U	0.0565	0.00423	ug/L		03/11/16 13:04	03/14/16 16:17	1
gamma-Chlordane	0.00630	U	0.0565	0.00630	ug/L		03/11/16 13:04	03/14/16 16:17	1
Heptachlor	0.00612	U	0.0565	0.00612	ug/L		03/11/16 13:04	03/14/16 16:17	1
Heptachlor epoxide	0.00489	U	0.0565	0.00489	ug/L		03/11/16 13:04	03/14/16 16:17	1
Methoxychlor	0.00941	U	0.0565	0.00941	ug/L		03/11/16 13:04	03/14/16 16:17	1
Toxaphene	0.640	U	5.65	0.640	ug/L		03/11/16 13:04	03/14/16 16:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	49		10 - 152	03/11/16 13:04	03/14/16 16:17	1
Tetrachloro-m-xylene	74		57 - 127	03/11/16 13:04	03/14/16 16:17	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.565	0.103	ug/L		03/11/16 13:04	03/14/16 10:47	1
Aroclor 1221	0.103	U	0.565	0.103	ug/L		03/11/16 13:04	03/14/16 10:47	1
Aroclor 1232	0.414	U	0.753	0.414	ug/L		03/11/16 13:04	03/14/16 10:47	1
Aroclor 1242	0.103	U	0.565	0.103	ug/L		03/11/16 13:04	03/14/16 10:47	1
Aroclor 1248	0.103	U	0.565	0.103	ug/L		03/11/16 13:04	03/14/16 10:47	1
Aroclor 1254	0.103	U	0.565	0.103	ug/L		03/11/16 13:04	03/14/16 10:47	1
Aroclor 1260	0.103	U	0.565	0.103	ug/L		03/11/16 13:04	03/14/16 10:47	1
Aroclor 1262	0.103	U	0.565	0.103	ug/L		03/11/16 13:04	03/14/16 10:47	1
Aroclor 1268	0.103	U	0.565	0.103	ug/L		03/11/16 13:04	03/14/16 10:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	109		10 - 150	03/11/16 13:04	03/14/16 10:47	1
DCB Decachlorobiphenyl	104		10 - 150	03/11/16 13:04	03/14/16 10:47	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.177	U	2.63	0.177	ug/L		03/11/16 19:29	03/19/16 11:58	1
Bolstar	0.330	U	1.05	0.330	ug/L		03/11/16 19:29	03/19/16 11:58	1
Chlorpyrifos	0.379	U	1.58	0.379	ug/L		03/11/16 19:29	03/19/16 11:58	1
Coumaphos	0.142	U	1.05	0.142	ug/L		03/11/16 19:29	03/19/16 11:58	1
Demeton-O	0.147	U	1.05	0.147	ug/L		03/11/16 19:29	03/19/16 11:58	1
Demeton-S	0.0726	U	2.10	0.0726	ug/L		03/11/16 19:29	03/19/16 11:58	1
Diazinon	0.155	U	0.526	0.155	ug/L		03/11/16 19:29	03/19/16 11:58	1
Dichlorvos	0.170	U	0.526	0.170	ug/L		03/11/16 19:29	03/19/16 11:58	1
Dimethoate	0.472	U	1.58	0.472	ug/L		03/11/16 19:29	03/19/16 11:58	1
Disulfoton	0.339	U	1.05	0.339	ug/L		03/11/16 19:29	03/19/16 11:58	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260TRAIL**

**Lab Sample ID: 560-60183-24**

**Date Collected: 03/09/16 18:40**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
EPN	0.157	U	1.26	0.157	ug/L		03/11/16 19:29	03/19/16 11:58	1
Ethoprop	0.186	U	1.58	0.186	ug/L		03/11/16 19:29	03/19/16 11:58	1
Ethyl Parathion	0.151	U	1.05	0.151	ug/L		03/11/16 19:29	03/19/16 11:58	1
Famphur	0.188	U	1.05	0.188	ug/L		03/11/16 19:29	03/19/16 11:58	1
Fensulfothion	0.572	U	2.63	0.572	ug/L		03/11/16 19:29	03/19/16 11:58	1
Fenthion	0.162	U	2.63	0.162	ug/L		03/11/16 19:29	03/19/16 11:58	1
Malathion	0.140	U	2.10	0.140	ug/L		03/11/16 19:29	03/19/16 11:58	1
Merphos	0.183	U	5.26	0.183	ug/L		03/11/16 19:29	03/19/16 11:58	1
Methyl parathion	0.148	U	4.21	0.148	ug/L		03/11/16 19:29	03/19/16 11:58	1
Mevinphos	0.484	U	6.52	0.484	ug/L		03/11/16 19:29	03/19/16 11:58	1
Naled	0.842	U	2.10	0.842	ug/L		03/11/16 19:29	03/19/16 11:58	1
Phorate	0.162	U	1.26	0.162	ug/L		03/11/16 19:29	03/19/16 11:58	1
Ronnel	0.122	U	10.5	0.122	ug/L		03/11/16 19:29	03/19/16 11:58	1
Sulfotepp	0.177	U	1.58	0.177	ug/L		03/11/16 19:29	03/19/16 11:58	1
Tetrachlorvinphos (Stirophos)	0.130	U	3.68	0.130	ug/L		03/11/16 19:29	03/19/16 11:58	1
Thionazin	0.328	U	1.05	0.328	ug/L		03/11/16 19:29	03/19/16 11:58	1
Tokuthion	0.129	U	1.68	0.129	ug/L		03/11/16 19:29	03/19/16 11:58	1
Trichloronate	0.255	U	1.58	0.255	ug/L		03/11/16 19:29	03/19/16 11:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	67		49 - 171	03/11/16 19:29	03/19/16 11:58	1
Triphenylphosphate	89		60 - 154	03/11/16 19:29	03/19/16 11:58	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0959	U	4.79	0.0959	ug/L		03/15/16 08:29	03/17/16 00:57	1
Dicamba	0.0815	U	0.479	0.0815	ug/L		03/15/16 08:29	03/17/16 00:57	1
Mecoprop	18.2	U	115	18.2	ug/L		03/15/16 08:29	03/17/16 00:57	1
MCPA	16.3	U	115	16.3	ug/L		03/15/16 08:29	03/17/16 00:57	1
Dichlorprop	0.144	U	0.479	0.144	ug/L		03/15/16 08:29	03/17/16 00:57	1
2,4-D	0.0355	U	0.479	0.0355	ug/L		03/15/16 08:29	03/17/16 00:57	1
Silvex (2,4,5-TP)	0.0595	U	0.240	0.0595	ug/L		03/15/16 08:29	03/17/16 00:57	1
2,4,5-T	0.0595	U	0.240	0.0595	ug/L		03/15/16 08:29	03/17/16 00:57	1
2,4-DB	0.144	U	0.479	0.144	ug/L		03/15/16 08:29	03/17/16 00:57	1
Dinoseb	0.153	U	0.959	0.153	ug/L		03/15/16 08:29	03/17/16 00:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	90		45 - 130	03/15/16 08:29	03/17/16 00:57	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	80.7		0.200	0.101	mg/L		03/14/16 11:00	03/14/16 14:22	1
Magnesium	15.0		0.200	0.0257	mg/L		03/14/16 11:00	03/14/16 14:22	1
Potassium	1.48		0.500	0.375	mg/L		03/14/16 11:00	03/15/16 13:31	1
Silicon	4.65		0.500	0.0707	mg/L		03/14/16 11:00	03/15/16 13:31	1
Sodium	10.9		1.00	0.310	mg/L		03/14/16 11:00	03/14/16 14:22	1
Strontium	0.489		0.00500	0.000700	mg/L		03/14/16 11:00	03/14/16 14:22	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/14/16 11:00	03/15/16 14:10	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM260TRAIL**

**Lab Sample ID: 560-60183-24**

**Date Collected: 03/09/16 18:40**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.61	U	5.00	1.61	ug/L		03/14/16 11:00	03/14/16 16:51	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/14/16 11:00	03/15/16 14:10	1
<b>Barium</b>	<b>33.1</b>		5.00	0.810	ug/L		03/14/16 11:00	03/14/16 16:51	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/14/16 11:00	03/15/16 14:10	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/14/16 11:00	03/14/16 16:51	1
Chromium	1.40	U	5.00	1.40	ug/L		03/14/16 11:00	03/14/16 16:51	1
Copper	2.00	U	10.0	2.00	ug/L		03/14/16 11:00	03/14/16 16:51	1
Iron	101	U	250	101	ug/L		03/14/16 11:00	03/14/16 16:51	1
Lead	0.733	U	5.00	0.733	ug/L		03/14/16 11:00	03/14/16 16:51	1
Manganese	11.6	U	50.0	11.6	ug/L		03/14/16 11:00	03/14/16 16:51	1
Nickel	2.17	U	5.00	2.17	ug/L		03/14/16 11:00	03/14/16 16:51	1
Selenium	1.08	U	5.00	1.08	ug/L		03/14/16 11:00	03/15/16 14:10	1
Silver	0.941	U	5.00	0.941	ug/L		03/14/16 11:00	03/14/16 16:51	1
Thallium	0.693	U	2.00	0.693	ug/L		03/14/16 11:00	03/14/16 16:51	1
<b>Zinc</b>	<b>6.69</b>	<b>J</b>	25.0	3.55	ug/L		03/14/16 11:00	03/14/16 16:51	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U F1	0.00200	0.000130	mg/L		03/16/16 10:00	03/16/16 15:15	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>0.540</b>	<b>J</b>	1.00	0.315	mg/L			03/11/16 08:11	1
<b>Chloride</b>	<b>16.3</b>		1.00	0.192	mg/L			03/11/16 08:11	1
<b>Nitrate as N</b>	<b>1.15</b>		0.500	0.103	mg/L			03/11/16 08:11	1
<b>Sulfate</b>	<b>22.4</b>		1.00	0.377	mg/L			03/11/16 08:11	1
<b>Fluoride</b>	<b>0.172</b>		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U F2 F1	1.00	0.432	mg/L			03/16/16 11:56	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/22/16 09:37	03/23/16 12:25	1
<b>Total Organic Carbon</b>	<b>0.675</b>	<b>J</b>	1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.32</b>	<b>HF</b>	0.100	0.100	SU			03/10/16 15:11	1
<b>Total Alkalinity as CaCO3</b>	<b>217</b>		5.00	5.00	mg/L			03/22/16 14:05	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>217</b>		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
<b>Total Dissolved Solids</b>	<b>321</b>		10.0	10.0	mg/L			03/11/16 09:50	1
<b>Total Suspended Solids</b>	<b>12.4</b>		3.00	3.00	mg/L			03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Dissolved Organic Carbon</b>	<b>0.800</b>	<b>J</b>	1.00	0.285	mg/L			03/21/16 12:00	1

**Client Sample ID: HSM 270 TRAIL**

**Lab Sample ID: 560-60183-25**

**Date Collected: 03/09/16 19:18**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>6.41</b>	<b>J</b>	10.0	5.00	ug/L			03/11/16 19:23	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/11/16 19:23	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM 270 TRAIL**

**Lab Sample ID: 560-60183-25**

**Date Collected: 03/09/16 19:18**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.330	U	1.00	0.330	ug/L			03/11/16 19:23	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/11/16 19:23	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 19:23	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/11/16 19:23	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/11/16 19:23	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/11/16 19:23	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/11/16 19:23	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/11/16 19:23	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 19:23	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 19:23	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 19:23	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 19:23	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 19:23	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 19:23	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 19:23	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 19:23	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 19:23	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 19:23	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 19:23	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 19:23	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 19:23	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 19:23	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 19:23	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 19:23	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 19:23	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 19:23	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 19:23	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 19:23	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 19:23	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 19:23	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 19:23	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 19:23	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 19:23	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 19:23	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 19:23	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 19:23	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 19:23	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 19:23	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 19:23	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 19:23	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 19:23	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 19:23	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 19:23	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 19:23	1
Ethylene oxide	30.0	U F1	50.0	30.0	ug/L			03/11/16 19:23	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 19:23	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 19:23	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 19:23	1
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 19:23	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM 270 TRAIL**

**Lab Sample ID: 560-60183-25**

**Date Collected: 03/09/16 19:18**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 19:23	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 19:23	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 19:23	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 19:23	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 19:23	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 19:23	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 19:23	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 19:23	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 19:23	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 19:23	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 19:23	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 19:23	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 19:23	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 19:23	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 19:23	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 19:23	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 19:23	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 19:23	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 19:23	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 19:23	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 19:23	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 19:23	1
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 19:23	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 19:23	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 19:23	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 19:23	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 19:23	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 19:23	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 19:23	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 19:23	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 19:23	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 19:23	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 19:23	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 19:23	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 19:23	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 19:23	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 19:23	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 19:23	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 19:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 19:23	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 19:23	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 19:23	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 19:23	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 19:23	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 19:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130		03/11/16 19:23	1
Dibromofluoromethane (Surr)	104		69 - 130		03/11/16 19:23	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/11/16 19:23	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM 270 TRAIL**

**Lab Sample ID: 560-60183-25**

**Date Collected: 03/09/16 19:18**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		70 - 130		03/11/16 19:23	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/11/16 14:32	03/14/16 11:46	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/11/16 14:32	03/14/16 11:46	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/11/16 14:32	03/14/16 11:46	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/11/16 14:32	03/14/16 11:46	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/11/16 14:32	03/14/16 11:46	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/11/16 14:32	03/14/16 11:46	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/11/16 14:32	03/14/16 11:46	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/11/16 14:32	03/14/16 11:46	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/11/16 14:32	03/14/16 11:46	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/11/16 14:32	03/14/16 11:46	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/11/16 14:32	03/14/16 11:46	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/11/16 14:32	03/14/16 11:46	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/11/16 14:32	03/14/16 11:46	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/11/16 14:32	03/14/16 11:46	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 11:46	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/11/16 14:32	03/14/16 11:46	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/11/16 14:32	03/14/16 11:46	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/11/16 14:32	03/14/16 11:46	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/11/16 14:32	03/14/16 11:46	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/11/16 14:32	03/14/16 11:46	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/11/16 14:32	03/14/16 11:46	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/11/16 14:32	03/14/16 11:46	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/11/16 14:32	03/14/16 11:46	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/11/16 14:32	03/14/16 11:46	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/11/16 14:32	03/14/16 11:46	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 11:46	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/11/16 14:32	03/14/16 11:46	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/11/16 14:32	03/14/16 11:46	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/11/16 14:32	03/14/16 11:46	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 11:46	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/11/16 14:32	03/14/16 11:46	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/11/16 14:32	03/14/16 11:46	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/11/16 14:32	03/14/16 11:46	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/11/16 14:32	03/14/16 11:46	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/11/16 14:32	03/14/16 11:46	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/11/16 14:32	03/14/16 11:46	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/11/16 14:32	03/14/16 11:46	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/11/16 14:32	03/14/16 11:46	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/11/16 14:32	03/14/16 11:46	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/11/16 14:32	03/14/16 11:46	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/11/16 14:32	03/14/16 11:46	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 11:46	1
Indeno[1,2,3-cd]pyrene	0.922	U F1	10.0	0.922	ug/L		03/11/16 14:32	03/14/16 11:46	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 11:46	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/11/16 14:32	03/14/16 11:46	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM 270 TRAIL**

**Lab Sample ID: 560-60183-25**

**Date Collected: 03/09/16 19:18**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/11/16 14:32	03/14/16 11:46	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/11/16 14:32	03/14/16 11:46	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 11:46	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/11/16 14:32	03/14/16 11:46	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/11/16 14:32	03/14/16 11:46	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/11/16 14:32	03/14/16 11:46	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/11/16 14:32	03/14/16 11:46	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/11/16 14:32	03/14/16 11:46	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/11/16 14:32	03/14/16 11:46	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/11/16 14:32	03/14/16 11:46	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/11/16 14:32	03/14/16 11:46	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/11/16 14:32	03/14/16 11:46	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/11/16 14:32	03/14/16 11:46	1
Phenol	0.768	U	10.0	0.768	ug/L		03/11/16 14:32	03/14/16 11:46	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/11/16 14:32	03/14/16 11:46	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/11/16 14:32	03/14/16 11:46	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/11/16 14:32	03/14/16 11:46	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/11/16 14:32	03/14/16 11:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	77		23 - 130	03/11/16 14:32	03/14/16 11:46	1
2-Fluorophenol	74		10 - 130	03/11/16 14:32	03/14/16 11:46	1
Nitrobenzene-d5	76		27 - 130	03/11/16 14:32	03/14/16 11:46	1
Phenol-d5	79		10 - 130	03/11/16 14:32	03/14/16 11:46	1
Terphenyl-d14	74		10 - 141	03/11/16 14:32	03/14/16 11:46	1
2,4,6-Tribromophenol	79		18 - 130	03/11/16 14:32	03/14/16 11:46	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00489	U	0.0587	0.00489	ug/L		03/12/16 07:37	03/15/16 16:06	1
alpha-BHC	0.00508	U	0.0587	0.00508	ug/L		03/12/16 07:37	03/15/16 16:06	1
alpha-Chlordane	0.00616	U	0.0587	0.00616	ug/L		03/12/16 07:37	03/15/16 16:06	1
beta-BHC	0.00489	U	0.0587	0.00489	ug/L		03/12/16 07:37	03/15/16 16:06	1
4,4'-DDD	0.00489	U	0.0587	0.00489	ug/L		03/12/16 07:37	03/15/16 16:06	1
4,4'-DDE	0.00489	U	0.0587	0.00489	ug/L		03/12/16 07:37	03/15/16 16:06	1
4,4'-DDT	0.00792	U	0.0587	0.00792	ug/L		03/12/16 07:37	03/15/16 16:06	1
delta-BHC	0.00489	U	0.0587	0.00489	ug/L		03/12/16 07:37	03/15/16 16:06	1
Dieldrin	0.0127	U	0.0587	0.0127	ug/L		03/12/16 07:37	03/15/16 16:06	1
Endosulfan I	0.00489	U	0.0587	0.00489	ug/L		03/12/16 07:37	03/15/16 16:06	1
Endosulfan II	0.00841	U	0.0587	0.00841	ug/L		03/12/16 07:37	03/15/16 16:06	1
Endosulfan sulfate	0.00860	U	0.0587	0.00860	ug/L		03/12/16 07:37	03/15/16 16:06	1
Endrin	0.00753	U	0.0587	0.00753	ug/L		03/12/16 07:37	03/15/16 16:06	1
Endrin aldehyde	0.00489	U	0.0587	0.00489	ug/L		03/12/16 07:37	03/15/16 16:06	1
Endrin ketone	0.00802	U	0.0587	0.00802	ug/L		03/12/16 07:37	03/15/16 16:06	1
gamma-BHC (Lindane)	0.00440	U	0.0587	0.00440	ug/L		03/12/16 07:37	03/15/16 16:06	1
gamma-Chlordane	0.00655	U	0.0587	0.00655	ug/L		03/12/16 07:37	03/15/16 16:06	1
Heptachlor	0.00635	U	0.0587	0.00635	ug/L		03/12/16 07:37	03/15/16 16:06	1
Heptachlor epoxide	0.00508	U	0.0587	0.00508	ug/L		03/12/16 07:37	03/15/16 16:06	1
Methoxychlor	0.00978	U	0.0587	0.00978	ug/L		03/12/16 07:37	03/15/16 16:06	1
Toxaphene	0.665	U	5.87	0.665	ug/L		03/12/16 07:37	03/15/16 16:06	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM 270 TRAIL**

**Lab Sample ID: 560-60183-25**

**Date Collected: 03/09/16 19:18**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	51		10 - 152	03/12/16 07:37	03/15/16 16:06	1
Tetrachloro-m-xylene	83		57 - 127	03/12/16 07:37	03/15/16 16:06	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.108	U	0.587	0.108	ug/L		03/12/16 07:37	03/15/16 14:04	1
Aroclor 1221	0.108	U	0.587	0.108	ug/L		03/12/16 07:37	03/15/16 14:04	1
Aroclor 1232	0.430	U	0.782	0.430	ug/L		03/12/16 07:37	03/15/16 14:04	1
Aroclor 1242	0.108	U	0.587	0.108	ug/L		03/12/16 07:37	03/15/16 14:04	1
Aroclor 1248	0.108	U	0.587	0.108	ug/L		03/12/16 07:37	03/15/16 14:04	1
Aroclor 1254	0.108	U	0.587	0.108	ug/L		03/12/16 07:37	03/15/16 14:04	1
Aroclor 1260	0.108	U F1	0.587	0.108	ug/L		03/12/16 07:37	03/15/16 14:04	1
Aroclor 1262	0.108	U	0.587	0.108	ug/L		03/12/16 07:37	03/15/16 14:04	1
Aroclor 1268	0.108	U	0.587	0.108	ug/L		03/12/16 07:37	03/15/16 14:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	124		10 - 150	03/12/16 07:37	03/15/16 14:04	1
DCB Decachlorobiphenyl	99		10 - 150	03/12/16 07:37	03/15/16 14:04	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.160	U	2.38	0.160	ug/L		03/11/16 22:51	03/17/16 00:47	1
Bolstar	0.299	U	0.951	0.299	ug/L		03/11/16 22:51	03/17/16 00:47	1
Chlorpyrifos	0.342	U	1.43	0.342	ug/L		03/11/16 22:51	03/17/16 00:47	1
Coumaphos	0.128	U	0.951	0.128	ug/L		03/11/16 22:51	03/17/16 00:47	1
Demeton-O	0.133	U	0.951	0.133	ug/L		03/11/16 22:51	03/17/16 00:47	1
Demeton-S	0.0656	U	1.90	0.0656	ug/L		03/11/16 22:51	03/17/16 00:47	1
Diazinon	0.140	U	0.475	0.140	ug/L		03/11/16 22:51	03/17/16 00:47	1
Dichlorvos	0.154	U	0.475	0.154	ug/L		03/11/16 22:51	03/17/16 00:47	1
Dimethoate	0.427	U	1.43	0.427	ug/L		03/11/16 22:51	03/17/16 00:47	1
Disulfoton	0.306	U	0.951	0.306	ug/L		03/11/16 22:51	03/17/16 00:47	1
EPN	0.142	U	1.14	0.142	ug/L		03/11/16 22:51	03/17/16 00:47	1
Ethoprop	0.168	U	1.43	0.168	ug/L		03/11/16 22:51	03/17/16 00:47	1
Ethyl Parathion	0.137	U	0.951	0.137	ug/L		03/11/16 22:51	03/17/16 00:47	1
Famphur	0.170	U	0.951	0.170	ug/L		03/11/16 22:51	03/17/16 00:47	1
Fensulfothion	0.517	U	2.38	0.517	ug/L		03/11/16 22:51	03/17/16 00:47	1
Fenthion	0.146	U	2.38	0.146	ug/L		03/11/16 22:51	03/17/16 00:47	1
Malathion	0.126	U	1.90	0.126	ug/L		03/11/16 22:51	03/17/16 00:47	1
Merphos	0.165	U	4.75	0.165	ug/L		03/11/16 22:51	03/17/16 00:47	1
Methyl parathion	0.134	U	3.80	0.134	ug/L		03/11/16 22:51	03/17/16 00:47	1
Mevinphos	0.437	U	5.90	0.437	ug/L		03/11/16 22:51	03/17/16 00:47	1
Naled	0.761	U	1.90	0.761	ug/L		03/11/16 22:51	03/17/16 00:47	1
Phorate	0.146	U	1.14	0.146	ug/L		03/11/16 22:51	03/17/16 00:47	1
Ronnel	0.110	U	9.51	0.110	ug/L		03/11/16 22:51	03/17/16 00:47	1
Sulfotepp	0.160	U	1.43	0.160	ug/L		03/11/16 22:51	03/17/16 00:47	1
Tetrachlorvinphos (Stirophos)	0.118	U	3.33	0.118	ug/L		03/11/16 22:51	03/17/16 00:47	1
Thionazin	0.297	U	0.951	0.297	ug/L		03/11/16 22:51	03/17/16 00:47	1
Tokuthion	0.117	U	1.52	0.117	ug/L		03/11/16 22:51	03/17/16 00:47	1
Trichloronate	0.230	U	1.43	0.230	ug/L		03/11/16 22:51	03/17/16 00:47	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM 270 TRAIL**

**Lab Sample ID: 560-60183-25**

**Date Collected: 03/09/16 19:18**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	74		49 - 171	03/11/16 22:51	03/17/16 00:47	1
Triphenylphosphate	92		60 - 154	03/11/16 22:51	03/17/16 00:47	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0961	U	4.81	0.0961	ug/L		03/16/16 07:45	03/17/16 22:15	1
Dicamba	0.0817	U	0.481	0.0817	ug/L		03/16/16 07:45	03/17/16 22:15	1
Mecoprop	18.3	U	115	18.3	ug/L		03/16/16 07:45	03/17/16 22:15	1
MCPA	16.3	U	115	16.3	ug/L		03/16/16 07:45	03/17/16 22:15	1
Dichlorprop	0.144	U	0.481	0.144	ug/L		03/16/16 07:45	03/17/16 22:15	1
2,4-D	0.0356	U	0.481	0.0356	ug/L		03/16/16 07:45	03/17/16 22:15	1
Silvex (2,4,5-TP)	0.0596	U	0.240	0.0596	ug/L		03/16/16 07:45	03/17/16 22:15	1
2,4,5-T	0.0596	U	0.240	0.0596	ug/L		03/16/16 07:45	03/17/16 22:15	1
2,4-DB	0.144	U	0.481	0.144	ug/L		03/16/16 07:45	03/17/16 22:15	1
Dinoseb	0.154	U	0.961	0.154	ug/L		03/16/16 07:45	03/17/16 22:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	87		45 - 130				03/16/16 07:45	03/17/16 22:15	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	76.9		0.200	0.101	mg/L		03/14/16 11:15	03/16/16 12:55	1
Magnesium	14.0		0.200	0.0257	mg/L		03/14/16 11:15	03/16/16 12:55	1
Potassium	1.65		0.500	0.375	mg/L		03/14/16 11:15	03/16/16 12:55	1
Silicon	4.45		0.500	0.0707	mg/L		03/14/16 11:15	03/16/16 12:55	1
Sodium	10.7		1.00	0.310	mg/L		03/14/16 11:15	03/16/16 12:55	1
Strontium	0.443		0.00500	0.000700	mg/L		03/14/16 11:15	03/16/16 12:55	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/14/16 11:15	03/15/16 15:29	1
Antimony	1.61	U	5.00	1.61	ug/L		03/14/16 11:15	03/15/16 15:29	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/14/16 11:15	03/15/16 15:29	1
Barium	32.7		5.00	0.810	ug/L		03/14/16 11:15	03/15/16 15:29	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/14/16 11:15	03/15/16 15:29	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/14/16 11:15	03/15/16 15:29	1
Chromium	1.40	U	5.00	1.40	ug/L		03/14/16 11:15	03/15/16 15:29	1
Copper	2.00	U	10.0	2.00	ug/L		03/14/16 11:15	03/15/16 15:29	1
Iron	101	U	250	101	ug/L		03/14/16 11:15	03/15/16 15:29	1
Lead	0.733	U	5.00	0.733	ug/L		03/14/16 11:15	03/15/16 15:29	1
Manganese	11.6	U	50.0	11.6	ug/L		03/14/16 11:15	03/15/16 15:29	1
Nickel	2.17	U	5.00	2.17	ug/L		03/14/16 11:15	03/15/16 15:29	1
Selenium	1.08	U	5.00	1.08	ug/L		03/14/16 11:15	03/15/16 15:29	1
Silver	0.941	U	5.00	0.941	ug/L		03/14/16 11:15	03/15/16 15:29	1
Thallium	0.693	U	2.00	0.693	ug/L		03/14/16 11:15	03/15/16 15:29	1
Zinc	3.55	U	25.0	3.55	ug/L		03/14/16 11:15	03/15/16 15:29	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		03/16/16 10:00	03/16/16 16:13	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

**Client Sample ID: HSM 270 TRAIL**

**Lab Sample ID: 560-60183-25**

**Date Collected: 03/09/16 19:18**

**Matrix: Water**

**Date Received: 03/09/16 17:30**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.533	J	1.00	0.315	mg/L			03/11/16 09:29	1
Chloride	14.9		1.00	0.192	mg/L			03/11/16 09:29	1
Nitrate as N	1.06		0.500	0.103	mg/L			03/11/16 09:29	1
Sulfate	21.0		1.00	0.377	mg/L			03/11/16 09:29	1
Fluoride	0.164		0.100	0.0200	mg/L			03/18/16 12:00	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/21/16 11:33	1
Phosphorus	0.0423	J	0.100	0.0410	mg/L		03/22/16 09:35	03/23/16 11:51	1
Total Organic Carbon	1.24		1.00	0.285	mg/L			03/16/16 13:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.38	HF	0.100	0.100	SU			03/10/16 15:11	1
Total Alkalinity as CaCO3	202		5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	202		5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Total Dissolved Solids	293		10.0	10.0	mg/L			03/15/16 10:15	1
Total Suspended Solids	23.6		3.00	3.00	mg/L			03/14/16 16:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.01		1.00	0.285	mg/L			03/21/16 12:00	1

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-125920/8  
Matrix: Water  
Analysis Batch: 125920

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/10/16 12:38	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/10/16 12:38	1
Benzene	0.330	U	1.00	0.330	ug/L			03/10/16 12:38	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/10/16 12:38	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 12:38	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/10/16 12:38	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/10/16 12:38	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/10/16 12:38	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/10/16 12:38	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/10/16 12:38	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/10/16 12:38	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/10/16 12:38	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/10/16 12:38	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/10/16 12:38	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/10/16 12:38	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/10/16 12:38	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/10/16 12:38	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/10/16 12:38	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/10/16 12:38	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/10/16 12:38	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/10/16 12:38	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/10/16 12:38	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/10/16 12:38	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/10/16 12:38	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/10/16 12:38	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/10/16 12:38	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/10/16 12:38	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/10/16 12:38	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/10/16 12:38	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/10/16 12:38	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/10/16 12:38	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/10/16 12:38	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/10/16 12:38	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/10/16 12:38	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/10/16 12:38	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/10/16 12:38	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/10/16 12:38	1
EDB	0.175	U	1.00	0.175	ug/L			03/10/16 12:38	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/10/16 12:38	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/10/16 12:38	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/10/16 12:38	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125920/8

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/10/16 12:38	1
Hexane	2.00	U	5.00	2.00	ug/L			03/10/16 12:38	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/10/16 12:38	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/10/16 12:38	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/10/16 12:38	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/10/16 12:38	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/10/16 12:38	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/10/16 12:38	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/10/16 12:38	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/10/16 12:38	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/10/16 12:38	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/10/16 12:38	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/10/16 12:38	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/10/16 12:38	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/10/16 12:38	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/10/16 12:38	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/10/16 12:38	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/10/16 12:38	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/10/16 12:38	1
Styrene	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 12:38	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/10/16 12:38	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/10/16 12:38	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/10/16 12:38	1
Toluene	0.495	U	1.00	0.495	ug/L			03/10/16 12:38	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/10/16 12:38	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/10/16 12:38	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/10/16 12:38	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/10/16 12:38	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/10/16 12:38	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/10/16 12:38	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/10/16 12:38	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/10/16 12:38	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/10/16 12:38	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/10/16 12:38	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/10/16 12:38	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 12:38	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/10/16 12:38	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/10/16 12:38	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/10/16 12:38	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/10/16 12:38	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125920/8

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		03/10/16 12:38	1
Dibromofluoromethane (Surr)	102		69 - 130		03/10/16 12:38	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		03/10/16 12:38	1
Toluene-d8 (Surr)	100		70 - 130		03/10/16 12:38	1

Lab Sample ID: LCS 560-125920/3

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	31.04		ug/L		124	60 - 150
Acetonitrile	250	291.4		ug/L		117	52 - 160
Benzene	25.0	26.61		ug/L		106	70 - 130
Benzyl chloride	25.0	26.83		ug/L		107	66 - 153
Bromobenzene	25.0	25.24		ug/L		101	70 - 130
Bromochloromethane	25.0	28.16		ug/L		113	70 - 130
Bromoform	25.0	27.92		ug/L		112	63 - 145
Bromomethane	25.0	30.33		ug/L		121	50 - 146
1,3-Butadiene	25.0	25.90		ug/L		104	40 - 138
2-Butanone (MEK)	25.0	26.90		ug/L		108	68 - 144
Carbon disulfide	25.0	28.44		ug/L		114	52 - 156
Carbon tetrachloride	25.0	28.52		ug/L		114	70 - 138
Chlorobenzene	25.0	26.14		ug/L		105	70 - 130
2-Chloro-1,3-butadiene	25.0	25.22		ug/L		101	69 - 140
Chlorodibromomethane	25.0	26.68		ug/L		107	70 - 137
Chloroethane	25.0	28.21		ug/L		113	54 - 141
Chloroform	25.0	27.10		ug/L		108	70 - 130
1-Chlorohexane	25.0	24.29		ug/L		97	64 - 130
Chloromethane	25.0	26.21		ug/L		105	46 - 142
2-Chlorotoluene	25.0	26.34		ug/L		105	70 - 130
4-Chlorotoluene	25.0	27.11		ug/L		108	70 - 130
cis-1,4-Dichloro-2-butene	25.0	26.29		ug/L		105	10 - 184
cis-1,2-Dichloroethene	25.0	28.33		ug/L		113	70 - 130
cis-1,3-Dichloropropene	25.0	27.16		ug/L		109	70 - 138
Cyclohexane	25.0	27.31		ug/L		109	40 - 141
Cyclohexanone	125	151.4		ug/L		121	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	26.02		ug/L		104	70 - 149
Dibromomethane	25.0	26.65		ug/L		107	70 - 130
1,2-Dichlorobenzene	25.0	26.55		ug/L		106	70 - 130
1,3-Dichlorobenzene	25.0	26.42		ug/L		106	70 - 130
1,4-Dichlorobenzene	25.0	26.61		ug/L		106	70 - 130
Dichlorobromomethane	25.0	26.63		ug/L		107	70 - 130
Dichlorodifluoromethane	25.0	25.71		ug/L		103	10 - 181
1,1-Dichloroethane	25.0	26.66		ug/L		107	70 - 130
1,2-Dichloroethane	25.0	25.98		ug/L		104	70 - 131
1,1-Dichloroethene	25.0	26.99		ug/L		108	70 - 139
1,2-Dichloropropane	25.0	26.84		ug/L		107	70 - 130
1,3-Dichloropropane	25.0	25.87		ug/L		103	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125920/3

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	30.10		ug/L		120	65 - 143
1,1-Dichloropropene	25.0	27.04		ug/L		108	70 - 130
1,4-Dioxane	500	643.1		ug/L		129	66 - 150
EDB	25.0	26.73		ug/L		107	70 - 130
Ethyl acetate	50.0	49.31		ug/L		99	59 - 200
Ethylbenzene	25.0	26.26		ug/L		105	70 - 130
Ethylene oxide	100	94.56		ug/L		95	10 - 200
Ethyl ether	25.0	26.88		ug/L		108	69 - 136
Ethyl methacrylate	25.0	26.74		ug/L		107	70 - 130
Hexachlorobutadiene	25.0	31.75		ug/L		127	68 - 165
Hexane	25.0	30.15		ug/L		121	10 - 185
2-Hexanone	25.0	24.11		ug/L		96	70 - 138
Iodomethane	25.0	29.58		ug/L		118	64 - 146
Isobutyl alcohol	625	676.5		ug/L		108	27 - 199
Isooctane	25.0	28.49		ug/L		114	10 - 181
Isopropylbenzene	25.0	26.68		ug/L		107	70 - 131
4-Isopropyltoluene	25.0	28.06		ug/L		112	70 - 130
Methacrylonitrile	250	249.7		ug/L		100	70 - 139
Methylene Chloride	25.0	25.99		ug/L		104	70 - 130
Methyl methacrylate	50.0	48.16		ug/L		96	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	24.35		ug/L		97	70 - 138
Methyl tert-butyl ether	25.0	26.65		ug/L		107	70 - 131
m-Xylene & p-Xylene	25.0	26.11		ug/L		104	70 - 139
Naphthalene	25.0	26.25		ug/L		105	70 - 159
n-Butylbenzene	25.0	27.71		ug/L		111	70 - 135
n-Heptane	25.0	28.10		ug/L		112	10 - 186
2-Nitropropane	50.0	47.49		ug/L		95	22 - 173
N-Propylbenzene	25.0	26.63		ug/L		107	70 - 131
1-Octene	25.0	28.36		ug/L		113	10 - 185
o-Xylene	25.0	25.98		ug/L		104	70 - 130
Pentachloroethane	25.0	29.42		ug/L		118	70 - 146
Propionitrile	250	267.0		ug/L		107	70 - 144
sec-Butylbenzene	25.0	27.68		ug/L		111	70 - 134
Styrene	25.0	27.34		ug/L		109	70 - 130
tert-Butylbenzene	25.0	27.23		ug/L		109	70 - 132
1,1,1,2-Tetrachloroethane	25.0	27.44		ug/L		110	70 - 130
1,1,2,2-Tetrachloroethane	25.0	26.77		ug/L		107	70 - 130
Tetrachloroethene	25.0	25.75		ug/L		103	70 - 135
Toluene	25.0	26.04		ug/L		104	70 - 130
trans-1,4-Dichloro-2-butene	25.0	25.14		ug/L		101	37 - 174
trans-1,2-Dichloroethene	25.0	28.94		ug/L		116	70 - 134
trans-1,3-Dichloropropene	25.0	26.30		ug/L		105	70 - 143
1,2,3-Trichlorobenzene	25.0	26.85		ug/L		107	70 - 158
1,2,4-Trichlorobenzene	25.0	27.35		ug/L		109	70 - 157
1,3,5-Trichlorobenzene	25.0	27.62		ug/L		110	70 - 131
1,1,1-Trichloroethane	25.0	28.36		ug/L		113	70 - 130
1,1,2-Trichloroethane	25.0	25.57		ug/L		102	70 - 130
Trichloroethene	25.0	26.96		ug/L		108	70 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125920/3

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	29.27		ug/L		117	39 - 146
1,2,3-Trichloropropane	25.0	26.39		ug/L		106	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	29.34		ug/L		117	27 - 148
1,2,4-Trimethylbenzene	25.0	26.48		ug/L		106	70 - 130
1,3,5-Trimethylbenzene	25.0	26.70		ug/L		107	70 - 131
Vinyl acetate	50.0	50.76		ug/L		102	18 - 200
Vinyl chloride	25.0	27.50		ug/L		110	49 - 140
Xylenes, Total	50.0	52.09		ug/L		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	105		69 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 140
Toluene-d8 (Surr)	99		70 - 130

Lab Sample ID: 560-60105-C-7 MS

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	574		500	1107		ug/L		107	32 - 157
Acetonitrile	200	U	5000	6064		ug/L		121	10 - 182
Benzene	875		500	1379		ug/L		101	70 - 130
Benzyl chloride	5.56	U	500	541.5		ug/L		108	49 - 130
Bromobenzene	2.56	U	500	499.7		ug/L		100	69 - 130
Bromochloromethane	4.56	U	500	561.2		ug/L		112	70 - 130
Bromoform	10.0	U	500	550.6		ug/L		110	57 - 145
Bromomethane	7.84	U	500	580.8		ug/L		116	56 - 141
1,3-Butadiene	6.00	U	500	491.8		ug/L		98	25 - 196
2-Butanone (MEK)	20.0	U	500	606.1		ug/L		121	42 - 142
Carbon disulfide	10.0	U	500	551.9		ug/L		110	59 - 164
Carbon tetrachloride	5.02	U	500	548.6		ug/L		110	70 - 138
Chlorobenzene	2.72	U	500	519.6		ug/L		104	70 - 130
2-Chloro-1,3-butadiene	4.00	U	500	484.5		ug/L		97	55 - 144
Chlorodibromomethane	4.46	U	500	526.6		ug/L		105	62 - 145
Chloroethane	8.00	U	500	548.4		ug/L		110	62 - 142
Chloroform	3.46	U	500	537.6		ug/L		108	70 - 130
1-Chlorohexane	10.0	U	500	483.4		ug/L		97	64 - 130
Chloromethane	7.80	U	500	513.5		ug/L		103	57 - 148
2-Chlorotoluene	3.10	U	500	519.9		ug/L		104	70 - 130
4-Chlorotoluene	4.84	U	500	526.6		ug/L		105	69 - 130
cis-1,4-Dichloro-2-butene	10.0	U	500	519.4		ug/L		104	24 - 136
cis-1,2-Dichloroethene	2.42	U	500	552.1		ug/L		110	70 - 130
cis-1,3-Dichloropropene	2.92	U	500	529.2		ug/L		106	46 - 136
Cyclohexane	42.6		500	587.0		ug/L		109	46 - 144
Cyclohexanone	100	U	2500	2734		ug/L		109	10 - 193
1,2-Dibromo-3-Chloropropane	6.98	U	500	548.2		ug/L		110	56 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60105-C-7 MS

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	3.30	U	500	527.5		ug/L		106	70 - 130
1,2-Dichlorobenzene	3.40	U	500	530.9		ug/L		106	70 - 130
1,3-Dichlorobenzene	2.56	U	500	525.2		ug/L		105	70 - 130
1,4-Dichlorobenzene	4.00	U	500	531.5		ug/L		106	70 - 130
Dichlorobromomethane	3.50	U	500	525.9		ug/L		105	70 - 130
Dichlorodifluoromethane	8.58	U	500	506.7		ug/L		101	14 - 198
1,1-Dichloroethane	3.36	U	500	524.2		ug/L		105	70 - 130
1,2-Dichloroethane	3.44	U	500	536.1		ug/L		107	65 - 130
1,1-Dichloroethene	6.00	U	500	530.4		ug/L		106	67 - 143
1,2-Dichloropropane	3.46	U	500	526.8		ug/L		105	70 - 130
1,3-Dichloropropane	2.92	U	500	518.2		ug/L		104	70 - 130
2,2-Dichloropropane	6.70	U	500	551.0		ug/L		110	65 - 150
1,1-Dichloropropene	3.70	U	500	527.2		ug/L		105	70 - 130
1,4-Dioxane	318	U	10000	12460		ug/L		125	20 - 152
EDB	3.50	U	500	538.8		ug/L		108	70 - 130
Ethyl acetate	20.0	U	1000	985.0		ug/L		99	53 - 144
Ethylbenzene	229		500	740.4		ug/L		102	70 - 130
Ethylene oxide	600	U	2000	1836		ug/L		92	12 - 185
Ethyl ether	6.40	U	500	536.0		ug/L		107	67 - 130
Ethyl methacrylate	10.0	U	500	538.7		ug/L		108	65 - 130
Hexachlorobutadiene	17.2	U	500	699.2		ug/L		140	52 - 143
Hexane	40.0	U	500	592.4		ug/L		118	51 - 159
2-Hexanone	21.6	J	500	492.2		ug/L		94	56 - 130
Iodomethane	4.46	U	500	580.9		ug/L		116	70 - 162
Isobutyl alcohol	100	U	12500	13300		ug/L		106	36 - 130
Isooctane	10.0	U	500	601.1		ug/L		120	52 - 150
Isopropylbenzene	15.0	J	500	537.2		ug/L		104	70 - 130
4-Isopropyltoluene	3.00	U	500	566.2		ug/L		113	69 - 130
Methacrylonitrile	40.0	U	5000	5009		ug/L		100	61 - 130
Methylene Chloride	40.0	U	500	514.3		ug/L		103	70 - 130
Methyl methacrylate	4.00	U	1000	952.3		ug/L		95	63 - 130
4-Methyl-2-pentanone (MIBK)	10.2	U	500	509.5		ug/L		102	54 - 130
Methyl tert-butyl ether	4.00	U	500	526.3		ug/L		105	63 - 134
m-Xylene & p-Xylene	416		500	926.7		ug/L		102	67 - 130
Naphthalene	175		500	752.8		ug/L		116	62 - 145
n-Butylbenzene	14.0	J	500	563.1		ug/L		110	67 - 130
n-Heptane	6.00	U	500	650.4		ug/L		130	55 - 150
2-Nitropropane	20.0	U	1000	943.4		ug/L		94	22 - 173
N-Propylbenzene	26.7		500	548.3		ug/L		104	70 - 130
1-Octene	8.80	U	500	585.1		ug/L		117	63 - 134
o-Xylene	242		500	750.8		ug/L		102	70 - 130
Pentachloroethane	6.04	U	500	569.4		ug/L		114	60 - 130
Propionitrile	53.8	U	5000	5362		ug/L		107	39 - 130
sec-Butylbenzene	6.00	U	500	550.8		ug/L		110	67 - 130
Styrene	4.00	U	500	572.6		ug/L		115	28 - 150
tert-Butylbenzene	4.00	U	500	534.0		ug/L		107	70 - 130
1,1,1,2-Tetrachloroethane	4.18	U	500	539.2		ug/L		108	70 - 130
1,1,2,2-Tetrachloroethane	3.80	U	500	534.3		ug/L		107	66 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60105-C-7 MS

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	3.78	U	500	510.9		ug/L		102	69 - 130
Toluene	1320		500	1770		ug/L		91	70 - 130
trans-1,4-Dichloro-2-butene	10.0	U	500	499.7		ug/L		100	35 - 130
trans-1,2-Dichloroethene	4.00	U	500	558.7		ug/L		112	57 - 148
trans-1,3-Dichloropropene	4.00	U	500	530.4		ug/L		106	44 - 139
1,2,3-Trichlorobenzene	4.34	U	500	574.0		ug/L		115	60 - 130
1,2,4-Trichlorobenzene	3.36	U	500	573.1		ug/L		115	60 - 142
1,3,5-Trichlorobenzene	4.06	U	500	556.8		ug/L		111	66 - 135
1,1,1-Trichloroethane	6.00	U	500	540.8		ug/L		108	70 - 133
1,1,2-Trichloroethane	3.46	U	500	512.8		ug/L		103	70 - 130
Trichloroethene	6.34	U	500	526.8		ug/L		105	70 - 130
Trichlorofluoromethane	4.88	U	500	550.2		ug/L		110	64 - 149
1,2,3-Trichloropropane	3.82	U	500	523.5		ug/L		105	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	8.20	U	500	578.2		ug/L		116	47 - 152
1,2,4-Trimethylbenzene	178		500	702.9		ug/L		105	70 - 130
1,3,5-Trimethylbenzene	41.0		500	564.6		ug/L		105	70 - 130
Vinyl acetate	10.0	U	1000	1085		ug/L		109	36 - 171
Vinyl chloride	6.00	U	500	537.3		ug/L		107	49 - 158
Xylenes, Total	658		1000	1677		ug/L		102	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	105		69 - 130
1,2-Dichloroethane-d4 (Surr)	100		70 - 140
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: 560-60105-C-7 MSD

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	574		500	1045		ug/L		94	32 - 157	6	20
Acetonitrile	200	U	5000	5224		ug/L		104	10 - 182	15	20
Benzene	875		500	1356		ug/L		96	70 - 130	2	20
Benzyl chloride	5.56	U	500	521.3		ug/L		104	49 - 130	4	20
Bromobenzene	2.56	U	500	505.4		ug/L		101	69 - 130	1	20
Bromochloromethane	4.56	U	500	553.3		ug/L		111	70 - 130	1	20
Bromoform	10.0	U	500	544.4		ug/L		109	57 - 145	1	20
Bromomethane	7.84	U	500	578.3		ug/L		116	56 - 141	0	20
1,3-Butadiene	6.00	U	500	480.3		ug/L		96	25 - 196	2	20
2-Butanone (MEK)	20.0	U	500	603.3		ug/L		121	42 - 142	0	20
Carbon disulfide	10.0	U	500	546.8		ug/L		109	59 - 164	1	20
Carbon tetrachloride	5.02	U	500	551.4		ug/L		110	70 - 138	0	20
Chlorobenzene	2.72	U	500	525.1		ug/L		105	70 - 130	1	20
2-Chloro-1,3-butadiene	4.00	U	500	480.9		ug/L		96	55 - 144	1	20
Chlorodibromomethane	4.46	U	500	532.0		ug/L		106	62 - 145	1	20
Chloroethane	8.00	U	500	547.4		ug/L		109	62 - 142	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60105-C-7 MSD

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	3.46	U	500	536.8		ug/L		107	70 - 130	0	20
1-Chlorohexane	10.0	U	500	492.3		ug/L		98	64 - 130	2	20
Chloromethane	7.80	U	500	515.5		ug/L		103	57 - 148	0	20
2-Chlorotoluene	3.10	U	500	527.7		ug/L		106	70 - 130	1	20
4-Chlorotoluene	4.84	U	500	533.9		ug/L		107	69 - 130	1	20
cis-1,4-Dichloro-2-butene	10.0	U	500	521.7		ug/L		104	24 - 136	0	20
cis-1,2-Dichloroethene	2.42	U	500	548.4		ug/L		110	70 - 130	1	20
cis-1,3-Dichloropropene	2.92	U	500	539.8		ug/L		108	46 - 136	2	20
Cyclohexane	42.6		500	589.3		ug/L		109	46 - 144	0	20
Cyclohexanone	100	U	2500	2589		ug/L		104	10 - 193	5	20
1,2-Dibromo-3-Chloropropane	6.98	U	500	542.3		ug/L		108	56 - 130	1	20
Dibromomethane	3.30	U	500	533.5		ug/L		107	70 - 130	1	20
1,2-Dichlorobenzene	3.40	U	500	534.1		ug/L		107	70 - 130	1	20
1,3-Dichlorobenzene	2.56	U	500	528.9		ug/L		106	70 - 130	1	20
1,4-Dichlorobenzene	4.00	U	500	536.4		ug/L		107	70 - 130	1	20
Dichlorobromomethane	3.50	U	500	529.4		ug/L		106	70 - 130	1	20
Dichlorodifluoromethane	8.58	U	500	507.4		ug/L		101	14 - 198	0	20
1,1-Dichloroethane	3.36	U	500	526.9		ug/L		105	70 - 130	1	20
1,2-Dichloroethane	3.44	U	500	536.4		ug/L		107	65 - 130	0	20
1,1-Dichloroethene	6.00	U	500	539.2		ug/L		108	67 - 143	2	20
1,2-Dichloropropane	3.46	U	500	536.1		ug/L		107	70 - 130	2	20
1,3-Dichloropropane	2.92	U	500	518.2		ug/L		104	70 - 130	0	20
2,2-Dichloropropane	6.70	U	500	526.5		ug/L		105	65 - 150	5	20
1,1-Dichloropropene	3.70	U	500	535.4		ug/L		107	70 - 130	2	20
1,4-Dioxane	318	U	10000	11010		ug/L		110	20 - 152	12	20
EDB	3.50	U	500	542.0		ug/L		108	70 - 130	1	20
Ethyl acetate	20.0	U	1000	1005		ug/L		100	53 - 144	2	20
Ethylbenzene	229		500	744.5		ug/L		103	70 - 130	1	20
Ethylene oxide	600	U	2000	1848		ug/L		92	12 - 185	1	20
Ethyl ether	6.40	U	500	529.4		ug/L		106	67 - 130	1	20
Ethyl methacrylate	10.0	U	500	544.7		ug/L		109	65 - 130	1	20
Hexachlorobutadiene	17.2	U	500	667.1		ug/L		133	52 - 143	5	20
Hexane	40.0	U	500	605.0		ug/L		121	51 - 159	2	20
2-Hexanone	21.6	J	500	493.4		ug/L		94	56 - 130	0	20
Iodomethane	4.46	U	500	572.7		ug/L		115	70 - 162	1	20
Isobutyl alcohol	100	U	12500	12340		ug/L		99	36 - 130	7	20
Isooctane	10.0	U	500	596.5		ug/L		119	52 - 150	1	20
Isopropylbenzene	15.0	J	500	543.7		ug/L		106	70 - 130	1	20
4-Isopropyltoluene	3.00	U	500	568.0		ug/L		114	69 - 130	0	20
Methacrylonitrile	40.0	U	5000	4996		ug/L		100	61 - 130	0	20
Methylene Chloride	40.0	U	500	504.4		ug/L		101	70 - 130	2	20
Methyl methacrylate	4.00	U	1000	961.5		ug/L		96	63 - 130	1	20
4-Methyl-2-pentanone (MIBK)	10.2	U	500	494.3		ug/L		99	54 - 130	3	20
Methyl tert-butyl ether	4.00	U	500	522.2		ug/L		104	63 - 134	1	20
m-Xylene & p-Xylene	416		500	915.0		ug/L		100	67 - 130	1	20
Naphthalene	175		500	764.5		ug/L		118	62 - 145	2	20
n-Butylbenzene	14.0	J	500	573.7		ug/L		112	67 - 130	2	20
n-Heptane	6.00	U	500	650.9		ug/L		130	55 - 150	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60105-C-7 MSD

Matrix: Water

Analysis Batch: 125920

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Nitropropane	20.0	U	1000	931.6		ug/L		93	22 - 173	1	20
N-Propylbenzene	26.7		500	557.1		ug/L		106	70 - 130	2	20
1-Octene	8.80	U	500	569.9		ug/L		114	63 - 134	3	
o-Xylene	242		500	745.2		ug/L		101	70 - 130	1	20
Pentachloroethane	6.04	U	500	558.1		ug/L		112	60 - 130	2	20
Propionitrile	53.8	U	5000	5113		ug/L		102	39 - 130	5	20
sec-Butylbenzene	6.00	U	500	554.1		ug/L		111	67 - 130	1	20
Styrene	4.00	U	500	576.4		ug/L		115	28 - 150	1	20
tert-Butylbenzene	4.00	U	500	534.3		ug/L		107	70 - 130	0	20
1,1,1,2-Tetrachloroethane	4.18	U	500	534.9		ug/L		107	70 - 130	1	20
1,1,2,2-Tetrachloroethane	3.80	U	500	524.1		ug/L		105	66 - 130	2	20
Tetrachloroethene	3.78	U	500	531.3		ug/L		106	69 - 130	4	20
Toluene	1320		500	1733		ug/L		83	70 - 130	2	20
trans-1,4-Dichloro-2-butene	10.0	U	500	496.8		ug/L		99	35 - 130	1	20
trans-1,2-Dichloroethene	4.00	U	500	559.0		ug/L		112	57 - 148	0	20
trans-1,3-Dichloropropene	4.00	U	500	535.3		ug/L		107	44 - 139	1	20
1,2,3-Trichlorobenzene	4.34	U	500	583.5		ug/L		117	60 - 130	2	20
1,2,4-Trichlorobenzene	3.36	U	500	580.7		ug/L		116	60 - 142	1	20
1,3,5-Trichlorobenzene	4.06	U	500	555.0		ug/L		111	66 - 135	0	20
1,1,1-Trichloroethane	6.00	U	500	537.5		ug/L		107	70 - 133	1	20
1,1,2-Trichloroethane	3.46	U	500	514.5		ug/L		103	70 - 130	0	20
Trichloroethene	6.34	U	500	541.1		ug/L		108	70 - 130	3	20
Trichlorofluoromethane	4.88	U	500	554.1		ug/L		111	64 - 149	1	20
1,2,3-Trichloropropane	3.82	U	500	525.6		ug/L		105	70 - 130	0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	8.20	U	500	569.6		ug/L		114	47 - 152	1	20
1,2,4-Trimethylbenzene	178		500	704.9		ug/L		105	70 - 130	0	20
1,3,5-Trimethylbenzene	41.0		500	568.8		ug/L		106	70 - 130	1	20
Vinyl acetate	10.0	U	1000	1018		ug/L		102	36 - 171	6	20
Vinyl chloride	6.00	U	500	532.7		ug/L		107	49 - 158	1	20
Xylenes, Total	658		1000	1660		ug/L		100	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	103		69 - 130
1,2-Dichloroethane-d4 (Surr)	99		70 - 140
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: MB 560-125954/8

Matrix: Water

Analysis Batch: 125954

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/11/16 11:51	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/11/16 11:51	1
Benzene	0.330	U	1.00	0.330	ug/L			03/11/16 11:51	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/11/16 11:51	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 11:51	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125954/8

Matrix: Water

Analysis Batch: 125954

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/11/16 11:51	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/11/16 11:51	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/11/16 11:51	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/11/16 11:51	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/11/16 11:51	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/11/16 11:51	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/11/16 11:51	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/11/16 11:51	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/11/16 11:51	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/11/16 11:51	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/11/16 11:51	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/11/16 11:51	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/11/16 11:51	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/11/16 11:51	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/11/16 11:51	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/11/16 11:51	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 11:51	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/11/16 11:51	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/11/16 11:51	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/11/16 11:51	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/11/16 11:51	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/11/16 11:51	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/11/16 11:51	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/11/16 11:51	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/11/16 11:51	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/11/16 11:51	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/11/16 11:51	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/11/16 11:51	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/11/16 11:51	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/11/16 11:51	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/11/16 11:51	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/11/16 11:51	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/11/16 11:51	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/11/16 11:51	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/11/16 11:51	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/11/16 11:51	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/11/16 11:51	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/11/16 11:51	1
EDB	0.175	U	1.00	0.175	ug/L			03/11/16 11:51	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/11/16 11:51	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 11:51	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/11/16 11:51	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/11/16 11:51	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/11/16 11:51	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/11/16 11:51	1
Hexane	2.00	U	5.00	2.00	ug/L			03/11/16 11:51	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/11/16 11:51	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/11/16 11:51	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125954/8

Matrix: Water

Analysis Batch: 125954

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/11/16 11:51	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/11/16 11:51	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/11/16 11:51	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/11/16 11:51	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/11/16 11:51	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/11/16 11:51	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/11/16 11:51	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/11/16 11:51	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/11/16 11:51	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/11/16 11:51	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/11/16 11:51	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/11/16 11:51	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/11/16 11:51	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/11/16 11:51	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/11/16 11:51	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/11/16 11:51	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/11/16 11:51	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/11/16 11:51	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/11/16 11:51	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/11/16 11:51	1
Styrene	0.200	U	1.00	0.200	ug/L			03/11/16 11:51	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 11:51	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/11/16 11:51	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/11/16 11:51	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/11/16 11:51	1
Toluene	0.495	U	1.00	0.495	ug/L			03/11/16 11:51	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/11/16 11:51	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/11/16 11:51	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/11/16 11:51	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/11/16 11:51	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/11/16 11:51	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/11/16 11:51	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/11/16 11:51	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/11/16 11:51	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/11/16 11:51	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/11/16 11:51	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/11/16 11:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/11/16 11:51	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 11:51	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/11/16 11:51	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/11/16 11:51	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/11/16 11:51	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/11/16 11:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		03/11/16 11:51	1
Dibromofluoromethane (Surr)	105		69 - 130		03/11/16 11:51	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 140		03/11/16 11:51	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125954/8

Matrix: Water

Analysis Batch: 125954

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		70 - 130		03/11/16 11:51	1

Lab Sample ID: LCS 560-125954/3

Matrix: Water

Analysis Batch: 125954

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	28.64		ug/L		115	60 - 150
Acetonitrile	250	280.8		ug/L		112	52 - 160
Benzene	25.0	25.97		ug/L		104	70 - 130
Benzyl chloride	25.0	24.36		ug/L		97	66 - 153
Bromobenzene	25.0	24.31		ug/L		97	70 - 130
Bromochloromethane	25.0	27.50		ug/L		110	70 - 130
Bromoform	25.0	26.97		ug/L		108	63 - 145
Bromomethane	25.0	32.31		ug/L		129	50 - 146
1,3-Butadiene	25.0	25.53		ug/L		102	40 - 138
2-Butanone (MEK)	25.0	25.41		ug/L		102	68 - 144
Carbon disulfide	25.0	26.85		ug/L		107	52 - 156
Carbon tetrachloride	25.0	27.81		ug/L		111	70 - 138
Chlorobenzene	25.0	25.82		ug/L		103	70 - 130
2-Chloro-1,3-butadiene	25.0	24.88		ug/L		100	69 - 140
Chlorodibromomethane	25.0	25.75		ug/L		103	70 - 137
Chloroethane	25.0	28.31		ug/L		113	54 - 141
Chloroform	25.0	26.34		ug/L		105	70 - 130
1-Chlorohexane	25.0	24.19		ug/L		97	64 - 130
Chloromethane	25.0	26.18		ug/L		105	46 - 142
2-Chlorotoluene	25.0	25.82		ug/L		103	70 - 130
4-Chlorotoluene	25.0	26.34		ug/L		105	70 - 130
cis-1,4-Dichloro-2-butene	25.0	23.95		ug/L		96	10 - 184
cis-1,2-Dichloroethene	25.0	27.00		ug/L		108	70 - 130
cis-1,3-Dichloropropene	25.0	25.63		ug/L		103	70 - 138
Cyclohexane	25.0	26.84		ug/L		107	40 - 141
Cyclohexanone	125	139.8		ug/L		112	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	24.78		ug/L		99	70 - 149
Dibromomethane	25.0	26.16		ug/L		105	70 - 130
1,2-Dichlorobenzene	25.0	26.20		ug/L		105	70 - 130
1,3-Dichlorobenzene	25.0	25.96		ug/L		104	70 - 130
1,4-Dichlorobenzene	25.0	26.55		ug/L		106	70 - 130
Dichlorobromomethane	25.0	25.37		ug/L		101	70 - 130
Dichlorodifluoromethane	25.0	25.00		ug/L		100	10 - 181
1,1-Dichloroethane	25.0	25.70		ug/L		103	70 - 130
1,2-Dichloroethane	25.0	25.95		ug/L		104	70 - 131
1,1-Dichloroethene	25.0	26.80		ug/L		107	70 - 139
1,2-Dichloropropane	25.0	26.12		ug/L		104	70 - 130
1,3-Dichloropropane	25.0	25.31		ug/L		101	70 - 130
2,2-Dichloropropane	25.0	26.85		ug/L		107	65 - 143
1,1-Dichloropropene	25.0	26.28		ug/L		105	70 - 130
1,4-Dioxane	500	574.2		ug/L		115	66 - 150

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125954/3

Matrix: Water

Analysis Batch: 125954

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
EDB	25.0	26.32		ug/L		105	70 - 130
Ethyl acetate	50.0	49.33		ug/L		99	59 - 200
Ethylbenzene	25.0	25.72		ug/L		103	70 - 130
Ethylene oxide	100	138.7		ug/L		139	10 - 200
Ethyl ether	25.0	25.99		ug/L		104	69 - 136
Ethyl methacrylate	25.0	25.64		ug/L		103	70 - 130
Hexachlorobutadiene	25.0	36.65		ug/L		147	68 - 165
Hexane	25.0	29.48		ug/L		118	10 - 185
2-Hexanone	25.0	23.29		ug/L		93	70 - 138
Iodomethane	25.0	28.76		ug/L		115	64 - 146
Isobutyl alcohol	625	644.6		ug/L		103	27 - 199
Isooctane	25.0	29.11		ug/L		116	10 - 181
Isopropylbenzene	25.0	25.96		ug/L		104	70 - 131
4-Isopropyltoluene	25.0	28.23		ug/L		113	70 - 130
Methacrylonitrile	250	247.0		ug/L		99	70 - 139
Methylene Chloride	25.0	26.56		ug/L		106	70 - 130
Methyl methacrylate	50.0	46.13		ug/L		92	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	23.81		ug/L		95	70 - 138
Methyl tert-butyl ether	25.0	25.53		ug/L		102	70 - 131
m-Xylene & p-Xylene	25.0	25.76		ug/L		103	70 - 139
Naphthalene	25.0	28.33		ug/L		113	70 - 159
n-Butylbenzene	25.0	27.77		ug/L		111	70 - 135
n-Heptane	25.0	29.80		ug/L		119	10 - 186
2-Nitropropane	50.0	43.94		ug/L		88	22 - 173
N-Propylbenzene	25.0	26.17		ug/L		105	70 - 131
1-Octene	25.0	28.63		ug/L		115	10 - 185
o-Xylene	25.0	25.66		ug/L		103	70 - 130
Pentachloroethane	25.0	28.95		ug/L		116	70 - 146
Propionitrile	250	257.3		ug/L		103	70 - 144
sec-Butylbenzene	25.0	27.74		ug/L		111	70 - 134
Styrene	25.0	26.63		ug/L		107	70 - 130
tert-Butylbenzene	25.0	27.14		ug/L		109	70 - 132
1,1,1,2-Tetrachloroethane	25.0	26.53		ug/L		106	70 - 130
1,1,2,2-Tetrachloroethane	25.0	25.85		ug/L		103	70 - 130
Tetrachloroethene	25.0	25.49		ug/L		102	70 - 135
Toluene	25.0	25.96		ug/L		104	70 - 130
trans-1,4-Dichloro-2-butene	25.0	23.40		ug/L		94	37 - 174
trans-1,2-Dichloroethene	25.0	27.73		ug/L		111	70 - 134
trans-1,3-Dichloropropene	25.0	25.38		ug/L		102	70 - 143
1,2,3-Trichlorobenzene	25.0	30.15		ug/L		121	70 - 158
1,2,4-Trichlorobenzene	25.0	29.17		ug/L		117	70 - 157
1,3,5-Trichlorobenzene	25.0	28.20		ug/L		113	70 - 131
1,1,1-Trichloroethane	25.0	27.42		ug/L		110	70 - 130
1,1,2-Trichloroethane	25.0	24.95		ug/L		100	70 - 130
Trichloroethene	25.0	26.23		ug/L		105	70 - 130
Trichlorofluoromethane	25.0	27.83		ug/L		111	39 - 146
1,2,3-Trichloropropane	25.0	25.77		ug/L		103	70 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125954/3

Matrix: Water

Analysis Batch: 125954

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	29.21		ug/L		117	27 - 148
1,2,4-Trimethylbenzene	25.0	26.11		ug/L		104	70 - 130
1,3,5-Trimethylbenzene	25.0	26.23		ug/L		105	70 - 131
Vinyl acetate	50.0	52.77		ug/L		106	18 - 200
Vinyl chloride	25.0	27.95		ug/L		112	49 - 140
Xylenes, Total	50.0	51.42		ug/L		103	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
Dibromofluoromethane (Surr)	106		69 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 140
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 125954

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	5.00	U	25.0	26.64		ug/L		107	32 - 157
Acetonitrile	10.0	U	250	318.9		ug/L		128	10 - 182
Benzene	0.330	U	25.0	27.74		ug/L		111	70 - 130
Benzyl chloride	0.278	U	25.0	25.24		ug/L		101	49 - 130
Bromobenzene	0.128	U	25.0	25.47		ug/L		102	69 - 130
Bromochloromethane	0.228	U	25.0	29.22		ug/L		117	70 - 130
Bromoform	0.500	U	25.0	28.08		ug/L		112	57 - 145
Bromomethane	0.392	U	25.0	31.11		ug/L		124	56 - 141
1,3-Butadiene	0.300	U	25.0	27.00		ug/L		108	25 - 196
2-Butanone (MEK)	1.00	U	25.0	26.74		ug/L		107	42 - 142
Carbon disulfide	0.500	U	25.0	27.84		ug/L		111	59 - 164
Carbon tetrachloride	0.251	U	25.0	29.22		ug/L		117	70 - 138
Chlorobenzene	0.136	U	25.0	27.29		ug/L		109	70 - 130
2-Chloro-1,3-butadiene	0.200	U	25.0	26.02		ug/L		104	55 - 144
Chlorodibromomethane	0.223	U	25.0	27.74		ug/L		111	62 - 145
Chloroethane	0.400	U	25.0	29.12		ug/L		116	62 - 142
Chloroform	0.173	U	25.0	27.96		ug/L		112	70 - 130
1-Chlorohexane	0.500	U	25.0	25.20		ug/L		101	64 - 130
Chloromethane	0.390	U	25.0	27.81		ug/L		111	57 - 148
2-Chlorotoluene	0.155	U	25.0	26.93		ug/L		108	70 - 130
4-Chlorotoluene	0.242	U	25.0	27.54		ug/L		110	69 - 130
cis-1,4-Dichloro-2-butene	0.500	U	25.0	25.08		ug/L		100	24 - 136
cis-1,2-Dichloroethene	0.121	U	25.0	28.81		ug/L		115	70 - 130
cis-1,3-Dichloropropene	0.146	U	25.0	27.48		ug/L		110	46 - 136
Cyclohexane	1.00	U	25.0	27.97		ug/L		112	46 - 144
Cyclohexanone	5.00	U	125	124.8		ug/L		100	10 - 193
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	24.98		ug/L		100	56 - 130
Dibromomethane	0.165	U	25.0	28.00		ug/L		112	70 - 130
1,2-Dichlorobenzene	0.170	U	25.0	27.32		ug/L		109	70 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 125954

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	0.128	U	25.0	27.18		ug/L		109	70 - 130
1,4-Dichlorobenzene	0.200	U	25.0	27.51		ug/L		110	70 - 130
Dichlorobromomethane	0.175	U	25.0	27.38		ug/L		110	70 - 130
Dichlorodifluoromethane	0.429	U	25.0	25.30		ug/L		101	14 - 198
1,1-Dichloroethane	0.168	U	25.0	27.29		ug/L		109	70 - 130
1,2-Dichloroethane	0.172	U	25.0	27.70		ug/L		111	65 - 130
1,1-Dichloroethene	0.300	U	25.0	28.71		ug/L		115	67 - 143
1,2-Dichloropropane	0.173	U	25.0	28.30		ug/L		113	70 - 130
1,3-Dichloropropane	0.146	U	25.0	27.20		ug/L		109	70 - 130
2,2-Dichloropropane	0.335	U	25.0	27.36		ug/L		109	65 - 150
1,1-Dichloropropene	0.185	U	25.0	28.25		ug/L		113	70 - 130
1,4-Dioxane	15.9	U	500	707.4		ug/L		141	20 - 152
EDB	0.175	U	25.0	27.91		ug/L		112	70 - 130
Ethyl acetate	1.00	U	50.0	51.61		ug/L		103	53 - 144
Ethylbenzene	0.200	U	25.0	27.34		ug/L		109	70 - 130
Ethylene oxide	30.0	U F2	100	79.67		ug/L		80	12 - 185
Ethyl ether	0.320	U	25.0	27.38		ug/L		110	67 - 130
Ethyl methacrylate	0.500	U	25.0	27.49		ug/L		110	65 - 130
Hexachlorobutadiene	0.860	U	25.0	32.47		ug/L		130	52 - 143
Hexane	2.00	U	25.0	30.32		ug/L		121	51 - 159
2-Hexanone	0.500	U	25.0	23.16		ug/L		93	56 - 130
Iodomethane	0.223	U	25.0	30.69		ug/L		123	70 - 162
Isobutyl alcohol	5.00	U	625	705.5		ug/L		113	36 - 130
Isooctane	0.500	U	25.0	28.52		ug/L		114	52 - 150
Isopropylbenzene	0.200	U	25.0	27.29		ug/L		109	70 - 130
4-Isopropyltoluene	0.150	U	25.0	28.66		ug/L		115	69 - 130
Methacrylonitrile	2.00	U	250	261.7		ug/L		105	61 - 130
Methylene Chloride	2.00	U	25.0	26.65		ug/L		107	70 - 130
Methyl methacrylate	0.200	U	50.0	49.88		ug/L		100	63 - 130
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	25.02		ug/L		100	54 - 130
Methyl tert-butyl ether	0.200	U	25.0	26.78		ug/L		107	63 - 134
m-Xylene & p-Xylene	0.260	U	25.0	26.76		ug/L		107	67 - 130
Naphthalene	0.200	U	25.0	27.12		ug/L		108	62 - 145
n-Butylbenzene	0.200	U	25.0	28.20		ug/L		113	67 - 130
n-Heptane	0.300	U	25.0	30.18		ug/L		121	55 - 150
2-Nitropropane	1.00	U	50.0	46.30		ug/L		93	22 - 173
N-Propylbenzene	0.106	U	25.0	27.34		ug/L		109	70 - 130
1-Octene	0.440	U	25.0	28.47		ug/L		114	63 - 134
o-Xylene	0.200	U	25.0	26.71		ug/L		107	70 - 130
Pentachloroethane	0.302	U	25.0	29.73		ug/L		119	60 - 130
Propionitrile	2.69	U	250	276.0		ug/L		110	39 - 130
sec-Butylbenzene	0.300	U	25.0	27.99		ug/L		112	67 - 130
Styrene	0.200	U	25.0	28.17		ug/L		113	28 - 150
tert-Butylbenzene	0.200	U	25.0	27.80		ug/L		111	70 - 130
1,1,1,2-Tetrachloroethane	0.209	U	25.0	27.58		ug/L		110	70 - 130
1,1,2,2-Tetrachloroethane	0.190	U	25.0	27.35		ug/L		109	66 - 130
Tetrachloroethene	0.189	U	25.0	26.80		ug/L		107	69 - 130
Toluene	0.495	U	25.0	27.53		ug/L		110	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 125954

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,4-Dichloro-2-butene	0.500	U	25.0	24.89		ug/L		100	35 - 130
trans-1,2-Dichloroethene	0.200	U	25.0	29.09		ug/L		116	57 - 148
trans-1,3-Dichloropropene	0.200	U	25.0	27.03		ug/L		108	44 - 139
1,2,3-Trichlorobenzene	0.217	U	25.0	28.14		ug/L		113	60 - 130
1,2,4-Trichlorobenzene	0.168	U	25.0	28.47		ug/L		114	60 - 142
1,3,5-Trichlorobenzene	0.203	U	25.0	28.30		ug/L		113	66 - 135
1,1,1-Trichloroethane	0.300	U	25.0	27.92		ug/L		112	70 - 133
1,1,2-Trichloroethane	0.173	U	25.0	27.03		ug/L		108	70 - 130
Trichloroethene	0.317	U	25.0	28.25		ug/L		113	70 - 130
Trichlorofluoromethane	0.244	U	25.0	30.47		ug/L		122	64 - 149
1,2,3-Trichloropropane	0.191	U	25.0	27.14		ug/L		109	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	30.41		ug/L		122	47 - 152
1,2,4-Trimethylbenzene	0.200	U	25.0	26.72		ug/L		107	70 - 130
1,3,5-Trimethylbenzene	0.200	U	25.0	27.14		ug/L		109	70 - 130
Vinyl acetate	0.500	U	50.0	55.56		ug/L		111	36 - 171
Vinyl chloride	0.300	U	25.0	29.20		ug/L		117	49 - 158
Xylenes, Total	0.226	U	50.0	53.46		ug/L		107	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
Dibromofluoromethane (Surr)	106		69 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 140
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 125954

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	5.00	U	25.0	25.10		ug/L		100	32 - 157	6	20
Acetonitrile	10.0	U	250	300.2		ug/L		120	10 - 182	6	20
Benzene	0.330	U	25.0	25.52		ug/L		102	70 - 130	8	20
Benzyl chloride	0.278	U	25.0	22.74		ug/L		91	49 - 130	10	20
Bromobenzene	0.128	U	25.0	23.80		ug/L		95	69 - 130	7	20
Bromochloromethane	0.228	U	25.0	26.76		ug/L		107	70 - 130	9	20
Bromoform	0.500	U	25.0	25.79		ug/L		103	57 - 145	9	20
Bromomethane	0.392	U	25.0	29.34		ug/L		117	56 - 141	6	20
1,3-Butadiene	0.300	U	25.0	25.14		ug/L		101	25 - 196	7	20
2-Butanone (MEK)	1.00	U	25.0	22.05		ug/L		88	42 - 142	19	20
Carbon disulfide	0.500	U	25.0	25.71		ug/L		103	59 - 164	8	20
Carbon tetrachloride	0.251	U	25.0	26.73		ug/L		107	70 - 138	9	20
Chlorobenzene	0.136	U	25.0	25.35		ug/L		101	70 - 130	7	20
2-Chloro-1,3-butadiene	0.200	U	25.0	23.93		ug/L		96	55 - 144	8	20
Chlorodibromomethane	0.223	U	25.0	25.16		ug/L		101	62 - 145	10	20
Chloroethane	0.400	U	25.0	27.45		ug/L		110	62 - 142	6	20
Chloroform	0.173	U	25.0	25.88		ug/L		104	70 - 130	8	20
1-Chlorohexane	0.500	U	25.0	23.32		ug/L		93	64 - 130	8	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 125954

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloromethane	0.390	U	25.0	25.88		ug/L		104	57 - 148	7	20
2-Chlorotoluene	0.155	U	25.0	25.06		ug/L		100	70 - 130	7	20
4-Chlorotoluene	0.242	U	25.0	25.57		ug/L		102	69 - 130	7	20
cis-1,4-Dichloro-2-butene	0.500	U	25.0	23.17		ug/L		93	24 - 136	8	20
cis-1,2-Dichloroethene	0.121	U	25.0	26.24		ug/L		105	70 - 130	9	20
cis-1,3-Dichloropropene	0.146	U	25.0	25.13		ug/L		101	46 - 136	9	20
Cyclohexane	1.00	U	25.0	25.90		ug/L		104	46 - 144	8	20
Cyclohexanone	5.00	U	125	116.8		ug/L		93	10 - 193	7	20
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	23.56		ug/L		94	56 - 130	6	20
Dibromomethane	0.165	U	25.0	25.81		ug/L		103	70 - 130	8	20
1,2-Dichlorobenzene	0.170	U	25.0	25.53		ug/L		102	70 - 130	7	20
1,3-Dichlorobenzene	0.128	U	25.0	24.96		ug/L		100	70 - 130	8	20
1,4-Dichlorobenzene	0.200	U	25.0	25.52		ug/L		102	70 - 130	8	20
Dichlorobromomethane	0.175	U	25.0	25.45		ug/L		102	70 - 130	7	20
Dichlorodifluoromethane	0.429	U	25.0	24.13		ug/L		97	14 - 198	5	20
1,1-Dichloroethane	0.168	U	25.0	25.25		ug/L		101	70 - 130	8	20
1,2-Dichloroethane	0.172	U	25.0	25.51		ug/L		102	65 - 130	8	20
1,1-Dichloroethene	0.300	U	25.0	26.37		ug/L		105	67 - 143	8	20
1,2-Dichloropropane	0.173	U	25.0	25.53		ug/L		102	70 - 130	10	20
1,3-Dichloropropane	0.146	U	25.0	25.24		ug/L		101	70 - 130	7	20
2,2-Dichloropropane	0.335	U	25.0	25.28		ug/L		101	65 - 150	8	20
1,1-Dichloropropene	0.185	U	25.0	25.70		ug/L		103	70 - 130	9	20
1,4-Dioxane	15.9	U	500	637.8		ug/L		128	20 - 152	10	20
EDB	0.175	U	25.0	25.84		ug/L		103	70 - 130	8	20
Ethyl acetate	1.00	U	50.0	47.35		ug/L		95	53 - 144	9	20
Ethylbenzene	0.200	U	25.0	25.13		ug/L		101	70 - 130	8	20
Ethylene oxide	30.0	U F2	100	56.50	F2	ug/L		57	12 - 185	34	20
Ethyl ether	0.320	U	25.0	25.12		ug/L		100	67 - 130	9	20
Ethyl methacrylate	0.500	U	25.0	25.42		ug/L		102	65 - 130	8	20
Hexachlorobutadiene	0.860	U	25.0	29.49		ug/L		118	52 - 143	10	20
Hexane	2.00	U	25.0	27.31		ug/L		109	51 - 159	10	20
2-Hexanone	0.500	U	25.0	22.56		ug/L		90	56 - 130	3	20
Iodomethane	0.223	U	25.0	27.99		ug/L		112	70 - 162	9	20
Isobutyl alcohol	5.00	U	625	653.4		ug/L		105	36 - 130	8	20
Isooctane	0.500	U	25.0	25.39		ug/L		102	52 - 150	12	20
Isopropylbenzene	0.200	U	25.0	25.20		ug/L		101	70 - 130	8	20
4-Isopropyltoluene	0.150	U	25.0	25.90		ug/L		104	69 - 130	10	20
Methacrylonitrile	2.00	U	250	242.1		ug/L		97	61 - 130	8	20
Methylene Chloride	2.00	U	25.0	24.44		ug/L		98	70 - 130	9	20
Methyl methacrylate	0.200	U	50.0	46.44		ug/L		93	63 - 130	7	20
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	23.33		ug/L		93	54 - 130	7	20
Methyl tert-butyl ether	0.200	U	25.0	24.79		ug/L		99	63 - 134	8	20
m-Xylene & p-Xylene	0.260	U	25.0	24.97		ug/L		100	67 - 130	7	20
Naphthalene	0.200	U	25.0	25.18		ug/L		101	62 - 145	7	20
n-Butylbenzene	0.200	U	25.0	25.32		ug/L		101	67 - 130	11	20
n-Heptane	0.300	U	25.0	26.78		ug/L		107	55 - 150	12	20
2-Nitropropane	1.00	U	50.0	43.59		ug/L		87	22 - 173	6	20
N-Propylbenzene	0.106	U	25.0	25.29		ug/L		101	70 - 130	8	20

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 125954

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Octene	0.440	U	25.0	25.49		ug/L		102	63 - 134	11	
o-Xylene	0.200	U	25.0	24.87		ug/L		99	70 - 130	7	20
Pentachloroethane	0.302	U	25.0	27.02		ug/L		108	60 - 130	10	20
Propionitrile	2.69	U	250	259.6		ug/L		104	39 - 130	6	20
sec-Butylbenzene	0.300	U	25.0	25.52		ug/L		102	67 - 130	9	20
Styrene	0.200	U	25.0	25.93		ug/L		104	28 - 150	8	20
tert-Butylbenzene	0.200	U	25.0	25.47		ug/L		102	70 - 130	9	20
1,1,1,2-Tetrachloroethane	0.209	U	25.0	25.41		ug/L		102	70 - 130	8	20
1,1,2,2-Tetrachloroethane	0.190	U	25.0	25.66		ug/L		103	66 - 130	6	20
Tetrachloroethene	0.189	U	25.0	24.76		ug/L		99	69 - 130	8	20
Toluene	0.495	U	25.0	25.40		ug/L		102	70 - 130	8	20
trans-1,4-Dichloro-2-butene	0.500	U	25.0	22.43		ug/L		90	35 - 130	10	20
trans-1,2-Dichloroethene	0.200	U	25.0	27.05		ug/L		108	57 - 148	7	20
trans-1,3-Dichloropropene	0.200	U	25.0	24.51		ug/L		98	44 - 139	10	20
1,2,3-Trichlorobenzene	0.217	U	25.0	25.62		ug/L		102	60 - 130	9	20
1,2,4-Trichlorobenzene	0.168	U	25.0	26.02		ug/L		104	60 - 142	9	20
1,3,5-Trichlorobenzene	0.203	U	25.0	25.84		ug/L		103	66 - 135	9	20
1,1,1-Trichloroethane	0.300	U	25.0	25.81		ug/L		103	70 - 133	8	20
1,1,2-Trichloroethane	0.173	U	25.0	24.78		ug/L		99	70 - 130	9	20
Trichloroethene	0.317	U	25.0	25.90		ug/L		104	70 - 130	9	20
Trichlorofluoromethane	0.244	U	25.0	27.10		ug/L		108	64 - 149	12	20
1,2,3-Trichloropropane	0.191	U	25.0	25.05		ug/L		100	70 - 130	8	20
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	28.52		ug/L		114	47 - 152	6	20
1,2,4-Trimethylbenzene	0.200	U	25.0	24.79		ug/L		99	70 - 130	7	20
1,3,5-Trimethylbenzene	0.200	U	25.0	24.98		ug/L		100	70 - 130	8	20
Vinyl acetate	0.500	U	50.0	51.15		ug/L		102	36 - 171	8	20
Vinyl chloride	0.300	U	25.0	27.28		ug/L		109	49 - 158	7	20
Xylenes, Total	0.226	U	50.0	49.84		ug/L		100	70 - 130	7	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	96		70 - 130
Dibromofluoromethane (Surr)	105		69 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 140
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 125954

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	6.41	J	25.0	25.81		ug/L		78	32 - 157
Acetonitrile	10.0	U	250	272.4		ug/L		109	10 - 182
Benzene	0.330	U	25.0	25.83		ug/L		103	70 - 130
Benzyl chloride	0.278	U	25.0	15.84		ug/L		63	49 - 130
Bromobenzene	0.128	U	25.0	23.43		ug/L		94	69 - 130
Bromochloromethane	0.228	U	25.0	27.41		ug/L		110	70 - 130
Bromoform	0.500	U	25.0	24.46		ug/L		98	57 - 145

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 125954

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromomethane	0.392	U	25.0	32.05		ug/L		128	56 - 141
1,3-Butadiene	0.300	U	25.0	26.74		ug/L		107	25 - 196
2-Butanone (MEK)	1.00	U	25.0	23.56		ug/L		94	42 - 142
Carbon disulfide	0.500	U	25.0	24.99		ug/L		100	59 - 164
Carbon tetrachloride	0.251	U	25.0	26.58		ug/L		106	70 - 138
Chlorobenzene	0.136	U	25.0	25.55		ug/L		102	70 - 130
2-Chloro-1,3-butadiene	0.200	U	25.0	24.55		ug/L		98	55 - 144
Chlorodibromomethane	0.223	U	25.0	24.79		ug/L		99	62 - 145
Chloroethane	0.400	U	25.0	29.19		ug/L		117	62 - 142
Chloroform	0.173	U	25.0	26.30		ug/L		105	70 - 130
1-Chlorohexane	0.500	U	25.0	23.00		ug/L		92	64 - 130
Chloromethane	0.390	U	25.0	27.28		ug/L		109	57 - 148
2-Chlorotoluene	0.155	U	25.0	24.39		ug/L		98	70 - 130
4-Chlorotoluene	0.242	U	25.0	25.01		ug/L		100	69 - 130
cis-1,4-Dichloro-2-butene	0.500	U	25.0	18.38		ug/L		74	24 - 136
cis-1,2-Dichloroethene	0.121	U	25.0	26.57		ug/L		106	70 - 130
cis-1,3-Dichloropropene	0.146	U	25.0	24.31		ug/L		97	46 - 136
Cyclohexane	1.00	U	25.0	25.97		ug/L		104	46 - 144
Cyclohexanone	5.00	U	125	90.24		ug/L		72	10 - 193
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	20.55		ug/L		82	56 - 130
Dibromomethane	0.165	U	25.0	26.07		ug/L		104	70 - 130
1,2-Dichlorobenzene	0.170	U	25.0	24.71		ug/L		99	70 - 130
1,3-Dichlorobenzene	0.128	U	25.0	24.47		ug/L		98	70 - 130
1,4-Dichlorobenzene	0.200	U	25.0	24.97		ug/L		100	70 - 130
Dichlorobromomethane	0.175	U	25.0	25.41		ug/L		102	70 - 130
Dichlorodifluoromethane	0.429	U	25.0	24.80		ug/L		99	14 - 198
1,1-Dichloroethane	0.168	U	25.0	25.44		ug/L		102	70 - 130
1,2-Dichloroethane	0.172	U	25.0	26.29		ug/L		105	65 - 130
1,1-Dichloroethene	0.300	U	25.0	26.70		ug/L		107	67 - 143
1,2-Dichloropropane	0.173	U	25.0	26.20		ug/L		105	70 - 130
1,3-Dichloropropane	0.146	U	25.0	25.25		ug/L		101	70 - 130
2,2-Dichloropropane	0.335	U	25.0	21.60		ug/L		86	65 - 150
1,1-Dichloropropene	0.185	U	25.0	26.01		ug/L		104	70 - 130
1,4-Dioxane	15.9	U	500	460.5		ug/L		92	20 - 152
EDB	0.175	U	25.0	25.75		ug/L		103	70 - 130
Ethyl acetate	1.00	U	50.0	45.60		ug/L		91	53 - 144
Ethylbenzene	0.200	U	25.0	25.39		ug/L		102	70 - 130
Ethylene oxide	30.0	U F1	100	30.0	U F1	ug/L		0	12 - 185
Ethyl ether	0.320	U	25.0	25.34		ug/L		101	67 - 130
Ethyl methacrylate	0.500	U	25.0	24.88		ug/L		100	65 - 130
Hexachlorobutadiene	0.860	U	25.0	22.69		ug/L		91	52 - 143
Hexane	2.00	U	25.0	24.80		ug/L		99	51 - 159
2-Hexanone	0.500	U	25.0	20.75		ug/L		83	56 - 130
Iodomethane	0.223	U	25.0	28.20		ug/L		113	70 - 162
Isobutyl alcohol	5.00	U	625	577.9		ug/L		92	36 - 130
Isooctane	0.500	U	25.0	22.81		ug/L		91	52 - 150
Isopropylbenzene	0.200	U	25.0	24.41		ug/L		98	70 - 130
4-Isopropyltoluene	0.150	U	25.0	24.89		ug/L		100	69 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 125954

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methacrylonitrile	2.00	U	250	241.0		ug/L		96	61 - 130
Methylene Chloride	2.00	U	25.0	24.64		ug/L		99	70 - 130
Methyl methacrylate	0.200	U	50.0	45.35		ug/L		91	63 - 130
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	22.75		ug/L		91	54 - 130
Methyl tert-butyl ether	0.200	U	25.0	24.50		ug/L		98	63 - 134
m-Xylene & p-Xylene	0.260	U	25.0	24.74		ug/L		99	67 - 130
Naphthalene	0.200	U	25.0	21.90		ug/L		88	62 - 145
n-Butylbenzene	0.200	U	25.0	23.27		ug/L		93	67 - 130
n-Heptane	0.300	U	25.0	23.96		ug/L		96	55 - 150
2-Nitropropane	1.00	U	50.0	39.58		ug/L		79	22 - 173
N-Propylbenzene	0.106	U	25.0	24.12		ug/L		96	70 - 130
1-Octene	0.440	U	25.0	22.30		ug/L		89	63 - 134
o-Xylene	0.200	U	25.0	24.94		ug/L		100	70 - 130
Pentachloroethane	0.302	U	25.0	26.07		ug/L		104	60 - 130
Propionitrile	2.69	U	250	241.6		ug/L		97	39 - 130
sec-Butylbenzene	0.300	U	25.0	24.23		ug/L		97	67 - 130
Styrene	0.200	U	25.0	25.57		ug/L		102	28 - 150
tert-Butylbenzene	0.200	U	25.0	24.27		ug/L		97	70 - 130
1,1,1,2-Tetrachloroethane	0.209	U	25.0	25.41		ug/L		102	70 - 130
1,1,2,2-Tetrachloroethane	0.190	U	25.0	24.55		ug/L		98	66 - 130
Tetrachloroethene	0.189	U	25.0	24.54		ug/L		98	69 - 130
Toluene	0.495	U	25.0	25.54		ug/L		102	70 - 130
trans-1,4-Dichloro-2-butene	0.500	U	25.0	19.19		ug/L		77	35 - 130
trans-1,2-Dichloroethene	0.200	U	25.0	27.52		ug/L		110	57 - 148
trans-1,3-Dichloropropene	0.200	U	25.0	23.21		ug/L		93	44 - 139
1,2,3-Trichlorobenzene	0.217	U	25.0	22.83		ug/L		91	60 - 130
1,2,4-Trichlorobenzene	0.168	U	25.0	23.47		ug/L		94	60 - 142
1,3,5-Trichlorobenzene	0.203	U	25.0	23.72		ug/L		95	66 - 135
1,1,1-Trichloroethane	0.300	U	25.0	26.53		ug/L		106	70 - 133
1,1,2-Trichloroethane	0.173	U	25.0	25.02		ug/L		100	70 - 130
Trichloroethene	0.317	U	25.0	26.14		ug/L		105	70 - 130
Trichlorofluoromethane	0.244	U	25.0	29.49		ug/L		118	64 - 149
1,2,3-Trichloropropane	0.191	U	25.0	24.62		ug/L		98	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	28.14		ug/L		113	47 - 152
1,2,4-Trimethylbenzene	0.200	U	25.0	24.12		ug/L		96	70 - 130
1,3,5-Trimethylbenzene	0.200	U	25.0	24.25		ug/L		97	70 - 130
Vinyl acetate	0.500	U	50.0	44.50		ug/L		89	36 - 171
Vinyl chloride	0.300	U	25.0	28.61		ug/L		114	49 - 158
Xylenes, Total	0.226	U	50.0	49.69		ug/L		99	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
Dibromofluoromethane (Surr)	105		69 - 130
1,2-Dichloroethane-d4 (Surr)	104		70 - 140
Toluene-d8 (Surr)	100		70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 125954

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	6.41	J	25.0	26.92		ug/L		82	32 - 157	4	20
Acetonitrile	10.0	U	250	316.9		ug/L		127	10 - 182	15	20
Benzene	0.330	U	25.0	25.76		ug/L		103	70 - 130	0	20
Benzyl chloride	0.278	U	25.0	16.06		ug/L		64	49 - 130	1	20
Bromobenzene	0.128	U	25.0	23.73		ug/L		95	69 - 130	1	20
Bromochloromethane	0.228	U	25.0	27.22		ug/L		109	70 - 130	1	20
Bromoform	0.500	U	25.0	24.51		ug/L		98	57 - 145	0	20
Bromomethane	0.392	U	25.0	31.24		ug/L		125	56 - 141	3	20
1,3-Butadiene	0.300	U	25.0	26.94		ug/L		108	25 - 196	1	20
2-Butanone (MEK)	1.00	U	25.0	22.05		ug/L		88	42 - 142	7	20
Carbon disulfide	0.500	U	25.0	25.51		ug/L		102	59 - 164	2	20
Carbon tetrachloride	0.251	U	25.0	26.51		ug/L		106	70 - 138	0	20
Chlorobenzene	0.136	U	25.0	25.41		ug/L		102	70 - 130	1	20
2-Chloro-1,3-butadiene	0.200	U	25.0	24.31		ug/L		97	55 - 144	1	20
Chlorodibromomethane	0.223	U	25.0	24.68		ug/L		99	62 - 145	0	20
Chloroethane	0.400	U	25.0	28.83		ug/L		115	62 - 142	1	20
Chloroform	0.173	U	25.0	26.05		ug/L		104	70 - 130	1	20
1-Chlorohexane	0.500	U	25.0	23.23		ug/L		93	64 - 130	1	20
Chloromethane	0.390	U	25.0	27.09		ug/L		108	57 - 148	1	20
2-Chlorotoluene	0.155	U	25.0	24.66		ug/L		99	70 - 130	1	20
4-Chlorotoluene	0.242	U	25.0	24.99		ug/L		100	69 - 130	0	20
cis-1,4-Dichloro-2-butene	0.500	U	25.0	19.01		ug/L		76	24 - 136	3	20
cis-1,2-Dichloroethene	0.121	U	25.0	26.06		ug/L		104	70 - 130	2	20
cis-1,3-Dichloropropene	0.146	U	25.0	24.05		ug/L		96	46 - 136	1	20
Cyclohexane	1.00	U	25.0	25.86		ug/L		103	46 - 144	0	20
Cyclohexanone	5.00	U	125	102.1		ug/L		82	10 - 193	12	20
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	22.46		ug/L		90	56 - 130	9	20
Dibromomethane	0.165	U	25.0	25.85		ug/L		103	70 - 130	1	20
1,2-Dichlorobenzene	0.170	U	25.0	24.98		ug/L		100	70 - 130	1	20
1,3-Dichlorobenzene	0.128	U	25.0	24.64		ug/L		99	70 - 130	1	20
1,4-Dichlorobenzene	0.200	U	25.0	25.39		ug/L		102	70 - 130	2	20
Dichlorobromomethane	0.175	U	25.0	25.02		ug/L		100	70 - 130	2	20
Dichlorodifluoromethane	0.429	U	25.0	24.44		ug/L		98	14 - 198	1	20
1,1-Dichloroethane	0.168	U	25.0	25.46		ug/L		102	70 - 130	0	20
1,2-Dichloroethane	0.172	U	25.0	26.21		ug/L		105	65 - 130	0	20
1,1-Dichloroethene	0.300	U	25.0	26.59		ug/L		106	67 - 143	0	20
1,2-Dichloropropane	0.173	U	25.0	26.30		ug/L		105	70 - 130	0	20
1,3-Dichloropropane	0.146	U	25.0	25.26		ug/L		101	70 - 130	0	20
2,2-Dichloropropane	0.335	U	25.0	21.19		ug/L		85	65 - 150	2	20
1,1-Dichloropropene	0.185	U	25.0	25.94		ug/L		104	70 - 130	0	20
1,4-Dioxane	15.9	U	500	546.2		ug/L		109	20 - 152	17	20
EDB	0.175	U	25.0	25.99		ug/L		104	70 - 130	1	20
Ethyl acetate	1.00	U	50.0	44.87		ug/L		90	53 - 144	2	20
Ethylbenzene	0.200	U	25.0	25.31		ug/L		101	70 - 130	0	20
Ethylene oxide	30.0	U F1	100	30.0	U F1	ug/L		0	12 - 185	NC	20
Ethyl ether	0.320	U	25.0	25.43		ug/L		102	67 - 130	0	20
Ethyl methacrylate	0.500	U	25.0	24.80		ug/L		99	65 - 130	0	20
Hexachlorobutadiene	0.860	U	25.0	26.22		ug/L		105	52 - 143	14	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 125954

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexane	2.00	U	25.0	25.44		ug/L		102	51 - 159	3	20
2-Hexanone	0.500	U	25.0	21.79		ug/L		87	56 - 130	5	20
Iodomethane	0.223	U	25.0	28.29		ug/L		113	70 - 162	0	20
Isobutyl alcohol	5.00	U	625	614.8		ug/L		98	36 - 130	6	20
Isooctane	0.500	U	25.0	24.10		ug/L		96	52 - 150	6	20
Isopropylbenzene	0.200	U	25.0	24.39		ug/L		98	70 - 130	0	20
4-Isopropyltoluene	0.150	U	25.0	24.97		ug/L		100	69 - 130	0	20
Methacrylonitrile	2.00	U	250	240.0		ug/L		96	61 - 130	0	20
Methylene Chloride	2.00	U	25.0	24.40		ug/L		98	70 - 130	1	20
Methyl methacrylate	0.200	U	50.0	45.96		ug/L		92	63 - 130	1	20
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	22.66		ug/L		91	54 - 130	0	20
Methyl tert-butyl ether	0.200	U	25.0	24.52		ug/L		98	63 - 134	0	20
m-Xylene & p-Xylene	0.260	U	25.0	24.85		ug/L		99	67 - 130	0	20
Naphthalene	0.200	U	25.0	24.63		ug/L		99	62 - 145	12	20
n-Butylbenzene	0.200	U	25.0	24.09		ug/L		96	67 - 130	3	20
n-Heptane	0.300	U	25.0	24.77		ug/L		99	55 - 150	3	20
2-Nitropropane	1.00	U	50.0	40.47		ug/L		81	22 - 173	2	20
N-Propylbenzene	0.106	U	25.0	24.63		ug/L		99	70 - 130	2	20
1-Octene	0.440	U	25.0	23.02		ug/L		92	63 - 134	3	
o-Xylene	0.200	U	25.0	24.84		ug/L		99	70 - 130	0	20
Pentachloroethane	0.302	U	25.0	26.16		ug/L		105	60 - 130	0	20
Propionitrile	2.69	U	250	250.8		ug/L		100	39 - 130	4	20
sec-Butylbenzene	0.300	U	25.0	24.46		ug/L		98	67 - 130	1	20
Styrene	0.200	U	25.0	25.73		ug/L		103	28 - 150	1	20
tert-Butylbenzene	0.200	U	25.0	24.54		ug/L		98	70 - 130	1	20
1,1,1,2-Tetrachloroethane	0.209	U	25.0	25.13		ug/L		101	70 - 130	1	20
1,1,2,2-Tetrachloroethane	0.190	U	25.0	24.77		ug/L		99	66 - 130	1	20
Tetrachloroethene	0.189	U	25.0	24.61		ug/L		98	69 - 130	0	20
Toluene	0.495	U	25.0	25.50		ug/L		102	70 - 130	0	20
trans-1,4-Dichloro-2-butene	0.500	U	25.0	19.51		ug/L		78	35 - 130	2	20
trans-1,2-Dichloroethene	0.200	U	25.0	27.31		ug/L		109	57 - 148	1	20
trans-1,3-Dichloropropene	0.200	U	25.0	23.31		ug/L		93	44 - 139	0	20
1,2,3-Trichlorobenzene	0.217	U	25.0	25.71		ug/L		103	60 - 130	12	20
1,2,4-Trichlorobenzene	0.168	U	25.0	25.50		ug/L		102	60 - 142	8	20
1,3,5-Trichlorobenzene	0.203	U	25.0	24.78		ug/L		99	66 - 135	4	20
1,1,1-Trichloroethane	0.300	U	25.0	26.18		ug/L		105	70 - 133	1	20
1,1,2-Trichloroethane	0.173	U	25.0	25.24		ug/L		101	70 - 130	1	20
Trichloroethene	0.317	U	25.0	26.47		ug/L		106	70 - 130	1	20
Trichlorofluoromethane	0.244	U	25.0	27.92		ug/L		112	64 - 149	5	20
1,2,3-Trichloropropane	0.191	U	25.0	24.38		ug/L		98	70 - 130	1	20
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	28.35		ug/L		113	47 - 152	1	20
1,2,4-Trimethylbenzene	0.200	U	25.0	24.07		ug/L		96	70 - 130	0	20
1,3,5-Trimethylbenzene	0.200	U	25.0	24.27		ug/L		97	70 - 130	0	20
Vinyl acetate	0.500	U	50.0	47.01		ug/L		94	36 - 171	5	20
Vinyl chloride	0.300	U	25.0	28.22		ug/L		113	49 - 158	1	20
Xylenes, Total	0.226	U	50.0	49.70		ug/L		99	70 - 130	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 125954

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
Dibromofluoromethane (Surr)	106		69 - 130
1,2-Dichloroethane-d4 (Surr)	103		70 - 140
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: MB 560-125992/8

Matrix: Water

Analysis Batch: 125992

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			03/14/16 12:06	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			03/14/16 12:06	1
Benzene	0.330	U	1.00	0.330	ug/L			03/14/16 12:06	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			03/14/16 12:06	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			03/14/16 12:06	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			03/14/16 12:06	1
Bromoform	0.500	U	5.00	0.500	ug/L			03/14/16 12:06	1
Bromomethane	0.392	U	5.00	0.392	ug/L			03/14/16 12:06	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			03/14/16 12:06	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			03/14/16 12:06	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			03/14/16 12:06	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			03/14/16 12:06	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			03/14/16 12:06	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			03/14/16 12:06	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			03/14/16 12:06	1
Chloroethane	0.400	U	5.00	0.400	ug/L			03/14/16 12:06	1
Chloroform	0.173	U	1.00	0.173	ug/L			03/14/16 12:06	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			03/14/16 12:06	1
Chloromethane	0.390	U	5.00	0.390	ug/L			03/14/16 12:06	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			03/14/16 12:06	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			03/14/16 12:06	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/14/16 12:06	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			03/14/16 12:06	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			03/14/16 12:06	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			03/14/16 12:06	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			03/14/16 12:06	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			03/14/16 12:06	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			03/14/16 12:06	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			03/14/16 12:06	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			03/14/16 12:06	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			03/14/16 12:06	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			03/14/16 12:06	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			03/14/16 12:06	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			03/14/16 12:06	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			03/14/16 12:06	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			03/14/16 12:06	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			03/14/16 12:06	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			03/14/16 12:06	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125992/8

Matrix: Water

Analysis Batch: 125992

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			03/14/16 12:06	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			03/14/16 12:06	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			03/14/16 12:06	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			03/14/16 12:06	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			03/14/16 12:06	1
EDB	0.175	U	1.00	0.175	ug/L			03/14/16 12:06	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			03/14/16 12:06	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			03/14/16 12:06	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			03/14/16 12:06	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			03/14/16 12:06	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			03/14/16 12:06	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			03/14/16 12:06	1
Hexane	2.00	U	5.00	2.00	ug/L			03/14/16 12:06	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			03/14/16 12:06	1
Iodomethane	0.223	U	2.00	0.223	ug/L			03/14/16 12:06	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			03/14/16 12:06	1
Isooctane	0.500	U	5.00	0.500	ug/L			03/14/16 12:06	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			03/14/16 12:06	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			03/14/16 12:06	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			03/14/16 12:06	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			03/14/16 12:06	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			03/14/16 12:06	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			03/14/16 12:06	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			03/14/16 12:06	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			03/14/16 12:06	1
Naphthalene	0.200	U	5.00	0.200	ug/L			03/14/16 12:06	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			03/14/16 12:06	1
n-Heptane	0.300	U	5.00	0.300	ug/L			03/14/16 12:06	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			03/14/16 12:06	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			03/14/16 12:06	1
1-Octene	0.440	U	5.00	0.440	ug/L			03/14/16 12:06	1
o-Xylene	0.200	U	1.00	0.200	ug/L			03/14/16 12:06	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			03/14/16 12:06	1
Propionitrile	2.69	U	10.0	2.69	ug/L			03/14/16 12:06	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			03/14/16 12:06	1
Styrene	0.200	U	1.00	0.200	ug/L			03/14/16 12:06	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 12:06	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			03/14/16 12:06	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			03/14/16 12:06	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			03/14/16 12:06	1
Toluene	0.495	U	1.00	0.495	ug/L			03/14/16 12:06	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			03/14/16 12:06	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			03/14/16 12:06	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			03/14/16 12:06	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			03/14/16 12:06	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			03/14/16 12:06	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			03/14/16 12:06	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			03/14/16 12:06	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125992/8

Matrix: Water

Analysis Batch: 125992

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			03/14/16 12:06	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			03/14/16 12:06	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			03/14/16 12:06	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			03/14/16 12:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			03/14/16 12:06	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 12:06	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			03/14/16 12:06	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			03/14/16 12:06	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			03/14/16 12:06	1
Xylenes, Total	0.226	U	2.00	0.226	ug/L			03/14/16 12:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		03/14/16 12:06	1
Dibromofluoromethane (Surr)	103		69 - 130		03/14/16 12:06	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 140		03/14/16 12:06	1
Toluene-d8 (Surr)	101		70 - 130		03/14/16 12:06	1

Lab Sample ID: LCS 560-125992/3

Matrix: Water

Analysis Batch: 125992

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	28.00		ug/L		112	60 - 150
Acetonitrile	250	316.5		ug/L		127	52 - 160
Benzene	25.0	25.79		ug/L		103	70 - 130
Benzyl chloride	25.0	23.95		ug/L		96	66 - 153
Bromobenzene	25.0	24.22		ug/L		97	70 - 130
Bromochloromethane	25.0	27.84		ug/L		111	70 - 130
Bromoform	25.0	26.69		ug/L		107	63 - 145
Bromomethane	25.0	31.47		ug/L		126	50 - 146
1,3-Butadiene	25.0	25.65		ug/L		103	40 - 138
2-Butanone (MEK)	25.0	24.99		ug/L		100	68 - 144
Carbon disulfide	25.0	26.56		ug/L		106	52 - 156
Carbon tetrachloride	25.0	27.67		ug/L		111	70 - 138
Chlorobenzene	25.0	25.56		ug/L		102	70 - 130
2-Chloro-1,3-butadiene	25.0	24.50		ug/L		98	69 - 140
Chlorodibromomethane	25.0	25.83		ug/L		103	70 - 137
Chloroethane	25.0	28.46		ug/L		114	54 - 141
Chloroform	25.0	26.25		ug/L		105	70 - 130
1-Chlorohexane	25.0	23.97		ug/L		96	64 - 130
Chloromethane	25.0	26.19		ug/L		105	46 - 142
2-Chlorotoluene	25.0	25.33		ug/L		101	70 - 130
4-Chlorotoluene	25.0	25.97		ug/L		104	70 - 130
cis-1,4-Dichloro-2-butene	25.0	23.51		ug/L		94	10 - 184
cis-1,2-Dichloroethene	25.0	26.98		ug/L		108	70 - 130
cis-1,3-Dichloropropene	25.0	26.03		ug/L		104	70 - 138
Cyclohexane	25.0	26.54		ug/L		106	40 - 141
Cyclohexanone	125	133.2		ug/L		107	33 - 199

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125992/3

Matrix: Water

Analysis Batch: 125992

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	25.0	23.47		ug/L		94	70 - 149
Dibromomethane	25.0	26.01		ug/L		104	70 - 130
1,2-Dichlorobenzene	25.0	25.36		ug/L		101	70 - 130
1,3-Dichlorobenzene	25.0	25.70		ug/L		103	70 - 130
1,4-Dichlorobenzene	25.0	25.81		ug/L		103	70 - 130
Dichlorobromomethane	25.0	25.86		ug/L		103	70 - 130
Dichlorodifluoromethane	25.0	23.53		ug/L		94	10 - 181
1,1-Dichloroethane	25.0	25.72		ug/L		103	70 - 130
1,2-Dichloroethane	25.0	26.04		ug/L		104	70 - 131
1,1-Dichloroethene	25.0	26.70		ug/L		107	70 - 139
1,2-Dichloropropane	25.0	25.91		ug/L		104	70 - 130
1,3-Dichloropropane	25.0	25.49		ug/L		102	70 - 130
2,2-Dichloropropane	25.0	26.23		ug/L		105	65 - 143
1,1-Dichloropropene	25.0	26.66		ug/L		107	70 - 130
1,4-Dioxane	500	625.8		ug/L		125	66 - 150
EDB	25.0	26.50		ug/L		106	70 - 130
Ethyl acetate	50.0	49.17		ug/L		98	59 - 200
Ethylbenzene	25.0	25.63		ug/L		103	70 - 130
Ethylene oxide	100	122.6		ug/L		123	10 - 200
Ethyl ether	25.0	25.81		ug/L		103	69 - 136
Ethyl methacrylate	25.0	25.39		ug/L		102	70 - 130
Hexachlorobutadiene	25.0	32.76		ug/L		131	68 - 165
Hexane	25.0	28.87		ug/L		115	10 - 185
2-Hexanone	25.0	22.34		ug/L		89	70 - 138
Iodomethane	25.0	28.63		ug/L		115	64 - 146
Isobutyl alcohol	625	641.8		ug/L		103	27 - 199
Isooctane	25.0	28.25		ug/L		113	10 - 181
Isopropylbenzene	25.0	25.74		ug/L		103	70 - 131
4-Isopropyltoluene	25.0	27.21		ug/L		109	70 - 130
Methacrylonitrile	250	245.8		ug/L		98	70 - 139
Methylene Chloride	25.0	25.03		ug/L		100	70 - 130
Methyl methacrylate	50.0	46.09		ug/L		92	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	23.44		ug/L		94	70 - 138
Methyl tert-butyl ether	25.0	25.32		ug/L		101	70 - 131
m-Xylene & p-Xylene	25.0	25.20		ug/L		101	70 - 139
Naphthalene	25.0	25.70		ug/L		103	70 - 159
n-Butylbenzene	25.0	26.86		ug/L		107	70 - 135
n-Heptane	25.0	29.16		ug/L		117	10 - 186
2-Nitropropane	50.0	43.85		ug/L		88	22 - 173
N-Propylbenzene	25.0	25.80		ug/L		103	70 - 131
1-Octene	25.0	27.72		ug/L		111	10 - 185
o-Xylene	25.0	25.39		ug/L		102	70 - 130
Pentachloroethane	25.0	27.57		ug/L		110	70 - 146
Propionitrile	250	257.5		ug/L		103	70 - 144
sec-Butylbenzene	25.0	26.76		ug/L		107	70 - 134
Styrene	25.0	26.15		ug/L		105	70 - 130
tert-Butylbenzene	25.0	25.98		ug/L		104	70 - 132
1,1,1,2-Tetrachloroethane	25.0	26.10		ug/L		104	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125992/3

Matrix: Water

Analysis Batch: 125992

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	25.0	25.28		ug/L		101	70 - 130
Tetrachloroethene	25.0	25.53		ug/L		102	70 - 135
Toluene	25.0	25.66		ug/L		103	70 - 130
trans-1,4-Dichloro-2-butene	25.0	22.79		ug/L		91	37 - 174
trans-1,2-Dichloroethene	25.0	27.35		ug/L		109	70 - 134
trans-1,3-Dichloropropene	25.0	25.68		ug/L		103	70 - 143
1,2,3-Trichlorobenzene	25.0	27.42		ug/L		110	70 - 158
1,2,4-Trichlorobenzene	25.0	27.25		ug/L		109	70 - 157
1,3,5-Trichlorobenzene	25.0	26.97		ug/L		108	70 - 131
1,1,1-Trichloroethane	25.0	26.92		ug/L		108	70 - 130
1,1,2-Trichloroethane	25.0	25.50		ug/L		102	70 - 130
Trichloroethene	25.0	26.39		ug/L		106	70 - 130
Trichlorofluoromethane	25.0	27.92		ug/L		112	39 - 146
1,2,3-Trichloropropane	25.0	25.48		ug/L		102	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	28.94		ug/L		116	27 - 148
1,2,4-Trimethylbenzene	25.0	25.30		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	25.0	25.80		ug/L		103	70 - 131
Vinyl acetate	50.0	53.03		ug/L		106	18 - 200
Vinyl chloride	25.0	27.85		ug/L		111	49 - 140
Xylenes, Total	50.0	50.59		ug/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	106		69 - 130
1,2-Dichloroethane-d4 (Surr)	102		70 - 140
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: 560-60214-A-8 MS

Matrix: Water

Analysis Batch: 125992

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	5.00	U	25.0	24.08		ug/L		96	32 - 157
Acetonitrile	10.0	U	25.0	333.3		ug/L		133	10 - 182
Benzene	0.330	U	25.0	27.10		ug/L		108	70 - 130
Benzyl chloride	0.278	U	25.0	24.60		ug/L		98	49 - 130
Bromobenzene	0.128	U	25.0	25.09		ug/L		100	69 - 130
Bromochloromethane	0.228	U	25.0	28.48		ug/L		114	70 - 130
Bromoform	0.500	U	25.0	27.12		ug/L		108	57 - 145
Bromomethane	0.392	U	25.0	31.37		ug/L		125	56 - 141
1,3-Butadiene	0.300	U	25.0	25.95		ug/L		104	25 - 196
2-Butanone (MEK)	1.00	U	25.0	24.53		ug/L		98	42 - 142
Carbon disulfide	0.500	U	25.0	27.13		ug/L		109	59 - 164
Carbon tetrachloride	0.251	U	25.0	28.19		ug/L		113	70 - 138
Chlorobenzene	0.136	U	25.0	26.43		ug/L		106	70 - 130
2-Chloro-1,3-butadiene	0.200	U	25.0	25.06		ug/L		100	55 - 144
Chlorodibromomethane	0.223	U	25.0	26.72		ug/L		107	62 - 145

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60214-A-8 MS

Matrix: Water

Analysis Batch: 125992

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	0.400	U	25.0	29.39		ug/L		118	62 - 142
Chloroform	0.173	U	25.0	27.42		ug/L		110	70 - 130
1-Chlorohexane	0.500	U	25.0	24.14		ug/L		97	64 - 130
Chloromethane	0.390	U	25.0	27.16		ug/L		109	57 - 148
2-Chlorotoluene	0.155	U	25.0	25.95		ug/L		104	70 - 130
4-Chlorotoluene	0.242	U	25.0	26.65		ug/L		107	69 - 130
cis-1,4-Dichloro-2-butene	0.500	U	25.0	24.28		ug/L		97	24 - 136
cis-1,2-Dichloroethene	0.121	U	25.0	27.82		ug/L		111	70 - 130
cis-1,3-Dichloropropene	0.146	U	25.0	26.83		ug/L		107	46 - 136
Cyclohexane	1.00	U	25.0	26.65		ug/L		107	46 - 144
Cyclohexanone	5.00	U	125	113.3		ug/L		91	10 - 193
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	24.00		ug/L		96	56 - 130
Dibromomethane	0.165	U	25.0	26.58		ug/L		106	70 - 130
1,2-Dichlorobenzene	0.170	U	25.0	26.08		ug/L		104	70 - 130
1,3-Dichlorobenzene	0.128	U	25.0	26.12		ug/L		104	70 - 130
1,4-Dichlorobenzene	0.200	U	25.0	26.62		ug/L		106	70 - 130
Dichlorobromomethane	0.175	U	25.0	26.85		ug/L		107	70 - 130
Dichlorodifluoromethane	0.429	U	25.0	23.57		ug/L		94	14 - 198
1,1-Dichloroethane	0.168	U	25.0	26.58		ug/L		106	70 - 130
1,2-Dichloroethane	0.172	U	25.0	26.93		ug/L		108	65 - 130
1,1-Dichloroethene	0.300	U	25.0	27.84		ug/L		111	67 - 143
1,2-Dichloropropane	0.173	U	25.0	27.41		ug/L		110	70 - 130
1,3-Dichloropropane	0.146	U	25.0	26.37		ug/L		105	70 - 130
2,2-Dichloropropane	0.335	U	25.0	27.07		ug/L		108	65 - 150
1,1-Dichloropropene	0.185	U	25.0	27.10		ug/L		108	70 - 130
1,4-Dioxane	15.9	U	500	612.2		ug/L		122	20 - 152
EDB	0.175	U	25.0	26.92		ug/L		108	70 - 130
Ethyl acetate	1.00	U	50.0	49.96		ug/L		100	53 - 144
Ethylbenzene	0.200	U	25.0	26.35		ug/L		105	70 - 130
Ethylene oxide	30.0	U	100	96.00		ug/L		96	12 - 185
Ethyl ether	0.320	U	25.0	26.77		ug/L		107	67 - 130
Ethyl methacrylate	0.500	U	25.0	26.33		ug/L		105	65 - 130
Hexachlorobutadiene	0.860	U	25.0	31.21		ug/L		125	52 - 143
Hexane	2.00	U	25.0	28.53		ug/L		114	51 - 159
2-Hexanone	0.500	U	25.0	22.71		ug/L		91	56 - 130
Iodomethane	0.223	U	25.0	29.48		ug/L		118	70 - 162
Isobutyl alcohol	5.00	U	625	638.0		ug/L		102	36 - 130
Isooctane	0.500	U	25.0	26.38		ug/L		106	52 - 150
Isopropylbenzene	0.200	U	25.0	26.02		ug/L		104	70 - 130
4-Isopropyltoluene	0.150	U	25.0	27.08		ug/L		108	69 - 130
Methacrylonitrile	2.00	U	250	249.6		ug/L		100	61 - 130
Methylene Chloride	2.00	U	25.0	26.07		ug/L		104	70 - 130
Methyl methacrylate	0.200	U	50.0	47.98		ug/L		96	63 - 130
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	23.54		ug/L		94	54 - 130
Methyl tert-butyl ether	0.200	U	25.0	26.28		ug/L		105	63 - 134
m-Xylene & p-Xylene	0.260	U	25.0	25.94		ug/L		104	67 - 130
Naphthalene	0.200	U	25.0	25.66		ug/L		103	62 - 145
n-Butylbenzene	0.200	U	25.0	26.42		ug/L		106	67 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60214-A-8 MS

Matrix: Water

Analysis Batch: 125992

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
n-Heptane	0.300	U	25.0	27.71		ug/L		111	55 - 150
2-Nitropropane	1.00	U	50.0	44.47		ug/L		89	22 - 173
N-Propylbenzene	0.106	U	25.0	26.22		ug/L		105	70 - 130
1-Octene	0.440	U	25.0	26.57		ug/L		106	63 - 134
o-Xylene	0.200	U	25.0	25.89		ug/L		104	70 - 130
Pentachloroethane	0.302	U	25.0	29.09		ug/L		116	60 - 130
Propionitrile	2.69	U	250	266.1		ug/L		106	39 - 130
sec-Butylbenzene	0.300	U	25.0	26.41		ug/L		106	67 - 130
Styrene	0.200	U	25.0	26.91		ug/L		108	28 - 150
tert-Butylbenzene	0.200	U	25.0	26.32		ug/L		105	70 - 130
1,1,1,2-Tetrachloroethane	0.209	U	25.0	26.92		ug/L		108	70 - 130
1,1,2,2-Tetrachloroethane	0.190	U	25.0	26.30		ug/L		105	66 - 130
Tetrachloroethene	0.189	U	25.0	25.45		ug/L		102	69 - 130
Toluene	0.495	U	25.0	26.55		ug/L		106	70 - 130
trans-1,4-Dichloro-2-butene	0.500	U	25.0	23.06		ug/L		92	35 - 130
trans-1,2-Dichloroethene	0.200	U	25.0	28.59		ug/L		114	57 - 148
trans-1,3-Dichloropropene	0.200	U	25.0	26.18		ug/L		105	44 - 139
1,2,3-Trichlorobenzene	0.217	U	25.0	27.16		ug/L		109	60 - 130
1,2,4-Trichlorobenzene	0.168	U	25.0	26.85		ug/L		107	60 - 142
1,3,5-Trichlorobenzene	0.203	U	25.0	26.68		ug/L		107	66 - 135
1,1,1-Trichloroethane	0.300	U	25.0	26.92		ug/L		108	70 - 133
1,1,2-Trichloroethane	0.173	U	25.0	26.36		ug/L		105	70 - 130
Trichloroethene	0.317	U	25.0	27.35		ug/L		109	70 - 130
Trichlorofluoromethane	0.244	U	25.0	29.60		ug/L		118	64 - 149
1,2,3-Trichloropropane	0.191	U	25.0	26.05		ug/L		104	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	29.71		ug/L		119	47 - 152
1,2,4-Trimethylbenzene	0.200	U	25.0	25.53		ug/L		102	70 - 130
1,3,5-Trimethylbenzene	0.200	U	25.0	26.08		ug/L		104	70 - 130
Vinyl acetate	0.500	U	50.0	54.21		ug/L		108	36 - 171
Vinyl chloride	0.300	U	25.0	28.82		ug/L		115	49 - 158
Xylenes, Total	0.226	U	50.0	51.83		ug/L		104	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	106		69 - 130
1,2-Dichloroethane-d4 (Surr)	101		70 - 140
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: 560-60214-B-8 MSD

Matrix: Water

Analysis Batch: 125992

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	5.00	U	25.0	24.28		ug/L		97	32 - 157	1	20
Acetonitrile	10.0	U	250	324.7		ug/L		130	10 - 182	3	20
Benzene	0.330	U	25.0	26.22		ug/L		105	70 - 130	3	20
Benzyl chloride	0.278	U	25.0	23.95		ug/L		96	49 - 130	3	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60214-B-8 MSD

Matrix: Water

Analysis Batch: 125992

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromobenzene	0.128	U	25.0	24.22		ug/L		97	69 - 130	4	20
Bromochloromethane	0.228	U	25.0	27.76		ug/L		111	70 - 130	3	20
Bromoform	0.500	U	25.0	26.67		ug/L		107	57 - 145	2	20
Bromomethane	0.392	U	25.0	31.80		ug/L		127	56 - 141	1	20
1,3-Butadiene	0.300	U	25.0	26.61		ug/L		106	25 - 196	3	20
2-Butanone (MEK)	1.00	U	25.0	24.59		ug/L		98	42 - 142	0	20
Carbon disulfide	0.500	U	25.0	26.93		ug/L		108	59 - 164	1	20
Carbon tetrachloride	0.251	U	25.0	27.75		ug/L		111	70 - 138	2	20
Chlorobenzene	0.136	U	25.0	25.77		ug/L		103	70 - 130	3	20
2-Chloro-1,3-butadiene	0.200	U	25.0	24.79		ug/L		99	55 - 144	1	20
Chlorodibromomethane	0.223	U	25.0	26.01		ug/L		104	62 - 145	3	20
Chloroethane	0.400	U	25.0	29.52		ug/L		118	62 - 142	0	20
Chloroform	0.173	U	25.0	26.75		ug/L		107	70 - 130	2	20
1-Chlorohexane	0.500	U	25.0	23.97		ug/L		96	64 - 130	1	20
Chloromethane	0.390	U	25.0	26.95		ug/L		108	57 - 148	1	20
2-Chlorotoluene	0.155	U	25.0	25.35		ug/L		101	70 - 130	2	20
4-Chlorotoluene	0.242	U	25.0	25.88		ug/L		104	69 - 130	3	20
cis-1,4-Dichloro-2-butene	0.500	U	25.0	23.44		ug/L		94	24 - 136	4	20
cis-1,2-Dichloroethene	0.121	U	25.0	27.66		ug/L		111	70 - 130	1	20
cis-1,3-Dichloropropene	0.146	U	25.0	26.15		ug/L		105	46 - 136	3	20
Cyclohexane	1.00	U	25.0	26.85		ug/L		107	46 - 144	1	20
Cyclohexanone	5.00	U	125	111.4		ug/L		89	10 - 193	2	20
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	24.06		ug/L		96	56 - 130	0	20
Dibromomethane	0.165	U	25.0	26.46		ug/L		106	70 - 130	0	20
1,2-Dichlorobenzene	0.170	U	25.0	25.70		ug/L		103	70 - 130	1	20
1,3-Dichlorobenzene	0.128	U	25.0	25.51		ug/L		102	70 - 130	2	20
1,4-Dichlorobenzene	0.200	U	25.0	25.81		ug/L		103	70 - 130	3	20
Dichlorobromomethane	0.175	U	25.0	26.13		ug/L		105	70 - 130	3	20
Dichlorodifluoromethane	0.429	U	25.0	23.81		ug/L		95	14 - 198	1	20
1,1-Dichloroethane	0.168	U	25.0	25.97		ug/L		104	70 - 130	2	20
1,2-Dichloroethane	0.172	U	25.0	26.21		ug/L		105	65 - 130	3	20
1,1-Dichloroethene	0.300	U	25.0	27.05		ug/L		108	67 - 143	3	20
1,2-Dichloropropane	0.173	U	25.0	26.25		ug/L		105	70 - 130	4	20
1,3-Dichloropropane	0.146	U	25.0	25.66		ug/L		103	70 - 130	3	20
2,2-Dichloropropane	0.335	U	25.0	28.17		ug/L		113	65 - 150	4	20
1,1-Dichloropropene	0.185	U	25.0	26.70		ug/L		107	70 - 130	1	20
1,4-Dioxane	15.9	U	500	605.0		ug/L		121	20 - 152	1	20
EDB	0.175	U	25.0	26.57		ug/L		106	70 - 130	1	20
Ethyl acetate	1.00	U	50.0	48.31		ug/L		97	53 - 144	3	20
Ethylbenzene	0.200	U	25.0	25.89		ug/L		104	70 - 130	2	20
Ethylene oxide	30.0	U	100	102.0		ug/L		102	12 - 185	6	20
Ethyl ether	0.320	U	25.0	26.24		ug/L		105	67 - 130	2	20
Ethyl methacrylate	0.500	U	25.0	25.73		ug/L		103	65 - 130	2	20
Hexachlorobutadiene	0.860	U	25.0	29.50		ug/L		118	52 - 143	6	20
Hexane	2.00	U	25.0	29.16		ug/L		117	51 - 159	2	20
2-Hexanone	0.500	U	25.0	22.92		ug/L		92	56 - 130	1	20
Iodomethane	0.223	U	25.0	29.42		ug/L		118	70 - 162	0	20
Isobutyl alcohol	5.00	U	625	643.1		ug/L		103	36 - 130	1	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60214-B-8 MSD

Matrix: Water

Analysis Batch: 125992

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isooctane	0.500	U	25.0	26.49		ug/L		106	52 - 150	0	20
Isopropylbenzene	0.200	U	25.0	25.31		ug/L		101	70 - 130	3	20
4-Isopropyltoluene	0.150	U	25.0	26.07		ug/L		104	69 - 130	4	20
Methacrylonitrile	2.00	U	250	243.3		ug/L		97	61 - 130	3	20
Methylene Chloride	2.00	U	25.0	25.33		ug/L		101	70 - 130	3	20
Methyl methacrylate	0.200	U	50.0	47.30		ug/L		95	63 - 130	1	20
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	23.48		ug/L		94	54 - 130	0	20
Methyl tert-butyl ether	0.200	U	25.0	25.89		ug/L		104	63 - 134	2	20
m-Xylene & p-Xylene	0.260	U	25.0	25.84		ug/L		103	67 - 130	0	20
Naphthalene	0.200	U	25.0	25.39		ug/L		102	62 - 145	1	20
n-Butylbenzene	0.200	U	25.0	25.52		ug/L		102	67 - 130	3	20
n-Heptane	0.300	U	25.0	27.83		ug/L		111	55 - 150	0	20
2-Nitropropane	1.00	U	50.0	43.62		ug/L		87	22 - 173	2	20
N-Propylbenzene	0.106	U	25.0	25.53		ug/L		102	70 - 130	3	20
1-Octene	0.440	U	25.0	26.18		ug/L		105	63 - 134	1	
o-Xylene	0.200	U	25.0	25.55		ug/L		102	70 - 130	1	20
Pentachloroethane	0.302	U	25.0	27.38		ug/L		110	60 - 130	6	20
Propionitrile	2.69	U	250	259.6		ug/L		104	39 - 130	2	20
sec-Butylbenzene	0.300	U	25.0	25.38		ug/L		102	67 - 130	4	20
Styrene	0.200	U	25.0	26.57		ug/L		106	28 - 150	1	20
tert-Butylbenzene	0.200	U	25.0	25.55		ug/L		102	70 - 130	3	20
1,1,1,2-Tetrachloroethane	0.209	U	25.0	26.47		ug/L		106	70 - 130	2	20
1,1,2,2-Tetrachloroethane	0.190	U	25.0	25.41		ug/L		102	66 - 130	3	20
Tetrachloroethene	0.189	U	25.0	25.44		ug/L		102	69 - 130	0	20
Toluene	0.495	U	25.0	25.89		ug/L		104	70 - 130	3	20
trans-1,4-Dichloro-2-butene	0.500	U	25.0	22.68		ug/L		91	35 - 130	2	20
trans-1,2-Dichloroethene	0.200	U	25.0	28.32		ug/L		113	57 - 148	1	20
trans-1,3-Dichloropropene	0.200	U	25.0	25.30		ug/L		101	44 - 139	3	20
1,2,3-Trichlorobenzene	0.217	U	25.0	26.38		ug/L		106	60 - 130	3	20
1,2,4-Trichlorobenzene	0.168	U	25.0	26.45		ug/L		106	60 - 142	2	20
1,3,5-Trichlorobenzene	0.203	U	25.0	26.09		ug/L		104	66 - 135	2	20
1,1,1-Trichloroethane	0.300	U	25.0	27.58		ug/L		110	70 - 133	2	20
1,1,2-Trichloroethane	0.173	U	25.0	25.39		ug/L		102	70 - 130	4	20
Trichloroethene	0.317	U	25.0	26.62		ug/L		106	70 - 130	3	20
Trichlorofluoromethane	0.244	U	25.0	30.31		ug/L		121	64 - 149	2	20
1,2,3-Trichloropropane	0.191	U	25.0	25.56		ug/L		102	70 - 130	2	20
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	30.06		ug/L		120	47 - 152	1	20
1,2,4-Trimethylbenzene	0.200	U	25.0	25.28		ug/L		101	70 - 130	1	20
1,3,5-Trimethylbenzene	0.200	U	25.0	25.25		ug/L		101	70 - 130	3	20
Vinyl acetate	0.500	U	50.0	52.16		ug/L		104	36 - 171	4	20
Vinyl chloride	0.300	U	25.0	28.62		ug/L		114	49 - 158	1	20
Xylenes, Total	0.226	U	50.0	51.39		ug/L		103	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
Dibromofluoromethane (Surr)	106		69 - 130
1,2-Dichloroethane-d4 (Surr)	102		70 - 140

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60214-B-8 MSD

Matrix: Water

Analysis Batch: 125992

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Toluene-d8 (Surr)	101		70 - 130

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-125943/1-A

Matrix: Water

Analysis Batch: 125951

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125943

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/10/16 15:00	03/11/16 10:06	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/10/16 15:00	03/11/16 10:06	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/10/16 15:00	03/11/16 10:06	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/10/16 15:00	03/11/16 10:06	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/10/16 15:00	03/11/16 10:06	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/10/16 15:00	03/11/16 10:06	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/10/16 15:00	03/11/16 10:06	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/10/16 15:00	03/11/16 10:06	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/10/16 15:00	03/11/16 10:06	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/10/16 15:00	03/11/16 10:06	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/10/16 15:00	03/11/16 10:06	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/10/16 15:00	03/11/16 10:06	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/10/16 15:00	03/11/16 10:06	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/10/16 15:00	03/11/16 10:06	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 10:06	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/10/16 15:00	03/11/16 10:06	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/10/16 15:00	03/11/16 10:06	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/10/16 15:00	03/11/16 10:06	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/10/16 15:00	03/11/16 10:06	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/10/16 15:00	03/11/16 10:06	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/10/16 15:00	03/11/16 10:06	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/10/16 15:00	03/11/16 10:06	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/10/16 15:00	03/11/16 10:06	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/10/16 15:00	03/11/16 10:06	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/10/16 15:00	03/11/16 10:06	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 10:06	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/10/16 15:00	03/11/16 10:06	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/10/16 15:00	03/11/16 10:06	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/10/16 15:00	03/11/16 10:06	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 10:06	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/10/16 15:00	03/11/16 10:06	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/10/16 15:00	03/11/16 10:06	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/10/16 15:00	03/11/16 10:06	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/10/16 15:00	03/11/16 10:06	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/10/16 15:00	03/11/16 10:06	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/10/16 15:00	03/11/16 10:06	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/10/16 15:00	03/11/16 10:06	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/10/16 15:00	03/11/16 10:06	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/10/16 15:00	03/11/16 10:06	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125943/1-A

Matrix: Water

Analysis Batch: 125951

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125943

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/10/16 15:00	03/11/16 10:06	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/10/16 15:00	03/11/16 10:06	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/10/16 15:00	03/11/16 10:06	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/10/16 15:00	03/11/16 10:06	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/10/16 15:00	03/11/16 10:06	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/10/16 15:00	03/11/16 10:06	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/10/16 15:00	03/11/16 10:06	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/10/16 15:00	03/11/16 10:06	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/10/16 15:00	03/11/16 10:06	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/10/16 15:00	03/11/16 10:06	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/10/16 15:00	03/11/16 10:06	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/10/16 15:00	03/11/16 10:06	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/10/16 15:00	03/11/16 10:06	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/10/16 15:00	03/11/16 10:06	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/10/16 15:00	03/11/16 10:06	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/10/16 15:00	03/11/16 10:06	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/10/16 15:00	03/11/16 10:06	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/10/16 15:00	03/11/16 10:06	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/10/16 15:00	03/11/16 10:06	1
Phenol	0.768	U	10.0	0.768	ug/L		03/10/16 15:00	03/11/16 10:06	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/10/16 15:00	03/11/16 10:06	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/10/16 15:00	03/11/16 10:06	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/10/16 15:00	03/11/16 10:06	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/10/16 15:00	03/11/16 10:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	33		23 - 130	03/10/16 15:00	03/11/16 10:06	1
2-Fluorophenol	35		10 - 130	03/10/16 15:00	03/11/16 10:06	1
Nitrobenzene-d5	36		27 - 130	03/10/16 15:00	03/11/16 10:06	1
Phenol-d5	38		10 - 130	03/10/16 15:00	03/11/16 10:06	1
Terphenyl-d14	63		10 - 141	03/10/16 15:00	03/11/16 10:06	1
2,4,6-Tribromophenol	32		18 - 130	03/10/16 15:00	03/11/16 10:06	1

Lab Sample ID: LCS 560-125943/2-A

Matrix: Water

Analysis Batch: 125951

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125943

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	200	173.8		ug/L		87	54 - 130
Acenaphthylene	200	166.7		ug/L		83	54 - 130
Anthracene	200	186.2		ug/L		93	67 - 130
Benzo[a]anthracene	200	179.3		ug/L		90	70 - 130
Benzo[a]pyrene	200	181.8		ug/L		91	70 - 130
Benzo[b]fluoranthene	200	180.2		ug/L		90	69 - 130
Benzo[g,h,i]perylene	200	189.0		ug/L		94	62 - 130
Benzo[k]fluoranthene	200	185.2		ug/L		93	68 - 130
Benzyl alcohol	200	165.6		ug/L		83	52 - 130
Bis(2-chloroethoxy)methane	200	170.1		ug/L		85	55 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125943/2-A

Matrix: Water

Analysis Batch: 125951

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125943

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethyl)ether	200	166.9		ug/L		83	52 - 130
Bis(2-ethylhexyl) phthalate	200	192.4		ug/L		96	68 - 130
4-Bromophenyl phenyl ether	200	177.9		ug/L		89	69 - 130
Butyl benzyl phthalate	200	187.2		ug/L		94	68 - 130
4-Chloroaniline	200	118.6		ug/L		59	30 - 130
4-Chloro-3-methylphenol	200	174.1		ug/L		87	52 - 130
2-Chloronaphthalene	200	163.3		ug/L		82	51 - 130
2-Chlorophenol	200	166.5		ug/L		83	51 - 130
4-Chlorophenyl phenyl ether	200	174.8		ug/L		87	59 - 130
Chrysene	200	179.7		ug/L		90	70 - 130
Dibenz(a,h)anthracene	200	186.9		ug/L		93	65 - 130
Dibenzofuran	200	176.7		ug/L		88	53 - 130
1,2-Dichlorobenzene	200	141.6		ug/L		71	43 - 130
1,3-Dichlorobenzene	200	136.1		ug/L		68	40 - 130
1,4-Dichlorobenzene	200	140.7		ug/L		70	42 - 130
3,3'-Dichlorobenzidine	200	180.1		ug/L		90	61 - 130
2,4-Dichlorophenol	200	172.3		ug/L		86	51 - 130
Diethyl phthalate	200	184.9		ug/L		92	59 - 130
2,4-Dimethylphenol	200	169.6		ug/L		85	51 - 130
Dimethyl phthalate	200	179.5		ug/L		90	63 - 130
Di-n-butyl phthalate	200	187.8		ug/L		94	67 - 130
4,6-Dinitro-2-methylphenol	400	365.7		ug/L		91	63 - 130
2,4-Dinitrophenol	400	361.9		ug/L		90	47 - 130
2,4-Dinitrotoluene	200	185.5		ug/L		93	67 - 130
2,6-Dinitrotoluene	200	181.7		ug/L		91	64 - 130
Di-n-octyl phthalate	200	180.6		ug/L		90	70 - 130
Fluoranthene	200	188.2		ug/L		94	65 - 130
Fluorene	200	181.5		ug/L		91	59 - 130
Hexachlorobenzene	200	177.7		ug/L		89	67 - 130
Hexachlorobutadiene	200	140.8		ug/L		70	44 - 130
Hexachlorocyclopentadiene	200	100.7		ug/L		50	10 - 130
Hexachloroethane	200	134.6		ug/L		67	38 - 130
Indeno[1,2,3-cd]pyrene	200	182.9		ug/L		91	66 - 130
Isophorone	200	166.2		ug/L		83	55 - 130
2-Methylnaphthalene	200	166.6		ug/L		83	54 - 130
2-Methylphenol	200	165.9		ug/L		83	47 - 130
3 & 4 Methylphenol	200	168.0		ug/L		84	41 - 130
Naphthalene	200	160.9		ug/L		80	51 - 130
2-Nitroaniline	200	174.5		ug/L		87	60 - 130
3-Nitroaniline	200	180.9		ug/L		90	57 - 130
4-Nitroaniline	200	187.9		ug/L		94	55 - 130
Nitrobenzene	200	165.6		ug/L		83	54 - 130
2-Nitrophenol	200	173.5		ug/L		87	54 - 130
4-Nitrophenol	400	360.4		ug/L		90	34 - 138
N-Nitrosodi-n-propylamine	200	169.1		ug/L		85	45 - 130
N-Nitrosodiphenylamine	400	379.1		ug/L		95	51 - 130
Pentachlorophenol	400	341.9		ug/L		85	55 - 130
Phenanthrene	200	187.5		ug/L		94	67 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125943/2-A

Matrix: Water

Analysis Batch: 125951

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125943

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	200	162.6		ug/L		81	47 - 130
Pyrene	200	182.1		ug/L		91	66 - 130
1,2,4-Trichlorobenzene	200	152.2		ug/L		76	49 - 130
2,4,5-Trichlorophenol	200	174.9		ug/L		87	55 - 130
2,4,6-Trichlorophenol	200	169.9		ug/L		85	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	70		23 - 130
2-Fluorophenol	67		10 - 130
Nitrobenzene-d5	70		27 - 130
Phenol-d5	72		10 - 130
Terphenyl-d14	75		10 - 141
2,4,6-Tribromophenol	81		18 - 130

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 125951

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 125943

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.479	U	200	148.8		ug/L		74	54 - 130
Acenaphthylene	0.471	U	200	143.6		ug/L		72	54 - 130
Anthracene	0.729	U	200	162.6		ug/L		81	67 - 130
Benzo[a]anthracene	0.673	U	200	161.5		ug/L		81	70 - 130
Benzo[a]pyrene	0.773	U	200	165.3		ug/L		83	70 - 130
Benzo[b]fluoranthene	0.946	U	200	166.0		ug/L		83	69 - 130
Benzo[g,h,i]perylene	1.14	U	200	154.0		ug/L		77	62 - 130
Benzo[k]fluoranthene	1.55	U	200	160.9		ug/L		80	68 - 130
Benzyl alcohol	0.861	U	200	138.3		ug/L		69	52 - 130
Bis(2-chloroethoxy)methane	0.454	U	200	141.1		ug/L		71	55 - 130
Bis(2-chloroethyl)ether	1.62	U	200	137.7		ug/L		69	52 - 130
Bis(2-ethylhexyl) phthalate	5.21	U	200	169.9		ug/L		85	68 - 130
4-Bromophenyl phenyl ether	0.845	U	200	159.6		ug/L		80	69 - 130
Butyl benzyl phthalate	0.850	U	200	163.2		ug/L		82	68 - 130
4-Chloroaniline	0.572	U	200	108.5		ug/L		54	30 - 130
4-Chloro-3-methylphenol	0.610	U	200	145.6		ug/L		73	52 - 130
2-Chloronaphthalene	0.628	U	200	138.1		ug/L		69	51 - 130
2-Chlorophenol	0.759	U	200	136.7		ug/L		68	51 - 130
4-Chlorophenyl phenyl ether	0.551	U	200	150.7		ug/L		75	59 - 130
Chrysene	0.515	U	200	162.2		ug/L		81	70 - 130
Dibenz(a,h)anthracene	0.910	U	200	161.7		ug/L		81	65 - 130
Dibenzofuran	0.505	U	200	148.5		ug/L		74	53 - 130
1,2-Dichlorobenzene	0.807	U	200	118.4		ug/L		59	43 - 130
1,3-Dichlorobenzene	0.511	U	200	114.0		ug/L		57	40 - 130
1,4-Dichlorobenzene	0.849	U	200	117.2		ug/L		59	42 - 130
3,3'-Dichlorobenzidine	0.820	U	200	143.4		ug/L		72	61 - 130
2,4-Dichlorophenol	0.733	U	200	141.6		ug/L		71	51 - 130
Diethyl phthalate	0.694	U	200	159.1		ug/L		80	59 - 130
2,4-Dimethylphenol	0.618	U	200	138.8		ug/L		69	51 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 125951

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 125943

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dimethyl phthalate	0.614	U	200	156.6		ug/L		78	63 - 130
Di-n-butyl phthalate	0.739	U	200	165.1		ug/L		83	67 - 130
4,6-Dinitro-2-methylphenol	0.999	U	400	318.6		ug/L		80	63 - 130
2,4-Dinitrophenol	2.80	U	400	317.8		ug/L		79	47 - 130
2,4-Dinitrotoluene	0.530	U	200	162.1		ug/L		81	67 - 130
2,6-Dinitrotoluene	0.794	U	200	158.3		ug/L		79	64 - 130
Di-n-octyl phthalate	1.15	U	200	162.8		ug/L		81	70 - 130
Fluoranthene	0.517	U	200	166.1		ug/L		83	65 - 130
Fluorene	0.439	U	200	156.3		ug/L		78	59 - 130
Hexachlorobenzene	0.627	U	200	157.5		ug/L		79	67 - 130
Hexachlorobutadiene	0.746	U	200	117.8		ug/L		59	44 - 130
Hexachlorocyclopentadiene	0.874	U	200	84.25		ug/L		42	10 - 130
Hexachloroethane	0.614	U	200	114.2		ug/L		57	38 - 130
Indeno[1,2,3-cd]pyrene	0.960	U	200	157.5		ug/L		79	66 - 130
Isophorone	0.572	U	200	139.7		ug/L		70	55 - 130
2-Methylnaphthalene	0.731	U	200	137.7		ug/L		69	54 - 130
2-Methylphenol	0.635	U	200	139.5		ug/L		70	47 - 130
3 & 4 Methylphenol	0.795	U	200	143.5		ug/L		72	41 - 130
Naphthalene	0.820	U	200	132.7		ug/L		66	51 - 130
2-Nitroaniline	0.798	U	200	149.6		ug/L		75	60 - 130
3-Nitroaniline	0.533	U	200	154.0		ug/L		77	57 - 130
4-Nitroaniline	0.853	U	200	163.0		ug/L		81	55 - 130
Nitrobenzene	0.611	U	200	138.0		ug/L		69	54 - 130
2-Nitrophenol	0.842	U	200	142.3		ug/L		71	54 - 130
4-Nitrophenol	1.81	U	400	313.8		ug/L		78	34 - 138
N-Nitrosodi-n-propylamine	0.646	U	200	144.4		ug/L		72	45 - 130
N-Nitrosodiphenylamine	1.07	U	400	320.4		ug/L		80	51 - 130
Pentachlorophenol	1.38	U	400	307.2		ug/L		77	55 - 130
Phenanthrene	0.616	U	200	163.5		ug/L		82	67 - 130
Phenol	0.800	U	200	135.9		ug/L		68	47 - 130
Pyrene	0.458	U	200	161.5		ug/L		81	66 - 130
1,2,4-Trichlorobenzene	0.674	U	200	125.1		ug/L		63	49 - 130
2,4,5-Trichlorophenol	0.897	U	200	148.3		ug/L		74	55 - 130
2,4,6-Trichlorophenol	0.685	U	200	147.2		ug/L		74	53 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
2-Fluorobiphenyl	58		23 - 130						
2-Fluorophenol	54		10 - 130						
Nitrobenzene-d5	57		27 - 130						
Phenol-d5	60		10 - 130						
Terphenyl-d14	59		10 - 141						
2,4,6-Tribromophenol	68		18 - 130						

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 125951

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 125943

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	0.479	U	208	151.8		ug/L		73	54 - 130	2	30
Acenaphthylene	0.471	U	208	147.8		ug/L		71	54 - 130	3	30
Anthracene	0.729	U	208	167.3		ug/L		80	67 - 130	3	30
Benzo[a]anthracene	0.673	U	208	166.5		ug/L		80	70 - 130	3	30
Benzo[a]pyrene	0.773	U	208	171.4		ug/L		82	70 - 130	4	30
Benzo[b]fluoranthene	0.946	U	208	175.6		ug/L		84	69 - 130	6	30
Benzo[g,h,i]perylene	1.14	U	208	158.1		ug/L		76	62 - 130	3	30
Benzo[k]fluoranthene	1.55	U	208	165.7		ug/L		80	68 - 130	3	30
Benzyl alcohol	0.861	U	208	144.0		ug/L		69	52 - 130	4	30
Bis(2-chloroethoxy)methane	0.454	U	208	147.4		ug/L		71	55 - 130	4	30
Bis(2-chloroethyl)ether	1.62	U	208	147.0		ug/L		71	52 - 130	7	30
Bis(2-ethylhexyl) phthalate	5.21	U	208	176.8		ug/L		85	68 - 130	4	30
4-Bromophenyl phenyl ether	0.845	U	208	161.8		ug/L		78	69 - 130	1	30
Butyl benzyl phthalate	0.850	U	208	170.4		ug/L		82	68 - 130	4	30
4-Chloroaniline	0.572	U	208	116.6		ug/L		56	30 - 130	7	30
4-Chloro-3-methylphenol	0.610	U	208	155.7		ug/L		75	52 - 130	7	30
2-Chloronaphthalene	0.628	U	208	144.0		ug/L		69	51 - 130	4	30
2-Chlorophenol	0.759	U	208	143.6		ug/L		69	51 - 130	5	30
4-Chlorophenyl phenyl ether	0.551	U	208	157.2		ug/L		75	59 - 130	4	30
Chrysene	0.515	U	208	167.9		ug/L		81	70 - 130	3	30
Dibenz(a,h)anthracene	0.910	U	208	166.3		ug/L		80	65 - 130	3	30
Dibenzofuran	0.505	U	208	161.4		ug/L		77	53 - 130	8	30
1,2-Dichlorobenzene	0.807	U	208	129.9		ug/L		62	43 - 130	9	30
1,3-Dichlorobenzene	0.511	U	208	125.3		ug/L		60	40 - 130	9	30
1,4-Dichlorobenzene	0.849	U	208	126.2		ug/L		61	42 - 130	7	30
3,3'-Dichlorobenzidine	0.820	U	208	152.4		ug/L		73	61 - 130	6	30
2,4-Dichlorophenol	0.733	U	208	146.9		ug/L		71	51 - 130	4	30
Diethyl phthalate	0.694	U	208	166.3		ug/L		80	59 - 130	4	30
2,4-Dimethylphenol	0.618	U	208	146.3		ug/L		70	51 - 130	5	30
Dimethyl phthalate	0.614	U	208	161.6		ug/L		78	63 - 130	3	30
Di-n-butyl phthalate	0.739	U	208	173.5		ug/L		83	67 - 130	5	30
4,6-Dinitro-2-methylphenol	0.999	U	417	336.8		ug/L		81	63 - 130	6	30
2,4-Dinitrophenol	2.80	U	417	333.2		ug/L		80	47 - 130	5	30
2,4-Dinitrotoluene	0.530	U	208	166.8		ug/L		80	67 - 130	3	30
2,6-Dinitrotoluene	0.794	U	208	164.3		ug/L		79	64 - 130	4	30
Di-n-octyl phthalate	1.15	U	208	167.5		ug/L		80	70 - 130	3	30
Fluoranthene	0.517	U	208	172.8		ug/L		83	65 - 130	4	30
Fluorene	0.439	U	208	162.5		ug/L		78	59 - 130	4	30
Hexachlorobenzene	0.627	U	208	162.8		ug/L		78	67 - 130	3	30
Hexachlorobutadiene	0.746	U	208	130.7		ug/L		63	44 - 130	10	30
Hexachlorocyclopentadiene	0.874	U	208	89.45		ug/L		43	10 - 130	6	30
Hexachloroethane	0.614	U	208	128.1		ug/L		61	38 - 130	11	30
Indeno[1,2,3-cd]pyrene	0.960	U	208	161.4		ug/L		77	66 - 130	2	30
Isophorone	0.572	U	208	146.1		ug/L		70	55 - 130	4	30
2-Methylnaphthalene	0.731	U	208	144.7		ug/L		69	54 - 130	5	30
2-Methylphenol	0.635	U	208	147.8		ug/L		71	47 - 130	6	30
3 & 4 Methylphenol	0.795	U	208	152.5		ug/L		73	41 - 130	6	30
Naphthalene	0.820	U	208	137.8		ug/L		66	51 - 130	4	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 125951

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 125943

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Nitroaniline	0.798	U	208	155.2		ug/L		75	60 - 130	4	35
3-Nitroaniline	0.533	U	208	164.3		ug/L		79	57 - 130	7	30
4-Nitroaniline	0.853	U	208	167.5		ug/L		80	55 - 130	3	30
Nitrobenzene	0.611	U	208	143.9		ug/L		69	54 - 130	4	30
2-Nitrophenol	0.842	U	208	146.5		ug/L		70	54 - 130	3	30
4-Nitrophenol	1.81	U	417	333.2		ug/L		80	34 - 138	6	30
N-Nitrosodi-n-propylamine	0.646	U	208	154.8		ug/L		74	45 - 130	7	30
N-Nitrosodiphenylamine	1.07	U	417	331.9		ug/L		80	51 - 130	3	30
Pentachlorophenol	1.38	U	417	322.9		ug/L		78	55 - 130	5	30
Phenanthrene	0.616	U	208	169.1		ug/L		81	67 - 130	3	30
Phenol	0.800	U	208	143.2		ug/L		69	47 - 130	5	30
Pyrene	0.458	U	208	165.5		ug/L		79	66 - 130	2	30
1,2,4-Trichlorobenzene	0.674	U	208	133.6		ug/L		64	49 - 130	7	30
2,4,5-Trichlorophenol	0.897	U	208	153.6		ug/L		74	55 - 130	4	30
2,4,6-Trichlorophenol	0.685	U	208	149.4		ug/L		72	53 - 130	1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	57		23 - 130
2-Fluorophenol	55		10 - 130
Nitrobenzene-d5	57		27 - 130
Phenol-d5	61		10 - 130
Terphenyl-d14	64		10 - 141
2,4,6-Tribromophenol	70		18 - 130

Lab Sample ID: MB 560-125968/1-A

Matrix: Water

Analysis Batch: 125986

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125968

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/11/16 14:32	03/14/16 07:03	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/11/16 14:32	03/14/16 07:03	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/11/16 14:32	03/14/16 07:03	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/11/16 14:32	03/14/16 07:03	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/11/16 14:32	03/14/16 07:03	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/11/16 14:32	03/14/16 07:03	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/11/16 14:32	03/14/16 07:03	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/11/16 14:32	03/14/16 07:03	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/11/16 14:32	03/14/16 07:03	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/11/16 14:32	03/14/16 07:03	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/11/16 14:32	03/14/16 07:03	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		03/11/16 14:32	03/14/16 07:03	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/11/16 14:32	03/14/16 07:03	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/11/16 14:32	03/14/16 07:03	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 07:03	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/11/16 14:32	03/14/16 07:03	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/11/16 14:32	03/14/16 07:03	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/11/16 14:32	03/14/16 07:03	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/11/16 14:32	03/14/16 07:03	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125968/1-A

Matrix: Water

Analysis Batch: 125986

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125968

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	0.494	U	10.0	0.494	ug/L		03/11/16 14:32	03/14/16 07:03	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/11/16 14:32	03/14/16 07:03	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/11/16 14:32	03/14/16 07:03	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/11/16 14:32	03/14/16 07:03	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/11/16 14:32	03/14/16 07:03	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/11/16 14:32	03/14/16 07:03	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 07:03	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/11/16 14:32	03/14/16 07:03	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/11/16 14:32	03/14/16 07:03	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/11/16 14:32	03/14/16 07:03	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 07:03	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/11/16 14:32	03/14/16 07:03	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/11/16 14:32	03/14/16 07:03	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/11/16 14:32	03/14/16 07:03	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/11/16 14:32	03/14/16 07:03	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/11/16 14:32	03/14/16 07:03	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/11/16 14:32	03/14/16 07:03	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/11/16 14:32	03/14/16 07:03	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/11/16 14:32	03/14/16 07:03	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/11/16 14:32	03/14/16 07:03	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/11/16 14:32	03/14/16 07:03	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/11/16 14:32	03/14/16 07:03	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/11/16 14:32	03/14/16 07:03	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/11/16 14:32	03/14/16 07:03	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/11/16 14:32	03/14/16 07:03	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/11/16 14:32	03/14/16 07:03	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/11/16 14:32	03/14/16 07:03	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/11/16 14:32	03/14/16 07:03	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/11/16 14:32	03/14/16 07:03	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/11/16 14:32	03/14/16 07:03	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/11/16 14:32	03/14/16 07:03	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/11/16 14:32	03/14/16 07:03	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/11/16 14:32	03/14/16 07:03	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/11/16 14:32	03/14/16 07:03	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/11/16 14:32	03/14/16 07:03	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/11/16 14:32	03/14/16 07:03	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/11/16 14:32	03/14/16 07:03	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/11/16 14:32	03/14/16 07:03	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/11/16 14:32	03/14/16 07:03	1
Phenol	0.768	U	10.0	0.768	ug/L		03/11/16 14:32	03/14/16 07:03	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/11/16 14:32	03/14/16 07:03	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/11/16 14:32	03/14/16 07:03	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/11/16 14:32	03/14/16 07:03	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/11/16 14:32	03/14/16 07:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	66		23 - 130	03/11/16 14:32	03/14/16 07:03	1
2-Fluorophenol	65		10 - 130	03/11/16 14:32	03/14/16 07:03	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-125968/1-A

Matrix: Water

Analysis Batch: 125986

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125968

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	67		27 - 130	03/11/16 14:32	03/14/16 07:03	1
Phenol-d5	69		10 - 130	03/11/16 14:32	03/14/16 07:03	1
Terphenyl-d14	82		10 - 141	03/11/16 14:32	03/14/16 07:03	1
2,4,6-Tribromophenol	70		18 - 130	03/11/16 14:32	03/14/16 07:03	1

Lab Sample ID: LCS 560-125968/2-A

Matrix: Water

Analysis Batch: 125986

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125968

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	200	174.2		ug/L		87	54 - 130
Acenaphthylene	200	168.2		ug/L		84	54 - 130
Anthracene	200	196.8		ug/L		98	67 - 130
Benzo[a]anthracene	200	193.6		ug/L		97	70 - 130
Benzo[a]pyrene	200	194.1		ug/L		97	70 - 130
Benzo[b]fluoranthene	200	196.7		ug/L		98	69 - 130
Benzo[g,h,i]perylene	200	177.6		ug/L		89	62 - 130
Benzo[k]fluoranthene	200	194.0		ug/L		97	68 - 130
Benzyl alcohol	200	164.1		ug/L		82	52 - 130
Bis(2-chloroethoxy)methane	200	168.1		ug/L		84	55 - 130
Bis(2-chloroethyl)ether	200	159.7		ug/L		80	52 - 130
Bis(2-ethylhexyl) phthalate	200	208.7		ug/L		104	68 - 130
4-Bromophenyl phenyl ether	200	185.9		ug/L		93	69 - 130
Butyl benzyl phthalate	200	198.2		ug/L		99	68 - 130
4-Chloroaniline	200	142.4		ug/L		71	30 - 130
4-Chloro-3-methylphenol	200	175.3		ug/L		88	52 - 130
2-Chloronaphthalene	200	158.9		ug/L		79	51 - 130
2-Chlorophenol	200	160.2		ug/L		80	51 - 130
4-Chlorophenyl phenyl ether	200	182.8		ug/L		91	59 - 130
Chrysene	200	197.2		ug/L		99	70 - 130
Dibenz(a,h)anthracene	200	187.6		ug/L		94	65 - 130
Dibenzofuran	200	176.9		ug/L		88	53 - 130
1,2-Dichlorobenzene	200	133.7		ug/L		67	43 - 130
1,3-Dichlorobenzene	200	129.7		ug/L		65	40 - 130
1,4-Dichlorobenzene	200	132.4		ug/L		66	42 - 130
3,3'-Dichlorobenzidine	200	194.6		ug/L		97	61 - 130
2,4-Dichlorophenol	200	168.3		ug/L		84	51 - 130
Diethyl phthalate	200	198.9		ug/L		99	59 - 130
2,4-Dimethylphenol	200	164.1		ug/L		82	51 - 130
Dimethyl phthalate	200	191.6		ug/L		96	63 - 130
Di-n-butyl phthalate	200	204.8		ug/L		102	67 - 130
4,6-Dinitro-2-methylphenol	400	369.5		ug/L		92	63 - 130
2,4-Dinitrophenol	400	366.3		ug/L		92	47 - 130
2,4-Dinitrotoluene	200	198.0		ug/L		99	67 - 130
2,6-Dinitrotoluene	200	187.5		ug/L		94	64 - 130
Di-n-octyl phthalate	200	189.0		ug/L		95	70 - 130
Fluoranthene	200	202.8		ug/L		101	65 - 130
Fluorene	200	188.5		ug/L		94	59 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-125968/2-A

Matrix: Water

Analysis Batch: 125986

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125968

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobenzene	200	189.5		ug/L		95	67 - 130
Hexachlorobutadiene	200	133.9		ug/L		67	44 - 130
Hexachlorocyclopentadiene	200	79.19		ug/L		40	10 - 130
Hexachloroethane	200	128.6		ug/L		64	38 - 130
Indeno[1,2,3-cd]pyrene	200	181.9		ug/L		91	66 - 130
Isophorone	200	166.3		ug/L		83	55 - 130
2-Methylnaphthalene	200	161.0		ug/L		80	54 - 130
2-Methylphenol	200	165.0		ug/L		82	47 - 130
3 & 4 Methylphenol	200	172.3		ug/L		86	41 - 130
Naphthalene	200	154.2		ug/L		77	51 - 130
2-Nitroaniline	200	184.6		ug/L		92	60 - 130
3-Nitroaniline	200	191.9		ug/L		96	57 - 130
4-Nitroaniline	200	202.6		ug/L		101	55 - 130
Nitrobenzene	200	161.3		ug/L		81	54 - 130
2-Nitrophenol	200	166.7		ug/L		83	54 - 130
4-Nitrophenol	400	401.2		ug/L		100	34 - 138
N-Nitrosodi-n-propylamine	200	172.2		ug/L		86	45 - 130
N-Nitrosodiphenylamine	400	388.9		ug/L		97	51 - 130
Pentachlorophenol	400	364.6		ug/L		91	55 - 130
Phenanthrene	200	196.9		ug/L		98	67 - 130
Phenol	200	159.1		ug/L		80	47 - 130
Pyrene	200	194.8		ug/L		97	66 - 130
1,2,4-Trichlorobenzene	200	140.6		ug/L		70	49 - 130
2,4,5-Trichlorophenol	200	170.5		ug/L		85	55 - 130
2,4,6-Trichlorophenol	200	172.0		ug/L		86	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	67		23 - 130
2-Fluorophenol	64		10 - 130
Nitrobenzene-d5	67		27 - 130
Phenol-d5	72		10 - 130
Terphenyl-d14	83		10 - 141
2,4,6-Tribromophenol	82		18 - 130

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 125986

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 125968

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.460	U	200	184.4		ug/L		92	54 - 130
Acenaphthylene	0.452	U	200	173.2		ug/L		87	54 - 130
Anthracene	0.700	U	200	190.3		ug/L		95	67 - 130
Benzo[a]anthracene	0.646	U	200	182.6		ug/L		91	70 - 130
Benzo[a]pyrene	0.742	U	200	182.7		ug/L		91	70 - 130
Benzo[b]fluoranthene	0.908	U	200	193.2		ug/L		97	69 - 130
Benzo[g,h,i]perylene	1.10	U	200	167.6		ug/L		84	62 - 130
Benzo[k]fluoranthene	1.49	U	200	182.2		ug/L		91	68 - 130
Benzyl alcohol	0.827	U	200	173.1		ug/L		87	52 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 125986

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 125968

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethoxy)methane	0.436	U	200	178.5		ug/L		89	55 - 130
Bis(2-chloroethyl)ether	1.55	U	200	179.5		ug/L		90	52 - 130
Bis(2-ethylhexyl) phthalate	5.00	U	200	198.4		ug/L		99	68 - 130
4-Bromophenyl phenyl ether	0.811	U	200	189.6		ug/L		95	69 - 130
Butyl benzyl phthalate	0.816	U	200	189.5		ug/L		95	68 - 130
4-Chloroaniline	0.549	U	200	123.4		ug/L		62	30 - 130
4-Chloro-3-methylphenol	0.586	U	200	183.9		ug/L		92	52 - 130
2-Chloronaphthalene	0.603	U	200	174.4		ug/L		87	51 - 130
2-Chlorophenol	0.729	U	200	177.5		ug/L		89	51 - 130
4-Chlorophenyl phenyl ether	0.529	U	200	184.7		ug/L		92	59 - 130
Chrysene	0.494	U	200	182.1		ug/L		91	70 - 130
Dibenz(a,h)anthracene	0.874	U	200	177.0		ug/L		88	65 - 130
Dibenzofuran	0.485	U	200	185.8		ug/L		93	53 - 130
1,2-Dichlorobenzene	0.775	U	200	156.7		ug/L		78	43 - 130
1,3-Dichlorobenzene	0.491	U	200	149.3		ug/L		75	40 - 130
1,4-Dichlorobenzene	0.815	U	200	154.5		ug/L		77	42 - 130
3,3'-Dichlorobenzidine	0.787	U	200	143.4		ug/L		72	61 - 130
2,4-Dichlorophenol	0.704	U	200	178.4		ug/L		89	51 - 130
Diethyl phthalate	0.666	U	200	194.5		ug/L		97	59 - 130
2,4-Dimethylphenol	0.593	U	200	171.2		ug/L		86	51 - 130
Dimethyl phthalate	0.589	U	200	189.4		ug/L		95	63 - 130
Di-n-butyl phthalate	0.709	U	200	197.4		ug/L		99	67 - 130
4,6-Dinitro-2-methylphenol	0.959	U	400	369.4		ug/L		92	63 - 130
2,4-Dinitrophenol	2.69	U	400	361.3		ug/L		90	47 - 130
2,4-Dinitrotoluene	0.509	U	200	192.0		ug/L		96	67 - 130
2,6-Dinitrotoluene	0.762	U	200	188.4		ug/L		94	64 - 130
Di-n-octyl phthalate	1.11	U	200	182.6		ug/L		91	70 - 130
Fluoranthene	0.496	U	200	196.7		ug/L		98	65 - 130
Fluorene	0.421	U	200	191.6		ug/L		96	59 - 130
Hexachlorobenzene	0.602	U	200	185.9		ug/L		93	67 - 130
Hexachlorobutadiene	0.716	U	200	147.9		ug/L		74	44 - 130
Hexachlorocyclopentadiene	0.839	U	200	63.62		ug/L		32	10 - 130
Hexachloroethane	0.589	U	200	149.3		ug/L		75	38 - 130
Indeno[1,2,3-cd]pyrene	0.922	U F1	200	170.4		ug/L		85	66 - 130
Isophorone	0.549	U	200	173.2		ug/L		87	55 - 130
2-Methylnaphthalene	0.702	U	200	175.4		ug/L		88	54 - 130
2-Methylphenol	0.610	U	200	178.6		ug/L		89	47 - 130
3 & 4 Methylphenol	0.763	U	200	183.0		ug/L		91	41 - 130
Naphthalene	0.787	U	200	169.3		ug/L		85	51 - 130
2-Nitroaniline	0.766	U	200	174.8		ug/L		87	60 - 130
3-Nitroaniline	0.512	U	200	186.7		ug/L		93	57 - 130
4-Nitroaniline	0.819	U	200	191.0		ug/L		96	55 - 130
Nitrobenzene	0.587	U	200	180.0		ug/L		90	54 - 130
2-Nitrophenol	0.808	U	200	179.4		ug/L		90	54 - 130
4-Nitrophenol	1.73	U	400	391.7		ug/L		98	34 - 138
N-Nitrosodi-n-propylamine	0.620	U	200	182.1		ug/L		91	45 - 130
N-Nitrosodiphenylamine	1.03	U	400	363.6		ug/L		91	51 - 130
Pentachlorophenol	1.32	U	400	359.3		ug/L		90	55 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 125986

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 125968

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenanthrene	0.591	U	200	193.6		ug/L		97	67 - 130
Phenol	0.768	U	200	173.6		ug/L		87	47 - 130
Pyrene	0.440	U	200	183.4		ug/L		92	66 - 130
1,2,4-Trichlorobenzene	0.647	U	200	161.3		ug/L		81	49 - 130
2,4,5-Trichlorophenol	0.861	U	200	184.7		ug/L		92	55 - 130
2,4,6-Trichlorophenol	0.658	U	200	182.6		ug/L		91	53 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	72		23 - 130
2-Fluorophenol	69		10 - 130
Nitrobenzene-d5	71		27 - 130
Phenol-d5	76		10 - 130
Terphenyl-d14	67		10 - 141
2,4,6-Tribromophenol	82		18 - 130

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 125986

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 125968

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	0.460	U	200	168.2		ug/L		84	54 - 130	9	30
Acenaphthylene	0.452	U	200	159.3		ug/L		80	54 - 130	8	30
Anthracene	0.700	U	200	171.3		ug/L		86	67 - 130	11	30
Benzo[a]anthracene	0.646	U	200	167.4		ug/L		84	70 - 130	9	30
Benzo[a]pyrene	0.742	U	200	167.5		ug/L		84	70 - 130	9	30
Benzo[b]fluoranthene	0.908	U	200	172.1		ug/L		86	69 - 130	12	30
Benzo[g,h,i]perylene	1.10	U	200	156.6		ug/L		78	62 - 130	7	30
Benzo[k]fluoranthene	1.49	U	200	171.4		ug/L		86	68 - 130	6	30
Benzyl alcohol	0.827	U	200	159.0		ug/L		79	52 - 130	9	30
Bis(2-chloroethoxy)methane	0.436	U	200	163.4		ug/L		82	55 - 130	9	30
Bis(2-chloroethyl)ether	1.55	U	200	164.1		ug/L		82	52 - 130	9	30
Bis(2-ethylhexyl) phthalate	5.00	U	200	177.7		ug/L		89	68 - 130	11	30
4-Bromophenyl phenyl ether	0.811	U	200	170.9		ug/L		85	69 - 130	10	30
Butyl benzyl phthalate	0.816	U	200	171.0		ug/L		85	68 - 130	10	30
4-Chloroaniline	0.549	U	200	129.5		ug/L		65	30 - 130	5	30
4-Chloro-3-methylphenol	0.586	U	200	170.9		ug/L		85	52 - 130	7	30
2-Chloronaphthalene	0.603	U	200	157.9		ug/L		79	51 - 130	10	30
2-Chlorophenol	0.729	U	200	164.3		ug/L		82	51 - 130	8	30
4-Chlorophenyl phenyl ether	0.529	U	200	168.4		ug/L		84	59 - 130	9	30
Chrysene	0.494	U	200	169.4		ug/L		85	70 - 130	7	30
Dibenz(a,h)anthracene	0.874	U	200	164.9		ug/L		82	65 - 130	7	30
Dibenzofuran	0.485	U	200	172.6		ug/L		86	53 - 130	7	30
1,2-Dichlorobenzene	0.775	U	200	145.5		ug/L		73	43 - 130	7	30
1,3-Dichlorobenzene	0.491	U	200	139.6		ug/L		70	40 - 130	7	30
1,4-Dichlorobenzene	0.815	U	200	142.4		ug/L		71	42 - 130	8	30
3,3'-Dichlorobenzidine	0.787	U	200	130.2		ug/L		65	61 - 130	10	30
2,4-Dichlorophenol	0.704	U	200	166.0		ug/L		83	51 - 130	7	30
Diethyl phthalate	0.666	U	200	175.3		ug/L		88	59 - 130	10	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 125986

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 125968

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-Dimethylphenol	0.593	U	200	159.2		ug/L		80	51 - 130	7	30
Dimethyl phthalate	0.589	U	200	173.7		ug/L		87	63 - 130	9	30
Di-n-butyl phthalate	0.709	U	200	176.1		ug/L		88	67 - 130	11	30
4,6-Dinitro-2-methylphenol	0.959	U	400	341.4		ug/L		85	63 - 130	8	30
2,4-Dinitrophenol	2.69	U	400	333.7		ug/L		83	47 - 130	8	30
2,4-Dinitrotoluene	0.509	U	200	176.8		ug/L		88	67 - 130	8	30
2,6-Dinitrotoluene	0.762	U	200	174.3		ug/L		87	64 - 130	8	30
Di-n-octyl phthalate	1.11	U	200	165.4		ug/L		83	70 - 130	10	30
Fluoranthene	0.496	U	200	176.5		ug/L		88	65 - 130	11	30
Fluorene	0.421	U	200	172.0		ug/L		86	59 - 130	11	30
Hexachlorobenzene	0.602	U	200	168.0		ug/L		84	67 - 130	10	30
Hexachlorobutadiene	0.716	U	200	137.5		ug/L		69	44 - 130	7	30
Hexachlorocyclopentadiene	0.839	U	200	62.63		ug/L		31	10 - 130	2	30
Hexachloroethane	0.589	U	200	136.9		ug/L		68	38 - 130	9	30
Indeno[1,2,3-cd]pyrene	0.922	U F1	200	160.0		ug/L		80	66 - 130	6	30
Isophorone	0.549	U	200	160.4		ug/L		80	55 - 130	8	30
2-Methylnaphthalene	0.702	U	200	161.1		ug/L		81	54 - 130	9	30
2-Methylphenol	0.610	U	200	164.6		ug/L		82	47 - 130	8	30
3 & 4 Methylphenol	0.763	U	200	168.1		ug/L		84	41 - 130	8	30
Naphthalene	0.787	U	200	159.3		ug/L		80	51 - 130	6	30
2-Nitroaniline	0.766	U	200	166.3		ug/L		83	60 - 130	5	35
3-Nitroaniline	0.512	U	200	173.1		ug/L		87	57 - 130	8	30
4-Nitroaniline	0.819	U	200	174.2		ug/L		87	55 - 130	9	30
Nitrobenzene	0.587	U	200	164.6		ug/L		82	54 - 130	9	30
2-Nitrophenol	0.808	U	200	168.6		ug/L		84	54 - 130	6	30
4-Nitrophenol	1.73	U	400	353.6		ug/L		88	34 - 138	10	30
N-Nitrosodi-n-propylamine	0.620	U	200	167.1		ug/L		84	45 - 130	9	30
N-Nitrosodiphenylamine	1.03	U	400	335.1		ug/L		84	51 - 130	8	30
Pentachlorophenol	1.32	U	400	326.8		ug/L		82	55 - 130	9	30
Phenanthrene	0.591	U	200	177.2		ug/L		89	67 - 130	9	30
Phenol	0.768	U	200	162.3		ug/L		81	47 - 130	7	30
Pyrene	0.440	U	200	171.7		ug/L		86	66 - 130	7	30
1,2,4-Trichlorobenzene	0.647	U	200	148.3		ug/L		74	49 - 130	8	30
2,4,5-Trichlorophenol	0.861	U	200	170.0		ug/L		85	55 - 130	8	30
2,4,6-Trichlorophenol	0.658	U	200	168.8		ug/L		84	53 - 130	8	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	67		23 - 130
2-Fluorophenol	67		10 - 130
Nitrobenzene-d5	69		27 - 130
Phenol-d5	71		10 - 130
Terphenyl-d14	53		10 - 141
2,4,6-Tribromophenol	74		18 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-126050/1-A

Matrix: Water

Analysis Batch: 126070

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126050

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		03/15/16 14:04	03/16/16 09:30	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		03/15/16 14:04	03/16/16 09:30	1
Anthracene	0.700	U	10.0	0.700	ug/L		03/15/16 14:04	03/16/16 09:30	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		03/15/16 14:04	03/16/16 09:30	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		03/15/16 14:04	03/16/16 09:30	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		03/15/16 14:04	03/16/16 09:30	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		03/15/16 14:04	03/16/16 09:30	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		03/15/16 14:04	03/16/16 09:30	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		03/15/16 14:04	03/16/16 09:30	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		03/15/16 14:04	03/16/16 09:30	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		03/15/16 14:04	03/16/16 09:30	1
Bis(2-ethylhexyl) phthalate	6.374	J	20.0	5.00	ug/L		03/15/16 14:04	03/16/16 09:30	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		03/15/16 14:04	03/16/16 09:30	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		03/15/16 14:04	03/16/16 09:30	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		03/15/16 14:04	03/16/16 09:30	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		03/15/16 14:04	03/16/16 09:30	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		03/15/16 14:04	03/16/16 09:30	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		03/15/16 14:04	03/16/16 09:30	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		03/15/16 14:04	03/16/16 09:30	1
Chrysene	0.494	U	10.0	0.494	ug/L		03/15/16 14:04	03/16/16 09:30	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		03/15/16 14:04	03/16/16 09:30	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		03/15/16 14:04	03/16/16 09:30	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		03/15/16 14:04	03/16/16 09:30	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		03/15/16 14:04	03/16/16 09:30	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		03/15/16 14:04	03/16/16 09:30	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		03/15/16 14:04	03/16/16 09:30	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		03/15/16 14:04	03/16/16 09:30	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		03/15/16 14:04	03/16/16 09:30	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		03/15/16 14:04	03/16/16 09:30	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		03/15/16 14:04	03/16/16 09:30	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		03/15/16 14:04	03/16/16 09:30	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		03/15/16 14:04	03/16/16 09:30	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		03/15/16 14:04	03/16/16 09:30	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		03/15/16 14:04	03/16/16 09:30	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		03/15/16 14:04	03/16/16 09:30	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		03/15/16 14:04	03/16/16 09:30	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		03/15/16 14:04	03/16/16 09:30	1
Fluorene	0.421	U	10.0	0.421	ug/L		03/15/16 14:04	03/16/16 09:30	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		03/15/16 14:04	03/16/16 09:30	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		03/15/16 14:04	03/16/16 09:30	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		03/15/16 14:04	03/16/16 09:30	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		03/15/16 14:04	03/16/16 09:30	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		03/15/16 14:04	03/16/16 09:30	1
Isophorone	0.549	U	10.0	0.549	ug/L		03/15/16 14:04	03/16/16 09:30	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		03/15/16 14:04	03/16/16 09:30	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		03/15/16 14:04	03/16/16 09:30	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		03/15/16 14:04	03/16/16 09:30	1
Naphthalene	0.787	U	10.0	0.787	ug/L		03/15/16 14:04	03/16/16 09:30	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-126050/1-A

Matrix: Water

Analysis Batch: 126070

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126050

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		03/15/16 14:04	03/16/16 09:30	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		03/15/16 14:04	03/16/16 09:30	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		03/15/16 14:04	03/16/16 09:30	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		03/15/16 14:04	03/16/16 09:30	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		03/15/16 14:04	03/16/16 09:30	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		03/15/16 14:04	03/16/16 09:30	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		03/15/16 14:04	03/16/16 09:30	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		03/15/16 14:04	03/16/16 09:30	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		03/15/16 14:04	03/16/16 09:30	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		03/15/16 14:04	03/16/16 09:30	1
Phenol	0.768	U	10.0	0.768	ug/L		03/15/16 14:04	03/16/16 09:30	1
Pyrene	0.440	U	10.0	0.440	ug/L		03/15/16 14:04	03/16/16 09:30	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		03/15/16 14:04	03/16/16 09:30	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		03/15/16 14:04	03/16/16 09:30	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		03/15/16 14:04	03/16/16 09:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	58		23 - 130	03/15/16 14:04	03/16/16 09:30	1
2-Fluorophenol	30		10 - 130	03/15/16 14:04	03/16/16 09:30	1
Nitrobenzene-d5	61		27 - 130	03/15/16 14:04	03/16/16 09:30	1
Phenol-d5	23		10 - 130	03/15/16 14:04	03/16/16 09:30	1
Terphenyl-d14	79		10 - 141	03/15/16 14:04	03/16/16 09:30	1
2,4,6-Tribromophenol	28		18 - 130	03/15/16 14:04	03/16/16 09:30	1

Lab Sample ID: LCS 560-126050/2-A

Matrix: Water

Analysis Batch: 126070

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126050

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	200	170.4		ug/L		85	54 - 130
Acenaphthylene	200	164.7		ug/L		82	54 - 130
Anthracene	200	184.7		ug/L		92	67 - 130
Benzo[a]anthracene	200	182.8		ug/L		91	70 - 130
Benzo[a]pyrene	200	186.3		ug/L		93	70 - 130
Benzo[b]fluoranthene	200	189.7		ug/L		95	69 - 130
Benzo[g,h,i]perylene	200	150.6		ug/L		75	62 - 130
Benzo[k]fluoranthene	200	184.6		ug/L		92	68 - 130
Benzyl alcohol	200	153.6		ug/L		77	52 - 130
Bis(2-chloroethoxy)methane	200	163.7		ug/L		82	55 - 130
Bis(2-chloroethyl)ether	200	149.1		ug/L		75	52 - 130
Bis(2-ethylhexyl) phthalate	200	197.1		ug/L		99	68 - 130
4-Bromophenyl phenyl ether	200	179.0		ug/L		89	69 - 130
Butyl benzyl phthalate	200	187.4		ug/L		94	68 - 130
4-Chloroaniline	200	125.4		ug/L		63	30 - 130
4-Chloro-3-methylphenol	200	170.4		ug/L		85	52 - 130
2-Chloronaphthalene	200	158.2		ug/L		79	51 - 130
2-Chlorophenol	200	146.6		ug/L		73	51 - 130
4-Chlorophenyl phenyl ether	200	175.7		ug/L		88	59 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-126050/2-A

Matrix: Water

Analysis Batch: 126070

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126050

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chrysene	200	186.5		ug/L		93	70 - 130
Dibenz(a,h)anthracene	200	162.8		ug/L		81	65 - 130
Dibenzofuran	200	170.4		ug/L		85	53 - 130
1,2-Dichlorobenzene	200	126.5		ug/L		63	43 - 130
1,3-Dichlorobenzene	200	121.1		ug/L		61	40 - 130
1,4-Dichlorobenzene	200	122.1		ug/L		61	42 - 130
3,3'-Dichlorobenzidine	200	178.6		ug/L		89	61 - 130
2,4-Dichlorophenol	200	163.4		ug/L		82	51 - 130
Diethyl phthalate	200	185.6		ug/L		93	59 - 130
2,4-Dimethylphenol	200	161.0		ug/L		80	51 - 130
Dimethyl phthalate	200	180.7		ug/L		90	63 - 130
Di-n-butyl phthalate	200	186.9		ug/L		93	67 - 130
4,6-Dinitro-2-methylphenol	400	330.7		ug/L		83	63 - 130
2,4-Dinitrophenol	400	325.0		ug/L		81	47 - 130
2,4-Dinitrotoluene	200	182.2		ug/L		91	67 - 130
2,6-Dinitrotoluene	200	176.3		ug/L		88	64 - 130
Di-n-octyl phthalate	200	179.6		ug/L		90	70 - 130
Fluoranthene	200	190.9		ug/L		95	65 - 130
Fluorene	200	179.6		ug/L		90	59 - 130
Hexachlorobenzene	200	177.6		ug/L		89	67 - 130
Hexachlorobutadiene	200	138.8		ug/L		69	44 - 130
Hexachlorocyclopentadiene	200	83.69		ug/L		42	10 - 130
Hexachloroethane	200	118.0		ug/L		59	38 - 130
Indeno[1,2,3-cd]pyrene	200	158.3		ug/L		79	66 - 130
Isophorone	200	163.5		ug/L		82	55 - 130
2-Methylnaphthalene	200	160.7		ug/L		80	54 - 130
2-Methylphenol	200	153.0		ug/L		77	47 - 130
3 & 4 Methylphenol	200	160.4		ug/L		80	41 - 130
Naphthalene	200	151.1		ug/L		76	51 - 130
2-Nitroaniline	200	172.0		ug/L		86	60 - 130
3-Nitroaniline	200	180.8		ug/L		90	57 - 130
4-Nitroaniline	200	181.9		ug/L		91	55 - 130
Nitrobenzene	200	152.8		ug/L		76	54 - 130
2-Nitrophenol	200	157.4		ug/L		79	54 - 130
4-Nitrophenol	400	361.9		ug/L		90	34 - 138
N-Nitrosodi-n-propylamine	200	162.0		ug/L		81	45 - 130
N-Nitrosodiphenylamine	400	366.5		ug/L		92	51 - 130
Pentachlorophenol	400	332.8		ug/L		83	55 - 130
Phenanthrene	200	184.3		ug/L		92	67 - 130
Phenol	200	146.4		ug/L		73	47 - 130
Pyrene	200	182.1		ug/L		91	66 - 130
1,2,4-Trichlorobenzene	200	142.0		ug/L		71	49 - 130
2,4,5-Trichlorophenol	200	167.9		ug/L		84	55 - 130
2,4,6-Trichlorophenol	200	165.9		ug/L		83	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	66		23 - 130
2-Fluorophenol	62		10 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-126050/2-A

Matrix: Water

Analysis Batch: 126070

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126050

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Nitrobenzene-d5	66		27 - 130
Phenol-d5	67		10 - 130
Terphenyl-d14	80		10 - 141
2,4,6-Tribromophenol	80		18 - 130

Lab Sample ID: 560-60183-5 MS

Matrix: Water

Analysis Batch: 126070

Client Sample ID: HSM250 LEAD

Prep Type: Total/NA

Prep Batch: 126050

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.460	U F2 F1	200	60.69	F1	ug/L		30	54 - 130
Acenaphthylene	0.452	U F2 F1	200	57.21	F1	ug/L		29	54 - 130
Anthracene	0.700	U	200	140.1		ug/L		70	67 - 130
Benzo[a]anthracene	0.646	U	200	163.0		ug/L		82	70 - 130
Benzo[a]pyrene	0.742	U	200	162.0		ug/L		81	70 - 130
Benzo[b]fluoranthene	0.908	U	200	161.3		ug/L		81	69 - 130
Benzo[g,h,i]perylene	1.10	U	200	134.2		ug/L		67	62 - 130
Benzo[k]fluoranthene	1.49	U	200	166.2		ug/L		83	68 - 130
Benzyl alcohol	0.827	U F2 F1	200	46.15	F1	ug/L		23	52 - 130
Bis(2-chloroethoxy)methane	0.436	U F2 F1	200	43.71	F1	ug/L		22	55 - 130
Bis(2-chloroethyl)ether	1.55	U F2 F1	200	45.00	F1	ug/L		23	52 - 130
Bis(2-ethylhexyl) phthalate	5.00	U	200	174.3		ug/L		87	68 - 130
4-Bromophenyl phenyl ether	0.811	U F2 F1	200	100.7	F1	ug/L		50	69 - 130
Butyl benzyl phthalate	0.816	U	200	164.7		ug/L		82	68 - 130
4-Chloroaniline	0.549	U F2 F1	200	32.82	F1	ug/L		16	30 - 130
4-Chloro-3-methylphenol	0.586	U F2 F1	200	63.34	F1	ug/L		32	52 - 130
2-Chloronaphthalene	0.603	U F2 F1	200	47.96	F1	ug/L		24	51 - 130
2-Chlorophenol	0.729	U F2 F1	200	46.30	F1	ug/L		23	51 - 130
4-Chlorophenyl phenyl ether	0.529	U F2 F1	200	75.13	F1	ug/L		38	59 - 130
Chrysene	0.494	U	200	164.6		ug/L		82	70 - 130
Dibenz(a,h)anthracene	0.874	U	200	146.0		ug/L		73	65 - 130
Dibenzofuran	0.485	U F2 F1	200	70.34	F1	ug/L		35	53 - 130
1,2-Dichlorobenzene	0.775	U F2 F1	200	40.82	F1	ug/L		20	43 - 130
1,3-Dichlorobenzene	0.491	U F2 F1	200	39.62	F1	ug/L		20	40 - 130
1,4-Dichlorobenzene	0.815	U F2 F1	200	39.49	F1	ug/L		20	42 - 130
3,3'-Dichlorobenzidine	0.787	U F1	200	134.5		ug/L		67	61 - 130
2,4-Dichlorophenol	0.704	U F2 F1	200	46.20	F1	ug/L		23	51 - 130
Diethyl phthalate	0.666	U	200	142.1		ug/L		71	59 - 130
2,4-Dimethylphenol	0.593	U F2 F1	200	47.49	F1	ug/L		24	51 - 130
Dimethyl phthalate	0.589	U F2 F1	200	110.0	F1	ug/L		55	63 - 130
Di-n-butyl phthalate	0.709	U	200	170.2		ug/L		85	67 - 130
4,6-Dinitro-2-methylphenol	0.959	U	400	307.6		ug/L		77	63 - 130
2,4-Dinitrophenol	2.69	U	400	257.3		ug/L		64	47 - 130
2,4-Dinitrotoluene	0.509	U	200	145.8		ug/L		73	67 - 130
2,6-Dinitrotoluene	0.762	U F2 F1	200	102.5	F1	ug/L		51	64 - 130
Di-n-octyl phthalate	1.11	U	200	162.5		ug/L		81	70 - 130
Fluoranthene	0.496	U	200	168.5		ug/L		84	65 - 130
Fluorene	0.421	U F2 F1	200	86.88	F1	ug/L		43	59 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-5 MS

Matrix: Water

Analysis Batch: 126070

Client Sample ID: HSM250 LEAD

Prep Type: Total/NA

Prep Batch: 126050

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobenzene	0.602	U F1	200	115.6	F1	ug/L		58	67 - 130
Hexachlorobutadiene	0.716	U F2 F1	200	36.28	F1	ug/L		18	44 - 130
Hexachlorocyclopentadiene	0.839	U F2 F1	200	16.74	F1	ug/L		8	10 - 130
Hexachloroethane	0.589	U F2 F1	200	37.17	F1	ug/L		19	38 - 130
Indeno[1,2,3-cd]pyrene	0.922	U	200	141.3		ug/L		71	66 - 130
Isophorone	0.549	U F2 F1	200	49.98	F1	ug/L		25	55 - 130
2-Methylnaphthalene	0.702	U F2 F1	200	44.68	F1	ug/L		22	54 - 130
2-Methylphenol	0.610	U F2 F1	200	48.37	F1	ug/L		24	47 - 130
3 & 4 Methylphenol	0.763	U F2 F1	200	47.65	F1	ug/L		24	41 - 130
Naphthalene	0.787	U F2 F1	200	42.47	F1	ug/L		21	51 - 130
2-Nitroaniline	0.766	U F2 F1	200	89.67	F1	ug/L		45	60 - 130
3-Nitroaniline	0.512	U	200	125.1		ug/L		63	57 - 130
4-Nitroaniline	0.819	U	200	159.4		ug/L		80	55 - 130
Nitrobenzene	0.587	U F2 F1	200	48.37	F1	ug/L		24	54 - 130
2-Nitrophenol	0.808	U F2 F1	200	46.00	F1	ug/L		23	54 - 130
4-Nitrophenol	1.73	U	400	336.8		ug/L		84	34 - 138
N-Nitrosodi-n-propylamine	0.620	U F2 F1	200	47.38	F1	ug/L		24	45 - 130
N-Nitrosodiphenylamine	1.03	U F2	400	232.7		ug/L		58	51 - 130
Pentachlorophenol	1.32	U	400	307.3		ug/L		77	55 - 130
Phenanthrene	0.591	U	200	140.8		ug/L		70	67 - 130
Phenol	0.768	U F2 F1	200	47.30	F1	ug/L		24	47 - 130
Pyrene	0.440	U	200	158.6		ug/L		79	66 - 130
1,2,4-Trichlorobenzene	0.647	U F2 F1	200	39.53	F1	ug/L		20	49 - 130
2,4,5-Trichlorophenol	0.861	U F2 F1	200	65.77	F1	ug/L		33	55 - 130
2,4,6-Trichlorophenol	0.658	U F2 F1	200	58.78	F1	ug/L		29	53 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	21	X	23 - 130
2-Fluorophenol	20		10 - 130
Nitrobenzene-d5	25	X	27 - 130
Phenol-d5	22		10 - 130
Terphenyl-d14	62		10 - 141
2,4,6-Tribromophenol	56		18 - 130

Lab Sample ID: 560-60183-5 MSD

Matrix: Water

Analysis Batch: 126070

Client Sample ID: HSM250 LEAD

Prep Type: Total/NA

Prep Batch: 126050

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acenaphthene	0.460	U F2 F1	227	131.4	F2	ug/L		58	54 - 130	74	30
Acenaphthylene	0.452	U F2 F1	227	127.0	F2	ug/L		56	54 - 130	76	30
Anthracene	0.700	U	227	165.5		ug/L		73	67 - 130	17	30
Benzo[a]anthracene	0.646	U	227	173.5		ug/L		76	70 - 130	6	30
Benzo[a]pyrene	0.742	U	227	178.2		ug/L		78	70 - 130	10	30
Benzo[b]fluoranthene	0.908	U	227	181.1		ug/L		80	69 - 130	12	30
Benzo[g,h,i]perylene	1.10	U	227	151.7		ug/L		67	62 - 130	12	30
Benzo[k]fluoranthene	1.49	U	227	179.3		ug/L		79	68 - 130	8	30
Benzyl alcohol	0.827	U F2 F1	227	116.3	F1 F2	ug/L		51	52 - 130	86	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-5 MSD

Matrix: Water

Analysis Batch: 126070

Client Sample ID: HSM250 LEAD

Prep Type: Total/NA

Prep Batch: 126050

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bis(2-chloroethoxy)methane	0.436	U F2 F1	227	117.1	F1 F2	ug/L		52	55 - 130	91	30
Bis(2-chloroethyl)ether	1.55	U F2 F1	227	113.8	F1 F2	ug/L		50	52 - 130	87	30
Bis(2-ethylhexyl) phthalate	5.00	U	227	182.0		ug/L		80	68 - 130	4	30
4-Bromophenyl phenyl ether	0.811	U F2 F1	227	146.4	F1 F2	ug/L		64	69 - 130	37	30
Butyl benzyl phthalate	0.816	U	227	175.4		ug/L		77	68 - 130	6	30
4-Chloroaniline	0.549	U F2 F1	227	91.41	F2	ug/L		40	30 - 130	94	30
4-Chloro-3-methylphenol	0.586	U F2 F1	227	139.1	F2	ug/L		61	52 - 130	75	30
2-Chloronaphthalene	0.603	U F2 F1	227	117.1	F2	ug/L		52	51 - 130	84	30
2-Chlorophenol	0.729	U F2 F1	227	113.5	F1 F2	ug/L		50	51 - 130	84	30
4-Chlorophenyl phenyl ether	0.529	U F2 F1	227	136.6	F2	ug/L		60	59 - 130	58	30
Chrysene	0.494	U	227	176.8		ug/L		78	70 - 130	7	30
Dibenz(a,h)anthracene	0.874	U	227	160.9		ug/L		71	65 - 130	10	30
Dibenzofuran	0.485	U F2 F1	227	133.6	F2	ug/L		59	53 - 130	62	30
1,2-Dichlorobenzene	0.775	U F2 F1	227	97.07	F2	ug/L		43	43 - 130	82	30
1,3-Dichlorobenzene	0.491	U F2 F1	227	93.89	F2	ug/L		41	40 - 130	81	30
1,4-Dichlorobenzene	0.815	U F2 F1	227	95.89	F2	ug/L		42	42 - 130	83	30
3,3'-Dichlorobenzidine	0.787	U F1	227	104.0	F1	ug/L		46	61 - 130	26	30
2,4-Dichlorophenol	0.704	U F2 F1	227	120.0	F2	ug/L		53	51 - 130	89	30
Diethyl phthalate	0.666	U	227	174.5		ug/L		77	59 - 130	21	30
2,4-Dimethylphenol	0.593	U F2 F1	227	117.6	F2	ug/L		52	51 - 130	85	30
Dimethyl phthalate	0.589	U F2 F1	227	158.4	F2	ug/L		70	63 - 130	36	30
Di-n-butyl phthalate	0.709	U	227	180.8		ug/L		80	67 - 130	6	30
4,6-Dinitro-2-methylphenol	0.959	U	455	338.9		ug/L		75	63 - 130	10	30
2,4-Dinitrophenol	2.69	U	455	312.6		ug/L		69	47 - 130	19	30
2,4-Dinitrotoluene	0.509	U	227	174.8		ug/L		77	67 - 130	18	30
2,6-Dinitrotoluene	0.762	U F2 F1	227	155.1	F2	ug/L		68	64 - 130	41	30
Di-n-octyl phthalate	1.11	U	227	174.4		ug/L		77	70 - 130	7	30
Fluoranthene	0.496	U	227	180.6		ug/L		79	65 - 130	7	30
Fluorene	0.421	U F2 F1	227	147.3	F2	ug/L		65	59 - 130	52	30
Hexachlorobenzene	0.602	U F1	227	150.5	F1	ug/L		66	67 - 130	26	30
Hexachlorobutadiene	0.716	U F2 F1	227	90.80	F1 F2	ug/L		40	44 - 130	86	30
Hexachlorocyclopentadiene	0.839	U F2 F1	227	45.38	F2	ug/L		20	10 - 130	92	30
Hexachloroethane	0.589	U F2 F1	227	87.63	F2	ug/L		39	38 - 130	81	30
Indeno[1,2,3-cd]pyrene	0.922	U	227	157.7		ug/L		69	66 - 130	11	30
Isophorone	0.549	U F2 F1	227	122.2	F1 F2	ug/L		54	55 - 130	84	30
2-Methylnaphthalene	0.702	U F2 F1	227	112.2	F1 F2	ug/L		49	54 - 130	86	30
2-Methylphenol	0.610	U F2 F1	227	115.2	F2	ug/L		51	47 - 130	82	30
3 & 4 Methylphenol	0.763	U F2 F1	227	120.0	F2	ug/L		53	41 - 130	86	30
Naphthalene	0.787	U F2 F1	227	109.0	F1 F2	ug/L		48	51 - 130	88	30
2-Nitroaniline	0.766	U F2 F1	227	135.3	F2	ug/L		60	60 - 130	41	35
3-Nitroaniline	0.512	U	227	163.7		ug/L		72	57 - 130	27	30
4-Nitroaniline	0.819	U	227	171.4		ug/L		75	55 - 130	7	30
Nitrobenzene	0.587	U F2 F1	227	126.0	F2	ug/L		55	54 - 130	89	30
2-Nitrophenol	0.808	U F2 F1	227	118.8	F1 F2	ug/L		52	54 - 130	88	30
4-Nitrophenol	1.73	U	455	384.1		ug/L		85	34 - 138	13	30
N-Nitrosodi-n-propylamine	0.620	U F2 F1	227	120.4	F2	ug/L		53	45 - 130	87	30
N-Nitrosodiphenylamine	1.03	U F2	455	318.2	F2	ug/L		70	51 - 130	31	30
Pentachlorophenol	1.32	U	455	343.0		ug/L		75	55 - 130	11	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-60183-5 MSD

Matrix: Water

Analysis Batch: 126070

Client Sample ID: HSM250 LEAD

Prep Type: Total/NA

Prep Batch: 126050

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phenanthrene	0.591	U	227	167.9		ug/L		74	67 - 130	18	30
Phenol	0.768	U F2 F1	227	114.0	F2	ug/L		50	47 - 130	83	30
Pyrene	0.440	U	227	169.4		ug/L		75	66 - 130	7	30
1,2,4-Trichlorobenzene	0.647	U F2 F1	227	101.9	F1 F2	ug/L		45	49 - 130	88	30
2,4,5-Trichlorophenol	0.861	U F2 F1	227	137.4	F2	ug/L		60	55 - 130	71	30
2,4,6-Trichlorophenol	0.658	U F2 F1	227	133.7	F2	ug/L		59	53 - 130	78	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	45		23 - 130
2-Fluorophenol	42		10 - 130
Nitrobenzene-d5	47		27 - 130
Phenol-d5	46		10 - 130
Terphenyl-d14	65		10 - 141
2,4,6-Tribromophenol	67		18 - 130

## Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 560-125966/1-A

Matrix: Water

Analysis Batch: 126001

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00501	U	0.0602	0.00501	ug/L		03/11/16 13:04	03/14/16 12:27	1
alpha-BHC	0.00521	U	0.0602	0.00521	ug/L		03/11/16 13:04	03/14/16 12:27	1
alpha-Chlordane	0.00632	U	0.0602	0.00632	ug/L		03/11/16 13:04	03/14/16 12:27	1
beta-BHC	0.00501	U	0.0602	0.00501	ug/L		03/11/16 13:04	03/14/16 12:27	1
4,4'-DDD	0.00501	U	0.0602	0.00501	ug/L		03/11/16 13:04	03/14/16 12:27	1
4,4'-DDE	0.00501	U	0.0602	0.00501	ug/L		03/11/16 13:04	03/14/16 12:27	1
4,4'-DDT	0.00812	U	0.0602	0.00812	ug/L		03/11/16 13:04	03/14/16 12:27	1
delta-BHC	0.00501	U	0.0602	0.00501	ug/L		03/11/16 13:04	03/14/16 12:27	1
Dieldrin	0.0130	U	0.0602	0.0130	ug/L		03/11/16 13:04	03/14/16 12:27	1
Endosulfan I	0.00501	U	0.0602	0.00501	ug/L		03/11/16 13:04	03/14/16 12:27	1
Endosulfan II	0.00862	U	0.0602	0.00862	ug/L		03/11/16 13:04	03/14/16 12:27	1
Endosulfan sulfate	0.00883	U	0.0602	0.00883	ug/L		03/11/16 13:04	03/14/16 12:27	1
Endrin	0.00772	U	0.0602	0.00772	ug/L		03/11/16 13:04	03/14/16 12:27	1
Endrin aldehyde	0.00501	U	0.0602	0.00501	ug/L		03/11/16 13:04	03/14/16 12:27	1
Endrin ketone	0.00822	U	0.0602	0.00822	ug/L		03/11/16 13:04	03/14/16 12:27	1
gamma-BHC (Lindane)	0.00451	U	0.0602	0.00451	ug/L		03/11/16 13:04	03/14/16 12:27	1
gamma-Chlordane	0.00672	U	0.0602	0.00672	ug/L		03/11/16 13:04	03/14/16 12:27	1
Heptachlor	0.00652	U	0.0602	0.00652	ug/L		03/11/16 13:04	03/14/16 12:27	1
Heptachlor epoxide	0.00521	U	0.0602	0.00521	ug/L		03/11/16 13:04	03/14/16 12:27	1
Methoxychlor	0.0100	U	0.0602	0.0100	ug/L		03/11/16 13:04	03/14/16 12:27	1
Toxaphene	0.682	U	6.02	0.682	ug/L		03/11/16 13:04	03/14/16 12:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	55		10 - 152	03/11/16 13:04	03/14/16 12:27	1
Tetrachloro-m-xylene	82		57 - 127	03/11/16 13:04	03/14/16 12:27	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 560-125966/3-A

Matrix: Water

Analysis Batch: 126001

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.556	0.4383		ug/L		79	54 - 130
alpha-BHC	0.556	0.4497		ug/L		81	59 - 130
alpha-Chlordane	0.556	0.3780		ug/L		68	51 - 130
beta-BHC	0.556	0.4282		ug/L		77	56 - 130
4,4'-DDD	0.556	0.4381		ug/L		79	56 - 130
4,4'-DDE	0.556	0.4375		ug/L		79	53 - 130
4,4'-DDT	0.556	0.4452		ug/L		80	50 - 130
delta-BHC	0.556	0.4456		ug/L		80	56 - 130
Dieldrin	0.556	0.4447		ug/L		80	58 - 130
Endosulfan I	0.556	0.4458		ug/L		80	39 - 130
Endosulfan II	0.556	0.3989		ug/L		72	44 - 130
Endosulfan sulfate	0.556	0.3709		ug/L		67	52 - 130
Endrin	0.556	0.4519		ug/L		81	62 - 130
Endrin aldehyde	0.556	0.4001		ug/L		72	52 - 130
Endrin ketone	0.556	0.4107		ug/L		74	48 - 130
gamma-BHC (Lindane)	0.556	0.4485		ug/L		81	56 - 130
gamma-Chlordane	0.556	0.4368		ug/L		79	52 - 130
Heptachlor	0.556	0.4525		ug/L		81	57 - 130
Heptachlor epoxide	0.556	0.3698		ug/L		67	53 - 130
Methoxychlor	0.556	0.4485		ug/L		81	57 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	55		10 - 152
Tetrachloro-m-xylene	81		57 - 127

Lab Sample ID: LCS 560-125966/4-A

Matrix: Water

Analysis Batch: 126001

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125966

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	55		10 - 152
Tetrachloro-m-xylene	79		57 - 127

Lab Sample ID: LCS 560-125966/5-A

Matrix: Water

Analysis Batch: 126001

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toxaphene	11.2	10.04		ug/L		90	51 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	55		10 - 152
Tetrachloro-m-xylene	79		57 - 127

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 126001

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 125966

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aldrin	0.00470	U	0.549	0.4064		ug/L		74	54 - 130
alpha-BHC	0.00489	U	0.549	0.4182		ug/L		76	59 - 130
alpha-Chlordane	0.00593	U	0.549	0.3587		ug/L		65	51 - 130
beta-BHC	0.00470	U	0.549	0.3961		ug/L		72	56 - 130
4,4'-DDD	0.00470	U	0.549	0.4165		ug/L		76	56 - 130
4,4'-DDE	0.00470	U	0.549	0.4070		ug/L		74	53 - 130
4,4'-DDT	0.00762	U	0.549	0.4211		ug/L		77	50 - 130
delta-BHC	0.00470	U	0.549	0.4173		ug/L		76	56 - 130
Dieldrin	0.0122	U	0.549	0.4232		ug/L		77	58 - 130
Endosulfan I	0.00470	U	0.549	0.4181		ug/L		76	39 - 130
Endosulfan II	0.00809	U	0.549	0.3844		ug/L		70	44 - 130
Endosulfan sulfate	0.00828	U	0.549	0.3608		ug/L		66	52 - 130
Endrin	0.00724	U	0.549	0.4309		ug/L		78	62 - 130
Endrin aldehyde	0.00470	U	0.549	0.3821		ug/L		70	52 - 130
Endrin ketone	0.00772	U	0.549	0.3953		ug/L		72	48 - 130
gamma-BHC (Lindane)	0.00423	U	0.549	0.4143		ug/L		75	56 - 130
gamma-Chlordane	0.00630	U	0.549	0.4125		ug/L		75	52 - 130
Heptachlor	0.00612	U	0.549	0.4181		ug/L		76	57 - 130
Heptachlor epoxide	0.00489	U	0.549	0.3701		ug/L		67	53 - 130
Methoxychlor	0.00941	U	0.549	0.4310		ug/L		78	57 - 130
<b>MS MS</b>									
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
DCB Decachlorobiphenyl	45		10 - 152						
Tetrachloro-m-xylene	77		57 - 127						

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 126001

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 125966

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aldrin	0.00470	U	0.551	0.4026		ug/L		73	54 - 130	1	30
alpha-BHC	0.00489	U	0.551	0.4160		ug/L		76	59 - 130	1	30
alpha-Chlordane	0.00593	U	0.551	0.3584		ug/L		65	51 - 130	0	30
beta-BHC	0.00470	U	0.551	0.3930		ug/L		71	56 - 130	1	30
4,4'-DDD	0.00470	U	0.551	0.4151		ug/L		75	56 - 130	0	30
4,4'-DDE	0.00470	U	0.551	0.4037		ug/L		73	53 - 130	1	30
4,4'-DDT	0.00762	U	0.551	0.4175		ug/L		76	50 - 130	NC	30
delta-BHC	0.00470	U	0.551	0.4154		ug/L		75	56 - 130	0	30
Dieldrin	0.0122	U	0.551	0.4226		ug/L		77	58 - 130	0	30
Endosulfan I	0.00470	U	0.551	0.4179		ug/L		76	39 - 130	0	30
Endosulfan II	0.00809	U	0.551	0.3828		ug/L		69	44 - 130	0	30
Endosulfan sulfate	0.00828	U	0.551	0.3853		ug/L		70	52 - 130	7	30
Endrin	0.00724	U	0.551	0.4307		ug/L		78	62 - 130	0	30
Endrin aldehyde	0.00470	U	0.551	0.3881		ug/L		70	52 - 130	2	30
Endrin ketone	0.00772	U	0.551	0.3953		ug/L		72	48 - 130	0	30
gamma-BHC (Lindane)	0.00423	U	0.551	0.4131		ug/L		75	56 - 130	0	30
gamma-Chlordane	0.00630	U	0.551	0.4063		ug/L		74	52 - 130	2	30
Heptachlor	0.00612	U	0.551	0.4217		ug/L		77	57 - 130	1	30

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 126001

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 125966

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Heptachlor epoxide	0.00489	U	0.551	0.3649		ug/L		66	53 - 130	1	30
Methoxychlor	0.00941	U	0.551	0.4321		ug/L		78	57 - 130	0	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
DCB Decachlorobiphenyl	43		10 - 152								
Tetrachloro-m-xylene	74		57 - 127								

Lab Sample ID: MB 560-125982/1-A

Matrix: Water

Analysis Batch: 126040

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125982

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00492	U	0.0590	0.00492	ug/L		03/12/16 07:37	03/15/16 14:25	1
alpha-BHC	0.00511	U	0.0590	0.00511	ug/L		03/12/16 07:37	03/15/16 14:25	1
alpha-Chlordane	0.00619	U	0.0590	0.00619	ug/L		03/12/16 07:37	03/15/16 14:25	1
beta-BHC	0.00492	U	0.0590	0.00492	ug/L		03/12/16 07:37	03/15/16 14:25	1
4,4'-DDD	0.00492	U	0.0590	0.00492	ug/L		03/12/16 07:37	03/15/16 14:25	1
4,4'-DDE	0.00492	U	0.0590	0.00492	ug/L		03/12/16 07:37	03/15/16 14:25	1
4,4'-DDT	0.00796	U	0.0590	0.00796	ug/L		03/12/16 07:37	03/15/16 14:25	1
delta-BHC	0.00492	U	0.0590	0.00492	ug/L		03/12/16 07:37	03/15/16 14:25	1
Dieldrin	0.0128	U	0.0590	0.0128	ug/L		03/12/16 07:37	03/15/16 14:25	1
Endosulfan I	0.00492	U	0.0590	0.00492	ug/L		03/12/16 07:37	03/15/16 14:25	1
Endosulfan II	0.00846	U	0.0590	0.00846	ug/L		03/12/16 07:37	03/15/16 14:25	1
Endosulfan sulfate	0.00865	U	0.0590	0.00865	ug/L		03/12/16 07:37	03/15/16 14:25	1
Endrin	0.00757	U	0.0590	0.00757	ug/L		03/12/16 07:37	03/15/16 14:25	1
Endrin aldehyde	0.00492	U	0.0590	0.00492	ug/L		03/12/16 07:37	03/15/16 14:25	1
Endrin ketone	0.00806	U	0.0590	0.00806	ug/L		03/12/16 07:37	03/15/16 14:25	1
gamma-BHC (Lindane)	0.00442	U	0.0590	0.00442	ug/L		03/12/16 07:37	03/15/16 14:25	1
gamma-Chlordane	0.00659	U	0.0590	0.00659	ug/L		03/12/16 07:37	03/15/16 14:25	1
Heptachlor	0.00639	U	0.0590	0.00639	ug/L		03/12/16 07:37	03/15/16 14:25	1
Heptachlor epoxide	0.00511	U	0.0590	0.00511	ug/L		03/12/16 07:37	03/15/16 14:25	1
Methoxychlor	0.00983	U	0.0590	0.00983	ug/L		03/12/16 07:37	03/15/16 14:25	1
Toxaphene	0.669	U	5.90	0.669	ug/L		03/12/16 07:37	03/15/16 14:25	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	55		10 - 152				03/12/16 07:37	03/15/16 14:25	1
Tetrachloro-m-xylene	79		57 - 127				03/12/16 07:37	03/15/16 14:25	1

Lab Sample ID: LCS 560-125982/3-A

Matrix: Water

Analysis Batch: 126040

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.552	0.4423		ug/L		80	54 - 130
alpha-BHC	0.552	0.4569		ug/L		83	59 - 130
alpha-Chlordane	0.552	0.3802		ug/L		69	51 - 130
beta-BHC	0.552	0.4349		ug/L		79	56 - 130
4,4'-DDD	0.552	0.4507		ug/L		82	56 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 560-125982/3-A

Matrix: Water

Analysis Batch: 126040

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDE	0.552	0.4422		ug/L		80	53 - 130
4,4'-DDT	0.552	0.4570		ug/L		83	50 - 130
delta-BHC	0.552	0.4495		ug/L		81	56 - 130
Dieldrin	0.552	0.4543		ug/L		82	58 - 130
Endosulfan I	0.552	0.4517		ug/L		82	39 - 130
Endosulfan II	0.552	0.4086		ug/L		74	44 - 130
Endosulfan sulfate	0.552	0.4058		ug/L		73	52 - 130
Endrin	0.552	0.4670		ug/L		85	62 - 130
Endrin aldehyde	0.552	0.4135		ug/L		75	52 - 130
Endrin ketone	0.552	0.4218		ug/L		76	48 - 130
gamma-BHC (Lindane)	0.552	0.4555		ug/L		82	56 - 130
gamma-Chlordane	0.552	0.4485		ug/L		81	52 - 130
Heptachlor	0.552	0.4587		ug/L		83	57 - 130
Heptachlor epoxide	0.552	0.3646		ug/L		66	53 - 130
Methoxychlor	0.552	0.4627		ug/L		84	57 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	58		10 - 152
Tetrachloro-m-xylene	84		57 - 127

Lab Sample ID: LCS 560-125982/4-A

Matrix: Water

Analysis Batch: 126040

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125982

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	59		10 - 152
Tetrachloro-m-xylene	81		57 - 127

Lab Sample ID: LCS 560-125982/5-A

Matrix: Water

Analysis Batch: 126040

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toxaphene	11.1	10.61		ug/L		95	51 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	59		10 - 152
Tetrachloro-m-xylene	85		57 - 127

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 126040

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 125982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.00489	U	0.549	0.4473		ug/L		81	54 - 130
alpha-BHC	0.00508	U	0.549	0.4664		ug/L		85	59 - 130
alpha-Chlordane	0.00616	U	0.549	0.3827		ug/L		70	51 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 126040

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 125982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
beta-BHC	0.00489	U	0.549	0.4399		ug/L		80	56 - 130
4,4'-DDD	0.00489	U	0.549	0.4489		ug/L		82	56 - 130
4,4'-DDE	0.00489	U	0.549	0.4414		ug/L		80	53 - 130
4,4'-DDT	0.00792	U	0.549	0.4570		ug/L		83	50 - 130
delta-BHC	0.00489	U	0.549	0.4511		ug/L		82	56 - 130
Dieldrin	0.0127	U	0.549	0.4583		ug/L		83	58 - 130
Endosulfan I	0.00489	U	0.549	0.4515		ug/L		82	39 - 130
Endosulfan II	0.00841	U	0.549	0.4057		ug/L		74	44 - 130
Endosulfan sulfate	0.00860	U	0.549	0.4010		ug/L		73	52 - 130
Endrin	0.00753	U	0.549	0.4675		ug/L		85	62 - 130
Endrin aldehyde	0.00489	U	0.549	0.4176		ug/L		76	52 - 130
Endrin ketone	0.00802	U	0.549	0.4202		ug/L		76	48 - 130
gamma-BHC (Lindane)	0.00440	U	0.549	0.4655		ug/L		85	56 - 130
gamma-Chlordane	0.00655	U	0.549	0.4513		ug/L		82	52 - 130
Heptachlor	0.00635	U	0.549	0.4660		ug/L		85	57 - 130
Heptachlor epoxide	0.00508	U	0.549	0.3657		ug/L		67	53 - 130
Methoxychlor	0.00978	U	0.549	0.4601		ug/L		84	57 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl	53		10 - 152
Tetrachloro-m-xylene	84		57 - 127

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 126040

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 125982

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aldrin	0.00489	U	0.546	0.4274		ug/L		78	54 - 130	5	30
alpha-BHC	0.00508	U	0.546	0.4442		ug/L		81	59 - 130	5	30
alpha-Chlordane	0.00616	U	0.546	0.3653		ug/L		67	51 - 130	5	30
beta-BHC	0.00489	U	0.546	0.4209		ug/L		77	56 - 130	4	30
4,4'-DDD	0.00489	U	0.546	0.4264		ug/L		78	56 - 130	5	30
4,4'-DDE	0.00489	U	0.546	0.4155		ug/L		76	53 - 130	6	30
4,4'-DDT	0.00792	U	0.546	0.4314		ug/L		79	50 - 130	6	30
delta-BHC	0.00489	U	0.546	0.4342		ug/L		79	56 - 130	4	30
Dieldrin	0.0127	U	0.546	0.4368		ug/L		80	58 - 130	5	30
Endosulfan I	0.00489	U	0.546	0.4291		ug/L		79	39 - 130	5	30
Endosulfan II	0.00841	U	0.546	0.3860		ug/L		71	44 - 130	5	30
Endosulfan sulfate	0.00860	U	0.546	0.3845		ug/L		70	52 - 130	4	30
Endrin	0.00753	U	0.546	0.4457		ug/L		82	62 - 130	5	30
Endrin aldehyde	0.00489	U	0.546	0.3966		ug/L		73	52 - 130	5	30
Endrin ketone	0.00802	U	0.546	0.4014		ug/L		73	48 - 130	5	30
gamma-BHC (Lindane)	0.00440	U	0.546	0.4424		ug/L		81	56 - 130	5	30
gamma-Chlordane	0.00655	U	0.546	0.4455		ug/L		82	52 - 130	1	30
Heptachlor	0.00635	U	0.546	0.4463		ug/L		82	57 - 130	4	30
Heptachlor epoxide	0.00508	U	0.546	0.3521		ug/L		64	53 - 130	4	30
Methoxychlor	0.00978	U	0.546	0.4374		ug/L		80	57 - 130	5	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 126040

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 125982

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	46		10 - 152
Tetrachloro-m-xylene	79		57 - 127

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 560-125966/1-A

Matrix: Water

Analysis Batch: 125996

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125966

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.110	U	0.602	0.110	ug/L		03/11/16 13:04	03/14/16 09:54	1
Aroclor 1221	0.110	U	0.602	0.110	ug/L		03/11/16 13:04	03/14/16 09:54	1
Aroclor 1232	0.441	U	0.802	0.441	ug/L		03/11/16 13:04	03/14/16 09:54	1
Aroclor 1242	0.110	U	0.602	0.110	ug/L		03/11/16 13:04	03/14/16 09:54	1
Aroclor 1248	0.110	U	0.602	0.110	ug/L		03/11/16 13:04	03/14/16 09:54	1
Aroclor 1254	0.110	U	0.602	0.110	ug/L		03/11/16 13:04	03/14/16 09:54	1
Aroclor 1260	0.110	U	0.602	0.110	ug/L		03/11/16 13:04	03/14/16 09:54	1
Aroclor 1262	0.110	U	0.602	0.110	ug/L		03/11/16 13:04	03/14/16 09:54	1
Aroclor 1268	0.110	U	0.602	0.110	ug/L		03/11/16 13:04	03/14/16 09:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	148		10 - 150	03/11/16 13:04	03/14/16 09:54	1
DCB Decachlorobiphenyl	133		10 - 150	03/11/16 13:04	03/14/16 09:54	1

Lab Sample ID: LCS 560-125966/2-A

Matrix: Water

Analysis Batch: 125996

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125966

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor 1016	11.1	12.46		ug/L		112	50 - 135
Aroclor 1260	11.1	13.28		ug/L		120	50 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	115		10 - 150
DCB Decachlorobiphenyl	93		10 - 150

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 125996

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 125966

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aroclor 1016	0.103	U	11.3	12.13		ug/L		107	50 - 135
Aroclor 1260	0.103	U	11.3	13.49		ug/L		119	50 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	115		10 - 150
DCB Decachlorobiphenyl	94		10 - 150

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 125996

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 125966

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aroclor 1016	0.103	U	10.9	11.86		ug/L		109	50 - 135	2	30
Aroclor 1260	0.103	U	10.9	12.16		ug/L		112	50 - 135	10	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Tetrachloro-m-xylene	111		10 - 150								
DCB Decachlorobiphenyl	84		10 - 150								

Lab Sample ID: MB 560-125982/1-A

Matrix: Water

Analysis Batch: 126039

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125982

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.108	U	0.590	0.108	ug/L		03/12/16 07:37	03/15/16 13:29	1
Aroclor 1221	0.108	U	0.590	0.108	ug/L		03/12/16 07:37	03/15/16 13:29	1
Aroclor 1232	0.433	U	0.787	0.433	ug/L		03/12/16 07:37	03/15/16 13:29	1
Aroclor 1242	0.108	U	0.590	0.108	ug/L		03/12/16 07:37	03/15/16 13:29	1
Aroclor 1248	0.108	U	0.590	0.108	ug/L		03/12/16 07:37	03/15/16 13:29	1
Aroclor 1254	0.108	U	0.590	0.108	ug/L		03/12/16 07:37	03/15/16 13:29	1
Aroclor 1260	0.108	U	0.590	0.108	ug/L		03/12/16 07:37	03/15/16 13:29	1
Aroclor 1262	0.108	U	0.590	0.108	ug/L		03/12/16 07:37	03/15/16 13:29	1
Aroclor 1268	0.108	U	0.590	0.108	ug/L		03/12/16 07:37	03/15/16 13:29	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	134		10 - 150				03/12/16 07:37	03/15/16 13:29	1
DCB Decachlorobiphenyl	120		10 - 150				03/12/16 07:37	03/15/16 13:29	1

Lab Sample ID: LCS 560-125982/2-A

Matrix: Water

Analysis Batch: 126039

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	11.1	12.91		ug/L		116	50 - 135
Aroclor 1260	11.1	13.91		ug/L		125	50 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Tetrachloro-m-xylene	118		10 - 150				
DCB Decachlorobiphenyl	106		10 - 150				

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 126039

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 125982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	0.108	U	11.0	13.54		ug/L		124	50 - 135
Aroclor 1260	0.108	U F1	11.0	14.34		ug/L		131	50 - 135
Surrogate	MS %Recovery	MS Qualifier	Limits						
Tetrachloro-m-xylene	129		10 - 150						
DCB Decachlorobiphenyl	105		10 - 150						

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 126039

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 125982

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016	0.108	U	10.9	13.94		ug/L		128	50 - 135	3	30
Aroclor 1260	0.108	U F1	10.9	14.80	F1	ug/L		136	50 - 135	3	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Tetrachloro-m-xylene	129		10 - 150								
DCB Decachlorobiphenyl	106		10 - 150								

## Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 280-316652/1-A

Matrix: Water

Analysis Batch: 317425

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 316652

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.168	U	2.50	0.168	ug/L		03/11/16 19:29	03/18/16 22:55	1
Bolstar	0.314	U	1.00	0.314	ug/L		03/11/16 19:29	03/18/16 22:55	1
Chlorpyrifos	0.360	U	1.50	0.360	ug/L		03/11/16 19:29	03/18/16 22:55	1
Coumaphos	0.135	U	1.00	0.135	ug/L		03/11/16 19:29	03/18/16 22:55	1
Demeton-O	0.140	U	1.00	0.140	ug/L		03/11/16 19:29	03/18/16 22:55	1
Demeton-S	0.0690	U	2.00	0.0690	ug/L		03/11/16 19:29	03/18/16 22:55	1
Diazinon	0.147	U	0.500	0.147	ug/L		03/11/16 19:29	03/18/16 22:55	1
Dichlorvos	0.162	U	0.500	0.162	ug/L		03/11/16 19:29	03/18/16 22:55	1
Dimethoate	0.449	U	1.50	0.449	ug/L		03/11/16 19:29	03/18/16 22:55	1
Disulfoton	0.322	U	1.00	0.322	ug/L		03/11/16 19:29	03/18/16 22:55	1
EPN	0.149	U	1.20	0.149	ug/L		03/11/16 19:29	03/18/16 22:55	1
Ethoprop	0.177	U	1.50	0.177	ug/L		03/11/16 19:29	03/18/16 22:55	1
Ethyl Parathion	0.144	U	1.00	0.144	ug/L		03/11/16 19:29	03/18/16 22:55	1
Famphur	0.179	U	1.00	0.179	ug/L		03/11/16 19:29	03/18/16 22:55	1
Fensulfothion	0.544	U	2.50	0.544	ug/L		03/11/16 19:29	03/18/16 22:55	1
Fenthion	0.154	U	2.50	0.154	ug/L		03/11/16 19:29	03/18/16 22:55	1
Malathion	0.133	U	2.00	0.133	ug/L		03/11/16 19:29	03/18/16 22:55	1
Merphos	0.174	U	5.00	0.174	ug/L		03/11/16 19:29	03/18/16 22:55	1
Methyl parathion	0.141	U	4.00	0.141	ug/L		03/11/16 19:29	03/18/16 22:55	1
Mevinphos	0.460	U	6.20	0.460	ug/L		03/11/16 19:29	03/18/16 22:55	1
Naled	0.800	U	2.00	0.800	ug/L		03/11/16 19:29	03/18/16 22:55	1
Phorate	0.154	U	1.20	0.154	ug/L		03/11/16 19:29	03/18/16 22:55	1
Ronnel	0.116	U	10.0	0.116	ug/L		03/11/16 19:29	03/18/16 22:55	1
Sulfotepp	0.168	U	1.50	0.168	ug/L		03/11/16 19:29	03/18/16 22:55	1
Tetrachlorvinphos (Stirophos)	0.124	U	3.50	0.124	ug/L		03/11/16 19:29	03/18/16 22:55	1
Thionazin	0.312	U	1.00	0.312	ug/L		03/11/16 19:29	03/18/16 22:55	1
Tokuthion	0.123	U	1.60	0.123	ug/L		03/11/16 19:29	03/18/16 22:55	1
Trichloronate	0.242	U	1.50	0.242	ug/L		03/11/16 19:29	03/18/16 22:55	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	78		49 - 171				03/11/16 19:29	03/18/16 22:55	1
Triphenylphosphate	108		60 - 154				03/11/16 19:29	03/18/16 22:55	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCS 280-316652/2-A

Matrix: Water

Analysis Batch: 317425

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 316652

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Azinphos-methyl	4.00	4.035		ug/L		101	35 - 130
Chlorpyrifos	4.00	3.716		ug/L		93	39 - 120
Coumaphos	4.00	4.566		ug/L		114	37 - 134
Diazinon	4.00	3.903		ug/L		98	35 - 120
Dichlorvos	4.00	3.813		ug/L		95	23 - 174
Dimethoate	4.00	3.069		ug/L		77	29 - 116
Disulfoton	4.00	3.743		ug/L		94	36 - 115
EPN	4.00	4.138		ug/L		103	46 - 121
Ethoprop	4.00	3.971		ug/L		99	39 - 129
Ethyl Parathion	4.00	3.759		ug/L		94	40 - 122
Famphur	4.00	4.212		ug/L		105	42 - 130
Fensulfothion	4.00	3.613		ug/L		90	29 - 134
Fenthion	4.00	3.738		ug/L		93	34 - 120
Malathion	4.00	3.361		ug/L		84	39 - 117
Merphos	4.00	2.315	J	ug/L		58	32 - 115
Methyl parathion	4.00	4.025		ug/L		101	42 - 130
Mevinphos	4.00	3.124	J	ug/L		78	22 - 115
Phorate	4.00	3.443		ug/L		86	22 - 115
Ronnel	4.00	4.000	J	ug/L		100	33 - 126
Sulfotepp	4.00	3.934		ug/L		98	33 - 117
Tetrachlorvinphos (Stirophos)	4.00	4.111		ug/L		103	39 - 120
Thionazin	4.00	3.563		ug/L		89	38 - 120
Trichloronate	4.00	3.652		ug/L		91	34 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Chlormefos	93		49 - 171
Triphenylphosphate	111		60 - 154

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 317425

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 316652

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Azinphos-methyl	0.177	U	3.84	3.279		ug/L		85	35 - 130
Chlorpyrifos	0.379	U	3.84	2.872		ug/L		75	39 - 120
Coumaphos	0.142	U	3.84	3.566		ug/L		93	37 - 134
Diazinon	0.155	U	3.84	2.994		ug/L		78	35 - 120
Dichlorvos	0.170	U	3.84	2.988		ug/L		78	23 - 174
Dimethoate	0.472	U	3.84	3.015		ug/L		79	29 - 116
Disulfoton	0.339	U	3.84	2.946		ug/L		77	36 - 115
EPN	0.157	U	3.84	3.093		ug/L		81	46 - 121
Ethoprop	0.186	U	3.84	3.127		ug/L		82	39 - 129
Ethyl Parathion	0.151	U	3.84	2.967		ug/L		77	40 - 122
Famphur	0.188	U	3.84	3.432		ug/L		89	42 - 130
Fensulfothion	0.572	U	3.84	3.403		ug/L		89	29 - 134
Fenthion	0.162	U	3.84	2.945		ug/L		77	34 - 120
Malathion	0.140	U	3.84	2.650		ug/L		69	39 - 117
Merphos	0.183	U	3.84	1.624	J	ug/L		42	32 - 115

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 317425

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 316652

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl parathion	0.148	U	3.84	3.185	J	ug/L		83	42 - 130
Mevinphos	0.484	U	3.84	2.555	J	ug/L		67	22 - 115
Phorate	0.162	U	3.84	2.656		ug/L		69	22 - 115
Ronnel	0.122	U	3.84	3.115	J	ug/L		81	33 - 126
Sulfotepp	0.177	U	3.84	2.978		ug/L		78	33 - 117
Tetrachlorvinphos (Stirophos)	0.130	U	3.84	3.227	J	ug/L		84	39 - 120
Thionazin	0.328	U	3.84	2.833		ug/L		74	38 - 120
Trichloronate	0.255	U	3.84	2.812		ug/L		73	34 - 115

Surrogate	MS %Recovery	MS Qualifier	Limits
Chlormefos	77		49 - 171
Triphenylphosphate	91		60 - 154

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 317425

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 316652

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	0.177	U	3.83	3.118		ug/L		81	35 - 130	5	50
Chlorpyrifos	0.379	U	3.83	2.714		ug/L		71	39 - 120	6	27
Coumaphos	0.142	U	3.83	3.337		ug/L		87	37 - 134	7	50
Diazinon	0.155	U	3.83	2.782		ug/L		73	35 - 120	7	37
Dichlorvos	0.170	U	3.83	3.046		ug/L		80	23 - 174	2	37
Dimethoate	0.472	U	3.83	2.814		ug/L		74	29 - 116	7	49
Disulfoton	0.339	U	3.83	2.825		ug/L		74	36 - 115	4	50
EPN	0.157	U	3.83	2.973		ug/L		78	46 - 121	4	26
Ethoprop	0.186	U	3.83	2.918		ug/L		76	39 - 129	7	27
Ethyl Parathion	0.151	U	3.83	2.793		ug/L		73	40 - 122	6	26
Famphur	0.188	U	3.83	3.289		ug/L		86	42 - 130	4	22
Fensulfothion	0.572	U	3.83	3.291		ug/L		86	29 - 134	3	47
Fenthion	0.162	U	3.83	2.781		ug/L		73	34 - 120	6	27
Malathion	0.140	U	3.83	2.512		ug/L		66	39 - 117	5	25
Merphos	0.183	U	3.83	1.558	J	ug/L		41	32 - 115	4	27
Methyl parathion	0.148	U	3.83	3.000	J	ug/L		78	42 - 130	6	30
Mevinphos	0.484	U	3.83	2.410	J	ug/L		63	22 - 115	6	34
Phorate	0.162	U	3.83	2.492		ug/L		65	22 - 115	6	33
Ronnel	0.122	U	3.83	2.954	J	ug/L		77	33 - 126	5	25
Sulfotepp	0.177	U	3.83	2.783		ug/L		73	33 - 117	7	32
Tetrachlorvinphos (Stirophos)	0.130	U	3.83	3.104	J	ug/L		81	39 - 120	4	28
Thionazin	0.328	U	3.83	2.657		ug/L		69	38 - 120	6	25
Trichloronate	0.255	U	3.83	2.633		ug/L		69	34 - 115	7	28

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Chlormefos	74		49 - 171
Triphenylphosphate	87		60 - 154

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: MB 280-316661/1-A

Matrix: Water

Analysis Batch: 317060

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 316661

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.168	U	2.50	0.168	ug/L		03/11/16 22:51	03/16/16 22:10	1
Bolstar	0.314	U	1.00	0.314	ug/L		03/11/16 22:51	03/16/16 22:10	1
Chlorpyrifos	0.360	U	1.50	0.360	ug/L		03/11/16 22:51	03/16/16 22:10	1
Coumaphos	0.135	U	1.00	0.135	ug/L		03/11/16 22:51	03/16/16 22:10	1
Demeton-O	0.140	U	1.00	0.140	ug/L		03/11/16 22:51	03/16/16 22:10	1
Demeton-S	0.0690	U	2.00	0.0690	ug/L		03/11/16 22:51	03/16/16 22:10	1
Diazinon	0.147	U	0.500	0.147	ug/L		03/11/16 22:51	03/16/16 22:10	1
Dichlorvos	0.162	U	0.500	0.162	ug/L		03/11/16 22:51	03/16/16 22:10	1
Dimethoate	0.449	U	1.50	0.449	ug/L		03/11/16 22:51	03/16/16 22:10	1
Disulfoton	0.322	U	1.00	0.322	ug/L		03/11/16 22:51	03/16/16 22:10	1
EPN	0.149	U	1.20	0.149	ug/L		03/11/16 22:51	03/16/16 22:10	1
Ethoprop	0.177	U	1.50	0.177	ug/L		03/11/16 22:51	03/16/16 22:10	1
Ethyl Parathion	0.144	U	1.00	0.144	ug/L		03/11/16 22:51	03/16/16 22:10	1
Famphur	0.179	U	1.00	0.179	ug/L		03/11/16 22:51	03/16/16 22:10	1
Fensulfothion	0.544	U	2.50	0.544	ug/L		03/11/16 22:51	03/16/16 22:10	1
Fenthion	0.154	U	2.50	0.154	ug/L		03/11/16 22:51	03/16/16 22:10	1
Malathion	0.133	U	2.00	0.133	ug/L		03/11/16 22:51	03/16/16 22:10	1
Merphos	0.174	U	5.00	0.174	ug/L		03/11/16 22:51	03/16/16 22:10	1
Methyl parathion	0.141	U	4.00	0.141	ug/L		03/11/16 22:51	03/16/16 22:10	1
Mevinphos	0.460	U	6.20	0.460	ug/L		03/11/16 22:51	03/16/16 22:10	1
Naled	0.800	U	2.00	0.800	ug/L		03/11/16 22:51	03/16/16 22:10	1
Phorate	0.154	U	1.20	0.154	ug/L		03/11/16 22:51	03/16/16 22:10	1
Ronnel	0.116	U	10.0	0.116	ug/L		03/11/16 22:51	03/16/16 22:10	1
Sulfotepp	0.168	U	1.50	0.168	ug/L		03/11/16 22:51	03/16/16 22:10	1
Tetrachlorvinphos (Stirophos)	0.124	U	3.50	0.124	ug/L		03/11/16 22:51	03/16/16 22:10	1
Thionazin	0.312	U	1.00	0.312	ug/L		03/11/16 22:51	03/16/16 22:10	1
Tokuthion	0.123	U	1.60	0.123	ug/L		03/11/16 22:51	03/16/16 22:10	1
Trichloronate	0.242	U	1.50	0.242	ug/L		03/11/16 22:51	03/16/16 22:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	83		49 - 171	03/11/16 22:51	03/16/16 22:10	1
Triphenylphosphate	94		60 - 154	03/11/16 22:51	03/16/16 22:10	1

Lab Sample ID: LCS 280-316661/2-A

Matrix: Water

Analysis Batch: 317060

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 316661

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Azinphos-methyl	4.00	3.527		ug/L		88	35 - 130
Chlorpyrifos	4.00	3.440		ug/L		86	39 - 120
Coumaphos	4.00	4.066		ug/L		102	37 - 134
Diazinon	4.00	3.294		ug/L		82	35 - 120
Dichlorvos	4.00	3.623		ug/L		91	23 - 174
Dimethoate	4.00	3.236		ug/L		81	29 - 116
Disulfoton	4.00	3.376		ug/L		84	36 - 115
EPN	4.00	3.594		ug/L		90	46 - 121
Ethoprop	4.00	3.514		ug/L		88	39 - 129
Ethyl Parathion	4.00	3.419		ug/L		85	40 - 122

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCS 280-316661/2-A

Matrix: Water

Analysis Batch: 317060

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 316661

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Famphur	4.00	3.818		ug/L		95	42 - 130
Fensulfothion	4.00	3.634		ug/L		91	29 - 134
Fenthion	4.00	3.436		ug/L		86	34 - 120
Malathion	4.00	3.077		ug/L		77	39 - 117
Merphos	4.00	1.915	J	ug/L		48	32 - 115
Methyl parathion	4.00	3.616	J	ug/L		90	42 - 130
Mevinphos	4.00	2.785	J	ug/L		70	22 - 115
Phorate	4.00	3.031		ug/L		76	22 - 115
Ronnel	4.00	3.618	J	ug/L		90	33 - 126
Sulfotepp	4.00	3.423		ug/L		86	33 - 117
Tetrachlorvinphos (Stirophos)	4.00	3.590		ug/L		90	39 - 120
Thionazin	4.00	3.181		ug/L		80	38 - 120
Trichloronate	4.00	3.454		ug/L		86	34 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Chlormefos	87		49 - 171
Triphenylphosphate	99		60 - 154

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 317060

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 316661

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	0.160	U	3.80	3.549		ug/L		93	35 - 130
Chlorpyrifos	0.342	U	3.80	3.338		ug/L		88	39 - 120
Coumaphos	0.128	U	3.80	3.750		ug/L		99	37 - 134
Diazinon	0.140	U	3.80	3.334		ug/L		88	35 - 120
Dichlorvos	0.154	U	3.80	2.841		ug/L		75	23 - 174
Dimethoate	0.427	U	3.80	3.257		ug/L		86	29 - 116
Disulfoton	0.306	U	3.80	3.160		ug/L		83	36 - 115
EPN	0.142	U	3.80	3.513		ug/L		92	46 - 121
Ethoprop	0.168	U	3.80	3.294		ug/L		87	39 - 129
Ethyl Parathion	0.137	U	3.80	3.324		ug/L		87	40 - 122
Famphur	0.170	U	3.80	3.804		ug/L		100	42 - 130
Fensulfothion	0.517	U	3.80	3.739		ug/L		98	29 - 134
Fenthion	0.146	U	3.80	3.338		ug/L		88	34 - 120
Malathion	0.126	U	3.80	2.976		ug/L		78	39 - 117
Merphos	0.165	U	3.80	1.776	J	ug/L		47	32 - 115
Methyl parathion	0.134	U	3.80	3.488	J	ug/L		92	42 - 130
Mevinphos	0.437	U	3.80	2.631	J	ug/L		69	22 - 115
Phorate	0.146	U	3.80	2.835		ug/L		75	22 - 115
Ronnel	0.110	U	3.80	3.498	J	ug/L		92	33 - 126
Sulfotepp	0.160	U	3.80	3.175		ug/L		84	33 - 117
Tetrachlorvinphos (Stirophos)	0.118	U	3.80	3.596		ug/L		95	39 - 120
Thionazin	0.297	U	3.80	2.898		ug/L		76	38 - 120
Trichloronate	0.230	U	3.80	3.365		ug/L		88	34 - 115

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 317060

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 316661

Surrogate	MS %Recovery	MS Qualifier	Limits
Chlormefos	82		49 - 171
Triphenylphosphate	103		60 - 154

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 317060

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 316661

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	0.160	U	3.82	3.363		ug/L		88	35 - 130	5	50
Chlorpyrifos	0.342	U	3.82	3.163		ug/L		83	39 - 120	5	27
Coumaphos	0.128	U	3.82	3.585		ug/L		94	37 - 134	4	50
Diazinon	0.140	U	3.82	2.937		ug/L		77	35 - 120	13	37
Dichlorvos	0.154	U	3.82	2.797		ug/L		73	23 - 174	2	37
Dimethoate	0.427	U	3.82	3.203		ug/L		84	29 - 116	2	49
Disulfoton	0.306	U	3.82	3.123		ug/L		82	36 - 115	1	50
EPN	0.142	U	3.82	3.295		ug/L		86	46 - 121	6	26
Ethoprop	0.168	U	3.82	3.201		ug/L		84	39 - 129	3	27
Ethyl Parathion	0.137	U	3.82	3.158		ug/L		83	40 - 122	5	26
Famphur	0.170	U	3.82	3.582		ug/L		94	42 - 130	6	22
Fensulfothion	0.517	U	3.82	3.489		ug/L		91	29 - 134	7	47
Fenthion	0.146	U	3.82	3.173		ug/L		83	34 - 120	5	27
Malathion	0.126	U	3.82	2.811		ug/L		74	39 - 117	6	25
Merphos	0.165	U	3.82	1.411	J	ug/L		37	32 - 115	23	27
Methyl parathion	0.134	U	3.82	3.333	J	ug/L		87	42 - 130	5	30
Mevinphos	0.437	U	3.82	2.595	J	ug/L		68	22 - 115	1	34
Phorate	0.146	U	3.82	2.747		ug/L		72	22 - 115	3	33
Ronnel	0.110	U	3.82	3.321	J	ug/L		87	33 - 126	5	25
Sulfotepp	0.160	U	3.82	3.046		ug/L		80	33 - 117	4	32
Tetrachlorvinphos (Stirophos)	0.118	U	3.82	3.425		ug/L		90	39 - 120	5	28
Thionazin	0.297	U	3.82	2.822		ug/L		74	38 - 120	3	25
Trichloronate	0.230	U	3.82	3.140		ug/L		82	34 - 115	7	28

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Chlormefos	79		49 - 171
Triphenylphosphate	98		60 - 154

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 680-425058/21-A

Matrix: Water

Analysis Batch: 425338

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 425058

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.100	U	5.00	0.100	ug/L		03/15/16 08:29	03/16/16 17:23	1
Dicamba	0.0850	U	0.500	0.0850	ug/L		03/15/16 08:29	03/16/16 17:23	1
Mecoprop	19.0	U	120	19.0	ug/L		03/15/16 08:29	03/16/16 17:23	1
MCPA	17.0	U	120	17.0	ug/L		03/15/16 08:29	03/16/16 17:23	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: MB 680-425058/21-A

Matrix: Water

Analysis Batch: 425338

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 425058

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorprop	0.150	U	0.500	0.150	ug/L		03/15/16 08:29	03/16/16 17:23	1
2,4-D	0.0370	U	0.500	0.0370	ug/L		03/15/16 08:29	03/16/16 17:23	1
Silvex (2,4,5-TP)	0.0620	U	0.250	0.0620	ug/L		03/15/16 08:29	03/16/16 17:23	1
2,4,5-T	0.0620	U	0.250	0.0620	ug/L		03/15/16 08:29	03/16/16 17:23	1
2,4-DB	0.150	U	0.500	0.150	ug/L		03/15/16 08:29	03/16/16 17:23	1
Dinoseb	0.160	U	1.00	0.160	ug/L		03/15/16 08:29	03/16/16 17:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	99		45 - 130	03/15/16 08:29	03/16/16 17:23	1

Lab Sample ID: LCS 680-425058/22-A

Matrix: Water

Analysis Batch: 425338

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 425058

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	2.00	1.405	J	ug/L		70	40 - 130
Dicamba	1.00	0.8921		ug/L		89	64 - 130
Mecoprop	200	169.6		ug/L		85	55 - 134
MCPA	200	158.9		ug/L		79	52 - 130
Dichlorprop	2.00	1.910		ug/L		96	52 - 130
2,4-D	2.00	1.791		ug/L		90	55 - 130
Silvex (2,4,5-TP)	0.500	0.4577		ug/L		92	60 - 130
2,4,5-T	0.500	0.4581		ug/L		92	58 - 130
2,4-DB	2.00	1.725		ug/L		86	60 - 147
Dinoseb	2.00	1.648		ug/L		82	14 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid	90		45 - 130

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 425338

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 425058

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	0.0959	U	1.95	1.411		ug/L		72	40 - 130
Dicamba	0.0815	U	0.977	0.9217		ug/L		94	64 - 130
Mecoprop	18.2	U	195	154.4		ug/L		79	55 - 134
MCPA	16.3	U	195	169.9		ug/L		87	52 - 130
Dichlorprop	0.144	U	1.95	1.991		ug/L		102	52 - 130
2,4-D	0.0355	U	1.95	1.856		ug/L		95	55 - 130
Silvex (2,4,5-TP)	0.0595	U	0.489	0.4739		ug/L		97	60 - 130
2,4,5-T	0.0595	U	0.489	0.4713		ug/L		96	58 - 130
2,4-DB	0.144	U	1.95	1.890		ug/L		97	60 - 147
Dinoseb	0.153	U	1.95	1.551		ug/L		79	14 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4-Dichlorophenylacetic acid	101		45 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 425338

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 425058

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Dalapon	0.0959	U	1.85	1.374		ug/L		74	40 - 130	3	50
Dicamba	0.0815	U	0.926	0.9554		ug/L		103	64 - 130	4	50
Mecoprop	18.2	U	185	161.3		ug/L		87	55 - 134	4	50
MCPA	16.3	U	185	178.0		ug/L		96	52 - 130	5	50
Dichlorprop	0.144	U	1.85	2.083		ug/L		112	52 - 130	4	50
2,4-D	0.0355	U	1.85	1.953		ug/L		105	55 - 130	5	50
Silvex (2,4,5-TP)	0.0595	U	0.463	0.5162		ug/L		111	60 - 130	9	50
2,4,5-T	0.0595	U	0.463	0.4948		ug/L		107	58 - 130	5	50
2,4-DB	0.144	U	1.85	2.004		ug/L		108	60 - 147	6	50
Dinoseb	0.153	U	1.85	1.828		ug/L		99	14 - 130	16	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4-Dichlorophenylacetic acid	106		45 - 130

Lab Sample ID: MB 680-425216/21-A

Matrix: Water

Analysis Batch: 425536

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 425216

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.100	U	5.00	0.100	ug/L		03/16/16 07:45	03/17/16 16:21	1
Dicamba	0.0850	U	0.500	0.0850	ug/L		03/16/16 07:45	03/17/16 16:21	1
Mecoprop	19.0	U	120	19.0	ug/L		03/16/16 07:45	03/17/16 16:21	1
MCPA	17.0	U	120	17.0	ug/L		03/16/16 07:45	03/17/16 16:21	1
Dichlorprop	0.150	U	0.500	0.150	ug/L		03/16/16 07:45	03/17/16 16:21	1
2,4-D	0.0370	U	0.500	0.0370	ug/L		03/16/16 07:45	03/17/16 16:21	1
Silvex (2,4,5-TP)	0.0620	U	0.250	0.0620	ug/L		03/16/16 07:45	03/17/16 16:21	1
2,4,5-T	0.0620	U	0.250	0.0620	ug/L		03/16/16 07:45	03/17/16 16:21	1
2,4-DB	0.150	U	0.500	0.150	ug/L		03/16/16 07:45	03/17/16 16:21	1
Dinoseb	0.160	U	1.00	0.160	ug/L		03/16/16 07:45	03/17/16 16:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	93		45 - 130	03/16/16 07:45	03/17/16 16:21	1

Lab Sample ID: LCS 680-425216/22-A

Matrix: Water

Analysis Batch: 425536

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 425216

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	2.00	1.382	J	ug/L		69	40 - 130
Dicamba	1.00	0.9097		ug/L		91	64 - 130
Mecoprop	200	154.2		ug/L		77	55 - 134
MCPA	200	158.4		ug/L		79	52 - 130
Dichlorprop	2.00	1.846		ug/L		92	52 - 130
2,4-D	2.00	1.774		ug/L		89	55 - 130
Silvex (2,4,5-TP)	0.500	0.4563		ug/L		91	60 - 130
2,4,5-T	0.500	0.4594		ug/L		92	58 - 130
2,4-DB	2.00	1.735		ug/L		87	60 - 147

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 680-425216/22-A

Matrix: Water

Analysis Batch: 425536

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 425216

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dinoseb	2.00	0.7923	J	ug/L		40	14 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid	90		45 - 130

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 425536

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 425216

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	0.0961	U	1.96	1.523	J	ug/L		78	40 - 130
Dicamba	0.0817	U	0.978	1.015		ug/L		104	64 - 130
Mecoprop	18.3	U	196	183.9		ug/L		94	55 - 134
MCPA	16.3	U	196	181.3		ug/L		93	52 - 130
Dichlorprop	0.144	U	1.96	2.105		ug/L		108	52 - 130
2,4-D	0.0356	U	1.96	1.938		ug/L		99	55 - 130
Silvex (2,4,5-TP)	0.0596	U	0.489	0.5171		ug/L		106	60 - 130
2,4,5-T	0.0596	U	0.489	0.5149		ug/L		105	58 - 130
2,4-DB	0.144	U	1.96	2.187		ug/L		112	60 - 147
Dinoseb	0.154	U	1.96	1.955		ug/L		100	14 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4-Dichlorophenylacetic acid	105		45 - 130

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 425536

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 425216

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dalapon	0.0961	U	1.86	1.492	J	ug/L		80	40 - 130	2	50
Dicamba	0.0817	U	0.928	1.029		ug/L		111	64 - 130	1	50
Mecoprop	18.3	U	186	248.8		ug/L		134	55 - 134	30	50
MCPA	16.3	U	186	173.8		ug/L		94	52 - 130	4	50
Dichlorprop	0.144	U	1.86	2.123		ug/L		114	52 - 130	1	50
2,4-D	0.0356	U	1.86	2.134		ug/L		115	55 - 130	10	50
Silvex (2,4,5-TP)	0.0596	U	0.464	0.5968		ug/L		129	60 - 130	14	50
2,4,5-T	0.0596	U	0.464	0.5205		ug/L		112	58 - 130	1	50
2,4-DB	0.144	U	1.86	2.272		ug/L		122	60 - 147	4	50
Dinoseb	0.154	U	1.86	1.836		ug/L		99	14 - 130	6	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4-Dichlorophenylacetic acid	109		45 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 560-125967/1-A  
Matrix: Water  
Analysis Batch: 125977

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 125967

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.101	U	0.200	0.101	mg/L		03/11/16 10:00	03/11/16 15:04	1
Magnesium	0.0257	U	0.200	0.0257	mg/L		03/11/16 10:00	03/11/16 15:04	1
Potassium	0.375	U	0.500	0.375	mg/L		03/11/16 10:00	03/11/16 15:04	1
Silicon	0.0707	U	0.500	0.0707	mg/L		03/11/16 10:00	03/11/16 15:04	1
Sodium	0.310	U	1.00	0.310	mg/L		03/11/16 10:00	03/11/16 15:04	1
Strontium	0.000700	U	0.00500	0.000700	mg/L		03/11/16 10:00	03/11/16 15:04	1

Lab Sample ID: LCS 560-125967/2-A  
Matrix: Water  
Analysis Batch: 125977

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 125967

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	50.0	50.67		mg/L		101	80 - 120
Magnesium	50.0	49.88		mg/L		100	80 - 120
Potassium	50.0	48.27		mg/L		97	80 - 120
Silicon	20.0	20.44		mg/L		102	80 - 120
Sodium	50.0	54.06		mg/L		108	80 - 120
Strontium	0.500	0.5254		mg/L		105	80 - 120

Lab Sample ID: MB 560-126005/1-A  
Matrix: Water  
Analysis Batch: 126018

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 126005

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.101	U	0.200	0.101	mg/L		03/14/16 11:00	03/14/16 14:14	1
Magnesium	0.0257	U	0.200	0.0257	mg/L		03/14/16 11:00	03/14/16 14:14	1
Sodium	0.5368	J	1.00	0.310	mg/L		03/14/16 11:00	03/14/16 14:14	1
Strontium	0.000700	U	0.00500	0.000700	mg/L		03/14/16 11:00	03/14/16 14:14	1

Lab Sample ID: MB 560-126005/1-A  
Matrix: Water  
Analysis Batch: 126061

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 126005

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	0.375	U	0.500	0.375	mg/L		03/14/16 11:00	03/15/16 13:23	1
Silicon	0.0707	U	0.500	0.0707	mg/L		03/14/16 11:00	03/15/16 13:23	1

Lab Sample ID: LCS 560-126005/2-A  
Matrix: Water  
Analysis Batch: 126018

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 126005

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	50.0	50.35		mg/L		101	80 - 120
Magnesium	50.0	51.01		mg/L		102	80 - 120
Sodium	50.0	53.50		mg/L		107	80 - 120
Strontium	0.500	0.5401		mg/L		108	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 560-126005/2-A

Matrix: Water

Analysis Batch: 126061

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126005

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Potassium	50.0	50.39		mg/L		101	80 - 120
Silicon	20.0	20.25		mg/L		101	80 - 120

Lab Sample ID: MB 560-126006/1-A

Matrix: Water

Analysis Batch: 126102

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126006

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.101	U	0.200	0.101	mg/L		03/14/16 11:15	03/16/16 12:47	1
Magnesium	0.0257	U	0.200	0.0257	mg/L		03/14/16 11:15	03/16/16 12:47	1
Potassium	0.375	U	0.500	0.375	mg/L		03/14/16 11:15	03/16/16 12:47	1
Silicon	0.0707	U	0.500	0.0707	mg/L		03/14/16 11:15	03/16/16 12:47	1
Sodium	0.310	U	1.00	0.310	mg/L		03/14/16 11:15	03/16/16 12:47	1
Strontium	0.000700	U	0.00500	0.000700	mg/L		03/14/16 11:15	03/16/16 12:47	1

Lab Sample ID: LCS 560-126006/2-A

Matrix: Water

Analysis Batch: 126102

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126006

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Calcium	50.0	50.36		mg/L		101	80 - 120
Magnesium	50.0	50.17		mg/L		100	80 - 120
Potassium	50.0	48.52		mg/L		97	80 - 120
Silicon	20.0	19.79		mg/L		99	80 - 120
Sodium	50.0	53.09		mg/L		106	80 - 120
Strontium	0.500	0.5141		mg/L		103	80 - 120

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 126018

Client Sample ID: HSM260TRAIL

Prep Type: Dissolved

Prep Batch: 126005

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Calcium	80.7		50.0	127.2		mg/L		93	80 - 120
Magnesium	15.0		50.0	66.25		mg/L		103	80 - 120
Sodium	10.4	B	50.0	63.88		mg/L		107	80 - 120
Strontium	0.489		0.500	1.009		mg/L		104	80 - 120

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 126061

Client Sample ID: HSM260TRAIL

Prep Type: Dissolved

Prep Batch: 126005

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Potassium	1.48		50.0	53.06		mg/L		103	80 - 120
Silicon	4.65		20.0	25.05		mg/L		102	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 126018

Client Sample ID: HSM260TRAIL

Prep Type: Dissolved

Prep Batch: 126005

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	80.7		50.0	126.9		mg/L		92	80 - 120	0	20
Magnesium	15.0		50.0	66.04		mg/L		102	80 - 120	0	20
Sodium	10.4	B	50.0	63.99		mg/L		107	80 - 120	0	20
Strontium	0.489		0.500	0.9979		mg/L		102	80 - 120	1	20

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 126061

Client Sample ID: HSM260TRAIL

Prep Type: Dissolved

Prep Batch: 126005

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	1.48		50.0	53.26		mg/L		104	80 - 120	0	20
Silicon	4.65		20.0	25.42		mg/L		104	80 - 120	1	20

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 126102

Client Sample ID: HSM 270 TRAIL

Prep Type: Dissolved

Prep Batch: 126006

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	76.9		50.0	125.0		mg/L		96	80 - 120		
Magnesium	14.0		50.0	65.03		mg/L		102	80 - 120		
Potassium	1.65		50.0	50.67		mg/L		98	80 - 120		
Silicon	4.45		20.0	24.67		mg/L		101	80 - 120		
Sodium	9.71		50.0	64.06		mg/L		109	80 - 120		
Strontium	0.443		0.500	0.9629		mg/L		104	80 - 120		

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 126102

Client Sample ID: HSM 270 TRAIL

Prep Type: Dissolved

Prep Batch: 126006

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	76.9		50.0	124.8		mg/L		96	80 - 120	0	20
Magnesium	14.0		50.0	65.52		mg/L		103	80 - 120	1	20
Potassium	1.65		50.0	51.47		mg/L		100	80 - 120	2	20
Silicon	4.45		20.0	24.76		mg/L		102	80 - 120	0	20
Sodium	9.71		50.0	64.87		mg/L		110	80 - 120	1	20
Strontium	0.443		0.500	0.9548		mg/L		102	80 - 120	1	20

## Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 560-125967/1-A

Matrix: Water

Analysis Batch: 125994

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125967

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/11/16 10:00	03/11/16 17:29	1
Antimony	1.61	U	5.00	1.61	ug/L		03/11/16 10:00	03/11/16 17:29	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/11/16 10:00	03/11/16 17:29	1
Barium	0.810	U	5.00	0.810	ug/L		03/11/16 10:00	03/11/16 17:29	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/11/16 10:00	03/11/16 17:29	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 560-125967/1-A

Matrix: Water

Analysis Batch: 125994

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 125967

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	0.854	U	2.00	0.854	ug/L		03/11/16 10:00	03/11/16 17:29	1
Chromium	1.40	U	5.00	1.40	ug/L		03/11/16 10:00	03/11/16 17:29	1
Copper	2.00	U	10.0	2.00	ug/L		03/11/16 10:00	03/11/16 17:29	1
Iron	101	U	250	101	ug/L		03/11/16 10:00	03/11/16 17:29	1
Lead	0.733	U	5.00	0.733	ug/L		03/11/16 10:00	03/11/16 17:29	1
Manganese	11.6	U	50.0	11.6	ug/L		03/11/16 10:00	03/11/16 17:29	1
Nickel	2.17	U	5.00	2.17	ug/L		03/11/16 10:00	03/11/16 17:29	1
Selenium	1.352	J	5.00	1.08	ug/L		03/11/16 10:00	03/11/16 17:29	1
Silver	0.941	U	5.00	0.941	ug/L		03/11/16 10:00	03/11/16 17:29	1
Thallium	0.693	U	2.00	0.693	ug/L		03/11/16 10:00	03/11/16 17:29	1
Zinc	3.55	U	25.0	3.55	ug/L		03/11/16 10:00	03/11/16 17:29	1

Lab Sample ID: LCS 560-125967/2-A

Matrix: Water

Analysis Batch: 125994

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 125967

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	50000	50240		ug/L		100	80 - 120
Antimony	500	490.4		ug/L		98	80 - 120
Arsenic	500	529.4		ug/L		106	80 - 120
Barium	500	490.3		ug/L		98	80 - 120
Beryllium	500	569.3	^	ug/L		114	80 - 120
Cadmium	500	485.5		ug/L		97	80 - 120
Chromium	500	493.8		ug/L		99	80 - 120
Copper	500	492.5		ug/L		99	80 - 120
Iron	50000	48000		ug/L		96	80 - 120
Lead	500	498.1		ug/L		100	80 - 120
Manganese	5000	5313		ug/L		106	80 - 120
Nickel	500	496.6		ug/L		99	80 - 120
Selenium	500	515.7		ug/L		103	80 - 120
Silver	500	469.9		ug/L		94	80 - 120
Thallium	200	198.0		ug/L		99	80 - 120
Zinc	500	500.2		ug/L		100	80 - 120

Lab Sample ID: 560-60182-A-1-B MS

Matrix: Water

Analysis Batch: 125994

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 125967

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2970		50000	52000		ug/L		98	80 - 120
Antimony	1.61	U	500	492.5		ug/L		99	80 - 120
Arsenic	4.15	J	500	530.2		ug/L		105	80 - 120
Barium	136		500	605.7		ug/L		94	80 - 120
Beryllium	1.24	U ^	500	568.5	^	ug/L		114	80 - 120
Cadmium	0.854	U	500	484.8		ug/L		97	80 - 120
Chromium	3.98	J	500	495.4		ug/L		98	80 - 120
Copper	31.4		500	512.3		ug/L		96	80 - 120
Iron	3600		50000	49370		ug/L		92	80 - 120
Lead	8.47		500	502.4		ug/L		99	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 560-60182-A-1-B MS

Matrix: Water

Analysis Batch: 125994

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 125967

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	270		5000	5506		ug/L		105	80 - 120
Nickel	7.78		500	493.9		ug/L		97	80 - 120
Selenium	1.08	U	500	507.6		ug/L		102	80 - 120
Silver	0.941	U	500	463.3		ug/L		93	80 - 120
Thallium	0.693	U	200	197.2		ug/L		99	80 - 120
Zinc	89.8		500	544.3		ug/L		91	80 - 120

Lab Sample ID: 560-60182-A-1-C MSD

Matrix: Water

Analysis Batch: 125994

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 125967

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	2970		50000	57770		ug/L		110	80 - 120	11	20
Antimony	1.61	U	500	489.1		ug/L		98	80 - 120	1	20
Arsenic	4.15	J	500	537.1		ug/L		107	80 - 120	1	20
Barium	136		500	645.3		ug/L		102	80 - 120	6	20
Beryllium	1.24	U ^	500	562.3	^	ug/L		112	80 - 120	1	20
Cadmium	0.854	U	500	479.3		ug/L		96	80 - 120	1	20
Chromium	3.98	J	500	493.3		ug/L		98	80 - 120	0	20
Copper	31.4		500	516.5		ug/L		97	80 - 120	1	20
Iron	3600		50000	52550		ug/L		98	80 - 120	6	20
Lead	8.47		500	507.3		ug/L		100	80 - 120	1	20
Manganese	270		5000	5529		ug/L		105	80 - 120	0	20
Nickel	7.78		500	494.8		ug/L		97	80 - 120	0	20
Selenium	1.08	U	500	515.8		ug/L		103	80 - 120	2	20
Silver	0.941	U	500	464.0		ug/L		93	80 - 120	0	20
Thallium	0.693	U	200	197.6		ug/L		99	80 - 120	0	20
Zinc	89.8		500	590.2		ug/L		100	80 - 120	8	20

Lab Sample ID: MB 560-126005/1-A

Matrix: Water

Analysis Batch: 126034

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126005

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.61	U	5.00	1.61	ug/L		03/14/16 11:00	03/14/16 16:35	1
Barium	0.810	U	5.00	0.810	ug/L		03/14/16 11:00	03/14/16 16:35	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/14/16 11:00	03/14/16 16:35	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/14/16 11:00	03/14/16 16:35	1
Chromium	1.40	U	5.00	1.40	ug/L		03/14/16 11:00	03/14/16 16:35	1
Copper	2.643	J	10.0	2.00	ug/L		03/14/16 11:00	03/14/16 16:35	1
Iron	101	U	250	101	ug/L		03/14/16 11:00	03/14/16 16:35	1
Lead	0.733	U	5.00	0.733	ug/L		03/14/16 11:00	03/14/16 16:35	1
Manganese	11.6	U	50.0	11.6	ug/L		03/14/16 11:00	03/14/16 16:35	1
Nickel	2.17	U	5.00	2.17	ug/L		03/14/16 11:00	03/14/16 16:35	1
Silver	0.941	U	5.00	0.941	ug/L		03/14/16 11:00	03/14/16 16:35	1
Thallium	0.693	U	2.00	0.693	ug/L		03/14/16 11:00	03/14/16 16:35	1
Zinc	3.55	U	25.0	3.55	ug/L		03/14/16 11:00	03/14/16 16:35	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 560-126005/1-A

Matrix: Water

Analysis Batch: 126076

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126005

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/14/16 11:00	03/15/16 13:54	1
Antimony	1.61	U	5.00	1.61	ug/L		03/14/16 11:00	03/15/16 13:54	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/14/16 11:00	03/15/16 13:54	1
Barium	0.810	U	5.00	0.810	ug/L		03/14/16 11:00	03/15/16 13:54	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/14/16 11:00	03/15/16 13:54	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/14/16 11:00	03/15/16 13:54	1
Chromium	1.40	U	5.00	1.40	ug/L		03/14/16 11:00	03/15/16 13:54	1
Copper	2.00	U	10.0	2.00	ug/L		03/14/16 11:00	03/15/16 13:54	1
Iron	101	U	250	101	ug/L		03/14/16 11:00	03/15/16 13:54	1
Lead	0.733	U	5.00	0.733	ug/L		03/14/16 11:00	03/15/16 13:54	1
Manganese	11.6	U	50.0	11.6	ug/L		03/14/16 11:00	03/15/16 13:54	1
Nickel	2.455	J	5.00	2.17	ug/L		03/14/16 11:00	03/15/16 13:54	1
Selenium	1.08	U	5.00	1.08	ug/L		03/14/16 11:00	03/15/16 13:54	1
Silver	0.941	U	5.00	0.941	ug/L		03/14/16 11:00	03/15/16 13:54	1
Thallium	0.693	U	2.00	0.693	ug/L		03/14/16 11:00	03/15/16 13:54	1
Zinc	3.55	U	25.0	3.55	ug/L		03/14/16 11:00	03/15/16 13:54	1

Lab Sample ID: LCS 560-126005/2-A

Matrix: Water

Analysis Batch: 126034

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126005

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	501.0		ug/L		100	80 - 120
Barium	500	508.5		ug/L		102	80 - 120
Cadmium	500	483.2		ug/L		97	80 - 120
Chromium	500	473.9		ug/L		95	80 - 120
Copper	500	477.0		ug/L		95	80 - 120
Iron	50000	46780		ug/L		94	80 - 120
Lead	500	495.4		ug/L		99	80 - 120
Manganese	5000	5214		ug/L		104	80 - 120
Nickel	500	476.0		ug/L		95	80 - 120
Silver	500	452.9		ug/L		91	80 - 120
Thallium	200	193.6		ug/L		97	80 - 120
Zinc	500	507.9		ug/L		102	80 - 120

Lab Sample ID: LCS 560-126005/2-A

Matrix: Water

Analysis Batch: 126076

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126005

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	50000	48610		ug/L		97	80 - 120
Antimony	500	489.2		ug/L		98	80 - 120
Arsenic	500	511.9		ug/L		102	80 - 120
Barium	500	488.0		ug/L		98	80 - 120
Beryllium	500	529.5	^	ug/L		106	80 - 120
Cadmium	500	481.5		ug/L		96	80 - 120
Chromium	500	470.2		ug/L		94	80 - 120
Copper	500	470.3		ug/L		94	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 560-126005/2-A  
Matrix: Water  
Analysis Batch: 126076

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 126005

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	50000	45690		ug/L		91	80 - 120
Lead	500	483.5		ug/L		97	80 - 120
Manganese	5000	5186		ug/L		104	80 - 120
Nickel	500	468.2		ug/L		94	80 - 120
Selenium	500	505.2		ug/L		101	80 - 120
Silver	500	454.8		ug/L		91	80 - 120
Thallium	200	191.5		ug/L		96	80 - 120
Zinc	500	486.2		ug/L		97	80 - 120

Lab Sample ID: MB 560-126006/1-A  
Matrix: Water  
Analysis Batch: 126076

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 126006

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50.0	U	100	50.0	ug/L		03/14/16 11:15	03/15/16 15:13	1
Antimony	1.61	U	5.00	1.61	ug/L		03/14/16 11:15	03/15/16 15:13	1
Arsenic	1.09	U	5.00	1.09	ug/L		03/14/16 11:15	03/15/16 15:13	1
Barium	0.810	U	5.00	0.810	ug/L		03/14/16 11:15	03/15/16 15:13	1
Beryllium	1.24	U ^	4.00	1.24	ug/L		03/14/16 11:15	03/15/16 15:13	1
Cadmium	0.854	U	2.00	0.854	ug/L		03/14/16 11:15	03/15/16 15:13	1
Chromium	1.40	U	5.00	1.40	ug/L		03/14/16 11:15	03/15/16 15:13	1
Copper	2.00	U	10.0	2.00	ug/L		03/14/16 11:15	03/15/16 15:13	1
Iron	101	U	250	101	ug/L		03/14/16 11:15	03/15/16 15:13	1
Lead	0.733	U	5.00	0.733	ug/L		03/14/16 11:15	03/15/16 15:13	1
Manganese	11.6	U	50.0	11.6	ug/L		03/14/16 11:15	03/15/16 15:13	1
Nickel	2.17	U	5.00	2.17	ug/L		03/14/16 11:15	03/15/16 15:13	1
Selenium	1.08	U	5.00	1.08	ug/L		03/14/16 11:15	03/15/16 15:13	1
Silver	0.941	U	5.00	0.941	ug/L		03/14/16 11:15	03/15/16 15:13	1
Thallium	0.693	U	2.00	0.693	ug/L		03/14/16 11:15	03/15/16 15:13	1
Zinc	3.55	U	25.0	3.55	ug/L		03/14/16 11:15	03/15/16 15:13	1

Lab Sample ID: LCS 560-126006/2-A  
Matrix: Water  
Analysis Batch: 126076

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 126006

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	50000	51300		ug/L		103	80 - 120
Antimony	500	500.8		ug/L		100	80 - 120
Arsenic	500	515.3		ug/L		103	80 - 120
Barium	500	501.6		ug/L		100	80 - 120
Beryllium	500	531.6 ^		ug/L		106	80 - 120
Cadmium	500	493.8		ug/L		99	80 - 120
Chromium	500	469.7		ug/L		94	80 - 120
Copper	500	462.9		ug/L		93	80 - 120
Iron	50000	45890		ug/L		92	80 - 120
Lead	500	481.9		ug/L		96	80 - 120
Manganese	5000	5183		ug/L		104	80 - 120
Nickel	500	464.3		ug/L		93	80 - 120
Selenium	500	522.7		ug/L		105	80 - 120

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 560-126006/2-A  
Matrix: Water  
Analysis Batch: 126076

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 126006

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	500	465.4		ug/L		93	80 - 120
Thallium	200	192.4		ug/L		96	80 - 120
Zinc	500	481.5		ug/L		96	80 - 120

Lab Sample ID: 560-60183-24 MS  
Matrix: Water  
Analysis Batch: 126034

Client Sample ID: HSM260TRAIL  
Prep Type: Dissolved  
Prep Batch: 126005

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	1.61	U	500	501.8		ug/L		100	80 - 120
Barium	33.1		500	542.7		ug/L		102	80 - 120
Cadmium	0.854	U	500	477.5		ug/L		96	80 - 120
Chromium	1.40	U	500	482.4		ug/L		96	80 - 120
Copper	2.00	U	500	485.8		ug/L		97	80 - 120
Iron	101	U	50000	47780		ug/L		96	80 - 120
Lead	0.733	U	500	497.7		ug/L		100	80 - 120
Manganese	11.6	U	5000	5354		ug/L		107	80 - 120
Nickel	2.17	U	500	487.6		ug/L		98	80 - 120
Silver	0.941	U	500	444.1		ug/L		89	80 - 120
Thallium	0.693	U	200	196.8		ug/L		98	80 - 120
Zinc	6.69	J	500	529.2		ug/L		105	80 - 120

Lab Sample ID: 560-60183-24 MS  
Matrix: Water  
Analysis Batch: 126076

Client Sample ID: HSM260TRAIL  
Prep Type: Dissolved  
Prep Batch: 126005

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	50.0	U	50000	49830		ug/L		100	80 - 120
Arsenic	1.09	U	500	527.9		ug/L		106	80 - 120
Beryllium	1.24	U ^	500	530.9	^	ug/L		106	80 - 120
Selenium	1.08	U	500	521.9		ug/L		104	80 - 120

Lab Sample ID: 560-60183-24 MSD  
Matrix: Water  
Analysis Batch: 126034

Client Sample ID: HSM260TRAIL  
Prep Type: Dissolved  
Prep Batch: 126005

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Antimony	1.61	U	500	506.8		ug/L		101	80 - 120	1	20
Barium	33.1		500	548.4		ug/L		103	80 - 120	1	20
Cadmium	0.854	U	500	479.7		ug/L		96	80 - 120	0	20
Chromium	1.40	U	500	486.6		ug/L		97	80 - 120	1	20
Copper	2.00	U	500	491.4		ug/L		98	80 - 120	1	20
Iron	101	U	50000	48240		ug/L		96	80 - 120	1	20
Lead	0.733	U	500	505.0		ug/L		101	80 - 120	1	20
Manganese	11.6	U	5000	5340		ug/L		107	80 - 120	0	20
Nickel	2.17	U	500	491.4		ug/L		98	80 - 120	1	20
Silver	0.941	U	500	446.5		ug/L		89	80 - 120	1	20
Thallium	0.693	U	200	199.8		ug/L		100	80 - 120	2	20
Zinc	6.69	J	500	531.4		ug/L		105	80 - 120	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 126076

Client Sample ID: HSM260TRAIL

Prep Type: Dissolved

Prep Batch: 126005

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	50.0	U	50000	50750		ug/L		102	80 - 120	2	20
Arsenic	1.09	U	500	524.9		ug/L		105	80 - 120	1	20
Beryllium	1.24	U ^	500	536.1	^	ug/L		107	80 - 120	1	20
Selenium	1.08	U	500	532.0		ug/L		106	80 - 120	2	20

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 126076

Client Sample ID: HSM 270 TRAIL

Prep Type: Dissolved

Prep Batch: 126006

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	50.0	U	50000	51540		ug/L		103	80 - 120		
Antimony	1.61	U	500	515.9		ug/L		103	80 - 120		
Arsenic	1.09	U	500	518.5		ug/L		104	80 - 120		
Barium	32.7		500	547.8		ug/L		103	80 - 120		
Beryllium	1.24	U ^	500	542.4	^	ug/L		108	80 - 120		
Cadmium	0.854	U	500	506.8		ug/L		101	80 - 120		
Chromium	1.40	U	500	467.9		ug/L		94	80 - 120		
Copper	2.00	U	500	462.4		ug/L		92	80 - 120		
Iron	101	U	50000	45700		ug/L		91	80 - 120		
Lead	0.733	U	500	482.5		ug/L		97	80 - 120		
Manganese	11.6	U	5000	5232		ug/L		105	80 - 120		
Nickel	2.17	U	500	462.9		ug/L		93	80 - 120		
Selenium	1.08	U	500	513.3		ug/L		103	80 - 120		
Silver	0.941	U	500	474.9		ug/L		95	80 - 120		
Thallium	0.693	U	200	190.7		ug/L		95	80 - 120		
Zinc	3.55	U	500	482.6		ug/L		97	80 - 120		

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 126076

Client Sample ID: HSM 270 TRAIL

Prep Type: Dissolved

Prep Batch: 126006

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	50.0	U	50000	50960		ug/L		102	80 - 120	1	20
Antimony	1.61	U	500	500.1		ug/L		100	80 - 120	3	20
Arsenic	1.09	U	500	522.1		ug/L		104	80 - 120	1	20
Barium	32.7		500	523.5		ug/L		98	80 - 120	5	20
Beryllium	1.24	U ^	500	533.8	^	ug/L		107	80 - 120	2	20
Cadmium	0.854	U	500	492.3		ug/L		98	80 - 120	3	20
Chromium	1.40	U	500	468.6		ug/L		94	80 - 120	0	20
Copper	2.00	U	500	469.2		ug/L		94	80 - 120	1	20
Iron	101	U	50000	45900		ug/L		92	80 - 120	0	20
Lead	0.733	U	500	474.8		ug/L		95	80 - 120	2	20
Manganese	11.6	U	5000	5182		ug/L		104	80 - 120	1	20
Nickel	2.17	U	500	463.2		ug/L		93	80 - 120	0	20
Selenium	1.08	U	500	522.6		ug/L		105	80 - 120	2	20
Silver	0.941	U	500	460.1		ug/L		92	80 - 120	3	20
Thallium	0.693	U	200	190.0		ug/L		95	80 - 120	0	20
Zinc	3.55	U	500	481.1		ug/L		96	80 - 120	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 560-126016/4-A

Matrix: Water

Analysis Batch: 126019

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126016

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/14/16 10:00	03/14/16 16:26	1

Lab Sample ID: LCS 560-126016/5-A

Matrix: Water

Analysis Batch: 126019

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126016

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.005060		mg/L	-	101	80 - 120

Lab Sample ID: 560-60182-A-1-E MS

Matrix: Water

Analysis Batch: 126019

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 126016

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U	0.00500	0.005040		mg/L	-	101	80 - 120

Lab Sample ID: 560-60182-A-1-F MSD

Matrix: Water

Analysis Batch: 126019

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 126016

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000130	U	0.00500	0.005040		mg/L	-	101	80 - 120	0	20

Lab Sample ID: MB 560-126104/28-A

Matrix: Water

Analysis Batch: 126107

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126104

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/16/16 10:00	03/16/16 16:05	1

Lab Sample ID: MB 560-126104/4-A

Matrix: Water

Analysis Batch: 126107

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 126104

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L	-	03/16/16 10:00	03/16/16 15:11	1

Lab Sample ID: LCS 560-126104/29-A

Matrix: Water

Analysis Batch: 126107

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126104

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.004800		mg/L	-	96	80 - 120

Lab Sample ID: LCS 560-126104/5-A

Matrix: Water

Analysis Batch: 126107

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 126104

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.004990		mg/L	-	100	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

Lab Sample ID: 560-60183-24 MS  
Matrix: Water  
Analysis Batch: 126107

Client Sample ID: HSM260TRAIL  
Prep Type: Dissolved  
Prep Batch: 126104

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U F1	0.00500	0.003970	F1	mg/L		79	80 - 120

Lab Sample ID: 560-60183-24 MSD  
Matrix: Water  
Analysis Batch: 126107

Client Sample ID: HSM260TRAIL  
Prep Type: Dissolved  
Prep Batch: 126104

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	0.000130	U F1	0.00500	0.003900	F1	mg/L		78	80 - 120	2	20

Lab Sample ID: 560-60183-25 MS  
Matrix: Water  
Analysis Batch: 126107

Client Sample ID: HSM 270 TRAIL  
Prep Type: Dissolved  
Prep Batch: 126104

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U	0.00500	0.004070		mg/L		81	80 - 120

Lab Sample ID: 560-60183-25 MSD  
Matrix: Water  
Analysis Batch: 126107

Client Sample ID: HSM 270 TRAIL  
Prep Type: Dissolved  
Prep Batch: 126104

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	0.000130	U	0.00500	0.004080		mg/L		82	80 - 120	0	20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 560-125971/3  
Matrix: Water  
Analysis Batch: 125971

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L			03/10/16 12:00	1
Chloride	0.192	U	1.00	0.192	mg/L			03/10/16 12:00	1
Nitrate as N	0.103	U	0.500	0.103	mg/L			03/10/16 12:00	1
Sulfate	0.377	U	1.00	0.377	mg/L			03/10/16 12:00	1

Lab Sample ID: MB 560-125971/32  
Matrix: Water  
Analysis Batch: 125971

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L			03/11/16 03:25	1
Chloride	0.3090	J	1.00	0.192	mg/L			03/11/16 03:25	1
Nitrate as N	0.103	U	0.500	0.103	mg/L			03/11/16 03:25	1
Sulfate	0.377	U	1.00	0.377	mg/L			03/11/16 03:25	1

Lab Sample ID: LCS 560-125971/33  
Matrix: Water  
Analysis Batch: 125971

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.809		mg/L		96	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 560-125971/33

Matrix: Water

Analysis Batch: 125971

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	9.888		mg/L		99	90 - 110
Nitrate as N	5.00	5.052		mg/L		101	90 - 110
Sulfate	20.0	19.29		mg/L		96	90 - 110

Lab Sample ID: LCS 560-125971/4

Matrix: Water

Analysis Batch: 125971

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.854		mg/L		97	90 - 110
Chloride	10.0	9.971		mg/L		100	90 - 110
Nitrate as N	5.00	5.094		mg/L		102	90 - 110
Sulfate	20.0	19.99		mg/L		100	90 - 110

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 125971

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.540	J	5.00	4.626		mg/L		82	80 - 120
Chloride	16.3		10.0	24.34		mg/L		80	80 - 120
Nitrate as N	1.15		5.00	5.753		mg/L		92	80 - 120
Sulfate	22.4		20.0	40.03		mg/L		88	80 - 120

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 125971

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Bromide	0.540	J	5.00	4.535		mg/L		80	80 - 120	2	20
Chloride	16.3		10.0	24.10	F1	mg/L		78	80 - 120	1	20
Nitrate as N	1.15		5.00	5.632		mg/L		90	80 - 120	2	20
Sulfate	22.4		20.0	37.45	F1	mg/L		75	80 - 120	7	20

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 125971

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.533	J	5.00	4.428	F1	mg/L		78	80 - 120
Chloride	14.9		10.0	22.90		mg/L		80	80 - 120
Nitrate as N	1.06		5.00	5.261		mg/L		84	80 - 120
Sulfate	21.0		20.0	38.15		mg/L		86	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 125971

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.533	J	5.00	4.206	F1	mg/L		73	80 - 120	5	20
Chloride	14.9		10.0	22.57	F1	mg/L		77	80 - 120	1	20
Nitrate as N	1.06		5.00	5.001	F1	mg/L		79	80 - 120	5	20
Sulfate	21.0		20.0	37.70		mg/L		84	80 - 120	1	20

## Method: 340.2 - Fluoride

Lab Sample ID: MB 560-126162/3

Matrix: Water

Analysis Batch: 126162

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			03/18/16 12:00	1

Lab Sample ID: MB 560-126162/31

Matrix: Water

Analysis Batch: 126162

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			03/18/16 12:00	1

Lab Sample ID: LCS 560-126162/32

Matrix: Water

Analysis Batch: 126162

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.7970		mg/L		100	85 - 115

Lab Sample ID: LCS 560-126162/4

Matrix: Water

Analysis Batch: 126162

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.8010		mg/L		100	85 - 115

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 126162

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.172		0.500	0.6660		mg/L		99	75 - 125

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 126162

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.172		0.500	0.6660		mg/L		99	75 - 125	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 340.2 - Fluoride (Continued)

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 126162

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.164		0.500	0.6600		mg/L		99	75 - 125

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 126162

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.164		0.500	0.6650		mg/L		100	75 - 125	1	20

## Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 600-184408/10

Matrix: Water

Analysis Batch: 184408

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/16/16 11:54	1

Lab Sample ID: LCS 600-184408/11

Matrix: Water

Analysis Batch: 184408

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	9.759		mg/L		98	90 - 110

Lab Sample ID: 560-60183-1 MS

Matrix: Water

Analysis Batch: 184408

Client Sample ID: HSM210 LEAD

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	9.031		mg/L		90	90 - 110

Lab Sample ID: 560-60183-1 MSD

Matrix: Water

Analysis Batch: 184408

Client Sample ID: HSM210 LEAD

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U	10.0	9.202		mg/L		92	90 - 110	2	20

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 184408

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U F2 F1	10.0	9.621		mg/L		96	90 - 110

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 184408

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U F2 F1	10.0	8.814	F1	mg/L		88	90 - 110	9	20

Lab Sample ID: MB 600-184530/10

Matrix: Water

Analysis Batch: 184530

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/17/16 11:54	1

Lab Sample ID: LCS 600-184530/11

Matrix: Water

Analysis Batch: 184530

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	10.10		mg/L		101	90 - 110

Lab Sample ID: 560-60183-3 MS

Matrix: Water

Analysis Batch: 184530

Client Sample ID: HSM231 LEAD

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U F1	10.0	12.49	F1	mg/L		125	90 - 110

Lab Sample ID: 560-60183-3 MSD

Matrix: Water

Analysis Batch: 184530

Client Sample ID: HSM231 LEAD

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U F1	10.0	12.90	F1	mg/L		129	90 - 110	3	20

Lab Sample ID: MB 600-184734/10

Matrix: Water

Analysis Batch: 184734

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			03/21/16 11:31	1

Lab Sample ID: LCS 600-184734/11

Matrix: Water

Analysis Batch: 184734

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	9.847		mg/L		98	90 - 110

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 184734

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	10.62		mg/L		106	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 184734

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U	10.0	10.40		mg/L		104	90 - 110	2	20

## Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 680-425910/1-A

Matrix: Water

Analysis Batch: 426120

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 425910

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/21/16 10:03	03/22/16 11:00	1

Lab Sample ID: LCS 680-425910/2-A

Matrix: Water

Analysis Batch: 426120

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 425910

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	2.130		mg/L		107	60 - 140

Lab Sample ID: 680-122792-D-1-B MS

Matrix: Water

Analysis Batch: 426120

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 425910

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	0.144		2.00	2.400		mg/L		113	60 - 140

Lab Sample ID: 680-122792-D-1-C MSD

Matrix: Water

Analysis Batch: 426120

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 425910

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phosphorus	0.144		2.00	2.320		mg/L		109	60 - 140	3	40

Lab Sample ID: 680-122792-E-3-B DU

Matrix: Water

Analysis Batch: 426120

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 425910

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Phosphorus	0.0410	U	0.0410	U	mg/L		NC	40

Lab Sample ID: MB 680-426080/1-A

Matrix: Water

Analysis Batch: 426295

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 426080

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/22/16 09:35	03/23/16 11:49	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 365.4 - Phosphorus, Total (Continued)

Lab Sample ID: LCS 680-426080/2-A

Matrix: Water

Analysis Batch: 426295

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 426080

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	2.130		mg/L		107	60 - 140

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 426295

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 426080

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	0.0423	J	2.00	2.270		mg/L		111	60 - 140

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 426295

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Prep Batch: 426080

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Phosphorus	0.0423	J	2.00	2.230		mg/L		109	60 - 140	2	40

Lab Sample ID: MB 680-426081/1-A

Matrix: Water

Analysis Batch: 426295

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 426081

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		03/22/16 09:37	03/23/16 12:29	1

Lab Sample ID: LCS 680-426081/2-A

Matrix: Water

Analysis Batch: 426295

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 426081

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	2.130		mg/L		107	60 - 140

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 426295

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 426081

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	0.0410	U	2.00	2.130		mg/L		107	60 - 140

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 426295

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Prep Batch: 426081

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Phosphorus	0.0410	U	2.00	2.000		mg/L		100	60 - 140	6	40

Lab Sample ID: 680-122929-D-2-B DU

Matrix: Water

Analysis Batch: 426295

Client Sample ID: Duplicate

Prep Type: Total/NA

Prep Batch: 426081

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Phosphorus	0.321		0.3530		mg/L		9	40

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 9040C - pH

Lab Sample ID: LCS 560-125941/2

Matrix: Water

Analysis Batch: 125941

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	5.00	4.960		SU		99	98 - 102

Lab Sample ID: 560-60183-7 DU

Matrix: Water

Analysis Batch: 125941

Client Sample ID: HSM270 LEAD

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.41	HF	7.400		SU		0.1	20

Lab Sample ID: 560-60183-25 DU

Matrix: Water

Analysis Batch: 125941

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.38	HF	7.400		SU		0.3	20

## Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 560-126120/33

Matrix: Water

Analysis Batch: 126120

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			03/16/16 13:44	1

Lab Sample ID: MB 560-126120/4

Matrix: Water

Analysis Batch: 126120

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			03/16/16 13:44	1

Lab Sample ID: LCS 560-126120/34

Matrix: Water

Analysis Batch: 126120

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	23.68		mg/L		95	80 - 120

Lab Sample ID: LCS 560-126120/5

Matrix: Water

Analysis Batch: 126120

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	23.81		mg/L		95	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 9060 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 126120

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	0.675	J	10.0	9.994		mg/L		93	75 - 125

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 126120

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	0.675	J	10.0	10.08		mg/L		94	75 - 125	1	20

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 126120

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.24		10.0	11.00		mg/L		98	75 - 125

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 126120

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.24		10.0	10.70		mg/L		95	75 - 125	3	20

## Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 560-126213/1-A

Matrix: Water

Analysis Batch: 126214

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			03/21/16 12:00	1

Lab Sample ID: LCS 560-126213/2-A

Matrix: Water

Analysis Batch: 126214

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	25.71		mg/L		103	80 - 120

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 126214

Client Sample ID: HSM260TRAIL

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	0.800	J	10.0	10.34		mg/L		95	75 - 125

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: 9060 - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 126214

Client Sample ID: HSM260TRAIL

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	0.800	J	10.0	10.56		mg/L		98	75 - 125	2	20

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 126214

Client Sample ID: HSM 270 TRAIL

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.01		10.0	10.75		mg/L		97	75 - 125		

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 126214

Client Sample ID: HSM 270 TRAIL

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.01		10.0	10.57		mg/L		96	75 - 125	2	20

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 560-126202/1

Matrix: Water

Analysis Batch: 126202

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/21/16 16:00	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/21/16 16:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/21/16 16:00	1

Lab Sample ID: LCS 560-126202/2

Matrix: Water

Analysis Batch: 126202

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	100	90.70		mg/L		91	85 - 115		

Lab Sample ID: 560-60165-I-1 MS

Matrix: Water

Analysis Batch: 126202

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	247		100	333.5		mg/L		86	75 - 125		

Lab Sample ID: 560-60165-I-1 MSD

Matrix: Water

Analysis Batch: 126202

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	247		100	334.5		mg/L		87	75 - 125	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 560-126256/1

Matrix: Water

Analysis Batch: 126256

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			03/22/16 14:05	1

Lab Sample ID: LCS 560-126256/2

Matrix: Water

Analysis Batch: 126256

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	97.57		mg/L		98	85 - 115

Lab Sample ID: 560-60183-2 MS

Matrix: Water

Analysis Batch: 126256

Client Sample ID: HSM230 LEAD  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	113		100	201.0		mg/L		88	75 - 125

Lab Sample ID: 560-60183-2 MSD

Matrix: Water

Analysis Batch: 126256

Client Sample ID: HSM230 LEAD  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	113		100	202.0		mg/L		89	75 - 125	1	20

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 126256

Client Sample ID: HSM260TRAIL  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	217		100	307.0		mg/L		90	75 - 125

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 126256

Client Sample ID: HSM260TRAIL  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	217		100	308.3		mg/L		92	75 - 125	0	20

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 126256

Client Sample ID: HSM 270 TRAIL  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	202		100	293.7		mg/L		92	75 - 125

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 126256

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	202		100	294.3		mg/L		93	75 - 125	0	20

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 560-125964/1

Matrix: Water

Analysis Batch: 125964

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			03/11/16 09:50	1

Lab Sample ID: LCS 560-125964/2

Matrix: Water

Analysis Batch: 125964

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	2250	2076		mg/L		92	90 - 110

Lab Sample ID: 560-60183-24 MS

Matrix: Water

Analysis Batch: 125964

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	321		2250	2348		mg/L		90	75 - 125

Lab Sample ID: 560-60183-24 MSD

Matrix: Water

Analysis Batch: 125964

Client Sample ID: HSM260TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	321		2250	2366		mg/L		91	75 - 125	1	20

Lab Sample ID: MB 560-126038/1

Matrix: Water

Analysis Batch: 126038

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			03/15/16 10:15	1

Lab Sample ID: LCS 560-126038/2

Matrix: Water

Analysis Batch: 126038

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	2250	2040		mg/L		91	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 560-60183-25 MS

Matrix: Water

Analysis Batch: 126038

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	293		2250	2344		mg/L		91	75 - 125

Lab Sample ID: 560-60183-25 MSD

Matrix: Water

Analysis Batch: 126038

Client Sample ID: HSM 270 TRAIL

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	293		2250	2318		mg/L		90	75 - 125	1	20

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 560-126024/1

Matrix: Water

Analysis Batch: 126024

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/14/16 16:45	1

Lab Sample ID: MB 560-126024/25

Matrix: Water

Analysis Batch: 126024

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/14/16 16:45	1

Lab Sample ID: MB 560-126024/50

Matrix: Water

Analysis Batch: 126024

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	3.00	U	3.00	3.00	mg/L			03/14/16 16:45	1

Lab Sample ID: LCS 560-126024/2

Matrix: Water

Analysis Batch: 126024

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	198.5		mg/L		99	90 - 110

Lab Sample ID: LCS 560-126024/26

Matrix: Water

Analysis Batch: 126024

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	203.0		mg/L		102	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 560-126024/51

Matrix: Water

Analysis Batch: 126024

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	204.0		mg/L		102	90 - 110

Lab Sample ID: 560-60183-7 DU

Matrix: Water

Analysis Batch: 126024

Client Sample ID: HSM270 LEAD

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	114		114.4		mg/L		0.7	20

# Certification Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-16
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Laboratory: TestAmerica Denver

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-16
Arizona	State Program	9	AZ0713	12-19-16
Arkansas DEQ	State Program	6	88-0687	06-01-16
California	State Program	9	2513	08-31-16
Connecticut	State Program	1	PH-0686	09-30-16
Florida	NELAP	4	E87667	06-30-16
Georgia	State Program	4	N/A	01-09-17
Illinois	NELAP	5	200017	04-30-16
Iowa	State Program	7	370	11-30-16
Kansas	NELAP	7	E-10166	04-30-16
Louisiana	NELAP	6	02096	06-30-16
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-16
Nevada	State Program	9	CO0026	07-31-16
New Hampshire	NELAP	1	205310	04-28-16
New Jersey	NELAP	2	CO004	06-30-16
New York	NELAP	2	11964	04-01-16
North Carolina (WW/SW)	State Program	4	358	12-31-16
North Dakota	State Program	8	R-034	01-09-16 *
Oklahoma	State Program	6	8614	08-31-16
Oregon	NELAP	10	4025	01-09-17
Pennsylvania	NELAP	3	68-00664	07-31-16
South Carolina	State Program	4	72002001	01-09-16 *
Texas	NELAP	6	T104704183-15-11	09-30-16
USDA	Federal		P330-13-00202	07-02-16
Utah	NELAP	8	CO00026	07-31-16
Virginia	NELAP	3	460232	06-14-16
Washington	State Program	10	C583	08-03-16
West Virginia DEP	State Program	3	354	11-30-16
Wisconsin	State Program	5	999615430	08-31-16
Wyoming (UST)	A2LA	8	2907.01	10-31-17

## Laboratory: TestAmerica Houston

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	15-045-0	08-04-16
Louisiana	NELAP	6	01967	06-30-16
Oklahoma	State Program	6	2015-050	08-31-16
Texas	NELAP	6	T104704223-15-18	10-31-16

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Laboratory: TestAmerica Houston (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
USDA	Federal		P330-14-00192	06-06-17

## Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-17
A2LA	ISO/IEC 17025		399.01	02-28-17
Alabama	State Program	4	41450	06-30-16
Alaska (UST)	State Program	10	UST-104	11-05-16
Arkansas DEQ	State Program	6	88-0692	01-31-17
California	State Program	9	2939	07-31-16
Colorado	State Program	8	N/A	12-31-16
Connecticut	State Program	1	PH-0161	03-31-17
Florida	NELAP	4	E87052	06-30-16
GA Dept. of Agriculture	State Program	4	N/A	06-12-17
Georgia	State Program	4	803	06-30-16
Guam	State Program	9	15-005r	04-16-16 *
Hawaii	State Program	9	N/A	06-30-16
Illinois	NELAP	5	200022	11-30-16
Indiana	State Program	5	N/A	06-30-16
Iowa	State Program	7	353	06-30-17
Kentucky (DW)	State Program	4	90084	12-31-16
Kentucky (UST)	State Program	4	18	06-30-16
Kentucky (WW)	State Program	4	90084	12-31-16
Louisiana	NELAP	6	30690	06-30-16
Louisiana (DW)	NELAP	6	LA160019	12-31-16
Maine	State Program	1	GA00006	09-24-16
Maryland	State Program	3	250	12-31-16
Massachusetts	State Program	1	M-GA006	06-30-16
Michigan	State Program	5	9925	06-30-16
Mississippi	State Program	4	N/A	06-30-16
Nebraska	State Program	7	TestAmerica-Savannah	06-30-16
New Jersey	NELAP	2	GA769	06-30-16
New Mexico	State Program	6	N/A	06-30-16
New York	NELAP	2	10842	03-31-17
North Carolina (DW)	State Program	4	13701	07-31-16
North Carolina (WW/SW)	State Program	4	269	12-31-16
Oklahoma	State Program	6	9984	08-31-16
Pennsylvania	NELAP	3	68-00474	06-30-16
Puerto Rico	State Program	2	GA00006	12-31-16
South Carolina	State Program	4	98001	06-30-16
Tennessee	State Program	4	TN02961	06-30-16
Texas	NELAP	6	T104704185-14-7	11-30-16
USDA	Federal		SAV 3-04	06-11-17
Virginia	NELAP	3	460161	06-14-16
Washington	State Program	10	C805	06-10-16
West Virginia (DW)	State Program	3	9950C	12-31-16
West Virginia DEP	State Program	3	094	06-30-16

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

## Laboratory: TestAmerica Savannah (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Wisconsin	State Program	5	999819810	08-31-16
Wyoming	State Program	8	8TMS-L	06-30-16

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# Method Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CC
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CC
8081B	Organochlorine Pesticides (GC)	SW846	TAL CC
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CC
8141A	Organophosphorous Pesticides (GC)	SW846	TAL DEN
8151A	Herbicides (GC)	SW846	TAL SAV
6010B	Metals (ICP)	SW846	TAL CC
6020	Metals (ICP/MS)	SW846	TAL CC
7470A	Mercury (CVAA)	SW846	TAL CC
300.0	Anions, Ion Chromatography	MCAWW	TAL CC
340.2	Fluoride	MCAWW	TAL CC
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL HOU
365.4	Phosphorus, Total	EPA	TAL SAV
9040C	pH	SW846	TAL CC
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL CC
9060	Organic Carbon, Total (TOC)	SW846	TAL CC
SM 2320B	Alkalinity	SM	TAL CC
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CC
Local Method	General Sub Contract Method	NONE	Weck Lab

## Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

NONE = NONE

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Weck Lab = Weck Laboratories, Inc., 14859 East Clark Avenue, City of Industry, CA 917451396



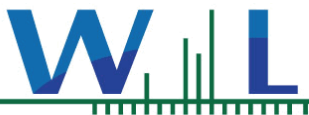
# Sample Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Stormwater Sampling

TestAmerica Job ID: 560-60183-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-60183-1	HSM210 LEAD	Water	03/09/16 13:36	03/09/16 17:30
560-60183-2	HSM230 LEAD	Water	03/09/16 13:52	03/09/16 17:30
560-60183-3	HSM231 LEAD	Water	03/09/16 14:10	03/09/16 17:30
560-60183-4	HSM240 LEAD	Water	03/09/16 13:50	03/09/16 17:30
560-60183-5	HSM250 LEAD	Water	03/09/16 13:37	03/09/16 17:30
560-60183-6	HSM260 LEAD	Water	03/09/16 13:55	03/09/16 17:30
560-60183-7	HSM270 LEAD	Water	03/09/16 14:11	03/09/16 17:30
560-60183-8	TB04	Water	03/09/16 00:00	03/09/16 17:30
560-60183-9	HSM210 PEAK	Water	03/09/16 16:10	03/09/16 17:30
560-60183-10	HSM230 PEAK	Water	03/09/16 16:25	03/09/16 17:30
560-60183-11	HSM231 PEAK	Water	03/09/16 16:11	03/09/16 17:30
560-60183-12	HSM240 PEAK	Water	03/09/16 16:25	03/09/16 17:30
560-60183-13	HSM250 PEAK	Water	03/09/16 16:04	03/09/16 17:30
560-60183-14	HSM260 PEAK	Water	03/09/16 16:22	03/09/16 17:30
560-60183-15	HSM270 PEAK	Water	03/09/16 16:35	03/09/16 17:30
560-60183-16	HSM210 TRAIL	Water	03/09/16 17:51	03/09/16 17:30
560-60183-17	FDHSM210 TRAIL	Water	03/09/16 17:51	03/09/16 17:30
560-60183-18	HSM230 TRAIL	Water	03/09/16 18:14	03/09/16 17:30
560-60183-19	FDHSM230 TRAIL	Water	03/09/16 18:14	03/09/16 17:30
560-60183-20	HSM231 TRAIL	Water	03/09/16 18:45	03/09/16 17:30
560-60183-21	FDHSM231 TRAIL	Water	03/09/16 18:45	03/09/16 17:30
560-60183-22	HSM240 TRAIL	Water	03/09/16 17:51	03/09/16 17:30
560-60183-23	HSM250 TRAIL	Water	03/09/16 18:16	03/09/16 17:30
560-60183-24	HSM260TRAIL	Water	03/09/16 18:40	03/09/16 17:30
560-60183-25	HSM 270 TRAIL	Water	03/09/16 19:18	03/09/16 17:30

TestAmerica Corpus Christi



## CERTIFICATE OF ANALYSIS

**Client:** TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Report Date:** 03/31/16 10:36

**Received Date:** 03/11/16 14:10

**Turn Around:** 7 workdays

**Attention:** Lindy Maingot

**Client Project:** 560-60183-1

**Phone:** (210) 344-9751

**Fax:** -

**Work Order(s):** 6C11056

**NELAC #4047-002 ORELAP ELAP#1132 NEVADA #CA211 HAWAII LACSD #10143**

*The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. Weck Laboratories, Inc. certifies that the test results meet all NELAC requirements unless noted in the case narrative. This analytical report is confidential and is only intended for the use of Weck Laboratories, Inc. and its client. This report contains the Chain of Custody document, which is an integral part of it, and can only be reproduced in full with the authorization of Weck Laboratories, Inc.*

Dear Lindy Maingot :

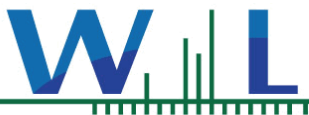
Enclosed are the results of analyses for samples received 03/11/16 14:10 with the Chain of Custody document. The samples were received in good condition, at 1.8 °C and on ice. All analysis met the method criteria except as noted below or in the report with data qualifiers.

**Case Narrative:**

**Reviewed by:**

Chris Samatmanakit  
Project Manager





TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Sampled by:	Lab ID	Matrix	Date Sampled
HSM210 LEAD (560-60183-1)	Client	6C11056-01	Water	03/09/16 13:36
HSM230 LEAD (560-60183-2)	Client	6C11056-02	Water	03/09/16 13:52
HSM231 LEAD (560-60183-3)	Client	6C11056-03	Water	03/09/16 14:10
HSM240 LEAD (560-60183-4)	Client	6C11056-04	Water	03/09/16 13:50
HSM250 LEAD (560-60183-5)	Client	6C11056-05	Water	03/09/16 13:37
HSM260 LEAD (560-60183-6)	Client	6C11056-06	Water	03/09/16 13:55
HSM270 LEAD (560-60183-7)	Client	6C11056-07	Water	03/09/16 14:11
HSM210 PEAK (560-60183-9)	Client	6C11056-08	Water	03/09/16 16:10
HSM231 PEAK (560-60183-11)	Client	6C11056-09	Water	03/09/16 16:11
HSM240 PEAK (560-60183-12)	Client	6C11056-10	Water	03/09/16 16:25
HSM250 PEAK (560-60183-13)	Client	6C11056-11	Water	03/09/16 16:04
HSM260 PEAK (560-60183-14)	Client	6C11056-12	Water	03/09/16 16:22
HSM270 PEAK (560-60183-15)	Client	6C11056-13	Water	03/09/16 16:35
HSM210 TRAIL (560-60183-16)	Client	6C11056-14	Water	03/09/16 17:51
FDHSM210 TRAIL (560-60183-17)	Client	6C11056-15	Water	03/09/16 17:51
HSM230 TRAIL (560-60183-18)	Client	6C11056-16	Water	03/09/16 18:14
FDHSM230 TRAIL (560-60183-19)	Client	6C11056-17	Water	03/09/16 18:14
HSM231 TRAIL (560-60183-20)	Client	6C11056-18	Water	03/09/16 18:45
FDHSM231 TRAIL (560-60183-21)	Client	6C11056-19	Water	03/09/16 18:45
HSM240 TRAIL (560-60183-22)	Client	6C11056-20	Water	03/09/16 17:51
HSM250 TRAIL (560-60183-23)	Client	6C11056-21	Water	03/09/16 18:16
HSM260 TRAIL (560-60183-24)	Client	6C11056-22	Water	03/09/16 18:40
HSM270 TRAIL (560-60183-25)	Client	6C11056-23	Water	03/09/16 19:18

**ANALYSES**

PPCPs - Pharmaceuticals by LC/MSMS-ESI+



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-01 HSM210 LEAD (560-60183-1)****Sampled:** 03/09/16 13:36**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	ND	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
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Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-02 HSM230 LEAD (560-60183-2)****Sampled:** 03/09/16 13:52**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	5100	1.0	ng/l	1	03/29/16 16:42	E-01



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-03 HSM231 LEAD (560-60183-3)****Sampled:** 03/09/16 14:10**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	220	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
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Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-04 HSM240 LEAD (560-60183-4)****Sampled:** 03/09/16 13:50**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	470	1.0	ng/l	1	03/29/16 16:42	





TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-05 HSM250 LEAD (560-60183-5)****Sampled:** 03/09/16 13:37**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	920	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
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Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-06 HSM260 LEAD (560-60183-6)****Sampled:** 03/09/16 13:55**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	140	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-07 HSM270 LEAD (560-60183-7)****Sampled:** 03/09/16 14:11**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	550	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-08 HSM210 PEAK (560-60183-9)****Sampled:** 03/09/16 16:10**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	7.7	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-09 HSM231 PEAK (560-60183-11)****Sampled:** 03/09/16 16:11**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	150	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-10 HSM240 PEAK (560-60183-12)****Sampled:** 03/09/16 16:25**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	130	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-11 HSM250 PEAK (560-60183-13)****Sampled:** 03/09/16 16:04**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	540	1.0	ng/l	1	03/29/16 16:13	





TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-12 HSM260 PEAK (560-60183-14)****Sampled:** 03/09/16 16:22**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	830	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-13 HSM270 PEAK (560-60183-15)****Sampled:** 03/09/16 16:35**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	740	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-14 HSM210 TRAIL (560-60183-16)****Sampled:** 03/09/16 17:51**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	53	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-15 FDHSM210 TRAIL (560-60183-17)****Sampled:** 03/09/16 17:51**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	69	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-16 HSM230 TRAIL (560-60183-18)****Sampled:** 03/09/16 18:14**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	2300	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-17 FDHSM230 TRAIL (560-60183-19)****Sampled:** 03/09/16 18:14**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	2400	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-18 HSM231 TRAIL (560-60183-20)****Sampled:** 03/09/16 18:45**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	30	1.0	ng/l	1	03/29/16 16:13	





TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-19 FDHSM231 TRAIL (560-60183-21)****Sampled:** 03/09/16 18:45**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	36	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-20 HSM240 TRAIL (560-60183-22)****Sampled:** 03/09/16 17:51**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	52	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-21 HSM250 TRAIL (560-60183-23)****Sampled:** 03/09/16 18:16**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	78	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-22 HSM260 TRAIL (560-60183-24)****Sampled:** 03/09/16 18:40**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

Method: EPA 1694M-ESI+

Batch: W6C1342

Prepared: 03/22/16 11:02

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	170	1.0	ng/l	1	03/29/16 16:42	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

**6C11056-23 HSM270 TRAIL (560-60183-25)****Sampled:** 03/09/16 19:18**Sampled By:** Client**Matrix:** Water**PPCPs - Pharmaceuticals by LC/MSMS-ESI+**

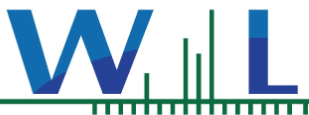
Method: EPA 1694M-ESI+

Batch: W6C1343

Prepared: 03/22/16 11:04

Analyst: agu

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Caffeine	250	1.0	ng/l	1	03/29/16 16:13	



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

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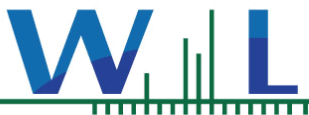
9

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11

12

## QUALITY CONTROL SECTION



TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

Date Received: 03/11/16 14:10  
Date Reported: 03/31/16 10:36

## PPCPs - Pharmaceuticals by LC/MSMS-ESI+ - Quality Control

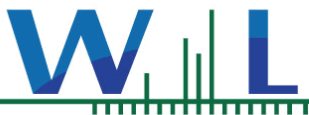
## Batch W6C1342 - EPA 1694M-ESI+

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W6C1342-BLK1)				Analyzed: 03/29/16 16:42						
Caffeine	ND	1.0	ng/l							
LCS (W6C1342-BS1)				Analyzed: 03/29/16 16:42						
Caffeine	9.03	1.0	ng/l	10.0		90	55-152			
LCS Dup (W6C1342-BSD1)				Analyzed: 03/29/16 16:42						
Caffeine	9.47	1.0	ng/l	10.0		95	55-152	5	30	
Matrix Spike (W6C1342-MS1)				Source: 6C11056-22 Analyzed: 03/29/16 16:42						
Caffeine	189	1.0	ng/l	10.0	169	195	58-146			MS-02
Matrix Spike Dup (W6C1342-MSD1)				Source: 6C11056-22 Analyzed: 03/29/16 16:42						
Caffeine	172	1.0	ng/l	10.0	169	28	58-146	9	30	MS-02

## Batch W6C1343 - EPA 1694M-ESI+

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	% REC Limits	RPD	RPD Limit	Data Qualifiers
Blank (W6C1343-BLK1)				Analyzed: 03/29/16 16:13						
Caffeine	ND	1.0	ng/l							
LCS (W6C1343-BS1)				Analyzed: 03/29/16 16:13						
Caffeine	12.2	1.0	ng/l	10.0		122	55-152			
LCS Dup (W6C1343-BSD1)				Analyzed: 03/29/16 16:13						
Caffeine	9.50	1.0	ng/l	10.0		95	55-152	25	30	
Matrix Spike (W6C1343-MS1)				Source: 6C11056-23 Analyzed: 03/29/16 16:13						
Caffeine	252	1.0	ng/l	10.0	247	44	58-146			MS-02
Matrix Spike Dup (W6C1343-MSD1)				Source: 6C11056-23 Analyzed: 03/29/16 16:13						
Caffeine	274	1.0	ng/l	10.0	247	267	58-146	8	30	MS-02





TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi TX, 78408

**Date Received:** 03/11/16 14:10  
**Date Reported:** 03/31/16 10:36

### Notes and Definitions

<b>MS-02</b>	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
<b>E-01</b>	The concentration indicated for this analyte is an estimated value above the calibration range.
<b>ND</b>	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then not detected at or above the MDL.
<b>NR</b>	Not Reportable
<b>Dil</b>	Dilution
<b>dry</b>	Sample results reported on a dry weight basis
<b>RPD</b>	Relative Percent Difference
<b>% Rec</b>	Percent Recovery
<b>Sub</b>	Subcontracted analysis, original report available upon request
<b>MDL</b>	Method Detection Limit
<b>MDA</b>	Minimum Detectable Activity
<b>MRL</b>	Method Reporting Limit

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California Department of Health Services.

The Reporting Limit (RL) is referenced as the Laboratory's Practical Quantitation Limit (PQL) or the Detection Limit for Reporting Purposes (DLR).

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.



## Chain of Custody Record

<b>Client Information</b>		Sampler: Jennifer Moreland		Lab PM: Maingot, Lindy		Carrier Tracking No(s):		COC No: 600-43444-13486.1	
Client Contact: Jennifer Moreland		Phone: 210-877-2847		E-Mail: lindy.maingot@testamericainc.com				Page: 4 of 4	
Company: SWCA, Inc.								Job #: 60183	
Address: 6200 UTSA Boulevard Suite 102									
City: San Antonio									
State, Zip: TX, 78249									
Phone: 210-877-2847 (Tel)									
Email: JMoreland@swca.com									
Project Name: 2016 - Stormwater Sampling									
Site: San Marcos Springs									
<b>Sample Identification</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type</b> (C=Comp, G=grab)		<b>Matrix</b> (W=water, S=solid, O=wastewater, BT=tissue, A=air)	
HSM210 PEAK		3/9/16		410		G		Water	
HSM230 PEAK				425		G		Water	
HSM231 PEAK				411		G		Water	
HSM240 PEAK				425		G		Water	
HSM250 PEAK				404		G		Water	
HSM260 PEAK				422		G		Water	
HSM270 PEAK				435		G		Water	
TB						G		Water	
<b>Possible Hazard Identification</b>		<input type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Poison B	
Deliverable Requested: I, II, III, IV, Other (specify)									
<b>Empty Kit Relinquished by:</b>		Date:		Time:					
Relinquished by: [Signature]		3/9/16		1000		Company		Received by: [Signature]	
Relinquished by: [Signature]		3-9-16		11:00		Company		Received by: [Signature]	
Relinquished by: [Signature]						Company		Received by: [Signature]	
Custody Seal Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Custody Seal No.:		*VOID: 17001525 310110 @ 8:00*					
Cooler Temperature(s) °C and Other Remarks:									
0.6°C/0.9°C, 2.9°C/3.2°C, 1.5°C/1.8°C, 0.6°C/0.9°C, 3.7°C/3.9°C, 0.9°C/1.2°C, 5.3°C/5.6°C, 0.5°C/0.8°C, 1.1°C/1.4°C, 2.2°C/2.5°C									
3/9/16									

<b>Analysis Requested</b>		<b>Analysis Requested</b>		<b>Analysis Requested</b>		<b>Analysis Requested</b>		<b>Analysis Requested</b>	
6020 - Metals Diss - (Custom List 16 - CORPUS) Dissol		870C - SVOCs (Target Compound List)		8081B - Organochlorine Pesticides (GC)		8082A - PCBs		6010B, 7470A - Metals Dissolved	
9060 DOC, D - Dissolved Organic Carbon (FILTERED)		9060B - VOCs (Target Compound List)		9060A - Total Organic Carbon		8151A - Herbicides		3320B, 2540C, Catcd, 2540D, 300 ORGFM, 9040C, 340.2 FI	
SUBTRACT - Caffeine - (WECK)		Total Number of containers							
Preservation Codes:		A - HCL		M - Hexane		N - None			
		B - NaOH		N - None					
		C - Zn Acetate		O - AsNaO2					
		D - Nitric Acid		P - Na2O4S					
		E - NaHSO4		Q - Na2SO3					
		F - MeOH		R - Na2S2O3					
		G - Amchlor		S - H2SO4					
		H - Ascorbic Acid		T - TSP Dodecahydrate					
		I - Ice		U - Acetone					
		J - DI Water		V - MCAA					
		K - EDTA		W - ph 4-5					
		L - EDA		Z - other (specify)					
Other: NaNO3									

<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>		<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>		<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>		<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>		<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>	
<input type="checkbox"/> Return To Client		<input type="checkbox"/> Disposal By Lab		<input type="checkbox"/> Archive For		<input type="checkbox"/> Months			
<b>Special Instructions/QC Requirements:</b>									
Methyld of Shipment:									
Received by: [Signature]		3-9-16		11:00		Company		Received by: [Signature]	
Received by: [Signature]		3-9-16		17:30		Company		Received by: [Signature]	
Received by: [Signature]						Company		Received by: [Signature]	

Phone (713) 690-4444 Fax (713) 690-5646

## Chain of Custody Record



## THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b>		Sampler: Jennifer Moreland		Lab PM: Maingot, Lindy		Carrier Tracking No(s):		COC No: 600-43444-13486.1	
Client Contact: Jennifer Moreland		Phone: 210-877-2847		E-Mail: lindy.maingot@testamericainc.com				Page: 3 of 4	
Company: SWCA, Inc.		Address: 6200 UTSA Boulevard Suite 102		City: San Antonio		State, Zip: TX, 78249		Job #: 60183	
Phone: 210-877-2847(Tel)		PO #: Purchase Order Requested		TAT Requested (days): Standard		Due Date Requested:		Preservation Codes:	
Email: JMoreland@swca.com		WO #:						A - HCL M - Hexane B - NaOH N - None O - AsNaO2 C - Zn Acetate D - Nitric Acid P - Na2O4S E - NaHSO4 F - MeOH R - Na2S2SO3 S - H2SO4 G - Amchlor H - Ascorbic Acid I - Ice U - Acetone J - DI Water K - EDTA W - ph 4-5 L - EDA Z - other (specify)	
Project Name: 2016 - Stormwater Sampling		Project #: 60006903		SSOW#:				Other: NaN3	
Site: San Marcos Springs									
<b>Sample Identification</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (G=Comp, G=grab)</b>		<b>Matrix (W=water, S=solid, O=waste/soil, BT=Tissue, A=air)</b>	
HSM210 TRAIL		3/9/16		551		G		Water	
FDHSM210 TRAIL				551		G		Water	
HSM230 TRAIL				614		G		Water	
FDHSM230 TRAIL				614		G		Water	
HSM231 TRAIL				645		G		Water	
FDHSM231 TRAIL				645		G		Water	
HSM240 TRAIL				551		G		Water	
HSM250 TRAIL				616		G		Water	
HSM260 TRAIL				640		G		Water	
IMS/MSDHS260 TRAIL				640		G		Water	
HSM270 TRAIL				718		G		Water	
<b>Possible Hazard Identification</b>		<input type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Poison B	
Deliverable Requested: I, II, III, IV, Other (specify)		<input type="checkbox"/> Unknown		<input type="checkbox"/> Radiological		<input type="checkbox"/> Empty Kit Relinquished by:		<input type="checkbox"/> Return To Client	
Empty Kit Relinquished by:		Date:		Time:		Special Instructions/QC Requirements:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Relinquished by:		Date/Time:		Company:		Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:		Company:		Relinquished by:		Date/Time:	
Custody Seals Intact: Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		Cooler Temperature(s) °C and Other Remarks:		Cooler Temperature(s) °C and Other Remarks:	

**Biology**

[illegible]

[illegible]

3/10/2016

60183

2.8°C / 3.1°C

3.3°C / 3.6°C

2.5°C / 2.8°C

1.9°C / 2.2°C

2.3°C / 2.6°C

3.1°C / 3.4°C

2.3°C / 2.6°C

3.0°C / 3.3°C

0.4°C / 0.7°C

3.5°C / 3.8°C

2.6°C / 2.9°C

3.1°C / 3.4°C

0.4°C / 0.7°C

4.3°C / 4.6°C

2.3°C / 2.6°C

4.1°C / 4.4°C

3.6°C / 3.9°C



**TestAmerica Corpus Christi**  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record



**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information (Sub Contract Lab)</b> Client Contact: <u>Shipping/Receiving</u> Company: <u>TestAmerica Laboratories, Inc.</u>		Lab PM: <u>Maingot, Lindy</u> E-Mail: <u>lindy.maingot@testamericainc.com</u>		Carrier Tracking No(s): <u>560-13286.1</u>		COC No: <u>560-13286.1</u> Page: <u>Page 1 of 3</u>	
Address: <u>4955 Yarrow Street,</u> City: <u>Anvada</u> State, Zip: <u>CO, 80002</u> Phone: <u>303-736-0100(Tel) 303-431-7171(Fax)</u> Email: <u></u>				Job #: <u>560-60183-1</u>			
Project Name: <u>2016 - Stormwater Sampling</u> Site: <u></u>				Analysis Requested			
Due Date Requested: <u>3/22/2016</u> TAT Requested (days): <u></u>				Preservation Codes: A - HCl B - NaOH C - Nitric Acid D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - Ascorbic Acid P - NaOH Q - NaOH R - NaOH S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MeOH W - pH 4.5 Z - other (specify) Other: <u></u>			
Sample Identification - Client ID (Lab ID)				Special Instructions/Note:			
Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=onwater, A=air)	Field Filtered Sample (Yes or No)	814/1A/3610C (MOD) Standard 8141 list	Total Number of Containers	
3/9/16	13:36	Central	Water		X	2	
3/9/16	13:52	Central	Water		X	2	
3/9/16	14:10	Central	Water		X	2	
3/9/16	13:50	Central	Water		X	2	
3/9/16	13:37	Central	Water		X	2	
3/9/16	13:55	Central	Water		X	2	
3/9/16	14:11	Central	Water		X	2	
3/9/16	16:10	Central	Water		X	2	
3/9/16	16:25	Central	Water		X	2	
3/9/16	16:11	Central	Water		X	2	
3/9/16	16:25	Central	Water		X	2	
Possible Hazard Identification Unconfirmed				Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <u>Months</u>			
Deliverable Requested: I, II, III, IV, Other (specify)				Special Instructions/QC Requirements:			
Date: <u>3/10/16</u>		Time: <u>10:00</u>		Date of Shipment: <u>3/11/16</u>		Company: <u>Maingot, Lindy</u>	
Date/Time: <u>3/10/16</u>		Date/Time: <u>10:00</u>		Date/Time: <u>3/11/16</u>		Company: <u>Maingot, Lindy</u>	
Date/Time: <u>3/10/16</u>		Date/Time: <u>10:00</u>		Date/Time: <u>3/11/16</u>		Company: <u>Maingot, Lindy</u>	
Date/Time: <u>3/10/16</u>		Date/Time: <u>10:00</u>		Date/Time: <u>3/11/16</u>		Company: <u>Maingot, Lindy</u>	



**TestAmerica Corpus Christi**  
 1733 N. Padre Island Drive  
 Corpus Christi, TX 78408  
 Phone (361) 289-2673 Fax (361) 288-2471

## Chain of Custody Record

**TestAmerica**  
 1733 N. Padre Island Drive  
 Corpus Christi, TX 78408  
 Phone (361) 289-2673 Fax (361) 288-2471

<b>Client Information (Sub Contract Lab)</b>		Sampler: <u>                    </u>		Lab P/N: <u>                    </u>		Carrier Tracking No(s): <u>                    </u>		COC No: <u>560-13286.2</u>	
Client Contact: <u>                    </u>		Phone: <u>                    </u>		E-Mail: <u>                    </u>		Analysis Requested: <u>                    </u>		Page: <u>Page 2 of 3</u>	
Shipping/Receiving		Company: <u>                    </u>		Lindy.malingot@testamericainc.com		Job #:		560-60183-1	
Address: <u>                    </u>		Due Date Requested: <u>3/22/2016</u>		Field Filtered Sample (Yes or No) <u>                    </u>		8141A/3610C (MOD) Standard 8141 list <u>                    </u>		Preservation Codes:	
City: <u>                    </u>		TAT Requested (days): <u>                    </u>		Matrix (W=water, S=solid, O=soil, A=air)		Sample Type (C=comp, G=grab)		Sample Time	
State, Zip: <u>                    </u>		PO #:		Sample Date		Sample Time		Sample Date	
Phone: <u>                    </u>		WO #:		Project #:		SSOW#:		Special Instructions/Note:	
Email: <u>                    </u>		Project Name: <u>                    </u>		Site: <u>                    </u>		Total Number of Containers		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4.5 X - EDTA Y - EDA Z - other (specify)	
Other: <u>                    </u>		Project #:		SSOW#:		Total Number of Containers		Special Instructions/Note:	
Site: <u>                    </u>		Project Name: <u>                    </u>		Site: <u>                    </u>		Total Number of Containers		Special Instructions/Note:	
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=soil, A=air)	
HSM250 PEAK (560-60183-13)	3/9/16	16:04	Central	Water	X				
HSM260 PEAK (560-60183-14)	3/9/16	16:22	Central	Water	X				
HSM270 PEAK (560-60183-15)	3/9/16	16:35	Central	Water	X				
HSM210 TRAIL (560-60183-16)	3/9/16	17:51	Central	Water	X				
FDHSM210 TRAIL (560-60183-17)	3/9/16	17:51	Central	Water	X				
HSM230 TRAIL (560-60183-18)	3/9/16	18:14	Central	Water	X				
FDHSM230 TRAIL (560-60183-19)	3/9/16	18:14	Central	Water	X				
HSM231 TRAIL (560-60183-20)	3/9/16	18:45	Central	Water	X				
FDHSM231 TRAIL (560-60183-21)	3/9/16	18:45	Central	Water	X				
HSM240 TRAIL (560-60183-22)	3/9/16	17:51	Central	Water	X				
HSM250 TRAIL (560-60183-23)	3/9/16	18:16	Central	Water	X				
<b>Possible Hazard Identification</b>									
Unconfirmed									
Deliverable Requested: I, II, III, IV, Other (specify)									
Empty Kit Relinquished by: <u>                    </u> Date: <u>                    </u> Time: <u>                    </u> Method of Shipment: <u>                    </u>									
Relinquished by: <u>                    </u> Date/Time: <u>                    </u> Company: <u>                    </u>									
Relinquished by: <u>                    </u> Date/Time: <u>                    </u> Company: <u>                    </u>									
Relinquished by: <u>                    </u> Date/Time: <u>                    </u> Company: <u>                    </u>									
Custody Seals Intact: <u>                    </u> Custody Seal No: <u>                    </u>									
Cooler Temperature(s): <u>                    </u> Cand Other Remarks: <u>                    </u>									

**TestAmerica Corpus Christi**  
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 Corpus Christi, TX 78408  
 Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

**TestAmerica**  
 THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information (Sub Contract Lab)</b>		Sampler: <b>Maingot, Lindy</b>		Lab Pmt: <b>Lindy Maingot@testamericainc.com</b>		Carrier Tracking No(s):		COC No: <b>560-13266.3</b>																																																																							
Client Contact: <b>Shipping/Receiving</b>		Phone:		E-Mail:		Page: <b>Page 3 of 3</b>																																																																									
Company: <b>TestAmerica Laboratories, Inc.</b>		Due Date Requested: <b>3/22/2016</b>		Analysis Requested		Job #: <b>560-60183-1</b>		Preservation Codes: M - Hexane A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anchor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Z - other (specify) Other:																																																																							
Address: <b>4955 Yarrow Street,</b>		TAT Requested (days):		Field Filtered Sample (Yes or No)		8141A/3510C (MOD) Standard 8141 list		Total Number of Containers																																																																							
City: <b>Arvada</b>				Sample Type (C=Comp, G=grab)		Preservation Code		Matrix (V=water, S=solid, O=water, B=Test, A=Air)																																																																							
State, Zip: <b>CO, 80002</b>				Sample Date		Sample Time																																																																									
Phone: <b>303-736-0100(Tel) 303-431-7171(Fax)</b>		PO #:		WO #:		Project #:		SSOW#:																																																																							
Email:																																																																															
Project Name: <b>2016 - Stormwater Sampling</b>																																																																															
Site:																																																																															
<table border="1"> <thead> <tr> <th>Sample Identification - Client ID (Lab ID)</th> <th>Sample Date</th> <th>Sample Time</th> <th>Sample Type (C=Comp, G=grab)</th> <th>Preservation Code</th> <th>Matrix (V=water, S=solid, O=water, B=Test, A=Air)</th> <th>Field Filtered Sample (Yes or No)</th> <th>8141A/3510C (MOD) Standard 8141 list</th> <th>Total Number of Containers</th> <th>Special Instructions/Note:</th> </tr> </thead> <tbody> <tr> <td>HSM2601TRAIL (560-60183-24)</td> <td>3/9/16</td> <td>18:40 Central</td> <td>Water</td> <td></td> <td></td> <td></td> <td>X</td> <td>2</td> <td></td> </tr> <tr> <td>HSM2601TRAIL (560-60183-24MS)</td> <td>3/9/16</td> <td>18:40 Central</td> <td>MS</td> <td></td> <td></td> <td></td> <td>X</td> <td>2</td> <td></td> </tr> <tr> <td>HSM2601TRAIL (560-60183-24MSD)</td> <td>3/9/16</td> <td>18:40 Central</td> <td>MSD</td> <td></td> <td></td> <td></td> <td>X</td> <td>2</td> <td></td> </tr> <tr> <td>HSM 270 TRAIL (560-60183-25)</td> <td>3/9/16</td> <td>19:18 Central</td> <td>Water</td> <td></td> <td></td> <td></td> <td>X</td> <td>2</td> <td></td> </tr> <tr> <td>HSM 270 TRAIL (560-60183-25MS)</td> <td>3/9/16</td> <td>18:18 Central</td> <td>MS</td> <td></td> <td></td> <td></td> <td>X</td> <td>2</td> <td></td> </tr> <tr> <td>HSM 270 TRAIL (560-60183-25MSD)</td> <td>3/9/16</td> <td>18:18 Central</td> <td>MSD</td> <td></td> <td></td> <td></td> <td>X</td> <td>2</td> <td></td> </tr> </tbody> </table>										Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code	Matrix (V=water, S=solid, O=water, B=Test, A=Air)	Field Filtered Sample (Yes or No)	8141A/3510C (MOD) Standard 8141 list	Total Number of Containers	Special Instructions/Note:	HSM2601TRAIL (560-60183-24)	3/9/16	18:40 Central	Water				X	2		HSM2601TRAIL (560-60183-24MS)	3/9/16	18:40 Central	MS				X	2		HSM2601TRAIL (560-60183-24MSD)	3/9/16	18:40 Central	MSD				X	2		HSM 270 TRAIL (560-60183-25)	3/9/16	19:18 Central	Water				X	2		HSM 270 TRAIL (560-60183-25MS)	3/9/16	18:18 Central	MS				X	2		HSM 270 TRAIL (560-60183-25MSD)	3/9/16	18:18 Central	MSD				X	2	
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Preservation Code	Matrix (V=water, S=solid, O=water, B=Test, A=Air)	Field Filtered Sample (Yes or No)	8141A/3510C (MOD) Standard 8141 list	Total Number of Containers	Special Instructions/Note:																																																																						
HSM2601TRAIL (560-60183-24)	3/9/16	18:40 Central	Water				X	2																																																																							
HSM2601TRAIL (560-60183-24MS)	3/9/16	18:40 Central	MS				X	2																																																																							
HSM2601TRAIL (560-60183-24MSD)	3/9/16	18:40 Central	MSD				X	2																																																																							
HSM 270 TRAIL (560-60183-25)	3/9/16	19:18 Central	Water				X	2																																																																							
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<b>Possible Hazard Identification</b> Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)																																																																															
Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____																																																																															
Relinquished by: <b>CLATAMS</b> Date: <b>3/10/16</b> Time: <b>10:00</b> Company: <b>TACC</b> Received by: <b>Wanya Goto</b> Date/Time: <b>3/11/16</b> 1030 Company:																																																																															
Relinquished by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____																																																																															
Relinquished by: _____ Date/Time: _____ Company: _____ Received by: _____ Date/Time: _____ Company: _____																																																																															
Custody Seals Intact: <b>Yes</b> Custody Seal No: _____ Cooler Temperature(s) °C and Other Remarks: _____																																																																															

## Chain of Custody Record



# TestAmerica

[illegible]

Client Information (Sub Contract Lab)					
Company		Lab PM		Carrier Tracking No(s)	
TestAmerica Laboratories, Inc.		Maingot, Lindy			
Address 6310 Rothway Street, Houston TX, 77040		E-Mail lindy.maingot@testamericainc.com		Page Page 1 of 3	
Phone 713-690-4444(Tel) 713-690-5646(Fax)				COC No. 560-13287-1	
Email				Job # 560-60183-1	
Project Name 2016 - Stormwater Sampling				Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Site				Total Number of Containers	
Sample Identification - Client ID (Lab ID)		Analysis Requested		Special Instructions/Note:	
HSM210 LEAD (560-60183-1)	Sample Date 3/9/16	Sample Time 13:36 Central	Sample Type (C=Comp, G=grab) Central	Matrix (W=Water, S=solid, O=ores/slag, BT=Tissue, A=Air)	X
HSM230 LEAD (560-60183-2)	3/9/16	13:52 Central	Water	X	1
HSM231 LEAD (560-60183-3)	3/9/16	14:10 Central	Water	X	1
HSM240 LEAD (560-60183-4)	3/9/16	13:50 Central	Water	X	1
HSM250 LEAD (560-60183-5)	3/9/16	13:37 Central	Water	X	1
HSM260 LEAD (560-60183-6)	3/9/16	13:55 Central	Water	X	1
HSM270 LEAD (560-60183-7)	3/9/16	14:11 Central	Water	X	1
HSM210 PEAK (560-60183-9)	3/9/16	16:10 Central	Water	X	1
HSM230 PEAK (560-60183-10)	3/9/16	16:25 Central	Water	X	1
HSM231 PEAK (560-60183-11)	3/9/16	16:11 Central	Water	X	1
HSM240 PEAK (560-60183-12)	3/9/16	16:25 Central	Water	X	1
Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)					
Empty Kit Relinquished by:					
Relinquished by CLADAMS		Date/Time 3/10/16 16:00	Company TACC	Received by <i>[Signature]</i>	Date/Time 3/10/16 16:27
Relinquished by		Date/Time	Company	Received by	Date/Time
Relinquished by		Date/Time	Company	Received by	Date/Time
Custody Seals Intact A Yes A No		Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:		



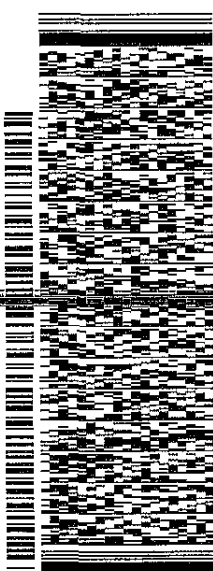
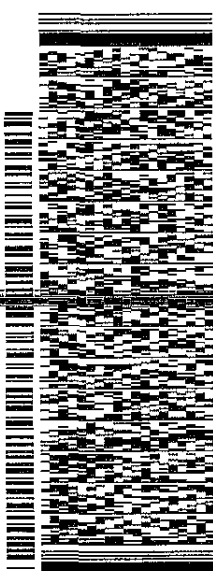
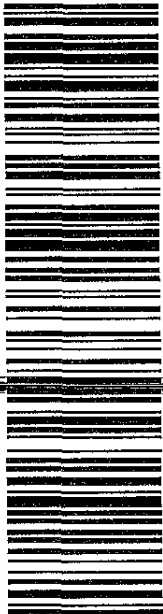
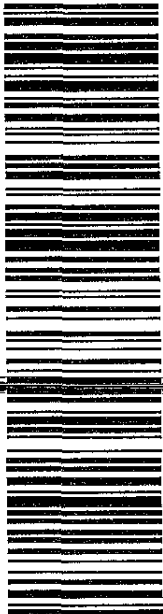


TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2873 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica  
THE TEST OF THE ENVIRONMENTAL TESTERS

Client Information (Sub Contract Lab)		Sampler		Lab Pili		Carrier Tracking No(s):		COC No.	
Client Contact: Shipping/Receiving		Phone		Maingot, Lindy				560-13287.3	
Company:		Email		Lindy, maingot@testamericainc.com		Page 3 of 3		Job #	
TestAmerica Laboratories, Inc.								560-60183-1	
Address:		Due Date Requested:		Analysis Requested		Preservation Codes:		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 - S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 X - EDTA Y - EDA Z - other (specify)	
City:		TAT Requested (days):							
Houston									
State, Zip:		PO #:							
TX, 77040									
Phone:		WO #:							
713-690-4444(Tel) 713-690-5646(Fax)									
Email:		Project #:							
		56005790							
Site		SSOW#:							
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=sediment, O=soil, etc.)	Field Filtered Sample (Yes or No)	361.2 NP	Total Number of containers	Special Instructions/Note:
HSM260TRAIL (560-60183-24)	3/9/16	18:40 Central	Water						
HSM260TRAIL (560-60183-24MS)	3/9/16	18:40 Central	MS						
HSM260TRAIL (560-60183-24MSD)	3/9/16	18:40 Central	MSD						
HSM 270 TRAIL (560-60183-25)	3/9/16	19:18 Central	Water						
HSM 270 TRAIL (560-60183-25MS)	3/9/16	18:18 Central	MS						
HSM 270 TRAIL (560-60183-25MSD)	3/9/16	19:18 Central	MSD						
Possible Hazard Identification		Date:		Time:		Method of Shipment		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Unconfirmed								<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)								Special Instructions/QC Requirements	
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Relinquished by:		3/10/16		16:00		TACC		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Relinquished by:		Date/Time:		Date/Time:		Date/Time:		Company	
Relinquished by:		Date/Time:		Date/Time:		Date/Time:		Company	
Custody Seal No.:		Custody Seal No.:		Custody Seal No.:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	
Δ Yes Δ No		Δ Yes Δ No		Δ Yes Δ No		Δ Yes Δ No			

ORIGIN ID: CRDA (361) 289-2693 RECEIVING DEPARTMENT TESTAMERICA LABORATORIES, INC. 1733 NORTH PADRE ISLAND DRIVE CORPUS CHRISTI, TX 78408 UNITED STATES US		SHIP DATE: 10MAR16 ACTWTG: 35.00 LB CAD: 256489@NET3730	
TO RECEIVING DEPARTMENT TESTAMERICA HOUSTON 6310 ROTHWAY STREET HOUSTON TX 77040 (713) 690-4444 INVT PO		BILL RECIPIENT	
DEPT		REF	
			
FedEx Express		FedEx Express	
1 of 2		FRI - 11 MAR 10:30A	
TRK# 7758 4775 1784		PRIORITY OVERNIGHT	
## MASTER ##		77040	
43 LKSA		TX-US	
			

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ORIGIN ID: CRPA (361) 289-2673  
 RECEIVING DEPARTMENT  
 153 AMERICA LABORATORIES, INC.  
 1733 NORTH PADRE ISLAND DRIVE  
 CORPUS CHRISTI, TX 78408  
 UNITED STATES US

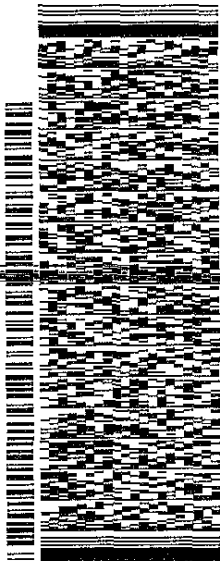
SHIP DATE: 10MAR16  
 ACTWGT: 35.00 LB  
 CAD: 2564696NET3730

BILL RECIPIENT

TO RECEIVING DEPARTMENT  
 TESTAMERICA HOUSTON  
 6310 ROTHWAY STREET

HOUSTON TX 77040  
 (713) 890-4444  
 INV PO

DEPT



640210CF34727F

2 of 2

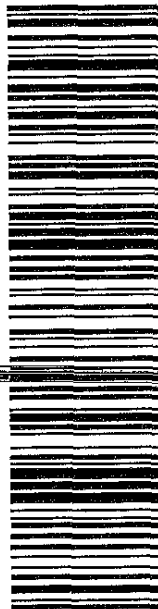
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 0263  
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43 LKSA

FRI - 11 MAR 10:30A  
 PRIORITY OVERNIGHT

0201

77040  
 IAH  
 TX-US



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 Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



COMMENTS:

		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?
--	--	---

YES ☒ NO ☐

VOA headspace acceptable (5-6mm): ☒ YES ☐ NO ☐ NA

PH paper Lot #

Base samples are > pH 12: ☐ YES ☐ NO  
Acid preserved are < pH 2: ☐ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED:

YES ☐

Samples received on ice? ☒ YES ☐ NO

CF = correction factor

[illegible]

Custody Seal Present: ☐ YES ☒ NO

Number of Coolers Received:

UNPACKED BY:

CARRIER/DRIVER:

JOB NUMBER:

CLIENT:

Date/Time Received:

## Sample Receipt Checklist

TestAmerica Houston

## THE LEADER IN ENVIRONMENTAL TESTING

# TestAmerica

## Chain of Custody Record



# Stamps

THE UNIVERSITY OF CHICAGO

Client Information (Sub Contract Lab)			Lab PML		Carrier Tracking No(s)		COC No											
Client Contact			Mangot, Lindy				560-13286.1											
Shipping/Receiving			E-Mail:		Page		Page 1 of 3											
Company			lindy.mangot@testamericainc.com		Job #		560-60183-1											
TestAmerica Laboratories, Inc			Due Date Requested:		Analysis Requested		Preservation Codes:											
Address:			3/22/2016				A - HCL											
City			TAT Requested (days):				B - NaOH											
Arvada							C - Zn Acetate											
State Zip:							D - Nitric Acid											
CO 80002							E - NaHSO4											
Phone:			PO #				F - MeOH											
303-736-0100(Tel) 303-431-7171(Fax)							G - Amchlor											
Email			WO #				H - Ascorbic Acid											
							I - Ice											
Project Name			Project #				J - DI Water											
2016 - Stormwater Sampling			56005790				K - EDTA											
Site			SSOW#:				L - EDA											
							Other:											
Sample Identification - Client ID (Lab ID)			Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waterfill, B=BT-Tissue, A=Air)		Field Filtered Sample (Yes or No)		8141A/3510C (MOD) Standard 8141 list		Total Number of Containers		Special Instructions/Note:	
HSM210 LEAD (560-60183-1)			3/9/16		13:36		Central		Water		X		X		2			
HSM230 LEAD (560-60183-2)			3/9/16		13:52		Central		Water		X		X		2			
HSM231 LEAD (560-60183-3)			3/9/16		14:10		Central		Water		X		X		2			
HSM240 LEAD (560-60183-4)			3/9/16		13:50		Central		Water		X		X		2			
HSM250 LEAD (560-60183-5)			3/9/16		13:37		Central		Water		X		X		2			
HSM260 LEAD (560-60183-6)			3/9/16		13:55		Central		Water		X		X		2			
HSM270 LEAD (560-60183-7)			3/9/16		14:11		Central		Water		X		X		2			
HSM210 PEAK (560-60183-9)			3/9/16		16:10		Central		Water		X		X		2			
HSM230 PEAK (560-60183-10)			3/9/16		16:25		Central		Water		X		X		2			
HSM231 PEAK (560-60183-11)			3/9/16		16:11		Central		Water		X		X		2			
HSM240 PEAK (560-60183-12)			3/9/16		16:25		Central		Water		X		X		2			
Possible Hazard Identification																		
Unconfirmed																		
Deliverable Requested: I, II, III, IV, Other (specify)																		
Empty Kit Relinquished by:			Date:		Time		Method of Shipment:											
Relinquished by: CLADAMS			Date/Time: 3/10/16		10:00		Company: TACC											
Relinquished by:			Date/Time:				Company:											
Relinquished by:			Date/Time:				Company:											
Custody Seals Intact:			Custody Seal No															
A Yes A No																		
Relinquished by: Thomas Murray			Date/Time: 3/11/17		10:55		Company: TACC											
Cooler Temperature(s) °C and Other Remarks:			13/17		16/20		24/28		49/53		44/48		34/41					

TestAmerica Corpus Christi  
1733 N Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica

THE LATEST IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No				
Shipping/Receiving		Phone	Maingot, Lindy		560-13291.1				
Company		E-Mail			Page: 1 of 3				
TestAmerica Laboratories, Inc.					Job #				
Address:		Analysis Requested							
5102 LaRoche Avenue,		560-60183-1							
City		Preservation Codes:							
Savannah		A - HCL M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 X - EDTA Y - EDA Z - other (specify)							
State, Zip:		Other:							
GA, 31404									
Phone									
912-354-7858(Tel) 912-352-0165(Fax)									
Email									
Project Name									
2016 - Stormwater Sampling									
Site									
SSOW#:									
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, T=tissue, A=air)	Field Filtered Sample (Yes or No)	366.4/Digest_P_Hotlik	8.6.1A/8.15A_AP (MOD) Routine List	Total Number of Containers	Special Instructions/Note:
HSM210 LEAD (560-60183-1)	3/9/16	13:36	Central	Water		X	X	3	
HSM230 LEAD (560-60183-2)	3/9/16	13:52	Central	Water		X	X	3	
HSM231 LEAD (560-60183-3)	3/9/16	14:10	Central	Water		X	X	3	
HSM240 LEAD (560-60183-4)	3/9/16	13:50	Central	Water		X	X	3	
HSM250 LEAD (560-60183-5)	3/9/16	13:37	Central	Water		X	X	3	
HSM260 LEAD (560-60183-6)	3/9/16	13:55	Central	Water		X	X	3	
HSM270 LEAD (560-60183-7)	3/9/16	14:11	Central	Water		X	X	3	
HSM210 PEAK (560-60183-9)	3/9/16	16:10	Central	Water		X	X	3	
HSM230 PEAK (560-60183-10)	3/9/16	16:25	Central	Water		X	X	3	
HSM231 PEAK (560-60183-11)	3/9/16	16:11	Central	Water		X	X	3	
HSM240 PEAK (560-60183-12)	3/9/16	16:25	Central	Water		X	X	3	
Possible Hazard Identification									
Unconfirmed									
Deliverable Requested: I, II, III, IV, Other (specify)									
Empty Kit Relinquished by:									
Relinquished by: <i>CLAMS</i> Date: 3/10/16 Time: 16:00 Company: TACE									
Relinquished by: Date/Time: Company:									
Relinquished by: Date/Time: Company:									
Custody Seals Intact									
Custody Seal No: 1.3/1.7 1.0/2.0 2.4/2.8 4.9/5.3 4.4/4.8									
Date/Time: 3-11-16 10:55 Company: TACE									
Cooler Temperature(s) °C and Other Remarks: 1.3/1.7 1.0/2.0 2.4/2.8 4.9/5.3 4.4/4.8									
3.4/3.8									

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60183-1

**Login Number: 60183**

**List Number: 1**

**Creator: Adams, Christi L**

**List Source: TestAmerica Corpus Christi**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	There is an extra sheet attached with COC's of cooler temps for 3/10/16.
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60183-1

**Login Number: 60183**

**List Number: 2**

**Creator: Soto, Mayra A**

**List Source: TestAmerica Denver**

**List Creation: 03/11/16 04:06 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60183-1

**Login Number: 60183**

**List Number: 4**

**Creator: Capps, Dana R**

**List Source: TestAmerica Houston**

**List Creation: 03/14/16 09:09 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0 0.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-60183-1

**Login Number: 60183**

**List Number: 3**

**Creator: Murray, Thomas J**

**List Source: TestAmerica Savannah**

**List Creation: 03/11/16 06:40 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



November 08, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HSM231 PEAK  
**Sample Number:** AB05784  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 18:17  
**Receipt Date/Time:** 11/4/16 08:26

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05784-A	E. coli	√	SM 9223B-2004	2000	MPN/100 mL	H	1	49642	11/4/16	16:04	MSR
AB05784-A	E. Coli Holding Time - IDEXX Colilert		NA	21.78	hours		0.00	49641	11/4/16	16:04	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 08, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49642

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/8/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 08, 2016

Page 1 of 2

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**Sample Location:** HSM240 PEAK  
**Sample Number:** AB05785  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 18:54  
**Receipt Date/Time:** 11/4/16 08:26

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05785-A	E. coli	√	SM 9223B-2004	980	MPN/100 mL	H	1	49642	11/4/16	16:04	MSR
AB05785-A	E. Coli Holding Time - IDEXX Colilert		NA	21.17	hours		0.00	49641	11/4/16	16:04	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 08, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49642

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
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11/8/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 08, 2016

Page 1 of 2

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**Sample Location:** HSM250 PEAK  
**Sample Number:** AB05786  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 18:42  
**Receipt Date/Time:** 11/4/16 08:26

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05786-A	E. coli	√	SM 9223B-2004	17000	MPN/100 mL	H	1	49642	11/4/16	16:04	MSR
AB05786-A	E. Coli Holding Time - IDEXX Colilert		NA	21.37	hours		0.00	49641	11/4/16	16:04	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 08, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49642

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



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11/8/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



November 08, 2016

Page 1 of 2

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**Sample Location:** HSM260 PEAK  
**Sample Number:** AB05787  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 18:00  
**Receipt Date/Time:** 11/4/16 08:26

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05787-A	E. coli	√	SM 9223B-2004	6900	MPN/100 mL	H	1	49642	11/4/16	16:04	MSR
AB05787-A	E. Coli Holding Time - IDEXX Colilert		NA	22.07	hours		0.00	49641	11/4/16	16:04	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 08, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49642

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/8/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

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**Sample Location:** HSM270 PEAK  
**Sample Number:** AB05788  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 18:22  
**Receipt Date/Time:** 11/4/16 08:26

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05788-A	E. coli	√	SM 9223B-2004	>24000	MPN/100 mL	H	1	49642	11/4/16	16:04	MSR
AB05788-A	E. Coli Holding Time - IDEXX Colilert		NA	21.70	hours		0.00	49641	11/4/16	16:04	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 08, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49642

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
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11/8/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 08, 2016

Page 1 of 2

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**Sample Location:** HSM210 TRAIL  
**Sample Number:** AB05789  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 20:53  
**Receipt Date/Time:** 11/4/16 08:26

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05789-A	E. coli	√	SM 9223B-2004	240	MPN/100 mL	H	1	49642	11/4/16	16:04	MSR
AB05789-A	E. Coli Holding Time - IDEXX Colilert		NA	19.18	hours		0.00	49641	11/4/16	16:04	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 08, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49642

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/8/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



November 08, 2016

Page 1 of 2

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San Antonio, Tx. 78249

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**Sample Location:** FDHSM210 TRAIL  
**Sample Number:** AB05790  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 20:53  
**Receipt Date/Time:** 11/4/16 08:26

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05790-A	E. coli	√	SM 9223B-2004	280	MPN/100 mL	H	1	49642	11/4/16	16:04	MSR
AB05790-A	E. Coli Holding Time - IDEXX Colilert		NA	19.18	hours		0.00	49641	11/4/16	16:04	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 08, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49642

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/8/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 08, 2016

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**Sample Location:** HSM230 TRAIL  
**Sample Number:** AB05791  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 21:25  
**Receipt Date/Time:** 11/4/16 08:26

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

**Sample Comments:** Hold time exceeded per customer proceed.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05791-A	E. coli	√	SM 9223B-2004	4900	MPN/100 mL	H	1	49642	11/4/16	16:04	MSR
AB05791-A	E. Coli Holding Time - IDEXX Colilert		NA	18.65	hours		0.00	49641	11/4/16	16:04	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 08, 2016

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**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49642

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
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11/8/2016

Date

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D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



November 08, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

This analytical report is intended exclusively for the individual or entity to which it is addressed. Recipient is not authorized to print or copy this report, except in full without written approval of the laboratory. If you have received this report in error, please notify the San Antonio River Authority.

**Sample Location:** FDHSM230 TRAIL  
**Sample Number:** AB05792  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 21:25  
**Receipt Date/Time:** 11/4/16 08:26

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05792-A	E. coli	√	SM 9223B-2004	6500	MPN/100 mL	H	1	49642	11/4/16	16:04	MSR
AB05792-A	E. Coli Holding Time - IDEXX Colilert		NA	18.65	hours		0.00	49641	11/4/16	16:04	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 08, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49642

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/8/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 14, 2016

Page 1 of 2

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**Sample Location:** HSM231 TRAIL  
**Sample Number:** AB05793  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 20:52  
**Receipt Date/Time:** 11/4/16 08:26

**CASE NARRATIVE**

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05793-A	E. coli	√	SM 9223B-2004	390	MPN/100 mL	H	1	49644	11/4/16	16:50	MSR
AB05793-A	E. Coli Holding Time - IDEXX Colilert		NA	19.97	hours		0.00	49643	11/4/16	16:50	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 14, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49644

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/14/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

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**Sample Location:** FDHSM231 TRAIL  
**Sample Number:** AB05794  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 20:52  
**Receipt Date/Time:** 11/4/16 08:26

**CASE NARRATIVE**

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**Sample Comments:** Hold time exceeded per customer proceed.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05794-A	E. coli	√	SM 9223B-2004	610	MPN/100 mL	H	1	49644	11/4/16	16:50	MSR
AB05794-A	E. Coli Holding Time - IDEXX Colilert		NA	19.97	hours		0.00	49643	11/4/16	16:50	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 14, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49644

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



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Water Quality Planner / QAO

11/14/2016

Date

A - Outside upper acceptance criteria  
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T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



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**Sample Location:** HSM240 TRAIL  
**Sample Number:** AB05795  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 21:08  
**Receipt Date/Time:** 11/4/16 08:26

### CASE NARRATIVE

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**Sample Comments:** Hold time exceeded per customer proceed.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05795-A	E. coli	√	SM 9223B-2004	360	MPN/100 mL	H	1	49644	11/4/16	16:50	MSR
AB05795-A	E. Coli Holding Time - IDEXX Colilert		NA	19.70	hours		0.00	49643	11/4/16	16:50	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 14, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49644

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/14/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
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**Sample Location:** HSM250 TRAIL  
**Sample Number:** AB05796  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 21:38  
**Receipt Date/Time:** 11/4/16 08:26

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05796-A	E. coli	√	SM 9223B-2004	4100	MPN/100 mL	H	1	49644	11/4/16	16:50	MSR
AB05796-A	E. Coli Holding Time - IDEXX Colilert		NA	19.20	hours		0.00	49643	11/4/16	16:50	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
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H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 14, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49644

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/14/2016

Date

A - Outside upper acceptance criteria  
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J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
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November 14, 2016

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**Sample Location:** HSM260 TRAIL  
**Sample Number:** AB05797  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 20:34  
**Receipt Date/Time:** 11/4/16 08:26

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05797-A	E. coli	√	SM 9223B-2004	3300	MPN/100 mL	H	1	49644	11/4/16	16:50	MSR
AB05797-A	E. Coli Holding Time - IDEXX Colilert		NA	20.27	hours		0.00	49643	11/4/16	16:50	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 14, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49644

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/14/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



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**Sample Location:** HSM270 TRAIL  
**Sample Number:** AB05798  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 21:08  
**Receipt Date/Time:** 11/4/16 08:26

### CASE NARRATIVE

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**Sample Comments:** Hold time exceeded per customer proceed.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05798-A	E. coli	√	SM 9223B-2004	11000	MPN/100 mL	H	1	49644	11/4/16	16:50	MSR
AB05798-A	E. Coli Holding Time - IDEXX Colilert		NA	19.70	hours		0.00	49643	11/4/16	16:50	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 14, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49644

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/14/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 07, 2016

Page 1 of 2

**Client:** SWCA

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San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HSM210 LEAD  
**Sample Number:** AB05775  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 16:48  
**Receipt Date/Time:** 11/4/16 08:26

**CASE NARRATIVE**

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05775-A	E. coli	√	SM 9223B-2004	72	MPN/100 mL	H	1	49640	11/4/16	14:02	MSR
AB05775-A	E. Coli Holding Time - IDEXX Colilert		NA	21.23	hours		0.00	49639	11/4/16	14:02	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 07, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49640

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/7/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

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**Sample Location:** HSM230 LEAD  
**Sample Number:** AB05776  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 17:10  
**Receipt Date/Time:** 11/4/16 08:26

### CASE NARRATIVE

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Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05776-A	E. coli	√	SM 9223B-2004	>24000	MPN/100 mL	H	1	49640	11/4/16	14:02	MSR
AB05776-A	E. Coli Holding Time - IDEXX Colilert		NA	20.87	hours		0.00	49639	11/4/16	14:02	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 07, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49640

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/7/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

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**Sample Location:** HSM231 LEAD  
**Sample Number:** AB05777  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 16:40  
**Receipt Date/Time:** 11/4/16 08:26

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

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### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05777-A	E. coli	√	SM 9223B-2004	>24000	MPN/100 mL	H	1	49640	11/4/16	14:02	MSR
AB05777-A	E. Coli Holding Time - IDEXX Colilert		NA	21.37	hours		0.00	49639	11/4/16	14:02	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 07, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49640

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/7/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



November 07, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

This analytical report is intended exclusively for the individual or entity to which it is addressed. Recipient is not authorized to print or copy this report, except in full without written approval of the laboratory. If you have received this report in error, please notify the San Antonio River Authority.

**Sample Location:** HSM240 LEAD  
**Sample Number:** AB05778  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 17:30  
**Receipt Date/Time:** 11/4/16 08:26

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05778-A	E. coli	√	SM 9223B-2004	4400	MPN/100 mL	H	1	49640	11/4/16	14:02	MSR
AB05778-A	E. Coli Holding Time - IDEXX Colilert		NA	20.53	hours		0.00	49639	11/4/16	14:02	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 07, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49640

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/7/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
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**Sample Location:** HSM250 LEAD  
**Sample Number:** AB05779  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 17:05  
**Receipt Date/Time:** 11/4/16 08:26

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05779-A	E. coli	√	SM 9223B-2004	10000	MPN/100 mL	H	1	49640	11/4/16	14:02	MSR
AB05779-A	E. Coli Holding Time - IDEXX Colilert		NA	20.95	hours		0.00	49639	11/4/16	14:02	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 07, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49640

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/7/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 07, 2016

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**Sample Location:** HSM260 LEAD  
**Sample Number:** AB05780  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 16:30  
**Receipt Date/Time:** 11/4/16 08:26

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05780-A	E. coli	√	SM 9223B-2004	1700	MPN/100 mL	H	1	49640	11/4/16	14:02	MSR
AB05780-A	E. Coli Holding Time - IDEXX Colilert		NA	21.53	hours		0.00	49639	11/4/16	14:02	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 07, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49640

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/7/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable



**Environmental Sciences Department Laboratory**  
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Page 1 of 2

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**Sample Location:** HSM270 LEAD  
**Sample Number:** AB05781  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 16:50  
**Receipt Date/Time:** 11/4/16 08:26

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative .

**Sample Comments:** Hold time exceeded per customer proceed.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05781-A	E. coli	√	SM 9223B-2004	7700	MPN/100 mL	H	1	49640	11/4/16	14:02	MSR
AB05781-A	E. Coli Holding Time - IDEXX Colilert		NA	21.20	hours		0.00	49639	11/4/16	14:02	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## Environmental Sciences Department Laboratory

### ANALYTICAL REPORT



November 07, 2016

Page 2 of 2

#### QC ANALYTICAL RESULTS

**QC Batch Name:** E\_COLI\_QUANTITRAY-49640

#### Acceptance Criteria

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/7/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

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**Sample Location:** HSM210 PEAK  
**Sample Number:** AB05782  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 18:17  
**Receipt Date/Time:** 11/4/16 08:26

### CASE NARRATIVE

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

### ANALYTICAL RESULTS

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05782-A	E. coli	√	SM 9223B-2004	93	MPN/100 mL	H	1	49640	11/4/16	14:02	MSR
AB05782-A	E. Coli Holding Time - IDEXX Colilert		NA	19.75	hours		0.00	49639	11/4/16	14:02	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 07, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49640

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/7/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 07, 2016

Page 1 of 2

**Client:** SWCA  
Philip Pearce  
6200 UTSA Blvd. Ste. 102  
San Antonio, Tx. 78249

Fax #: NA

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**Sample Location:** HSM230 PEAK  
**Sample Number:** AB05783  
**Sample Matrix:** Non Potable Water

**Collection Date/Time:** 11/3/16 18:31  
**Receipt Date/Time:** 11/4/16 08:26

**CASE NARRATIVE**

This report provides results related only to the referenced sample ID numbers. All samples were received in acceptable condition unless otherwise noted. For questions regarding this report, please contact Greg Mateo, Laboratory Supervisor, at (210) 302-3290.

Analysis identified with a "√" complies with NELAP requirements unless otherwise specified in the case narrative.

**Sample Comments:** Hold time exceeded per customer proceed.

**ANALYTICAL RESULTS**

	<u>Analyses</u>	<u>NELAP</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>Qualifier</u>	<u>Reporting</u>	<u>QC Batch</u>	<u>Analysis</u>		<u>Analyst</u>
							<u>Limit</u>	<u>Number</u>	<u>Date</u>	<u>Time</u>	
AB05783-A	E. coli	√	SM 9223B-2004	16000	MPN/100 mL	H	1	49640	11/4/16	14:02	MSR
AB05783-A	E. Coli Holding Time - IDEXX Colilert		NA	19.52	hours		0.00	49639	11/4/16	14:02	MSR

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

**Environmental Sciences Department Laboratory**  
**ANALYTICAL REPORT**



November 07, 2016

Page 2 of 2

**QC ANALYTICAL RESULTS**

**QC Batch Name:** E\_COLI\_QUANTITRAY-49640

**Acceptance Criteria**

**QC Analyte Name**

Initial Blank for E. coli

**Result**

Absent

**Units**

**Qualifier**

**Lower**

---

**Target**

Absent

**Upper**

---



Jeanette Hernandez  
Water Quality Planner / QAO

11/7/2016

Date

A - Outside upper acceptance criteria  
D - Outside lower acceptance criteria  
T - Microbiological Controls were unacceptable

H - Hold Time for preparation or analysis exceeded  
J - Analyte detected outside quantitation limit

\* - See Case Narrative  
--- - Not Applicable

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-64786-1

Client Project/Site: San Marcos Springs

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland

*Madonna Myers*

Authorized for release by:

12/9/2016 3:26:49 PM

Madonna Myers, Project Manager II  
(615)796-1870

[madonna.myers@testamericainc.com](mailto:madonna.myers@testamericainc.com)

Designee for

Lindy Maingot, Project Manager I  
(210)344-9751

[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

Review your project  
results through

**TotalAccess**

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

### Qualifiers

#### GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits

#### GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

#### GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits
H	Sample was prepped or analyzed beyond the specified holding time
F1	MS and/or MSD Recovery is outside acceptance limits.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
F2	MS/MSD RPD exceeds control limits

#### Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

#### General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit

TestAmerica Corpus Christi

## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

### Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Job ID: 560-64786-1**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

### Job Narrative 560-64786-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 11/4/2016 11:46 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 26 coolers at receipt time were 0.2° C, 0.5° C, 0.5° C, 0.6° C, 0.6° C, 0.7° C, 0.8° C, 0.9° C, 1.0° C, 1.0° C, 1.1° C, 1.4° C, 1.6° C, 1.7° C, 2.0° C, 2.2° C, 2.4° C, 2.4° C, 2.4° C, 2.5° C, 2.6° C, 3.1° C, 3.2° C, 3.4° C, 4.0° C and 4.4° C.

#### GC/MS VOA

Method(s) 8260B: Due to the high concentration of Benzene, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 560-133589 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 8260B: The matrix spike duplicate (MSD) recovery for analytical batch 560-133589 were outside control limits for 1-octene. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method(s) 8270C: The laboratory control sample (LCS) for preparation batch 560-133681 and analytical batch 560-133691 recovered outside control limits for the following analytes: Bis(2-ethylhexyl) phthalate This analyte was biased high in the LCS and was not detected in the associated samples above the RL; therefore, the data have been reported. The MS/MSD had passing %R for all targets.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

Method(s) 8141A: The Chlormefos surrogate recovery for the following sample in preparation batch 280-350606 and analytical batch 280-351570 was outside acceptance limits (low biased) on the front/primary column: HSM270 Lead (560-64786-7). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control.

Method(s) 8141A: The continuing calibration verification (CCV) for Coumaphos, Chlormefos and Azinphos-methyl associated with analytical batch 280-351570 recovered outside the control limit on the back/confirmation column. The samples associated with this CCV were well in control for both surrogates on both columns; therefore, the data have been reported from the front/primary column which is in control. The associated sample was ND for Azinphos-methyl and Coumaphos and are reported from the front/primary column, which is in control.

Method(s) 8141A: The continuing calibration verification (CCV) for Chlormefos, Dimethoate, Coumaphos and Disulfoton associated with analytical batch 280-351570 recovered outside the control limit on one column. The samples associated with this CCV were well in control for both surrogates on both columns; therefore, the data have been reported from the back/confirmation column which is in control. The associated sample was ND for Coumaphos, Dimethoate and Disulfoton and are reported from the front/primary column, which is in control.

Method(s) 8141A: The initial calibration verification (ICV) for Mevinphos, Azinphos-methyl and Dichlorvos associated with analytical batch 280-351570 recovered outside the control limit on one column. The samples associated with this ICV were non-detects for the affected analytes; therefore, the data have been reported from the column which is in control.

Method(s) 8141A: The ISTD expired at midnight of 11/15/16. The analytical run was set up on the 15th and continued thru 11/16/16: HSM210 Lead (560-64786-1), HSM230 Lead (560-64786-2), HSM231 Lead (560-64786-3), HSM240 Lead (560-64786-4), HSM250 Lead (560-64786-5), HSM260 Lead (560-64786-6), HSM270 Lead (560-64786-7), HSM210 Peak (560-64786-9), HSM230 Peak (560-64786-10), HSM231 Peak (560-64786-11), HSM240 Peak (560-64786-12), HSM250 Peak (560-64786-13), HSM260 Peak (560-64786-14), HSM270 Peak (560-64786-15), FDHSM210 Trail (560-64786-17), HSM230 Trail (560-64786-18), FDHSM230 Trail (560-64786-19), HSM231 Trail (560-64786-20), FDHSM231 Trail (560-64786-21), HSM240 Trail (560-64786-22), HSM250 Trail

## Case Narrative

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

### Job ID: 560-64786-1 (Continued)

#### Laboratory: TestAmerica Corpus Christi (Continued)

(560-64786-23), HSM260 Trail (560-64786-24), HSM260 Trail (560-64786-24[MS]), HSM260 Trail (560-64786-24[MSD]), HSM270 Trail (560-64786-25), HSM270 Trail (560-64786-25[MS]), HSM270 Trail (560-64786-25[MSD]), (CCV 280-351570/27), (CCV 280-351570/42), (CCV 280-351570/54), (LCS 280-350606/2-A), (LCS 280-350683/2-A), (LCSD 280-350606/3-A) and (MB 280-350606/1-A)

Method(s) 8141A: The continuing calibration verification (CCV) for Merphos associated with analytical batch 280-352316 recovered above the upper control limit on the back/confirmation column. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported from the front/primary column which is in control.

Method(s) 8141A: The initial calibration verification (ICV) for Merphos associated with analytical batch 280-352316 recovered above the upper control limit on the front/primary column. The samples associated with this ICV were non-detects for the affected analytes; therefore, the data have been reported from the column which is in control.

Method(s) 8141A: The initial calibration verification (ICV) result for batch 280-354760 was outside the control limits on one column. Sample results were non-detects and reported from the column in control. Results have been reported as qualified data.

Method(s) 8141A: The continuing calibration verification (CCV) associated with batch 280-354760 recovered above the upper control limit for Mevinphos and Dichlorvos on the front column. The samples associated with this CCV were non-detects for the affected analytes and are reported from the back column; therefore, the data have been reported. The following sample is impacted: HSM210 Trail (560-64786-16).

Method(s) 8141A: The following sample had low surrogate recoveries with no obvious matrix: HSM210 Trail (560-64786-16). Per DV-QA-18P reextraction out of hold will not be done without client approval.

Method(s) 8151A: The closing continuing calibration verification (CCV) associated with batch 680-457888 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: HSM260 Peak (560-64786-14), HSM270 Peak (560-64786-15), (CCV 680-457888/43), (680-131875-A-1-I), (680-131875-A-1-J MS), (680-131875-A-1-K MSD), (680-132059-A-4-A) and (680-132059-A-4-B MS).

Method(s) 8151A: Surrogate recovery for the following sample was outside control limits: HSM260 Peak (560-64786-14) and HSM270 Peak (560-64786-15). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

Method(s) 6010B: The method blank for preparation batch 560-133618 and analytical batch 560-133668 contained Ca above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### General Chemistry

Method(s) 9040C, SM 4500 H+ B: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following sample(s) has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe.

Method(s) 365.4: The method blank for preparation batch 680-456744 and analytical batch 680-457065 contained phosphorus above the method detection limit (MDL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method(s) 365.4: Due to the high concentration of phosphorus, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 680-456744 and analytical batch 680-457065 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Case Narrative

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

### Job ID: 560-64786-1 (Continued)

#### Laboratory: TestAmerica Corpus Christi (Continued)

##### Organic Prep

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with Batch: 350606

Method: 3510C/8141

Method(s) 3510C: 8141 LCS\_00113 was not verified prior to use. LCS is in the process of verification.

HSM210 Lead (560-64786-1), HSM230 Lead (560-64786-2), HSM231 Lead (560-64786-3), HSM240 Lead (560-64786-4), HSM250 Lead (560-64786-5), HSM260 Lead (560-64786-6), HSM270 Lead (560-64786-7), HSM210 Peak (560-64786-9), HSM230 Peak (560-64786-10), HSM231 Peak (560-64786-11), HSM240 Peak (560-64786-12), HSM250 Peak (560-64786-13), HSM260 Peak (560-64786-14), HSM270 Peak (560-64786-15), FDHSM210 Trail (560-64786-17), HSM230 Trail (560-64786-18), FDHSM230 Trail (560-64786-19), HSM231 Trail (560-64786-20) and FDHSM231 Trail (560-64786-21)

Batch: 350606

Method: 3510C/8141

Method(s) 3510C: The following sample formed emulsions during the extraction procedure: HSM260 Lead (560-64786-6) and HSM270 Lead (560-64786-7). The emulsions were broken up using a pour back on the first and second extractions.

Batch: 350606

Method: 3510C/8141

Method(s) 3510C: 8141 LCS\_00113 was not verified at the time of spiking. An aliquot has been sent for analysis. preparation batch 280-350683

Method:3510C/8141A

Batch:350683

HSM240 Trail (560-64786-22), HSM250 Trail (560-64786-23), HSM260 Trail (560-64786-24), HSM260 Trail (560-64786-24[MS]), HSM260 Trail (560-64786-24[MSD]), HSM270 Trail (560-64786-25), HSM270 Trail (560-64786-25[MS]) and HSM270 Trail (560-64786-25[MSD])

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 280-353905.

Method: 3510C/8141A

Batch: 353905

Method(s) 3510C: The following sample(s) was prepared outside of preparation holding time due to sample was received out of hold time. preparation batch 280-353905.

Method: 3510C/8141A

Batch: 353905

HSM210 Trail (560-64786-16).

Method(s) 3520C: Elevated reporting limits are provided for the following samples due to insufficient sample provided for 3520c preparation/analysis: FDHSM230 Trail (560-64786-19), HSM231 Trail (560-64786-20) and HSM240 Trail (560-64786-22).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Lead**

**Lab Sample ID: 560-64786-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	84.6	B	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	18.1		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.02		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.41		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	16.3		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.616		0.00500	0.000700	mg/L	1		6010B	Dissolved
Arsenic	0.00120	J	0.00500	0.00109	mg/L	1		6020	Dissolved
Barium	0.0426		0.00500	0.000810	mg/L	1		6020	Dissolved
Manganese	0.251		0.0500	0.0116	mg/L	1		6020	Dissolved
Bromide	0.493	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	26.3		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.469	J	0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	28.2		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.184		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0461	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Dissolved Organic Carbon	0.315	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO <sub>3</sub>	243		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO <sub>3</sub>	243		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	350		10.0	10.0	mg/L	1		SM 2540C	Total/NA

**Client Sample ID: HSM230 Lead**

**Lab Sample ID: 560-64786-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	36.3	B	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	4.89		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.73		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	2.18		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	4.76		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.167		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0177		0.00500	0.000810	mg/L	1		6020	Dissolved
Zinc	0.0104	J	0.0250	0.00355	mg/L	1		6020	Dissolved
Bromide	0.405	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	6.99		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.668		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	10.5		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.0271	J	0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.143	B	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	6.58		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	5.09		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO <sub>3</sub>	104		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO <sub>3</sub>	104		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	157		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	47.2		2.00	2.00	mg/L	1		SM 2540D	Total/NA

**Client Sample ID: HSM231 Lead**

**Lab Sample ID: 560-64786-3**

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM231 Lead (Continued)

Lab Sample ID: 560-64786-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	65.3	B	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	11.8		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.82		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.00		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	8.12		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.370		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0291		0.00500	0.000810	mg/L	1		6020	Dissolved
Zinc	0.00855	J	0.0250	0.00355	mg/L	1		6020	Dissolved
Bromide	0.433	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	13.7		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.868		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	17.8		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.0608	J	0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.111	B	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	2.80		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.43		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	180		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	180		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	244		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	32.2		2.00	2.00	mg/L	1		SM 2540D	Total/NA

Client Sample ID: HSM240 Lead

Lab Sample ID: 560-64786-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	81.1	B	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.9		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.70		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.06		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.1		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.465		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0347		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.445	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.6		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.07		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	22.1		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.147		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0584	J B	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.951	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.936	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	229		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	229		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	327		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	9.20		2.00	2.00	mg/L	1		SM 2540D	Total/NA

Client Sample ID: HSM250 Lead

Lab Sample ID: 560-64786-5

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



# Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Client Sample ID: HSM250 Lead (Continued)

Lab Sample ID: 560-64786-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	11.0	J *	20.0	5.00	ug/L	1		8270C	Total/NA
Calcium	76.6	B	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.2		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.88		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.49		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.0		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.448		0.00500	0.000700	mg/L	1		6010B	Dissolved
Aluminum	0.389		0.100	0.0500	mg/L	1		6020	Dissolved
Barium	0.0359		0.00500	0.000810	mg/L	1		6020	Dissolved
Zinc	0.00543	J	0.0250	0.00355	mg/L	1		6020	Dissolved
Bromide	0.443	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	16.4		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.895		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	20.8		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.160		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0648	J B	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	1.59		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.907	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	214		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	214		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	310		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	12.8		2.00	2.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HSM260 Lead

Lab Sample ID: 560-64786-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	83.0	B	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.6		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.63		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.06		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.4		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.481		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0376		0.00500	0.000810	mg/L	1		6020	Dissolved
Lead	0.000829	J	0.00500	0.000733	mg/L	1		6020	Dissolved
Bromide	0.449	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.3		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.10		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.2		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.157		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0736	J B	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.427	J	1.00	0.285	mg/L	1		9060	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	233		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	233		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	348		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	7.80		2.00	2.00	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Client Sample ID: HSM270 Lead

## Lab Sample ID: 560-64786-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	82.9	B	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.8		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.31		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.36		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	18.9		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.493		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0443		0.00500	0.000810	mg/L	1		6020	Dissolved
Manganese	0.0231	J	0.0500	0.0116	mg/L	1		6020	Dissolved
Zinc	0.00365	J	0.0250	0.00355	mg/L	1		6020	Dissolved
Bromide	0.454	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.6		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.04		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	29.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.165		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.114		0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	3.66		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	2.21		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.6		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	231		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	231		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	347		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	82.8		2.00	2.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: TB17

## Lab Sample ID: 560-64786-8

No Detections.

## Client Sample ID: HSM210 Peak

## Lab Sample ID: 560-64786-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	84.5	B	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	18.2		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.02		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.40		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	16.4		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.620		0.00500	0.000700	mg/L	1		6010B	Dissolved
Arsenic	0.00135	J	0.00500	0.00109	mg/L	1		6020	Dissolved
Barium	0.0408		0.00500	0.000810	mg/L	1		6020	Dissolved
Manganese	0.240		0.0500	0.0116	mg/L	1		6020	Dissolved
Bromide	0.494	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	27.0		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.505		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	28.9		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.166		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0709	J B	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.405	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.457	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3		0.1	0.1	SU	1		9040C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

## Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

### Client Sample ID: HSM210 Peak (Continued)

Lab Sample ID: 560-64786-9

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Alkalinity as CaCO <sub>3</sub>	239		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO <sub>3</sub>	239		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	377		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.60		2.00	2.00	mg/L	1		SM 2540D	Total/NA

### Client Sample ID: HSM230 Peak

Lab Sample ID: 560-64786-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	75.8	B	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	12.5		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.11		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.79		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.3		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.414		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0373		0.00500	0.000810	mg/L	1		6020	Dissolved
Selenium	0.00121	J	0.00500	0.00108	mg/L	1		6020	Dissolved
Zinc	0.00487	J	0.0250	0.00355	mg/L	1		6020	Dissolved
Bromide	0.439	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.1		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.34		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.150		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0659	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	2.67		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	2.49		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.2		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO <sub>3</sub>	198		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO <sub>3</sub>	198		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	296		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	17.6		2.00	2.00	mg/L	1		SM 2540D	Total/NA

### Client Sample ID: HSM231 Peak

Lab Sample ID: 560-64786-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	87.4	B	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	16.2		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.61		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.41		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.7		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.500		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0377		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.449	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.1		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.13		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.1		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.161		0.100	0.0200	mg/L	1		340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO <sub>3</sub>	239		5.00	5.00	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Client Sample ID: HSM231 Peak (Continued)

Lab Sample ID: 560-64786-11

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO <sub>3</sub>	239		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	333		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3.60		2.00	2.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HSM240 Peak

Lab Sample ID: 560-64786-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	87.8	B	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	16.4		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.57		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.44		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.8		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.508		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0385		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.448	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.14		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.3		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.150		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0593	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO <sub>3</sub>	240		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO <sub>3</sub>	240		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	342		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HSM250 Peak

Lab Sample ID: 560-64786-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	77.3	B	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.1		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.24		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.83		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.0		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.442		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0359		0.00500	0.000810	mg/L	1		6020	Dissolved
Zinc	0.00486	J	0.0250	0.00355	mg/L	1		6020	Dissolved
Bromide	0.441	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	16.4		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.01		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	20.8		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.132		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0817	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	1.52		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.39		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO <sub>3</sub>	213		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO <sub>3</sub>	213		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	313		10.0	10.0	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

## Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

### Client Sample ID: HSM250 Peak (Continued)

Lab Sample ID: 560-64786-13

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	10.0		2.00	2.00	mg/L	1		SM 2540D	Total/NA

### Client Sample ID: HSM260 Peak

Lab Sample ID: 560-64786-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	14.5	J	21.7	5.43	ug/L	1		8270C	Total/NA
Calcium	80.6	B	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.7		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.76		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.06		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.3		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.463		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0359		0.00500	0.000810	mg/L	1		6020	Dissolved
Zinc	0.00380	J	0.0250	0.00355	mg/L	1		6020	Dissolved
Bromide	0.446	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.1		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.04		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	21.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.139		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0587	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	1.60		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.967	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	224		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	224		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	308		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	12.0		2.00	2.00	mg/L	1		SM 2540D	Total/NA

### Client Sample ID: HSM270 Peak

Lab Sample ID: 560-64786-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	7.00	J	20.0	5.00	ug/L	1		8270C	Total/NA
Calcium	76.2		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	13.9		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.36	B	0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.76		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.0		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.436		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0359		0.00500	0.000810	mg/L	1		6020	Dissolved
Selenium	0.00108	J	0.00500	0.00108	mg/L	1		6020	Dissolved
Bromide	0.441	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	16.9		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.01		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	21.9		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.132		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0834	J B	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	2.45		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.69		1.00	0.285	mg/L	1		9060	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

## Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

### Client Sample ID: HSM270 Peak (Continued)

Lab Sample ID: 560-64786-15

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.6		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO <sub>3</sub>	204		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO <sub>3</sub>	204		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	312		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	21.4		2.00	2.00	mg/L	1		SM 2540D	Total/NA

### Client Sample ID: HSM210 Trail

Lab Sample ID: 560-64786-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	83.2		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	18.2		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.06	B	0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.24		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	15.8		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.617		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0389		0.00500	0.000810	mg/L	1		6020	Dissolved
Manganese	0.192		0.0500	0.0116	mg/L	1		6020	Dissolved
Bromide	0.500	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	27.9		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.546		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	30.2		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.176		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.468	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.347	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO <sub>3</sub>	243		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO <sub>3</sub>	243		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	364		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3.20		2.00	2.00	mg/L	1		SM 2540D	Total/NA

### Client Sample ID: FDHSM210 Trail

Lab Sample ID: 560-64786-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	87.9		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	19.0		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.12	B	0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.59		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	16.7		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.656		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0408		0.00500	0.000810	mg/L	1		6020	Dissolved
Manganese	0.200		0.0500	0.0116	mg/L	1		6020	Dissolved
Bromide	0.500	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	27.9		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	0.544		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	30.3		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.191		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0457	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.579	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.317	J	1.00	0.285	mg/L	1		9060	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Client Sample ID: FDHSM210 Trail (Continued)

Lab Sample ID: 560-64786-17

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	246		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	246		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	364		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HSM230 Trail

Lab Sample ID: 560-64786-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	82.3		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	13.7		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.01	B	0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.16		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.5		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.451		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0382		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.443	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.3		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.42		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.8		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.154		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0602	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	1.12		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.813	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	214		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	214		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	315		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: FDHSM230 Trail

Lab Sample ID: 560-64786-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	77.6		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	13.0		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.85	B	0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	4.88		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.3		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.424		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0367		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.443	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.42		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	24.8		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.141		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0499	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.861	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.729	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	216		5.00	5.00	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



# Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Client Sample ID: FDHSM230 Trail (Continued)

Lab Sample ID: 560-64786-19

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	216		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	323		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	9.40		2.00	2.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HSM231 Trail

Lab Sample ID: 560-64786-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	7.41	J	10.0	5.00	ug/L	1		8260B	Total/NA
Calcium	86.0		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.9		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.52	B	0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.31		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.1		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.494		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0372		0.00500	0.000810	mg/L	1		6020	Dissolved
Bromide	0.451	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.6		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.15		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.144		0.100	0.0200	mg/L	1		340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	246		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	246		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	348		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: FDHSM231 Trail

Lab Sample ID: 560-64786-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	87.5		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	16.2		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.55	B	0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.37		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.3		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.504		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0378		0.00500	0.000810	mg/L	1		6020	Dissolved
Mercury	0.000143	J	0.00200	0.000130	mg/L	1		7470A	Dissolved
Bromide	0.450	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.5		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.15		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.5		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.140		0.100	0.0200	mg/L	1		340.2	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	242		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	242		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	356		10.0	10.0	mg/L	1		SM 2540C	Total/NA

## Client Sample ID: HSM240 Trail

Lab Sample ID: 560-64786-22

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

## Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

### Client Sample ID: HSM240 Trail (Continued)

Lab Sample ID: 560-64786-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	84.0		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.8		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.49	B	0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.12		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	10.7		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.487		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0384		0.00500	0.000810	mg/L	1		6020	Dissolved
Mercury	0.000148	J	0.00200	0.000130	mg/L	1		7470A	Dissolved
Bromide	0.451	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.7		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.15		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.7		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.127		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.338	J	1.00	0.285	mg/L	1		9060	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO <sub>3</sub>	241		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO <sub>3</sub>	241		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	352		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.60		2.00	2.00	mg/L	1		SM 2540D	Total/NA

### Client Sample ID: HSM250 Trail

Lab Sample ID: 560-64786-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	81.2		0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	15.0		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.66	B	0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.06		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.2		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.468		0.00500	0.000700	mg/L	1		6010B	Dissolved
Barium	0.0371		0.00500	0.000810	mg/L	1		6020	Dissolved
Copper	0.00239	J	0.0100	0.00200	mg/L	1		6020	Dissolved
Bromide	0.447	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.2		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.13		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.2		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.138		0.100	0.0200	mg/L	1		340.2	Total/NA
Total Organic Carbon	0.530	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.396	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO <sub>3</sub>	238		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO <sub>3</sub>	238		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	340		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.20		2.00	2.00	mg/L	1		SM 2540D	Total/NA

### Client Sample ID: HSM260 Trail

Lab Sample ID: 560-64786-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	8.46	J *	20.0	5.00	ug/L	1		8270C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Client Sample ID: HSM260 Trail (Continued)

Lab Sample ID: 560-64786-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	86.6	B	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	16.0		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	1.75		0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.40		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	12.1		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.501		0.00500	0.000700	mg/L	1		6010B	Dissolved
Aluminum	0.126		0.100	0.0500	mg/L	1		6020	Dissolved
Barium	0.0402		0.00500	0.000810	mg/L	1		6020	Dissolved
Copper	0.0272		0.0100	0.00200	mg/L	1		6020	Dissolved
Lead	0.00132	J	0.00500	0.000733	mg/L	1		6020	Dissolved
Manganese	0.0178	J	0.0500	0.0116	mg/L	1		6020	Dissolved
Nickel	0.0616	F1	0.00500	0.00217	mg/L	1		6020	Dissolved
Zinc	0.0763	F1	0.0250	0.00355	mg/L	1		6020	Dissolved
Bromide	0.448	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	18.0		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.12		0.500	0.103	mg/L	1		300.0	Total/NA
Sulfate	23.0		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.160		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0577	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	0.447	J	1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	0.814	J	1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	237		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	237		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	350		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.00		2.00	2.00	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: HSM270 Trail

Lab Sample ID: 560-64786-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	17.4	J	20.0	5.00	ug/L	1		8270C	Total/NA
Calcium	80.8	F1	0.200	0.101	mg/L	1		6010B	Dissolved
Magnesium	14.5		0.200	0.0257	mg/L	1		6010B	Dissolved
Potassium	2.42	B	0.500	0.375	mg/L	1		6010B	Dissolved
Silicon	5.35		0.500	0.0707	mg/L	1		6010B	Dissolved
Sodium	11.4		1.00	0.310	mg/L	1		6010B	Dissolved
Strontium	0.457		0.00500	0.000700	mg/L	1		6010B	Dissolved
Aluminum	0.239		0.100	0.0500	mg/L	1		6020	Dissolved
Barium	0.0389		0.00500	0.000810	mg/L	1		6020	Dissolved
Chromium	0.00145	J	0.00500	0.00140	mg/L	1		6020	Dissolved
Copper	0.0287		0.0100	0.00200	mg/L	1		6020	Dissolved
Lead	0.00139	J	0.00500	0.000733	mg/L	1		6020	Dissolved
Manganese	0.0167	J	0.0500	0.0116	mg/L	1		6020	Dissolved
Nickel	0.0431	F1	0.00500	0.00217	mg/L	1		6020	Dissolved
Selenium	0.00249	J	0.00500	0.00108	mg/L	1		6020	Dissolved
Zinc	0.0560	F1	0.0250	0.00355	mg/L	1		6020	Dissolved
Bromide	0.448	J	1.00	0.315	mg/L	1		300.0	Total/NA
Chloride	17.3		1.00	0.192	mg/L	1		300.0	Total/NA
Nitrate as N	1.05		0.500	0.103	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

## Detection Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Trail (Continued)**

**Lab Sample ID: 560-64786-25**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	22.2		1.00	0.377	mg/L	1		300.0	Total/NA
Fluoride	0.135		0.100	0.0200	mg/L	1		340.2	Total/NA
Phosphorus	0.0563	J	0.100	0.0410	mg/L	1		365.4	Total/NA
Total Organic Carbon	3.02		1.00	0.285	mg/L	1		9060	Total/NA
Dissolved Organic Carbon	1.17		1.00	0.285	mg/L	1		9060	Dissolved
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5		0.1	0.1	SU	1		9040C	Total/NA
Total Alkalinity as CaCO3	216		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	216		5.00	5.00	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	317		10.0	10.0	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	8.20		2.00	2.00	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Lead**

**Lab Sample ID: 560-64786-1**

**Date Collected: 11/03/16 16:48**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/06/16 13:33	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/06/16 13:33	1
Benzene	0.330	U	1.00	0.330	ug/L			11/06/16 13:33	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/06/16 13:33	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 13:33	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/06/16 13:33	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/06/16 13:33	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/06/16 13:33	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/06/16 13:33	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/06/16 13:33	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/06/16 13:33	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/06/16 13:33	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/06/16 13:33	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/06/16 13:33	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/06/16 13:33	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/06/16 13:33	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/06/16 13:33	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/06/16 13:33	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/06/16 13:33	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/06/16 13:33	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/06/16 13:33	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 13:33	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/06/16 13:33	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/06/16 13:33	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/06/16 13:33	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/06/16 13:33	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/06/16 13:33	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/06/16 13:33	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/06/16 13:33	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 13:33	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/06/16 13:33	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/06/16 13:33	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/06/16 13:33	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/06/16 13:33	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/06/16 13:33	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/06/16 13:33	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/06/16 13:33	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/06/16 13:33	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/06/16 13:33	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/06/16 13:33	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/06/16 13:33	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/06/16 13:33	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/06/16 13:33	1
EDB	0.175	U	1.00	0.175	ug/L			11/06/16 13:33	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/06/16 13:33	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 13:33	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/06/16 13:33	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/06/16 13:33	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/06/16 13:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Lead**

**Lab Sample ID: 560-64786-1**

**Date Collected: 11/03/16 16:48**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/06/16 13:33	1
Hexane	2.00	U	5.00	2.00	ug/L			11/06/16 13:33	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/06/16 13:33	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/06/16 13:33	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/06/16 13:33	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/06/16 13:33	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/06/16 13:33	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/06/16 13:33	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/06/16 13:33	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/06/16 13:33	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/06/16 13:33	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/06/16 13:33	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/06/16 13:33	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/06/16 13:33	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/06/16 13:33	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 13:33	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/06/16 13:33	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/06/16 13:33	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/06/16 13:33	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/06/16 13:33	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/06/16 13:33	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/06/16 13:33	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/06/16 13:33	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/06/16 13:33	1
Styrene	0.200	U	1.00	0.200	ug/L			11/06/16 13:33	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 13:33	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/06/16 13:33	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/06/16 13:33	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/06/16 13:33	1
Toluene	0.495	U	1.00	0.495	ug/L			11/06/16 13:33	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 13:33	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/06/16 13:33	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/06/16 13:33	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/06/16 13:33	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/06/16 13:33	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/06/16 13:33	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/06/16 13:33	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/06/16 13:33	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/06/16 13:33	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/06/16 13:33	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/06/16 13:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/06/16 13:33	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 13:33	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 13:33	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/06/16 13:33	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/06/16 13:33	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/06/16 13:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		11/06/16 13:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Lead**

**Lab Sample ID: 560-64786-1**

**Date Collected: 11/03/16 16:48**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	101		69 - 130		11/06/16 13:33	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 140		11/06/16 13:33	1
Toluene-d8 (Surr)	99		70 - 130		11/06/16 13:33	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/08/16 15:50	11/09/16 11:23	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/08/16 15:50	11/09/16 11:23	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/08/16 15:50	11/09/16 11:23	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/08/16 15:50	11/09/16 11:23	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/08/16 15:50	11/09/16 11:23	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/08/16 15:50	11/09/16 11:23	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/08/16 15:50	11/09/16 11:23	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/08/16 15:50	11/09/16 11:23	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/08/16 15:50	11/09/16 11:23	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/08/16 15:50	11/09/16 11:23	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/08/16 15:50	11/09/16 11:23	1
Bis(2-ethylhexyl) phthalate	5.00	U *	20.0	5.00	ug/L		11/08/16 15:50	11/09/16 11:23	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/08/16 15:50	11/09/16 11:23	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/08/16 15:50	11/09/16 11:23	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 11:23	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/08/16 15:50	11/09/16 11:23	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/08/16 15:50	11/09/16 11:23	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/08/16 15:50	11/09/16 11:23	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/08/16 15:50	11/09/16 11:23	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/08/16 15:50	11/09/16 11:23	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/08/16 15:50	11/09/16 11:23	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/08/16 15:50	11/09/16 11:23	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/08/16 15:50	11/09/16 11:23	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/08/16 15:50	11/09/16 11:23	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/08/16 15:50	11/09/16 11:23	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 11:23	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/08/16 15:50	11/09/16 11:23	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/08/16 15:50	11/09/16 11:23	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/08/16 15:50	11/09/16 11:23	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 11:23	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/08/16 15:50	11/09/16 11:23	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/08/16 15:50	11/09/16 11:23	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/08/16 15:50	11/09/16 11:23	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/08/16 15:50	11/09/16 11:23	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/08/16 15:50	11/09/16 11:23	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/08/16 15:50	11/09/16 11:23	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/08/16 15:50	11/09/16 11:23	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/08/16 15:50	11/09/16 11:23	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/08/16 15:50	11/09/16 11:23	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/08/16 15:50	11/09/16 11:23	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/08/16 15:50	11/09/16 11:23	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 11:23	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/08/16 15:50	11/09/16 11:23	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Lead**

**Lab Sample ID: 560-64786-1**

**Date Collected: 11/03/16 16:48**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 11:23	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/08/16 15:50	11/09/16 11:23	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/08/16 15:50	11/09/16 11:23	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/08/16 15:50	11/09/16 11:23	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 11:23	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/08/16 15:50	11/09/16 11:23	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/08/16 15:50	11/09/16 11:23	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/08/16 15:50	11/09/16 11:23	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/08/16 15:50	11/09/16 11:23	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/08/16 15:50	11/09/16 11:23	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/08/16 15:50	11/09/16 11:23	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/08/16 15:50	11/09/16 11:23	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/08/16 15:50	11/09/16 11:23	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/08/16 15:50	11/09/16 11:23	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/08/16 15:50	11/09/16 11:23	1
Phenol	0.768	U	10.0	0.768	ug/L		11/08/16 15:50	11/09/16 11:23	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/08/16 15:50	11/09/16 11:23	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/08/16 15:50	11/09/16 11:23	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/08/16 15:50	11/09/16 11:23	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/08/16 15:50	11/09/16 11:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	69		23 - 130	11/08/16 15:50	11/09/16 11:23	1
2-Fluorophenol	65		10 - 130	11/08/16 15:50	11/09/16 11:23	1
Nitrobenzene-d5	70		27 - 130	11/08/16 15:50	11/09/16 11:23	1
Phenol-d5	67		10 - 130	11/08/16 15:50	11/09/16 11:23	1
Terphenyl-d14	33		10 - 141	11/08/16 15:50	11/09/16 11:23	1
2,4,6-Tribromophenol	61		18 - 130	11/08/16 15:50	11/09/16 11:23	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00474	U	0.0569	0.00474	ug/L		11/07/16 13:38	11/11/16 06:55	1
alpha-BHC	0.00493	U	0.0569	0.00493	ug/L		11/07/16 13:38	11/11/16 06:55	1
alpha-Chlordane	0.00598	U	0.0569	0.00598	ug/L		11/07/16 13:38	11/11/16 06:55	1
beta-BHC	0.00474	U	0.0569	0.00474	ug/L		11/07/16 13:38	11/11/16 06:55	1
4,4'-DDD	0.00474	U	0.0569	0.00474	ug/L		11/07/16 13:38	11/11/16 06:55	1
4,4'-DDE	0.00474	U	0.0569	0.00474	ug/L		11/07/16 13:38	11/11/16 06:55	1
4,4'-DDT	0.00768	U	0.0569	0.00768	ug/L		11/07/16 13:38	11/11/16 06:55	1
delta-BHC	0.00474	U	0.0569	0.00474	ug/L		11/07/16 13:38	11/11/16 06:55	1
Dieldrin	0.0123	U	0.0569	0.0123	ug/L		11/07/16 13:38	11/11/16 06:55	1
Endosulfan I	0.00474	U	0.0569	0.00474	ug/L		11/07/16 13:38	11/11/16 06:55	1
Endosulfan II	0.00816	U	0.0569	0.00816	ug/L		11/07/16 13:38	11/11/16 06:55	1
Endosulfan sulfate	0.00835	U	0.0569	0.00835	ug/L		11/07/16 13:38	11/11/16 06:55	1
Endrin	0.00730	U	0.0569	0.00730	ug/L		11/07/16 13:38	11/11/16 06:55	1
Endrin aldehyde	0.00474	U	0.0569	0.00474	ug/L		11/07/16 13:38	11/11/16 06:55	1
Endrin ketone	0.00778	U	0.0569	0.00778	ug/L		11/07/16 13:38	11/11/16 06:55	1
gamma-BHC (Lindane)	0.00427	U	0.0569	0.00427	ug/L		11/07/16 13:38	11/11/16 06:55	1
gamma-Chlordane	0.00636	U	0.0569	0.00636	ug/L		11/07/16 13:38	11/11/16 06:55	1
Heptachlor	0.00617	U	0.0569	0.00617	ug/L		11/07/16 13:38	11/11/16 06:55	1
Heptachlor epoxide	0.00493	U	0.0569	0.00493	ug/L		11/07/16 13:38	11/11/16 06:55	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Lead**

**Lab Sample ID: 560-64786-1**

**Date Collected: 11/03/16 16:48**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	0.00949	U	0.0569	0.00949	ug/L		11/07/16 13:38	11/11/16 06:55	1
Toxaphene	0.645	U	5.69	0.645	ug/L		11/07/16 13:38	11/11/16 06:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	86		10 - 152				11/07/16 13:38	11/11/16 06:55	1
Tetrachloro-m-xylene	99		57 - 127				11/07/16 13:38	11/11/16 06:55	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.569	0.104	ug/L		11/07/16 13:38	11/10/16 06:25	1
Aroclor 1221	0.104	U	0.569	0.104	ug/L		11/07/16 13:38	11/10/16 06:25	1
Aroclor 1232	0.417	U	0.759	0.417	ug/L		11/07/16 13:38	11/10/16 06:25	1
Aroclor 1242	0.104	U	0.569	0.104	ug/L		11/07/16 13:38	11/10/16 06:25	1
Aroclor 1248	0.104	U	0.569	0.104	ug/L		11/07/16 13:38	11/10/16 06:25	1
Aroclor 1254	0.104	U	0.569	0.104	ug/L		11/07/16 13:38	11/10/16 06:25	1
Aroclor 1260	0.104	U	0.569	0.104	ug/L		11/07/16 13:38	11/10/16 06:25	1
Aroclor 1262	0.104	U	0.569	0.104	ug/L		11/07/16 13:38	11/10/16 06:25	1
Aroclor 1268	0.104	U	0.569	0.104	ug/L		11/07/16 13:38	11/10/16 06:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	96		10 - 150				11/07/16 13:38	11/10/16 06:25	1
DCB Decachlorobiphenyl	66		10 - 150				11/07/16 13:38	11/10/16 06:25	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00238	0.000160	mg/L		11/09/16 12:33	11/16/16 08:04	1
Bolstar	0.000299	U	0.000952	0.000299	mg/L		11/09/16 12:33	11/16/16 08:04	1
Chlorpyrifos	0.000343	U	0.00143	0.000343	mg/L		11/09/16 12:33	11/16/16 08:04	1
Coumaphos	0.000128	U	0.000952	0.000128	mg/L		11/09/16 12:33	11/16/16 08:04	1
Demeton-O	0.000133	U	0.000952	0.000133	mg/L		11/09/16 12:33	11/16/16 08:04	1
Demeton-S	0.0000657	U	0.00190	0.0000657	mg/L		11/09/16 12:33	11/16/16 08:04	1
Diazinon	0.000140	U	0.000476	0.000140	mg/L		11/09/16 12:33	11/16/16 08:04	1
Demeton, Total	0.000199	U	0.00286	0.000199	mg/L		11/09/16 12:33	11/16/16 08:04	1
Dichlorvos	0.000154	U	0.000476	0.000154	mg/L		11/09/16 12:33	11/16/16 08:04	1
Dimethoate	0.000427	U	0.00143	0.000427	mg/L		11/09/16 12:33	11/16/16 08:04	1
Disulfoton	0.000306	U	0.000952	0.000306	mg/L		11/09/16 12:33	11/16/16 08:04	1
EPN	0.000142	U	0.00114	0.000142	mg/L		11/09/16 12:33	11/16/16 08:04	1
Ethoprop	0.000168	U	0.00143	0.000168	mg/L		11/09/16 12:33	11/16/16 08:04	1
Ethyl Parathion	0.000137	U	0.000952	0.000137	mg/L		11/09/16 12:33	11/16/16 08:04	1
Famphur	0.000170	U	0.000952	0.000170	mg/L		11/09/16 12:33	11/16/16 08:04	1
Fensulfothion	0.000518	U	0.00238	0.000518	mg/L		11/09/16 12:33	11/16/16 08:04	1
Fenthion	0.000147	U	0.00238	0.000147	mg/L		11/09/16 12:33	11/16/16 08:04	1
Malathion	0.000127	U	0.00190	0.000127	mg/L		11/09/16 12:33	11/16/16 08:04	1
Merphos	0.000166	U	0.00476	0.000166	mg/L		11/09/16 12:33	11/16/16 08:04	1
Methyl parathion	0.000134	U	0.00381	0.000134	mg/L		11/09/16 12:33	11/16/16 08:04	1
Mevinphos	0.000438	U	0.00590	0.000438	mg/L		11/09/16 12:33	11/16/16 08:04	1
Naled	0.000761	U	0.00190	0.000761	mg/L		11/09/16 12:33	11/16/16 08:04	1
Phorate	0.000147	U	0.00114	0.000147	mg/L		11/09/16 12:33	11/16/16 08:04	1
Ronnel	0.000110	U	0.00952	0.000110	mg/L		11/09/16 12:33	11/16/16 08:04	1
Sulfotepp	0.000160	U	0.00143	0.000160	mg/L		11/09/16 12:33	11/16/16 08:04	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Lead**

**Lab Sample ID: 560-64786-1**

**Date Collected: 11/03/16 16:48**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00333	0.000118	mg/L		11/09/16 12:33	11/16/16 08:04	1
Thionazin	0.000297	U	0.000952	0.000297	mg/L		11/09/16 12:33	11/16/16 08:04	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		11/09/16 12:33	11/16/16 08:04	1
Trichloronate	0.000230	U	0.00143	0.000230	mg/L		11/09/16 12:33	11/16/16 08:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	66		49 - 171				11/09/16 12:33	11/16/16 08:04	1
Triphenylphosphate	85		60 - 154				11/09/16 12:33	11/16/16 08:04	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0954	U	4.77	0.0954	ug/L		11/07/16 09:36	11/09/16 23:40	1
Dicamba	0.0811	U	0.477	0.0811	ug/L		11/07/16 09:36	11/09/16 23:40	1
Mecoprop	18.1	U	114	18.1	ug/L		11/07/16 09:36	11/09/16 23:40	1
MCPA	16.2	U	114	16.2	ug/L		11/07/16 09:36	11/09/16 23:40	1
Dichlorprop	0.143	U	0.477	0.143	ug/L		11/07/16 09:36	11/09/16 23:40	1
2,4-D	0.0353	U	0.477	0.0353	ug/L		11/07/16 09:36	11/09/16 23:40	1
Silvex (2,4,5-TP)	0.0591	U	0.239	0.0591	ug/L		11/07/16 09:36	11/09/16 23:40	1
2,4,5-T	0.0591	U	0.239	0.0591	ug/L		11/07/16 09:36	11/09/16 23:40	1
2,4-DB	0.143	U	0.477	0.143	ug/L		11/07/16 09:36	11/09/16 23:40	1
Dinoseb	0.153	U	0.954	0.153	ug/L		11/07/16 09:36	11/09/16 23:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	87		45 - 130				11/07/16 09:36	11/09/16 23:40	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	84.6	B	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 20:52	1
Magnesium	18.1		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 20:52	1
Potassium	2.02		0.500	0.375	mg/L		11/07/16 09:45	11/07/16 20:52	1
Silicon	5.41		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 20:52	1
Sodium	16.3		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 20:52	1
Strontium	0.616		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 20:52	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 12:52	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 12:52	1
Arsenic	0.00120	J	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 12:52	1
Barium	0.0426		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 12:52	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 12:52	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 12:52	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 12:52	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 12:52	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 12:52	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 12:52	1
Manganese	0.251		0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 12:52	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 12:52	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 12:52	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 12:52	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 12:52	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Lead**

**Lab Sample ID: 560-64786-1**

**Date Collected: 11/03/16 16:48**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 12:52	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:01	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.493	J	1.00	0.315	mg/L			11/04/16 15:52	1
Chloride	26.3		1.00	0.192	mg/L			11/04/16 15:52	1
Nitrate as N	0.469	J	0.500	0.103	mg/L			11/04/16 15:52	1
Sulfate	28.2		1.00	0.377	mg/L			11/04/16 15:52	1
Fluoride	0.184		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/10/16 11:26	1
Phosphorus	0.0461	J	0.100	0.0410	mg/L		11/10/16 08:55	11/11/16 13:21	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			11/09/16 15:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	243		5.00	5.00	mg/L			11/11/16 13:45	1
Bicarbonate Alkalinity as CaCO3	243		5.00	5.00	mg/L			11/11/16 13:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/11/16 13:45	1
Total Dissolved Solids	350		10.0	10.0	mg/L			11/07/16 13:40	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.315	J	1.00	0.285	mg/L			11/15/16 11:34	1

**Client Sample ID: HSM230 Lead**

**Lab Sample ID: 560-64786-2**

**Date Collected: 11/03/16 17:10**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/06/16 13:57	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/06/16 13:57	1
Benzene	0.330	U	1.00	0.330	ug/L			11/06/16 13:57	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/06/16 13:57	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 13:57	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/06/16 13:57	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/06/16 13:57	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/06/16 13:57	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/06/16 13:57	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/06/16 13:57	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/06/16 13:57	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/06/16 13:57	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/06/16 13:57	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/06/16 13:57	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/06/16 13:57	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/06/16 13:57	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM230 Lead**

**Lab Sample ID: 560-64786-2**

**Date Collected: 11/03/16 17:10**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	0.173	U	1.00	0.173	ug/L			11/06/16 13:57	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/06/16 13:57	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/06/16 13:57	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/06/16 13:57	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/06/16 13:57	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 13:57	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/06/16 13:57	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/06/16 13:57	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/06/16 13:57	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/06/16 13:57	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/06/16 13:57	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/06/16 13:57	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/06/16 13:57	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 13:57	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/06/16 13:57	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/06/16 13:57	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/06/16 13:57	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/06/16 13:57	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/06/16 13:57	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/06/16 13:57	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/06/16 13:57	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/06/16 13:57	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/06/16 13:57	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/06/16 13:57	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/06/16 13:57	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/06/16 13:57	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/06/16 13:57	1
EDB	0.175	U	1.00	0.175	ug/L			11/06/16 13:57	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/06/16 13:57	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 13:57	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/06/16 13:57	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/06/16 13:57	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/06/16 13:57	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/06/16 13:57	1
Hexane	2.00	U	5.00	2.00	ug/L			11/06/16 13:57	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/06/16 13:57	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/06/16 13:57	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/06/16 13:57	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/06/16 13:57	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/06/16 13:57	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/06/16 13:57	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/06/16 13:57	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/06/16 13:57	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/06/16 13:57	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/06/16 13:57	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/06/16 13:57	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/06/16 13:57	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/06/16 13:57	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 13:57	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM230 Lead**

**Lab Sample ID: 560-64786-2**

**Date Collected: 11/03/16 17:10**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Heptane	0.300	U	5.00	0.300	ug/L			11/06/16 13:57	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/06/16 13:57	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/06/16 13:57	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/06/16 13:57	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/06/16 13:57	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/06/16 13:57	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/06/16 13:57	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/06/16 13:57	1
Styrene	0.200	U	1.00	0.200	ug/L			11/06/16 13:57	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 13:57	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/06/16 13:57	1
1,1,1,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/06/16 13:57	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/06/16 13:57	1
Toluene	0.495	U	1.00	0.495	ug/L			11/06/16 13:57	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 13:57	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/06/16 13:57	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/06/16 13:57	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/06/16 13:57	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/06/16 13:57	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/06/16 13:57	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/06/16 13:57	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/06/16 13:57	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/06/16 13:57	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/06/16 13:57	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/06/16 13:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/06/16 13:57	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 13:57	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 13:57	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/06/16 13:57	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/06/16 13:57	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/06/16 13:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130		11/06/16 13:57	1
Dibromofluoromethane (Surr)	101		69 - 130		11/06/16 13:57	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 140		11/06/16 13:57	1
Toluene-d8 (Surr)	100		70 - 130		11/06/16 13:57	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/08/16 15:50	11/09/16 11:50	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/08/16 15:50	11/09/16 11:50	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/08/16 15:50	11/09/16 11:50	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/08/16 15:50	11/09/16 11:50	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/08/16 15:50	11/09/16 11:50	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/08/16 15:50	11/09/16 11:50	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/08/16 15:50	11/09/16 11:50	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/08/16 15:50	11/09/16 11:50	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/08/16 15:50	11/09/16 11:50	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/08/16 15:50	11/09/16 11:50	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM230 Lead**

**Lab Sample ID: 560-64786-2**

**Date Collected: 11/03/16 17:10**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/08/16 15:50	11/09/16 11:50	1
Bis(2-ethylhexyl) phthalate	5.00	U *	20.0	5.00	ug/L		11/08/16 15:50	11/09/16 11:50	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/08/16 15:50	11/09/16 11:50	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/08/16 15:50	11/09/16 11:50	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 11:50	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/08/16 15:50	11/09/16 11:50	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/08/16 15:50	11/09/16 11:50	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/08/16 15:50	11/09/16 11:50	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/08/16 15:50	11/09/16 11:50	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/08/16 15:50	11/09/16 11:50	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/08/16 15:50	11/09/16 11:50	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/08/16 15:50	11/09/16 11:50	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/08/16 15:50	11/09/16 11:50	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/08/16 15:50	11/09/16 11:50	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/08/16 15:50	11/09/16 11:50	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 11:50	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/08/16 15:50	11/09/16 11:50	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/08/16 15:50	11/09/16 11:50	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/08/16 15:50	11/09/16 11:50	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 11:50	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/08/16 15:50	11/09/16 11:50	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/08/16 15:50	11/09/16 11:50	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/08/16 15:50	11/09/16 11:50	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/08/16 15:50	11/09/16 11:50	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/08/16 15:50	11/09/16 11:50	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/08/16 15:50	11/09/16 11:50	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/08/16 15:50	11/09/16 11:50	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/08/16 15:50	11/09/16 11:50	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/08/16 15:50	11/09/16 11:50	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/08/16 15:50	11/09/16 11:50	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/08/16 15:50	11/09/16 11:50	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 11:50	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/08/16 15:50	11/09/16 11:50	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 11:50	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/08/16 15:50	11/09/16 11:50	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/08/16 15:50	11/09/16 11:50	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/08/16 15:50	11/09/16 11:50	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 11:50	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/08/16 15:50	11/09/16 11:50	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/08/16 15:50	11/09/16 11:50	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/08/16 15:50	11/09/16 11:50	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/08/16 15:50	11/09/16 11:50	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/08/16 15:50	11/09/16 11:50	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/08/16 15:50	11/09/16 11:50	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/08/16 15:50	11/09/16 11:50	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/08/16 15:50	11/09/16 11:50	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/08/16 15:50	11/09/16 11:50	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/08/16 15:50	11/09/16 11:50	1
Phenol	0.768	U	10.0	0.768	ug/L		11/08/16 15:50	11/09/16 11:50	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM230 Lead**

**Lab Sample ID: 560-64786-2**

**Date Collected: 11/03/16 17:10**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	0.440	U	10.0	0.440	ug/L		11/08/16 15:50	11/09/16 11:50	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/08/16 15:50	11/09/16 11:50	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/08/16 15:50	11/09/16 11:50	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/08/16 15:50	11/09/16 11:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	53		23 - 130	11/08/16 15:50	11/09/16 11:50	1
2-Fluorophenol	52		10 - 130	11/08/16 15:50	11/09/16 11:50	1
Nitrobenzene-d5	54		27 - 130	11/08/16 15:50	11/09/16 11:50	1
Phenol-d5	55		10 - 130	11/08/16 15:50	11/09/16 11:50	1
Terphenyl-d14	26		10 - 141	11/08/16 15:50	11/09/16 11:50	1
2,4,6-Tribromophenol	58		18 - 130	11/08/16 15:50	11/09/16 11:50	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00465	U	0.0559	0.00465	ug/L		11/07/16 13:38	11/11/16 07:16	1
alpha-BHC	0.00484	U	0.0559	0.00484	ug/L		11/07/16 13:38	11/11/16 07:16	1
alpha-Chlordane	0.00586	U	0.0559	0.00586	ug/L		11/07/16 13:38	11/11/16 07:16	1
beta-BHC	0.00465	U	0.0559	0.00465	ug/L		11/07/16 13:38	11/11/16 07:16	1
4,4'-DDD	0.00465	U	0.0559	0.00465	ug/L		11/07/16 13:38	11/11/16 07:16	1
4,4'-DDE	0.00465	U	0.0559	0.00465	ug/L		11/07/16 13:38	11/11/16 07:16	1
4,4'-DDT	0.00754	U	0.0559	0.00754	ug/L		11/07/16 13:38	11/11/16 07:16	1
delta-BHC	0.00465	U	0.0559	0.00465	ug/L		11/07/16 13:38	11/11/16 07:16	1
Dieldrin	0.0121	U	0.0559	0.0121	ug/L		11/07/16 13:38	11/11/16 07:16	1
Endosulfan I	0.00465	U	0.0559	0.00465	ug/L		11/07/16 13:38	11/11/16 07:16	1
Endosulfan II	0.00801	U	0.0559	0.00801	ug/L		11/07/16 13:38	11/11/16 07:16	1
Endosulfan sulfate	0.00819	U	0.0559	0.00819	ug/L		11/07/16 13:38	11/11/16 07:16	1
Endrin	0.00717	U	0.0559	0.00717	ug/L		11/07/16 13:38	11/11/16 07:16	1
Endrin aldehyde	0.00465	U	0.0559	0.00465	ug/L		11/07/16 13:38	11/11/16 07:16	1
Endrin ketone	0.00763	U	0.0559	0.00763	ug/L		11/07/16 13:38	11/11/16 07:16	1
gamma-BHC (Lindane)	0.00419	U	0.0559	0.00419	ug/L		11/07/16 13:38	11/11/16 07:16	1
gamma-Chlordane	0.00624	U	0.0559	0.00624	ug/L		11/07/16 13:38	11/11/16 07:16	1
Heptachlor	0.00605	U	0.0559	0.00605	ug/L		11/07/16 13:38	11/11/16 07:16	1
Heptachlor epoxide	0.00484	U	0.0559	0.00484	ug/L		11/07/16 13:38	11/11/16 07:16	1
Methoxychlor	0.00931	U	0.0559	0.00931	ug/L		11/07/16 13:38	11/11/16 07:16	1
Toxaphene	0.633	U	5.59	0.633	ug/L		11/07/16 13:38	11/11/16 07:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	68		10 - 152	11/07/16 13:38	11/11/16 07:16	1
Tetrachloro-m-xylene	100		57 - 127	11/07/16 13:38	11/11/16 07:16	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.102	U	0.559	0.102	ug/L		11/07/16 13:38	11/10/16 06:42	1
Aroclor 1221	0.102	U	0.559	0.102	ug/L		11/07/16 13:38	11/10/16 06:42	1
Aroclor 1232	0.410	U	0.745	0.410	ug/L		11/07/16 13:38	11/10/16 06:42	1
Aroclor 1242	0.102	U	0.559	0.102	ug/L		11/07/16 13:38	11/10/16 06:42	1
Aroclor 1248	0.102	U	0.559	0.102	ug/L		11/07/16 13:38	11/10/16 06:42	1
Aroclor 1254	0.102	U	0.559	0.102	ug/L		11/07/16 13:38	11/10/16 06:42	1
Aroclor 1260	0.102	U	0.559	0.102	ug/L		11/07/16 13:38	11/10/16 06:42	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM230 Lead**

**Lab Sample ID: 560-64786-2**

**Date Collected: 11/03/16 17:10**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1262	0.102	U	0.559	0.102	ug/L		11/07/16 13:38	11/10/16 06:42	1
Aroclor 1268	0.102	U	0.559	0.102	ug/L		11/07/16 13:38	11/10/16 06:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	96		10 - 150				11/07/16 13:38	11/10/16 06:42	1
DCB Decachlorobiphenyl	55		10 - 150				11/07/16 13:38	11/10/16 06:42	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00238	0.000160	mg/L		11/09/16 12:33	11/16/16 08:35	1
Bolstar	0.000299	U	0.000954	0.000299	mg/L		11/09/16 12:33	11/16/16 08:35	1
Chlorpyrifos	0.000343	U	0.00143	0.000343	mg/L		11/09/16 12:33	11/16/16 08:35	1
Coumaphos	0.000129	U	0.000954	0.000129	mg/L		11/09/16 12:33	11/16/16 08:35	1
Demeton-O	0.000133	U	0.000954	0.000133	mg/L		11/09/16 12:33	11/16/16 08:35	1
Demeton-S	0.0000658	U	0.00191	0.0000658	mg/L		11/09/16 12:33	11/16/16 08:35	1
Diazinon	0.000140	U	0.000477	0.000140	mg/L		11/09/16 12:33	11/16/16 08:35	1
Demeton, Total	0.000199	U	0.00286	0.000199	mg/L		11/09/16 12:33	11/16/16 08:35	1
Dichlorvos	0.000154	U	0.000477	0.000154	mg/L		11/09/16 12:33	11/16/16 08:35	1
Dimethoate	0.000428	U	0.00143	0.000428	mg/L		11/09/16 12:33	11/16/16 08:35	1
Disulfoton	0.000307	U	0.000954	0.000307	mg/L		11/09/16 12:33	11/16/16 08:35	1
EPN	0.000142	U	0.00114	0.000142	mg/L		11/09/16 12:33	11/16/16 08:35	1
Ethoprop	0.000169	U	0.00143	0.000169	mg/L		11/09/16 12:33	11/16/16 08:35	1
Ethyl Parathion	0.000137	U	0.000954	0.000137	mg/L		11/09/16 12:33	11/16/16 08:35	1
Famphur	0.000171	U	0.000954	0.000171	mg/L		11/09/16 12:33	11/16/16 08:35	1
Fensulfothion	0.000519	U	0.00238	0.000519	mg/L		11/09/16 12:33	11/16/16 08:35	1
Fenthion	0.000147	U	0.00238	0.000147	mg/L		11/09/16 12:33	11/16/16 08:35	1
Malathion	0.000127	U	0.00191	0.000127	mg/L		11/09/16 12:33	11/16/16 08:35	1
Merphos	0.000166	U	0.00477	0.000166	mg/L		11/09/16 12:33	11/16/16 08:35	1
Methyl parathion	0.000134	U	0.00381	0.000134	mg/L		11/09/16 12:33	11/16/16 08:35	1
Mevinphos	0.000439	U	0.00591	0.000439	mg/L		11/09/16 12:33	11/16/16 08:35	1
Naled	0.000763	U	0.00191	0.000763	mg/L		11/09/16 12:33	11/16/16 08:35	1
Phorate	0.000147	U	0.00114	0.000147	mg/L		11/09/16 12:33	11/16/16 08:35	1
Ronnel	0.000111	U	0.00954	0.000111	mg/L		11/09/16 12:33	11/16/16 08:35	1
Sulfotepp	0.000160	U	0.00143	0.000160	mg/L		11/09/16 12:33	11/16/16 08:35	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00334	0.000118	mg/L		11/09/16 12:33	11/16/16 08:35	1
Thionazin	0.000298	U	0.000954	0.000298	mg/L		11/09/16 12:33	11/16/16 08:35	1
Tokuthion	0.000117	U	0.00153	0.000117	mg/L		11/09/16 12:33	11/16/16 08:35	1
Trichloronate	0.000231	U	0.00143	0.000231	mg/L		11/09/16 12:33	11/16/16 08:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	64		49 - 171				11/09/16 12:33	11/16/16 08:35	1
Triphenylphosphate	87		60 - 154				11/09/16 12:33	11/16/16 08:35	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0953	U	4.77	0.0953	ug/L		11/07/16 09:36	11/09/16 00:00	1
Dicamba	0.0810	U	0.477	0.0810	ug/L		11/07/16 09:36	11/09/16 00:00	1
Mecoprop	18.1	U	114	18.1	ug/L		11/07/16 09:36	11/09/16 00:00	1
MCPA	16.2	U	114	16.2	ug/L		11/07/16 09:36	11/09/16 00:00	1
Dichlorprop	0.143	U	0.477	0.143	ug/L		11/07/16 09:36	11/09/16 00:00	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM230 Lead**

**Lab Sample ID: 560-64786-2**

**Date Collected: 11/03/16 17:10**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	0.0353	U	0.477	0.0353	ug/L		11/07/16 09:36	11/09/16 00:00	1
Silvex (2,4,5-TP)	0.0591	U	0.238	0.0591	ug/L		11/07/16 09:36	11/09/16 00:00	1
2,4,5-T	0.0591	U	0.238	0.0591	ug/L		11/07/16 09:36	11/09/16 00:00	1
2,4-DB	0.143	U	0.477	0.143	ug/L		11/07/16 09:36	11/09/16 00:00	1
Dinoseb	0.153	U	0.953	0.153	ug/L		11/07/16 09:36	11/09/16 00:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	80		45 - 130				11/07/16 09:36	11/09/16 00:00	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	36.3	B	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 20:56	1
Magnesium	4.89		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 20:56	1
Potassium	2.73		0.500	0.375	mg/L		11/07/16 09:45	11/07/16 20:56	1
Silicon	2.18		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 20:56	1
Sodium	4.76		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 20:56	1
Strontium	0.167		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 20:56	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 12:57	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 12:57	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 12:57	1
Barium	0.0177		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 12:57	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 12:57	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 12:57	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 12:57	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 12:57	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 12:57	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 12:57	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 12:57	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 12:57	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 12:57	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 12:57	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 12:57	1
Zinc	0.0104	J	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 12:57	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:03	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.405	J	1.00	0.315	mg/L			11/04/16 16:18	1
Chloride	6.99		1.00	0.192	mg/L			11/04/16 16:18	1
Nitrate as N	0.668		0.500	0.103	mg/L			11/04/16 16:18	1
Sulfate	10.5		1.00	0.377	mg/L			11/04/16 16:18	1
Fluoride	0.0271	J	0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/10/16 11:26	1
Phosphorus	0.143	B	0.100	0.0410	mg/L		11/08/16 07:52	11/09/16 12:01	1
Total Organic Carbon	6.58		1.00	0.285	mg/L			11/09/16 15:16	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.

TestAmerica Job ID: 560-64786-1

Project/Site: San Marcos Springs

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	104		5.00	5.00	mg/L			11/14/16 15:22	1
Bicarbonate Alkalinity as CaCO3	104		5.00	5.00	mg/L			11/14/16 15:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/14/16 15:22	1
Total Dissolved Solids	157		10.0	10.0	mg/L			11/07/16 13:40	1
Total Suspended Solids	47.2		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	5.09		1.00	0.285	mg/L			11/15/16 11:34	1

Client Sample ID: HSM231 Lead

Lab Sample ID: 560-64786-3

Date Collected: 11/03/16 16:40

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/06/16 14:22	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/06/16 14:22	1
Benzene	0.330	U	1.00	0.330	ug/L			11/06/16 14:22	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/06/16 14:22	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 14:22	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/06/16 14:22	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/06/16 14:22	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/06/16 14:22	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/06/16 14:22	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/06/16 14:22	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/06/16 14:22	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/06/16 14:22	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/06/16 14:22	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/06/16 14:22	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/06/16 14:22	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/06/16 14:22	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/06/16 14:22	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/06/16 14:22	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/06/16 14:22	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/06/16 14:22	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/06/16 14:22	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 14:22	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/06/16 14:22	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/06/16 14:22	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/06/16 14:22	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/06/16 14:22	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/06/16 14:22	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/06/16 14:22	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/06/16 14:22	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 14:22	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/06/16 14:22	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/06/16 14:22	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/06/16 14:22	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/06/16 14:22	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/06/16 14:22	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/06/16 14:22	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/06/16 14:22	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/06/16 14:22	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM231 Lead

Lab Sample ID: 560-64786-3

Date Collected: 11/03/16 16:40

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/06/16 14:22	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/06/16 14:22	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/06/16 14:22	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/06/16 14:22	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/06/16 14:22	1
EDB	0.175	U	1.00	0.175	ug/L			11/06/16 14:22	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/06/16 14:22	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 14:22	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/06/16 14:22	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/06/16 14:22	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/06/16 14:22	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/06/16 14:22	1
Hexane	2.00	U	5.00	2.00	ug/L			11/06/16 14:22	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/06/16 14:22	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/06/16 14:22	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/06/16 14:22	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/06/16 14:22	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/06/16 14:22	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/06/16 14:22	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/06/16 14:22	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/06/16 14:22	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/06/16 14:22	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/06/16 14:22	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/06/16 14:22	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/06/16 14:22	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/06/16 14:22	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 14:22	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/06/16 14:22	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/06/16 14:22	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/06/16 14:22	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/06/16 14:22	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/06/16 14:22	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/06/16 14:22	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/06/16 14:22	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/06/16 14:22	1
Styrene	0.200	U	1.00	0.200	ug/L			11/06/16 14:22	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 14:22	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/06/16 14:22	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/06/16 14:22	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/06/16 14:22	1
Toluene	0.495	U	1.00	0.495	ug/L			11/06/16 14:22	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 14:22	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/06/16 14:22	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/06/16 14:22	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/06/16 14:22	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/06/16 14:22	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/06/16 14:22	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/06/16 14:22	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/06/16 14:22	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM231 Lead**

**Lab Sample ID: 560-64786-3**

**Date Collected: 11/03/16 16:40**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/06/16 14:22	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/06/16 14:22	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/06/16 14:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/06/16 14:22	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 14:22	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 14:22	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/06/16 14:22	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/06/16 14:22	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/06/16 14:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130					11/06/16 14:22	1
Dibromofluoromethane (Surr)	104		69 - 130					11/06/16 14:22	1
1,2-Dichloroethane-d4 (Surr)	109		70 - 140					11/06/16 14:22	1
Toluene-d8 (Surr)	101		70 - 130					11/06/16 14:22	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/08/16 15:50	11/09/16 12:17	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/08/16 15:50	11/09/16 12:17	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/08/16 15:50	11/09/16 12:17	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/08/16 15:50	11/09/16 12:17	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/08/16 15:50	11/09/16 12:17	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/08/16 15:50	11/09/16 12:17	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/08/16 15:50	11/09/16 12:17	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/08/16 15:50	11/09/16 12:17	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/08/16 15:50	11/09/16 12:17	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/08/16 15:50	11/09/16 12:17	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/08/16 15:50	11/09/16 12:17	1
Bis(2-ethylhexyl) phthalate	5.00	U *	20.0	5.00	ug/L		11/08/16 15:50	11/09/16 12:17	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/08/16 15:50	11/09/16 12:17	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/08/16 15:50	11/09/16 12:17	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 12:17	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/08/16 15:50	11/09/16 12:17	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/08/16 15:50	11/09/16 12:17	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/08/16 15:50	11/09/16 12:17	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/08/16 15:50	11/09/16 12:17	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/08/16 15:50	11/09/16 12:17	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/08/16 15:50	11/09/16 12:17	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/08/16 15:50	11/09/16 12:17	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/08/16 15:50	11/09/16 12:17	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/08/16 15:50	11/09/16 12:17	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/08/16 15:50	11/09/16 12:17	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 12:17	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/08/16 15:50	11/09/16 12:17	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/08/16 15:50	11/09/16 12:17	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/08/16 15:50	11/09/16 12:17	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 12:17	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/08/16 15:50	11/09/16 12:17	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/08/16 15:50	11/09/16 12:17	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM231 Lead

Lab Sample ID: 560-64786-3

Date Collected: 11/03/16 16:40

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/08/16 15:50	11/09/16 12:17	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/08/16 15:50	11/09/16 12:17	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/08/16 15:50	11/09/16 12:17	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/08/16 15:50	11/09/16 12:17	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/08/16 15:50	11/09/16 12:17	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/08/16 15:50	11/09/16 12:17	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/08/16 15:50	11/09/16 12:17	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/08/16 15:50	11/09/16 12:17	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/08/16 15:50	11/09/16 12:17	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 12:17	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/08/16 15:50	11/09/16 12:17	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 12:17	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/08/16 15:50	11/09/16 12:17	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/08/16 15:50	11/09/16 12:17	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/08/16 15:50	11/09/16 12:17	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 12:17	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/08/16 15:50	11/09/16 12:17	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/08/16 15:50	11/09/16 12:17	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/08/16 15:50	11/09/16 12:17	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/08/16 15:50	11/09/16 12:17	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/08/16 15:50	11/09/16 12:17	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/08/16 15:50	11/09/16 12:17	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/08/16 15:50	11/09/16 12:17	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/08/16 15:50	11/09/16 12:17	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/08/16 15:50	11/09/16 12:17	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/08/16 15:50	11/09/16 12:17	1
Phenol	0.768	U	10.0	0.768	ug/L		11/08/16 15:50	11/09/16 12:17	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/08/16 15:50	11/09/16 12:17	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/08/16 15:50	11/09/16 12:17	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/08/16 15:50	11/09/16 12:17	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/08/16 15:50	11/09/16 12:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	50		23 - 130	11/08/16 15:50	11/09/16 12:17	1
2-Fluorophenol	49		10 - 130	11/08/16 15:50	11/09/16 12:17	1
Nitrobenzene-d5	50		27 - 130	11/08/16 15:50	11/09/16 12:17	1
Phenol-d5	53		10 - 130	11/08/16 15:50	11/09/16 12:17	1
Terphenyl-d14	44		10 - 141	11/08/16 15:50	11/09/16 12:17	1
2,4,6-Tribromophenol	51		18 - 130	11/08/16 15:50	11/09/16 12:17	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 07:37	1
alpha-BHC	0.00496	U	0.0572	0.00496	ug/L		11/07/16 13:38	11/11/16 07:37	1
alpha-Chlordane	0.00601	U	0.0572	0.00601	ug/L		11/07/16 13:38	11/11/16 07:37	1
beta-BHC	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 07:37	1
4,4'-DDD	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 07:37	1
4,4'-DDE	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 07:37	1
4,4'-DDT	0.00772	U	0.0572	0.00772	ug/L		11/07/16 13:38	11/11/16 07:37	1
delta-BHC	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 07:37	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM231 Lead**

**Lab Sample ID: 560-64786-3**

**Date Collected: 11/03/16 16:40**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dieldrin	0.0124	U	0.0572	0.0124	ug/L		11/07/16 13:38	11/11/16 07:37	1
Endosulfan I	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 07:37	1
Endosulfan II	0.00820	U	0.0572	0.00820	ug/L		11/07/16 13:38	11/11/16 07:37	1
Endosulfan sulfate	0.00839	U	0.0572	0.00839	ug/L		11/07/16 13:38	11/11/16 07:37	1
Endrin	0.00734	U	0.0572	0.00734	ug/L		11/07/16 13:38	11/11/16 07:37	1
Endrin aldehyde	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 07:37	1
Endrin ketone	0.00782	U	0.0572	0.00782	ug/L		11/07/16 13:38	11/11/16 07:37	1
gamma-BHC (Lindane)	0.00429	U	0.0572	0.00429	ug/L		11/07/16 13:38	11/11/16 07:37	1
gamma-Chlordane	0.00639	U	0.0572	0.00639	ug/L		11/07/16 13:38	11/11/16 07:37	1
Heptachlor	0.00620	U	0.0572	0.00620	ug/L		11/07/16 13:38	11/11/16 07:37	1
Heptachlor epoxide	0.00496	U	0.0572	0.00496	ug/L		11/07/16 13:38	11/11/16 07:37	1
Methoxychlor	0.00954	U	0.0572	0.00954	ug/L		11/07/16 13:38	11/11/16 07:37	1
Toxaphene	0.649	U	5.72	0.649	ug/L		11/07/16 13:38	11/11/16 07:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	83		10 - 152	11/07/16 13:38	11/11/16 07:37	1
Tetrachloro-m-xylene	100		57 - 127	11/07/16 13:38	11/11/16 07:37	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:00	1
Aroclor 1221	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:00	1
Aroclor 1232	0.420	U	0.763	0.420	ug/L		11/07/16 13:38	11/10/16 07:00	1
Aroclor 1242	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:00	1
Aroclor 1248	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:00	1
Aroclor 1254	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:00	1
Aroclor 1260	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:00	1
Aroclor 1262	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:00	1
Aroclor 1268	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	96		10 - 150	11/07/16 13:38	11/10/16 07:00	1
DCB Decachlorobiphenyl	63		10 - 150	11/07/16 13:38	11/10/16 07:00	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00237	0.000159	mg/L		11/09/16 12:33	11/16/16 09:07	1
Bolstar	0.000298	U	0.000949	0.000298	mg/L		11/09/16 12:33	11/16/16 09:07	1
Chlorpyrifos	0.000342	U	0.00142	0.000342	mg/L		11/09/16 12:33	11/16/16 09:07	1
Coumaphos	0.000128	U	0.000949	0.000128	mg/L		11/09/16 12:33	11/16/16 09:07	1
Demeton-O	0.000133	U	0.000949	0.000133	mg/L		11/09/16 12:33	11/16/16 09:07	1
Demeton-S	0.0000655	U	0.00190	0.0000655	mg/L		11/09/16 12:33	11/16/16 09:07	1
Diazinon	0.000140	U	0.000475	0.000140	mg/L		11/09/16 12:33	11/16/16 09:07	1
Demeton, Total	0.000198	U	0.00285	0.000198	mg/L		11/09/16 12:33	11/16/16 09:07	1
Dichlorvos	0.000154	U	0.000475	0.000154	mg/L		11/09/16 12:33	11/16/16 09:07	1
Dimethoate	0.000426	U	0.00142	0.000426	mg/L		11/09/16 12:33	11/16/16 09:07	1
Disulfoton	0.000306	U	0.000949	0.000306	mg/L		11/09/16 12:33	11/16/16 09:07	1
EPN	0.000141	U	0.00114	0.000141	mg/L		11/09/16 12:33	11/16/16 09:07	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		11/09/16 12:33	11/16/16 09:07	1
Ethyl Parathion	0.000137	U	0.000949	0.000137	mg/L		11/09/16 12:33	11/16/16 09:07	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM231 Lead**

**Lab Sample ID: 560-64786-3**

**Date Collected: 11/03/16 16:40**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Famphur	0.000170	U	0.000949	0.000170	mg/L		11/09/16 12:33	11/16/16 09:07	1
Fensulfothion	0.000516	U	0.00237	0.000516	mg/L		11/09/16 12:33	11/16/16 09:07	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		11/09/16 12:33	11/16/16 09:07	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		11/09/16 12:33	11/16/16 09:07	1
Merphos	0.000165	U	0.00475	0.000165	mg/L		11/09/16 12:33	11/16/16 09:07	1
Methyl parathion	0.000134	U	0.00380	0.000134	mg/L		11/09/16 12:33	11/16/16 09:07	1
Mevinphos	0.000437	U	0.00589	0.000437	mg/L		11/09/16 12:33	11/16/16 09:07	1
Naled	0.000759	U	0.00190	0.000759	mg/L		11/09/16 12:33	11/16/16 09:07	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		11/09/16 12:33	11/16/16 09:07	1
Ronnel	0.000110	U	0.00949	0.000110	mg/L		11/09/16 12:33	11/16/16 09:07	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		11/09/16 12:33	11/16/16 09:07	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00332	0.000118	mg/L		11/09/16 12:33	11/16/16 09:07	1
Thionazin	0.000296	U	0.000949	0.000296	mg/L		11/09/16 12:33	11/16/16 09:07	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		11/09/16 12:33	11/16/16 09:07	1
Trichloronate	0.000230	U	0.00142	0.000230	mg/L		11/09/16 12:33	11/16/16 09:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	56		49 - 171	11/09/16 12:33	11/16/16 09:07	1
Triphenylphosphate	87		60 - 154	11/09/16 12:33	11/16/16 09:07	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0953	U	4.77	0.0953	ug/L		11/07/16 09:36	11/09/16 00:19	1
Dicamba	0.0810	U	0.477	0.0810	ug/L		11/07/16 09:36	11/09/16 00:19	1
Mecoprop	18.1	U	114	18.1	ug/L		11/07/16 09:36	11/09/16 00:19	1
MCPA	16.2	U	114	16.2	ug/L		11/07/16 09:36	11/09/16 00:19	1
Dichlorprop	0.143	U	0.477	0.143	ug/L		11/07/16 09:36	11/09/16 00:19	1
2,4-D	0.0353	U	0.477	0.0353	ug/L		11/07/16 09:36	11/09/16 00:19	1
Silvex (2,4,5-TP)	0.0591	U	0.238	0.0591	ug/L		11/07/16 09:36	11/09/16 00:19	1
2,4,5-T	0.0591	U	0.238	0.0591	ug/L		11/07/16 09:36	11/09/16 00:19	1
2,4-DB	0.143	U	0.477	0.143	ug/L		11/07/16 09:36	11/09/16 00:19	1
Dinoseb	0.152	U	0.953	0.152	ug/L		11/07/16 09:36	11/09/16 00:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	87		45 - 130	11/07/16 09:36	11/09/16 00:19	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	65.3	B	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 21:00	1
Magnesium	11.8		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 21:00	1
Potassium	1.82		0.500	0.375	mg/L		11/07/16 09:45	11/07/16 21:00	1
Silicon	4.00		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 21:00	1
Sodium	8.12		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 21:00	1
Strontium	0.370		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 21:00	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 13:02	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 13:02	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 13:02	1
Barium	0.0291		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 13:02	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM231 Lead

Lab Sample ID: 560-64786-3

Date Collected: 11/03/16 16:40

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 13:02	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 13:02	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 13:02	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 13:02	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 13:02	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 13:02	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 13:02	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 13:02	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 13:02	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 13:02	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 13:02	1
Zinc	0.00855	J	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 13:02	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:05	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.433	J	1.00	0.315	mg/L			11/04/16 17:36	1
Chloride	13.7		1.00	0.192	mg/L			11/04/16 17:36	1
Nitrate as N	0.868		0.500	0.103	mg/L			11/04/16 17:36	1
Sulfate	17.8		1.00	0.377	mg/L			11/04/16 17:36	1
Fluoride	0.0608	J	0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/10/16 11:27	1
Phosphorus	0.111	B	0.100	0.0410	mg/L		11/08/16 07:52	11/09/16 12:02	1
Total Organic Carbon	2.80		1.00	0.285	mg/L			11/09/16 15:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	180		5.00	5.00	mg/L			11/14/16 15:22	1
Bicarbonate Alkalinity as CaCO3	180		5.00	5.00	mg/L			11/14/16 15:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/14/16 15:22	1
Total Dissolved Solids	244		10.0	10.0	mg/L			11/07/16 13:40	1
Total Suspended Solids	32.2		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.43		1.00	0.285	mg/L			11/15/16 11:34	1

Client Sample ID: HSM240 Lead

Lab Sample ID: 560-64786-4

Date Collected: 11/03/16 17:30

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/06/16 14:48	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/06/16 14:48	1
Benzene	0.330	U	1.00	0.330	ug/L			11/06/16 14:48	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/06/16 14:48	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 14:48	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM240 Lead

Lab Sample ID: 560-64786-4

Date Collected: 11/03/16 17:30

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/06/16 14:48	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/06/16 14:48	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/06/16 14:48	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/06/16 14:48	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/06/16 14:48	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/06/16 14:48	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/06/16 14:48	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/06/16 14:48	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/06/16 14:48	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/06/16 14:48	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/06/16 14:48	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/06/16 14:48	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/06/16 14:48	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/06/16 14:48	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/06/16 14:48	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/06/16 14:48	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 14:48	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/06/16 14:48	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/06/16 14:48	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/06/16 14:48	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/06/16 14:48	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/06/16 14:48	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/06/16 14:48	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/06/16 14:48	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 14:48	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/06/16 14:48	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/06/16 14:48	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/06/16 14:48	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/06/16 14:48	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/06/16 14:48	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/06/16 14:48	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/06/16 14:48	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/06/16 14:48	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/06/16 14:48	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/06/16 14:48	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/06/16 14:48	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/06/16 14:48	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/06/16 14:48	1
EDB	0.175	U	1.00	0.175	ug/L			11/06/16 14:48	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/06/16 14:48	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 14:48	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/06/16 14:48	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/06/16 14:48	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/06/16 14:48	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/06/16 14:48	1
Hexane	2.00	U	5.00	2.00	ug/L			11/06/16 14:48	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/06/16 14:48	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/06/16 14:48	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/06/16 14:48	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM240 Lead

Lab Sample ID: 560-64786-4

Date Collected: 11/03/16 17:30

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isooctane	0.500	U	5.00	0.500	ug/L			11/06/16 14:48	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/06/16 14:48	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/06/16 14:48	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/06/16 14:48	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/06/16 14:48	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/06/16 14:48	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/06/16 14:48	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/06/16 14:48	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/06/16 14:48	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/06/16 14:48	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 14:48	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/06/16 14:48	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/06/16 14:48	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/06/16 14:48	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/06/16 14:48	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/06/16 14:48	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/06/16 14:48	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/06/16 14:48	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/06/16 14:48	1
Styrene	0.200	U	1.00	0.200	ug/L			11/06/16 14:48	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 14:48	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/06/16 14:48	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/06/16 14:48	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/06/16 14:48	1
Toluene	0.495	U	1.00	0.495	ug/L			11/06/16 14:48	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 14:48	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/06/16 14:48	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/06/16 14:48	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/06/16 14:48	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/06/16 14:48	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/06/16 14:48	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/06/16 14:48	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/06/16 14:48	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/06/16 14:48	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/06/16 14:48	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/06/16 14:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/06/16 14:48	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 14:48	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 14:48	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/06/16 14:48	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/06/16 14:48	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/06/16 14:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130		11/06/16 14:48	1
Dibromofluoromethane (Surr)	103		69 - 130		11/06/16 14:48	1
1,2-Dichloroethane-d4 (Surr)	109		70 - 140		11/06/16 14:48	1
Toluene-d8 (Surr)	101		70 - 130		11/06/16 14:48	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM240 Lead

Lab Sample ID: 560-64786-4

Date Collected: 11/03/16 17:30

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/08/16 15:50	11/09/16 12:44	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/08/16 15:50	11/09/16 12:44	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/08/16 15:50	11/09/16 12:44	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/08/16 15:50	11/09/16 12:44	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/08/16 15:50	11/09/16 12:44	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/08/16 15:50	11/09/16 12:44	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/08/16 15:50	11/09/16 12:44	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/08/16 15:50	11/09/16 12:44	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/08/16 15:50	11/09/16 12:44	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/08/16 15:50	11/09/16 12:44	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/08/16 15:50	11/09/16 12:44	1
Bis(2-ethylhexyl) phthalate	5.00	U *	20.0	5.00	ug/L		11/08/16 15:50	11/09/16 12:44	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/08/16 15:50	11/09/16 12:44	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/08/16 15:50	11/09/16 12:44	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 12:44	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/08/16 15:50	11/09/16 12:44	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/08/16 15:50	11/09/16 12:44	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/08/16 15:50	11/09/16 12:44	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/08/16 15:50	11/09/16 12:44	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/08/16 15:50	11/09/16 12:44	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/08/16 15:50	11/09/16 12:44	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/08/16 15:50	11/09/16 12:44	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/08/16 15:50	11/09/16 12:44	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/08/16 15:50	11/09/16 12:44	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/08/16 15:50	11/09/16 12:44	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 12:44	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/08/16 15:50	11/09/16 12:44	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/08/16 15:50	11/09/16 12:44	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/08/16 15:50	11/09/16 12:44	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 12:44	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/08/16 15:50	11/09/16 12:44	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/08/16 15:50	11/09/16 12:44	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/08/16 15:50	11/09/16 12:44	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/08/16 15:50	11/09/16 12:44	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/08/16 15:50	11/09/16 12:44	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/08/16 15:50	11/09/16 12:44	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/08/16 15:50	11/09/16 12:44	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/08/16 15:50	11/09/16 12:44	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/08/16 15:50	11/09/16 12:44	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/08/16 15:50	11/09/16 12:44	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/08/16 15:50	11/09/16 12:44	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 12:44	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/08/16 15:50	11/09/16 12:44	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 12:44	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/08/16 15:50	11/09/16 12:44	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/08/16 15:50	11/09/16 12:44	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/08/16 15:50	11/09/16 12:44	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 12:44	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/08/16 15:50	11/09/16 12:44	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM240 Lead**

**Lab Sample ID: 560-64786-4**

**Date Collected: 11/03/16 17:30**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/08/16 15:50	11/09/16 12:44	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/08/16 15:50	11/09/16 12:44	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/08/16 15:50	11/09/16 12:44	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/08/16 15:50	11/09/16 12:44	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/08/16 15:50	11/09/16 12:44	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/08/16 15:50	11/09/16 12:44	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/08/16 15:50	11/09/16 12:44	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/08/16 15:50	11/09/16 12:44	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/08/16 15:50	11/09/16 12:44	1
Phenol	0.768	U	10.0	0.768	ug/L		11/08/16 15:50	11/09/16 12:44	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/08/16 15:50	11/09/16 12:44	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/08/16 15:50	11/09/16 12:44	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/08/16 15:50	11/09/16 12:44	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/08/16 15:50	11/09/16 12:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	47		23 - 130	11/08/16 15:50	11/09/16 12:44	1
2-Fluorophenol	46		10 - 130	11/08/16 15:50	11/09/16 12:44	1
Nitrobenzene-d5	48		27 - 130	11/08/16 15:50	11/09/16 12:44	1
Phenol-d5	49		10 - 130	11/08/16 15:50	11/09/16 12:44	1
Terphenyl-d14	38		10 - 141	11/08/16 15:50	11/09/16 12:44	1
2,4,6-Tribromophenol	52		18 - 130	11/08/16 15:50	11/09/16 12:44	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00470	U	0.0565	0.00470	ug/L		11/07/16 13:38	11/11/16 07:58	1
alpha-BHC	0.00489	U	0.0565	0.00489	ug/L		11/07/16 13:38	11/11/16 07:58	1
alpha-Chlordane	0.00593	U	0.0565	0.00593	ug/L		11/07/16 13:38	11/11/16 07:58	1
beta-BHC	0.00470	U	0.0565	0.00470	ug/L		11/07/16 13:38	11/11/16 07:58	1
4,4'-DDD	0.00470	U	0.0565	0.00470	ug/L		11/07/16 13:38	11/11/16 07:58	1
4,4'-DDE	0.00470	U	0.0565	0.00470	ug/L		11/07/16 13:38	11/11/16 07:58	1
4,4'-DDT	0.00762	U	0.0565	0.00762	ug/L		11/07/16 13:38	11/11/16 07:58	1
delta-BHC	0.00470	U	0.0565	0.00470	ug/L		11/07/16 13:38	11/11/16 07:58	1
Dieldrin	0.0122	U	0.0565	0.0122	ug/L		11/07/16 13:38	11/11/16 07:58	1
Endosulfan I	0.00470	U	0.0565	0.00470	ug/L		11/07/16 13:38	11/11/16 07:58	1
Endosulfan II	0.00809	U	0.0565	0.00809	ug/L		11/07/16 13:38	11/11/16 07:58	1
Endosulfan sulfate	0.00828	U	0.0565	0.00828	ug/L		11/07/16 13:38	11/11/16 07:58	1
Endrin	0.00724	U	0.0565	0.00724	ug/L		11/07/16 13:38	11/11/16 07:58	1
Endrin aldehyde	0.00470	U	0.0565	0.00470	ug/L		11/07/16 13:38	11/11/16 07:58	1
Endrin ketone	0.00772	U	0.0565	0.00772	ug/L		11/07/16 13:38	11/11/16 07:58	1
gamma-BHC (Lindane)	0.00423	U	0.0565	0.00423	ug/L		11/07/16 13:38	11/11/16 07:58	1
gamma-Chlordane	0.00630	U	0.0565	0.00630	ug/L		11/07/16 13:38	11/11/16 07:58	1
Heptachlor	0.00612	U	0.0565	0.00612	ug/L		11/07/16 13:38	11/11/16 07:58	1
Heptachlor epoxide	0.00489	U	0.0565	0.00489	ug/L		11/07/16 13:38	11/11/16 07:58	1
Methoxychlor	0.00941	U	0.0565	0.00941	ug/L		11/07/16 13:38	11/11/16 07:58	1
Toxaphene	0.640	U	5.65	0.640	ug/L		11/07/16 13:38	11/11/16 07:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	88		10 - 152	11/07/16 13:38	11/11/16 07:58	1
Tetrachloro-m-xylene	99		57 - 127	11/07/16 13:38	11/11/16 07:58	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM240 Lead**

**Lab Sample ID: 560-64786-4**

**Date Collected: 11/03/16 17:30**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.565	0.103	ug/L		11/07/16 13:38	11/10/16 07:17	1
Aroclor 1221	0.103	U	0.565	0.103	ug/L		11/07/16 13:38	11/10/16 07:17	1
Aroclor 1232	0.414	U	0.753	0.414	ug/L		11/07/16 13:38	11/10/16 07:17	1
Aroclor 1242	0.103	U	0.565	0.103	ug/L		11/07/16 13:38	11/10/16 07:17	1
Aroclor 1248	0.103	U	0.565	0.103	ug/L		11/07/16 13:38	11/10/16 07:17	1
Aroclor 1254	0.103	U	0.565	0.103	ug/L		11/07/16 13:38	11/10/16 07:17	1
Aroclor 1260	0.103	U	0.565	0.103	ug/L		11/07/16 13:38	11/10/16 07:17	1
Aroclor 1262	0.103	U	0.565	0.103	ug/L		11/07/16 13:38	11/10/16 07:17	1
Aroclor 1268	0.103	U	0.565	0.103	ug/L		11/07/16 13:38	11/10/16 07:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	98		10 - 150				11/07/16 13:38	11/10/16 07:17	1
DCB Decachlorobiphenyl	68		10 - 150				11/07/16 13:38	11/10/16 07:17	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00237	0.000160	mg/L		11/09/16 12:33	11/16/16 09:38	1
Bolstar	0.000298	U	0.000950	0.000298	mg/L		11/09/16 12:33	11/16/16 09:38	1
Chlorpyrifos	0.000342	U	0.00142	0.000342	mg/L		11/09/16 12:33	11/16/16 09:38	1
Coumaphos	0.000128	U	0.000950	0.000128	mg/L		11/09/16 12:33	11/16/16 09:38	1
Demeton-O	0.000133	U	0.000950	0.000133	mg/L		11/09/16 12:33	11/16/16 09:38	1
Demeton-S	0.0000655	U	0.00190	0.0000655	mg/L		11/09/16 12:33	11/16/16 09:38	1
Diazinon	0.000140	U	0.000475	0.000140	mg/L		11/09/16 12:33	11/16/16 09:38	1
Demeton, Total	0.000198	U	0.00285	0.000198	mg/L		11/09/16 12:33	11/16/16 09:38	1
Dichlorvos	0.000154	U	0.000475	0.000154	mg/L		11/09/16 12:33	11/16/16 09:38	1
Dimethoate	0.000426	U	0.00142	0.000426	mg/L		11/09/16 12:33	11/16/16 09:38	1
Disulfoton	0.000306	U	0.000950	0.000306	mg/L		11/09/16 12:33	11/16/16 09:38	1
EPN	0.000141	U	0.00114	0.000141	mg/L		11/09/16 12:33	11/16/16 09:38	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		11/09/16 12:33	11/16/16 09:38	1
Ethyl Parathion	0.000137	U	0.000950	0.000137	mg/L		11/09/16 12:33	11/16/16 09:38	1
Famphur	0.000170	U	0.000950	0.000170	mg/L		11/09/16 12:33	11/16/16 09:38	1
Fensulfothion	0.000517	U	0.00237	0.000517	mg/L		11/09/16 12:33	11/16/16 09:38	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		11/09/16 12:33	11/16/16 09:38	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		11/09/16 12:33	11/16/16 09:38	1
Merphos	0.000165	U	0.00475	0.000165	mg/L		11/09/16 12:33	11/16/16 09:38	1
Methyl parathion	0.000134	U	0.00380	0.000134	mg/L		11/09/16 12:33	11/16/16 09:38	1
Mevinphos	0.000437	U	0.00589	0.000437	mg/L		11/09/16 12:33	11/16/16 09:38	1
Naled	0.000760	U	0.00190	0.000760	mg/L		11/09/16 12:33	11/16/16 09:38	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		11/09/16 12:33	11/16/16 09:38	1
Ronnel	0.000110	U	0.00950	0.000110	mg/L		11/09/16 12:33	11/16/16 09:38	1
Sulfotepp	0.000160	U	0.00142	0.000160	mg/L		11/09/16 12:33	11/16/16 09:38	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00332	0.000118	mg/L		11/09/16 12:33	11/16/16 09:38	1
Thionazin	0.000296	U	0.000950	0.000296	mg/L		11/09/16 12:33	11/16/16 09:38	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		11/09/16 12:33	11/16/16 09:38	1
Trichloronate	0.000230	U	0.00142	0.000230	mg/L		11/09/16 12:33	11/16/16 09:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	58		49 - 171				11/09/16 12:33	11/16/16 09:38	1
Triphenylphosphate	82		60 - 154				11/09/16 12:33	11/16/16 09:38	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM240 Lead**

**Lab Sample ID: 560-64786-4**

**Date Collected: 11/03/16 17:30**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0955	U	4.78	0.0955	ug/L		11/07/16 09:36	11/10/16 02:36	1
Dicamba	0.0812	U	0.478	0.0812	ug/L		11/07/16 09:36	11/10/16 02:36	1
Mecoprop	18.1	U	115	18.1	ug/L		11/07/16 09:36	11/10/16 02:36	1
MCPA	16.2	U	115	16.2	ug/L		11/07/16 09:36	11/10/16 02:36	1
Dichlorprop	0.143	U	0.478	0.143	ug/L		11/07/16 09:36	11/10/16 02:36	1
2,4-D	0.0353	U	0.478	0.0353	ug/L		11/07/16 09:36	11/10/16 02:36	1
Silvex (2,4,5-TP)	0.0592	U	0.239	0.0592	ug/L		11/07/16 09:36	11/10/16 02:36	1
2,4,5-T	0.0592	U	0.239	0.0592	ug/L		11/07/16 09:36	11/10/16 02:36	1
2,4-DB	0.143	U	0.478	0.143	ug/L		11/07/16 09:36	11/10/16 02:36	1
Dinoseb	0.153	U	0.955	0.153	ug/L		11/07/16 09:36	11/10/16 02:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	86		45 - 130	11/07/16 09:36	11/10/16 02:36	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	81.1	B	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 21:04	1
Magnesium	14.9		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 21:04	1
Potassium	1.70		0.500	0.375	mg/L		11/07/16 09:45	11/07/16 21:04	1
Silicon	5.06		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 21:04	1
Sodium	11.1		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 21:04	1
Strontium	0.465		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 21:04	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 13:33	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 13:33	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 13:33	1
Barium	0.0347		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 13:33	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 13:33	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 13:33	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 13:33	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 13:33	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 13:33	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 13:33	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 13:33	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 13:33	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 13:33	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 13:33	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 13:33	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 13:33	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:07	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.445	J	1.00	0.315	mg/L			11/04/16 18:02	1
Chloride	17.6		1.00	0.192	mg/L			11/04/16 18:02	1
Nitrate as N	1.07		0.500	0.103	mg/L			11/04/16 18:02	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM240 Lead**

**Lab Sample ID: 560-64786-4**

**Date Collected: 11/03/16 17:30**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	22.1		1.00	0.377	mg/L			11/04/16 18:02	1
Fluoride	0.147		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/10/16 11:30	1
Phosphorus	0.0584	J B	0.100	0.0410	mg/L		11/08/16 07:52	11/09/16 12:03	1
Total Organic Carbon	0.951	J	1.00	0.285	mg/L			11/09/16 15:16	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	229		5.00	5.00	mg/L			11/14/16 15:22	1
Bicarbonate Alkalinity as CaCO3	229		5.00	5.00	mg/L			11/14/16 15:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/14/16 15:22	1
Total Dissolved Solids	327		10.0	10.0	mg/L			11/07/16 13:40	1
Total Suspended Solids	9.20		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.936	J	1.00	0.285	mg/L			11/15/16 11:34	1

**Client Sample ID: HSM250 Lead**

**Lab Sample ID: 560-64786-5**

**Date Collected: 11/03/16 17:05**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/06/16 15:12	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/06/16 15:12	1
Benzene	0.330	U	1.00	0.330	ug/L			11/06/16 15:12	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/06/16 15:12	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 15:12	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/06/16 15:12	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/06/16 15:12	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/06/16 15:12	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/06/16 15:12	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/06/16 15:12	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/06/16 15:12	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/06/16 15:12	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/06/16 15:12	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/06/16 15:12	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/06/16 15:12	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/06/16 15:12	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/06/16 15:12	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/06/16 15:12	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/06/16 15:12	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/06/16 15:12	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/06/16 15:12	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 15:12	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/06/16 15:12	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/06/16 15:12	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/06/16 15:12	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/06/16 15:12	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/06/16 15:12	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM250 Lead

Lab Sample ID: 560-64786-5

Date Collected: 11/03/16 17:05

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/06/16 15:12	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/06/16 15:12	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 15:12	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/06/16 15:12	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/06/16 15:12	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/06/16 15:12	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/06/16 15:12	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/06/16 15:12	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/06/16 15:12	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/06/16 15:12	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/06/16 15:12	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/06/16 15:12	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/06/16 15:12	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/06/16 15:12	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/06/16 15:12	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/06/16 15:12	1
EDB	0.175	U	1.00	0.175	ug/L			11/06/16 15:12	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/06/16 15:12	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 15:12	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/06/16 15:12	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/06/16 15:12	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/06/16 15:12	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/06/16 15:12	1
Hexane	2.00	U	5.00	2.00	ug/L			11/06/16 15:12	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/06/16 15:12	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/06/16 15:12	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/06/16 15:12	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/06/16 15:12	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/06/16 15:12	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/06/16 15:12	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/06/16 15:12	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/06/16 15:12	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/06/16 15:12	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/06/16 15:12	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/06/16 15:12	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/06/16 15:12	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/06/16 15:12	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 15:12	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/06/16 15:12	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/06/16 15:12	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/06/16 15:12	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/06/16 15:12	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/06/16 15:12	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/06/16 15:12	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/06/16 15:12	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/06/16 15:12	1
Styrene	0.200	U	1.00	0.200	ug/L			11/06/16 15:12	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 15:12	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/06/16 15:12	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM250 Lead**

**Lab Sample ID: 560-64786-5**

**Date Collected: 11/03/16 17:05**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/06/16 15:12	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/06/16 15:12	1
Toluene	0.495	U	1.00	0.495	ug/L			11/06/16 15:12	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 15:12	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/06/16 15:12	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/06/16 15:12	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/06/16 15:12	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/06/16 15:12	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/06/16 15:12	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/06/16 15:12	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/06/16 15:12	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/06/16 15:12	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/06/16 15:12	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/06/16 15:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/06/16 15:12	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 15:12	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 15:12	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/06/16 15:12	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/06/16 15:12	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/06/16 15:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		11/06/16 15:12	1
Dibromofluoromethane (Surr)	103		69 - 130		11/06/16 15:12	1
1,2-Dichloroethane-d4 (Surr)	109		70 - 140		11/06/16 15:12	1
Toluene-d8 (Surr)	100		70 - 130		11/06/16 15:12	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/08/16 15:50	11/09/16 13:11	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/08/16 15:50	11/09/16 13:11	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/08/16 15:50	11/09/16 13:11	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/08/16 15:50	11/09/16 13:11	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/08/16 15:50	11/09/16 13:11	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/08/16 15:50	11/09/16 13:11	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/08/16 15:50	11/09/16 13:11	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/08/16 15:50	11/09/16 13:11	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/08/16 15:50	11/09/16 13:11	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/08/16 15:50	11/09/16 13:11	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/08/16 15:50	11/09/16 13:11	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>11.0</b>	<b>J *</b>	20.0	5.00	ug/L		11/08/16 15:50	11/09/16 13:11	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/08/16 15:50	11/09/16 13:11	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/08/16 15:50	11/09/16 13:11	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 13:11	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/08/16 15:50	11/09/16 13:11	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/08/16 15:50	11/09/16 13:11	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/08/16 15:50	11/09/16 13:11	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/08/16 15:50	11/09/16 13:11	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/08/16 15:50	11/09/16 13:11	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/08/16 15:50	11/09/16 13:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM250 Lead**

**Lab Sample ID: 560-64786-5**

**Date Collected: 11/03/16 17:05**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/08/16 15:50	11/09/16 13:11	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/08/16 15:50	11/09/16 13:11	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/08/16 15:50	11/09/16 13:11	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/08/16 15:50	11/09/16 13:11	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 13:11	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/08/16 15:50	11/09/16 13:11	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/08/16 15:50	11/09/16 13:11	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/08/16 15:50	11/09/16 13:11	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 13:11	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/08/16 15:50	11/09/16 13:11	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/08/16 15:50	11/09/16 13:11	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/08/16 15:50	11/09/16 13:11	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/08/16 15:50	11/09/16 13:11	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/08/16 15:50	11/09/16 13:11	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/08/16 15:50	11/09/16 13:11	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/08/16 15:50	11/09/16 13:11	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/08/16 15:50	11/09/16 13:11	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/08/16 15:50	11/09/16 13:11	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/08/16 15:50	11/09/16 13:11	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/08/16 15:50	11/09/16 13:11	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 13:11	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/08/16 15:50	11/09/16 13:11	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 13:11	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/08/16 15:50	11/09/16 13:11	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/08/16 15:50	11/09/16 13:11	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/08/16 15:50	11/09/16 13:11	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 13:11	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/08/16 15:50	11/09/16 13:11	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/08/16 15:50	11/09/16 13:11	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/08/16 15:50	11/09/16 13:11	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/08/16 15:50	11/09/16 13:11	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/08/16 15:50	11/09/16 13:11	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/08/16 15:50	11/09/16 13:11	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/08/16 15:50	11/09/16 13:11	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/08/16 15:50	11/09/16 13:11	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/08/16 15:50	11/09/16 13:11	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/08/16 15:50	11/09/16 13:11	1
Phenol	0.768	U	10.0	0.768	ug/L		11/08/16 15:50	11/09/16 13:11	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/08/16 15:50	11/09/16 13:11	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/08/16 15:50	11/09/16 13:11	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/08/16 15:50	11/09/16 13:11	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/08/16 15:50	11/09/16 13:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	69		23 - 130				11/08/16 15:50	11/09/16 13:11	1
2-Fluorophenol	67		10 - 130				11/08/16 15:50	11/09/16 13:11	1
Nitrobenzene-d5	70		27 - 130				11/08/16 15:50	11/09/16 13:11	1
Phenol-d5	73		10 - 130				11/08/16 15:50	11/09/16 13:11	1
Terphenyl-d14	46		10 - 141				11/08/16 15:50	11/09/16 13:11	1
2,4,6-Tribromophenol	70		18 - 130				11/08/16 15:50	11/09/16 13:11	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 08:20	1
alpha-BHC	0.00496	U	0.0572	0.00496	ug/L		11/07/16 13:38	11/11/16 08:20	1
alpha-Chlordane	0.00601	U	0.0572	0.00601	ug/L		11/07/16 13:38	11/11/16 08:20	1
beta-BHC	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 08:20	1
4,4'-DDD	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 08:20	1
4,4'-DDE	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 08:20	1
4,4'-DDT	0.00772	U	0.0572	0.00772	ug/L		11/07/16 13:38	11/11/16 08:20	1
delta-BHC	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 08:20	1
Dieldrin	0.0124	U	0.0572	0.0124	ug/L		11/07/16 13:38	11/11/16 08:20	1
Endosulfan I	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 08:20	1
Endosulfan II	0.00820	U	0.0572	0.00820	ug/L		11/07/16 13:38	11/11/16 08:20	1
Endosulfan sulfate	0.00839	U	0.0572	0.00839	ug/L		11/07/16 13:38	11/11/16 08:20	1
Endrin	0.00734	U	0.0572	0.00734	ug/L		11/07/16 13:38	11/11/16 08:20	1
Endrin aldehyde	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 08:20	1
Endrin ketone	0.00782	U	0.0572	0.00782	ug/L		11/07/16 13:38	11/11/16 08:20	1
gamma-BHC (Lindane)	0.00429	U	0.0572	0.00429	ug/L		11/07/16 13:38	11/11/16 08:20	1
gamma-Chlordane	0.00639	U	0.0572	0.00639	ug/L		11/07/16 13:38	11/11/16 08:20	1
Heptachlor	0.00620	U	0.0572	0.00620	ug/L		11/07/16 13:38	11/11/16 08:20	1
Heptachlor epoxide	0.00496	U	0.0572	0.00496	ug/L		11/07/16 13:38	11/11/16 08:20	1
Methoxychlor	0.00954	U	0.0572	0.00954	ug/L		11/07/16 13:38	11/11/16 08:20	1
Toxaphene	0.649	U	5.72	0.649	ug/L		11/07/16 13:38	11/11/16 08:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	86		10 - 152				11/07/16 13:38	11/11/16 08:20	1
Tetrachloro-m-xylene	98		57 - 127				11/07/16 13:38	11/11/16 08:20	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:35	1
Aroclor 1221	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:35	1
Aroclor 1232	0.420	U	0.763	0.420	ug/L		11/07/16 13:38	11/10/16 07:35	1
Aroclor 1242	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:35	1
Aroclor 1248	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:35	1
Aroclor 1254	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:35	1
Aroclor 1260	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:35	1
Aroclor 1262	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:35	1
Aroclor 1268	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 07:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	99		10 - 150				11/07/16 13:38	11/10/16 07:35	1
DCB Decachlorobiphenyl	66		10 - 150				11/07/16 13:38	11/10/16 07:35	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00237	0.000159	mg/L		11/09/16 12:33	11/16/16 10:10	1
Bolstar	0.000298	U	0.000948	0.000298	mg/L		11/09/16 12:33	11/16/16 10:10	1
Chlorpyrifos	0.000341	U	0.00142	0.000341	mg/L		11/09/16 12:33	11/16/16 10:10	1
Coumaphos	0.000128	U	0.000948	0.000128	mg/L		11/09/16 12:33	11/16/16 10:10	1
Demeton-O	0.000133	U	0.000948	0.000133	mg/L		11/09/16 12:33	11/16/16 10:10	1
Demeton-S	0.0000654	U	0.00190	0.0000654	mg/L		11/09/16 12:33	11/16/16 10:10	1
Diazinon	0.000139	U	0.000474	0.000139	mg/L		11/09/16 12:33	11/16/16 10:10	1
Demeton, Total	0.000198	U	0.00284	0.000198	mg/L		11/09/16 12:33	11/16/16 10:10	1
Dichlorvos	0.000153	U	0.000474	0.000153	mg/L		11/09/16 12:33	11/16/16 10:10	1
Dimethoate	0.000425	U	0.00142	0.000425	mg/L		11/09/16 12:33	11/16/16 10:10	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM250 Lead**

**Lab Sample ID: 560-64786-5**

**Date Collected: 11/03/16 17:05**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	0.000305	U	0.000948	0.000305	mg/L		11/09/16 12:33	11/16/16 10:10	1
EPN	0.000141	U	0.00114	0.000141	mg/L		11/09/16 12:33	11/16/16 10:10	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		11/09/16 12:33	11/16/16 10:10	1
Ethyl Parathion	0.000136	U	0.000948	0.000136	mg/L		11/09/16 12:33	11/16/16 10:10	1
Famphur	0.000170	U	0.000948	0.000170	mg/L		11/09/16 12:33	11/16/16 10:10	1
Fensulfothion	0.000515	U	0.00237	0.000515	mg/L		11/09/16 12:33	11/16/16 10:10	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		11/09/16 12:33	11/16/16 10:10	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		11/09/16 12:33	11/16/16 10:10	1
Merphos	0.000165	U	0.00474	0.000165	mg/L		11/09/16 12:33	11/16/16 10:10	1
Methyl parathion	0.000134	U	0.00379	0.000134	mg/L		11/09/16 12:33	11/16/16 10:10	1
Mevinphos	0.000436	U	0.00587	0.000436	mg/L		11/09/16 12:33	11/16/16 10:10	1
Naled	0.000758	U	0.00190	0.000758	mg/L		11/09/16 12:33	11/16/16 10:10	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		11/09/16 12:33	11/16/16 10:10	1
Ronnel	0.000110	U	0.00948	0.000110	mg/L		11/09/16 12:33	11/16/16 10:10	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		11/09/16 12:33	11/16/16 10:10	1
Tetrachlorvinphos (Stirophos)	0.000117	U	0.00332	0.000117	mg/L		11/09/16 12:33	11/16/16 10:10	1
Thionazin	0.000296	U	0.000948	0.000296	mg/L		11/09/16 12:33	11/16/16 10:10	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		11/09/16 12:33	11/16/16 10:10	1
Trichloronate	0.000229	U	0.00142	0.000229	mg/L		11/09/16 12:33	11/16/16 10:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	59		49 - 171	11/09/16 12:33	11/16/16 10:10	1
Triphenylphosphate	86		60 - 154	11/09/16 12:33	11/16/16 10:10	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0952	U	4.76	0.0952	ug/L		11/07/16 09:36	11/10/16 02:56	1
Dicamba	0.0809	U	0.476	0.0809	ug/L		11/07/16 09:36	11/10/16 02:56	1
Mecoprop	18.1	U	114	18.1	ug/L		11/07/16 09:36	11/10/16 02:56	1
MCPA	16.2	U	114	16.2	ug/L		11/07/16 09:36	11/10/16 02:56	1
Dichlorprop	0.143	U	0.476	0.143	ug/L		11/07/16 09:36	11/10/16 02:56	1
2,4-D	0.0352	U	0.476	0.0352	ug/L		11/07/16 09:36	11/10/16 02:56	1
Silvex (2,4,5-TP)	0.0590	U	0.238	0.0590	ug/L		11/07/16 09:36	11/10/16 02:56	1
2,4,5-T	0.0590	U	0.238	0.0590	ug/L		11/07/16 09:36	11/10/16 02:56	1
2,4-DB	0.143	U	0.476	0.143	ug/L		11/07/16 09:36	11/10/16 02:56	1
Dinoseb	0.152	U	0.952	0.152	ug/L		11/07/16 09:36	11/10/16 02:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	86		45 - 130	11/07/16 09:36	11/10/16 02:56	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	76.6	B	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 21:08	1
Magnesium	14.2		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 21:08	1
Potassium	1.88		0.500	0.375	mg/L		11/07/16 09:45	11/07/16 21:08	1
Silicon	4.49		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 21:08	1
Sodium	11.0		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 21:08	1
Strontium	0.448		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 21:08	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM250 Lead

Lab Sample ID: 560-64786-5

Date Collected: 11/03/16 17:05

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.389		0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 13:38	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 13:38	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 13:38	1
Barium	0.0359		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 13:38	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 13:38	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 13:38	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 13:38	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 13:38	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 13:38	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 13:38	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 13:38	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 13:38	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 13:38	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 13:38	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 13:38	1
Zinc	0.00543	J	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 13:38	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:09	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.443	J	1.00	0.315	mg/L			11/04/16 18:28	1
Chloride	16.4		1.00	0.192	mg/L			11/04/16 18:28	1
Nitrate as N	0.895		0.500	0.103	mg/L			11/04/16 18:28	1
Sulfate	20.8		1.00	0.377	mg/L			11/04/16 18:28	1
Fluoride	0.160		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/10/16 11:31	1
Phosphorus	0.0648	J B	0.100	0.0410	mg/L		11/08/16 07:52	11/09/16 12:04	1
Total Organic Carbon	1.59		1.00	0.285	mg/L			11/09/16 15:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	214		5.00	5.00	mg/L			11/14/16 15:22	1
Bicarbonate Alkalinity as CaCO3	214		5.00	5.00	mg/L			11/14/16 15:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/14/16 15:22	1
Total Dissolved Solids	310		10.0	10.0	mg/L			11/07/16 13:40	1
Total Suspended Solids	12.8		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.907	J	1.00	0.285	mg/L			11/15/16 11:34	1

Client Sample ID: HSM260 Lead

Lab Sample ID: 560-64786-6

Date Collected: 11/03/16 16:30

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/06/16 15:37	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM260 Lead**

**Lab Sample ID: 560-64786-6**

**Date Collected: 11/03/16 16:30**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/06/16 15:37	1
Benzene	0.330	U	1.00	0.330	ug/L			11/06/16 15:37	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/06/16 15:37	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 15:37	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/06/16 15:37	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/06/16 15:37	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/06/16 15:37	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/06/16 15:37	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/06/16 15:37	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/06/16 15:37	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/06/16 15:37	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/06/16 15:37	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/06/16 15:37	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/06/16 15:37	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/06/16 15:37	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/06/16 15:37	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/06/16 15:37	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/06/16 15:37	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/06/16 15:37	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/06/16 15:37	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 15:37	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/06/16 15:37	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/06/16 15:37	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/06/16 15:37	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/06/16 15:37	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/06/16 15:37	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/06/16 15:37	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/06/16 15:37	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 15:37	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/06/16 15:37	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/06/16 15:37	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/06/16 15:37	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/06/16 15:37	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/06/16 15:37	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/06/16 15:37	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/06/16 15:37	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/06/16 15:37	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/06/16 15:37	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/06/16 15:37	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/06/16 15:37	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/06/16 15:37	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/06/16 15:37	1
EDB	0.175	U	1.00	0.175	ug/L			11/06/16 15:37	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/06/16 15:37	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 15:37	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/06/16 15:37	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/06/16 15:37	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/06/16 15:37	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/06/16 15:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM260 Lead

Lab Sample ID: 560-64786-6

Date Collected: 11/03/16 16:30

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			11/06/16 15:37	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/06/16 15:37	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/06/16 15:37	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/06/16 15:37	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/06/16 15:37	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/06/16 15:37	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/06/16 15:37	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/06/16 15:37	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/06/16 15:37	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/06/16 15:37	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/06/16 15:37	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/06/16 15:37	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/06/16 15:37	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/06/16 15:37	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 15:37	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/06/16 15:37	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/06/16 15:37	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/06/16 15:37	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/06/16 15:37	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/06/16 15:37	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/06/16 15:37	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/06/16 15:37	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/06/16 15:37	1
Styrene	0.200	U	1.00	0.200	ug/L			11/06/16 15:37	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 15:37	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/06/16 15:37	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/06/16 15:37	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/06/16 15:37	1
Toluene	0.495	U	1.00	0.495	ug/L			11/06/16 15:37	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 15:37	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/06/16 15:37	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/06/16 15:37	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/06/16 15:37	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/06/16 15:37	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/06/16 15:37	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/06/16 15:37	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/06/16 15:37	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/06/16 15:37	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/06/16 15:37	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/06/16 15:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/06/16 15:37	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 15:37	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 15:37	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/06/16 15:37	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/06/16 15:37	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/06/16 15:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130		11/06/16 15:37	1
Dibromofluoromethane (Surr)	104		69 - 130		11/06/16 15:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM260 Lead**

**Lab Sample ID: 560-64786-6**

**Date Collected: 11/03/16 16:30**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 140		11/06/16 15:37	1
Toluene-d8 (Surr)	100		70 - 130		11/06/16 15:37	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/08/16 15:50	11/09/16 13:38	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/08/16 15:50	11/09/16 13:38	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/08/16 15:50	11/09/16 13:38	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/08/16 15:50	11/09/16 13:38	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/08/16 15:50	11/09/16 13:38	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/08/16 15:50	11/09/16 13:38	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/08/16 15:50	11/09/16 13:38	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/08/16 15:50	11/09/16 13:38	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/08/16 15:50	11/09/16 13:38	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/08/16 15:50	11/09/16 13:38	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/08/16 15:50	11/09/16 13:38	1
Bis(2-ethylhexyl) phthalate	5.00	U *	20.0	5.00	ug/L		11/08/16 15:50	11/09/16 13:38	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/08/16 15:50	11/09/16 13:38	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/08/16 15:50	11/09/16 13:38	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 13:38	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/08/16 15:50	11/09/16 13:38	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/08/16 15:50	11/09/16 13:38	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/08/16 15:50	11/09/16 13:38	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/08/16 15:50	11/09/16 13:38	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/08/16 15:50	11/09/16 13:38	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/08/16 15:50	11/09/16 13:38	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/08/16 15:50	11/09/16 13:38	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/08/16 15:50	11/09/16 13:38	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/08/16 15:50	11/09/16 13:38	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/08/16 15:50	11/09/16 13:38	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 13:38	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/08/16 15:50	11/09/16 13:38	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/08/16 15:50	11/09/16 13:38	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/08/16 15:50	11/09/16 13:38	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 13:38	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/08/16 15:50	11/09/16 13:38	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/08/16 15:50	11/09/16 13:38	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/08/16 15:50	11/09/16 13:38	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/08/16 15:50	11/09/16 13:38	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/08/16 15:50	11/09/16 13:38	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/08/16 15:50	11/09/16 13:38	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/08/16 15:50	11/09/16 13:38	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/08/16 15:50	11/09/16 13:38	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/08/16 15:50	11/09/16 13:38	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/08/16 15:50	11/09/16 13:38	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/08/16 15:50	11/09/16 13:38	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 13:38	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/08/16 15:50	11/09/16 13:38	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 13:38	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM260 Lead**

**Lab Sample ID: 560-64786-6**

**Date Collected: 11/03/16 16:30**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/08/16 15:50	11/09/16 13:38	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/08/16 15:50	11/09/16 13:38	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/08/16 15:50	11/09/16 13:38	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 13:38	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/08/16 15:50	11/09/16 13:38	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/08/16 15:50	11/09/16 13:38	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/08/16 15:50	11/09/16 13:38	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/08/16 15:50	11/09/16 13:38	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/08/16 15:50	11/09/16 13:38	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/08/16 15:50	11/09/16 13:38	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/08/16 15:50	11/09/16 13:38	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/08/16 15:50	11/09/16 13:38	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/08/16 15:50	11/09/16 13:38	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/08/16 15:50	11/09/16 13:38	1
Phenol	0.768	U	10.0	0.768	ug/L		11/08/16 15:50	11/09/16 13:38	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/08/16 15:50	11/09/16 13:38	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/08/16 15:50	11/09/16 13:38	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/08/16 15:50	11/09/16 13:38	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/08/16 15:50	11/09/16 13:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	72		23 - 130	11/08/16 15:50	11/09/16 13:38	1
2-Fluorophenol	69		10 - 130	11/08/16 15:50	11/09/16 13:38	1
Nitrobenzene-d5	71		27 - 130	11/08/16 15:50	11/09/16 13:38	1
Phenol-d5	72		10 - 130	11/08/16 15:50	11/09/16 13:38	1
Terphenyl-d14	66		10 - 141	11/08/16 15:50	11/09/16 13:38	1
2,4,6-Tribromophenol	69		18 - 130	11/08/16 15:50	11/09/16 13:38	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00467	U	0.0560	0.00467	ug/L		11/07/16 13:38	11/11/16 08:41	1
alpha-BHC	0.00485	U	0.0560	0.00485	ug/L		11/07/16 13:38	11/11/16 08:41	1
alpha-Chlordane	0.00588	U	0.0560	0.00588	ug/L		11/07/16 13:38	11/11/16 08:41	1
beta-BHC	0.00467	U	0.0560	0.00467	ug/L		11/07/16 13:38	11/11/16 08:41	1
4,4'-DDD	0.00467	U	0.0560	0.00467	ug/L		11/07/16 13:38	11/11/16 08:41	1
4,4'-DDE	0.00467	U	0.0560	0.00467	ug/L		11/07/16 13:38	11/11/16 08:41	1
4,4'-DDT	0.00756	U	0.0560	0.00756	ug/L		11/07/16 13:38	11/11/16 08:41	1
delta-BHC	0.00467	U	0.0560	0.00467	ug/L		11/07/16 13:38	11/11/16 08:41	1
Dieldrin	0.0121	U	0.0560	0.0121	ug/L		11/07/16 13:38	11/11/16 08:41	1
Endosulfan I	0.00467	U	0.0560	0.00467	ug/L		11/07/16 13:38	11/11/16 08:41	1
Endosulfan II	0.00803	U	0.0560	0.00803	ug/L		11/07/16 13:38	11/11/16 08:41	1
Endosulfan sulfate	0.00821	U	0.0560	0.00821	ug/L		11/07/16 13:38	11/11/16 08:41	1
Endrin	0.00719	U	0.0560	0.00719	ug/L		11/07/16 13:38	11/11/16 08:41	1
Endrin aldehyde	0.00467	U	0.0560	0.00467	ug/L		11/07/16 13:38	11/11/16 08:41	1
Endrin ketone	0.00765	U	0.0560	0.00765	ug/L		11/07/16 13:38	11/11/16 08:41	1
gamma-BHC (Lindane)	0.00420	U	0.0560	0.00420	ug/L		11/07/16 13:38	11/11/16 08:41	1
gamma-Chlordane	0.00625	U	0.0560	0.00625	ug/L		11/07/16 13:38	11/11/16 08:41	1
Heptachlor	0.00607	U	0.0560	0.00607	ug/L		11/07/16 13:38	11/11/16 08:41	1
Heptachlor epoxide	0.00485	U	0.0560	0.00485	ug/L		11/07/16 13:38	11/11/16 08:41	1
Methoxychlor	0.00933	U	0.0560	0.00933	ug/L		11/07/16 13:38	11/11/16 08:41	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM260 Lead**

**Lab Sample ID: 560-64786-6**

**Date Collected: 11/03/16 16:30**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.635	U	5.60	0.635	ug/L		11/07/16 13:38	11/11/16 08:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	94		10 - 152				11/07/16 13:38	11/11/16 08:41	1
Tetrachloro-m-xylene	103		57 - 127				11/07/16 13:38	11/11/16 08:41	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.560	0.103	ug/L		11/07/16 13:38	11/10/16 07:52	1
Aroclor 1221	0.103	U	0.560	0.103	ug/L		11/07/16 13:38	11/10/16 07:52	1
Aroclor 1232	0.411	U	0.747	0.411	ug/L		11/07/16 13:38	11/10/16 07:52	1
Aroclor 1242	0.103	U	0.560	0.103	ug/L		11/07/16 13:38	11/10/16 07:52	1
Aroclor 1248	0.103	U	0.560	0.103	ug/L		11/07/16 13:38	11/10/16 07:52	1
Aroclor 1254	0.103	U	0.560	0.103	ug/L		11/07/16 13:38	11/10/16 07:52	1
Aroclor 1260	0.103	U	0.560	0.103	ug/L		11/07/16 13:38	11/10/16 07:52	1
Aroclor 1262	0.103	U	0.560	0.103	ug/L		11/07/16 13:38	11/10/16 07:52	1
Aroclor 1268	0.103	U	0.560	0.103	ug/L		11/07/16 13:38	11/10/16 07:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	103		10 - 150				11/07/16 13:38	11/10/16 07:52	1
DCB Decachlorobiphenyl	74		10 - 150				11/07/16 13:38	11/10/16 07:52	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000161	U	0.00239	0.000161	mg/L		11/09/16 12:33	11/16/16 10:41	1
Bolstar	0.000300	U	0.000957	0.000300	mg/L		11/09/16 12:33	11/16/16 10:41	1
Chlorpyrifos	0.000344	U	0.00144	0.000344	mg/L		11/09/16 12:33	11/16/16 10:41	1
Coumaphos	0.000129	U	0.000957	0.000129	mg/L		11/09/16 12:33	11/16/16 10:41	1
Demeton-O	0.000134	U	0.000957	0.000134	mg/L		11/09/16 12:33	11/16/16 10:41	1
Demeton-S	0.0000660	U	0.00191	0.0000660	mg/L		11/09/16 12:33	11/16/16 10:41	1
Diazinon	0.000141	U	0.000478	0.000141	mg/L		11/09/16 12:33	11/16/16 10:41	1
Demeton, Total	0.000200	U	0.00287	0.000200	mg/L		11/09/16 12:33	11/16/16 10:41	1
Dichlorvos	0.000155	U	0.000478	0.000155	mg/L		11/09/16 12:33	11/16/16 10:41	1
Dimethoate	0.000430	U	0.00144	0.000430	mg/L		11/09/16 12:33	11/16/16 10:41	1
Disulfoton	0.000308	U	0.000957	0.000308	mg/L		11/09/16 12:33	11/16/16 10:41	1
EPN	0.000143	U	0.00115	0.000143	mg/L		11/09/16 12:33	11/16/16 10:41	1
Ethoprop	0.000169	U	0.00144	0.000169	mg/L		11/09/16 12:33	11/16/16 10:41	1
Ethyl Parathion	0.000138	U	0.000957	0.000138	mg/L		11/09/16 12:33	11/16/16 10:41	1
Famphur	0.000171	U	0.000957	0.000171	mg/L		11/09/16 12:33	11/16/16 10:41	1
Fensulfothion	0.000521	U	0.00239	0.000521	mg/L		11/09/16 12:33	11/16/16 10:41	1
Fenthion	0.000147	U	0.00239	0.000147	mg/L		11/09/16 12:33	11/16/16 10:41	1
Malathion	0.000127	U	0.00191	0.000127	mg/L		11/09/16 12:33	11/16/16 10:41	1
Merphos	0.000167	U	0.00478	0.000167	mg/L		11/09/16 12:33	11/16/16 10:41	1
Methyl parathion	0.000135	U	0.00383	0.000135	mg/L		11/09/16 12:33	11/16/16 10:41	1
Mevinphos	0.000440	U	0.00593	0.000440	mg/L		11/09/16 12:33	11/16/16 10:41	1
Naled	0.000766	U	0.00191	0.000766	mg/L		11/09/16 12:33	11/16/16 10:41	1
Phorate	0.000147	U	0.00115	0.000147	mg/L		11/09/16 12:33	11/16/16 10:41	1
Ronnel	0.000111	U	0.00957	0.000111	mg/L		11/09/16 12:33	11/16/16 10:41	1
Sulfotepp	0.000161	U	0.00144	0.000161	mg/L		11/09/16 12:33	11/16/16 10:41	1
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00335	0.000119	mg/L		11/09/16 12:33	11/16/16 10:41	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM260 Lead**

**Lab Sample ID: 560-64786-6**

**Date Collected: 11/03/16 16:30**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thionazin	0.000299	U	0.000957	0.000299	mg/L		11/09/16 12:33	11/16/16 10:41	1
Tokuthion	0.000118	U	0.00153	0.000118	mg/L		11/09/16 12:33	11/16/16 10:41	1
Trichloronate	0.000232	U	0.00144	0.000232	mg/L		11/09/16 12:33	11/16/16 10:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	65		49 - 171				11/09/16 12:33	11/16/16 10:41	1
Triphenylphosphate	83		60 - 154				11/09/16 12:33	11/16/16 10:41	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0955	U	4.78	0.0955	ug/L		11/07/16 09:36	11/10/16 03:15	1
Dicamba	0.0812	U	0.478	0.0812	ug/L		11/07/16 09:36	11/10/16 03:15	1
Mecoprop	18.2	U	115	18.2	ug/L		11/07/16 09:36	11/10/16 03:15	1
MCPA	16.2	U	115	16.2	ug/L		11/07/16 09:36	11/10/16 03:15	1
Dichlorprop	0.143	U	0.478	0.143	ug/L		11/07/16 09:36	11/10/16 03:15	1
2,4-D	0.0353	U	0.478	0.0353	ug/L		11/07/16 09:36	11/10/16 03:15	1
Silvex (2,4,5-TP)	0.0592	U	0.239	0.0592	ug/L		11/07/16 09:36	11/10/16 03:15	1
2,4,5-T	0.0592	U	0.239	0.0592	ug/L		11/07/16 09:36	11/10/16 03:15	1
2,4-DB	0.143	U	0.478	0.143	ug/L		11/07/16 09:36	11/10/16 03:15	1
Dinoseb	0.153	U	0.955	0.153	ug/L		11/07/16 09:36	11/10/16 03:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	88		45 - 130				11/07/16 09:36	11/10/16 03:15	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	83.0	B	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 21:12	1
Magnesium	15.6		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 21:12	1
Potassium	1.63		0.500	0.375	mg/L		11/07/16 09:45	11/07/16 21:12	1
Silicon	5.06		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 21:12	1
Sodium	11.4		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 21:12	1
Strontium	0.481		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 21:12	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 13:43	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 13:43	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 13:43	1
Barium	0.0376		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 13:43	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 13:43	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 13:43	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 13:43	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 13:43	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 13:43	1
Lead	0.000829	J	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 13:43	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 13:43	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 13:43	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 13:43	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 13:43	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 13:43	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 13:43	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:11	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.449	J	1.00	0.315	mg/L			11/04/16 18:54	1
Chloride	18.3		1.00	0.192	mg/L			11/04/16 18:54	1
Nitrate as N	1.10		0.500	0.103	mg/L			11/04/16 18:54	1
Sulfate	23.2		1.00	0.377	mg/L			11/04/16 18:54	1
Fluoride	0.157		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/10/16 11:32	1
Phosphorus	0.0736	J B	0.100	0.0410	mg/L		11/08/16 07:52	11/09/16 12:09	1
Total Organic Carbon	0.427	J	1.00	0.285	mg/L			11/09/16 15:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	233		5.00	5.00	mg/L			11/14/16 15:22	1
Bicarbonate Alkalinity as CaCO3	233		5.00	5.00	mg/L			11/14/16 15:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/14/16 15:22	1
Total Dissolved Solids	348		10.0	10.0	mg/L			11/07/16 13:40	1
Total Suspended Solids	7.80		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			11/15/16 11:34	1

Client Sample ID: HSM270 Lead

Lab Sample ID: 560-64786-7

Date Collected: 11/03/16 16:50

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/06/16 16:02	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/06/16 16:02	1
Benzene	0.330	U	1.00	0.330	ug/L			11/06/16 16:02	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/06/16 16:02	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 16:02	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/06/16 16:02	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/06/16 16:02	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/06/16 16:02	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/06/16 16:02	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/06/16 16:02	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/06/16 16:02	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/06/16 16:02	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/06/16 16:02	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/06/16 16:02	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/06/16 16:02	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/06/16 16:02	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/06/16 16:02	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/06/16 16:02	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/06/16 16:02	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/06/16 16:02	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/06/16 16:02	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 16:02	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/06/16 16:02	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/06/16 16:02	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Lead**

**Lab Sample ID: 560-64786-7**

**Date Collected: 11/03/16 16:50**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/06/16 16:02	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/06/16 16:02	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/06/16 16:02	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/06/16 16:02	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/06/16 16:02	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 16:02	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/06/16 16:02	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/06/16 16:02	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/06/16 16:02	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/06/16 16:02	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/06/16 16:02	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/06/16 16:02	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/06/16 16:02	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/06/16 16:02	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/06/16 16:02	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/06/16 16:02	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/06/16 16:02	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/06/16 16:02	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/06/16 16:02	1
EDB	0.175	U	1.00	0.175	ug/L			11/06/16 16:02	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/06/16 16:02	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 16:02	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/06/16 16:02	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/06/16 16:02	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/06/16 16:02	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/06/16 16:02	1
Hexane	2.00	U	5.00	2.00	ug/L			11/06/16 16:02	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/06/16 16:02	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/06/16 16:02	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/06/16 16:02	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/06/16 16:02	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/06/16 16:02	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/06/16 16:02	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/06/16 16:02	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/06/16 16:02	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/06/16 16:02	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/06/16 16:02	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/06/16 16:02	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/06/16 16:02	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/06/16 16:02	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 16:02	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/06/16 16:02	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/06/16 16:02	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/06/16 16:02	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/06/16 16:02	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/06/16 16:02	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/06/16 16:02	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/06/16 16:02	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/06/16 16:02	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Lead**

**Lab Sample ID: 560-64786-7**

**Date Collected: 11/03/16 16:50**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.200	U	1.00	0.200	ug/L			11/06/16 16:02	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 16:02	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/06/16 16:02	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/06/16 16:02	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/06/16 16:02	1
Toluene	0.495	U	1.00	0.495	ug/L			11/06/16 16:02	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 16:02	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/06/16 16:02	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/06/16 16:02	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/06/16 16:02	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/06/16 16:02	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/06/16 16:02	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/06/16 16:02	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/06/16 16:02	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/06/16 16:02	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/06/16 16:02	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/06/16 16:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/06/16 16:02	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 16:02	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 16:02	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/06/16 16:02	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/06/16 16:02	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/06/16 16:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130		11/06/16 16:02	1
Dibromofluoromethane (Surr)	106		69 - 130		11/06/16 16:02	1
1,2-Dichloroethane-d4 (Surr)	112		70 - 140		11/06/16 16:02	1
Toluene-d8 (Surr)	100		70 - 130		11/06/16 16:02	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.479	U	10.4	0.479	ug/L		11/08/16 15:50	11/09/16 14:05	1
Acenaphthylene	0.471	U	10.4	0.471	ug/L		11/08/16 15:50	11/09/16 14:05	1
Anthracene	0.729	U	10.4	0.729	ug/L		11/08/16 15:50	11/09/16 14:05	1
Benzo[a]anthracene	0.673	U	10.4	0.673	ug/L		11/08/16 15:50	11/09/16 14:05	1
Benzo[a]pyrene	0.773	U	10.4	0.773	ug/L		11/08/16 15:50	11/09/16 14:05	1
Benzo[b]fluoranthene	0.946	U	10.4	0.946	ug/L		11/08/16 15:50	11/09/16 14:05	1
Benzo[g,h,i]perylene	1.14	U	10.4	1.14	ug/L		11/08/16 15:50	11/09/16 14:05	1
Benzo[k]fluoranthene	1.55	U	10.4	1.55	ug/L		11/08/16 15:50	11/09/16 14:05	1
Benzyl alcohol	0.861	U	10.4	0.861	ug/L		11/08/16 15:50	11/09/16 14:05	1
Bis(2-chloroethoxy)methane	0.454	U	10.4	0.454	ug/L		11/08/16 15:50	11/09/16 14:05	1
Bis(2-chloroethyl)ether	1.62	U	10.4	1.62	ug/L		11/08/16 15:50	11/09/16 14:05	1
Bis(2-ethylhexyl) phthalate	5.21	U *	20.8	5.21	ug/L		11/08/16 15:50	11/09/16 14:05	1
4-Bromophenyl phenyl ether	0.845	U	10.4	0.845	ug/L		11/08/16 15:50	11/09/16 14:05	1
Butyl benzyl phthalate	0.850	U	10.4	0.850	ug/L		11/08/16 15:50	11/09/16 14:05	1
4-Chloroaniline	0.572	U	10.4	0.572	ug/L		11/08/16 15:50	11/09/16 14:05	1
4-Chloro-3-methylphenol	0.610	U	10.4	0.610	ug/L		11/08/16 15:50	11/09/16 14:05	1
2-Chloronaphthalene	0.628	U	10.4	0.628	ug/L		11/08/16 15:50	11/09/16 14:05	1
2-Chlorophenol	0.759	U	10.4	0.759	ug/L		11/08/16 15:50	11/09/16 14:05	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Lead**

**Lab Sample ID: 560-64786-7**

**Date Collected: 11/03/16 16:50**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	0.551	U	10.4	0.551	ug/L		11/08/16 15:50	11/09/16 14:05	1
Chrysene	0.515	U	10.4	0.515	ug/L		11/08/16 15:50	11/09/16 14:05	1
Dibenz(a,h)anthracene	0.910	U	10.4	0.910	ug/L		11/08/16 15:50	11/09/16 14:05	1
Dibenzofuran	0.505	U	10.4	0.505	ug/L		11/08/16 15:50	11/09/16 14:05	1
1,2-Dichlorobenzene	0.807	U	10.4	0.807	ug/L		11/08/16 15:50	11/09/16 14:05	1
1,3-Dichlorobenzene	0.511	U	10.4	0.511	ug/L		11/08/16 15:50	11/09/16 14:05	1
1,4-Dichlorobenzene	0.849	U	10.4	0.849	ug/L		11/08/16 15:50	11/09/16 14:05	1
3,3'-Dichlorobenzidine	0.820	U	10.4	0.820	ug/L		11/08/16 15:50	11/09/16 14:05	1
2,4-Dichlorophenol	0.733	U	10.4	0.733	ug/L		11/08/16 15:50	11/09/16 14:05	1
Diethyl phthalate	0.694	U	10.4	0.694	ug/L		11/08/16 15:50	11/09/16 14:05	1
2,4-Dimethylphenol	0.618	U	10.4	0.618	ug/L		11/08/16 15:50	11/09/16 14:05	1
Dimethyl phthalate	0.614	U	10.4	0.614	ug/L		11/08/16 15:50	11/09/16 14:05	1
Di-n-butyl phthalate	0.739	U	10.4	0.739	ug/L		11/08/16 15:50	11/09/16 14:05	1
4,6-Dinitro-2-methylphenol	0.999	U	10.4	0.999	ug/L		11/08/16 15:50	11/09/16 14:05	1
2,4-Dinitrophenol	2.80	U	20.8	2.80	ug/L		11/08/16 15:50	11/09/16 14:05	1
2,4-Dinitrotoluene	0.530	U	20.8	0.530	ug/L		11/08/16 15:50	11/09/16 14:05	1
2,6-Dinitrotoluene	0.794	U	10.4	0.794	ug/L		11/08/16 15:50	11/09/16 14:05	1
Di-n-octyl phthalate	1.15	U	10.4	1.15	ug/L		11/08/16 15:50	11/09/16 14:05	1
Fluoranthene	0.517	U	10.4	0.517	ug/L		11/08/16 15:50	11/09/16 14:05	1
Fluorene	0.439	U	10.4	0.439	ug/L		11/08/16 15:50	11/09/16 14:05	1
Hexachlorobenzene	0.627	U	10.4	0.627	ug/L		11/08/16 15:50	11/09/16 14:05	1
Hexachlorobutadiene	0.746	U	10.4	0.746	ug/L		11/08/16 15:50	11/09/16 14:05	1
Hexachlorocyclopentadiene	0.874	U	10.4	0.874	ug/L		11/08/16 15:50	11/09/16 14:05	1
Hexachloroethane	0.614	U	10.4	0.614	ug/L		11/08/16 15:50	11/09/16 14:05	1
Indeno[1,2,3-cd]pyrene	0.960	U	10.4	0.960	ug/L		11/08/16 15:50	11/09/16 14:05	1
Isophorone	0.572	U	10.4	0.572	ug/L		11/08/16 15:50	11/09/16 14:05	1
2-Methylnaphthalene	0.731	U	10.4	0.731	ug/L		11/08/16 15:50	11/09/16 14:05	1
2-Methylphenol	0.635	U	10.4	0.635	ug/L		11/08/16 15:50	11/09/16 14:05	1
3 & 4 Methylphenol	0.795	U	20.8	0.795	ug/L		11/08/16 15:50	11/09/16 14:05	1
Naphthalene	0.820	U	10.4	0.820	ug/L		11/08/16 15:50	11/09/16 14:05	1
2-Nitroaniline	0.798	U	10.4	0.798	ug/L		11/08/16 15:50	11/09/16 14:05	1
3-Nitroaniline	0.533	U	10.4	0.533	ug/L		11/08/16 15:50	11/09/16 14:05	1
4-Nitroaniline	0.853	U	10.4	0.853	ug/L		11/08/16 15:50	11/09/16 14:05	1
Nitrobenzene	0.611	U	10.4	0.611	ug/L		11/08/16 15:50	11/09/16 14:05	1
2-Nitrophenol	0.842	U	10.4	0.842	ug/L		11/08/16 15:50	11/09/16 14:05	1
4-Nitrophenol	1.81	U	10.4	1.81	ug/L		11/08/16 15:50	11/09/16 14:05	1
N-Nitrosodi-n-propylamine	0.646	U	10.4	0.646	ug/L		11/08/16 15:50	11/09/16 14:05	1
N-Nitrosodiphenylamine	1.07	U	10.4	1.07	ug/L		11/08/16 15:50	11/09/16 14:05	1
Pentachlorophenol	1.38	U	20.8	1.38	ug/L		11/08/16 15:50	11/09/16 14:05	1
Phenanthrene	0.616	U	10.4	0.616	ug/L		11/08/16 15:50	11/09/16 14:05	1
Phenol	0.800	U	10.4	0.800	ug/L		11/08/16 15:50	11/09/16 14:05	1
Pyrene	0.458	U	10.4	0.458	ug/L		11/08/16 15:50	11/09/16 14:05	1
1,2,4-Trichlorobenzene	0.674	U	10.4	0.674	ug/L		11/08/16 15:50	11/09/16 14:05	1
2,4,5-Trichlorophenol	0.897	U	10.4	0.897	ug/L		11/08/16 15:50	11/09/16 14:05	1
2,4,6-Trichlorophenol	0.685	U	10.4	0.685	ug/L		11/08/16 15:50	11/09/16 14:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	58		23 - 130	11/08/16 15:50	11/09/16 14:05	1
2-Fluorophenol	55		10 - 130	11/08/16 15:50	11/09/16 14:05	1
Nitrobenzene-d5	59		27 - 130	11/08/16 15:50	11/09/16 14:05	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Lead**

**Lab Sample ID: 560-64786-7**

**Date Collected: 11/03/16 16:50**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	58		10 - 130	11/08/16 15:50	11/09/16 14:05	1
Terphenyl-d14	20		10 - 141	11/08/16 15:50	11/09/16 14:05	1
2,4,6-Tribromophenol	60		18 - 130	11/08/16 15:50	11/09/16 14:05	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00486	U	0.0583	0.00486	ug/L		11/07/16 13:38	11/11/16 09:02	1
alpha-BHC	0.00506	U	0.0583	0.00506	ug/L		11/07/16 13:38	11/11/16 09:02	1
alpha-Chlordane	0.00613	U	0.0583	0.00613	ug/L		11/07/16 13:38	11/11/16 09:02	1
beta-BHC	0.00486	U	0.0583	0.00486	ug/L		11/07/16 13:38	11/11/16 09:02	1
4,4'-DDD	0.00486	U	0.0583	0.00486	ug/L		11/07/16 13:38	11/11/16 09:02	1
4,4'-DDE	0.00486	U	0.0583	0.00486	ug/L		11/07/16 13:38	11/11/16 09:02	1
4,4'-DDT	0.00788	U	0.0583	0.00788	ug/L		11/07/16 13:38	11/11/16 09:02	1
delta-BHC	0.00486	U	0.0583	0.00486	ug/L		11/07/16 13:38	11/11/16 09:02	1
Dieldrin	0.0126	U	0.0583	0.0126	ug/L		11/07/16 13:38	11/11/16 09:02	1
Endosulfan I	0.00486	U	0.0583	0.00486	ug/L		11/07/16 13:38	11/11/16 09:02	1
Endosulfan II	0.00836	U	0.0583	0.00836	ug/L		11/07/16 13:38	11/11/16 09:02	1
Endosulfan sulfate	0.00856	U	0.0583	0.00856	ug/L		11/07/16 13:38	11/11/16 09:02	1
Endrin	0.00749	U	0.0583	0.00749	ug/L		11/07/16 13:38	11/11/16 09:02	1
Endrin aldehyde	0.00486	U	0.0583	0.00486	ug/L		11/07/16 13:38	11/11/16 09:02	1
Endrin ketone	0.00797	U	0.0583	0.00797	ug/L		11/07/16 13:38	11/11/16 09:02	1
gamma-BHC (Lindane)	0.00438	U	0.0583	0.00438	ug/L		11/07/16 13:38	11/11/16 09:02	1
gamma-Chlordane	0.00651	U	0.0583	0.00651	ug/L		11/07/16 13:38	11/11/16 09:02	1
Heptachlor	0.00632	U	0.0583	0.00632	ug/L		11/07/16 13:38	11/11/16 09:02	1
Heptachlor epoxide	0.00506	U	0.0583	0.00506	ug/L		11/07/16 13:38	11/11/16 09:02	1
Methoxychlor	0.00972	U	0.0583	0.00972	ug/L		11/07/16 13:38	11/11/16 09:02	1
Toxaphene	0.661	U	5.83	0.661	ug/L		11/07/16 13:38	11/11/16 09:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	71		10 - 152	11/07/16 13:38	11/11/16 09:02	1
Tetrachloro-m-xylene	92		57 - 127	11/07/16 13:38	11/11/16 09:02	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.107	U	0.583	0.107	ug/L		11/07/16 13:38	11/10/16 08:10	1
Aroclor 1221	0.107	U	0.583	0.107	ug/L		11/07/16 13:38	11/10/16 08:10	1
Aroclor 1232	0.428	U	0.778	0.428	ug/L		11/07/16 13:38	11/10/16 08:10	1
Aroclor 1242	0.107	U	0.583	0.107	ug/L		11/07/16 13:38	11/10/16 08:10	1
Aroclor 1248	0.107	U	0.583	0.107	ug/L		11/07/16 13:38	11/10/16 08:10	1
Aroclor 1254	0.107	U	0.583	0.107	ug/L		11/07/16 13:38	11/10/16 08:10	1
Aroclor 1260	0.107	U	0.583	0.107	ug/L		11/07/16 13:38	11/10/16 08:10	1
Aroclor 1262	0.107	U	0.583	0.107	ug/L		11/07/16 13:38	11/10/16 08:10	1
Aroclor 1268	0.107	U	0.583	0.107	ug/L		11/07/16 13:38	11/10/16 08:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	94		10 - 150	11/07/16 13:38	11/10/16 08:10	1
DCB Decachlorobiphenyl	55		10 - 150	11/07/16 13:38	11/10/16 08:10	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Lead**

**Lab Sample ID: 560-64786-7**

**Date Collected: 11/03/16 16:50**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00238	0.000160	mg/L		11/09/16 12:33	11/20/16 22:39	1
Bolstar	0.000298	U	0.000950	0.000298	mg/L		11/09/16 12:33	11/20/16 22:39	1
Chlorpyrifos	0.000342	U	0.00143	0.000342	mg/L		11/09/16 12:33	11/20/16 22:39	1
Coumaphos	0.000128	U	0.000950	0.000128	mg/L		11/09/16 12:33	11/20/16 22:39	1
Demeton-O	0.000133	U	0.000950	0.000133	mg/L		11/09/16 12:33	11/20/16 22:39	1
Demeton-S	0.0000656	U	0.00190	0.0000656	mg/L		11/09/16 12:33	11/20/16 22:39	1
Diazinon	0.000140	U	0.000475	0.000140	mg/L		11/09/16 12:33	11/20/16 22:39	1
Demeton, Total	0.000199	U	0.00285	0.000199	mg/L		11/09/16 12:33	11/20/16 22:39	1
Dichlorvos	0.000154	U	0.000475	0.000154	mg/L		11/09/16 12:33	11/20/16 22:39	1
Dimethoate	0.000427	U	0.00143	0.000427	mg/L		11/09/16 12:33	11/20/16 22:39	1
Disulfoton	0.000306	U	0.000950	0.000306	mg/L		11/09/16 12:33	11/20/16 22:39	1
EPN	0.000142	U	0.00114	0.000142	mg/L		11/09/16 12:33	11/20/16 22:39	1
Ethoprop	0.000168	U	0.00143	0.000168	mg/L		11/09/16 12:33	11/20/16 22:39	1
Ethyl Parathion	0.000137	U	0.000950	0.000137	mg/L		11/09/16 12:33	11/20/16 22:39	1
Famphur	0.000170	U	0.000950	0.000170	mg/L		11/09/16 12:33	11/20/16 22:39	1
Fensulfothion	0.000517	U	0.00238	0.000517	mg/L		11/09/16 12:33	11/20/16 22:39	1
Fenthion	0.000146	U	0.00238	0.000146	mg/L		11/09/16 12:33	11/20/16 22:39	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		11/09/16 12:33	11/20/16 22:39	1
Merphos	0.000165	U	0.00475	0.000165	mg/L		11/09/16 12:33	11/20/16 22:39	1
Methyl parathion	0.000134	U	0.00380	0.000134	mg/L		11/09/16 12:33	11/20/16 22:39	1
Mevinphos	0.000437	U	0.00589	0.000437	mg/L		11/09/16 12:33	11/20/16 22:39	1
Naled	0.000760	U	0.00190	0.000760	mg/L		11/09/16 12:33	11/20/16 22:39	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		11/09/16 12:33	11/20/16 22:39	1
Ronnel	0.000110	U	0.00950	0.000110	mg/L		11/09/16 12:33	11/20/16 22:39	1
Sulfotepp	0.000160	U	0.00143	0.000160	mg/L		11/09/16 12:33	11/20/16 22:39	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00333	0.000118	mg/L		11/09/16 12:33	11/20/16 22:39	1
Thionazin	0.000296	U	0.000950	0.000296	mg/L		11/09/16 12:33	11/20/16 22:39	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		11/09/16 12:33	11/20/16 22:39	1
Trichloronate	0.000230	U	0.00143	0.000230	mg/L		11/09/16 12:33	11/20/16 22:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	52		49 - 171				11/09/16 12:33	11/20/16 22:39	1
Triphenylphosphate	87		60 - 154				11/09/16 12:33	11/20/16 22:39	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.111	U	5.56	0.111	ug/L		11/07/16 09:36	11/10/16 03:35	1
Dicamba	0.0945	U	0.556	0.0945	ug/L		11/07/16 09:36	11/10/16 03:35	1
Mecoprop	21.1	U	133	21.1	ug/L		11/07/16 09:36	11/10/16 03:35	1
MCPA	18.9	U	133	18.9	ug/L		11/07/16 09:36	11/10/16 03:35	1
Dichlorprop	0.167	U	0.556	0.167	ug/L		11/07/16 09:36	11/10/16 03:35	1
2,4-D	0.0411	U	0.556	0.0411	ug/L		11/07/16 09:36	11/10/16 03:35	1
Silvex (2,4,5-TP)	0.0690	U	0.278	0.0690	ug/L		11/07/16 09:36	11/10/16 03:35	1
2,4,5-T	0.0690	U	0.278	0.0690	ug/L		11/07/16 09:36	11/10/16 03:35	1
2,4-DB	0.167	U	0.556	0.167	ug/L		11/07/16 09:36	11/10/16 03:35	1
Dinoseb	0.178	U	1.11	0.178	ug/L		11/07/16 09:36	11/10/16 03:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	88		45 - 130				11/07/16 09:36	11/10/16 03:35	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Lead**

**Lab Sample ID: 560-64786-7**

**Date Collected: 11/03/16 16:50**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	82.9	B	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 21:16	1
Magnesium	14.8		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 21:16	1
Potassium	2.31		0.500	0.375	mg/L		11/07/16 09:45	11/07/16 21:16	1
Silicon	5.36		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 21:16	1
Sodium	18.9		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 21:16	1
Strontium	0.493		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 21:16	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 13:48	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 13:48	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 13:48	1
Barium	0.0443		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 13:48	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 13:48	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 13:48	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 13:48	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 13:48	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 13:48	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 13:48	1
Manganese	0.0231	J	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 13:48	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 13:48	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 13:48	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 13:48	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 13:48	1
Zinc	0.00365	J	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 13:48	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:13	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.454	J	1.00	0.315	mg/L			11/04/16 19:20	1
Chloride	18.6		1.00	0.192	mg/L			11/04/16 19:20	1
Nitrate as N	1.04		0.500	0.103	mg/L			11/04/16 19:20	1
Sulfate	29.7		1.00	0.377	mg/L			11/04/16 19:20	1
Fluoride	0.165		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/10/16 11:32	1
Phosphorus	0.114		0.100	0.0410	mg/L		11/08/16 08:04	11/09/16 12:25	1
Total Organic Carbon	3.66		1.00	0.285	mg/L			11/09/16 15:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	231		5.00	5.00	mg/L			11/14/16 15:22	1
Bicarbonate Alkalinity as CaCO3	231		5.00	5.00	mg/L			11/14/16 15:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/14/16 15:22	1
Total Dissolved Solids	347		10.0	10.0	mg/L			11/07/16 13:40	1
Total Suspended Solids	82.8		2.00	2.00	mg/L			11/07/16 15:45	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Lead**

**Lab Sample ID: 560-64786-7**

**Date Collected: 11/03/16 16:50**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.21		1.00	0.285	mg/L			11/15/16 11:34	1

**Client Sample ID: TB17**

**Lab Sample ID: 560-64786-8**

**Date Collected: 11/03/16 00:00**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/06/16 16:27	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/06/16 16:27	1
Benzene	0.330	U	1.00	0.330	ug/L			11/06/16 16:27	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/06/16 16:27	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 16:27	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/06/16 16:27	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/06/16 16:27	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/06/16 16:27	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/06/16 16:27	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/06/16 16:27	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/06/16 16:27	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/06/16 16:27	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/06/16 16:27	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/06/16 16:27	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/06/16 16:27	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/06/16 16:27	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/06/16 16:27	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/06/16 16:27	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/06/16 16:27	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/06/16 16:27	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/06/16 16:27	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 16:27	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/06/16 16:27	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/06/16 16:27	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/06/16 16:27	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/06/16 16:27	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/06/16 16:27	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/06/16 16:27	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/06/16 16:27	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 16:27	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/06/16 16:27	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/06/16 16:27	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/06/16 16:27	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/06/16 16:27	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/06/16 16:27	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/06/16 16:27	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/06/16 16:27	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/06/16 16:27	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/06/16 16:27	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/06/16 16:27	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/06/16 16:27	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/06/16 16:27	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: TB17

Lab Sample ID: 560-64786-8

Date Collected: 11/03/16 00:00

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/06/16 16:27	1
EDB	0.175	U	1.00	0.175	ug/L			11/06/16 16:27	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/06/16 16:27	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 16:27	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/06/16 16:27	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/06/16 16:27	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/06/16 16:27	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/06/16 16:27	1
Hexane	2.00	U	5.00	2.00	ug/L			11/06/16 16:27	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/06/16 16:27	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/06/16 16:27	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/06/16 16:27	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/06/16 16:27	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/06/16 16:27	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/06/16 16:27	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/06/16 16:27	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/06/16 16:27	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/06/16 16:27	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/06/16 16:27	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/06/16 16:27	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/06/16 16:27	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/06/16 16:27	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 16:27	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/06/16 16:27	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/06/16 16:27	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/06/16 16:27	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/06/16 16:27	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/06/16 16:27	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/06/16 16:27	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/06/16 16:27	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/06/16 16:27	1
Styrene	0.200	U	1.00	0.200	ug/L			11/06/16 16:27	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 16:27	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/06/16 16:27	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/06/16 16:27	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/06/16 16:27	1
Toluene	0.495	U	1.00	0.495	ug/L			11/06/16 16:27	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 16:27	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/06/16 16:27	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/06/16 16:27	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/06/16 16:27	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/06/16 16:27	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/06/16 16:27	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/06/16 16:27	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/06/16 16:27	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/06/16 16:27	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/06/16 16:27	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/06/16 16:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/06/16 16:27	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: TB17**

**Lab Sample ID: 560-64786-8**

**Date Collected: 11/03/16 00:00**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 16:27	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 16:27	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/06/16 16:27	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/06/16 16:27	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/06/16 16:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		11/06/16 16:27	1
Dibromofluoromethane (Surr)	105		69 - 130		11/06/16 16:27	1
1,2-Dichloroethane-d4 (Surr)	110		70 - 140		11/06/16 16:27	1
Toluene-d8 (Surr)	100		70 - 130		11/06/16 16:27	1

**Client Sample ID: HSM210 Peak**

**Lab Sample ID: 560-64786-9**

**Date Collected: 11/03/16 18:17**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/06/16 16:53	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/06/16 16:53	1
Benzene	0.330	U	1.00	0.330	ug/L			11/06/16 16:53	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/06/16 16:53	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 16:53	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/06/16 16:53	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/06/16 16:53	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/06/16 16:53	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/06/16 16:53	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/06/16 16:53	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/06/16 16:53	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/06/16 16:53	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/06/16 16:53	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/06/16 16:53	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/06/16 16:53	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/06/16 16:53	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/06/16 16:53	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/06/16 16:53	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/06/16 16:53	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/06/16 16:53	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/06/16 16:53	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 16:53	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/06/16 16:53	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/06/16 16:53	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/06/16 16:53	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/06/16 16:53	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/06/16 16:53	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/06/16 16:53	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/06/16 16:53	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 16:53	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/06/16 16:53	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/06/16 16:53	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Peak**

**Lab Sample ID: 560-64786-9**

**Date Collected: 11/03/16 18:17**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/06/16 16:53	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/06/16 16:53	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/06/16 16:53	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/06/16 16:53	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/06/16 16:53	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/06/16 16:53	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/06/16 16:53	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/06/16 16:53	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/06/16 16:53	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/06/16 16:53	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/06/16 16:53	1
EDB	0.175	U	1.00	0.175	ug/L			11/06/16 16:53	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/06/16 16:53	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 16:53	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/06/16 16:53	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/06/16 16:53	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/06/16 16:53	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/06/16 16:53	1
Hexane	2.00	U	5.00	2.00	ug/L			11/06/16 16:53	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/06/16 16:53	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/06/16 16:53	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/06/16 16:53	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/06/16 16:53	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/06/16 16:53	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/06/16 16:53	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/06/16 16:53	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/06/16 16:53	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/06/16 16:53	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/06/16 16:53	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/06/16 16:53	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/06/16 16:53	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/06/16 16:53	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 16:53	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/06/16 16:53	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/06/16 16:53	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/06/16 16:53	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/06/16 16:53	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/06/16 16:53	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/06/16 16:53	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/06/16 16:53	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/06/16 16:53	1
Styrene	0.200	U	1.00	0.200	ug/L			11/06/16 16:53	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 16:53	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/06/16 16:53	1
1,1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/06/16 16:53	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/06/16 16:53	1
Toluene	0.495	U	1.00	0.495	ug/L			11/06/16 16:53	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 16:53	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/06/16 16:53	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Peak**

**Lab Sample ID: 560-64786-9**

**Date Collected: 11/03/16 18:17**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/06/16 16:53	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/06/16 16:53	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/06/16 16:53	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/06/16 16:53	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/06/16 16:53	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/06/16 16:53	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/06/16 16:53	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/06/16 16:53	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/06/16 16:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/06/16 16:53	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 16:53	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 16:53	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/06/16 16:53	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/06/16 16:53	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/06/16 16:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		11/06/16 16:53	1
Dibromofluoromethane (Surr)	102		69 - 130		11/06/16 16:53	1
1,2-Dichloroethane-d4 (Surr)	110		70 - 140		11/06/16 16:53	1
Toluene-d8 (Surr)	99		70 - 130		11/06/16 16:53	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/08/16 15:50	11/09/16 14:32	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/08/16 15:50	11/09/16 14:32	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/08/16 15:50	11/09/16 14:32	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/08/16 15:50	11/09/16 14:32	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/08/16 15:50	11/09/16 14:32	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/08/16 15:50	11/09/16 14:32	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/08/16 15:50	11/09/16 14:32	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/08/16 15:50	11/09/16 14:32	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/08/16 15:50	11/09/16 14:32	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/08/16 15:50	11/09/16 14:32	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/08/16 15:50	11/09/16 14:32	1
Bis(2-ethylhexyl) phthalate	5.00	U *	20.0	5.00	ug/L		11/08/16 15:50	11/09/16 14:32	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/08/16 15:50	11/09/16 14:32	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/08/16 15:50	11/09/16 14:32	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 14:32	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/08/16 15:50	11/09/16 14:32	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/08/16 15:50	11/09/16 14:32	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/08/16 15:50	11/09/16 14:32	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/08/16 15:50	11/09/16 14:32	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/08/16 15:50	11/09/16 14:32	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/08/16 15:50	11/09/16 14:32	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/08/16 15:50	11/09/16 14:32	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/08/16 15:50	11/09/16 14:32	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/08/16 15:50	11/09/16 14:32	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/08/16 15:50	11/09/16 14:32	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 14:32	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Peak**

**Lab Sample ID: 560-64786-9**

**Date Collected: 11/03/16 18:17**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/08/16 15:50	11/09/16 14:32	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/08/16 15:50	11/09/16 14:32	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/08/16 15:50	11/09/16 14:32	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 14:32	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/08/16 15:50	11/09/16 14:32	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/08/16 15:50	11/09/16 14:32	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/08/16 15:50	11/09/16 14:32	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/08/16 15:50	11/09/16 14:32	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/08/16 15:50	11/09/16 14:32	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/08/16 15:50	11/09/16 14:32	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/08/16 15:50	11/09/16 14:32	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/08/16 15:50	11/09/16 14:32	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/08/16 15:50	11/09/16 14:32	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/08/16 15:50	11/09/16 14:32	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/08/16 15:50	11/09/16 14:32	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 14:32	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/08/16 15:50	11/09/16 14:32	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 14:32	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/08/16 15:50	11/09/16 14:32	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/08/16 15:50	11/09/16 14:32	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/08/16 15:50	11/09/16 14:32	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 14:32	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/08/16 15:50	11/09/16 14:32	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/08/16 15:50	11/09/16 14:32	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/08/16 15:50	11/09/16 14:32	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/08/16 15:50	11/09/16 14:32	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/08/16 15:50	11/09/16 14:32	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/08/16 15:50	11/09/16 14:32	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/08/16 15:50	11/09/16 14:32	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/08/16 15:50	11/09/16 14:32	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/08/16 15:50	11/09/16 14:32	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/08/16 15:50	11/09/16 14:32	1
Phenol	0.768	U	10.0	0.768	ug/L		11/08/16 15:50	11/09/16 14:32	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/08/16 15:50	11/09/16 14:32	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/08/16 15:50	11/09/16 14:32	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/08/16 15:50	11/09/16 14:32	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/08/16 15:50	11/09/16 14:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	42		23 - 130	11/08/16 15:50	11/09/16 14:32	1
2-Fluorophenol	40		10 - 130	11/08/16 15:50	11/09/16 14:32	1
Nitrobenzene-d5	43		27 - 130	11/08/16 15:50	11/09/16 14:32	1
Phenol-d5	42		10 - 130	11/08/16 15:50	11/09/16 14:32	1
Terphenyl-d14	19		10 - 141	11/08/16 15:50	11/09/16 14:32	1
2,4,6-Tribromophenol	35		18 - 130	11/08/16 15:50	11/09/16 14:32	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 09:23	1
alpha-BHC	0.00492	U	0.0568	0.00492	ug/L		11/07/16 13:38	11/11/16 09:23	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Peak**

**Lab Sample ID: 560-64786-9**

**Date Collected: 11/03/16 18:17**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
alpha-Chlordane	0.00596	U	0.0568	0.00596	ug/L		11/07/16 13:38	11/11/16 09:23	1
beta-BHC	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 09:23	1
4,4'-DDD	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 09:23	1
4,4'-DDE	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 09:23	1
4,4'-DDT	0.00766	U	0.0568	0.00766	ug/L		11/07/16 13:38	11/11/16 09:23	1
delta-BHC	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 09:23	1
Dieldrin	0.0123	U	0.0568	0.0123	ug/L		11/07/16 13:38	11/11/16 09:23	1
Endosulfan I	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 09:23	1
Endosulfan II	0.00814	U	0.0568	0.00814	ug/L		11/07/16 13:38	11/11/16 09:23	1
Endosulfan sulfate	0.00832	U	0.0568	0.00832	ug/L		11/07/16 13:38	11/11/16 09:23	1
Endrin	0.00728	U	0.0568	0.00728	ug/L		11/07/16 13:38	11/11/16 09:23	1
Endrin aldehyde	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 09:23	1
Endrin ketone	0.00776	U	0.0568	0.00776	ug/L		11/07/16 13:38	11/11/16 09:23	1
gamma-BHC (Lindane)	0.00426	U	0.0568	0.00426	ug/L		11/07/16 13:38	11/11/16 09:23	1
gamma-Chlordane	0.00634	U	0.0568	0.00634	ug/L		11/07/16 13:38	11/11/16 09:23	1
Heptachlor	0.00615	U	0.0568	0.00615	ug/L		11/07/16 13:38	11/11/16 09:23	1
Heptachlor epoxide	0.00492	U	0.0568	0.00492	ug/L		11/07/16 13:38	11/11/16 09:23	1
Methoxychlor	0.00946	U	0.0568	0.00946	ug/L		11/07/16 13:38	11/11/16 09:23	1
Toxaphene	0.643	U	5.68	0.643	ug/L		11/07/16 13:38	11/11/16 09:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	95		10 - 152	11/07/16 13:38	11/11/16 09:23	1
Tetrachloro-m-xylene	101		57 - 127	11/07/16 13:38	11/11/16 09:23	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 08:27	1
Aroclor 1221	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 08:27	1
Aroclor 1232	0.416	U	0.757	0.416	ug/L		11/07/16 13:38	11/10/16 08:27	1
Aroclor 1242	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 08:27	1
Aroclor 1248	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 08:27	1
Aroclor 1254	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 08:27	1
Aroclor 1260	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 08:27	1
Aroclor 1262	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 08:27	1
Aroclor 1268	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 08:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	101		10 - 150	11/07/16 13:38	11/10/16 08:27	1
DCB Decachlorobiphenyl	72		10 - 150	11/07/16 13:38	11/10/16 08:27	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00237	0.000160	mg/L		11/09/16 12:33	11/16/16 11:44	1
Bolstar	0.000298	U	0.000950	0.000298	mg/L		11/09/16 12:33	11/16/16 11:44	1
Chlorpyrifos	0.000342	U	0.00142	0.000342	mg/L		11/09/16 12:33	11/16/16 11:44	1
Coumaphos	0.000128	U	0.000950	0.000128	mg/L		11/09/16 12:33	11/16/16 11:44	1
Demeton-O	0.000133	U	0.000950	0.000133	mg/L		11/09/16 12:33	11/16/16 11:44	1
Demeton-S	0.0000655	U	0.00190	0.0000655	mg/L		11/09/16 12:33	11/16/16 11:44	1
Diazinon	0.000140	U	0.000475	0.000140	mg/L		11/09/16 12:33	11/16/16 11:44	1
Demeton, Total	0.000198	U	0.00285	0.000198	mg/L		11/09/16 12:33	11/16/16 11:44	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Peak**

**Lab Sample ID: 560-64786-9**

**Date Collected: 11/03/16 18:17**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorvos	0.000154	U	0.000475	0.000154	mg/L		11/09/16 12:33	11/16/16 11:44	1
Dimethoate	0.000426	U	0.00142	0.000426	mg/L		11/09/16 12:33	11/16/16 11:44	1
Disulfoton	0.000306	U	0.000950	0.000306	mg/L		11/09/16 12:33	11/16/16 11:44	1
EPN	0.000141	U	0.00114	0.000141	mg/L		11/09/16 12:33	11/16/16 11:44	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		11/09/16 12:33	11/16/16 11:44	1
Ethyl Parathion	0.000137	U	0.000950	0.000137	mg/L		11/09/16 12:33	11/16/16 11:44	1
Famphur	0.000170	U	0.000950	0.000170	mg/L		11/09/16 12:33	11/16/16 11:44	1
Fensulfothion	0.000517	U	0.00237	0.000517	mg/L		11/09/16 12:33	11/16/16 11:44	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		11/09/16 12:33	11/16/16 11:44	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		11/09/16 12:33	11/16/16 11:44	1
Merphos	0.000165	U	0.00475	0.000165	mg/L		11/09/16 12:33	11/16/16 11:44	1
Methyl parathion	0.000134	U	0.00380	0.000134	mg/L		11/09/16 12:33	11/16/16 11:44	1
Mevinphos	0.000437	U	0.00589	0.000437	mg/L		11/09/16 12:33	11/16/16 11:44	1
Naled	0.000760	U	0.00190	0.000760	mg/L		11/09/16 12:33	11/16/16 11:44	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		11/09/16 12:33	11/16/16 11:44	1
Ronnel	0.000110	U	0.00950	0.000110	mg/L		11/09/16 12:33	11/16/16 11:44	1
Sulfotepp	0.000160	U	0.00142	0.000160	mg/L		11/09/16 12:33	11/16/16 11:44	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00332	0.000118	mg/L		11/09/16 12:33	11/16/16 11:44	1
Thionazin	0.000296	U	0.000950	0.000296	mg/L		11/09/16 12:33	11/16/16 11:44	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		11/09/16 12:33	11/16/16 11:44	1
Trichloronate	0.000230	U	0.00142	0.000230	mg/L		11/09/16 12:33	11/16/16 11:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	65		49 - 171				11/09/16 12:33	11/16/16 11:44	1
Triphenylphosphate	84		60 - 154				11/09/16 12:33	11/16/16 11:44	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0954	U	4.77	0.0954	ug/L		11/07/16 09:36	11/10/16 03:55	1
Dicamba	0.0811	U	0.477	0.0811	ug/L		11/07/16 09:36	11/10/16 03:55	1
Mecoprop	18.1	U	114	18.1	ug/L		11/07/16 09:36	11/10/16 03:55	1
MCPA	16.2	U	114	16.2	ug/L		11/07/16 09:36	11/10/16 03:55	1
Dichlorprop	0.143	U	0.477	0.143	ug/L		11/07/16 09:36	11/10/16 03:55	1
2,4-D	0.0353	U	0.477	0.0353	ug/L		11/07/16 09:36	11/10/16 03:55	1
Silvex (2,4,5-TP)	0.0591	U	0.238	0.0591	ug/L		11/07/16 09:36	11/10/16 03:55	1
2,4,5-T	0.0591	U	0.238	0.0591	ug/L		11/07/16 09:36	11/10/16 03:55	1
2,4-DB	0.143	U	0.477	0.143	ug/L		11/07/16 09:36	11/10/16 03:55	1
Dinoseb	0.153	U	0.954	0.153	ug/L		11/07/16 09:36	11/10/16 03:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	86		45 - 130				11/07/16 09:36	11/10/16 03:55	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	84.5	B	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 21:20	1
Magnesium	18.2		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 21:20	1
Potassium	2.02		0.500	0.375	mg/L		11/07/16 09:45	11/07/16 21:20	1
Silicon	5.40		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 21:20	1
Sodium	16.4		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 21:20	1
Strontium	0.620		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 21:20	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM210 Peak

Lab Sample ID: 560-64786-9

Date Collected: 11/03/16 18:17

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 13:53	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 13:53	1
Arsenic	0.00135	J	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 13:53	1
Barium	0.0408		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 13:53	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 13:53	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 13:53	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 13:53	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 13:53	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 13:53	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 13:53	1
Manganese	0.240		0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 13:53	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 13:53	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 13:53	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 13:53	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 13:53	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 13:53	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:15	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.494	J	1.00	0.315	mg/L			11/04/16 19:46	1
Chloride	27.0		1.00	0.192	mg/L			11/04/16 19:46	1
Nitrate as N	0.505		0.500	0.103	mg/L			11/04/16 19:46	1
Sulfate	28.9		1.00	0.377	mg/L			11/04/16 19:46	1
Fluoride	0.166		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/10/16 11:33	1
Phosphorus	0.0709	J B	0.100	0.0410	mg/L		11/08/16 07:52	11/09/16 12:08	1
Total Organic Carbon	0.405	J	1.00	0.285	mg/L			11/09/16 15:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	239		5.00	5.00	mg/L			11/14/16 15:22	1
Bicarbonate Alkalinity as CaCO3	239		5.00	5.00	mg/L			11/14/16 15:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/14/16 15:22	1
Total Dissolved Solids	377		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	2.60		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.457	J	1.00	0.285	mg/L			11/15/16 11:34	1

Client Sample ID: HSM230 Peak

Lab Sample ID: 560-64786-10

Date Collected: 11/03/16 18:31

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/06/16 17:18	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM230 Peak**

**Lab Sample ID: 560-64786-10**

**Date Collected: 11/03/16 18:31**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/06/16 17:18	1
Benzene	0.330	U	1.00	0.330	ug/L			11/06/16 17:18	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/06/16 17:18	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 17:18	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/06/16 17:18	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/06/16 17:18	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/06/16 17:18	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/06/16 17:18	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/06/16 17:18	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/06/16 17:18	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/06/16 17:18	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/06/16 17:18	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/06/16 17:18	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/06/16 17:18	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/06/16 17:18	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/06/16 17:18	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/06/16 17:18	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/06/16 17:18	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/06/16 17:18	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/06/16 17:18	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 17:18	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/06/16 17:18	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/06/16 17:18	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/06/16 17:18	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/06/16 17:18	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/06/16 17:18	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/06/16 17:18	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/06/16 17:18	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 17:18	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/06/16 17:18	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/06/16 17:18	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/06/16 17:18	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/06/16 17:18	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/06/16 17:18	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/06/16 17:18	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/06/16 17:18	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/06/16 17:18	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/06/16 17:18	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/06/16 17:18	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/06/16 17:18	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/06/16 17:18	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/06/16 17:18	1
EDB	0.175	U	1.00	0.175	ug/L			11/06/16 17:18	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/06/16 17:18	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 17:18	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/06/16 17:18	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/06/16 17:18	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/06/16 17:18	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/06/16 17:18	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM230 Peak

Lab Sample ID: 560-64786-10

Date Collected: 11/03/16 18:31

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			11/06/16 17:18	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/06/16 17:18	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/06/16 17:18	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/06/16 17:18	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/06/16 17:18	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/06/16 17:18	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/06/16 17:18	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/06/16 17:18	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/06/16 17:18	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/06/16 17:18	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/06/16 17:18	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/06/16 17:18	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/06/16 17:18	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/06/16 17:18	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 17:18	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/06/16 17:18	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/06/16 17:18	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/06/16 17:18	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/06/16 17:18	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/06/16 17:18	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/06/16 17:18	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/06/16 17:18	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/06/16 17:18	1
Styrene	0.200	U	1.00	0.200	ug/L			11/06/16 17:18	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 17:18	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/06/16 17:18	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/06/16 17:18	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/06/16 17:18	1
Toluene	0.495	U	1.00	0.495	ug/L			11/06/16 17:18	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 17:18	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/06/16 17:18	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/06/16 17:18	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/06/16 17:18	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/06/16 17:18	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/06/16 17:18	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/06/16 17:18	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/06/16 17:18	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/06/16 17:18	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/06/16 17:18	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/06/16 17:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/06/16 17:18	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 17:18	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 17:18	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/06/16 17:18	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/06/16 17:18	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/06/16 17:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		11/06/16 17:18	1
Dibromofluoromethane (Surr)	102		69 - 130		11/06/16 17:18	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM230 Peak**

**Lab Sample ID: 560-64786-10**

**Date Collected: 11/03/16 18:31**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 140		11/06/16 17:18	1
Toluene-d8 (Surr)	100		70 - 130		11/06/16 17:18	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/08/16 15:50	11/09/16 14:59	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/08/16 15:50	11/09/16 14:59	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/08/16 15:50	11/09/16 14:59	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/08/16 15:50	11/09/16 14:59	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/08/16 15:50	11/09/16 14:59	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/08/16 15:50	11/09/16 14:59	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/08/16 15:50	11/09/16 14:59	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/08/16 15:50	11/09/16 14:59	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/08/16 15:50	11/09/16 14:59	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/08/16 15:50	11/09/16 14:59	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/08/16 15:50	11/09/16 14:59	1
Bis(2-ethylhexyl) phthalate	5.00	U *	20.0	5.00	ug/L		11/08/16 15:50	11/09/16 14:59	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/08/16 15:50	11/09/16 14:59	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/08/16 15:50	11/09/16 14:59	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 14:59	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/08/16 15:50	11/09/16 14:59	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/08/16 15:50	11/09/16 14:59	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/08/16 15:50	11/09/16 14:59	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/08/16 15:50	11/09/16 14:59	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/08/16 15:50	11/09/16 14:59	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/08/16 15:50	11/09/16 14:59	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/08/16 15:50	11/09/16 14:59	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/08/16 15:50	11/09/16 14:59	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/08/16 15:50	11/09/16 14:59	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/08/16 15:50	11/09/16 14:59	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 14:59	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/08/16 15:50	11/09/16 14:59	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/08/16 15:50	11/09/16 14:59	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/08/16 15:50	11/09/16 14:59	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 14:59	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/08/16 15:50	11/09/16 14:59	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/08/16 15:50	11/09/16 14:59	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/08/16 15:50	11/09/16 14:59	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/08/16 15:50	11/09/16 14:59	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/08/16 15:50	11/09/16 14:59	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/08/16 15:50	11/09/16 14:59	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/08/16 15:50	11/09/16 14:59	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/08/16 15:50	11/09/16 14:59	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/08/16 15:50	11/09/16 14:59	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/08/16 15:50	11/09/16 14:59	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/08/16 15:50	11/09/16 14:59	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 14:59	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/08/16 15:50	11/09/16 14:59	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 14:59	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM230 Peak**

**Lab Sample ID: 560-64786-10**

**Date Collected: 11/03/16 18:31**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/08/16 15:50	11/09/16 14:59	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/08/16 15:50	11/09/16 14:59	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/08/16 15:50	11/09/16 14:59	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 14:59	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/08/16 15:50	11/09/16 14:59	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/08/16 15:50	11/09/16 14:59	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/08/16 15:50	11/09/16 14:59	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/08/16 15:50	11/09/16 14:59	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/08/16 15:50	11/09/16 14:59	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/08/16 15:50	11/09/16 14:59	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/08/16 15:50	11/09/16 14:59	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/08/16 15:50	11/09/16 14:59	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/08/16 15:50	11/09/16 14:59	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/08/16 15:50	11/09/16 14:59	1
Phenol	0.768	U	10.0	0.768	ug/L		11/08/16 15:50	11/09/16 14:59	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/08/16 15:50	11/09/16 14:59	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/08/16 15:50	11/09/16 14:59	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/08/16 15:50	11/09/16 14:59	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/08/16 15:50	11/09/16 14:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	62		23 - 130	11/08/16 15:50	11/09/16 14:59	1
2-Fluorophenol	61		10 - 130	11/08/16 15:50	11/09/16 14:59	1
Nitrobenzene-d5	63		27 - 130	11/08/16 15:50	11/09/16 14:59	1
Phenol-d5	65		10 - 130	11/08/16 15:50	11/09/16 14:59	1
Terphenyl-d14	38		10 - 141	11/08/16 15:50	11/09/16 14:59	1
2,4,6-Tribromophenol	64		18 - 130	11/08/16 15:50	11/09/16 14:59	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 09:44	1
alpha-BHC	0.00496	U	0.0572	0.00496	ug/L		11/07/16 13:38	11/11/16 09:44	1
alpha-Chlordane	0.00601	U	0.0572	0.00601	ug/L		11/07/16 13:38	11/11/16 09:44	1
beta-BHC	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 09:44	1
4,4'-DDD	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 09:44	1
4,4'-DDE	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 09:44	1
4,4'-DDT	0.00772	U	0.0572	0.00772	ug/L		11/07/16 13:38	11/11/16 09:44	1
delta-BHC	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 09:44	1
Dieldrin	0.0124	U	0.0572	0.0124	ug/L		11/07/16 13:38	11/11/16 09:44	1
Endosulfan I	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 09:44	1
Endosulfan II	0.00820	U	0.0572	0.00820	ug/L		11/07/16 13:38	11/11/16 09:44	1
Endosulfan sulfate	0.00839	U	0.0572	0.00839	ug/L		11/07/16 13:38	11/11/16 09:44	1
Endrin	0.00734	U	0.0572	0.00734	ug/L		11/07/16 13:38	11/11/16 09:44	1
Endrin aldehyde	0.00477	U	0.0572	0.00477	ug/L		11/07/16 13:38	11/11/16 09:44	1
Endrin ketone	0.00782	U	0.0572	0.00782	ug/L		11/07/16 13:38	11/11/16 09:44	1
gamma-BHC (Lindane)	0.00429	U	0.0572	0.00429	ug/L		11/07/16 13:38	11/11/16 09:44	1
gamma-Chlordane	0.00639	U	0.0572	0.00639	ug/L		11/07/16 13:38	11/11/16 09:44	1
Heptachlor	0.00620	U	0.0572	0.00620	ug/L		11/07/16 13:38	11/11/16 09:44	1
Heptachlor epoxide	0.00496	U	0.0572	0.00496	ug/L		11/07/16 13:38	11/11/16 09:44	1
Methoxychlor	0.00954	U	0.0572	0.00954	ug/L		11/07/16 13:38	11/11/16 09:44	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM230 Peak**

**Lab Sample ID: 560-64786-10**

**Date Collected: 11/03/16 18:31**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.649	U	5.72	0.649	ug/L		11/07/16 13:38	11/11/16 09:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	89		10 - 152				11/07/16 13:38	11/11/16 09:44	1
Tetrachloro-m-xylene	99		57 - 127				11/07/16 13:38	11/11/16 09:44	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 08:45	1
Aroclor 1221	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 08:45	1
Aroclor 1232	0.420	U	0.763	0.420	ug/L		11/07/16 13:38	11/10/16 08:45	1
Aroclor 1242	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 08:45	1
Aroclor 1248	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 08:45	1
Aroclor 1254	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 08:45	1
Aroclor 1260	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 08:45	1
Aroclor 1262	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 08:45	1
Aroclor 1268	0.105	U	0.572	0.105	ug/L		11/07/16 13:38	11/10/16 08:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	99		10 - 150				11/07/16 13:38	11/10/16 08:45	1
DCB Decachlorobiphenyl	71		10 - 150				11/07/16 13:38	11/10/16 08:45	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000161	U	0.00240	0.000161	mg/L		11/09/16 12:33	11/16/16 12:16	1
Bolstar	0.000301	U	0.000959	0.000301	mg/L		11/09/16 12:33	11/16/16 12:16	1
Chlorpyrifos	0.000345	U	0.00144	0.000345	mg/L		11/09/16 12:33	11/16/16 12:16	1
Coumaphos	0.000129	U	0.000959	0.000129	mg/L		11/09/16 12:33	11/16/16 12:16	1
Demeton-O	0.000134	U	0.000959	0.000134	mg/L		11/09/16 12:33	11/16/16 12:16	1
Demeton-S	0.0000662	U	0.00192	0.0000662	mg/L		11/09/16 12:33	11/16/16 12:16	1
Diazinon	0.000141	U	0.000480	0.000141	mg/L		11/09/16 12:33	11/16/16 12:16	1
Demeton, Total	0.000200	U	0.00288	0.000200	mg/L		11/09/16 12:33	11/16/16 12:16	1
Dichlorvos	0.000155	U	0.000480	0.000155	mg/L		11/09/16 12:33	11/16/16 12:16	1
Dimethoate	0.000431	U	0.00144	0.000431	mg/L		11/09/16 12:33	11/16/16 12:16	1
Disulfoton	0.000309	U	0.000959	0.000309	mg/L		11/09/16 12:33	11/16/16 12:16	1
EPN	0.000143	U	0.00115	0.000143	mg/L		11/09/16 12:33	11/16/16 12:16	1
Ethoprop	0.000170	U	0.00144	0.000170	mg/L		11/09/16 12:33	11/16/16 12:16	1
Ethyl Parathion	0.000138	U	0.000959	0.000138	mg/L		11/09/16 12:33	11/16/16 12:16	1
Famphur	0.000172	U	0.000959	0.000172	mg/L		11/09/16 12:33	11/16/16 12:16	1
Fensulfothion	0.000522	U	0.00240	0.000522	mg/L		11/09/16 12:33	11/16/16 12:16	1
Fenthion	0.000148	U	0.00240	0.000148	mg/L		11/09/16 12:33	11/16/16 12:16	1
Malathion	0.000128	U	0.00192	0.000128	mg/L		11/09/16 12:33	11/16/16 12:16	1
Merphos	0.000167	U	0.00480	0.000167	mg/L		11/09/16 12:33	11/16/16 12:16	1
Methyl parathion	0.000135	U	0.00384	0.000135	mg/L		11/09/16 12:33	11/16/16 12:16	1
Mevinphos	0.000441	U	0.00595	0.000441	mg/L		11/09/16 12:33	11/16/16 12:16	1
Naled	0.000767	U	0.00192	0.000767	mg/L		11/09/16 12:33	11/16/16 12:16	1
Phorate	0.000148	U	0.00115	0.000148	mg/L		11/09/16 12:33	11/16/16 12:16	1
Ronnel	0.000111	U	0.00959	0.000111	mg/L		11/09/16 12:33	11/16/16 12:16	1
Sulfotepp	0.000161	U	0.00144	0.000161	mg/L		11/09/16 12:33	11/16/16 12:16	1
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00336	0.000119	mg/L		11/09/16 12:33	11/16/16 12:16	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM230 Peak**

**Lab Sample ID: 560-64786-10**

**Date Collected: 11/03/16 18:31**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thionazin	0.000299	U	0.000959	0.000299	mg/L		11/09/16 12:33	11/16/16 12:16	1
Tokuthion	0.000118	U	0.00153	0.000118	mg/L		11/09/16 12:33	11/16/16 12:16	1
Trichloronate	0.000232	U	0.00144	0.000232	mg/L		11/09/16 12:33	11/16/16 12:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	67		49 - 171				11/09/16 12:33	11/16/16 12:16	1
Triphenylphosphate	89		60 - 154				11/09/16 12:33	11/16/16 12:16	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0952	U	4.76	0.0952	ug/L		11/07/16 09:36	11/10/16 04:14	1
Dicamba	0.0809	U	0.476	0.0809	ug/L		11/07/16 09:36	11/10/16 04:14	1
Mecoprop	18.1	U	114	18.1	ug/L		11/07/16 09:36	11/10/16 04:14	1
MCPA	16.2	U	114	16.2	ug/L		11/07/16 09:36	11/10/16 04:14	1
Dichlorprop	0.143	U	0.476	0.143	ug/L		11/07/16 09:36	11/10/16 04:14	1
2,4-D	0.0352	U	0.476	0.0352	ug/L		11/07/16 09:36	11/10/16 04:14	1
Silvex (2,4,5-TP)	0.0590	U	0.238	0.0590	ug/L		11/07/16 09:36	11/10/16 04:14	1
2,4,5-T	0.0590	U	0.238	0.0590	ug/L		11/07/16 09:36	11/10/16 04:14	1
2,4-DB	0.143	U	0.476	0.143	ug/L		11/07/16 09:36	11/10/16 04:14	1
Dinoseb	0.152	U	0.952	0.152	ug/L		11/07/16 09:36	11/10/16 04:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	90		45 - 130				11/07/16 09:36	11/10/16 04:14	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	75.8	B	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 21:24	1
Magnesium	12.5		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 21:24	1
Potassium	2.11		0.500	0.375	mg/L		11/07/16 09:45	11/07/16 21:24	1
Silicon	4.79		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 21:24	1
Sodium	11.3		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 21:24	1
Strontium	0.414		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 21:24	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 13:58	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 13:58	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 13:58	1
Barium	0.0373		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 13:58	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 13:58	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 13:58	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 13:58	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 13:58	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 13:58	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 13:58	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 13:58	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 13:58	1
Selenium	0.00121	J	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 13:58	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 13:58	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 13:58	1
Zinc	0.00487	J	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 13:58	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:25	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.439	J	1.00	0.315	mg/L			11/04/16 20:12	1
Chloride	17.1		1.00	0.192	mg/L			11/04/16 20:12	1
Nitrate as N	1.34		0.500	0.103	mg/L			11/04/16 20:12	1
Sulfate	23.7		1.00	0.377	mg/L			11/04/16 20:12	1
Fluoride	0.150		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/10/16 11:36	1
Phosphorus	0.0659	J	0.100	0.0410	mg/L		11/08/16 08:04	11/09/16 12:24	1
Total Organic Carbon	2.67		1.00	0.285	mg/L			11/09/16 15:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.2		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	198		5.00	5.00	mg/L			11/14/16 15:22	1
Bicarbonate Alkalinity as CaCO3	198		5.00	5.00	mg/L			11/14/16 15:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/14/16 15:22	1
Total Dissolved Solids	296		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	17.6		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.49		1.00	0.285	mg/L			11/15/16 11:34	1

Client Sample ID: HSM231 Peak

Lab Sample ID: 560-64786-11

Date Collected: 11/03/16 18:17

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/06/16 17:43	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/06/16 17:43	1
Benzene	0.330	U	1.00	0.330	ug/L			11/06/16 17:43	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/06/16 17:43	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 17:43	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/06/16 17:43	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/06/16 17:43	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/06/16 17:43	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/06/16 17:43	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/06/16 17:43	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/06/16 17:43	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/06/16 17:43	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/06/16 17:43	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/06/16 17:43	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/06/16 17:43	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/06/16 17:43	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/06/16 17:43	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/06/16 17:43	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/06/16 17:43	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/06/16 17:43	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/06/16 17:43	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 17:43	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/06/16 17:43	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/06/16 17:43	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM231 Peak

Lab Sample ID: 560-64786-11

Date Collected: 11/03/16 18:17

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/06/16 17:43	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/06/16 17:43	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/06/16 17:43	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/06/16 17:43	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/06/16 17:43	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 17:43	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/06/16 17:43	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/06/16 17:43	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/06/16 17:43	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/06/16 17:43	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/06/16 17:43	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/06/16 17:43	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/06/16 17:43	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/06/16 17:43	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/06/16 17:43	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/06/16 17:43	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/06/16 17:43	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/06/16 17:43	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/06/16 17:43	1
EDB	0.175	U	1.00	0.175	ug/L			11/06/16 17:43	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/06/16 17:43	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 17:43	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/06/16 17:43	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/06/16 17:43	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/06/16 17:43	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/06/16 17:43	1
Hexane	2.00	U	5.00	2.00	ug/L			11/06/16 17:43	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/06/16 17:43	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/06/16 17:43	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/06/16 17:43	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/06/16 17:43	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/06/16 17:43	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/06/16 17:43	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/06/16 17:43	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/06/16 17:43	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/06/16 17:43	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/06/16 17:43	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/06/16 17:43	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/06/16 17:43	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/06/16 17:43	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 17:43	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/06/16 17:43	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/06/16 17:43	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/06/16 17:43	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/06/16 17:43	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/06/16 17:43	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/06/16 17:43	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/06/16 17:43	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/06/16 17:43	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM231 Peak

Lab Sample ID: 560-64786-11

Date Collected: 11/03/16 18:17

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.200	U	1.00	0.200	ug/L			11/06/16 17:43	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 17:43	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/06/16 17:43	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/06/16 17:43	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/06/16 17:43	1
Toluene	0.495	U	1.00	0.495	ug/L			11/06/16 17:43	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 17:43	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/06/16 17:43	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/06/16 17:43	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/06/16 17:43	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/06/16 17:43	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/06/16 17:43	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/06/16 17:43	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/06/16 17:43	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/06/16 17:43	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/06/16 17:43	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/06/16 17:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/06/16 17:43	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 17:43	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 17:43	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/06/16 17:43	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/06/16 17:43	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/06/16 17:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130		11/06/16 17:43	1
Dibromofluoromethane (Surr)	104		69 - 130		11/06/16 17:43	1
1,2-Dichloroethane-d4 (Surr)	110		70 - 140		11/06/16 17:43	1
Toluene-d8 (Surr)	101		70 - 130		11/06/16 17:43	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/09/16 14:46	11/10/16 12:59	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/09/16 14:46	11/10/16 12:59	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/09/16 14:46	11/10/16 12:59	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/09/16 14:46	11/10/16 12:59	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/09/16 14:46	11/10/16 12:59	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/09/16 14:46	11/10/16 12:59	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/09/16 14:46	11/10/16 12:59	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/09/16 14:46	11/10/16 12:59	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/09/16 14:46	11/10/16 12:59	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/09/16 14:46	11/10/16 12:59	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/09/16 14:46	11/10/16 12:59	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		11/09/16 14:46	11/10/16 12:59	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/09/16 14:46	11/10/16 12:59	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/09/16 14:46	11/10/16 12:59	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 12:59	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/09/16 14:46	11/10/16 12:59	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/09/16 14:46	11/10/16 12:59	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/09/16 14:46	11/10/16 12:59	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM231 Peak**

**Lab Sample ID: 560-64786-11**

**Date Collected: 11/03/16 18:17**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/09/16 14:46	11/10/16 12:59	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/09/16 14:46	11/10/16 12:59	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/09/16 14:46	11/10/16 12:59	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/09/16 14:46	11/10/16 12:59	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/09/16 14:46	11/10/16 12:59	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/09/16 14:46	11/10/16 12:59	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/09/16 14:46	11/10/16 12:59	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 12:59	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/09/16 14:46	11/10/16 12:59	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/09/16 14:46	11/10/16 12:59	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/09/16 14:46	11/10/16 12:59	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 12:59	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/09/16 14:46	11/10/16 12:59	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/09/16 14:46	11/10/16 12:59	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/09/16 14:46	11/10/16 12:59	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/09/16 14:46	11/10/16 12:59	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/09/16 14:46	11/10/16 12:59	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/09/16 14:46	11/10/16 12:59	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/09/16 14:46	11/10/16 12:59	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/09/16 14:46	11/10/16 12:59	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/09/16 14:46	11/10/16 12:59	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/09/16 14:46	11/10/16 12:59	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/09/16 14:46	11/10/16 12:59	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 12:59	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/09/16 14:46	11/10/16 12:59	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 12:59	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/09/16 14:46	11/10/16 12:59	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/09/16 14:46	11/10/16 12:59	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/09/16 14:46	11/10/16 12:59	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 12:59	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/09/16 14:46	11/10/16 12:59	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/09/16 14:46	11/10/16 12:59	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/09/16 14:46	11/10/16 12:59	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/09/16 14:46	11/10/16 12:59	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/09/16 14:46	11/10/16 12:59	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/09/16 14:46	11/10/16 12:59	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/09/16 14:46	11/10/16 12:59	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/09/16 14:46	11/10/16 12:59	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/09/16 14:46	11/10/16 12:59	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/09/16 14:46	11/10/16 12:59	1
Phenol	0.768	U	10.0	0.768	ug/L		11/09/16 14:46	11/10/16 12:59	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/09/16 14:46	11/10/16 12:59	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/09/16 14:46	11/10/16 12:59	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/09/16 14:46	11/10/16 12:59	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/09/16 14:46	11/10/16 12:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	50		23 - 130	11/09/16 14:46	11/10/16 12:59	1
2-Fluorophenol	50		10 - 130	11/09/16 14:46	11/10/16 12:59	1
Nitrobenzene-d5	52		27 - 130	11/09/16 14:46	11/10/16 12:59	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM231 Peak**

**Lab Sample ID: 560-64786-11**

**Date Collected: 11/03/16 18:17**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	54		10 - 130	11/09/16 14:46	11/10/16 12:59	1
Terphenyl-d14	66		10 - 141	11/09/16 14:46	11/10/16 12:59	1
2,4,6-Tribromophenol	48		18 - 130	11/09/16 14:46	11/10/16 12:59	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00478	U	0.0574	0.00478	ug/L		11/07/16 13:38	11/11/16 10:06	1
alpha-BHC	0.00497	U	0.0574	0.00497	ug/L		11/07/16 13:38	11/11/16 10:06	1
alpha-Chlordane	0.00602	U	0.0574	0.00602	ug/L		11/07/16 13:38	11/11/16 10:06	1
beta-BHC	0.00478	U	0.0574	0.00478	ug/L		11/07/16 13:38	11/11/16 10:06	1
4,4'-DDD	0.00478	U	0.0574	0.00478	ug/L		11/07/16 13:38	11/11/16 10:06	1
4,4'-DDE	0.00478	U	0.0574	0.00478	ug/L		11/07/16 13:38	11/11/16 10:06	1
4,4'-DDT	0.00775	U	0.0574	0.00775	ug/L		11/07/16 13:38	11/11/16 10:06	1
delta-BHC	0.00478	U	0.0574	0.00478	ug/L		11/07/16 13:38	11/11/16 10:06	1
Dieldrin	0.0124	U	0.0574	0.0124	ug/L		11/07/16 13:38	11/11/16 10:06	1
Endosulfan I	0.00478	U	0.0574	0.00478	ug/L		11/07/16 13:38	11/11/16 10:06	1
Endosulfan II	0.00822	U	0.0574	0.00822	ug/L		11/07/16 13:38	11/11/16 10:06	1
Endosulfan sulfate	0.00842	U	0.0574	0.00842	ug/L		11/07/16 13:38	11/11/16 10:06	1
Endrin	0.00736	U	0.0574	0.00736	ug/L		11/07/16 13:38	11/11/16 10:06	1
Endrin aldehyde	0.00478	U	0.0574	0.00478	ug/L		11/07/16 13:38	11/11/16 10:06	1
Endrin ketone	0.00784	U	0.0574	0.00784	ug/L		11/07/16 13:38	11/11/16 10:06	1
gamma-BHC (Lindane)	0.00430	U	0.0574	0.00430	ug/L		11/07/16 13:38	11/11/16 10:06	1
gamma-Chlordane	0.00641	U	0.0574	0.00641	ug/L		11/07/16 13:38	11/11/16 10:06	1
Heptachlor	0.00622	U	0.0574	0.00622	ug/L		11/07/16 13:38	11/11/16 10:06	1
Heptachlor epoxide	0.00497	U	0.0574	0.00497	ug/L		11/07/16 13:38	11/11/16 10:06	1
Methoxychlor	0.00956	U	0.0574	0.00956	ug/L		11/07/16 13:38	11/11/16 10:06	1
Toxaphene	0.650	U	5.74	0.650	ug/L		11/07/16 13:38	11/11/16 10:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	97		10 - 152	11/07/16 13:38	11/11/16 10:06	1
Tetrachloro-m-xylene	102		57 - 127	11/07/16 13:38	11/11/16 10:06	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:02	1
Aroclor 1221	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:02	1
Aroclor 1232	0.421	U	0.765	0.421	ug/L		11/07/16 13:38	11/10/16 09:02	1
Aroclor 1242	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:02	1
Aroclor 1248	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:02	1
Aroclor 1254	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:02	1
Aroclor 1260	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:02	1
Aroclor 1262	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:02	1
Aroclor 1268	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	102		10 - 150	11/07/16 13:38	11/10/16 09:02	1
DCB Decachlorobiphenyl	76		10 - 150	11/07/16 13:38	11/10/16 09:02	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM231 Peak

Lab Sample ID: 560-64786-11

Date Collected: 11/03/16 18:17

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00237	0.000160	mg/L		11/09/16 12:33	11/16/16 13:51	1
Bolstar	0.000298	U	0.000950	0.000298	mg/L		11/09/16 12:33	11/16/16 13:51	1
Chlorpyrifos	0.000342	U	0.00142	0.000342	mg/L		11/09/16 12:33	11/16/16 13:51	1
Coumaphos	0.000128	U	0.000950	0.000128	mg/L		11/09/16 12:33	11/16/16 13:51	1
Demeton-O	0.000133	U	0.000950	0.000133	mg/L		11/09/16 12:33	11/16/16 13:51	1
Demeton-S	0.0000655	U	0.00190	0.0000655	mg/L		11/09/16 12:33	11/16/16 13:51	1
Diazinon	0.000140	U	0.000475	0.000140	mg/L		11/09/16 12:33	11/16/16 13:51	1
Demeton, Total	0.000199	U	0.00285	0.000199	mg/L		11/09/16 12:33	11/16/16 13:51	1
Dichlorvos	0.000154	U	0.000475	0.000154	mg/L		11/09/16 12:33	11/16/16 13:51	1
Dimethoate	0.000426	U	0.00142	0.000426	mg/L		11/09/16 12:33	11/16/16 13:51	1
Disulfoton	0.000306	U	0.000950	0.000306	mg/L		11/09/16 12:33	11/16/16 13:51	1
EPN	0.000142	U	0.00114	0.000142	mg/L		11/09/16 12:33	11/16/16 13:51	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		11/09/16 12:33	11/16/16 13:51	1
Ethyl Parathion	0.000137	U	0.000950	0.000137	mg/L		11/09/16 12:33	11/16/16 13:51	1
Famphur	0.000170	U	0.000950	0.000170	mg/L		11/09/16 12:33	11/16/16 13:51	1
Fensulfothion	0.000517	U	0.00237	0.000517	mg/L		11/09/16 12:33	11/16/16 13:51	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		11/09/16 12:33	11/16/16 13:51	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		11/09/16 12:33	11/16/16 13:51	1
Merphos	0.000165	U	0.00475	0.000165	mg/L		11/09/16 12:33	11/16/16 13:51	1
Methyl parathion	0.000134	U	0.00380	0.000134	mg/L		11/09/16 12:33	11/16/16 13:51	1
Mevinphos	0.000437	U	0.00589	0.000437	mg/L		11/09/16 12:33	11/16/16 13:51	1
Naled	0.000760	U	0.00190	0.000760	mg/L		11/09/16 12:33	11/16/16 13:51	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		11/09/16 12:33	11/16/16 13:51	1
Ronnel	0.000110	U	0.00950	0.000110	mg/L		11/09/16 12:33	11/16/16 13:51	1
Sulfotepp	0.000160	U	0.00142	0.000160	mg/L		11/09/16 12:33	11/16/16 13:51	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00332	0.000118	mg/L		11/09/16 12:33	11/16/16 13:51	1
Thionazin	0.000296	U	0.000950	0.000296	mg/L		11/09/16 12:33	11/16/16 13:51	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		11/09/16 12:33	11/16/16 13:51	1
Trichloronate	0.000230	U	0.00142	0.000230	mg/L		11/09/16 12:33	11/16/16 13:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	69		49 - 171				11/09/16 12:33	11/16/16 13:51	1
Triphenylphosphate	87		60 - 154				11/09/16 12:33	11/16/16 13:51	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0955	U	4.78	0.0955	ug/L		11/07/16 09:36	11/10/16 04:33	1
Dicamba	0.0812	U	0.478	0.0812	ug/L		11/07/16 09:36	11/10/16 04:33	1
Mecoprop	18.1	U	115	18.1	ug/L		11/07/16 09:36	11/10/16 04:33	1
MCPA	16.2	U	115	16.2	ug/L		11/07/16 09:36	11/10/16 04:33	1
Dichlorprop	0.143	U	0.478	0.143	ug/L		11/07/16 09:36	11/10/16 04:33	1
2,4-D	0.0353	U	0.478	0.0353	ug/L		11/07/16 09:36	11/10/16 04:33	1
Silvex (2,4,5-TP)	0.0592	U	0.239	0.0592	ug/L		11/07/16 09:36	11/10/16 04:33	1
2,4,5-T	0.0592	U	0.239	0.0592	ug/L		11/07/16 09:36	11/10/16 04:33	1
2,4-DB	0.143	U	0.478	0.143	ug/L		11/07/16 09:36	11/10/16 04:33	1
Dinoseb	0.153	U	0.955	0.153	ug/L		11/07/16 09:36	11/10/16 04:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	86		45 - 130				11/07/16 09:36	11/10/16 04:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM231 Peak**

**Lab Sample ID: 560-64786-11**

**Date Collected: 11/03/16 18:17**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	87.4	B	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 21:28	1
Magnesium	16.2		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 21:28	1
Potassium	1.61		0.500	0.375	mg/L		11/07/16 09:45	11/07/16 21:28	1
Silicon	5.41		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 21:28	1
Sodium	11.7		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 21:28	1
Strontium	0.500		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 21:28	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 14:03	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 14:03	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 14:03	1
Barium	0.0377		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 14:03	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 14:03	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 14:03	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 14:03	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 14:03	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 14:03	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 14:03	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 14:03	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 14:03	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 14:03	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 14:03	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 14:03	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 14:03	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:31	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.449	J	1.00	0.315	mg/L			11/04/16 20:38	1
Chloride	18.1		1.00	0.192	mg/L			11/04/16 20:38	1
Nitrate as N	1.13		0.500	0.103	mg/L			11/04/16 20:38	1
Sulfate	23.1		1.00	0.377	mg/L			11/04/16 20:38	1
Fluoride	0.161		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/10/16 11:37	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		11/09/16 08:57	11/11/16 11:13	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			11/09/16 15:16	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	239		5.00	5.00	mg/L			11/14/16 15:22	1
Bicarbonate Alkalinity as CaCO3	239		5.00	5.00	mg/L			11/14/16 15:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/14/16 15:22	1
Total Dissolved Solids	333		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	3.60		2.00	2.00	mg/L			11/07/16 15:45	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Client Sample ID: HSM231 Peak

Date Collected: 11/03/16 18:17

Date Received: 11/04/16 11:46

## Lab Sample ID: 560-64786-11

Matrix: Water

### General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			11/15/16 11:34	1

## Client Sample ID: HSM240 Peak

Date Collected: 11/03/16 18:54

Date Received: 11/04/16 11:46

## Lab Sample ID: 560-64786-12

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/06/16 18:08	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/06/16 18:08	1
Benzene	0.330	U	1.00	0.330	ug/L			11/06/16 18:08	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/06/16 18:08	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 18:08	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/06/16 18:08	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/06/16 18:08	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/06/16 18:08	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/06/16 18:08	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/06/16 18:08	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/06/16 18:08	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/06/16 18:08	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/06/16 18:08	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/06/16 18:08	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/06/16 18:08	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/06/16 18:08	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/06/16 18:08	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/06/16 18:08	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/06/16 18:08	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/06/16 18:08	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/06/16 18:08	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 18:08	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/06/16 18:08	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/06/16 18:08	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/06/16 18:08	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/06/16 18:08	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/06/16 18:08	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/06/16 18:08	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/06/16 18:08	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 18:08	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/06/16 18:08	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/06/16 18:08	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/06/16 18:08	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/06/16 18:08	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/06/16 18:08	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/06/16 18:08	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/06/16 18:08	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/06/16 18:08	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/06/16 18:08	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/06/16 18:08	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/06/16 18:08	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/06/16 18:08	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM240 Peak

Lab Sample ID: 560-64786-12

Date Collected: 11/03/16 18:54

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/06/16 18:08	1
EDB	0.175	U	1.00	0.175	ug/L			11/06/16 18:08	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/06/16 18:08	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 18:08	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/06/16 18:08	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/06/16 18:08	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/06/16 18:08	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/06/16 18:08	1
Hexane	2.00	U	5.00	2.00	ug/L			11/06/16 18:08	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/06/16 18:08	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/06/16 18:08	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/06/16 18:08	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/06/16 18:08	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/06/16 18:08	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/06/16 18:08	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/06/16 18:08	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/06/16 18:08	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/06/16 18:08	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/06/16 18:08	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/06/16 18:08	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/06/16 18:08	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/06/16 18:08	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 18:08	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/06/16 18:08	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/06/16 18:08	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/06/16 18:08	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/06/16 18:08	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/06/16 18:08	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/06/16 18:08	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/06/16 18:08	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/06/16 18:08	1
Styrene	0.200	U	1.00	0.200	ug/L			11/06/16 18:08	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 18:08	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/06/16 18:08	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/06/16 18:08	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/06/16 18:08	1
Toluene	0.495	U	1.00	0.495	ug/L			11/06/16 18:08	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 18:08	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/06/16 18:08	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/06/16 18:08	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/06/16 18:08	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/06/16 18:08	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/06/16 18:08	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/06/16 18:08	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/06/16 18:08	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/06/16 18:08	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/06/16 18:08	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/06/16 18:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/06/16 18:08	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM240 Peak**

**Lab Sample ID: 560-64786-12**

**Date Collected: 11/03/16 18:54**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 18:08	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 18:08	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/06/16 18:08	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/06/16 18:08	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/06/16 18:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		70 - 130		11/06/16 18:08	1
Dibromofluoromethane (Surr)	106		69 - 130		11/06/16 18:08	1
1,2-Dichloroethane-d4 (Surr)	112		70 - 140		11/06/16 18:08	1
Toluene-d8 (Surr)	101		70 - 130		11/06/16 18:08	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/09/16 14:46	11/10/16 13:25	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/09/16 14:46	11/10/16 13:25	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/09/16 14:46	11/10/16 13:25	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/09/16 14:46	11/10/16 13:25	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/09/16 14:46	11/10/16 13:25	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/09/16 14:46	11/10/16 13:25	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/09/16 14:46	11/10/16 13:25	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/09/16 14:46	11/10/16 13:25	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/09/16 14:46	11/10/16 13:25	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/09/16 14:46	11/10/16 13:25	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/09/16 14:46	11/10/16 13:25	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		11/09/16 14:46	11/10/16 13:25	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/09/16 14:46	11/10/16 13:25	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/09/16 14:46	11/10/16 13:25	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 13:25	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/09/16 14:46	11/10/16 13:25	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/09/16 14:46	11/10/16 13:25	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/09/16 14:46	11/10/16 13:25	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/09/16 14:46	11/10/16 13:25	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/09/16 14:46	11/10/16 13:25	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/09/16 14:46	11/10/16 13:25	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/09/16 14:46	11/10/16 13:25	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/09/16 14:46	11/10/16 13:25	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/09/16 14:46	11/10/16 13:25	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/09/16 14:46	11/10/16 13:25	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 13:25	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/09/16 14:46	11/10/16 13:25	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/09/16 14:46	11/10/16 13:25	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/09/16 14:46	11/10/16 13:25	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 13:25	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/09/16 14:46	11/10/16 13:25	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/09/16 14:46	11/10/16 13:25	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/09/16 14:46	11/10/16 13:25	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/09/16 14:46	11/10/16 13:25	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/09/16 14:46	11/10/16 13:25	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/09/16 14:46	11/10/16 13:25	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM240 Peak

Lab Sample ID: 560-64786-12

Date Collected: 11/03/16 18:54

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/09/16 14:46	11/10/16 13:25	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/09/16 14:46	11/10/16 13:25	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/09/16 14:46	11/10/16 13:25	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/09/16 14:46	11/10/16 13:25	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/09/16 14:46	11/10/16 13:25	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 13:25	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/09/16 14:46	11/10/16 13:25	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 13:25	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/09/16 14:46	11/10/16 13:25	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/09/16 14:46	11/10/16 13:25	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/09/16 14:46	11/10/16 13:25	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 13:25	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/09/16 14:46	11/10/16 13:25	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/09/16 14:46	11/10/16 13:25	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/09/16 14:46	11/10/16 13:25	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/09/16 14:46	11/10/16 13:25	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/09/16 14:46	11/10/16 13:25	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/09/16 14:46	11/10/16 13:25	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/09/16 14:46	11/10/16 13:25	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/09/16 14:46	11/10/16 13:25	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/09/16 14:46	11/10/16 13:25	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/09/16 14:46	11/10/16 13:25	1
Phenol	0.768	U	10.0	0.768	ug/L		11/09/16 14:46	11/10/16 13:25	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/09/16 14:46	11/10/16 13:25	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/09/16 14:46	11/10/16 13:25	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/09/16 14:46	11/10/16 13:25	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/09/16 14:46	11/10/16 13:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	75		23 - 130	11/09/16 14:46	11/10/16 13:25	1
2-Fluorophenol	73		10 - 130	11/09/16 14:46	11/10/16 13:25	1
Nitrobenzene-d5	77		27 - 130	11/09/16 14:46	11/10/16 13:25	1
Phenol-d5	80		10 - 130	11/09/16 14:46	11/10/16 13:25	1
Terphenyl-d14	73		10 - 141	11/09/16 14:46	11/10/16 13:25	1
2,4,6-Tribromophenol	77		18 - 130	11/09/16 14:46	11/10/16 13:25	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 10:27	1
alpha-BHC	0.00492	U	0.0568	0.00492	ug/L		11/07/16 13:38	11/11/16 10:27	1
alpha-Chlordane	0.00596	U	0.0568	0.00596	ug/L		11/07/16 13:38	11/11/16 10:27	1
beta-BHC	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 10:27	1
4,4'-DDD	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 10:27	1
4,4'-DDE	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 10:27	1
4,4'-DDT	0.00766	U	0.0568	0.00766	ug/L		11/07/16 13:38	11/11/16 10:27	1
delta-BHC	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 10:27	1
Dieldrin	0.0123	U	0.0568	0.0123	ug/L		11/07/16 13:38	11/11/16 10:27	1
Endosulfan I	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 10:27	1
Endosulfan II	0.00814	U	0.0568	0.00814	ug/L		11/07/16 13:38	11/11/16 10:27	1
Endosulfan sulfate	0.00832	U	0.0568	0.00832	ug/L		11/07/16 13:38	11/11/16 10:27	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM240 Peak**

**Lab Sample ID: 560-64786-12**

**Date Collected: 11/03/16 18:54**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	0.00728	U	0.0568	0.00728	ug/L		11/07/16 13:38	11/11/16 10:27	1
Endrin aldehyde	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 10:27	1
Endrin ketone	0.00776	U	0.0568	0.00776	ug/L		11/07/16 13:38	11/11/16 10:27	1
gamma-BHC (Lindane)	0.00426	U	0.0568	0.00426	ug/L		11/07/16 13:38	11/11/16 10:27	1
gamma-Chlordane	0.00634	U	0.0568	0.00634	ug/L		11/07/16 13:38	11/11/16 10:27	1
Heptachlor	0.00615	U	0.0568	0.00615	ug/L		11/07/16 13:38	11/11/16 10:27	1
Heptachlor epoxide	0.00492	U	0.0568	0.00492	ug/L		11/07/16 13:38	11/11/16 10:27	1
Methoxychlor	0.00946	U	0.0568	0.00946	ug/L		11/07/16 13:38	11/11/16 10:27	1
Toxaphene	0.643	U	5.68	0.643	ug/L		11/07/16 13:38	11/11/16 10:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	96		10 - 152				11/07/16 13:38	11/11/16 10:27	1
Tetrachloro-m-xylene	101		57 - 127				11/07/16 13:38	11/11/16 10:27	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 09:20	1
Aroclor 1221	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 09:20	1
Aroclor 1232	0.416	U	0.757	0.416	ug/L		11/07/16 13:38	11/10/16 09:20	1
Aroclor 1242	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 09:20	1
Aroclor 1248	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 09:20	1
Aroclor 1254	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 09:20	1
Aroclor 1260	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 09:20	1
Aroclor 1262	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 09:20	1
Aroclor 1268	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 09:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	102		10 - 150				11/07/16 13:38	11/10/16 09:20	1
DCB Decachlorobiphenyl	77		10 - 150				11/07/16 13:38	11/10/16 09:20	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00238	0.000160	mg/L		11/09/16 12:33	11/16/16 14:22	1
Bolstar	0.000299	U	0.000951	0.000299	mg/L		11/09/16 12:33	11/16/16 14:22	1
Chlorpyrifos	0.000342	U	0.00143	0.000342	mg/L		11/09/16 12:33	11/16/16 14:22	1
Coumaphos	0.000128	U	0.000951	0.000128	mg/L		11/09/16 12:33	11/16/16 14:22	1
Demeton-O	0.000133	U	0.000951	0.000133	mg/L		11/09/16 12:33	11/16/16 14:22	1
Demeton-S	0.0000656	U	0.00190	0.0000656	mg/L		11/09/16 12:33	11/16/16 14:22	1
Diazinon	0.000140	U	0.000476	0.000140	mg/L		11/09/16 12:33	11/16/16 14:22	1
Demeton, Total	0.000199	U	0.00285	0.000199	mg/L		11/09/16 12:33	11/16/16 14:22	1
Dichlorvos	0.000154	U	0.000476	0.000154	mg/L		11/09/16 12:33	11/16/16 14:22	1
Dimethoate	0.000427	U	0.00143	0.000427	mg/L		11/09/16 12:33	11/16/16 14:22	1
Disulfoton	0.000306	U	0.000951	0.000306	mg/L		11/09/16 12:33	11/16/16 14:22	1
EPN	0.000142	U	0.00114	0.000142	mg/L		11/09/16 12:33	11/16/16 14:22	1
Ethoprop	0.000168	U	0.00143	0.000168	mg/L		11/09/16 12:33	11/16/16 14:22	1
Ethyl Parathion	0.000137	U	0.000951	0.000137	mg/L		11/09/16 12:33	11/16/16 14:22	1
Famphur	0.000170	U	0.000951	0.000170	mg/L		11/09/16 12:33	11/16/16 14:22	1
Fensulfothion	0.000517	U	0.00238	0.000517	mg/L		11/09/16 12:33	11/16/16 14:22	1
Fenthion	0.000146	U	0.00238	0.000146	mg/L		11/09/16 12:33	11/16/16 14:22	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		11/09/16 12:33	11/16/16 14:22	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM240 Peak**

**Lab Sample ID: 560-64786-12**

**Date Collected: 11/03/16 18:54**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Merphos	0.000165	U	0.00476	0.000165	mg/L		11/09/16 12:33	11/16/16 14:22	1
Methyl parathion	0.000134	U	0.00380	0.000134	mg/L		11/09/16 12:33	11/16/16 14:22	1
Mevinphos	0.000438	U	0.00590	0.000438	mg/L		11/09/16 12:33	11/16/16 14:22	1
Naled	0.000761	U	0.00190	0.000761	mg/L		11/09/16 12:33	11/16/16 14:22	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		11/09/16 12:33	11/16/16 14:22	1
Ronnel	0.000110	U	0.00951	0.000110	mg/L		11/09/16 12:33	11/16/16 14:22	1
Sulfotepp	0.000160	U	0.00143	0.000160	mg/L		11/09/16 12:33	11/16/16 14:22	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00333	0.000118	mg/L		11/09/16 12:33	11/16/16 14:22	1
Thionazin	0.000297	U	0.000951	0.000297	mg/L		11/09/16 12:33	11/16/16 14:22	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		11/09/16 12:33	11/16/16 14:22	1
Trichloronate	0.000230	U	0.00143	0.000230	mg/L		11/09/16 12:33	11/16/16 14:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	69		49 - 171				11/09/16 12:33	11/16/16 14:22	1
Triphenylphosphate	89		60 - 154				11/09/16 12:33	11/16/16 14:22	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0954	U	4.77	0.0954	ug/L		11/07/16 09:36	11/10/16 04:53	1
Dicamba	0.0811	U	0.477	0.0811	ug/L		11/07/16 09:36	11/10/16 04:53	1
Mecoprop	18.1	U	114	18.1	ug/L		11/07/16 09:36	11/10/16 04:53	1
MCPA	16.2	U	114	16.2	ug/L		11/07/16 09:36	11/10/16 04:53	1
Dichlorprop	0.143	U	0.477	0.143	ug/L		11/07/16 09:36	11/10/16 04:53	1
2,4-D	0.0353	U	0.477	0.0353	ug/L		11/07/16 09:36	11/10/16 04:53	1
Silvex (2,4,5-TP)	0.0592	U	0.239	0.0592	ug/L		11/07/16 09:36	11/10/16 04:53	1
2,4,5-T	0.0592	U	0.239	0.0592	ug/L		11/07/16 09:36	11/10/16 04:53	1
2,4-DB	0.143	U	0.477	0.143	ug/L		11/07/16 09:36	11/10/16 04:53	1
Dinoseb	0.153	U	0.954	0.153	ug/L		11/07/16 09:36	11/10/16 04:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	84		45 - 130				11/07/16 09:36	11/10/16 04:53	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	87.8	B	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 21:39	1
Magnesium	16.4		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 21:39	1
Potassium	1.57		0.500	0.375	mg/L		11/07/16 09:45	11/07/16 21:39	1
Silicon	5.44		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 21:39	1
Sodium	11.8		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 21:39	1
Strontium	0.508		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 21:39	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 14:08	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 14:08	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 14:08	1
Barium	0.0385		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 14:08	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 14:08	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 14:08	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 14:08	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 14:08	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM240 Peak**

**Lab Sample ID: 560-64786-12**

**Date Collected: 11/03/16 18:54**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 14:08	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 14:08	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 14:08	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 14:08	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 14:08	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 14:08	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 14:08	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 14:08	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:33	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.448	J	1.00	0.315	mg/L			11/04/16 22:48	1
Chloride	18.2		1.00	0.192	mg/L			11/04/16 22:48	1
Nitrate as N	1.14		0.500	0.103	mg/L			11/04/16 22:48	1
Sulfate	23.3		1.00	0.377	mg/L			11/04/16 22:48	1
Fluoride	0.150		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/10/16 11:38	1
Phosphorus	0.0593	J	0.100	0.0410	mg/L		11/08/16 08:04	11/09/16 12:28	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			11/10/16 15:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	240		5.00	5.00	mg/L			11/15/16 14:50	1
Bicarbonate Alkalinity as CaCO3	240		5.00	5.00	mg/L			11/15/16 14:50	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/15/16 14:50	1
Total Dissolved Solids	342		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			11/15/16 11:34	1

**Client Sample ID: HSM250 Peak**

**Lab Sample ID: 560-64786-13**

**Date Collected: 11/03/16 18:42**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/06/16 18:33	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/06/16 18:33	1
Benzene	0.330	U	1.00	0.330	ug/L			11/06/16 18:33	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/06/16 18:33	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 18:33	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/06/16 18:33	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/06/16 18:33	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/06/16 18:33	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/06/16 18:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM250 Peak**

**Lab Sample ID: 560-64786-13**

**Date Collected: 11/03/16 18:42**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/06/16 18:33	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/06/16 18:33	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/06/16 18:33	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/06/16 18:33	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/06/16 18:33	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/06/16 18:33	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/06/16 18:33	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/06/16 18:33	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/06/16 18:33	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/06/16 18:33	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/06/16 18:33	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/06/16 18:33	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 18:33	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/06/16 18:33	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/06/16 18:33	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/06/16 18:33	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/06/16 18:33	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/06/16 18:33	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/06/16 18:33	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/06/16 18:33	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 18:33	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/06/16 18:33	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/06/16 18:33	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/06/16 18:33	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/06/16 18:33	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/06/16 18:33	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/06/16 18:33	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/06/16 18:33	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/06/16 18:33	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/06/16 18:33	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/06/16 18:33	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/06/16 18:33	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/06/16 18:33	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/06/16 18:33	1
EDB	0.175	U	1.00	0.175	ug/L			11/06/16 18:33	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/06/16 18:33	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 18:33	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/06/16 18:33	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/06/16 18:33	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/06/16 18:33	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/06/16 18:33	1
Hexane	2.00	U	5.00	2.00	ug/L			11/06/16 18:33	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/06/16 18:33	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/06/16 18:33	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/06/16 18:33	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/06/16 18:33	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/06/16 18:33	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/06/16 18:33	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/06/16 18:33	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM250 Peak**

**Lab Sample ID: 560-64786-13**

**Date Collected: 11/03/16 18:42**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/06/16 18:33	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/06/16 18:33	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/06/16 18:33	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/06/16 18:33	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/06/16 18:33	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/06/16 18:33	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 18:33	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/06/16 18:33	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/06/16 18:33	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/06/16 18:33	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/06/16 18:33	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/06/16 18:33	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/06/16 18:33	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/06/16 18:33	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/06/16 18:33	1
Styrene	0.200	U	1.00	0.200	ug/L			11/06/16 18:33	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 18:33	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/06/16 18:33	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/06/16 18:33	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/06/16 18:33	1
Toluene	0.495	U	1.00	0.495	ug/L			11/06/16 18:33	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 18:33	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/06/16 18:33	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/06/16 18:33	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/06/16 18:33	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/06/16 18:33	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/06/16 18:33	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/06/16 18:33	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/06/16 18:33	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/06/16 18:33	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/06/16 18:33	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/06/16 18:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/06/16 18:33	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 18:33	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 18:33	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/06/16 18:33	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/06/16 18:33	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/06/16 18:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130		11/06/16 18:33	1
Dibromofluoromethane (Surr)	107		69 - 130		11/06/16 18:33	1
1,2-Dichloroethane-d4 (Surr)	113		70 - 140		11/06/16 18:33	1
Toluene-d8 (Surr)	100		70 - 130		11/06/16 18:33	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/09/16 14:46	11/10/16 13:52	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/09/16 14:46	11/10/16 13:52	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/09/16 14:46	11/10/16 13:52	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM250 Peak

Lab Sample ID: 560-64786-13

Date Collected: 11/03/16 18:42

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/09/16 14:46	11/10/16 13:52	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/09/16 14:46	11/10/16 13:52	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/09/16 14:46	11/10/16 13:52	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/09/16 14:46	11/10/16 13:52	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/09/16 14:46	11/10/16 13:52	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/09/16 14:46	11/10/16 13:52	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/09/16 14:46	11/10/16 13:52	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/09/16 14:46	11/10/16 13:52	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		11/09/16 14:46	11/10/16 13:52	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/09/16 14:46	11/10/16 13:52	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/09/16 14:46	11/10/16 13:52	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 13:52	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/09/16 14:46	11/10/16 13:52	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/09/16 14:46	11/10/16 13:52	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/09/16 14:46	11/10/16 13:52	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/09/16 14:46	11/10/16 13:52	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/09/16 14:46	11/10/16 13:52	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/09/16 14:46	11/10/16 13:52	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/09/16 14:46	11/10/16 13:52	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/09/16 14:46	11/10/16 13:52	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/09/16 14:46	11/10/16 13:52	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/09/16 14:46	11/10/16 13:52	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 13:52	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/09/16 14:46	11/10/16 13:52	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/09/16 14:46	11/10/16 13:52	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/09/16 14:46	11/10/16 13:52	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 13:52	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/09/16 14:46	11/10/16 13:52	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/09/16 14:46	11/10/16 13:52	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/09/16 14:46	11/10/16 13:52	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/09/16 14:46	11/10/16 13:52	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/09/16 14:46	11/10/16 13:52	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/09/16 14:46	11/10/16 13:52	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/09/16 14:46	11/10/16 13:52	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/09/16 14:46	11/10/16 13:52	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/09/16 14:46	11/10/16 13:52	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/09/16 14:46	11/10/16 13:52	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/09/16 14:46	11/10/16 13:52	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 13:52	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/09/16 14:46	11/10/16 13:52	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 13:52	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/09/16 14:46	11/10/16 13:52	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/09/16 14:46	11/10/16 13:52	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/09/16 14:46	11/10/16 13:52	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 13:52	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/09/16 14:46	11/10/16 13:52	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/09/16 14:46	11/10/16 13:52	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/09/16 14:46	11/10/16 13:52	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/09/16 14:46	11/10/16 13:52	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM250 Peak

Lab Sample ID: 560-64786-13

Date Collected: 11/03/16 18:42

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/09/16 14:46	11/10/16 13:52	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/09/16 14:46	11/10/16 13:52	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/09/16 14:46	11/10/16 13:52	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/09/16 14:46	11/10/16 13:52	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/09/16 14:46	11/10/16 13:52	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/09/16 14:46	11/10/16 13:52	1
Phenol	0.768	U	10.0	0.768	ug/L		11/09/16 14:46	11/10/16 13:52	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/09/16 14:46	11/10/16 13:52	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/09/16 14:46	11/10/16 13:52	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/09/16 14:46	11/10/16 13:52	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/09/16 14:46	11/10/16 13:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		23 - 130	11/09/16 14:46	11/10/16 13:52	1
2-Fluorophenol	63		10 - 130	11/09/16 14:46	11/10/16 13:52	1
Nitrobenzene-d5	65		27 - 130	11/09/16 14:46	11/10/16 13:52	1
Phenol-d5	68		10 - 130	11/09/16 14:46	11/10/16 13:52	1
Terphenyl-d14	42		10 - 141	11/09/16 14:46	11/10/16 13:52	1
2,4,6-Tribromophenol	66		18 - 130	11/09/16 14:46	11/10/16 13:52	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00478	U	0.0574	0.00478	ug/L		11/07/16 13:38	11/11/16 10:48	1
alpha-BHC	0.00497	U	0.0574	0.00497	ug/L		11/07/16 13:38	11/11/16 10:48	1
alpha-Chlordane	0.00602	U	0.0574	0.00602	ug/L		11/07/16 13:38	11/11/16 10:48	1
beta-BHC	0.00478	U	0.0574	0.00478	ug/L		11/07/16 13:38	11/11/16 10:48	1
4,4'-DDD	0.00478	U	0.0574	0.00478	ug/L		11/07/16 13:38	11/11/16 10:48	1
4,4'-DDE	0.00478	U	0.0574	0.00478	ug/L		11/07/16 13:38	11/11/16 10:48	1
4,4'-DDT	0.00775	U	0.0574	0.00775	ug/L		11/07/16 13:38	11/11/16 10:48	1
delta-BHC	0.00478	U	0.0574	0.00478	ug/L		11/07/16 13:38	11/11/16 10:48	1
Dieldrin	0.0124	U	0.0574	0.0124	ug/L		11/07/16 13:38	11/11/16 10:48	1
Endosulfan I	0.00478	U	0.0574	0.00478	ug/L		11/07/16 13:38	11/11/16 10:48	1
Endosulfan II	0.00822	U	0.0574	0.00822	ug/L		11/07/16 13:38	11/11/16 10:48	1
Endosulfan sulfate	0.00842	U	0.0574	0.00842	ug/L		11/07/16 13:38	11/11/16 10:48	1
Endrin	0.00736	U	0.0574	0.00736	ug/L		11/07/16 13:38	11/11/16 10:48	1
Endrin aldehyde	0.00478	U	0.0574	0.00478	ug/L		11/07/16 13:38	11/11/16 10:48	1
Endrin ketone	0.00784	U	0.0574	0.00784	ug/L		11/07/16 13:38	11/11/16 10:48	1
gamma-BHC (Lindane)	0.00430	U	0.0574	0.00430	ug/L		11/07/16 13:38	11/11/16 10:48	1
gamma-Chlordane	0.00641	U	0.0574	0.00641	ug/L		11/07/16 13:38	11/11/16 10:48	1
Heptachlor	0.00622	U	0.0574	0.00622	ug/L		11/07/16 13:38	11/11/16 10:48	1
Heptachlor epoxide	0.00497	U	0.0574	0.00497	ug/L		11/07/16 13:38	11/11/16 10:48	1
Methoxychlor	0.00956	U	0.0574	0.00956	ug/L		11/07/16 13:38	11/11/16 10:48	1
Toxaphene	0.650	U	5.74	0.650	ug/L		11/07/16 13:38	11/11/16 10:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	86		10 - 152	11/07/16 13:38	11/11/16 10:48	1
Tetrachloro-m-xylene	100		57 - 127	11/07/16 13:38	11/11/16 10:48	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM250 Peak

Lab Sample ID: 560-64786-13

Date Collected: 11/03/16 18:42

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:37	1
Aroclor 1221	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:37	1
Aroclor 1232	0.421	U	0.765	0.421	ug/L		11/07/16 13:38	11/10/16 09:37	1
Aroclor 1242	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:37	1
Aroclor 1248	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:37	1
Aroclor 1254	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:37	1
Aroclor 1260	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:37	1
Aroclor 1262	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:37	1
Aroclor 1268	0.105	U	0.574	0.105	ug/L		11/07/16 13:38	11/10/16 09:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	101		10 - 150	11/07/16 13:38	11/10/16 09:37	1
DCB Decachlorobiphenyl	71		10 - 150	11/07/16 13:38	11/10/16 09:37	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00237	0.000159	mg/L		11/09/16 12:33	11/16/16 14:54	1
Bolstar	0.000298	U	0.000949	0.000298	mg/L		11/09/16 12:33	11/16/16 14:54	1
Chlorpyrifos	0.000342	U	0.00142	0.000342	mg/L		11/09/16 12:33	11/16/16 14:54	1
Coumaphos	0.000128	U	0.000949	0.000128	mg/L		11/09/16 12:33	11/16/16 14:54	1
Demeton-O	0.000133	U	0.000949	0.000133	mg/L		11/09/16 12:33	11/16/16 14:54	1
Demeton-S	0.0000655	U	0.00190	0.0000655	mg/L		11/09/16 12:33	11/16/16 14:54	1
Diazinon	0.000140	U	0.000475	0.000140	mg/L		11/09/16 12:33	11/16/16 14:54	1
Demeton, Total	0.000198	U	0.00285	0.000198	mg/L		11/09/16 12:33	11/16/16 14:54	1
Dichlorvos	0.000154	U	0.000475	0.000154	mg/L		11/09/16 12:33	11/16/16 14:54	1
Dimethoate	0.000426	U	0.00142	0.000426	mg/L		11/09/16 12:33	11/16/16 14:54	1
Disulfoton	0.000306	U	0.000949	0.000306	mg/L		11/09/16 12:33	11/16/16 14:54	1
EPN	0.000141	U	0.00114	0.000141	mg/L		11/09/16 12:33	11/16/16 14:54	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		11/09/16 12:33	11/16/16 14:54	1
Ethyl Parathion	0.000137	U	0.000949	0.000137	mg/L		11/09/16 12:33	11/16/16 14:54	1
Famphur	0.000170	U	0.000949	0.000170	mg/L		11/09/16 12:33	11/16/16 14:54	1
Fensulfothion	0.000516	U	0.00237	0.000516	mg/L		11/09/16 12:33	11/16/16 14:54	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		11/09/16 12:33	11/16/16 14:54	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		11/09/16 12:33	11/16/16 14:54	1
Merphos	0.000165	U	0.00475	0.000165	mg/L		11/09/16 12:33	11/16/16 14:54	1
Methyl parathion	0.000134	U	0.00380	0.000134	mg/L		11/09/16 12:33	11/16/16 14:54	1
Mevinphos	0.000437	U	0.00589	0.000437	mg/L		11/09/16 12:33	11/16/16 14:54	1
Naled	0.000759	U	0.00190	0.000759	mg/L		11/09/16 12:33	11/16/16 14:54	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		11/09/16 12:33	11/16/16 14:54	1
Ronnel	0.000110	U	0.00949	0.000110	mg/L		11/09/16 12:33	11/16/16 14:54	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		11/09/16 12:33	11/16/16 14:54	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00332	0.000118	mg/L		11/09/16 12:33	11/16/16 14:54	1
Thionazin	0.000296	U	0.000949	0.000296	mg/L		11/09/16 12:33	11/16/16 14:54	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		11/09/16 12:33	11/16/16 14:54	1
Trichloronate	0.000230	U	0.00142	0.000230	mg/L		11/09/16 12:33	11/16/16 14:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	65		49 - 171	11/09/16 12:33	11/16/16 14:54	1
Triphenylphosphate	85		60 - 154	11/09/16 12:33	11/16/16 14:54	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM250 Peak**

**Lab Sample ID: 560-64786-13**

**Date Collected: 11/03/16 18:42**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0954	U	4.77	0.0954	ug/L		11/07/16 09:36	11/10/16 05:13	1
Dicamba	0.0811	U	0.477	0.0811	ug/L		11/07/16 09:36	11/10/16 05:13	1
Mecoprop	18.1	U	114	18.1	ug/L		11/07/16 09:36	11/10/16 05:13	1
MCPA	16.2	U	114	16.2	ug/L		11/07/16 09:36	11/10/16 05:13	1
Dichlorprop	0.143	U	0.477	0.143	ug/L		11/07/16 09:36	11/10/16 05:13	1
2,4-D	0.0353	U	0.477	0.0353	ug/L		11/07/16 09:36	11/10/16 05:13	1
Silvex (2,4,5-TP)	0.0591	U	0.238	0.0591	ug/L		11/07/16 09:36	11/10/16 05:13	1
2,4,5-T	0.0591	U	0.238	0.0591	ug/L		11/07/16 09:36	11/10/16 05:13	1
2,4-DB	0.143	U	0.477	0.143	ug/L		11/07/16 09:36	11/10/16 05:13	1
Dinoseb	0.153	U	0.954	0.153	ug/L		11/07/16 09:36	11/10/16 05:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	88		45 - 130	11/07/16 09:36	11/10/16 05:13	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	77.3	B	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 21:43	1
Magnesium	14.1		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 21:43	1
Potassium	2.24		0.500	0.375	mg/L		11/07/16 09:45	11/07/16 21:43	1
Silicon	4.83		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 21:43	1
Sodium	11.0		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 21:43	1
Strontium	0.442		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 21:43	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 14:14	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 14:14	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 14:14	1
Barium	0.0359		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 14:14	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 14:14	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 14:14	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 14:14	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 14:14	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 14:14	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 14:14	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 14:14	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 14:14	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 14:14	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 14:14	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 14:14	1
Zinc	0.00486	J	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 14:14	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:35	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.441	J	1.00	0.315	mg/L			11/04/16 23:14	1
Chloride	16.4		1.00	0.192	mg/L			11/04/16 23:14	1
Nitrate as N	1.01		0.500	0.103	mg/L			11/04/16 23:14	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM250 Peak**

**Lab Sample ID: 560-64786-13**

**Date Collected: 11/03/16 18:42**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	20.8		1.00	0.377	mg/L			11/04/16 23:14	1
Fluoride	0.132		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/15/16 12:34	1
Phosphorus	0.0817	J	0.100	0.0410	mg/L		11/08/16 08:04	11/09/16 12:27	1
Total Organic Carbon	1.52		1.00	0.285	mg/L			11/10/16 15:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	213		5.00	5.00	mg/L			11/15/16 14:50	1
Bicarbonate Alkalinity as CaCO3	213		5.00	5.00	mg/L			11/15/16 14:50	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/15/16 14:50	1
Total Dissolved Solids	313		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	10.0		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.39		1.00	0.285	mg/L			11/15/16 11:34	1

**Client Sample ID: HSM260 Peak**

**Lab Sample ID: 560-64786-14**

**Date Collected: 11/03/16 18:00**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/07/16 16:23	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/07/16 16:23	1
Benzene	0.330	U	1.00	0.330	ug/L			11/07/16 16:23	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/07/16 16:23	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 16:23	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/07/16 16:23	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/07/16 16:23	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/07/16 16:23	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/07/16 16:23	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/07/16 16:23	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/07/16 16:23	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/07/16 16:23	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/07/16 16:23	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/07/16 16:23	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/07/16 16:23	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/07/16 16:23	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/07/16 16:23	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/07/16 16:23	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/07/16 16:23	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/07/16 16:23	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/07/16 16:23	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 16:23	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/07/16 16:23	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/07/16 16:23	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/07/16 16:23	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/07/16 16:23	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/07/16 16:23	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM260 Peak

Lab Sample ID: 560-64786-14

Date Collected: 11/03/16 18:00

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/07/16 16:23	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/07/16 16:23	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 16:23	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/07/16 16:23	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/07/16 16:23	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/07/16 16:23	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/07/16 16:23	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/07/16 16:23	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/07/16 16:23	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/07/16 16:23	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/07/16 16:23	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/07/16 16:23	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/07/16 16:23	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/07/16 16:23	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/07/16 16:23	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/07/16 16:23	1
EDB	0.175	U	1.00	0.175	ug/L			11/07/16 16:23	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/07/16 16:23	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 16:23	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/07/16 16:23	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/07/16 16:23	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/07/16 16:23	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/07/16 16:23	1
Hexane	2.00	U	5.00	2.00	ug/L			11/07/16 16:23	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/07/16 16:23	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/07/16 16:23	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/07/16 16:23	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/07/16 16:23	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/07/16 16:23	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/07/16 16:23	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/07/16 16:23	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/07/16 16:23	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/07/16 16:23	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/07/16 16:23	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/07/16 16:23	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/07/16 16:23	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/07/16 16:23	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 16:23	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/07/16 16:23	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/07/16 16:23	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/07/16 16:23	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/07/16 16:23	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/07/16 16:23	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/07/16 16:23	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/07/16 16:23	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/07/16 16:23	1
Styrene	0.200	U	1.00	0.200	ug/L			11/07/16 16:23	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 16:23	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/07/16 16:23	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM260 Peak

Lab Sample ID: 560-64786-14

Date Collected: 11/03/16 18:00

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/07/16 16:23	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/07/16 16:23	1
Toluene	0.495	U	1.00	0.495	ug/L			11/07/16 16:23	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 16:23	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/07/16 16:23	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/07/16 16:23	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/07/16 16:23	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/07/16 16:23	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/07/16 16:23	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/07/16 16:23	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/07/16 16:23	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/07/16 16:23	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/07/16 16:23	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/07/16 16:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/07/16 16:23	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 16:23	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 16:23	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/07/16 16:23	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/07/16 16:23	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/07/16 16:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130		11/07/16 16:23	1
Dibromofluoromethane (Surr)	107		69 - 130		11/07/16 16:23	1
1,2-Dichloroethane-d4 (Surr)	114		70 - 140		11/07/16 16:23	1
Toluene-d8 (Surr)	100		70 - 130		11/07/16 16:23	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.500	U	10.9	0.500	ug/L		11/09/16 14:46	11/10/16 14:19	1
Acenaphthylene	0.491	U	10.9	0.491	ug/L		11/09/16 14:46	11/10/16 14:19	1
Anthracene	0.761	U	10.9	0.761	ug/L		11/09/16 14:46	11/10/16 14:19	1
Benzo[a]anthracene	0.702	U	10.9	0.702	ug/L		11/09/16 14:46	11/10/16 14:19	1
Benzo[a]pyrene	0.807	U	10.9	0.807	ug/L		11/09/16 14:46	11/10/16 14:19	1
Benzo[b]fluoranthene	0.987	U	10.9	0.987	ug/L		11/09/16 14:46	11/10/16 14:19	1
Benzo[g,h,i]perylene	1.19	U	10.9	1.19	ug/L		11/09/16 14:46	11/10/16 14:19	1
Benzo[k]fluoranthene	1.61	U	10.9	1.61	ug/L		11/09/16 14:46	11/10/16 14:19	1
Benzyl alcohol	0.899	U	10.9	0.899	ug/L		11/09/16 14:46	11/10/16 14:19	1
Bis(2-chloroethoxy)methane	0.474	U	10.9	0.474	ug/L		11/09/16 14:46	11/10/16 14:19	1
Bis(2-chloroethyl)ether	1.69	U	10.9	1.69	ug/L		11/09/16 14:46	11/10/16 14:19	1
Bis(2-ethylhexyl) phthalate	14.5	J	21.7	5.43	ug/L		11/09/16 14:46	11/10/16 14:19	1
4-Bromophenyl phenyl ether	0.882	U	10.9	0.882	ug/L		11/09/16 14:46	11/10/16 14:19	1
Butyl benzyl phthalate	0.887	U	10.9	0.887	ug/L		11/09/16 14:46	11/10/16 14:19	1
4-Chloroaniline	0.597	U	10.9	0.597	ug/L		11/09/16 14:46	11/10/16 14:19	1
4-Chloro-3-methylphenol	0.637	U	10.9	0.637	ug/L		11/09/16 14:46	11/10/16 14:19	1
2-Chloronaphthalene	0.655	U	10.9	0.655	ug/L		11/09/16 14:46	11/10/16 14:19	1
2-Chlorophenol	0.792	U	10.9	0.792	ug/L		11/09/16 14:46	11/10/16 14:19	1
4-Chlorophenyl phenyl ether	0.575	U	10.9	0.575	ug/L		11/09/16 14:46	11/10/16 14:19	1
Chrysene	0.537	U	10.9	0.537	ug/L		11/09/16 14:46	11/10/16 14:19	1
Dibenz(a,h)anthracene	0.950	U	10.9	0.950	ug/L		11/09/16 14:46	11/10/16 14:19	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM260 Peak**

**Lab Sample ID: 560-64786-14**

**Date Collected: 11/03/16 18:00**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.527	U	10.9	0.527	ug/L		11/09/16 14:46	11/10/16 14:19	1
1,2-Dichlorobenzene	0.842	U	10.9	0.842	ug/L		11/09/16 14:46	11/10/16 14:19	1
1,3-Dichlorobenzene	0.534	U	10.9	0.534	ug/L		11/09/16 14:46	11/10/16 14:19	1
1,4-Dichlorobenzene	0.886	U	10.9	0.886	ug/L		11/09/16 14:46	11/10/16 14:19	1
3,3'-Dichlorobenzidine	0.855	U	10.9	0.855	ug/L		11/09/16 14:46	11/10/16 14:19	1
2,4-Dichlorophenol	0.765	U	10.9	0.765	ug/L		11/09/16 14:46	11/10/16 14:19	1
Diethyl phthalate	0.724	U	10.9	0.724	ug/L		11/09/16 14:46	11/10/16 14:19	1
2,4-Dimethylphenol	0.645	U	10.9	0.645	ug/L		11/09/16 14:46	11/10/16 14:19	1
Dimethyl phthalate	0.640	U	10.9	0.640	ug/L		11/09/16 14:46	11/10/16 14:19	1
Di-n-butyl phthalate	0.771	U	10.9	0.771	ug/L		11/09/16 14:46	11/10/16 14:19	1
4,6-Dinitro-2-methylphenol	1.04	U	10.9	1.04	ug/L		11/09/16 14:46	11/10/16 14:19	1
2,4-Dinitrophenol	2.92	U	21.7	2.92	ug/L		11/09/16 14:46	11/10/16 14:19	1
2,4-Dinitrotoluene	0.553	U	21.7	0.553	ug/L		11/09/16 14:46	11/10/16 14:19	1
2,6-Dinitrotoluene	0.828	U	10.9	0.828	ug/L		11/09/16 14:46	11/10/16 14:19	1
Di-n-octyl phthalate	1.20	U	10.9	1.20	ug/L		11/09/16 14:46	11/10/16 14:19	1
Fluoranthene	0.539	U	10.9	0.539	ug/L		11/09/16 14:46	11/10/16 14:19	1
Fluorene	0.458	U	10.9	0.458	ug/L		11/09/16 14:46	11/10/16 14:19	1
Hexachlorobenzene	0.654	U	10.9	0.654	ug/L		11/09/16 14:46	11/10/16 14:19	1
Hexachlorobutadiene	0.778	U	10.9	0.778	ug/L		11/09/16 14:46	11/10/16 14:19	1
Hexachlorocyclopentadiene	0.912	U	10.9	0.912	ug/L		11/09/16 14:46	11/10/16 14:19	1
Hexachloroethane	0.640	U	10.9	0.640	ug/L		11/09/16 14:46	11/10/16 14:19	1
Indeno[1,2,3-cd]pyrene	1.00	U	10.9	1.00	ug/L		11/09/16 14:46	11/10/16 14:19	1
Isophorone	0.597	U	10.9	0.597	ug/L		11/09/16 14:46	11/10/16 14:19	1
2-Methylnaphthalene	0.763	U	10.9	0.763	ug/L		11/09/16 14:46	11/10/16 14:19	1
2-Methylphenol	0.663	U	10.9	0.663	ug/L		11/09/16 14:46	11/10/16 14:19	1
3 & 4 Methylphenol	0.829	U	21.7	0.829	ug/L		11/09/16 14:46	11/10/16 14:19	1
Naphthalene	0.855	U	10.9	0.855	ug/L		11/09/16 14:46	11/10/16 14:19	1
2-Nitroaniline	0.833	U	10.9	0.833	ug/L		11/09/16 14:46	11/10/16 14:19	1
3-Nitroaniline	0.557	U	10.9	0.557	ug/L		11/09/16 14:46	11/10/16 14:19	1
4-Nitroaniline	0.890	U	10.9	0.890	ug/L		11/09/16 14:46	11/10/16 14:19	1
Nitrobenzene	0.638	U	10.9	0.638	ug/L		11/09/16 14:46	11/10/16 14:19	1
2-Nitrophenol	0.878	U	10.9	0.878	ug/L		11/09/16 14:46	11/10/16 14:19	1
4-Nitrophenol	1.88	U	10.9	1.88	ug/L		11/09/16 14:46	11/10/16 14:19	1
N-Nitrosodi-n-propylamine	0.674	U	10.9	0.674	ug/L		11/09/16 14:46	11/10/16 14:19	1
N-Nitrosodiphenylamine	1.12	U	10.9	1.12	ug/L		11/09/16 14:46	11/10/16 14:19	1
Pentachlorophenol	1.44	U	21.7	1.44	ug/L		11/09/16 14:46	11/10/16 14:19	1
Phenanthrene	0.642	U	10.9	0.642	ug/L		11/09/16 14:46	11/10/16 14:19	1
Phenol	0.835	U	10.9	0.835	ug/L		11/09/16 14:46	11/10/16 14:19	1
Pyrene	0.478	U	10.9	0.478	ug/L		11/09/16 14:46	11/10/16 14:19	1
1,2,4-Trichlorobenzene	0.703	U	10.9	0.703	ug/L		11/09/16 14:46	11/10/16 14:19	1
2,4,5-Trichlorophenol	0.936	U	10.9	0.936	ug/L		11/09/16 14:46	11/10/16 14:19	1
2,4,6-Trichlorophenol	0.715	U	10.9	0.715	ug/L		11/09/16 14:46	11/10/16 14:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		23 - 130				11/09/16 14:46	11/10/16 14:19	1
2-Fluorophenol	74		10 - 130				11/09/16 14:46	11/10/16 14:19	1
Nitrobenzene-d5	75		27 - 130				11/09/16 14:46	11/10/16 14:19	1
Phenol-d5	78		10 - 130				11/09/16 14:46	11/10/16 14:19	1
Terphenyl-d14	59		10 - 141				11/09/16 14:46	11/10/16 14:19	1
2,4,6-Tribromophenol	71		18 - 130				11/09/16 14:46	11/10/16 14:19	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00476	U	0.0571	0.00476	ug/L		11/07/16 13:38	11/11/16 11:09	1
alpha-BHC	0.00495	U	0.0571	0.00495	ug/L		11/07/16 13:38	11/11/16 11:09	1
alpha-Chlordane	0.00599	U	0.0571	0.00599	ug/L		11/07/16 13:38	11/11/16 11:09	1
beta-BHC	0.00476	U	0.0571	0.00476	ug/L		11/07/16 13:38	11/11/16 11:09	1
4,4'-DDD	0.00476	U	0.0571	0.00476	ug/L		11/07/16 13:38	11/11/16 11:09	1
4,4'-DDE	0.00476	U	0.0571	0.00476	ug/L		11/07/16 13:38	11/11/16 11:09	1
4,4'-DDT	0.00770	U	0.0571	0.00770	ug/L		11/07/16 13:38	11/11/16 11:09	1
delta-BHC	0.00476	U	0.0571	0.00476	ug/L		11/07/16 13:38	11/11/16 11:09	1
Dieldrin	0.0124	U	0.0571	0.0124	ug/L		11/07/16 13:38	11/11/16 11:09	1
Endosulfan I	0.00476	U	0.0571	0.00476	ug/L		11/07/16 13:38	11/11/16 11:09	1
Endosulfan II	0.00818	U	0.0571	0.00818	ug/L		11/07/16 13:38	11/11/16 11:09	1
Endosulfan sulfate	0.00837	U	0.0571	0.00837	ug/L		11/07/16 13:38	11/11/16 11:09	1
Endrin	0.00732	U	0.0571	0.00732	ug/L		11/07/16 13:38	11/11/16 11:09	1
Endrin aldehyde	0.00476	U	0.0571	0.00476	ug/L		11/07/16 13:38	11/11/16 11:09	1
Endrin ketone	0.00780	U	0.0571	0.00780	ug/L		11/07/16 13:38	11/11/16 11:09	1
gamma-BHC (Lindane)	0.00428	U	0.0571	0.00428	ug/L		11/07/16 13:38	11/11/16 11:09	1
gamma-Chlordane	0.00637	U	0.0571	0.00637	ug/L		11/07/16 13:38	11/11/16 11:09	1
Heptachlor	0.00618	U	0.0571	0.00618	ug/L		11/07/16 13:38	11/11/16 11:09	1
Heptachlor epoxide	0.00495	U	0.0571	0.00495	ug/L		11/07/16 13:38	11/11/16 11:09	1
Methoxychlor	0.00951	U	0.0571	0.00951	ug/L		11/07/16 13:38	11/11/16 11:09	1
Toxaphene	0.647	U	5.71	0.647	ug/L		11/07/16 13:38	11/11/16 11:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	90		10 - 152	11/07/16 13:38	11/11/16 11:09	1
Tetrachloro-m-xylene	100		57 - 127	11/07/16 13:38	11/11/16 11:09	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.571	0.105	ug/L		11/07/16 13:38	11/10/16 09:55	1
Aroclor 1221	0.105	U	0.571	0.105	ug/L		11/07/16 13:38	11/10/16 09:55	1
Aroclor 1232	0.418	U	0.761	0.418	ug/L		11/07/16 13:38	11/10/16 09:55	1
Aroclor 1242	0.105	U	0.571	0.105	ug/L		11/07/16 13:38	11/10/16 09:55	1
Aroclor 1248	0.105	U	0.571	0.105	ug/L		11/07/16 13:38	11/10/16 09:55	1
Aroclor 1254	0.105	U	0.571	0.105	ug/L		11/07/16 13:38	11/10/16 09:55	1
Aroclor 1260	0.105	U	0.571	0.105	ug/L		11/07/16 13:38	11/10/16 09:55	1
Aroclor 1262	0.105	U	0.571	0.105	ug/L		11/07/16 13:38	11/10/16 09:55	1
Aroclor 1268	0.105	U	0.571	0.105	ug/L		11/07/16 13:38	11/10/16 09:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	101		10 - 150	11/07/16 13:38	11/10/16 09:55	1
DCB Decachlorobiphenyl	70		10 - 150	11/07/16 13:38	11/10/16 09:55	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00238	0.000160	mg/L		11/09/16 12:33	11/16/16 15:25	1
Bolstar	0.000299	U	0.000951	0.000299	mg/L		11/09/16 12:33	11/16/16 15:25	1
Chlorpyrifos	0.000342	U	0.00143	0.000342	mg/L		11/09/16 12:33	11/16/16 15:25	1
Coumaphos	0.000128	U	0.000951	0.000128	mg/L		11/09/16 12:33	11/16/16 15:25	1
Demeton-O	0.000133	U	0.000951	0.000133	mg/L		11/09/16 12:33	11/16/16 15:25	1
Demeton-S	0.0000656	U	0.00190	0.0000656	mg/L		11/09/16 12:33	11/16/16 15:25	1
Diazinon	0.000140	U	0.000475	0.000140	mg/L		11/09/16 12:33	11/16/16 15:25	1
Demeton, Total	0.000199	U	0.00285	0.000199	mg/L		11/09/16 12:33	11/16/16 15:25	1
Dichlorvos	0.000154	U	0.000475	0.000154	mg/L		11/09/16 12:33	11/16/16 15:25	1
Dimethoate	0.000427	U	0.00143	0.000427	mg/L		11/09/16 12:33	11/16/16 15:25	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM260 Peak**

**Lab Sample ID: 560-64786-14**

**Date Collected: 11/03/16 18:00**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	0.000306	U	0.000951	0.000306	mg/L		11/09/16 12:33	11/16/16 15:25	1
EPN	0.000142	U	0.00114	0.000142	mg/L		11/09/16 12:33	11/16/16 15:25	1
Ethoprop	0.000168	U	0.00143	0.000168	mg/L		11/09/16 12:33	11/16/16 15:25	1
Ethyl Parathion	0.000137	U	0.000951	0.000137	mg/L		11/09/16 12:33	11/16/16 15:25	1
Famphur	0.000170	U	0.000951	0.000170	mg/L		11/09/16 12:33	11/16/16 15:25	1
Fensulfothion	0.000517	U	0.00238	0.000517	mg/L		11/09/16 12:33	11/16/16 15:25	1
Fenthion	0.000146	U	0.00238	0.000146	mg/L		11/09/16 12:33	11/16/16 15:25	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		11/09/16 12:33	11/16/16 15:25	1
Merphos	0.000165	U	0.00475	0.000165	mg/L		11/09/16 12:33	11/16/16 15:25	1
Methyl parathion	0.000134	U	0.00380	0.000134	mg/L		11/09/16 12:33	11/16/16 15:25	1
Mevinphos	0.000437	U	0.00589	0.000437	mg/L		11/09/16 12:33	11/16/16 15:25	1
Naled	0.000761	U	0.00190	0.000761	mg/L		11/09/16 12:33	11/16/16 15:25	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		11/09/16 12:33	11/16/16 15:25	1
Ronnel	0.000110	U	0.00951	0.000110	mg/L		11/09/16 12:33	11/16/16 15:25	1
Sulfotepp	0.000160	U	0.00143	0.000160	mg/L		11/09/16 12:33	11/16/16 15:25	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00333	0.000118	mg/L		11/09/16 12:33	11/16/16 15:25	1
Thionazin	0.000297	U	0.000951	0.000297	mg/L		11/09/16 12:33	11/16/16 15:25	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		11/09/16 12:33	11/16/16 15:25	1
Trichloronate	0.000230	U	0.00143	0.000230	mg/L		11/09/16 12:33	11/16/16 15:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	66		49 - 171	11/09/16 12:33	11/16/16 15:25	1
Triphenylphosphate	85		60 - 154	11/09/16 12:33	11/16/16 15:25	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0952	U	4.76	0.0952	ug/L		11/09/16 07:48	11/11/16 22:31	1
Dicamba	0.0810	U	0.476	0.0810	ug/L		11/09/16 07:48	11/11/16 22:31	1
Mecoprop	18.1	U	114	18.1	ug/L		11/09/16 07:48	11/11/16 22:31	1
MCPA	16.2	U	114	16.2	ug/L		11/09/16 07:48	11/11/16 22:31	1
Dichlorprop	0.143	U	0.476	0.143	ug/L		11/09/16 07:48	11/11/16 22:31	1
2,4-D	0.0352	U	0.476	0.0352	ug/L		11/09/16 07:48	11/11/16 22:31	1
Silvex (2,4,5-TP)	0.0591	U	0.238	0.0591	ug/L		11/09/16 07:48	11/11/16 22:31	1
2,4,5-T	0.0591	U	0.238	0.0591	ug/L		11/09/16 07:48	11/11/16 22:31	1
2,4-DB	0.143	U	0.476	0.143	ug/L		11/09/16 07:48	11/11/16 22:31	1
Dinoseb	0.152	U	0.952	0.152	ug/L		11/09/16 07:48	11/11/16 22:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	43	X	45 - 130	11/09/16 07:48	11/11/16 22:31	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	80.6	B	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 21:47	1
Magnesium	14.7		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 21:47	1
Potassium	1.76		0.500	0.375	mg/L		11/07/16 09:45	11/07/16 21:47	1
Silicon	5.06		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 21:47	1
Sodium	11.3		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 21:47	1
Strontium	0.463		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 21:47	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM260 Peak**

**Lab Sample ID: 560-64786-14**

**Date Collected: 11/03/16 18:00**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 14:19	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 14:19	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 14:19	1
Barium	0.0359		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 14:19	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 14:19	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 14:19	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 14:19	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 14:19	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 14:19	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 14:19	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 14:19	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 14:19	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 14:19	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 14:19	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 14:19	1
Zinc	0.00380	J	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 14:19	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:37	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.446	J	1.00	0.315	mg/L			11/05/16 00:32	1
Chloride	17.1		1.00	0.192	mg/L			11/05/16 00:32	1
Nitrate as N	1.04		0.500	0.103	mg/L			11/05/16 00:32	1
Sulfate	21.7		1.00	0.377	mg/L			11/05/16 00:32	1
Fluoride	0.139		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/15/16 12:35	1
Phosphorus	0.0587	J	0.100	0.0410	mg/L		11/08/16 08:04	11/09/16 12:30	1
Total Organic Carbon	1.60		1.00	0.285	mg/L			11/10/16 15:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	224		5.00	5.00	mg/L			11/15/16 14:50	1
Bicarbonate Alkalinity as CaCO3	224		5.00	5.00	mg/L			11/15/16 14:50	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/15/16 14:50	1
Total Dissolved Solids	308		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	12.0		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.967	J	1.00	0.285	mg/L			11/15/16 11:34	1

**Client Sample ID: HSM270 Peak**

**Lab Sample ID: 560-64786-15**

**Date Collected: 11/03/16 18:22**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/07/16 16:48	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM270 Peak

Lab Sample ID: 560-64786-15

Date Collected: 11/03/16 18:22

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/07/16 16:48	1
Benzene	0.330	U	1.00	0.330	ug/L			11/07/16 16:48	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/07/16 16:48	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 16:48	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/07/16 16:48	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/07/16 16:48	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/07/16 16:48	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/07/16 16:48	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/07/16 16:48	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/07/16 16:48	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/07/16 16:48	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/07/16 16:48	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/07/16 16:48	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/07/16 16:48	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/07/16 16:48	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/07/16 16:48	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/07/16 16:48	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/07/16 16:48	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/07/16 16:48	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/07/16 16:48	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 16:48	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/07/16 16:48	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/07/16 16:48	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/07/16 16:48	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/07/16 16:48	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/07/16 16:48	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/07/16 16:48	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/07/16 16:48	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 16:48	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/07/16 16:48	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/07/16 16:48	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/07/16 16:48	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/07/16 16:48	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/07/16 16:48	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/07/16 16:48	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/07/16 16:48	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/07/16 16:48	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/07/16 16:48	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/07/16 16:48	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/07/16 16:48	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/07/16 16:48	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/07/16 16:48	1
EDB	0.175	U	1.00	0.175	ug/L			11/07/16 16:48	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/07/16 16:48	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 16:48	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/07/16 16:48	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/07/16 16:48	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/07/16 16:48	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/07/16 16:48	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM270 Peak

Lab Sample ID: 560-64786-15

Date Collected: 11/03/16 18:22

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			11/07/16 16:48	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/07/16 16:48	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/07/16 16:48	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/07/16 16:48	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/07/16 16:48	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/07/16 16:48	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/07/16 16:48	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/07/16 16:48	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/07/16 16:48	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/07/16 16:48	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/07/16 16:48	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/07/16 16:48	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/07/16 16:48	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/07/16 16:48	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 16:48	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/07/16 16:48	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/07/16 16:48	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/07/16 16:48	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/07/16 16:48	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/07/16 16:48	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/07/16 16:48	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/07/16 16:48	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/07/16 16:48	1
Styrene	0.200	U	1.00	0.200	ug/L			11/07/16 16:48	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 16:48	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/07/16 16:48	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/07/16 16:48	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/07/16 16:48	1
Toluene	0.495	U	1.00	0.495	ug/L			11/07/16 16:48	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 16:48	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/07/16 16:48	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/07/16 16:48	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/07/16 16:48	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/07/16 16:48	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/07/16 16:48	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/07/16 16:48	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/07/16 16:48	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/07/16 16:48	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/07/16 16:48	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/07/16 16:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/07/16 16:48	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 16:48	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 16:48	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/07/16 16:48	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/07/16 16:48	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/07/16 16:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		11/07/16 16:48	1
Dibromofluoromethane (Surr)	105		69 - 130		11/07/16 16:48	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Peak**

**Lab Sample ID: 560-64786-15**

**Date Collected: 11/03/16 18:22**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 140		11/07/16 16:48	1
Toluene-d8 (Surr)	99		70 - 130		11/07/16 16:48	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/09/16 14:46	11/10/16 14:46	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/09/16 14:46	11/10/16 14:46	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/09/16 14:46	11/10/16 14:46	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/09/16 14:46	11/10/16 14:46	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/09/16 14:46	11/10/16 14:46	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/09/16 14:46	11/10/16 14:46	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/09/16 14:46	11/10/16 14:46	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/09/16 14:46	11/10/16 14:46	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/09/16 14:46	11/10/16 14:46	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/09/16 14:46	11/10/16 14:46	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/09/16 14:46	11/10/16 14:46	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>7.00</b>	<b>J</b>	20.0	5.00	ug/L		11/09/16 14:46	11/10/16 14:46	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/09/16 14:46	11/10/16 14:46	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/09/16 14:46	11/10/16 14:46	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 14:46	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/09/16 14:46	11/10/16 14:46	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/09/16 14:46	11/10/16 14:46	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/09/16 14:46	11/10/16 14:46	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/09/16 14:46	11/10/16 14:46	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/09/16 14:46	11/10/16 14:46	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/09/16 14:46	11/10/16 14:46	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/09/16 14:46	11/10/16 14:46	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/09/16 14:46	11/10/16 14:46	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/09/16 14:46	11/10/16 14:46	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/09/16 14:46	11/10/16 14:46	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 14:46	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/09/16 14:46	11/10/16 14:46	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/09/16 14:46	11/10/16 14:46	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/09/16 14:46	11/10/16 14:46	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 14:46	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/09/16 14:46	11/10/16 14:46	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/09/16 14:46	11/10/16 14:46	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/09/16 14:46	11/10/16 14:46	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/09/16 14:46	11/10/16 14:46	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/09/16 14:46	11/10/16 14:46	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/09/16 14:46	11/10/16 14:46	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/09/16 14:46	11/10/16 14:46	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/09/16 14:46	11/10/16 14:46	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/09/16 14:46	11/10/16 14:46	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/09/16 14:46	11/10/16 14:46	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/09/16 14:46	11/10/16 14:46	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 14:46	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/09/16 14:46	11/10/16 14:46	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 14:46	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Peak**

**Lab Sample ID: 560-64786-15**

**Date Collected: 11/03/16 18:22**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/09/16 14:46	11/10/16 14:46	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/09/16 14:46	11/10/16 14:46	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/09/16 14:46	11/10/16 14:46	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 14:46	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/09/16 14:46	11/10/16 14:46	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/09/16 14:46	11/10/16 14:46	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/09/16 14:46	11/10/16 14:46	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/09/16 14:46	11/10/16 14:46	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/09/16 14:46	11/10/16 14:46	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/09/16 14:46	11/10/16 14:46	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/09/16 14:46	11/10/16 14:46	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/09/16 14:46	11/10/16 14:46	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/09/16 14:46	11/10/16 14:46	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/09/16 14:46	11/10/16 14:46	1
Phenol	0.768	U	10.0	0.768	ug/L		11/09/16 14:46	11/10/16 14:46	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/09/16 14:46	11/10/16 14:46	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/09/16 14:46	11/10/16 14:46	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/09/16 14:46	11/10/16 14:46	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/09/16 14:46	11/10/16 14:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		23 - 130	11/09/16 14:46	11/10/16 14:46	1
2-Fluorophenol	62		10 - 130	11/09/16 14:46	11/10/16 14:46	1
Nitrobenzene-d5	65		27 - 130	11/09/16 14:46	11/10/16 14:46	1
Phenol-d5	67		10 - 130	11/09/16 14:46	11/10/16 14:46	1
Terphenyl-d14	43		10 - 141	11/09/16 14:46	11/10/16 14:46	1
2,4,6-Tribromophenol	64		18 - 130	11/09/16 14:46	11/10/16 14:46	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00472	U	0.0566	0.00472	ug/L		11/07/16 13:38	11/11/16 11:30	1
alpha-BHC	0.00491	U	0.0566	0.00491	ug/L		11/07/16 13:38	11/11/16 11:30	1
alpha-Chlordane	0.00594	U	0.0566	0.00594	ug/L		11/07/16 13:38	11/11/16 11:30	1
beta-BHC	0.00472	U	0.0566	0.00472	ug/L		11/07/16 13:38	11/11/16 11:30	1
4,4'-DDD	0.00472	U	0.0566	0.00472	ug/L		11/07/16 13:38	11/11/16 11:30	1
4,4'-DDE	0.00472	U	0.0566	0.00472	ug/L		11/07/16 13:38	11/11/16 11:30	1
4,4'-DDT	0.00764	U	0.0566	0.00764	ug/L		11/07/16 13:38	11/11/16 11:30	1
delta-BHC	0.00472	U	0.0566	0.00472	ug/L		11/07/16 13:38	11/11/16 11:30	1
Dieldrin	0.0123	U	0.0566	0.0123	ug/L		11/07/16 13:38	11/11/16 11:30	1
Endosulfan I	0.00472	U	0.0566	0.00472	ug/L		11/07/16 13:38	11/11/16 11:30	1
Endosulfan II	0.00811	U	0.0566	0.00811	ug/L		11/07/16 13:38	11/11/16 11:30	1
Endosulfan sulfate	0.00830	U	0.0566	0.00830	ug/L		11/07/16 13:38	11/11/16 11:30	1
Endrin	0.00726	U	0.0566	0.00726	ug/L		11/07/16 13:38	11/11/16 11:30	1
Endrin aldehyde	0.00472	U	0.0566	0.00472	ug/L		11/07/16 13:38	11/11/16 11:30	1
Endrin ketone	0.00774	U	0.0566	0.00774	ug/L		11/07/16 13:38	11/11/16 11:30	1
gamma-BHC (Lindane)	0.00425	U	0.0566	0.00425	ug/L		11/07/16 13:38	11/11/16 11:30	1
gamma-Chlordane	0.00632	U	0.0566	0.00632	ug/L		11/07/16 13:38	11/11/16 11:30	1
Heptachlor	0.00613	U	0.0566	0.00613	ug/L		11/07/16 13:38	11/11/16 11:30	1
Heptachlor epoxide	0.00491	U	0.0566	0.00491	ug/L		11/07/16 13:38	11/11/16 11:30	1
Methoxychlor	0.00943	U	0.0566	0.00943	ug/L		11/07/16 13:38	11/11/16 11:30	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Peak**

**Lab Sample ID: 560-64786-15**

**Date Collected: 11/03/16 18:22**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.642	U	5.66	0.642	ug/L		11/07/16 13:38	11/11/16 11:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	81		10 - 152				11/07/16 13:38	11/11/16 11:30	1
Tetrachloro-m-xylene	92		57 - 127				11/07/16 13:38	11/11/16 11:30	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.566	0.104	ug/L		11/07/16 13:38	11/10/16 10:12	1
Aroclor 1221	0.104	U	0.566	0.104	ug/L		11/07/16 13:38	11/10/16 10:12	1
Aroclor 1232	0.415	U	0.755	0.415	ug/L		11/07/16 13:38	11/10/16 10:12	1
Aroclor 1242	0.104	U	0.566	0.104	ug/L		11/07/16 13:38	11/10/16 10:12	1
Aroclor 1248	0.104	U	0.566	0.104	ug/L		11/07/16 13:38	11/10/16 10:12	1
Aroclor 1254	0.104	U	0.566	0.104	ug/L		11/07/16 13:38	11/10/16 10:12	1
Aroclor 1260	0.104	U	0.566	0.104	ug/L		11/07/16 13:38	11/10/16 10:12	1
Aroclor 1262	0.104	U	0.566	0.104	ug/L		11/07/16 13:38	11/10/16 10:12	1
Aroclor 1268	0.104	U	0.566	0.104	ug/L		11/07/16 13:38	11/10/16 10:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	99		10 - 150				11/07/16 13:38	11/10/16 10:12	1
DCB Decachlorobiphenyl	72		10 - 150				11/07/16 13:38	11/10/16 10:12	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U	0.00238	0.000160	mg/L		11/09/16 14:52	11/16/16 15:57	1
Bolstar	0.000299	U	0.000953	0.000299	mg/L		11/09/16 14:52	11/16/16 15:57	1
Chlorpyrifos	0.000343	U	0.00143	0.000343	mg/L		11/09/16 14:52	11/16/16 15:57	1
Coumaphos	0.000129	U	0.000953	0.000129	mg/L		11/09/16 14:52	11/16/16 15:57	1
Demeton-O	0.000133	U	0.000953	0.000133	mg/L		11/09/16 14:52	11/16/16 15:57	1
Demeton-S	0.0000658	U	0.00191	0.0000658	mg/L		11/09/16 14:52	11/16/16 15:57	1
Diazinon	0.000140	U	0.000476	0.000140	mg/L		11/09/16 14:52	11/16/16 15:57	1
Demeton, Total	0.000199	U	0.00286	0.000199	mg/L		11/09/16 14:52	11/16/16 15:57	1
Dichlorvos	0.000154	U	0.000476	0.000154	mg/L		11/09/16 14:52	11/16/16 15:57	1
Dimethoate	0.000428	U	0.00143	0.000428	mg/L		11/09/16 14:52	11/16/16 15:57	1
Disulfoton	0.000307	U	0.000953	0.000307	mg/L		11/09/16 14:52	11/16/16 15:57	1
EPN	0.000142	U	0.00114	0.000142	mg/L		11/09/16 14:52	11/16/16 15:57	1
Ethoprop	0.000169	U	0.00143	0.000169	mg/L		11/09/16 14:52	11/16/16 15:57	1
Ethyl Parathion	0.000137	U	0.000953	0.000137	mg/L		11/09/16 14:52	11/16/16 15:57	1
Famphur	0.000171	U	0.000953	0.000171	mg/L		11/09/16 14:52	11/16/16 15:57	1
Fensulfothion	0.000518	U	0.00238	0.000518	mg/L		11/09/16 14:52	11/16/16 15:57	1
Fenthion	0.000147	U	0.00238	0.000147	mg/L		11/09/16 14:52	11/16/16 15:57	1
Malathion	0.000127	U	0.00191	0.000127	mg/L		11/09/16 14:52	11/16/16 15:57	1
Merphos	0.000166	U	0.00476	0.000166	mg/L		11/09/16 14:52	11/16/16 15:57	1
Methyl parathion	0.000134	U	0.00381	0.000134	mg/L		11/09/16 14:52	11/16/16 15:57	1
Mevinphos	0.000438	U	0.00591	0.000438	mg/L		11/09/16 14:52	11/16/16 15:57	1
Naled	0.000762	U	0.00191	0.000762	mg/L		11/09/16 14:52	11/16/16 15:57	1
Phorate	0.000147	U	0.00114	0.000147	mg/L		11/09/16 14:52	11/16/16 15:57	1
Ronnel	0.000111	U	0.00953	0.000111	mg/L		11/09/16 14:52	11/16/16 15:57	1
Sulfotepp	0.000160	U	0.00143	0.000160	mg/L		11/09/16 14:52	11/16/16 15:57	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00334	0.000118	mg/L		11/09/16 14:52	11/16/16 15:57	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM270 Peak

Lab Sample ID: 560-64786-15

Date Collected: 11/03/16 18:22

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thionazin	0.000297	U	0.000953	0.000297	mg/L		11/09/16 14:52	11/16/16 15:57	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		11/09/16 14:52	11/16/16 15:57	1
Trichloronate	0.000231	U	0.00143	0.000231	mg/L		11/09/16 14:52	11/16/16 15:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	61		49 - 171				11/09/16 14:52	11/16/16 15:57	1
Triphenylphosphate	90		60 - 154				11/09/16 14:52	11/16/16 15:57	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.104	U	5.21	0.104	ug/L		11/09/16 07:48	11/11/16 22:51	1
Dicamba	0.0887	U	0.521	0.0887	ug/L		11/09/16 07:48	11/11/16 22:51	1
Mecoprop	19.8	U	125	19.8	ug/L		11/09/16 07:48	11/11/16 22:51	1
MCPA	17.7	U	125	17.7	ug/L		11/09/16 07:48	11/11/16 22:51	1
Dichlorprop	0.156	U	0.521	0.156	ug/L		11/09/16 07:48	11/11/16 22:51	1
2,4-D	0.0386	U	0.521	0.0386	ug/L		11/09/16 07:48	11/11/16 22:51	1
Silvex (2,4,5-TP)	0.0647	U	0.261	0.0647	ug/L		11/09/16 07:48	11/11/16 22:51	1
2,4,5-T	0.0647	U	0.261	0.0647	ug/L		11/09/16 07:48	11/11/16 22:51	1
2,4-DB	0.156	U	0.521	0.156	ug/L		11/09/16 07:48	11/11/16 22:51	1
Dinoseb	0.167	U	1.04	0.167	ug/L		11/09/16 07:48	11/11/16 22:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	12	X	45 - 130				11/09/16 07:48	11/11/16 22:51	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	76.2		0.200	0.101	mg/L		11/07/16 09:45	11/07/16 19:26	1
Magnesium	13.9		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 19:26	1
Potassium	2.36	B	0.500	0.375	mg/L		11/07/16 09:45	11/07/16 19:26	1
Silicon	4.76		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 19:26	1
Sodium	11.0		1.00	0.310	mg/L		11/07/16 09:45	11/08/16 15:55	1
Strontium	0.436		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 19:26	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 15:27	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 15:27	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 15:27	1
Barium	0.0359		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 15:27	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 15:27	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 15:27	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 15:27	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 15:27	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 15:27	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 15:27	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 15:27	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 15:27	1
Selenium	0.00108	J	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 15:27	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 15:27	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 15:27	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 15:27	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:39	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.441	J	1.00	0.315	mg/L			11/05/16 00:58	1
Chloride	16.9		1.00	0.192	mg/L			11/05/16 00:58	1
Nitrate as N	1.01		0.500	0.103	mg/L			11/05/16 00:58	1
Sulfate	21.9		1.00	0.377	mg/L			11/05/16 00:58	1
Fluoride	0.132		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/15/16 12:36	1
Phosphorus	0.0834	J B	0.100	0.0410	mg/L		11/08/16 07:52	11/09/16 12:10	1
Total Organic Carbon	2.45		1.00	0.285	mg/L			11/10/16 15:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	204		5.00	5.00	mg/L			11/15/16 14:50	1
Bicarbonate Alkalinity as CaCO3	204		5.00	5.00	mg/L			11/15/16 14:50	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/15/16 14:50	1
Total Dissolved Solids	312		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	21.4		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.69		1.00	0.285	mg/L			11/15/16 11:34	1

Client Sample ID: HSM210 Trail

Lab Sample ID: 560-64786-16

Date Collected: 11/03/16 20:53

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/07/16 17:14	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/07/16 17:14	1
Benzene	0.330	U	1.00	0.330	ug/L			11/07/16 17:14	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/07/16 17:14	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 17:14	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/07/16 17:14	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/07/16 17:14	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/07/16 17:14	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/07/16 17:14	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/07/16 17:14	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/07/16 17:14	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/07/16 17:14	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/07/16 17:14	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/07/16 17:14	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/07/16 17:14	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/07/16 17:14	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/07/16 17:14	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/07/16 17:14	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/07/16 17:14	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/07/16 17:14	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/07/16 17:14	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 17:14	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/07/16 17:14	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/07/16 17:14	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM210 Trail

Lab Sample ID: 560-64786-16

Date Collected: 11/03/16 20:53

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/07/16 17:14	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/07/16 17:14	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/07/16 17:14	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/07/16 17:14	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/07/16 17:14	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 17:14	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/07/16 17:14	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/07/16 17:14	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/07/16 17:14	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/07/16 17:14	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/07/16 17:14	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/07/16 17:14	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/07/16 17:14	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/07/16 17:14	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/07/16 17:14	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/07/16 17:14	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/07/16 17:14	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/07/16 17:14	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/07/16 17:14	1
EDB	0.175	U	1.00	0.175	ug/L			11/07/16 17:14	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/07/16 17:14	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 17:14	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/07/16 17:14	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/07/16 17:14	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/07/16 17:14	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/07/16 17:14	1
Hexane	2.00	U	5.00	2.00	ug/L			11/07/16 17:14	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/07/16 17:14	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/07/16 17:14	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/07/16 17:14	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/07/16 17:14	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/07/16 17:14	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/07/16 17:14	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/07/16 17:14	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/07/16 17:14	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/07/16 17:14	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/07/16 17:14	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/07/16 17:14	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/07/16 17:14	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/07/16 17:14	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 17:14	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/07/16 17:14	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/07/16 17:14	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/07/16 17:14	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/07/16 17:14	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/07/16 17:14	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/07/16 17:14	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/07/16 17:14	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/07/16 17:14	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM210 Trail

Lab Sample ID: 560-64786-16

Date Collected: 11/03/16 20:53

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.200	U	1.00	0.200	ug/L			11/07/16 17:14	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 17:14	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/07/16 17:14	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/07/16 17:14	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/07/16 17:14	1
Toluene	0.495	U	1.00	0.495	ug/L			11/07/16 17:14	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 17:14	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/07/16 17:14	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/07/16 17:14	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/07/16 17:14	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/07/16 17:14	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/07/16 17:14	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/07/16 17:14	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/07/16 17:14	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/07/16 17:14	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/07/16 17:14	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/07/16 17:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/07/16 17:14	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 17:14	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 17:14	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/07/16 17:14	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/07/16 17:14	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/07/16 17:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		70 - 130		11/07/16 17:14	1
Dibromofluoromethane (Surr)	110		69 - 130		11/07/16 17:14	1
1,2-Dichloroethane-d4 (Surr)	114		70 - 140		11/07/16 17:14	1
Toluene-d8 (Surr)	100		70 - 130		11/07/16 17:14	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/09/16 14:46	11/10/16 15:13	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/09/16 14:46	11/10/16 15:13	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/09/16 14:46	11/10/16 15:13	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/09/16 14:46	11/10/16 15:13	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/09/16 14:46	11/10/16 15:13	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/09/16 14:46	11/10/16 15:13	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/09/16 14:46	11/10/16 15:13	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/09/16 14:46	11/10/16 15:13	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/09/16 14:46	11/10/16 15:13	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/09/16 14:46	11/10/16 15:13	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/09/16 14:46	11/10/16 15:13	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		11/09/16 14:46	11/10/16 15:13	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/09/16 14:46	11/10/16 15:13	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/09/16 14:46	11/10/16 15:13	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 15:13	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/09/16 14:46	11/10/16 15:13	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/09/16 14:46	11/10/16 15:13	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/09/16 14:46	11/10/16 15:13	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM210 Trail

Lab Sample ID: 560-64786-16

Date Collected: 11/03/16 20:53

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/09/16 14:46	11/10/16 15:13	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/09/16 14:46	11/10/16 15:13	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/09/16 14:46	11/10/16 15:13	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/09/16 14:46	11/10/16 15:13	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/09/16 14:46	11/10/16 15:13	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/09/16 14:46	11/10/16 15:13	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/09/16 14:46	11/10/16 15:13	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 15:13	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/09/16 14:46	11/10/16 15:13	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/09/16 14:46	11/10/16 15:13	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/09/16 14:46	11/10/16 15:13	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 15:13	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/09/16 14:46	11/10/16 15:13	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/09/16 14:46	11/10/16 15:13	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/09/16 14:46	11/10/16 15:13	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/09/16 14:46	11/10/16 15:13	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/09/16 14:46	11/10/16 15:13	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/09/16 14:46	11/10/16 15:13	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/09/16 14:46	11/10/16 15:13	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/09/16 14:46	11/10/16 15:13	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/09/16 14:46	11/10/16 15:13	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/09/16 14:46	11/10/16 15:13	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/09/16 14:46	11/10/16 15:13	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 15:13	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/09/16 14:46	11/10/16 15:13	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 15:13	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/09/16 14:46	11/10/16 15:13	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/09/16 14:46	11/10/16 15:13	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/09/16 14:46	11/10/16 15:13	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 15:13	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/09/16 14:46	11/10/16 15:13	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/09/16 14:46	11/10/16 15:13	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/09/16 14:46	11/10/16 15:13	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/09/16 14:46	11/10/16 15:13	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/09/16 14:46	11/10/16 15:13	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/09/16 14:46	11/10/16 15:13	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/09/16 14:46	11/10/16 15:13	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/09/16 14:46	11/10/16 15:13	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/09/16 14:46	11/10/16 15:13	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/09/16 14:46	11/10/16 15:13	1
Phenol	0.768	U	10.0	0.768	ug/L		11/09/16 14:46	11/10/16 15:13	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/09/16 14:46	11/10/16 15:13	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/09/16 14:46	11/10/16 15:13	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/09/16 14:46	11/10/16 15:13	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/09/16 14:46	11/10/16 15:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	71		23 - 130	11/09/16 14:46	11/10/16 15:13	1
2-Fluorophenol	67		10 - 130	11/09/16 14:46	11/10/16 15:13	1
Nitrobenzene-d5	72		27 - 130	11/09/16 14:46	11/10/16 15:13	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Trail**

**Lab Sample ID: 560-64786-16**

**Date Collected: 11/03/16 20:53**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	71		10 - 130	11/09/16 14:46	11/10/16 15:13	1
Terphenyl-d14	56		10 - 141	11/09/16 14:46	11/10/16 15:13	1
2,4,6-Tribromophenol	65		18 - 130	11/09/16 14:46	11/10/16 15:13	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00482	U	0.0579	0.00482	ug/L		11/07/16 13:38	11/11/16 11:52	1
alpha-BHC	0.00501	U	0.0579	0.00501	ug/L		11/07/16 13:38	11/11/16 11:52	1
alpha-Chlordane	0.00607	U	0.0579	0.00607	ug/L		11/07/16 13:38	11/11/16 11:52	1
beta-BHC	0.00482	U	0.0579	0.00482	ug/L		11/07/16 13:38	11/11/16 11:52	1
4,4'-DDD	0.00482	U	0.0579	0.00482	ug/L		11/07/16 13:38	11/11/16 11:52	1
4,4'-DDE	0.00482	U	0.0579	0.00482	ug/L		11/07/16 13:38	11/11/16 11:52	1
4,4'-DDT	0.00781	U	0.0579	0.00781	ug/L		11/07/16 13:38	11/11/16 11:52	1
delta-BHC	0.00482	U	0.0579	0.00482	ug/L		11/07/16 13:38	11/11/16 11:52	1
Dieldrin	0.0125	U	0.0579	0.0125	ug/L		11/07/16 13:38	11/11/16 11:52	1
Endosulfan I	0.00482	U	0.0579	0.00482	ug/L		11/07/16 13:38	11/11/16 11:52	1
Endosulfan II	0.00829	U	0.0579	0.00829	ug/L		11/07/16 13:38	11/11/16 11:52	1
Endosulfan sulfate	0.00848	U	0.0579	0.00848	ug/L		11/07/16 13:38	11/11/16 11:52	1
Endrin	0.00742	U	0.0579	0.00742	ug/L		11/07/16 13:38	11/11/16 11:52	1
Endrin aldehyde	0.00482	U	0.0579	0.00482	ug/L		11/07/16 13:38	11/11/16 11:52	1
Endrin ketone	0.00791	U	0.0579	0.00791	ug/L		11/07/16 13:38	11/11/16 11:52	1
gamma-BHC (Lindane)	0.00434	U	0.0579	0.00434	ug/L		11/07/16 13:38	11/11/16 11:52	1
gamma-Chlordane	0.00646	U	0.0579	0.00646	ug/L		11/07/16 13:38	11/11/16 11:52	1
Heptachlor	0.00627	U	0.0579	0.00627	ug/L		11/07/16 13:38	11/11/16 11:52	1
Heptachlor epoxide	0.00501	U	0.0579	0.00501	ug/L		11/07/16 13:38	11/11/16 11:52	1
Methoxychlor	0.00964	U	0.0579	0.00964	ug/L		11/07/16 13:38	11/11/16 11:52	1
Toxaphene	0.656	U	5.79	0.656	ug/L		11/07/16 13:38	11/11/16 11:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	84		10 - 152	11/07/16 13:38	11/11/16 11:52	1
Tetrachloro-m-xylene	99		57 - 127	11/07/16 13:38	11/11/16 11:52	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.579	0.106	ug/L		11/07/16 13:38	11/10/16 10:30	1
Aroclor 1221	0.106	U	0.579	0.106	ug/L		11/07/16 13:38	11/10/16 10:30	1
Aroclor 1232	0.424	U	0.771	0.424	ug/L		11/07/16 13:38	11/10/16 10:30	1
Aroclor 1242	0.106	U	0.579	0.106	ug/L		11/07/16 13:38	11/10/16 10:30	1
Aroclor 1248	0.106	U	0.579	0.106	ug/L		11/07/16 13:38	11/10/16 10:30	1
Aroclor 1254	0.106	U	0.579	0.106	ug/L		11/07/16 13:38	11/10/16 10:30	1
Aroclor 1260	0.106	U	0.579	0.106	ug/L		11/07/16 13:38	11/10/16 10:30	1
Aroclor 1262	0.106	U	0.579	0.106	ug/L		11/07/16 13:38	11/10/16 10:30	1
Aroclor 1268	0.106	U	0.579	0.106	ug/L		11/07/16 13:38	11/10/16 10:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	101		10 - 150	11/07/16 13:38	11/10/16 10:30	1
DCB Decachlorobiphenyl	72		10 - 150	11/07/16 13:38	11/10/16 10:30	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM210 Trail

Lab Sample ID: 560-64786-16

Date Collected: 11/03/16 20:53

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000160	U H	0.00238	0.000160	mg/L		12/01/16 17:56	12/08/16 20:46	1
Bolstar	0.000299	U H	0.000951	0.000299	mg/L		12/01/16 17:56	12/08/16 20:46	1
Chlorpyrifos	0.000342	U H	0.00143	0.000342	mg/L		12/01/16 17:56	12/08/16 20:46	1
Coumaphos	0.000128	U H	0.000951	0.000128	mg/L		12/01/16 17:56	12/08/16 20:46	1
Demeton-O	0.000133	U H	0.000951	0.000133	mg/L		12/01/16 17:56	12/08/16 20:46	1
Demeton-S	0.0000656	U H	0.00190	0.0000656	mg/L		12/01/16 17:56	12/08/16 20:46	1
Diazinon	0.000140	U H	0.000476	0.000140	mg/L		12/01/16 17:56	12/08/16 20:46	1
Demeton, Total	0.000199	U H	0.00285	0.000199	mg/L		12/01/16 17:56	12/08/16 20:46	1
Dichlorvos	0.000154	U H	0.000476	0.000154	mg/L		12/01/16 17:56	12/08/16 20:46	1
Dimethoate	0.000427	U H	0.00143	0.000427	mg/L		12/01/16 17:56	12/08/16 20:46	1
Disulfoton	0.000306	U H	0.000951	0.000306	mg/L		12/01/16 17:56	12/08/16 20:46	1
EPN	0.000142	U H	0.00114	0.000142	mg/L		12/01/16 17:56	12/08/16 20:46	1
Ethoprop	0.000168	U H	0.00143	0.000168	mg/L		12/01/16 17:56	12/08/16 20:46	1
Ethyl Parathion	0.000137	U H	0.000951	0.000137	mg/L		12/01/16 17:56	12/08/16 20:46	1
Famphur	0.000170	U H	0.000951	0.000170	mg/L		12/01/16 17:56	12/08/16 20:46	1
Fensulfothion	0.000517	U H	0.00238	0.000517	mg/L		12/01/16 17:56	12/08/16 20:46	1
Fenthion	0.000146	U H	0.00238	0.000146	mg/L		12/01/16 17:56	12/08/16 20:46	1
Malathion	0.000126	U H	0.00190	0.000126	mg/L		12/01/16 17:56	12/08/16 20:46	1
Merphos	0.000165	U H	0.00476	0.000165	mg/L		12/01/16 17:56	12/08/16 20:46	1
Methyl parathion	0.000134	U H	0.00380	0.000134	mg/L		12/01/16 17:56	12/08/16 20:46	1
Mevinphos	0.000438	U H	0.00590	0.000438	mg/L		12/01/16 17:56	12/08/16 20:46	1
Naled	0.000761	U H	0.00190	0.000761	mg/L		12/01/16 17:56	12/08/16 20:46	1
Phorate	0.000146	U H	0.00114	0.000146	mg/L		12/01/16 17:56	12/08/16 20:46	1
Ronnel	0.000110	U H	0.00951	0.000110	mg/L		12/01/16 17:56	12/08/16 20:46	1
Sulfotepp	0.000160	U H	0.00143	0.000160	mg/L		12/01/16 17:56	12/08/16 20:46	1
Tetrachlorvinphos (Stirophos)	0.000118	U H	0.00333	0.000118	mg/L		12/01/16 17:56	12/08/16 20:46	1
Thionazin	0.000297	U H	0.000951	0.000297	mg/L		12/01/16 17:56	12/08/16 20:46	1
Tokuthion	0.000117	U H	0.00152	0.000117	mg/L		12/01/16 17:56	12/08/16 20:46	1
Trichloronate	0.000230	U H	0.00143	0.000230	mg/L		12/01/16 17:56	12/08/16 20:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	26	X	49 - 171				12/01/16 17:56	12/08/16 20:46	1
Triphenylphosphate	32	X	60 - 154				12/01/16 17:56	12/08/16 20:46	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0950	U	4.75	0.0950	ug/L		11/09/16 07:48	11/11/16 23:10	1
Dicamba	0.0808	U	0.475	0.0808	ug/L		11/09/16 07:48	11/11/16 23:10	1
Mecoprop	18.1	U	114	18.1	ug/L		11/09/16 07:48	11/11/16 23:10	1
MCPA	16.2	U	114	16.2	ug/L		11/09/16 07:48	11/11/16 23:10	1
Dichlorprop	0.143	U	0.475	0.143	ug/L		11/09/16 07:48	11/11/16 23:10	1
2,4-D	0.0352	U	0.475	0.0352	ug/L		11/09/16 07:48	11/11/16 23:10	1
Silvex (2,4,5-TP)	0.0589	U	0.238	0.0589	ug/L		11/09/16 07:48	11/11/16 23:10	1
2,4,5-T	0.0589	U	0.238	0.0589	ug/L		11/09/16 07:48	11/11/16 23:10	1
2,4-DB	0.143	U	0.475	0.143	ug/L		11/09/16 07:48	11/11/16 23:10	1
Dinoseb	0.152	U	0.950	0.152	ug/L		11/09/16 07:48	11/11/16 23:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	73		45 - 130				11/09/16 07:48	11/11/16 23:10	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM210 Trail

Lab Sample ID: 560-64786-16

Date Collected: 11/03/16 20:53

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	83.2		0.200	0.101	mg/L		11/07/16 09:45	11/07/16 19:30	1
Magnesium	18.2		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 19:30	1
Potassium	2.06	B	0.500	0.375	mg/L		11/07/16 09:45	11/07/16 19:30	1
Silicon	5.24		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 19:30	1
Sodium	15.8		1.00	0.310	mg/L		11/07/16 09:45	11/08/16 15:59	1
Strontium	0.617		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 19:30	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 15:32	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 15:32	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 15:32	1
Barium	0.0389		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 15:32	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 15:32	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 15:32	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 15:32	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 15:32	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 15:32	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 15:32	1
Manganese	0.192		0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 15:32	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 15:32	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 15:32	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 15:32	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 15:32	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 15:32	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:41	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.500	J	1.00	0.315	mg/L			11/05/16 01:24	1
Chloride	27.9		1.00	0.192	mg/L			11/05/16 01:24	1
Nitrate as N	0.546		0.500	0.103	mg/L			11/05/16 01:24	1
Sulfate	30.2		1.00	0.377	mg/L			11/05/16 01:24	1
Fluoride	0.176		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/15/16 12:37	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		11/09/16 08:57	11/11/16 11:15	1
Total Organic Carbon	0.468	J	1.00	0.285	mg/L			11/10/16 15:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	243		5.00	5.00	mg/L			11/15/16 14:50	1
Bicarbonate Alkalinity as CaCO3	243		5.00	5.00	mg/L			11/15/16 14:50	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/15/16 14:50	1
Total Dissolved Solids	364		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	3.20		2.00	2.00	mg/L			11/07/16 15:45	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM210 Trail**

**Lab Sample ID: 560-64786-16**

**Date Collected: 11/03/16 20:53**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.347	J	1.00	0.285	mg/L			11/15/16 11:34	1

**Client Sample ID: FDHSM210 Trail**

**Lab Sample ID: 560-64786-17**

**Date Collected: 11/03/16 20:53**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/07/16 17:39	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/07/16 17:39	1
Benzene	0.330	U	1.00	0.330	ug/L			11/07/16 17:39	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/07/16 17:39	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 17:39	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/07/16 17:39	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/07/16 17:39	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/07/16 17:39	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/07/16 17:39	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/07/16 17:39	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/07/16 17:39	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/07/16 17:39	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/07/16 17:39	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/07/16 17:39	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/07/16 17:39	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/07/16 17:39	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/07/16 17:39	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/07/16 17:39	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/07/16 17:39	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/07/16 17:39	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/07/16 17:39	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 17:39	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/07/16 17:39	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/07/16 17:39	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/07/16 17:39	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/07/16 17:39	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/07/16 17:39	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/07/16 17:39	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/07/16 17:39	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 17:39	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/07/16 17:39	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/07/16 17:39	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/07/16 17:39	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/07/16 17:39	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/07/16 17:39	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/07/16 17:39	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/07/16 17:39	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/07/16 17:39	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/07/16 17:39	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/07/16 17:39	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/07/16 17:39	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/07/16 17:39	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: FDHSM210 Trail

Lab Sample ID: 560-64786-17

Date Collected: 11/03/16 20:53

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/07/16 17:39	1
EDB	0.175	U	1.00	0.175	ug/L			11/07/16 17:39	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/07/16 17:39	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 17:39	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/07/16 17:39	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/07/16 17:39	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/07/16 17:39	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/07/16 17:39	1
Hexane	2.00	U	5.00	2.00	ug/L			11/07/16 17:39	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/07/16 17:39	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/07/16 17:39	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/07/16 17:39	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/07/16 17:39	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/07/16 17:39	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/07/16 17:39	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/07/16 17:39	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/07/16 17:39	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/07/16 17:39	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/07/16 17:39	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/07/16 17:39	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/07/16 17:39	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/07/16 17:39	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 17:39	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/07/16 17:39	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/07/16 17:39	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/07/16 17:39	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/07/16 17:39	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/07/16 17:39	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/07/16 17:39	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/07/16 17:39	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/07/16 17:39	1
Styrene	0.200	U	1.00	0.200	ug/L			11/07/16 17:39	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 17:39	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/07/16 17:39	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/07/16 17:39	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/07/16 17:39	1
Toluene	0.495	U	1.00	0.495	ug/L			11/07/16 17:39	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 17:39	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/07/16 17:39	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/07/16 17:39	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/07/16 17:39	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/07/16 17:39	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/07/16 17:39	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/07/16 17:39	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/07/16 17:39	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/07/16 17:39	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/07/16 17:39	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/07/16 17:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/07/16 17:39	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: FDHSM210 Trail**

**Lab Sample ID: 560-64786-17**

**Date Collected: 11/03/16 20:53**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 17:39	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 17:39	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/07/16 17:39	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/07/16 17:39	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/07/16 17:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130		11/07/16 17:39	1
Dibromofluoromethane (Surr)	106		69 - 130		11/07/16 17:39	1
1,2-Dichloroethane-d4 (Surr)	113		70 - 140		11/07/16 17:39	1
Toluene-d8 (Surr)	98		70 - 130		11/07/16 17:39	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/09/16 14:46	11/10/16 15:40	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/09/16 14:46	11/10/16 15:40	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/09/16 14:46	11/10/16 15:40	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/09/16 14:46	11/10/16 15:40	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/09/16 14:46	11/10/16 15:40	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/09/16 14:46	11/10/16 15:40	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/09/16 14:46	11/10/16 15:40	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/09/16 14:46	11/10/16 15:40	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/09/16 14:46	11/10/16 15:40	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/09/16 14:46	11/10/16 15:40	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/09/16 14:46	11/10/16 15:40	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		11/09/16 14:46	11/10/16 15:40	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/09/16 14:46	11/10/16 15:40	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/09/16 14:46	11/10/16 15:40	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 15:40	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/09/16 14:46	11/10/16 15:40	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/09/16 14:46	11/10/16 15:40	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/09/16 14:46	11/10/16 15:40	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/09/16 14:46	11/10/16 15:40	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/09/16 14:46	11/10/16 15:40	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/09/16 14:46	11/10/16 15:40	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/09/16 14:46	11/10/16 15:40	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/09/16 14:46	11/10/16 15:40	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/09/16 14:46	11/10/16 15:40	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/09/16 14:46	11/10/16 15:40	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 15:40	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/09/16 14:46	11/10/16 15:40	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/09/16 14:46	11/10/16 15:40	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/09/16 14:46	11/10/16 15:40	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 15:40	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/09/16 14:46	11/10/16 15:40	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/09/16 14:46	11/10/16 15:40	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/09/16 14:46	11/10/16 15:40	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/09/16 14:46	11/10/16 15:40	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/09/16 14:46	11/10/16 15:40	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/09/16 14:46	11/10/16 15:40	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: FDHSM210 Trail

Lab Sample ID: 560-64786-17

Date Collected: 11/03/16 20:53

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/09/16 14:46	11/10/16 15:40	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/09/16 14:46	11/10/16 15:40	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/09/16 14:46	11/10/16 15:40	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/09/16 14:46	11/10/16 15:40	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/09/16 14:46	11/10/16 15:40	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 15:40	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/09/16 14:46	11/10/16 15:40	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 15:40	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/09/16 14:46	11/10/16 15:40	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/09/16 14:46	11/10/16 15:40	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/09/16 14:46	11/10/16 15:40	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 15:40	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/09/16 14:46	11/10/16 15:40	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/09/16 14:46	11/10/16 15:40	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/09/16 14:46	11/10/16 15:40	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/09/16 14:46	11/10/16 15:40	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/09/16 14:46	11/10/16 15:40	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/09/16 14:46	11/10/16 15:40	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/09/16 14:46	11/10/16 15:40	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/09/16 14:46	11/10/16 15:40	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/09/16 14:46	11/10/16 15:40	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/09/16 14:46	11/10/16 15:40	1
Phenol	0.768	U	10.0	0.768	ug/L		11/09/16 14:46	11/10/16 15:40	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/09/16 14:46	11/10/16 15:40	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/09/16 14:46	11/10/16 15:40	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/09/16 14:46	11/10/16 15:40	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/09/16 14:46	11/10/16 15:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	79		23 - 130	11/09/16 14:46	11/10/16 15:40	1
2-Fluorophenol	74		10 - 130	11/09/16 14:46	11/10/16 15:40	1
Nitrobenzene-d5	79		27 - 130	11/09/16 14:46	11/10/16 15:40	1
Phenol-d5	75		10 - 130	11/09/16 14:46	11/10/16 15:40	1
Terphenyl-d14	37		10 - 141	11/09/16 14:46	11/10/16 15:40	1
2,4,6-Tribromophenol	69		18 - 130	11/09/16 14:46	11/10/16 15:40	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00490	U	0.0588	0.00490	ug/L		11/08/16 08:34	11/14/16 17:31	1
alpha-BHC	0.00510	U	0.0588	0.00510	ug/L		11/08/16 08:34	11/14/16 17:31	1
alpha-Chlordane	0.00618	U	0.0588	0.00618	ug/L		11/08/16 08:34	11/14/16 17:31	1
beta-BHC	0.00490	U	0.0588	0.00490	ug/L		11/08/16 08:34	11/14/16 17:31	1
4,4'-DDD	0.00490	U	0.0588	0.00490	ug/L		11/08/16 08:34	11/14/16 17:31	1
4,4'-DDE	0.00490	U	0.0588	0.00490	ug/L		11/08/16 08:34	11/14/16 17:31	1
4,4'-DDT	0.00794	U	0.0588	0.00794	ug/L		11/08/16 08:34	11/14/16 17:31	1
delta-BHC	0.00490	U	0.0588	0.00490	ug/L		11/08/16 08:34	11/14/16 17:31	1
Dieldrin	0.0127	U	0.0588	0.0127	ug/L		11/08/16 08:34	11/14/16 17:31	1
Endosulfan I	0.00490	U	0.0588	0.00490	ug/L		11/08/16 08:34	11/14/16 17:31	1
Endosulfan II	0.00843	U	0.0588	0.00843	ug/L		11/08/16 08:34	11/14/16 17:31	1
Endosulfan sulfate	0.00863	U	0.0588	0.00863	ug/L		11/08/16 08:34	11/14/16 17:31	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: FDHSM210 Trail

Lab Sample ID: 560-64786-17

Date Collected: 11/03/16 20:53

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	0.00755	U	0.0588	0.00755	ug/L		11/08/16 08:34	11/14/16 17:31	1
Endrin aldehyde	0.00490	U	0.0588	0.00490	ug/L		11/08/16 08:34	11/14/16 17:31	1
Endrin ketone	0.00804	U	0.0588	0.00804	ug/L		11/08/16 08:34	11/14/16 17:31	1
gamma-BHC (Lindane)	0.00441	U	0.0588	0.00441	ug/L		11/08/16 08:34	11/14/16 17:31	1
gamma-Chlordane	0.00657	U	0.0588	0.00657	ug/L		11/08/16 08:34	11/14/16 17:31	1
Heptachlor	0.00637	U	0.0588	0.00637	ug/L		11/08/16 08:34	11/14/16 17:31	1
Heptachlor epoxide	0.00510	U	0.0588	0.00510	ug/L		11/08/16 08:34	11/14/16 17:31	1
Methoxychlor	0.00980	U	0.0588	0.00980	ug/L		11/08/16 08:34	11/14/16 17:31	1
Toxaphene	0.667	U	5.88	0.667	ug/L		11/08/16 08:34	11/14/16 17:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	95		10 - 152				11/08/16 08:34	11/14/16 17:31	1
Tetrachloro-m-xylene	101		57 - 127				11/08/16 08:34	11/14/16 17:31	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.108	U	0.588	0.108	ug/L		11/08/16 08:34	11/14/16 17:51	1
Aroclor 1221	0.108	U	0.588	0.108	ug/L		11/08/16 08:34	11/14/16 17:51	1
Aroclor 1232	0.431	U	0.784	0.431	ug/L		11/08/16 08:34	11/14/16 17:51	1
Aroclor 1242	0.108	U	0.588	0.108	ug/L		11/08/16 08:34	11/14/16 17:51	1
Aroclor 1248	0.108	U	0.588	0.108	ug/L		11/08/16 08:34	11/14/16 17:51	1
Aroclor 1254	0.108	U	0.588	0.108	ug/L		11/08/16 08:34	11/14/16 17:51	1
Aroclor 1260	0.108	U	0.588	0.108	ug/L		11/08/16 08:34	11/14/16 17:51	1
Aroclor 1262	0.108	U	0.588	0.108	ug/L		11/08/16 08:34	11/14/16 17:51	1
Aroclor 1268	0.108	U	0.588	0.108	ug/L		11/08/16 08:34	11/14/16 17:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	125		10 - 150				11/08/16 08:34	11/14/16 17:51	1
DCB Decachlorobiphenyl	73		10 - 150				11/08/16 08:34	11/14/16 17:51	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000161	U	0.00240	0.000161	mg/L		11/09/16 14:52	11/16/16 16:29	1
Bolstar	0.000301	U	0.000959	0.000301	mg/L		11/09/16 14:52	11/16/16 16:29	1
Chlorpyrifos	0.000345	U	0.00144	0.000345	mg/L		11/09/16 14:52	11/16/16 16:29	1
Coumaphos	0.000129	U	0.000959	0.000129	mg/L		11/09/16 14:52	11/16/16 16:29	1
Demeton-O	0.000134	U	0.000959	0.000134	mg/L		11/09/16 14:52	11/16/16 16:29	1
Demeton-S	0.0000661	U	0.00192	0.0000661	mg/L		11/09/16 14:52	11/16/16 16:29	1
Diazinon	0.000141	U	0.000479	0.000141	mg/L		11/09/16 14:52	11/16/16 16:29	1
Demeton, Total	0.000200	U	0.00288	0.000200	mg/L		11/09/16 14:52	11/16/16 16:29	1
Dichlorvos	0.000155	U	0.000479	0.000155	mg/L		11/09/16 14:52	11/16/16 16:29	1
Dimethoate	0.000430	U	0.00144	0.000430	mg/L		11/09/16 14:52	11/16/16 16:29	1
Disulfoton	0.000309	U	0.000959	0.000309	mg/L		11/09/16 14:52	11/16/16 16:29	1
EPN	0.000143	U	0.00115	0.000143	mg/L		11/09/16 14:52	11/16/16 16:29	1
Ethoprop	0.000170	U	0.00144	0.000170	mg/L		11/09/16 14:52	11/16/16 16:29	1
Ethyl Parathion	0.000138	U	0.000959	0.000138	mg/L		11/09/16 14:52	11/16/16 16:29	1
Famphur	0.000172	U	0.000959	0.000172	mg/L		11/09/16 14:52	11/16/16 16:29	1
Fensulfothion	0.000522	U	0.00240	0.000522	mg/L		11/09/16 14:52	11/16/16 16:29	1
Fenthion	0.000148	U	0.00240	0.000148	mg/L		11/09/16 14:52	11/16/16 16:29	1
Malathion	0.000128	U	0.00192	0.000128	mg/L		11/09/16 14:52	11/16/16 16:29	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: FDHSM210 Trail**

**Lab Sample ID: 560-64786-17**

**Date Collected: 11/03/16 20:53**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Merphos	0.000167	U	0.00479	0.000167	mg/L		11/09/16 14:52	11/16/16 16:29	1
Methyl parathion	0.000135	U	0.00383	0.000135	mg/L		11/09/16 14:52	11/16/16 16:29	1
Mevinphos	0.000441	U	0.00594	0.000441	mg/L		11/09/16 14:52	11/16/16 16:29	1
Naled	0.000767	U	0.00192	0.000767	mg/L		11/09/16 14:52	11/16/16 16:29	1
Phorate	0.000148	U	0.00115	0.000148	mg/L		11/09/16 14:52	11/16/16 16:29	1
Ronnel	0.000111	U	0.00959	0.000111	mg/L		11/09/16 14:52	11/16/16 16:29	1
Sulfotepp	0.000161	U	0.00144	0.000161	mg/L		11/09/16 14:52	11/16/16 16:29	1
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00336	0.000119	mg/L		11/09/16 14:52	11/16/16 16:29	1
Thionazin	0.000299	U	0.000959	0.000299	mg/L		11/09/16 14:52	11/16/16 16:29	1
Tokuthion	0.000118	U	0.00153	0.000118	mg/L		11/09/16 14:52	11/16/16 16:29	1
Trichloronate	0.000232	U	0.00144	0.000232	mg/L		11/09/16 14:52	11/16/16 16:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	61		49 - 171				11/09/16 14:52	11/16/16 16:29	1
Triphenylphosphate	82		60 - 154				11/09/16 14:52	11/16/16 16:29	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0950	U	4.75	0.0950	ug/L		11/09/16 07:48	11/11/16 00:09	1
Dicamba	0.0808	U	0.475	0.0808	ug/L		11/09/16 07:48	11/11/16 00:09	1
Mecoprop	18.1	U	114	18.1	ug/L		11/09/16 07:48	11/11/16 00:09	1
MCPA	16.2	U	114	16.2	ug/L		11/09/16 07:48	11/11/16 00:09	1
Dichlorprop	0.143	U	0.475	0.143	ug/L		11/09/16 07:48	11/11/16 00:09	1
2,4-D	0.0352	U	0.475	0.0352	ug/L		11/09/16 07:48	11/11/16 00:09	1
Silvex (2,4,5-TP)	0.0589	U	0.238	0.0589	ug/L		11/09/16 07:48	11/11/16 00:09	1
2,4,5-T	0.0589	U	0.238	0.0589	ug/L		11/09/16 07:48	11/11/16 00:09	1
2,4-DB	0.143	U	0.475	0.143	ug/L		11/09/16 07:48	11/11/16 00:09	1
Dinoseb	0.152	U	0.950	0.152	ug/L		11/09/16 07:48	11/11/16 00:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	85		45 - 130				11/09/16 07:48	11/11/16 00:09	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	87.9		0.200	0.101	mg/L		11/07/16 09:45	11/07/16 19:34	1
Magnesium	19.0		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 19:34	1
Potassium	2.12	B	0.500	0.375	mg/L		11/07/16 09:45	11/07/16 19:34	1
Silicon	5.59		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 19:34	1
Sodium	16.7		1.00	0.310	mg/L		11/07/16 09:45	11/08/16 16:03	1
Strontium	0.656		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 19:34	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 15:37	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 15:37	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 15:37	1
Barium	0.0408		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 15:37	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 15:37	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 15:37	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 15:37	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 15:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: FDHSM210 Trail**

**Lab Sample ID: 560-64786-17**

**Date Collected: 11/03/16 20:53**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 15:37	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 15:37	1
<b>Manganese</b>	<b>0.200</b>		0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 15:37	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 15:37	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 15:37	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 15:37	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 15:37	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 15:37	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:43	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Bromide</b>	<b>0.500</b>	<b>J</b>	1.00	0.315	mg/L			11/05/16 01:50	1
<b>Chloride</b>	<b>27.9</b>		1.00	0.192	mg/L			11/05/16 01:50	1
<b>Nitrate as N</b>	<b>0.544</b>		0.500	0.103	mg/L			11/05/16 01:50	1
<b>Sulfate</b>	<b>30.3</b>		1.00	0.377	mg/L			11/05/16 01:50	1
<b>Fluoride</b>	<b>0.191</b>		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/15/16 12:38	1
<b>Phosphorus</b>	<b>0.0457</b>	<b>J</b>	0.100	0.0410	mg/L		11/10/16 08:55	11/11/16 13:26	1
<b>Total Organic Carbon</b>	<b>0.579</b>	<b>J</b>	1.00	0.285	mg/L			11/10/16 15:31	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.3</b>		0.1	0.1	SU			11/04/16 16:21	1
<b>Total Alkalinity as CaCO3</b>	<b>246</b>		5.00	5.00	mg/L			11/15/16 14:50	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>246</b>		5.00	5.00	mg/L			11/15/16 14:50	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/15/16 14:50	1
<b>Total Dissolved Solids</b>	<b>364</b>		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Dissolved Organic Carbon</b>	<b>0.317</b>	<b>J</b>	1.00	0.285	mg/L			11/15/16 11:34	1

**Client Sample ID: HSM230 Trail**

**Lab Sample ID: 560-64786-18**

**Date Collected: 11/03/16 21:25**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/07/16 18:04	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/07/16 18:04	1
Benzene	0.330	U	1.00	0.330	ug/L			11/07/16 18:04	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/07/16 18:04	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 18:04	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/07/16 18:04	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/07/16 18:04	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/07/16 18:04	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/07/16 18:04	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM230 Trail

Lab Sample ID: 560-64786-18

Date Collected: 11/03/16 21:25

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/07/16 18:04	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/07/16 18:04	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/07/16 18:04	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/07/16 18:04	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/07/16 18:04	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/07/16 18:04	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/07/16 18:04	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/07/16 18:04	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/07/16 18:04	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/07/16 18:04	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/07/16 18:04	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/07/16 18:04	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 18:04	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/07/16 18:04	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/07/16 18:04	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/07/16 18:04	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/07/16 18:04	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/07/16 18:04	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/07/16 18:04	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/07/16 18:04	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 18:04	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/07/16 18:04	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/07/16 18:04	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/07/16 18:04	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/07/16 18:04	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/07/16 18:04	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/07/16 18:04	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/07/16 18:04	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/07/16 18:04	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/07/16 18:04	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/07/16 18:04	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/07/16 18:04	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/07/16 18:04	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/07/16 18:04	1
EDB	0.175	U	1.00	0.175	ug/L			11/07/16 18:04	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/07/16 18:04	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 18:04	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/07/16 18:04	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/07/16 18:04	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/07/16 18:04	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/07/16 18:04	1
Hexane	2.00	U	5.00	2.00	ug/L			11/07/16 18:04	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/07/16 18:04	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/07/16 18:04	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/07/16 18:04	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/07/16 18:04	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/07/16 18:04	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/07/16 18:04	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/07/16 18:04	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM230 Trail

Lab Sample ID: 560-64786-18

Date Collected: 11/03/16 21:25

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/07/16 18:04	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/07/16 18:04	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/07/16 18:04	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/07/16 18:04	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/07/16 18:04	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/07/16 18:04	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 18:04	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/07/16 18:04	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/07/16 18:04	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/07/16 18:04	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/07/16 18:04	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/07/16 18:04	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/07/16 18:04	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/07/16 18:04	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/07/16 18:04	1
Styrene	0.200	U	1.00	0.200	ug/L			11/07/16 18:04	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 18:04	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/07/16 18:04	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/07/16 18:04	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/07/16 18:04	1
Toluene	0.495	U	1.00	0.495	ug/L			11/07/16 18:04	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 18:04	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/07/16 18:04	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/07/16 18:04	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/07/16 18:04	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/07/16 18:04	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/07/16 18:04	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/07/16 18:04	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/07/16 18:04	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/07/16 18:04	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/07/16 18:04	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/07/16 18:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/07/16 18:04	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 18:04	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 18:04	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/07/16 18:04	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/07/16 18:04	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/07/16 18:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		11/07/16 18:04	1
Dibromofluoromethane (Surr)	108		69 - 130		11/07/16 18:04	1
1,2-Dichloroethane-d4 (Surr)	116		70 - 140		11/07/16 18:04	1
Toluene-d8 (Surr)	100		70 - 130		11/07/16 18:04	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.548	U	11.9	0.548	ug/L		11/09/16 14:46	11/10/16 16:07	1
Acenaphthylene	0.538	U	11.9	0.538	ug/L		11/09/16 14:46	11/10/16 16:07	1
Anthracene	0.833	U	11.9	0.833	ug/L		11/09/16 14:46	11/10/16 16:07	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM230 Trail

Lab Sample ID: 560-64786-18

Date Collected: 11/03/16 21:25

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.769	U	11.9	0.769	ug/L		11/09/16 14:46	11/10/16 16:07	1
Benzo[a]pyrene	0.883	U	11.9	0.883	ug/L		11/09/16 14:46	11/10/16 16:07	1
Benzo[b]fluoranthene	1.08	U	11.9	1.08	ug/L		11/09/16 14:46	11/10/16 16:07	1
Benzo[g,h,i]perylene	1.30	U	11.9	1.30	ug/L		11/09/16 14:46	11/10/16 16:07	1
Benzo[k]fluoranthene	1.77	U	11.9	1.77	ug/L		11/09/16 14:46	11/10/16 16:07	1
Benzyl alcohol	0.985	U	11.9	0.985	ug/L		11/09/16 14:46	11/10/16 16:07	1
Bis(2-chloroethoxy)methane	0.519	U	11.9	0.519	ug/L		11/09/16 14:46	11/10/16 16:07	1
Bis(2-chloroethyl)ether	1.85	U	11.9	1.85	ug/L		11/09/16 14:46	11/10/16 16:07	1
Bis(2-ethylhexyl) phthalate	5.95	U	23.8	5.95	ug/L		11/09/16 14:46	11/10/16 16:07	1
4-Bromophenyl phenyl ether	0.965	U	11.9	0.965	ug/L		11/09/16 14:46	11/10/16 16:07	1
Butyl benzyl phthalate	0.971	U	11.9	0.971	ug/L		11/09/16 14:46	11/10/16 16:07	1
4-Chloroaniline	0.654	U	11.9	0.654	ug/L		11/09/16 14:46	11/10/16 16:07	1
4-Chloro-3-methylphenol	0.698	U	11.9	0.698	ug/L		11/09/16 14:46	11/10/16 16:07	1
2-Chloronaphthalene	0.718	U	11.9	0.718	ug/L		11/09/16 14:46	11/10/16 16:07	1
2-Chlorophenol	0.868	U	11.9	0.868	ug/L		11/09/16 14:46	11/10/16 16:07	1
4-Chlorophenyl phenyl ether	0.630	U	11.9	0.630	ug/L		11/09/16 14:46	11/10/16 16:07	1
Chrysene	0.588	U	11.9	0.588	ug/L		11/09/16 14:46	11/10/16 16:07	1
Dibenz(a,h)anthracene	1.04	U	11.9	1.04	ug/L		11/09/16 14:46	11/10/16 16:07	1
Dibenzofuran	0.577	U	11.9	0.577	ug/L		11/09/16 14:46	11/10/16 16:07	1
1,2-Dichlorobenzene	0.923	U	11.9	0.923	ug/L		11/09/16 14:46	11/10/16 16:07	1
1,3-Dichlorobenzene	0.585	U	11.9	0.585	ug/L		11/09/16 14:46	11/10/16 16:07	1
1,4-Dichlorobenzene	0.970	U	11.9	0.970	ug/L		11/09/16 14:46	11/10/16 16:07	1
3,3'-Dichlorobenzidine	0.937	U	11.9	0.937	ug/L		11/09/16 14:46	11/10/16 16:07	1
2,4-Dichlorophenol	0.838	U	11.9	0.838	ug/L		11/09/16 14:46	11/10/16 16:07	1
Diethyl phthalate	0.793	U	11.9	0.793	ug/L		11/09/16 14:46	11/10/16 16:07	1
2,4-Dimethylphenol	0.706	U	11.9	0.706	ug/L		11/09/16 14:46	11/10/16 16:07	1
Dimethyl phthalate	0.701	U	11.9	0.701	ug/L		11/09/16 14:46	11/10/16 16:07	1
Di-n-butyl phthalate	0.844	U	11.9	0.844	ug/L		11/09/16 14:46	11/10/16 16:07	1
4,6-Dinitro-2-methylphenol	1.14	U	11.9	1.14	ug/L		11/09/16 14:46	11/10/16 16:07	1
2,4-Dinitrophenol	3.20	U	23.8	3.20	ug/L		11/09/16 14:46	11/10/16 16:07	1
2,4-Dinitrotoluene	0.606	U	23.8	0.606	ug/L		11/09/16 14:46	11/10/16 16:07	1
2,6-Dinitrotoluene	0.907	U	11.9	0.907	ug/L		11/09/16 14:46	11/10/16 16:07	1
Di-n-octyl phthalate	1.32	U	11.9	1.32	ug/L		11/09/16 14:46	11/10/16 16:07	1
Fluoranthene	0.590	U	11.9	0.590	ug/L		11/09/16 14:46	11/10/16 16:07	1
Fluorene	0.501	U	11.9	0.501	ug/L		11/09/16 14:46	11/10/16 16:07	1
Hexachlorobenzene	0.717	U	11.9	0.717	ug/L		11/09/16 14:46	11/10/16 16:07	1
Hexachlorobutadiene	0.852	U	11.9	0.852	ug/L		11/09/16 14:46	11/10/16 16:07	1
Hexachlorocyclopentadiene	0.999	U	11.9	0.999	ug/L		11/09/16 14:46	11/10/16 16:07	1
Hexachloroethane	0.701	U	11.9	0.701	ug/L		11/09/16 14:46	11/10/16 16:07	1
Indeno[1,2,3-cd]pyrene	1.10	U	11.9	1.10	ug/L		11/09/16 14:46	11/10/16 16:07	1
Isophorone	0.654	U	11.9	0.654	ug/L		11/09/16 14:46	11/10/16 16:07	1
2-Methylnaphthalene	0.836	U	11.9	0.836	ug/L		11/09/16 14:46	11/10/16 16:07	1
2-Methylphenol	0.726	U	11.9	0.726	ug/L		11/09/16 14:46	11/10/16 16:07	1
3 & 4 Methylphenol	0.908	U	23.8	0.908	ug/L		11/09/16 14:46	11/10/16 16:07	1
Naphthalene	0.937	U	11.9	0.937	ug/L		11/09/16 14:46	11/10/16 16:07	1
2-Nitroaniline	0.912	U	11.9	0.912	ug/L		11/09/16 14:46	11/10/16 16:07	1
3-Nitroaniline	0.610	U	11.9	0.610	ug/L		11/09/16 14:46	11/10/16 16:07	1
4-Nitroaniline	0.975	U	11.9	0.975	ug/L		11/09/16 14:46	11/10/16 16:07	1
Nitrobenzene	0.699	U	11.9	0.699	ug/L		11/09/16 14:46	11/10/16 16:07	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM230 Trail

Lab Sample ID: 560-64786-18

Date Collected: 11/03/16 21:25

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitrophenol	0.962	U	11.9	0.962	ug/L		11/09/16 14:46	11/10/16 16:07	1
4-Nitrophenol	2.06	U	11.9	2.06	ug/L		11/09/16 14:46	11/10/16 16:07	1
N-Nitrosodi-n-propylamine	0.738	U	11.9	0.738	ug/L		11/09/16 14:46	11/10/16 16:07	1
N-Nitrosodiphenylamine	1.22	U	11.9	1.22	ug/L		11/09/16 14:46	11/10/16 16:07	1
Pentachlorophenol	1.58	U	23.8	1.58	ug/L		11/09/16 14:46	11/10/16 16:07	1
Phenanthrene	0.704	U	11.9	0.704	ug/L		11/09/16 14:46	11/10/16 16:07	1
Phenol	0.914	U	11.9	0.914	ug/L		11/09/16 14:46	11/10/16 16:07	1
Pyrene	0.524	U	11.9	0.524	ug/L		11/09/16 14:46	11/10/16 16:07	1
1,2,4-Trichlorobenzene	0.770	U	11.9	0.770	ug/L		11/09/16 14:46	11/10/16 16:07	1
2,4,5-Trichlorophenol	1.03	U	11.9	1.03	ug/L		11/09/16 14:46	11/10/16 16:07	1
2,4,6-Trichlorophenol	0.783	U	11.9	0.783	ug/L		11/09/16 14:46	11/10/16 16:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	75		23 - 130	11/09/16 14:46	11/10/16 16:07	1
2-Fluorophenol	73		10 - 130	11/09/16 14:46	11/10/16 16:07	1
Nitrobenzene-d5	74		27 - 130	11/09/16 14:46	11/10/16 16:07	1
Phenol-d5	78		10 - 130	11/09/16 14:46	11/10/16 16:07	1
Terphenyl-d14	52		10 - 141	11/09/16 14:46	11/10/16 16:07	1
2,4,6-Tribromophenol	72		18 - 130	11/09/16 14:46	11/10/16 16:07	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00473	U	0.0568	0.00473	ug/L		11/08/16 08:34	11/14/16 17:52	1
alpha-BHC	0.00492	U	0.0568	0.00492	ug/L		11/08/16 08:34	11/14/16 17:52	1
alpha-Chlordane	0.00596	U	0.0568	0.00596	ug/L		11/08/16 08:34	11/14/16 17:52	1
beta-BHC	0.00473	U	0.0568	0.00473	ug/L		11/08/16 08:34	11/14/16 17:52	1
4,4'-DDD	0.00473	U	0.0568	0.00473	ug/L		11/08/16 08:34	11/14/16 17:52	1
4,4'-DDE	0.00473	U	0.0568	0.00473	ug/L		11/08/16 08:34	11/14/16 17:52	1
4,4'-DDT	0.00766	U	0.0568	0.00766	ug/L		11/08/16 08:34	11/14/16 17:52	1
delta-BHC	0.00473	U	0.0568	0.00473	ug/L		11/08/16 08:34	11/14/16 17:52	1
Dieldrin	0.0123	U	0.0568	0.0123	ug/L		11/08/16 08:34	11/14/16 17:52	1
Endosulfan I	0.00473	U	0.0568	0.00473	ug/L		11/08/16 08:34	11/14/16 17:52	1
Endosulfan II	0.00814	U	0.0568	0.00814	ug/L		11/08/16 08:34	11/14/16 17:52	1
Endosulfan sulfate	0.00832	U	0.0568	0.00832	ug/L		11/08/16 08:34	11/14/16 17:52	1
Endrin	0.00728	U	0.0568	0.00728	ug/L		11/08/16 08:34	11/14/16 17:52	1
Endrin aldehyde	0.00473	U	0.0568	0.00473	ug/L		11/08/16 08:34	11/14/16 17:52	1
Endrin ketone	0.00776	U	0.0568	0.00776	ug/L		11/08/16 08:34	11/14/16 17:52	1
gamma-BHC (Lindane)	0.00426	U	0.0568	0.00426	ug/L		11/08/16 08:34	11/14/16 17:52	1
gamma-Chlordane	0.00634	U	0.0568	0.00634	ug/L		11/08/16 08:34	11/14/16 17:52	1
Heptachlor	0.00615	U	0.0568	0.00615	ug/L		11/08/16 08:34	11/14/16 17:52	1
Heptachlor epoxide	0.00492	U	0.0568	0.00492	ug/L		11/08/16 08:34	11/14/16 17:52	1
Methoxychlor	0.00946	U	0.0568	0.00946	ug/L		11/08/16 08:34	11/14/16 17:52	1
Toxaphene	0.643	U	5.68	0.643	ug/L		11/08/16 08:34	11/14/16 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	100		10 - 152	11/08/16 08:34	11/14/16 17:52	1
Tetrachloro-m-xylene	105		57 - 127	11/08/16 08:34	11/14/16 17:52	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM230 Trail

Lab Sample ID: 560-64786-18

Date Collected: 11/03/16 21:25

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.568	0.104	ug/L		11/08/16 08:34	11/14/16 18:08	1
Aroclor 1221	0.104	U	0.568	0.104	ug/L		11/08/16 08:34	11/14/16 18:08	1
Aroclor 1232	0.416	U	0.757	0.416	ug/L		11/08/16 08:34	11/14/16 18:08	1
Aroclor 1242	0.104	U	0.568	0.104	ug/L		11/08/16 08:34	11/14/16 18:08	1
Aroclor 1248	0.104	U	0.568	0.104	ug/L		11/08/16 08:34	11/14/16 18:08	1
Aroclor 1254	0.104	U	0.568	0.104	ug/L		11/08/16 08:34	11/14/16 18:08	1
Aroclor 1260	0.104	U	0.568	0.104	ug/L		11/08/16 08:34	11/14/16 18:08	1
Aroclor 1262	0.104	U	0.568	0.104	ug/L		11/08/16 08:34	11/14/16 18:08	1
Aroclor 1268	0.104	U	0.568	0.104	ug/L		11/08/16 08:34	11/14/16 18:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	111		10 - 150				11/08/16 08:34	11/14/16 18:08	1
DCB Decachlorobiphenyl	73		10 - 150				11/08/16 08:34	11/14/16 18:08	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000161	U	0.00239	0.000161	mg/L		11/09/16 14:52	11/16/16 17:00	1
Bolstar	0.000301	U	0.000957	0.000301	mg/L		11/09/16 14:52	11/16/16 17:00	1
Chlorpyrifos	0.000345	U	0.00144	0.000345	mg/L		11/09/16 14:52	11/16/16 17:00	1
Coumaphos	0.000129	U	0.000957	0.000129	mg/L		11/09/16 14:52	11/16/16 17:00	1
Demeton-O	0.000134	U	0.000957	0.000134	mg/L		11/09/16 14:52	11/16/16 17:00	1
Demeton-S	0.0000661	U	0.00191	0.0000661	mg/L		11/09/16 14:52	11/16/16 17:00	1
Diazinon	0.000141	U	0.000479	0.000141	mg/L		11/09/16 14:52	11/16/16 17:00	1
Demeton, Total	0.000200	U	0.00287	0.000200	mg/L		11/09/16 14:52	11/16/16 17:00	1
Dichlorvos	0.000155	U	0.000479	0.000155	mg/L		11/09/16 14:52	11/16/16 17:00	1
Dimethoate	0.000430	U	0.00144	0.000430	mg/L		11/09/16 14:52	11/16/16 17:00	1
Disulfoton	0.000308	U	0.000957	0.000308	mg/L		11/09/16 14:52	11/16/16 17:00	1
EPN	0.000143	U	0.00115	0.000143	mg/L		11/09/16 14:52	11/16/16 17:00	1
Ethoprop	0.000169	U	0.00144	0.000169	mg/L		11/09/16 14:52	11/16/16 17:00	1
Ethyl Parathion	0.000138	U	0.000957	0.000138	mg/L		11/09/16 14:52	11/16/16 17:00	1
Famphur	0.000171	U	0.000957	0.000171	mg/L		11/09/16 14:52	11/16/16 17:00	1
Fensulfothion	0.000521	U	0.00239	0.000521	mg/L		11/09/16 14:52	11/16/16 17:00	1
Fenthion	0.000147	U	0.00239	0.000147	mg/L		11/09/16 14:52	11/16/16 17:00	1
Malathion	0.000127	U	0.00191	0.000127	mg/L		11/09/16 14:52	11/16/16 17:00	1
Merphos	0.000167	U	0.00479	0.000167	mg/L		11/09/16 14:52	11/16/16 17:00	1
Methyl parathion	0.000135	U	0.00383	0.000135	mg/L		11/09/16 14:52	11/16/16 17:00	1
Mevinphos	0.000440	U	0.00594	0.000440	mg/L		11/09/16 14:52	11/16/16 17:00	1
Naled	0.000766	U	0.00191	0.000766	mg/L		11/09/16 14:52	11/16/16 17:00	1
Phorate	0.000147	U	0.00115	0.000147	mg/L		11/09/16 14:52	11/16/16 17:00	1
Ronnel	0.000111	U	0.00957	0.000111	mg/L		11/09/16 14:52	11/16/16 17:00	1
Sulfotepp	0.000161	U	0.00144	0.000161	mg/L		11/09/16 14:52	11/16/16 17:00	1
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00335	0.000119	mg/L		11/09/16 14:52	11/16/16 17:00	1
Thionazin	0.000299	U	0.000957	0.000299	mg/L		11/09/16 14:52	11/16/16 17:00	1
Tokuthion	0.000118	U	0.00153	0.000118	mg/L		11/09/16 14:52	11/16/16 17:00	1
Trichloronate	0.000232	U	0.00144	0.000232	mg/L		11/09/16 14:52	11/16/16 17:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	58		49 - 171				11/09/16 14:52	11/16/16 17:00	1
Triphenylphosphate	89		60 - 154				11/09/16 14:52	11/16/16 17:00	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM230 Trail

Lab Sample ID: 560-64786-18

Date Collected: 11/03/16 21:25

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0957	U	4.78	0.0957	ug/L		11/09/16 07:48	11/11/16 00:28	1
Dicamba	0.0813	U	0.478	0.0813	ug/L		11/09/16 07:48	11/11/16 00:28	1
Mecoprop	18.2	U	115	18.2	ug/L		11/09/16 07:48	11/11/16 00:28	1
MCPA	16.3	U	115	16.3	ug/L		11/09/16 07:48	11/11/16 00:28	1
Dichlorprop	0.144	U	0.478	0.144	ug/L		11/09/16 07:48	11/11/16 00:28	1
2,4-D	0.0354	U	0.478	0.0354	ug/L		11/09/16 07:48	11/11/16 00:28	1
Silvex (2,4,5-TP)	0.0593	U	0.239	0.0593	ug/L		11/09/16 07:48	11/11/16 00:28	1
2,4,5-T	0.0593	U	0.239	0.0593	ug/L		11/09/16 07:48	11/11/16 00:28	1
2,4-DB	0.144	U	0.478	0.144	ug/L		11/09/16 07:48	11/11/16 00:28	1
Dinoseb	0.153	U	0.957	0.153	ug/L		11/09/16 07:48	11/11/16 00:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	80		45 - 130	11/09/16 07:48	11/11/16 00:28	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	82.3		0.200	0.101	mg/L		11/07/16 09:45	11/07/16 19:38	1
Magnesium	13.7		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 19:38	1
Potassium	2.01	B	0.500	0.375	mg/L		11/07/16 09:45	11/07/16 19:38	1
Silicon	5.16		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 19:38	1
Sodium	11.5		1.00	0.310	mg/L		11/07/16 09:45	11/08/16 16:07	1
Strontium	0.451		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 19:38	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 16:08	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 16:08	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 16:08	1
Barium	0.0382		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 16:08	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 16:08	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 16:08	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 16:08	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 16:08	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 16:08	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 16:08	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 16:08	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 16:08	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 16:08	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 16:08	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 16:08	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 16:08	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:45	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.443	J	1.00	0.315	mg/L			11/05/16 02:16	1
Chloride	18.3		1.00	0.192	mg/L			11/05/16 02:16	1
Nitrate as N	1.42		0.500	0.103	mg/L			11/05/16 02:16	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM230 Trail**

**Lab Sample ID: 560-64786-18**

**Date Collected: 11/03/16 21:25**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	24.8		1.00	0.377	mg/L			11/05/16 02:16	1
Fluoride	0.154		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/15/16 12:40	1
Phosphorus	0.0602	J	0.100	0.0410	mg/L		11/08/16 08:04	11/09/16 12:29	1
Total Organic Carbon	1.12		1.00	0.285	mg/L			11/10/16 15:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	214		5.00	5.00	mg/L			11/15/16 14:50	1
Bicarbonate Alkalinity as CaCO3	214		5.00	5.00	mg/L			11/15/16 14:50	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/15/16 14:50	1
Total Dissolved Solids	315		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.813	J	1.00	0.285	mg/L			11/15/16 11:34	1

**Client Sample ID: FDHSM230 Trail**

**Lab Sample ID: 560-64786-19**

**Date Collected: 11/03/16 21:25**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/07/16 18:29	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/07/16 18:29	1
Benzene	0.330	U	1.00	0.330	ug/L			11/07/16 18:29	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/07/16 18:29	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 18:29	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/07/16 18:29	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/07/16 18:29	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/07/16 18:29	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/07/16 18:29	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/07/16 18:29	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/07/16 18:29	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/07/16 18:29	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/07/16 18:29	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/07/16 18:29	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/07/16 18:29	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/07/16 18:29	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/07/16 18:29	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/07/16 18:29	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/07/16 18:29	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/07/16 18:29	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/07/16 18:29	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 18:29	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/07/16 18:29	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/07/16 18:29	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/07/16 18:29	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/07/16 18:29	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/07/16 18:29	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: FDHSM230 Trail

Lab Sample ID: 560-64786-19

Date Collected: 11/03/16 21:25

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/07/16 18:29	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/07/16 18:29	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 18:29	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/07/16 18:29	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/07/16 18:29	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/07/16 18:29	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/07/16 18:29	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/07/16 18:29	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/07/16 18:29	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/07/16 18:29	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/07/16 18:29	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/07/16 18:29	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/07/16 18:29	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/07/16 18:29	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/07/16 18:29	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/07/16 18:29	1
EDB	0.175	U	1.00	0.175	ug/L			11/07/16 18:29	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/07/16 18:29	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 18:29	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/07/16 18:29	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/07/16 18:29	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/07/16 18:29	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/07/16 18:29	1
Hexane	2.00	U	5.00	2.00	ug/L			11/07/16 18:29	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/07/16 18:29	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/07/16 18:29	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/07/16 18:29	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/07/16 18:29	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/07/16 18:29	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/07/16 18:29	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/07/16 18:29	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/07/16 18:29	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/07/16 18:29	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/07/16 18:29	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/07/16 18:29	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/07/16 18:29	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/07/16 18:29	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 18:29	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/07/16 18:29	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/07/16 18:29	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/07/16 18:29	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/07/16 18:29	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/07/16 18:29	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/07/16 18:29	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/07/16 18:29	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/07/16 18:29	1
Styrene	0.200	U	1.00	0.200	ug/L			11/07/16 18:29	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 18:29	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/07/16 18:29	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: FDHSM230 Trail

Lab Sample ID: 560-64786-19

Date Collected: 11/03/16 21:25

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/07/16 18:29	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/07/16 18:29	1
Toluene	0.495	U	1.00	0.495	ug/L			11/07/16 18:29	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 18:29	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/07/16 18:29	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/07/16 18:29	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/07/16 18:29	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/07/16 18:29	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/07/16 18:29	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/07/16 18:29	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/07/16 18:29	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/07/16 18:29	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/07/16 18:29	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/07/16 18:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/07/16 18:29	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 18:29	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 18:29	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/07/16 18:29	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/07/16 18:29	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/07/16 18:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		11/07/16 18:29	1
Dibromofluoromethane (Surr)	106		69 - 130		11/07/16 18:29	1
1,2-Dichloroethane-d4 (Surr)	113		70 - 140		11/07/16 18:29	1
Toluene-d8 (Surr)	99		70 - 130		11/07/16 18:29	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.500	U	10.9	0.500	ug/L		11/10/16 14:30	11/11/16 14:31	1
Acenaphthylene	0.491	U	10.9	0.491	ug/L		11/10/16 14:30	11/11/16 14:31	1
Anthracene	0.761	U	10.9	0.761	ug/L		11/10/16 14:30	11/11/16 14:31	1
Benzo[a]anthracene	0.702	U	10.9	0.702	ug/L		11/10/16 14:30	11/11/16 14:31	1
Benzo[a]pyrene	0.807	U	10.9	0.807	ug/L		11/10/16 14:30	11/11/16 14:31	1
Benzo[b]fluoranthene	0.987	U	10.9	0.987	ug/L		11/10/16 14:30	11/11/16 14:31	1
Benzo[g,h,i]perylene	1.19	U	10.9	1.19	ug/L		11/10/16 14:30	11/11/16 14:31	1
Benzo[k]fluoranthene	1.61	U	10.9	1.61	ug/L		11/10/16 14:30	11/11/16 14:31	1
Benzyl alcohol	0.899	U	10.9	0.899	ug/L		11/10/16 14:30	11/11/16 14:31	1
Bis(2-chloroethoxy)methane	0.474	U	10.9	0.474	ug/L		11/10/16 14:30	11/11/16 14:31	1
Bis(2-chloroethyl)ether	1.69	U	10.9	1.69	ug/L		11/10/16 14:30	11/11/16 14:31	1
Bis(2-ethylhexyl) phthalate	5.43	U	21.7	5.43	ug/L		11/10/16 14:30	11/11/16 14:31	1
4-Bromophenyl phenyl ether	0.882	U	10.9	0.882	ug/L		11/10/16 14:30	11/11/16 14:31	1
Butyl benzyl phthalate	0.887	U	10.9	0.887	ug/L		11/10/16 14:30	11/11/16 14:31	1
4-Chloroaniline	0.597	U	10.9	0.597	ug/L		11/10/16 14:30	11/11/16 14:31	1
4-Chloro-3-methylphenol	0.637	U	10.9	0.637	ug/L		11/10/16 14:30	11/11/16 14:31	1
2-Chloronaphthalene	0.655	U	10.9	0.655	ug/L		11/10/16 14:30	11/11/16 14:31	1
2-Chlorophenol	0.792	U	10.9	0.792	ug/L		11/10/16 14:30	11/11/16 14:31	1
4-Chlorophenyl phenyl ether	0.575	U	10.9	0.575	ug/L		11/10/16 14:30	11/11/16 14:31	1
Chrysene	0.537	U	10.9	0.537	ug/L		11/10/16 14:30	11/11/16 14:31	1
Dibenz(a,h)anthracene	0.950	U	10.9	0.950	ug/L		11/10/16 14:30	11/11/16 14:31	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: FDHSM230 Trail

Lab Sample ID: 560-64786-19

Date Collected: 11/03/16 21:25

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.527	U	10.9	0.527	ug/L		11/10/16 14:30	11/11/16 14:31	1
1,2-Dichlorobenzene	0.842	U	10.9	0.842	ug/L		11/10/16 14:30	11/11/16 14:31	1
1,3-Dichlorobenzene	0.534	U	10.9	0.534	ug/L		11/10/16 14:30	11/11/16 14:31	1
1,4-Dichlorobenzene	0.886	U	10.9	0.886	ug/L		11/10/16 14:30	11/11/16 14:31	1
3,3'-Dichlorobenzidine	0.855	U	10.9	0.855	ug/L		11/10/16 14:30	11/11/16 14:31	1
2,4-Dichlorophenol	0.765	U	10.9	0.765	ug/L		11/10/16 14:30	11/11/16 14:31	1
Diethyl phthalate	0.724	U	10.9	0.724	ug/L		11/10/16 14:30	11/11/16 14:31	1
2,4-Dimethylphenol	0.645	U	10.9	0.645	ug/L		11/10/16 14:30	11/11/16 14:31	1
Dimethyl phthalate	0.640	U	10.9	0.640	ug/L		11/10/16 14:30	11/11/16 14:31	1
Di-n-butyl phthalate	0.771	U	10.9	0.771	ug/L		11/10/16 14:30	11/11/16 14:31	1
4,6-Dinitro-2-methylphenol	1.04	U	10.9	1.04	ug/L		11/10/16 14:30	11/11/16 14:31	1
2,4-Dinitrophenol	2.92	U	21.7	2.92	ug/L		11/10/16 14:30	11/11/16 14:31	1
2,4-Dinitrotoluene	0.553	U	21.7	0.553	ug/L		11/10/16 14:30	11/11/16 14:31	1
2,6-Dinitrotoluene	0.828	U	10.9	0.828	ug/L		11/10/16 14:30	11/11/16 14:31	1
Di-n-octyl phthalate	1.20	U	10.9	1.20	ug/L		11/10/16 14:30	11/11/16 14:31	1
Fluoranthene	0.539	U	10.9	0.539	ug/L		11/10/16 14:30	11/11/16 14:31	1
Fluorene	0.458	U	10.9	0.458	ug/L		11/10/16 14:30	11/11/16 14:31	1
Hexachlorobenzene	0.654	U	10.9	0.654	ug/L		11/10/16 14:30	11/11/16 14:31	1
Hexachlorobutadiene	0.778	U	10.9	0.778	ug/L		11/10/16 14:30	11/11/16 14:31	1
Hexachlorocyclopentadiene	0.912	U	10.9	0.912	ug/L		11/10/16 14:30	11/11/16 14:31	1
Hexachloroethane	0.640	U	10.9	0.640	ug/L		11/10/16 14:30	11/11/16 14:31	1
Indeno[1,2,3-cd]pyrene	1.00	U	10.9	1.00	ug/L		11/10/16 14:30	11/11/16 14:31	1
Isophorone	0.597	U	10.9	0.597	ug/L		11/10/16 14:30	11/11/16 14:31	1
2-Methylnaphthalene	0.763	U	10.9	0.763	ug/L		11/10/16 14:30	11/11/16 14:31	1
2-Methylphenol	0.663	U	10.9	0.663	ug/L		11/10/16 14:30	11/11/16 14:31	1
3 & 4 Methylphenol	0.829	U	21.7	0.829	ug/L		11/10/16 14:30	11/11/16 14:31	1
Naphthalene	0.855	U	10.9	0.855	ug/L		11/10/16 14:30	11/11/16 14:31	1
2-Nitroaniline	0.833	U	10.9	0.833	ug/L		11/10/16 14:30	11/11/16 14:31	1
3-Nitroaniline	0.557	U	10.9	0.557	ug/L		11/10/16 14:30	11/11/16 14:31	1
4-Nitroaniline	0.890	U	10.9	0.890	ug/L		11/10/16 14:30	11/11/16 14:31	1
Nitrobenzene	0.638	U	10.9	0.638	ug/L		11/10/16 14:30	11/11/16 14:31	1
2-Nitrophenol	0.878	U	10.9	0.878	ug/L		11/10/16 14:30	11/11/16 14:31	1
4-Nitrophenol	1.88	U	10.9	1.88	ug/L		11/10/16 14:30	11/11/16 14:31	1
N-Nitrosodi-n-propylamine	0.674	U	10.9	0.674	ug/L		11/10/16 14:30	11/11/16 14:31	1
N-Nitrosodiphenylamine	1.12	U	10.9	1.12	ug/L		11/10/16 14:30	11/11/16 14:31	1
Pentachlorophenol	1.44	U	21.7	1.44	ug/L		11/10/16 14:30	11/11/16 14:31	1
Phenanthrene	0.642	U	10.9	0.642	ug/L		11/10/16 14:30	11/11/16 14:31	1
Phenol	0.835	U	10.9	0.835	ug/L		11/10/16 14:30	11/11/16 14:31	1
Pyrene	0.478	U	10.9	0.478	ug/L		11/10/16 14:30	11/11/16 14:31	1
1,2,4-Trichlorobenzene	0.703	U	10.9	0.703	ug/L		11/10/16 14:30	11/11/16 14:31	1
2,4,5-Trichlorophenol	0.936	U	10.9	0.936	ug/L		11/10/16 14:30	11/11/16 14:31	1
2,4,6-Trichlorophenol	0.715	U	10.9	0.715	ug/L		11/10/16 14:30	11/11/16 14:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		23 - 130				11/10/16 14:30	11/11/16 14:31	1
2-Fluorophenol	73		10 - 130				11/10/16 14:30	11/11/16 14:31	1
Nitrobenzene-d5	75		27 - 130				11/10/16 14:30	11/11/16 14:31	1
Phenol-d5	78		10 - 130				11/10/16 14:30	11/11/16 14:31	1
Terphenyl-d14	65		10 - 141				11/10/16 14:30	11/11/16 14:31	1
2,4,6-Tribromophenol	71		18 - 130				11/10/16 14:30	11/11/16 14:31	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00470	U	0.0565	0.00470	ug/L		11/08/16 08:34	11/14/16 18:13	1
alpha-BHC	0.00489	U	0.0565	0.00489	ug/L		11/08/16 08:34	11/14/16 18:13	1
alpha-Chlordane	0.00593	U	0.0565	0.00593	ug/L		11/08/16 08:34	11/14/16 18:13	1
beta-BHC	0.00470	U	0.0565	0.00470	ug/L		11/08/16 08:34	11/14/16 18:13	1
4,4'-DDD	0.00470	U	0.0565	0.00470	ug/L		11/08/16 08:34	11/14/16 18:13	1
4,4'-DDE	0.00470	U	0.0565	0.00470	ug/L		11/08/16 08:34	11/14/16 18:13	1
4,4'-DDT	0.00762	U	0.0565	0.00762	ug/L		11/08/16 08:34	11/14/16 18:13	1
delta-BHC	0.00470	U	0.0565	0.00470	ug/L		11/08/16 08:34	11/14/16 18:13	1
Dieldrin	0.0122	U	0.0565	0.0122	ug/L		11/08/16 08:34	11/14/16 18:13	1
Endosulfan I	0.00470	U	0.0565	0.00470	ug/L		11/08/16 08:34	11/14/16 18:13	1
Endosulfan II	0.00809	U	0.0565	0.00809	ug/L		11/08/16 08:34	11/14/16 18:13	1
Endosulfan sulfate	0.00828	U	0.0565	0.00828	ug/L		11/08/16 08:34	11/14/16 18:13	1
Endrin	0.00724	U	0.0565	0.00724	ug/L		11/08/16 08:34	11/14/16 18:13	1
Endrin aldehyde	0.00470	U	0.0565	0.00470	ug/L		11/08/16 08:34	11/14/16 18:13	1
Endrin ketone	0.00772	U	0.0565	0.00772	ug/L		11/08/16 08:34	11/14/16 18:13	1
gamma-BHC (Lindane)	0.00423	U	0.0565	0.00423	ug/L		11/08/16 08:34	11/14/16 18:13	1
gamma-Chlordane	0.00630	U	0.0565	0.00630	ug/L		11/08/16 08:34	11/14/16 18:13	1
Heptachlor	0.00612	U	0.0565	0.00612	ug/L		11/08/16 08:34	11/14/16 18:13	1
Heptachlor epoxide	0.00489	U	0.0565	0.00489	ug/L		11/08/16 08:34	11/14/16 18:13	1
Methoxychlor	0.00941	U	0.0565	0.00941	ug/L		11/08/16 08:34	11/14/16 18:13	1
Toxaphene	0.640	U	5.65	0.640	ug/L		11/08/16 08:34	11/14/16 18:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	93		10 - 152	11/08/16 08:34	11/14/16 18:13	1
Tetrachloro-m-xylene	97		57 - 127	11/08/16 08:34	11/14/16 18:13	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:26	1
Aroclor 1221	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:26	1
Aroclor 1232	0.414	U	0.753	0.414	ug/L		11/08/16 08:34	11/14/16 18:26	1
Aroclor 1242	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:26	1
Aroclor 1248	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:26	1
Aroclor 1254	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:26	1
Aroclor 1260	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:26	1
Aroclor 1262	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:26	1
Aroclor 1268	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	110		10 - 150	11/08/16 08:34	11/14/16 18:26	1
DCB Decachlorobiphenyl	75		10 - 150	11/08/16 08:34	11/14/16 18:26	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00237	0.000159	mg/L		11/09/16 14:52	11/16/16 17:32	1
Bolstar	0.000298	U	0.000949	0.000298	mg/L		11/09/16 14:52	11/16/16 17:32	1
Chlorpyrifos	0.000341	U	0.00142	0.000341	mg/L		11/09/16 14:52	11/16/16 17:32	1
Coumaphos	0.000128	U	0.000949	0.000128	mg/L		11/09/16 14:52	11/16/16 17:32	1
Demeton-O	0.000133	U	0.000949	0.000133	mg/L		11/09/16 14:52	11/16/16 17:32	1
Demeton-S	0.0000655	U	0.00190	0.0000655	mg/L		11/09/16 14:52	11/16/16 17:32	1
Diazinon	0.000139	U	0.000474	0.000139	mg/L		11/09/16 14:52	11/16/16 17:32	1
Demeton, Total	0.000198	U	0.00285	0.000198	mg/L		11/09/16 14:52	11/16/16 17:32	1
Dichlorvos	0.000154	U	0.000474	0.000154	mg/L		11/09/16 14:52	11/16/16 17:32	1
Dimethoate	0.000426	U	0.00142	0.000426	mg/L		11/09/16 14:52	11/16/16 17:32	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: FDHSM230 Trail

Lab Sample ID: 560-64786-19

Date Collected: 11/03/16 21:25

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	0.000305	U	0.000949	0.000305	mg/L		11/09/16 14:52	11/16/16 17:32	1
EPN	0.000141	U	0.00114	0.000141	mg/L		11/09/16 14:52	11/16/16 17:32	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		11/09/16 14:52	11/16/16 17:32	1
Ethyl Parathion	0.000137	U	0.000949	0.000137	mg/L		11/09/16 14:52	11/16/16 17:32	1
Famphur	0.000170	U	0.000949	0.000170	mg/L		11/09/16 14:52	11/16/16 17:32	1
Fensulfothion	0.000516	U	0.00237	0.000516	mg/L		11/09/16 14:52	11/16/16 17:32	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		11/09/16 14:52	11/16/16 17:32	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		11/09/16 14:52	11/16/16 17:32	1
Merphos	0.000165	U	0.00474	0.000165	mg/L		11/09/16 14:52	11/16/16 17:32	1
Methyl parathion	0.000134	U	0.00379	0.000134	mg/L		11/09/16 14:52	11/16/16 17:32	1
Mevinphos	0.000436	U	0.00588	0.000436	mg/L		11/09/16 14:52	11/16/16 17:32	1
Naled	0.000759	U	0.00190	0.000759	mg/L		11/09/16 14:52	11/16/16 17:32	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		11/09/16 14:52	11/16/16 17:32	1
Ronnel	0.000110	U	0.00949	0.000110	mg/L		11/09/16 14:52	11/16/16 17:32	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		11/09/16 14:52	11/16/16 17:32	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00332	0.000118	mg/L		11/09/16 14:52	11/16/16 17:32	1
Thionazin	0.000296	U	0.000949	0.000296	mg/L		11/09/16 14:52	11/16/16 17:32	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		11/09/16 14:52	11/16/16 17:32	1
Trichloronate	0.000230	U	0.00142	0.000230	mg/L		11/09/16 14:52	11/16/16 17:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	66		49 - 171	11/09/16 14:52	11/16/16 17:32	1
Triphenylphosphate	83		60 - 154	11/09/16 14:52	11/16/16 17:32	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0958	U	4.79	0.0958	ug/L		11/09/16 07:48	11/11/16 00:48	1
Dicamba	0.0814	U	0.479	0.0814	ug/L		11/09/16 07:48	11/11/16 00:48	1
Mecoprop	18.2	U	115	18.2	ug/L		11/09/16 07:48	11/11/16 00:48	1
MCPA	16.3	U	115	16.3	ug/L		11/09/16 07:48	11/11/16 00:48	1
Dichlorprop	0.144	U	0.479	0.144	ug/L		11/09/16 07:48	11/11/16 00:48	1
2,4-D	0.0354	U	0.479	0.0354	ug/L		11/09/16 07:48	11/11/16 00:48	1
Silvex (2,4,5-TP)	0.0594	U	0.240	0.0594	ug/L		11/09/16 07:48	11/11/16 00:48	1
2,4,5-T	0.0594	U	0.240	0.0594	ug/L		11/09/16 07:48	11/11/16 00:48	1
2,4-DB	0.144	U	0.479	0.144	ug/L		11/09/16 07:48	11/11/16 00:48	1
Dinoseb	0.153	U	0.958	0.153	ug/L		11/09/16 07:48	11/11/16 00:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	83		45 - 130	11/09/16 07:48	11/11/16 00:48	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	77.6		0.200	0.101	mg/L		11/07/16 09:45	11/07/16 19:42	1
Magnesium	13.0		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 19:42	1
Potassium	1.85	B	0.500	0.375	mg/L		11/07/16 09:45	11/07/16 19:42	1
Silicon	4.88		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 19:42	1
Sodium	11.3		1.00	0.310	mg/L		11/07/16 09:45	11/08/16 16:11	1
Strontium	0.424		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 19:42	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: FDHSM230 Trail

Lab Sample ID: 560-64786-19

Date Collected: 11/03/16 21:25

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 16:13	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 16:13	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 16:13	1
Barium	0.0367		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 16:13	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 16:13	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 16:13	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 16:13	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 16:13	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 16:13	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 16:13	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 16:13	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 16:13	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 16:13	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 16:13	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 16:13	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 16:13	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:47	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.443	J	1.00	0.315	mg/L			11/05/16 02:42	1
Chloride	18.2		1.00	0.192	mg/L			11/05/16 02:42	1
Nitrate as N	1.42		0.500	0.103	mg/L			11/05/16 02:42	1
Sulfate	24.8		1.00	0.377	mg/L			11/05/16 02:42	1
Fluoride	0.141		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/15/16 12:57	1
Phosphorus	0.0499	J	0.100	0.0410	mg/L		11/09/16 08:57	11/11/16 11:14	1
Total Organic Carbon	0.861	J	1.00	0.285	mg/L			11/10/16 15:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	216		5.00	5.00	mg/L			11/15/16 14:50	1
Bicarbonate Alkalinity as CaCO3	216		5.00	5.00	mg/L			11/15/16 14:50	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/15/16 14:50	1
Total Dissolved Solids	323		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	9.40		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.729	J	1.00	0.285	mg/L			11/15/16 11:34	1

Client Sample ID: HSM231 Trail

Lab Sample ID: 560-64786-20

Date Collected: 11/03/16 20:52

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7.41	J	10.0	5.00	ug/L			11/07/16 18:54	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM231 Trail

Lab Sample ID: 560-64786-20

Date Collected: 11/03/16 20:52

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/07/16 18:54	1
Benzene	0.330	U	1.00	0.330	ug/L			11/07/16 18:54	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/07/16 18:54	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 18:54	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/07/16 18:54	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/07/16 18:54	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/07/16 18:54	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/07/16 18:54	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/07/16 18:54	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/07/16 18:54	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/07/16 18:54	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/07/16 18:54	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/07/16 18:54	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/07/16 18:54	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/07/16 18:54	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/07/16 18:54	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/07/16 18:54	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/07/16 18:54	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/07/16 18:54	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/07/16 18:54	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 18:54	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/07/16 18:54	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/07/16 18:54	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/07/16 18:54	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/07/16 18:54	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/07/16 18:54	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/07/16 18:54	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/07/16 18:54	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 18:54	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/07/16 18:54	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/07/16 18:54	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/07/16 18:54	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/07/16 18:54	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/07/16 18:54	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/07/16 18:54	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/07/16 18:54	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/07/16 18:54	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/07/16 18:54	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/07/16 18:54	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/07/16 18:54	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/07/16 18:54	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/07/16 18:54	1
EDB	0.175	U	1.00	0.175	ug/L			11/07/16 18:54	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/07/16 18:54	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 18:54	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/07/16 18:54	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/07/16 18:54	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/07/16 18:54	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/07/16 18:54	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM231 Trail

Lab Sample ID: 560-64786-20

Date Collected: 11/03/16 20:52

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			11/07/16 18:54	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/07/16 18:54	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/07/16 18:54	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/07/16 18:54	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/07/16 18:54	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/07/16 18:54	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/07/16 18:54	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/07/16 18:54	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/07/16 18:54	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/07/16 18:54	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/07/16 18:54	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/07/16 18:54	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/07/16 18:54	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/07/16 18:54	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 18:54	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/07/16 18:54	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/07/16 18:54	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/07/16 18:54	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/07/16 18:54	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/07/16 18:54	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/07/16 18:54	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/07/16 18:54	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/07/16 18:54	1
Styrene	0.200	U	1.00	0.200	ug/L			11/07/16 18:54	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 18:54	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/07/16 18:54	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/07/16 18:54	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/07/16 18:54	1
Toluene	0.495	U	1.00	0.495	ug/L			11/07/16 18:54	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 18:54	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/07/16 18:54	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/07/16 18:54	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/07/16 18:54	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/07/16 18:54	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/07/16 18:54	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/07/16 18:54	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/07/16 18:54	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/07/16 18:54	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/07/16 18:54	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/07/16 18:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/07/16 18:54	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 18:54	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 18:54	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/07/16 18:54	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/07/16 18:54	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/07/16 18:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130		11/07/16 18:54	1
Dibromofluoromethane (Surr)	108		69 - 130		11/07/16 18:54	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM231 Trail**

**Lab Sample ID: 560-64786-20**

**Date Collected: 11/03/16 20:52**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		70 - 140		11/07/16 18:54	1
Toluene-d8 (Surr)	99		70 - 130		11/07/16 18:54	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.479	U	10.4	0.479	ug/L		11/10/16 14:30	11/11/16 14:58	1
Acenaphthylene	0.471	U	10.4	0.471	ug/L		11/10/16 14:30	11/11/16 14:58	1
Anthracene	0.729	U	10.4	0.729	ug/L		11/10/16 14:30	11/11/16 14:58	1
Benzo[a]anthracene	0.673	U	10.4	0.673	ug/L		11/10/16 14:30	11/11/16 14:58	1
Benzo[a]pyrene	0.773	U	10.4	0.773	ug/L		11/10/16 14:30	11/11/16 14:58	1
Benzo[b]fluoranthene	0.946	U	10.4	0.946	ug/L		11/10/16 14:30	11/11/16 14:58	1
Benzo[g,h,i]perylene	1.14	U	10.4	1.14	ug/L		11/10/16 14:30	11/11/16 14:58	1
Benzo[k]fluoranthene	1.55	U	10.4	1.55	ug/L		11/10/16 14:30	11/11/16 14:58	1
Benzyl alcohol	0.861	U	10.4	0.861	ug/L		11/10/16 14:30	11/11/16 14:58	1
Bis(2-chloroethoxy)methane	0.454	U	10.4	0.454	ug/L		11/10/16 14:30	11/11/16 14:58	1
Bis(2-chloroethyl)ether	1.62	U	10.4	1.62	ug/L		11/10/16 14:30	11/11/16 14:58	1
Bis(2-ethylhexyl) phthalate	5.21	U	20.8	5.21	ug/L		11/10/16 14:30	11/11/16 14:58	1
4-Bromophenyl phenyl ether	0.845	U	10.4	0.845	ug/L		11/10/16 14:30	11/11/16 14:58	1
Butyl benzyl phthalate	0.850	U	10.4	0.850	ug/L		11/10/16 14:30	11/11/16 14:58	1
4-Chloroaniline	0.572	U	10.4	0.572	ug/L		11/10/16 14:30	11/11/16 14:58	1
4-Chloro-3-methylphenol	0.610	U	10.4	0.610	ug/L		11/10/16 14:30	11/11/16 14:58	1
2-Chloronaphthalene	0.628	U	10.4	0.628	ug/L		11/10/16 14:30	11/11/16 14:58	1
2-Chlorophenol	0.759	U	10.4	0.759	ug/L		11/10/16 14:30	11/11/16 14:58	1
4-Chlorophenyl phenyl ether	0.551	U	10.4	0.551	ug/L		11/10/16 14:30	11/11/16 14:58	1
Chrysene	0.515	U	10.4	0.515	ug/L		11/10/16 14:30	11/11/16 14:58	1
Dibenz(a,h)anthracene	0.910	U	10.4	0.910	ug/L		11/10/16 14:30	11/11/16 14:58	1
Dibenzofuran	0.505	U	10.4	0.505	ug/L		11/10/16 14:30	11/11/16 14:58	1
1,2-Dichlorobenzene	0.807	U	10.4	0.807	ug/L		11/10/16 14:30	11/11/16 14:58	1
1,3-Dichlorobenzene	0.511	U	10.4	0.511	ug/L		11/10/16 14:30	11/11/16 14:58	1
1,4-Dichlorobenzene	0.849	U	10.4	0.849	ug/L		11/10/16 14:30	11/11/16 14:58	1
3,3'-Dichlorobenzidine	0.820	U	10.4	0.820	ug/L		11/10/16 14:30	11/11/16 14:58	1
2,4-Dichlorophenol	0.733	U	10.4	0.733	ug/L		11/10/16 14:30	11/11/16 14:58	1
Diethyl phthalate	0.694	U	10.4	0.694	ug/L		11/10/16 14:30	11/11/16 14:58	1
2,4-Dimethylphenol	0.618	U	10.4	0.618	ug/L		11/10/16 14:30	11/11/16 14:58	1
Dimethyl phthalate	0.614	U	10.4	0.614	ug/L		11/10/16 14:30	11/11/16 14:58	1
Di-n-butyl phthalate	0.739	U	10.4	0.739	ug/L		11/10/16 14:30	11/11/16 14:58	1
4,6-Dinitro-2-methylphenol	0.999	U	10.4	0.999	ug/L		11/10/16 14:30	11/11/16 14:58	1
2,4-Dinitrophenol	2.80	U	20.8	2.80	ug/L		11/10/16 14:30	11/11/16 14:58	1
2,4-Dinitrotoluene	0.530	U	20.8	0.530	ug/L		11/10/16 14:30	11/11/16 14:58	1
2,6-Dinitrotoluene	0.794	U	10.4	0.794	ug/L		11/10/16 14:30	11/11/16 14:58	1
Di-n-octyl phthalate	1.15	U	10.4	1.15	ug/L		11/10/16 14:30	11/11/16 14:58	1
Fluoranthene	0.517	U	10.4	0.517	ug/L		11/10/16 14:30	11/11/16 14:58	1
Fluorene	0.439	U	10.4	0.439	ug/L		11/10/16 14:30	11/11/16 14:58	1
Hexachlorobenzene	0.627	U	10.4	0.627	ug/L		11/10/16 14:30	11/11/16 14:58	1
Hexachlorobutadiene	0.746	U	10.4	0.746	ug/L		11/10/16 14:30	11/11/16 14:58	1
Hexachlorocyclopentadiene	0.874	U	10.4	0.874	ug/L		11/10/16 14:30	11/11/16 14:58	1
Hexachloroethane	0.614	U	10.4	0.614	ug/L		11/10/16 14:30	11/11/16 14:58	1
Indeno[1,2,3-cd]pyrene	0.960	U	10.4	0.960	ug/L		11/10/16 14:30	11/11/16 14:58	1
Isophorone	0.572	U	10.4	0.572	ug/L		11/10/16 14:30	11/11/16 14:58	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM231 Trail

Lab Sample ID: 560-64786-20

Date Collected: 11/03/16 20:52

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.731	U	10.4	0.731	ug/L		11/10/16 14:30	11/11/16 14:58	1
2-Methylphenol	0.635	U	10.4	0.635	ug/L		11/10/16 14:30	11/11/16 14:58	1
3 & 4 Methylphenol	0.795	U	20.8	0.795	ug/L		11/10/16 14:30	11/11/16 14:58	1
Naphthalene	0.820	U	10.4	0.820	ug/L		11/10/16 14:30	11/11/16 14:58	1
2-Nitroaniline	0.798	U	10.4	0.798	ug/L		11/10/16 14:30	11/11/16 14:58	1
3-Nitroaniline	0.533	U	10.4	0.533	ug/L		11/10/16 14:30	11/11/16 14:58	1
4-Nitroaniline	0.853	U	10.4	0.853	ug/L		11/10/16 14:30	11/11/16 14:58	1
Nitrobenzene	0.611	U	10.4	0.611	ug/L		11/10/16 14:30	11/11/16 14:58	1
2-Nitrophenol	0.842	U	10.4	0.842	ug/L		11/10/16 14:30	11/11/16 14:58	1
4-Nitrophenol	1.81	U	10.4	1.81	ug/L		11/10/16 14:30	11/11/16 14:58	1
N-Nitrosodi-n-propylamine	0.646	U	10.4	0.646	ug/L		11/10/16 14:30	11/11/16 14:58	1
N-Nitrosodiphenylamine	1.07	U	10.4	1.07	ug/L		11/10/16 14:30	11/11/16 14:58	1
Pentachlorophenol	1.38	U	20.8	1.38	ug/L		11/10/16 14:30	11/11/16 14:58	1
Phenanthrene	0.616	U	10.4	0.616	ug/L		11/10/16 14:30	11/11/16 14:58	1
Phenol	0.800	U	10.4	0.800	ug/L		11/10/16 14:30	11/11/16 14:58	1
Pyrene	0.458	U	10.4	0.458	ug/L		11/10/16 14:30	11/11/16 14:58	1
1,2,4-Trichlorobenzene	0.674	U	10.4	0.674	ug/L		11/10/16 14:30	11/11/16 14:58	1
2,4,5-Trichlorophenol	0.897	U	10.4	0.897	ug/L		11/10/16 14:30	11/11/16 14:58	1
2,4,6-Trichlorophenol	0.685	U	10.4	0.685	ug/L		11/10/16 14:30	11/11/16 14:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	70		23 - 130	11/10/16 14:30	11/11/16 14:58	1
2-Fluorophenol	69		10 - 130	11/10/16 14:30	11/11/16 14:58	1
Nitrobenzene-d5	72		27 - 130	11/10/16 14:30	11/11/16 14:58	1
Phenol-d5	73		10 - 130	11/10/16 14:30	11/11/16 14:58	1
Terphenyl-d14	73		10 - 141	11/10/16 14:30	11/11/16 14:58	1
2,4,6-Tribromophenol	67		18 - 130	11/10/16 14:30	11/11/16 14:58	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00470	U	0.0565	0.00470	ug/L		11/08/16 08:34	11/14/16 18:34	1
alpha-BHC	0.00489	U	0.0565	0.00489	ug/L		11/08/16 08:34	11/14/16 18:34	1
alpha-Chlordane	0.00593	U	0.0565	0.00593	ug/L		11/08/16 08:34	11/14/16 18:34	1
beta-BHC	0.00470	U	0.0565	0.00470	ug/L		11/08/16 08:34	11/14/16 18:34	1
4,4'-DDD	0.00470	U	0.0565	0.00470	ug/L		11/08/16 08:34	11/14/16 18:34	1
4,4'-DDE	0.00470	U	0.0565	0.00470	ug/L		11/08/16 08:34	11/14/16 18:34	1
4,4'-DDT	0.00762	U	0.0565	0.00762	ug/L		11/08/16 08:34	11/14/16 18:34	1
delta-BHC	0.00470	U	0.0565	0.00470	ug/L		11/08/16 08:34	11/14/16 18:34	1
Dieldrin	0.0122	U	0.0565	0.0122	ug/L		11/08/16 08:34	11/14/16 18:34	1
Endosulfan I	0.00470	U	0.0565	0.00470	ug/L		11/08/16 08:34	11/14/16 18:34	1
Endosulfan II	0.00809	U	0.0565	0.00809	ug/L		11/08/16 08:34	11/14/16 18:34	1
Endosulfan sulfate	0.00828	U	0.0565	0.00828	ug/L		11/08/16 08:34	11/14/16 18:34	1
Endrin	0.00724	U	0.0565	0.00724	ug/L		11/08/16 08:34	11/14/16 18:34	1
Endrin aldehyde	0.00470	U	0.0565	0.00470	ug/L		11/08/16 08:34	11/14/16 18:34	1
Endrin ketone	0.00772	U	0.0565	0.00772	ug/L		11/08/16 08:34	11/14/16 18:34	1
gamma-BHC (Lindane)	0.00423	U	0.0565	0.00423	ug/L		11/08/16 08:34	11/14/16 18:34	1
gamma-Chlordane	0.00630	U	0.0565	0.00630	ug/L		11/08/16 08:34	11/14/16 18:34	1
Heptachlor	0.00612	U	0.0565	0.00612	ug/L		11/08/16 08:34	11/14/16 18:34	1
Heptachlor epoxide	0.00489	U	0.0565	0.00489	ug/L		11/08/16 08:34	11/14/16 18:34	1
Methoxychlor	0.00941	U	0.0565	0.00941	ug/L		11/08/16 08:34	11/14/16 18:34	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM231 Trail

Lab Sample ID: 560-64786-20

Date Collected: 11/03/16 20:52

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.640	U	5.65	0.640	ug/L		11/08/16 08:34	11/14/16 18:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	98		10 - 152				11/08/16 08:34	11/14/16 18:34	1
Tetrachloro-m-xylene	98		57 - 127				11/08/16 08:34	11/14/16 18:34	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:43	1
Aroclor 1221	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:43	1
Aroclor 1232	0.414	U	0.753	0.414	ug/L		11/08/16 08:34	11/14/16 18:43	1
Aroclor 1242	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:43	1
Aroclor 1248	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:43	1
Aroclor 1254	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:43	1
Aroclor 1260	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:43	1
Aroclor 1262	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:43	1
Aroclor 1268	0.103	U	0.565	0.103	ug/L		11/08/16 08:34	11/14/16 18:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	111		10 - 150				11/08/16 08:34	11/14/16 18:43	1
DCB Decachlorobiphenyl	74		10 - 150				11/08/16 08:34	11/14/16 18:43	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00237	0.000159	mg/L		11/09/16 14:07	11/16/16 18:03	1
Bolstar	0.000297	U	0.000947	0.000297	mg/L		11/09/16 14:07	11/16/16 18:03	1
Chlorpyrifos	0.000341	U	0.00142	0.000341	mg/L		11/09/16 14:07	11/16/16 18:03	1
Coumaphos	0.000128	U	0.000947	0.000128	mg/L		11/09/16 14:07	11/16/16 18:03	1
Demeton-O	0.000133	U	0.000947	0.000133	mg/L		11/09/16 14:07	11/16/16 18:03	1
Demeton-S	0.0000653	U	0.00189	0.0000653	mg/L		11/09/16 14:07	11/16/16 18:03	1
Diazinon	0.000139	U	0.000473	0.000139	mg/L		11/09/16 14:07	11/16/16 18:03	1
Demeton, Total	0.000198	U	0.00284	0.000198	mg/L		11/09/16 14:07	11/16/16 18:03	1
Dichlorvos	0.000153	U	0.000473	0.000153	mg/L		11/09/16 14:07	11/16/16 18:03	1
Dimethoate	0.000425	U	0.00142	0.000425	mg/L		11/09/16 14:07	11/16/16 18:03	1
Disulfoton	0.000305	U	0.000947	0.000305	mg/L		11/09/16 14:07	11/16/16 18:03	1
EPN	0.000141	U	0.00114	0.000141	mg/L		11/09/16 14:07	11/16/16 18:03	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		11/09/16 14:07	11/16/16 18:03	1
Ethyl Parathion	0.000136	U	0.000947	0.000136	mg/L		11/09/16 14:07	11/16/16 18:03	1
Famphur	0.000169	U	0.000947	0.000169	mg/L		11/09/16 14:07	11/16/16 18:03	1
Fensulfothion	0.000515	U	0.00237	0.000515	mg/L		11/09/16 14:07	11/16/16 18:03	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		11/09/16 14:07	11/16/16 18:03	1
Malathion	0.000126	U	0.00189	0.000126	mg/L		11/09/16 14:07	11/16/16 18:03	1
Merphos	0.000165	U	0.00473	0.000165	mg/L		11/09/16 14:07	11/16/16 18:03	1
Methyl parathion	0.000133	U	0.00379	0.000133	mg/L		11/09/16 14:07	11/16/16 18:03	1
Mevinphos	0.000436	U	0.00587	0.000436	mg/L		11/09/16 14:07	11/16/16 18:03	1
Naled	0.000757	U	0.00189	0.000757	mg/L		11/09/16 14:07	11/16/16 18:03	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		11/09/16 14:07	11/16/16 18:03	1
Ronnel	0.000110	U	0.00947	0.000110	mg/L		11/09/16 14:07	11/16/16 18:03	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		11/09/16 14:07	11/16/16 18:03	1
Tetrachlorvinphos (Stirophos)	0.000117	U	0.00331	0.000117	mg/L		11/09/16 14:07	11/16/16 18:03	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM231 Trail**

**Lab Sample ID: 560-64786-20**

**Date Collected: 11/03/16 20:52**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thionazin	0.000295	U	0.000947	0.000295	mg/L		11/09/16 14:07	11/16/16 18:03	1
Tokuthion	0.000116	U	0.00151	0.000116	mg/L		11/09/16 14:07	11/16/16 18:03	1
Trichloronate	0.000229	U	0.00142	0.000229	mg/L		11/09/16 14:07	11/16/16 18:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	67		49 - 171				11/09/16 14:07	11/16/16 18:03	1
Triphenylphosphate	85		60 - 154				11/09/16 14:07	11/16/16 18:03	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0948	U	4.74	0.0948	ug/L		11/09/16 07:48	11/12/16 01:08	1
Dicamba	0.0806	U	0.474	0.0806	ug/L		11/09/16 07:48	11/12/16 01:08	1
Mecoprop	18.0	U	114	18.0	ug/L		11/09/16 07:48	11/12/16 01:08	1
MCPA	16.1	U	114	16.1	ug/L		11/09/16 07:48	11/12/16 01:08	1
Dichlorprop	0.142	U	0.474	0.142	ug/L		11/09/16 07:48	11/12/16 01:08	1
2,4-D	0.0351	U	0.474	0.0351	ug/L		11/09/16 07:48	11/12/16 01:08	1
Silvex (2,4,5-TP)	0.0588	U	0.237	0.0588	ug/L		11/09/16 07:48	11/12/16 01:08	1
2,4,5-T	0.0588	U	0.237	0.0588	ug/L		11/09/16 07:48	11/12/16 01:08	1
2,4-DB	0.142	U	0.474	0.142	ug/L		11/09/16 07:48	11/12/16 01:08	1
Dinoseb	0.152	U	0.948	0.152	ug/L		11/09/16 07:48	11/12/16 01:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	82		45 - 130				11/09/16 07:48	11/12/16 01:08	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	86.0		0.200	0.101	mg/L		11/07/16 09:45	11/07/16 19:46	1
Magnesium	15.9		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 19:46	1
Potassium	1.52	B	0.500	0.375	mg/L		11/07/16 09:45	11/07/16 19:46	1
Silicon	5.31		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 19:46	1
Sodium	11.1		1.00	0.310	mg/L		11/07/16 09:45	11/08/16 16:15	1
Strontium	0.494		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 19:46	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 16:18	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 16:18	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 16:18	1
Barium	0.0372		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 16:18	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 16:18	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 16:18	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 16:18	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 16:18	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 16:18	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 16:18	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 16:18	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 16:18	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 16:18	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 16:18	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 16:18	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 16:18	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:53	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.451	J	1.00	0.315	mg/L			11/05/16 03:08	1
Chloride	18.6		1.00	0.192	mg/L			11/05/16 03:08	1
Nitrate as N	1.15		0.500	0.103	mg/L			11/05/16 03:08	1
Sulfate	23.7		1.00	0.377	mg/L			11/05/16 03:08	1
Fluoride	0.144		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/15/16 12:42	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		11/10/16 08:55	11/11/16 13:22	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			11/10/16 15:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	246		5.00	5.00	mg/L			11/15/16 14:50	1
Bicarbonate Alkalinity as CaCO3	246		5.00	5.00	mg/L			11/15/16 14:50	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/15/16 14:50	1
Total Dissolved Solids	348		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			11/15/16 11:34	1

Client Sample ID: FDHSM231 Trail

Lab Sample ID: 560-64786-21

Date Collected: 11/03/16 20:52

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/07/16 19:18	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/07/16 19:18	1
Benzene	0.330	U	1.00	0.330	ug/L			11/07/16 19:18	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/07/16 19:18	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 19:18	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/07/16 19:18	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/07/16 19:18	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/07/16 19:18	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/07/16 19:18	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/07/16 19:18	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/07/16 19:18	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/07/16 19:18	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/07/16 19:18	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/07/16 19:18	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/07/16 19:18	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/07/16 19:18	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/07/16 19:18	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/07/16 19:18	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/07/16 19:18	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/07/16 19:18	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/07/16 19:18	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 19:18	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/07/16 19:18	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/07/16 19:18	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: FDHSM231 Trail

Lab Sample ID: 560-64786-21

Date Collected: 11/03/16 20:52

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/07/16 19:18	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/07/16 19:18	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/07/16 19:18	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/07/16 19:18	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/07/16 19:18	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 19:18	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/07/16 19:18	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/07/16 19:18	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/07/16 19:18	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/07/16 19:18	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/07/16 19:18	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/07/16 19:18	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/07/16 19:18	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/07/16 19:18	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/07/16 19:18	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/07/16 19:18	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/07/16 19:18	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/07/16 19:18	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/07/16 19:18	1
EDB	0.175	U	1.00	0.175	ug/L			11/07/16 19:18	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/07/16 19:18	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 19:18	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/07/16 19:18	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/07/16 19:18	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/07/16 19:18	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/07/16 19:18	1
Hexane	2.00	U	5.00	2.00	ug/L			11/07/16 19:18	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/07/16 19:18	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/07/16 19:18	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/07/16 19:18	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/07/16 19:18	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/07/16 19:18	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/07/16 19:18	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/07/16 19:18	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/07/16 19:18	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/07/16 19:18	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/07/16 19:18	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/07/16 19:18	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/07/16 19:18	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/07/16 19:18	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 19:18	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/07/16 19:18	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/07/16 19:18	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/07/16 19:18	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/07/16 19:18	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/07/16 19:18	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/07/16 19:18	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/07/16 19:18	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/07/16 19:18	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: FDHSM231 Trail

Lab Sample ID: 560-64786-21

Date Collected: 11/03/16 20:52

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.200	U	1.00	0.200	ug/L			11/07/16 19:18	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 19:18	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/07/16 19:18	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/07/16 19:18	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/07/16 19:18	1
Toluene	0.495	U	1.00	0.495	ug/L			11/07/16 19:18	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 19:18	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/07/16 19:18	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/07/16 19:18	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/07/16 19:18	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/07/16 19:18	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/07/16 19:18	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/07/16 19:18	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/07/16 19:18	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/07/16 19:18	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/07/16 19:18	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/07/16 19:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/07/16 19:18	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 19:18	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 19:18	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/07/16 19:18	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/07/16 19:18	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/07/16 19:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130		11/07/16 19:18	1
Dibromofluoromethane (Surr)	106		69 - 130		11/07/16 19:18	1
1,2-Dichloroethane-d4 (Surr)	115		70 - 140		11/07/16 19:18	1
Toluene-d8 (Surr)	99		70 - 130		11/07/16 19:18	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/10/16 14:30	11/11/16 15:24	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/10/16 14:30	11/11/16 15:24	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/10/16 14:30	11/11/16 15:24	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/10/16 14:30	11/11/16 15:24	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/10/16 14:30	11/11/16 15:24	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/10/16 14:30	11/11/16 15:24	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/10/16 14:30	11/11/16 15:24	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/10/16 14:30	11/11/16 15:24	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/10/16 14:30	11/11/16 15:24	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/10/16 14:30	11/11/16 15:24	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/10/16 14:30	11/11/16 15:24	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		11/10/16 14:30	11/11/16 15:24	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/10/16 14:30	11/11/16 15:24	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/10/16 14:30	11/11/16 15:24	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/10/16 14:30	11/11/16 15:24	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/10/16 14:30	11/11/16 15:24	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/10/16 14:30	11/11/16 15:24	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/10/16 14:30	11/11/16 15:24	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: FDHSM231 Trail

Lab Sample ID: 560-64786-21

Date Collected: 11/03/16 20:52

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/10/16 14:30	11/11/16 15:24	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/10/16 14:30	11/11/16 15:24	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/10/16 14:30	11/11/16 15:24	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/10/16 14:30	11/11/16 15:24	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/10/16 14:30	11/11/16 15:24	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/10/16 14:30	11/11/16 15:24	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/10/16 14:30	11/11/16 15:24	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/10/16 14:30	11/11/16 15:24	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/10/16 14:30	11/11/16 15:24	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/10/16 14:30	11/11/16 15:24	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/10/16 14:30	11/11/16 15:24	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/10/16 14:30	11/11/16 15:24	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/10/16 14:30	11/11/16 15:24	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/10/16 14:30	11/11/16 15:24	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/10/16 14:30	11/11/16 15:24	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/10/16 14:30	11/11/16 15:24	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/10/16 14:30	11/11/16 15:24	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/10/16 14:30	11/11/16 15:24	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/10/16 14:30	11/11/16 15:24	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/10/16 14:30	11/11/16 15:24	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/10/16 14:30	11/11/16 15:24	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/10/16 14:30	11/11/16 15:24	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/10/16 14:30	11/11/16 15:24	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/10/16 14:30	11/11/16 15:24	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/10/16 14:30	11/11/16 15:24	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/10/16 14:30	11/11/16 15:24	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/10/16 14:30	11/11/16 15:24	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/10/16 14:30	11/11/16 15:24	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/10/16 14:30	11/11/16 15:24	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/10/16 14:30	11/11/16 15:24	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/10/16 14:30	11/11/16 15:24	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/10/16 14:30	11/11/16 15:24	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/10/16 14:30	11/11/16 15:24	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/10/16 14:30	11/11/16 15:24	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/10/16 14:30	11/11/16 15:24	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/10/16 14:30	11/11/16 15:24	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/10/16 14:30	11/11/16 15:24	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/10/16 14:30	11/11/16 15:24	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/10/16 14:30	11/11/16 15:24	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/10/16 14:30	11/11/16 15:24	1
Phenol	0.768	U	10.0	0.768	ug/L		11/10/16 14:30	11/11/16 15:24	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/10/16 14:30	11/11/16 15:24	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/10/16 14:30	11/11/16 15:24	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/10/16 14:30	11/11/16 15:24	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/10/16 14:30	11/11/16 15:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	55		23 - 130	11/10/16 14:30	11/11/16 15:24	1
2-Fluorophenol	52		10 - 130	11/10/16 14:30	11/11/16 15:24	1
Nitrobenzene-d5	56		27 - 130	11/10/16 14:30	11/11/16 15:24	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: FDHSM231 Trail**

**Lab Sample ID: 560-64786-21**

**Date Collected: 11/03/16 20:52**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5	56		10 - 130	11/10/16 14:30	11/11/16 15:24	1
Terphenyl-d14	76		10 - 141	11/10/16 14:30	11/11/16 15:24	1
2,4,6-Tribromophenol	47		18 - 130	11/10/16 14:30	11/11/16 15:24	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00486	U	0.0583	0.00486	ug/L		11/08/16 08:34	11/14/16 18:56	1
alpha-BHC	0.00506	U	0.0583	0.00506	ug/L		11/08/16 08:34	11/14/16 18:56	1
alpha-Chlordane	0.00613	U	0.0583	0.00613	ug/L		11/08/16 08:34	11/14/16 18:56	1
beta-BHC	0.00486	U	0.0583	0.00486	ug/L		11/08/16 08:34	11/14/16 18:56	1
4,4'-DDD	0.00486	U	0.0583	0.00486	ug/L		11/08/16 08:34	11/14/16 18:56	1
4,4'-DDE	0.00486	U	0.0583	0.00486	ug/L		11/08/16 08:34	11/14/16 18:56	1
4,4'-DDT	0.00788	U	0.0583	0.00788	ug/L		11/08/16 08:34	11/14/16 18:56	1
delta-BHC	0.00486	U	0.0583	0.00486	ug/L		11/08/16 08:34	11/14/16 18:56	1
Dieldrin	0.0126	U	0.0583	0.0126	ug/L		11/08/16 08:34	11/14/16 18:56	1
Endosulfan I	0.00486	U	0.0583	0.00486	ug/L		11/08/16 08:34	11/14/16 18:56	1
Endosulfan II	0.00836	U	0.0583	0.00836	ug/L		11/08/16 08:34	11/14/16 18:56	1
Endosulfan sulfate	0.00856	U	0.0583	0.00856	ug/L		11/08/16 08:34	11/14/16 18:56	1
Endrin	0.00749	U	0.0583	0.00749	ug/L		11/08/16 08:34	11/14/16 18:56	1
Endrin aldehyde	0.00486	U	0.0583	0.00486	ug/L		11/08/16 08:34	11/14/16 18:56	1
Endrin ketone	0.00797	U	0.0583	0.00797	ug/L		11/08/16 08:34	11/14/16 18:56	1
gamma-BHC (Lindane)	0.00438	U	0.0583	0.00438	ug/L		11/08/16 08:34	11/14/16 18:56	1
gamma-Chlordane	0.00651	U	0.0583	0.00651	ug/L		11/08/16 08:34	11/14/16 18:56	1
Heptachlor	0.00632	U	0.0583	0.00632	ug/L		11/08/16 08:34	11/14/16 18:56	1
Heptachlor epoxide	0.00506	U	0.0583	0.00506	ug/L		11/08/16 08:34	11/14/16 18:56	1
Methoxychlor	0.00972	U	0.0583	0.00972	ug/L		11/08/16 08:34	11/14/16 18:56	1
Toxaphene	0.661	U	5.83	0.661	ug/L		11/08/16 08:34	11/14/16 18:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	113		10 - 152	11/08/16 08:34	11/14/16 18:56	1
Tetrachloro-m-xylene	116		57 - 127	11/08/16 08:34	11/14/16 18:56	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.107	U	0.583	0.107	ug/L		11/08/16 08:34	11/14/16 19:01	1
Aroclor 1221	0.107	U	0.583	0.107	ug/L		11/08/16 08:34	11/14/16 19:01	1
Aroclor 1232	0.428	U	0.778	0.428	ug/L		11/08/16 08:34	11/14/16 19:01	1
Aroclor 1242	0.107	U	0.583	0.107	ug/L		11/08/16 08:34	11/14/16 19:01	1
Aroclor 1248	0.107	U	0.583	0.107	ug/L		11/08/16 08:34	11/14/16 19:01	1
Aroclor 1254	0.107	U	0.583	0.107	ug/L		11/08/16 08:34	11/14/16 19:01	1
Aroclor 1260	0.107	U	0.583	0.107	ug/L		11/08/16 08:34	11/14/16 19:01	1
Aroclor 1262	0.107	U	0.583	0.107	ug/L		11/08/16 08:34	11/14/16 19:01	1
Aroclor 1268	0.107	U	0.583	0.107	ug/L		11/08/16 08:34	11/14/16 19:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	119		10 - 150	11/08/16 08:34	11/14/16 19:01	1
DCB Decachlorobiphenyl	79		10 - 150	11/08/16 08:34	11/14/16 19:01	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: FDHSM231 Trail

Lab Sample ID: 560-64786-21

Date Collected: 11/03/16 20:52

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000164	U	0.00245	0.000164	mg/L		11/09/16 14:52	11/16/16 18:35	1
Bolstar	0.000307	U	0.000979	0.000307	mg/L		11/09/16 14:52	11/16/16 18:35	1
Chlorpyrifos	0.000352	U	0.00147	0.000352	mg/L		11/09/16 14:52	11/16/16 18:35	1
Coumaphos	0.000132	U	0.000979	0.000132	mg/L		11/09/16 14:52	11/16/16 18:35	1
Demeton-O	0.000137	U	0.000979	0.000137	mg/L		11/09/16 14:52	11/16/16 18:35	1
Demeton-S	0.0000675	U	0.00196	0.0000675	mg/L		11/09/16 14:52	11/16/16 18:35	1
Diazinon	0.000144	U	0.000489	0.000144	mg/L		11/09/16 14:52	11/16/16 18:35	1
Demeton, Total	0.000205	U	0.00294	0.000205	mg/L		11/09/16 14:52	11/16/16 18:35	1
Dichlorvos	0.000159	U	0.000489	0.000159	mg/L		11/09/16 14:52	11/16/16 18:35	1
Dimethoate	0.000439	U	0.00147	0.000439	mg/L		11/09/16 14:52	11/16/16 18:35	1
Disulfoton	0.000315	U	0.000979	0.000315	mg/L		11/09/16 14:52	11/16/16 18:35	1
EPN	0.000146	U	0.00117	0.000146	mg/L		11/09/16 14:52	11/16/16 18:35	1
Ethoprop	0.000173	U	0.00147	0.000173	mg/L		11/09/16 14:52	11/16/16 18:35	1
Ethyl Parathion	0.000141	U	0.000979	0.000141	mg/L		11/09/16 14:52	11/16/16 18:35	1
Famphur	0.000175	U	0.000979	0.000175	mg/L		11/09/16 14:52	11/16/16 18:35	1
Fensulfothion	0.000532	U	0.00245	0.000532	mg/L		11/09/16 14:52	11/16/16 18:35	1
Fenthion	0.000151	U	0.00245	0.000151	mg/L		11/09/16 14:52	11/16/16 18:35	1
Malathion	0.000130	U	0.00196	0.000130	mg/L		11/09/16 14:52	11/16/16 18:35	1
Merphos	0.000170	U	0.00489	0.000170	mg/L		11/09/16 14:52	11/16/16 18:35	1
Methyl parathion	0.000138	U	0.00391	0.000138	mg/L		11/09/16 14:52	11/16/16 18:35	1
Mevinphos	0.000450	U	0.00607	0.000450	mg/L		11/09/16 14:52	11/16/16 18:35	1
Naled	0.000783	U	0.00196	0.000783	mg/L		11/09/16 14:52	11/16/16 18:35	1
Phorate	0.000151	U	0.00117	0.000151	mg/L		11/09/16 14:52	11/16/16 18:35	1
Ronnel	0.000114	U	0.00979	0.000114	mg/L		11/09/16 14:52	11/16/16 18:35	1
Sulfotepp	0.000164	U	0.00147	0.000164	mg/L		11/09/16 14:52	11/16/16 18:35	1
Tetrachlorvinphos (Stirophos)	0.000121	U	0.00342	0.000121	mg/L		11/09/16 14:52	11/16/16 18:35	1
Thionazin	0.000305	U	0.000979	0.000305	mg/L		11/09/16 14:52	11/16/16 18:35	1
Tokuthion	0.000120	U	0.00157	0.000120	mg/L		11/09/16 14:52	11/16/16 18:35	1
Trichloronate	0.000237	U	0.00147	0.000237	mg/L		11/09/16 14:52	11/16/16 18:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	69		49 - 171				11/09/16 14:52	11/16/16 18:35	1
Triphenylphosphate	81		60 - 154				11/09/16 14:52	11/16/16 18:35	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.109	U	5.44	0.109	ug/L		11/09/16 07:48	11/12/16 01:27	1
Dicamba	0.0925	U	0.544	0.0925	ug/L		11/09/16 07:48	11/12/16 01:27	1
Mecoprop	20.7	U	131	20.7	ug/L		11/09/16 07:48	11/12/16 01:27	1
MCPA	18.5	U	131	18.5	ug/L		11/09/16 07:48	11/12/16 01:27	1
Dichlorprop	0.163	U	0.544	0.163	ug/L		11/09/16 07:48	11/12/16 01:27	1
2,4-D	0.0402	U	0.544	0.0402	ug/L		11/09/16 07:48	11/12/16 01:27	1
Silvex (2,4,5-TP)	0.0674	U	0.272	0.0674	ug/L		11/09/16 07:48	11/12/16 01:27	1
2,4,5-T	0.0674	U	0.272	0.0674	ug/L		11/09/16 07:48	11/12/16 01:27	1
2,4-DB	0.163	U	0.544	0.163	ug/L		11/09/16 07:48	11/12/16 01:27	1
Dinoseb	0.174	U	1.09	0.174	ug/L		11/09/16 07:48	11/12/16 01:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	83		45 - 130				11/09/16 07:48	11/12/16 01:27	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: FDHSM231 Trail**

**Lab Sample ID: 560-64786-21**

**Date Collected: 11/03/16 20:52**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	87.5		0.200	0.101	mg/L		11/07/16 09:45	11/07/16 19:50	1
Magnesium	16.2		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 19:50	1
Potassium	1.55	B	0.500	0.375	mg/L		11/07/16 09:45	11/07/16 19:50	1
Silicon	5.37		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 19:50	1
Sodium	11.3		1.00	0.310	mg/L		11/07/16 09:45	11/08/16 16:19	1
Strontium	0.504		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 19:50	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 16:23	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 16:23	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 16:23	1
Barium	0.0378		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 16:23	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 16:23	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 16:23	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 16:23	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 16:23	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 16:23	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 16:23	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 16:23	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 16:23	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 16:23	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 16:23	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 16:23	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 16:23	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000143	J	0.00200	0.000130	mg/L		11/10/16 10:00	11/10/16 15:38	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.450	J	1.00	0.315	mg/L			11/05/16 03:34	1
Chloride	18.5		1.00	0.192	mg/L			11/05/16 03:34	1
Nitrate as N	1.15		0.500	0.103	mg/L			11/05/16 03:34	1
Sulfate	23.5		1.00	0.377	mg/L			11/05/16 03:34	1
Fluoride	0.140		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/15/16 12:43	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		11/09/16 08:57	11/11/16 11:11	1
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			11/10/16 15:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.3		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	242		5.00	5.00	mg/L			11/16/16 13:17	1
Bicarbonate Alkalinity as CaCO3	242		5.00	5.00	mg/L			11/16/16 13:17	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/16/16 13:17	1
Total Dissolved Solids	356		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	2.00	U	2.00	2.00	mg/L			11/07/16 15:45	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: FDHSM231 Trail**

**Lab Sample ID: 560-64786-21**

**Date Collected: 11/03/16 20:52**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			11/15/16 11:34	1

**Client Sample ID: HSM240 Trail**

**Lab Sample ID: 560-64786-22**

**Date Collected: 11/03/16 21:08**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/07/16 19:44	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/07/16 19:44	1
Benzene	0.330	U	1.00	0.330	ug/L			11/07/16 19:44	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/07/16 19:44	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 19:44	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/07/16 19:44	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/07/16 19:44	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/07/16 19:44	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/07/16 19:44	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/07/16 19:44	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/07/16 19:44	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/07/16 19:44	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/07/16 19:44	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/07/16 19:44	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/07/16 19:44	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/07/16 19:44	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/07/16 19:44	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/07/16 19:44	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/07/16 19:44	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/07/16 19:44	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/07/16 19:44	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 19:44	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/07/16 19:44	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/07/16 19:44	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/07/16 19:44	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/07/16 19:44	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/07/16 19:44	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/07/16 19:44	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/07/16 19:44	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 19:44	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/07/16 19:44	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/07/16 19:44	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/07/16 19:44	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/07/16 19:44	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/07/16 19:44	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/07/16 19:44	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/07/16 19:44	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/07/16 19:44	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/07/16 19:44	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/07/16 19:44	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/07/16 19:44	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/07/16 19:44	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM240 Trail

Lab Sample ID: 560-64786-22

Date Collected: 11/03/16 21:08

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/07/16 19:44	1
EDB	0.175	U	1.00	0.175	ug/L			11/07/16 19:44	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/07/16 19:44	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 19:44	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/07/16 19:44	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/07/16 19:44	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/07/16 19:44	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/07/16 19:44	1
Hexane	2.00	U	5.00	2.00	ug/L			11/07/16 19:44	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/07/16 19:44	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/07/16 19:44	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/07/16 19:44	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/07/16 19:44	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/07/16 19:44	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/07/16 19:44	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/07/16 19:44	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/07/16 19:44	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/07/16 19:44	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/07/16 19:44	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/07/16 19:44	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/07/16 19:44	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/07/16 19:44	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 19:44	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/07/16 19:44	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/07/16 19:44	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/07/16 19:44	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/07/16 19:44	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/07/16 19:44	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/07/16 19:44	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/07/16 19:44	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/07/16 19:44	1
Styrene	0.200	U	1.00	0.200	ug/L			11/07/16 19:44	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 19:44	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/07/16 19:44	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/07/16 19:44	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/07/16 19:44	1
Toluene	0.495	U	1.00	0.495	ug/L			11/07/16 19:44	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 19:44	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/07/16 19:44	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/07/16 19:44	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/07/16 19:44	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/07/16 19:44	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/07/16 19:44	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/07/16 19:44	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/07/16 19:44	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/07/16 19:44	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/07/16 19:44	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/07/16 19:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/07/16 19:44	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM240 Trail**

**Lab Sample ID: 560-64786-22**

**Date Collected: 11/03/16 21:08**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 19:44	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 19:44	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/07/16 19:44	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/07/16 19:44	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/07/16 19:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		11/07/16 19:44	1
Dibromofluoromethane (Surr)	107		69 - 130		11/07/16 19:44	1
1,2-Dichloroethane-d4 (Surr)	116		70 - 140		11/07/16 19:44	1
Toluene-d8 (Surr)	98		70 - 130		11/07/16 19:44	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.500	U	10.9	0.500	ug/L		11/10/16 14:30	11/11/16 15:51	1
Acenaphthylene	0.491	U	10.9	0.491	ug/L		11/10/16 14:30	11/11/16 15:51	1
Anthracene	0.761	U	10.9	0.761	ug/L		11/10/16 14:30	11/11/16 15:51	1
Benzo[a]anthracene	0.702	U	10.9	0.702	ug/L		11/10/16 14:30	11/11/16 15:51	1
Benzo[a]pyrene	0.807	U	10.9	0.807	ug/L		11/10/16 14:30	11/11/16 15:51	1
Benzo[b]fluoranthene	0.987	U	10.9	0.987	ug/L		11/10/16 14:30	11/11/16 15:51	1
Benzo[g,h,i]perylene	1.19	U	10.9	1.19	ug/L		11/10/16 14:30	11/11/16 15:51	1
Benzo[k]fluoranthene	1.61	U	10.9	1.61	ug/L		11/10/16 14:30	11/11/16 15:51	1
Benzyl alcohol	0.899	U	10.9	0.899	ug/L		11/10/16 14:30	11/11/16 15:51	1
Bis(2-chloroethoxy)methane	0.474	U	10.9	0.474	ug/L		11/10/16 14:30	11/11/16 15:51	1
Bis(2-chloroethyl)ether	1.69	U	10.9	1.69	ug/L		11/10/16 14:30	11/11/16 15:51	1
Bis(2-ethylhexyl) phthalate	5.43	U	21.7	5.43	ug/L		11/10/16 14:30	11/11/16 15:51	1
4-Bromophenyl phenyl ether	0.882	U	10.9	0.882	ug/L		11/10/16 14:30	11/11/16 15:51	1
Butyl benzyl phthalate	0.887	U	10.9	0.887	ug/L		11/10/16 14:30	11/11/16 15:51	1
4-Chloroaniline	0.597	U	10.9	0.597	ug/L		11/10/16 14:30	11/11/16 15:51	1
4-Chloro-3-methylphenol	0.637	U	10.9	0.637	ug/L		11/10/16 14:30	11/11/16 15:51	1
2-Chloronaphthalene	0.655	U	10.9	0.655	ug/L		11/10/16 14:30	11/11/16 15:51	1
2-Chlorophenol	0.792	U	10.9	0.792	ug/L		11/10/16 14:30	11/11/16 15:51	1
4-Chlorophenyl phenyl ether	0.575	U	10.9	0.575	ug/L		11/10/16 14:30	11/11/16 15:51	1
Chrysene	0.537	U	10.9	0.537	ug/L		11/10/16 14:30	11/11/16 15:51	1
Dibenz(a,h)anthracene	0.950	U	10.9	0.950	ug/L		11/10/16 14:30	11/11/16 15:51	1
Dibenzofuran	0.527	U	10.9	0.527	ug/L		11/10/16 14:30	11/11/16 15:51	1
1,2-Dichlorobenzene	0.842	U	10.9	0.842	ug/L		11/10/16 14:30	11/11/16 15:51	1
1,3-Dichlorobenzene	0.534	U	10.9	0.534	ug/L		11/10/16 14:30	11/11/16 15:51	1
1,4-Dichlorobenzene	0.886	U	10.9	0.886	ug/L		11/10/16 14:30	11/11/16 15:51	1
3,3'-Dichlorobenzidine	0.855	U	10.9	0.855	ug/L		11/10/16 14:30	11/11/16 15:51	1
2,4-Dichlorophenol	0.765	U	10.9	0.765	ug/L		11/10/16 14:30	11/11/16 15:51	1
Diethyl phthalate	0.724	U	10.9	0.724	ug/L		11/10/16 14:30	11/11/16 15:51	1
2,4-Dimethylphenol	0.645	U	10.9	0.645	ug/L		11/10/16 14:30	11/11/16 15:51	1
Dimethyl phthalate	0.640	U	10.9	0.640	ug/L		11/10/16 14:30	11/11/16 15:51	1
Di-n-butyl phthalate	0.771	U	10.9	0.771	ug/L		11/10/16 14:30	11/11/16 15:51	1
4,6-Dinitro-2-methylphenol	1.04	U	10.9	1.04	ug/L		11/10/16 14:30	11/11/16 15:51	1
2,4-Dinitrophenol	2.92	U	21.7	2.92	ug/L		11/10/16 14:30	11/11/16 15:51	1
2,4-Dinitrotoluene	0.553	U	21.7	0.553	ug/L		11/10/16 14:30	11/11/16 15:51	1
2,6-Dinitrotoluene	0.828	U	10.9	0.828	ug/L		11/10/16 14:30	11/11/16 15:51	1
Di-n-octyl phthalate	1.20	U	10.9	1.20	ug/L		11/10/16 14:30	11/11/16 15:51	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM240 Trail

Lab Sample ID: 560-64786-22

Date Collected: 11/03/16 21:08

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	0.539	U	10.9	0.539	ug/L		11/10/16 14:30	11/11/16 15:51	1
Fluorene	0.458	U	10.9	0.458	ug/L		11/10/16 14:30	11/11/16 15:51	1
Hexachlorobenzene	0.654	U	10.9	0.654	ug/L		11/10/16 14:30	11/11/16 15:51	1
Hexachlorobutadiene	0.778	U	10.9	0.778	ug/L		11/10/16 14:30	11/11/16 15:51	1
Hexachlorocyclopentadiene	0.912	U	10.9	0.912	ug/L		11/10/16 14:30	11/11/16 15:51	1
Hexachloroethane	0.640	U	10.9	0.640	ug/L		11/10/16 14:30	11/11/16 15:51	1
Indeno[1,2,3-cd]pyrene	1.00	U	10.9	1.00	ug/L		11/10/16 14:30	11/11/16 15:51	1
Isophorone	0.597	U	10.9	0.597	ug/L		11/10/16 14:30	11/11/16 15:51	1
2-Methylnaphthalene	0.763	U	10.9	0.763	ug/L		11/10/16 14:30	11/11/16 15:51	1
2-Methylphenol	0.663	U	10.9	0.663	ug/L		11/10/16 14:30	11/11/16 15:51	1
3 & 4 Methylphenol	0.829	U	21.7	0.829	ug/L		11/10/16 14:30	11/11/16 15:51	1
Naphthalene	0.855	U	10.9	0.855	ug/L		11/10/16 14:30	11/11/16 15:51	1
2-Nitroaniline	0.833	U	10.9	0.833	ug/L		11/10/16 14:30	11/11/16 15:51	1
3-Nitroaniline	0.557	U	10.9	0.557	ug/L		11/10/16 14:30	11/11/16 15:51	1
4-Nitroaniline	0.890	U	10.9	0.890	ug/L		11/10/16 14:30	11/11/16 15:51	1
Nitrobenzene	0.638	U	10.9	0.638	ug/L		11/10/16 14:30	11/11/16 15:51	1
2-Nitrophenol	0.878	U	10.9	0.878	ug/L		11/10/16 14:30	11/11/16 15:51	1
4-Nitrophenol	1.88	U	10.9	1.88	ug/L		11/10/16 14:30	11/11/16 15:51	1
N-Nitrosodi-n-propylamine	0.674	U	10.9	0.674	ug/L		11/10/16 14:30	11/11/16 15:51	1
N-Nitrosodiphenylamine	1.12	U	10.9	1.12	ug/L		11/10/16 14:30	11/11/16 15:51	1
Pentachlorophenol	1.44	U	21.7	1.44	ug/L		11/10/16 14:30	11/11/16 15:51	1
Phenanthrene	0.642	U	10.9	0.642	ug/L		11/10/16 14:30	11/11/16 15:51	1
Phenol	0.835	U	10.9	0.835	ug/L		11/10/16 14:30	11/11/16 15:51	1
Pyrene	0.478	U	10.9	0.478	ug/L		11/10/16 14:30	11/11/16 15:51	1
1,2,4-Trichlorobenzene	0.703	U	10.9	0.703	ug/L		11/10/16 14:30	11/11/16 15:51	1
2,4,5-Trichlorophenol	0.936	U	10.9	0.936	ug/L		11/10/16 14:30	11/11/16 15:51	1
2,4,6-Trichlorophenol	0.715	U	10.9	0.715	ug/L		11/10/16 14:30	11/11/16 15:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	58		23 - 130	11/10/16 14:30	11/11/16 15:51	1
2-Fluorophenol	56		10 - 130	11/10/16 14:30	11/11/16 15:51	1
Nitrobenzene-d5	59		27 - 130	11/10/16 14:30	11/11/16 15:51	1
Phenol-d5	61		10 - 130	11/10/16 14:30	11/11/16 15:51	1
Terphenyl-d14	86		10 - 141	11/10/16 14:30	11/11/16 15:51	1
2,4,6-Tribromophenol	52		18 - 130	11/10/16 14:30	11/11/16 15:51	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00481	U	0.0577	0.00481	ug/L		11/08/16 08:34	11/14/16 19:17	1
alpha-BHC	0.00500	U	0.0577	0.00500	ug/L		11/08/16 08:34	11/14/16 19:17	1
alpha-Chlordane	0.00606	U	0.0577	0.00606	ug/L		11/08/16 08:34	11/14/16 19:17	1
beta-BHC	0.00481	U	0.0577	0.00481	ug/L		11/08/16 08:34	11/14/16 19:17	1
4,4'-DDD	0.00481	U	0.0577	0.00481	ug/L		11/08/16 08:34	11/14/16 19:17	1
4,4'-DDE	0.00481	U	0.0577	0.00481	ug/L		11/08/16 08:34	11/14/16 19:17	1
4,4'-DDT	0.00779	U	0.0577	0.00779	ug/L		11/08/16 08:34	11/14/16 19:17	1
delta-BHC	0.00481	U	0.0577	0.00481	ug/L		11/08/16 08:34	11/14/16 19:17	1
Dieldrin	0.0125	U	0.0577	0.0125	ug/L		11/08/16 08:34	11/14/16 19:17	1
Endosulfan I	0.00481	U	0.0577	0.00481	ug/L		11/08/16 08:34	11/14/16 19:17	1
Endosulfan II	0.00827	U	0.0577	0.00827	ug/L		11/08/16 08:34	11/14/16 19:17	1
Endosulfan sulfate	0.00846	U	0.0577	0.00846	ug/L		11/08/16 08:34	11/14/16 19:17	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM240 Trail

Lab Sample ID: 560-64786-22

Date Collected: 11/03/16 21:08

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	0.00740	U	0.0577	0.00740	ug/L		11/08/16 08:34	11/14/16 19:17	1
Endrin aldehyde	0.00481	U	0.0577	0.00481	ug/L		11/08/16 08:34	11/14/16 19:17	1
Endrin ketone	0.00788	U	0.0577	0.00788	ug/L		11/08/16 08:34	11/14/16 19:17	1
gamma-BHC (Lindane)	0.00433	U	0.0577	0.00433	ug/L		11/08/16 08:34	11/14/16 19:17	1
gamma-Chlordane	0.00644	U	0.0577	0.00644	ug/L		11/08/16 08:34	11/14/16 19:17	1
Heptachlor	0.00625	U	0.0577	0.00625	ug/L		11/08/16 08:34	11/14/16 19:17	1
Heptachlor epoxide	0.00500	U	0.0577	0.00500	ug/L		11/08/16 08:34	11/14/16 19:17	1
Methoxychlor	0.00962	U	0.0577	0.00962	ug/L		11/08/16 08:34	11/14/16 19:17	1
Toxaphene	0.654	U	5.77	0.654	ug/L		11/08/16 08:34	11/14/16 19:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	91		10 - 152				11/08/16 08:34	11/14/16 19:17	1
Tetrachloro-m-xylene	94		57 - 127				11/08/16 08:34	11/14/16 19:17	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.106	U	0.577	0.106	ug/L		11/08/16 08:34	11/14/16 19:18	1
Aroclor 1221	0.106	U	0.577	0.106	ug/L		11/08/16 08:34	11/14/16 19:18	1
Aroclor 1232	0.423	U	0.769	0.423	ug/L		11/08/16 08:34	11/14/16 19:18	1
Aroclor 1242	0.106	U	0.577	0.106	ug/L		11/08/16 08:34	11/14/16 19:18	1
Aroclor 1248	0.106	U	0.577	0.106	ug/L		11/08/16 08:34	11/14/16 19:18	1
Aroclor 1254	0.106	U	0.577	0.106	ug/L		11/08/16 08:34	11/14/16 19:18	1
Aroclor 1260	0.106	U	0.577	0.106	ug/L		11/08/16 08:34	11/14/16 19:18	1
Aroclor 1262	0.106	U	0.577	0.106	ug/L		11/08/16 08:34	11/14/16 19:18	1
Aroclor 1268	0.106	U	0.577	0.106	ug/L		11/08/16 08:34	11/14/16 19:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	105		10 - 150				11/08/16 08:34	11/14/16 19:18	1
DCB Decachlorobiphenyl	79		10 - 150				11/08/16 08:34	11/14/16 19:18	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00237	0.000159	mg/L		11/09/16 22:36	11/16/16 00:44	1
Bolstar	0.000298	U	0.000948	0.000298	mg/L		11/09/16 22:36	11/16/16 00:44	1
Chlorpyrifos	0.000341	U	0.00142	0.000341	mg/L		11/09/16 22:36	11/16/16 00:44	1
Coumaphos	0.000128	U	0.000948	0.000128	mg/L		11/09/16 22:36	11/16/16 00:44	1
Demeton-O	0.000133	U	0.000948	0.000133	mg/L		11/09/16 22:36	11/16/16 00:44	1
Demeton-S	0.0000654	U	0.00190	0.0000654	mg/L		11/09/16 22:36	11/16/16 00:44	1
Diazinon	0.000139	U	0.000474	0.000139	mg/L		11/09/16 22:36	11/16/16 00:44	1
Demeton, Total	0.000198	U	0.00284	0.000198	mg/L		11/09/16 22:36	11/16/16 00:44	1
Dichlorvos	0.000154	U	0.000474	0.000154	mg/L		11/09/16 22:36	11/16/16 00:44	1
Dimethoate	0.000426	U	0.00142	0.000426	mg/L		11/09/16 22:36	11/16/16 00:44	1
Disulfoton	0.000305	U	0.000948	0.000305	mg/L		11/09/16 22:36	11/16/16 00:44	1
EPN	0.000141	U	0.00114	0.000141	mg/L		11/09/16 22:36	11/16/16 00:44	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		11/09/16 22:36	11/16/16 00:44	1
Ethyl Parathion	0.000137	U	0.000948	0.000137	mg/L		11/09/16 22:36	11/16/16 00:44	1
Famphur	0.000170	U	0.000948	0.000170	mg/L		11/09/16 22:36	11/16/16 00:44	1
Fensulfothion	0.000516	U	0.00237	0.000516	mg/L		11/09/16 22:36	11/16/16 00:44	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		11/09/16 22:36	11/16/16 00:44	1
Malathion	0.000126	U	0.00190	0.000126	mg/L		11/09/16 22:36	11/16/16 00:44	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM240 Trail**

**Lab Sample ID: 560-64786-22**

**Date Collected: 11/03/16 21:08**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Merphos	0.000165	U	0.00474	0.000165	mg/L		11/09/16 22:36	11/16/16 00:44	1
Methyl parathion	0.000134	U	0.00379	0.000134	mg/L		11/09/16 22:36	11/16/16 00:44	1
Mevinphos	0.000436	U	0.00588	0.000436	mg/L		11/09/16 22:36	11/16/16 00:44	1
Naled	0.000758	U	0.00190	0.000758	mg/L		11/09/16 22:36	11/16/16 00:44	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		11/09/16 22:36	11/16/16 00:44	1
Ronnel	0.000110	U	0.00948	0.000110	mg/L		11/09/16 22:36	11/16/16 00:44	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		11/09/16 22:36	11/16/16 00:44	1
Tetrachlorvinphos (Stirophos)	0.000118	U	0.00332	0.000118	mg/L		11/09/16 22:36	11/16/16 00:44	1
Thionazin	0.000296	U	0.000948	0.000296	mg/L		11/09/16 22:36	11/16/16 00:44	1
Tokuthion	0.000117	U	0.00152	0.000117	mg/L		11/09/16 22:36	11/16/16 00:44	1
Trichloronate	0.000229	U	0.00142	0.000229	mg/L		11/09/16 22:36	11/16/16 00:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	77		49 - 171				11/09/16 22:36	11/16/16 00:44	1
Triphenylphosphate	84		60 - 154				11/09/16 22:36	11/16/16 00:44	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0951	U	4.75	0.0951	ug/L		11/09/16 07:48	11/12/16 01:47	1
Dicamba	0.0808	U	0.475	0.0808	ug/L		11/09/16 07:48	11/12/16 01:47	1
Mecoprop	18.1	U	114	18.1	ug/L		11/09/16 07:48	11/12/16 01:47	1
MCPA	16.2	U	114	16.2	ug/L		11/09/16 07:48	11/12/16 01:47	1
Dichlorprop	0.143	U	0.475	0.143	ug/L		11/09/16 07:48	11/12/16 01:47	1
2,4-D	0.0352	U	0.475	0.0352	ug/L		11/09/16 07:48	11/12/16 01:47	1
Silvex (2,4,5-TP)	0.0589	U	0.238	0.0589	ug/L		11/09/16 07:48	11/12/16 01:47	1
2,4,5-T	0.0589	U	0.238	0.0589	ug/L		11/09/16 07:48	11/12/16 01:47	1
2,4-DB	0.143	U	0.475	0.143	ug/L		11/09/16 07:48	11/12/16 01:47	1
Dinoseb	0.152	U	0.951	0.152	ug/L		11/09/16 07:48	11/12/16 01:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	68		45 - 130				11/09/16 07:48	11/12/16 01:47	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	84.0		0.200	0.101	mg/L		11/07/16 09:45	11/07/16 19:54	1
Magnesium	15.8		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 19:54	1
Potassium	1.49	B	0.500	0.375	mg/L		11/07/16 09:45	11/07/16 19:54	1
Silicon	5.12		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 19:54	1
Sodium	10.7		1.00	0.310	mg/L		11/07/16 09:45	11/08/16 16:30	1
Strontium	0.487		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 19:54	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 16:28	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 16:28	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 16:28	1
Barium	0.0384		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 16:28	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 16:28	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 16:28	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 16:28	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 16:28	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM240 Trail**

**Lab Sample ID: 560-64786-22**

**Date Collected: 11/03/16 21:08**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 16:28	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 16:28	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 16:28	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 16:28	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 16:28	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 16:28	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 16:28	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 16:28	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000148	J	0.00200	0.000130	mg/L		11/10/16 10:00	11/10/16 15:40	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.451	J	1.00	0.315	mg/L			11/05/16 04:52	1
Chloride	18.7		1.00	0.192	mg/L			11/05/16 04:52	1
Nitrate as N	1.15		0.500	0.103	mg/L			11/05/16 04:52	1
Sulfate	23.7		1.00	0.377	mg/L			11/05/16 04:52	1
Fluoride	0.127		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/15/16 12:44	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		11/10/16 08:55	11/11/16 13:27	1
Total Organic Carbon	0.338	J	1.00	0.285	mg/L			11/10/16 15:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	241		5.00	5.00	mg/L			11/16/16 13:17	1
Bicarbonate Alkalinity as CaCO3	241		5.00	5.00	mg/L			11/16/16 13:17	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/16/16 13:17	1
Total Dissolved Solids	352		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	2.60		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			11/15/16 11:34	1

**Client Sample ID: HSM250 Trail**

**Lab Sample ID: 560-64786-23**

**Date Collected: 11/03/16 21:38**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/07/16 20:09	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/07/16 20:09	1
Benzene	0.330	U	1.00	0.330	ug/L			11/07/16 20:09	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/07/16 20:09	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 20:09	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/07/16 20:09	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/07/16 20:09	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/07/16 20:09	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/07/16 20:09	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM250 Trail

Lab Sample ID: 560-64786-23

Date Collected: 11/03/16 21:38

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/07/16 20:09	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/07/16 20:09	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/07/16 20:09	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/07/16 20:09	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/07/16 20:09	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/07/16 20:09	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/07/16 20:09	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/07/16 20:09	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/07/16 20:09	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/07/16 20:09	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/07/16 20:09	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/07/16 20:09	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 20:09	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/07/16 20:09	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/07/16 20:09	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/07/16 20:09	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/07/16 20:09	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/07/16 20:09	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/07/16 20:09	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/07/16 20:09	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 20:09	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/07/16 20:09	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/07/16 20:09	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/07/16 20:09	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/07/16 20:09	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/07/16 20:09	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/07/16 20:09	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/07/16 20:09	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/07/16 20:09	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/07/16 20:09	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/07/16 20:09	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/07/16 20:09	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/07/16 20:09	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/07/16 20:09	1
EDB	0.175	U	1.00	0.175	ug/L			11/07/16 20:09	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/07/16 20:09	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 20:09	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/07/16 20:09	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/07/16 20:09	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/07/16 20:09	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/07/16 20:09	1
Hexane	2.00	U	5.00	2.00	ug/L			11/07/16 20:09	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/07/16 20:09	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/07/16 20:09	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/07/16 20:09	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/07/16 20:09	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/07/16 20:09	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/07/16 20:09	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/07/16 20:09	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM250 Trail

Lab Sample ID: 560-64786-23

Date Collected: 11/03/16 21:38

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/07/16 20:09	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/07/16 20:09	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/07/16 20:09	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/07/16 20:09	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/07/16 20:09	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/07/16 20:09	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 20:09	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/07/16 20:09	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/07/16 20:09	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/07/16 20:09	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/07/16 20:09	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/07/16 20:09	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/07/16 20:09	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/07/16 20:09	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/07/16 20:09	1
Styrene	0.200	U	1.00	0.200	ug/L			11/07/16 20:09	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 20:09	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/07/16 20:09	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/07/16 20:09	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/07/16 20:09	1
Toluene	0.495	U	1.00	0.495	ug/L			11/07/16 20:09	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 20:09	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/07/16 20:09	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/07/16 20:09	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/07/16 20:09	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/07/16 20:09	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/07/16 20:09	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/07/16 20:09	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/07/16 20:09	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/07/16 20:09	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/07/16 20:09	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/07/16 20:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/07/16 20:09	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 20:09	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 20:09	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/07/16 20:09	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/07/16 20:09	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/07/16 20:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		11/07/16 20:09	1
Dibromofluoromethane (Surr)	106		69 - 130		11/07/16 20:09	1
1,2-Dichloroethane-d4 (Surr)	116		70 - 140		11/07/16 20:09	1
Toluene-d8 (Surr)	98		70 - 130		11/07/16 20:09	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/10/16 14:30	11/11/16 16:18	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/10/16 14:30	11/11/16 16:18	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/10/16 14:30	11/11/16 16:18	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM250 Trail

Lab Sample ID: 560-64786-23

Date Collected: 11/03/16 21:38

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/10/16 14:30	11/11/16 16:18	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/10/16 14:30	11/11/16 16:18	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/10/16 14:30	11/11/16 16:18	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/10/16 14:30	11/11/16 16:18	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/10/16 14:30	11/11/16 16:18	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/10/16 14:30	11/11/16 16:18	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/10/16 14:30	11/11/16 16:18	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/10/16 14:30	11/11/16 16:18	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		11/10/16 14:30	11/11/16 16:18	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/10/16 14:30	11/11/16 16:18	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/10/16 14:30	11/11/16 16:18	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/10/16 14:30	11/11/16 16:18	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/10/16 14:30	11/11/16 16:18	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/10/16 14:30	11/11/16 16:18	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/10/16 14:30	11/11/16 16:18	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/10/16 14:30	11/11/16 16:18	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/10/16 14:30	11/11/16 16:18	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/10/16 14:30	11/11/16 16:18	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/10/16 14:30	11/11/16 16:18	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/10/16 14:30	11/11/16 16:18	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/10/16 14:30	11/11/16 16:18	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/10/16 14:30	11/11/16 16:18	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/10/16 14:30	11/11/16 16:18	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/10/16 14:30	11/11/16 16:18	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/10/16 14:30	11/11/16 16:18	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/10/16 14:30	11/11/16 16:18	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/10/16 14:30	11/11/16 16:18	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/10/16 14:30	11/11/16 16:18	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/10/16 14:30	11/11/16 16:18	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/10/16 14:30	11/11/16 16:18	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/10/16 14:30	11/11/16 16:18	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/10/16 14:30	11/11/16 16:18	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/10/16 14:30	11/11/16 16:18	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/10/16 14:30	11/11/16 16:18	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/10/16 14:30	11/11/16 16:18	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/10/16 14:30	11/11/16 16:18	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/10/16 14:30	11/11/16 16:18	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/10/16 14:30	11/11/16 16:18	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/10/16 14:30	11/11/16 16:18	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/10/16 14:30	11/11/16 16:18	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/10/16 14:30	11/11/16 16:18	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/10/16 14:30	11/11/16 16:18	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/10/16 14:30	11/11/16 16:18	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/10/16 14:30	11/11/16 16:18	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/10/16 14:30	11/11/16 16:18	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/10/16 14:30	11/11/16 16:18	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/10/16 14:30	11/11/16 16:18	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/10/16 14:30	11/11/16 16:18	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/10/16 14:30	11/11/16 16:18	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM250 Trail

Lab Sample ID: 560-64786-23

Date Collected: 11/03/16 21:38

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/10/16 14:30	11/11/16 16:18	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/10/16 14:30	11/11/16 16:18	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/10/16 14:30	11/11/16 16:18	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/10/16 14:30	11/11/16 16:18	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/10/16 14:30	11/11/16 16:18	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/10/16 14:30	11/11/16 16:18	1
Phenol	0.768	U	10.0	0.768	ug/L		11/10/16 14:30	11/11/16 16:18	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/10/16 14:30	11/11/16 16:18	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/10/16 14:30	11/11/16 16:18	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/10/16 14:30	11/11/16 16:18	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/10/16 14:30	11/11/16 16:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	68		23 - 130	11/10/16 14:30	11/11/16 16:18	1
2-Fluorophenol	64		10 - 130	11/10/16 14:30	11/11/16 16:18	1
Nitrobenzene-d5	68		27 - 130	11/10/16 14:30	11/11/16 16:18	1
Phenol-d5	70		10 - 130	11/10/16 14:30	11/11/16 16:18	1
Terphenyl-d14	88		10 - 141	11/10/16 14:30	11/11/16 16:18	1
2,4,6-Tribromophenol	61		18 - 130	11/10/16 14:30	11/11/16 16:18	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00472	U	0.0566	0.00472	ug/L		11/08/16 08:34	11/14/16 19:38	1
alpha-BHC	0.00491	U	0.0566	0.00491	ug/L		11/08/16 08:34	11/14/16 19:38	1
alpha-Chlordane	0.00594	U	0.0566	0.00594	ug/L		11/08/16 08:34	11/14/16 19:38	1
beta-BHC	0.00472	U	0.0566	0.00472	ug/L		11/08/16 08:34	11/14/16 19:38	1
4,4'-DDD	0.00472	U	0.0566	0.00472	ug/L		11/08/16 08:34	11/14/16 19:38	1
4,4'-DDE	0.00472	U	0.0566	0.00472	ug/L		11/08/16 08:34	11/14/16 19:38	1
4,4'-DDT	0.00764	U	0.0566	0.00764	ug/L		11/08/16 08:34	11/14/16 19:38	1
delta-BHC	0.00472	U	0.0566	0.00472	ug/L		11/08/16 08:34	11/14/16 19:38	1
Dieldrin	0.0123	U	0.0566	0.0123	ug/L		11/08/16 08:34	11/14/16 19:38	1
Endosulfan I	0.00472	U	0.0566	0.00472	ug/L		11/08/16 08:34	11/14/16 19:38	1
Endosulfan II	0.00811	U	0.0566	0.00811	ug/L		11/08/16 08:34	11/14/16 19:38	1
Endosulfan sulfate	0.00830	U	0.0566	0.00830	ug/L		11/08/16 08:34	11/14/16 19:38	1
Endrin	0.00726	U	0.0566	0.00726	ug/L		11/08/16 08:34	11/14/16 19:38	1
Endrin aldehyde	0.00472	U	0.0566	0.00472	ug/L		11/08/16 08:34	11/14/16 19:38	1
Endrin ketone	0.00774	U	0.0566	0.00774	ug/L		11/08/16 08:34	11/14/16 19:38	1
gamma-BHC (Lindane)	0.00425	U	0.0566	0.00425	ug/L		11/08/16 08:34	11/14/16 19:38	1
gamma-Chlordane	0.00632	U	0.0566	0.00632	ug/L		11/08/16 08:34	11/14/16 19:38	1
Heptachlor	0.00613	U	0.0566	0.00613	ug/L		11/08/16 08:34	11/14/16 19:38	1
Heptachlor epoxide	0.00491	U	0.0566	0.00491	ug/L		11/08/16 08:34	11/14/16 19:38	1
Methoxychlor	0.00943	U	0.0566	0.00943	ug/L		11/08/16 08:34	11/14/16 19:38	1
Toxaphene	0.642	U	5.66	0.642	ug/L		11/08/16 08:34	11/14/16 19:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	94		10 - 152	11/08/16 08:34	11/14/16 19:38	1
Tetrachloro-m-xylene	98		57 - 127	11/08/16 08:34	11/14/16 19:38	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM250 Trail

Lab Sample ID: 560-64786-23

Date Collected: 11/03/16 21:38

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.566	0.104	ug/L		11/08/16 08:34	11/14/16 19:36	1
Aroclor 1221	0.104	U	0.566	0.104	ug/L		11/08/16 08:34	11/14/16 19:36	1
Aroclor 1232	0.415	U	0.755	0.415	ug/L		11/08/16 08:34	11/14/16 19:36	1
Aroclor 1242	0.104	U	0.566	0.104	ug/L		11/08/16 08:34	11/14/16 19:36	1
Aroclor 1248	0.104	U	0.566	0.104	ug/L		11/08/16 08:34	11/14/16 19:36	1
Aroclor 1254	0.104	U	0.566	0.104	ug/L		11/08/16 08:34	11/14/16 19:36	1
Aroclor 1260	0.104	U	0.566	0.104	ug/L		11/08/16 08:34	11/14/16 19:36	1
Aroclor 1262	0.104	U	0.566	0.104	ug/L		11/08/16 08:34	11/14/16 19:36	1
Aroclor 1268	0.104	U	0.566	0.104	ug/L		11/08/16 08:34	11/14/16 19:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	119		10 - 150				11/08/16 08:34	11/14/16 19:36	1
DCB Decachlorobiphenyl	78		10 - 150				11/08/16 08:34	11/14/16 19:36	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000159	U	0.00237	0.000159	mg/L		11/09/16 22:36	11/16/16 01:15	1
Bolstar	0.000297	U	0.000947	0.000297	mg/L		11/09/16 22:36	11/16/16 01:15	1
Chlorpyrifos	0.000341	U	0.00142	0.000341	mg/L		11/09/16 22:36	11/16/16 01:15	1
Coumaphos	0.000128	U	0.000947	0.000128	mg/L		11/09/16 22:36	11/16/16 01:15	1
Demeton-O	0.000133	U	0.000947	0.000133	mg/L		11/09/16 22:36	11/16/16 01:15	1
Demeton-S	0.0000653	U	0.00189	0.0000653	mg/L		11/09/16 22:36	11/16/16 01:15	1
Diazinon	0.000139	U	0.000473	0.000139	mg/L		11/09/16 22:36	11/16/16 01:15	1
Demeton, Total	0.000198	U	0.00284	0.000198	mg/L		11/09/16 22:36	11/16/16 01:15	1
Dichlorvos	0.000153	U	0.000473	0.000153	mg/L		11/09/16 22:36	11/16/16 01:15	1
Dimethoate	0.000425	U	0.00142	0.000425	mg/L		11/09/16 22:36	11/16/16 01:15	1
Disulfoton	0.000305	U	0.000947	0.000305	mg/L		11/09/16 22:36	11/16/16 01:15	1
EPN	0.000141	U	0.00114	0.000141	mg/L		11/09/16 22:36	11/16/16 01:15	1
Ethoprop	0.000168	U	0.00142	0.000168	mg/L		11/09/16 22:36	11/16/16 01:15	1
Ethyl Parathion	0.000136	U	0.000947	0.000136	mg/L		11/09/16 22:36	11/16/16 01:15	1
Famphur	0.000169	U	0.000947	0.000169	mg/L		11/09/16 22:36	11/16/16 01:15	1
Fensulfothion	0.000515	U	0.00237	0.000515	mg/L		11/09/16 22:36	11/16/16 01:15	1
Fenthion	0.000146	U	0.00237	0.000146	mg/L		11/09/16 22:36	11/16/16 01:15	1
Malathion	0.000126	U	0.00189	0.000126	mg/L		11/09/16 22:36	11/16/16 01:15	1
Merphos	0.000165	U	0.00473	0.000165	mg/L		11/09/16 22:36	11/16/16 01:15	1
Methyl parathion	0.000133	U	0.00379	0.000133	mg/L		11/09/16 22:36	11/16/16 01:15	1
Mevinphos	0.000435	U	0.00587	0.000435	mg/L		11/09/16 22:36	11/16/16 01:15	1
Naled	0.000757	U	0.00189	0.000757	mg/L		11/09/16 22:36	11/16/16 01:15	1
Phorate	0.000146	U	0.00114	0.000146	mg/L		11/09/16 22:36	11/16/16 01:15	1
Ronnel	0.000110	U	0.00947	0.000110	mg/L		11/09/16 22:36	11/16/16 01:15	1
Sulfotepp	0.000159	U	0.00142	0.000159	mg/L		11/09/16 22:36	11/16/16 01:15	1
Tetrachlorvinphos (Stirophos)	0.000117	U	0.00331	0.000117	mg/L		11/09/16 22:36	11/16/16 01:15	1
Thionazin	0.000295	U	0.000947	0.000295	mg/L		11/09/16 22:36	11/16/16 01:15	1
Tokuthion	0.000116	U	0.00151	0.000116	mg/L		11/09/16 22:36	11/16/16 01:15	1
Trichloronate	0.000229	U	0.00142	0.000229	mg/L		11/09/16 22:36	11/16/16 01:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	68		49 - 171				11/09/16 22:36	11/16/16 01:15	1
Triphenylphosphate	86		60 - 154				11/09/16 22:36	11/16/16 01:15	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM250 Trail

Lab Sample ID: 560-64786-23

Date Collected: 11/03/16 21:38

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0948	U	4.74	0.0948	ug/L		11/09/16 07:48	11/12/16 02:06	1
Dicamba	0.0805	U	0.474	0.0805	ug/L		11/09/16 07:48	11/12/16 02:06	1
Mecoprop	18.0	U	114	18.0	ug/L		11/09/16 07:48	11/12/16 02:06	1
MCPA	16.1	U	114	16.1	ug/L		11/09/16 07:48	11/12/16 02:06	1
Dichlorprop	0.142	U	0.474	0.142	ug/L		11/09/16 07:48	11/12/16 02:06	1
2,4-D	0.0351	U	0.474	0.0351	ug/L		11/09/16 07:48	11/12/16 02:06	1
Silvex (2,4,5-TP)	0.0588	U	0.237	0.0588	ug/L		11/09/16 07:48	11/12/16 02:06	1
2,4,5-T	0.0588	U	0.237	0.0588	ug/L		11/09/16 07:48	11/12/16 02:06	1
2,4-DB	0.142	U	0.474	0.142	ug/L		11/09/16 07:48	11/12/16 02:06	1
Dinoseb	0.152	U	0.948	0.152	ug/L		11/09/16 07:48	11/12/16 02:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	79		45 - 130	11/09/16 07:48	11/12/16 02:06	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	81.2		0.200	0.101	mg/L		11/07/16 09:45	11/07/16 20:05	1
Magnesium	15.0		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 20:05	1
Potassium	1.66	B	0.500	0.375	mg/L		11/07/16 09:45	11/07/16 20:05	1
Silicon	5.06		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 20:05	1
Sodium	11.2		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 20:05	1
Strontium	0.468		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 20:05	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 16:33	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 16:33	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 16:33	1
Barium	0.0371		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 16:33	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 16:33	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 16:33	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 16:33	1
Copper	0.00239	J	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 16:33	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 16:33	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 16:33	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 16:33	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 16:33	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 16:33	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 16:33	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 16:33	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 16:33	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/10/16 10:00	11/10/16 15:42	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.447	J	1.00	0.315	mg/L			11/05/16 05:18	1
Chloride	18.2		1.00	0.192	mg/L			11/05/16 05:18	1
Nitrate as N	1.13		0.500	0.103	mg/L			11/05/16 05:18	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM250 Trail**

**Lab Sample ID: 560-64786-23**

**Date Collected: 11/03/16 21:38**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Sulfate</b>	<b>23.2</b>		1.00	0.377	mg/L			11/05/16 05:18	1
<b>Fluoride</b>	<b>0.138</b>		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/15/16 12:47	1
Phosphorus	0.0410	U	0.100	0.0410	mg/L		11/09/16 08:57	11/11/16 11:12	1
<b>Total Organic Carbon</b>	<b>0.530</b>	<b>J</b>	1.00	0.285	mg/L			11/10/16 15:31	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>pH</b>	<b>7.4</b>		0.1	0.1	SU			11/04/16 16:21	1
<b>Total Alkalinity as CaCO3</b>	<b>238</b>		5.00	5.00	mg/L			11/16/16 13:17	1
<b>Bicarbonate Alkalinity as CaCO3</b>	<b>238</b>		5.00	5.00	mg/L			11/16/16 13:17	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/16/16 13:17	1
<b>Total Dissolved Solids</b>	<b>340</b>		10.0	10.0	mg/L			11/09/16 09:38	1
<b>Total Suspended Solids</b>	<b>2.20</b>		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Dissolved Organic Carbon</b>	<b>0.396</b>	<b>J</b>	1.00	0.285	mg/L			11/15/16 11:34	1

**Client Sample ID: HSM260 Trail**

**Lab Sample ID: 560-64786-24**

**Date Collected: 11/03/16 20:34**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/07/16 13:04	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/07/16 13:04	1
Benzene	0.330	U	1.00	0.330	ug/L			11/07/16 13:04	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/07/16 13:04	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 13:04	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/07/16 13:04	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/07/16 13:04	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/07/16 13:04	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/07/16 13:04	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/07/16 13:04	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/07/16 13:04	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/07/16 13:04	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/07/16 13:04	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/07/16 13:04	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/07/16 13:04	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/07/16 13:04	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/07/16 13:04	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/07/16 13:04	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/07/16 13:04	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/07/16 13:04	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/07/16 13:04	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 13:04	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/07/16 13:04	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/07/16 13:04	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/07/16 13:04	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/07/16 13:04	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/07/16 13:04	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM260 Trail

Lab Sample ID: 560-64786-24

Date Collected: 11/03/16 20:34

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/07/16 13:04	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/07/16 13:04	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 13:04	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/07/16 13:04	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/07/16 13:04	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/07/16 13:04	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/07/16 13:04	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/07/16 13:04	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/07/16 13:04	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/07/16 13:04	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/07/16 13:04	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/07/16 13:04	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/07/16 13:04	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/07/16 13:04	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/07/16 13:04	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/07/16 13:04	1
EDB	0.175	U	1.00	0.175	ug/L			11/07/16 13:04	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/07/16 13:04	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 13:04	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/07/16 13:04	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/07/16 13:04	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/07/16 13:04	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/07/16 13:04	1
Hexane	2.00	U	5.00	2.00	ug/L			11/07/16 13:04	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/07/16 13:04	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/07/16 13:04	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/07/16 13:04	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/07/16 13:04	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/07/16 13:04	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/07/16 13:04	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/07/16 13:04	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/07/16 13:04	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/07/16 13:04	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/07/16 13:04	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/07/16 13:04	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/07/16 13:04	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/07/16 13:04	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 13:04	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/07/16 13:04	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/07/16 13:04	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/07/16 13:04	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/07/16 13:04	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/07/16 13:04	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/07/16 13:04	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/07/16 13:04	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/07/16 13:04	1
Styrene	0.200	U	1.00	0.200	ug/L			11/07/16 13:04	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 13:04	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/07/16 13:04	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM260 Trail

Lab Sample ID: 560-64786-24

Date Collected: 11/03/16 20:34

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/07/16 13:04	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/07/16 13:04	1
Toluene	0.495	U	1.00	0.495	ug/L			11/07/16 13:04	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 13:04	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/07/16 13:04	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/07/16 13:04	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/07/16 13:04	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/07/16 13:04	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/07/16 13:04	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/07/16 13:04	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/07/16 13:04	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/07/16 13:04	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/07/16 13:04	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/07/16 13:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/07/16 13:04	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 13:04	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 13:04	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/07/16 13:04	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/07/16 13:04	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/07/16 13:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130		11/07/16 13:04	1
Dibromofluoromethane (Surr)	106		69 - 130		11/07/16 13:04	1
1,2-Dichloroethane-d4 (Surr)	110		70 - 140		11/07/16 13:04	1
Toluene-d8 (Surr)	99		70 - 130		11/07/16 13:04	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/08/16 15:50	11/09/16 15:26	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/08/16 15:50	11/09/16 15:26	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/08/16 15:50	11/09/16 15:26	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/08/16 15:50	11/09/16 15:26	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/08/16 15:50	11/09/16 15:26	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/08/16 15:50	11/09/16 15:26	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/08/16 15:50	11/09/16 15:26	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/08/16 15:50	11/09/16 15:26	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/08/16 15:50	11/09/16 15:26	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/08/16 15:50	11/09/16 15:26	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/08/16 15:50	11/09/16 15:26	1
Bis(2-ethylhexyl) phthalate	8.46	J *	20.0	5.00	ug/L		11/08/16 15:50	11/09/16 15:26	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/08/16 15:50	11/09/16 15:26	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/08/16 15:50	11/09/16 15:26	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 15:26	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/08/16 15:50	11/09/16 15:26	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/08/16 15:50	11/09/16 15:26	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/08/16 15:50	11/09/16 15:26	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/08/16 15:50	11/09/16 15:26	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/08/16 15:50	11/09/16 15:26	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/08/16 15:50	11/09/16 15:26	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM260 Trail

Lab Sample ID: 560-64786-24

Date Collected: 11/03/16 20:34

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/08/16 15:50	11/09/16 15:26	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/08/16 15:50	11/09/16 15:26	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/08/16 15:50	11/09/16 15:26	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/08/16 15:50	11/09/16 15:26	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 15:26	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/08/16 15:50	11/09/16 15:26	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/08/16 15:50	11/09/16 15:26	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/08/16 15:50	11/09/16 15:26	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 15:26	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/08/16 15:50	11/09/16 15:26	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/08/16 15:50	11/09/16 15:26	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/08/16 15:50	11/09/16 15:26	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/08/16 15:50	11/09/16 15:26	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/08/16 15:50	11/09/16 15:26	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/08/16 15:50	11/09/16 15:26	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/08/16 15:50	11/09/16 15:26	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/08/16 15:50	11/09/16 15:26	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/08/16 15:50	11/09/16 15:26	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/08/16 15:50	11/09/16 15:26	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/08/16 15:50	11/09/16 15:26	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 15:26	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/08/16 15:50	11/09/16 15:26	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 15:26	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/08/16 15:50	11/09/16 15:26	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/08/16 15:50	11/09/16 15:26	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/08/16 15:50	11/09/16 15:26	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 15:26	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/08/16 15:50	11/09/16 15:26	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/08/16 15:50	11/09/16 15:26	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/08/16 15:50	11/09/16 15:26	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/08/16 15:50	11/09/16 15:26	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/08/16 15:50	11/09/16 15:26	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/08/16 15:50	11/09/16 15:26	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/08/16 15:50	11/09/16 15:26	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/08/16 15:50	11/09/16 15:26	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/08/16 15:50	11/09/16 15:26	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/08/16 15:50	11/09/16 15:26	1
Phenol	0.768	U	10.0	0.768	ug/L		11/08/16 15:50	11/09/16 15:26	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/08/16 15:50	11/09/16 15:26	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/08/16 15:50	11/09/16 15:26	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/08/16 15:50	11/09/16 15:26	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/08/16 15:50	11/09/16 15:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	69		23 - 130				11/08/16 15:50	11/09/16 15:26	1
2-Fluorophenol	67		10 - 130				11/08/16 15:50	11/09/16 15:26	1
Nitrobenzene-d5	69		27 - 130				11/08/16 15:50	11/09/16 15:26	1
Phenol-d5	72		10 - 130				11/08/16 15:50	11/09/16 15:26	1
Terphenyl-d14	57		10 - 141				11/08/16 15:50	11/09/16 15:26	1
2,4,6-Tribromophenol	66		18 - 130				11/08/16 15:50	11/09/16 15:26	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 05:51	1
alpha-BHC	0.00492	U	0.0568	0.00492	ug/L		11/07/16 13:38	11/11/16 05:51	1
alpha-Chlordane	0.00596	U	0.0568	0.00596	ug/L		11/07/16 13:38	11/11/16 05:51	1
beta-BHC	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 05:51	1
4,4'-DDD	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 05:51	1
4,4'-DDE	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 05:51	1
4,4'-DDT	0.00766	U	0.0568	0.00766	ug/L		11/07/16 13:38	11/11/16 05:51	1
delta-BHC	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 05:51	1
Dieldrin	0.0123	U	0.0568	0.0123	ug/L		11/07/16 13:38	11/11/16 05:51	1
Endosulfan I	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 05:51	1
Endosulfan II	0.00814	U	0.0568	0.00814	ug/L		11/07/16 13:38	11/11/16 05:51	1
Endosulfan sulfate	0.00832	U	0.0568	0.00832	ug/L		11/07/16 13:38	11/11/16 05:51	1
Endrin	0.00728	U	0.0568	0.00728	ug/L		11/07/16 13:38	11/11/16 05:51	1
Endrin aldehyde	0.00473	U	0.0568	0.00473	ug/L		11/07/16 13:38	11/11/16 05:51	1
Endrin ketone	0.00776	U	0.0568	0.00776	ug/L		11/07/16 13:38	11/11/16 05:51	1
gamma-BHC (Lindane)	0.00426	U	0.0568	0.00426	ug/L		11/07/16 13:38	11/11/16 05:51	1
gamma-Chlordane	0.00634	U	0.0568	0.00634	ug/L		11/07/16 13:38	11/11/16 05:51	1
Heptachlor	0.00615	U	0.0568	0.00615	ug/L		11/07/16 13:38	11/11/16 05:51	1
Heptachlor epoxide	0.00492	U	0.0568	0.00492	ug/L		11/07/16 13:38	11/11/16 05:51	1
Methoxychlor	0.00946	U	0.0568	0.00946	ug/L		11/07/16 13:38	11/11/16 05:51	1
Toxaphene	0.643	U	5.68	0.643	ug/L		11/07/16 13:38	11/11/16 05:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	83		10 - 152	11/07/16 13:38	11/11/16 05:51	1
Tetrachloro-m-xylene	90		57 - 127	11/07/16 13:38	11/11/16 05:51	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 05:32	1
Aroclor 1221	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 05:32	1
Aroclor 1232	0.416	U	0.757	0.416	ug/L		11/07/16 13:38	11/10/16 05:32	1
Aroclor 1242	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 05:32	1
Aroclor 1248	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 05:32	1
Aroclor 1254	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 05:32	1
Aroclor 1260	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 05:32	1
Aroclor 1262	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 05:32	1
Aroclor 1268	0.104	U	0.568	0.104	ug/L		11/07/16 13:38	11/10/16 05:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	87		10 - 150	11/07/16 13:38	11/10/16 05:32	1
DCB Decachlorobiphenyl	60		10 - 150	11/07/16 13:38	11/10/16 05:32	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000161	U	0.00240	0.000161	mg/L		11/09/16 22:36	11/16/16 01:47	1
Bolstar	0.000302	U	0.000961	0.000302	mg/L		11/09/16 22:36	11/16/16 01:47	1
Chlorpyrifos	0.000346	U	0.00144	0.000346	mg/L		11/09/16 22:36	11/16/16 01:47	1
Coumaphos	0.000130	U	0.000961	0.000130	mg/L		11/09/16 22:36	11/16/16 01:47	1
Demeton-O	0.000134	U	0.000961	0.000134	mg/L		11/09/16 22:36	11/16/16 01:47	1
Demeton-S	0.0000663	U	0.00192	0.0000663	mg/L		11/09/16 22:36	11/16/16 01:47	1
Diazinon	0.000141	U	0.000480	0.000141	mg/L		11/09/16 22:36	11/16/16 01:47	1
Demeton, Total	0.000201	U	0.00288	0.000201	mg/L		11/09/16 22:36	11/16/16 01:47	1
Dichlorvos	0.000156	U	0.000480	0.000156	mg/L		11/09/16 22:36	11/16/16 01:47	1
Dimethoate	0.000431	U	0.00144	0.000431	mg/L		11/09/16 22:36	11/16/16 01:47	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM260 Trail

Lab Sample ID: 560-64786-24

Date Collected: 11/03/16 20:34

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Disulfoton	0.000309	U	0.000961	0.000309	mg/L		11/09/16 22:36	11/16/16 01:47	1
EPN	0.000143	U	0.00115	0.000143	mg/L		11/09/16 22:36	11/16/16 01:47	1
Ethoprop	0.000170	U	0.00144	0.000170	mg/L		11/09/16 22:36	11/16/16 01:47	1
Ethyl Parathion	0.000138	U	0.000961	0.000138	mg/L		11/09/16 22:36	11/16/16 01:47	1
Famphur	0.000172	U	0.000961	0.000172	mg/L		11/09/16 22:36	11/16/16 01:47	1
Fensulfothion	0.000523	U	0.00240	0.000523	mg/L		11/09/16 22:36	11/16/16 01:47	1
Fenthion	0.000148	U	0.00240	0.000148	mg/L		11/09/16 22:36	11/16/16 01:47	1
Malathion	0.000128	U	0.00192	0.000128	mg/L		11/09/16 22:36	11/16/16 01:47	1
Merphos	0.000167	U	0.00480	0.000167	mg/L		11/09/16 22:36	11/16/16 01:47	1
Methyl parathion	0.000135	U	0.00384	0.000135	mg/L		11/09/16 22:36	11/16/16 01:47	1
Mevinphos	0.000442	U	0.00596	0.000442	mg/L		11/09/16 22:36	11/16/16 01:47	1
Naled	0.000768	U	0.00192	0.000768	mg/L		11/09/16 22:36	11/16/16 01:47	1
Phorate	0.000148	U	0.00115	0.000148	mg/L		11/09/16 22:36	11/16/16 01:47	1
Ronnel	0.000111	U	0.00961	0.000111	mg/L		11/09/16 22:36	11/16/16 01:47	1
Sulfotepp	0.000161	U	0.00144	0.000161	mg/L		11/09/16 22:36	11/16/16 01:47	1
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00336	0.000119	mg/L		11/09/16 22:36	11/16/16 01:47	1
Thionazin	0.000300	U	0.000961	0.000300	mg/L		11/09/16 22:36	11/16/16 01:47	1
Tokuthion	0.000118	U	0.00154	0.000118	mg/L		11/09/16 22:36	11/16/16 01:47	1
Trichloronate	0.000232	U	0.00144	0.000232	mg/L		11/09/16 22:36	11/16/16 01:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	65		49 - 171	11/09/16 22:36	11/16/16 01:47	1
Triphenylphosphate	91		60 - 154	11/09/16 22:36	11/16/16 01:47	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0962	U	4.81	0.0962	ug/L		11/09/16 07:48	11/12/16 02:26	1
Dicamba	0.0817	U	0.481	0.0817	ug/L		11/09/16 07:48	11/12/16 02:26	1
Mecoprop	18.3	U	115	18.3	ug/L		11/09/16 07:48	11/12/16 02:26	1
MCPA	16.3	U	115	16.3	ug/L		11/09/16 07:48	11/12/16 02:26	1
Dichlorprop	0.144	U	0.481	0.144	ug/L		11/09/16 07:48	11/12/16 02:26	1
2,4-D	0.0356	U	0.481	0.0356	ug/L		11/09/16 07:48	11/12/16 02:26	1
Silvex (2,4,5-TP)	0.0596	U	0.240	0.0596	ug/L		11/09/16 07:48	11/12/16 02:26	1
2,4,5-T	0.0596	U	0.240	0.0596	ug/L		11/09/16 07:48	11/12/16 02:26	1
2,4-DB	0.144	U	0.481	0.144	ug/L		11/09/16 07:48	11/12/16 02:26	1
Dinoseb	0.154	U	0.962	0.154	ug/L		11/09/16 07:48	11/12/16 02:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	80		45 - 130	11/09/16 07:48	11/12/16 02:26	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	86.6	B	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 20:29	1
Magnesium	16.0		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 20:29	1
Potassium	1.75		0.500	0.375	mg/L		11/07/16 09:45	11/07/16 20:29	1
Silicon	5.40		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 20:29	1
Sodium	12.1		1.00	0.310	mg/L		11/07/16 09:45	11/07/16 20:29	1
Strontium	0.501		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 20:29	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM260 Trail

Lab Sample ID: 560-64786-24

Date Collected: 11/03/16 20:34

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.126		0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 12:31	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 12:31	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 12:31	1
Barium	0.0402		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 12:31	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 12:31	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 12:31	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 12:31	1
Copper	0.0272		0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 12:31	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 12:31	1
Lead	0.00132	J	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 12:31	1
Manganese	0.0178	J	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 12:31	1
Nickel	0.0616	F1	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 12:31	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 12:31	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 12:31	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 12:31	1
Zinc	0.0763	F1	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 12:31	1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/10/16 10:00	11/10/16 15:26	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.448	J	1.00	0.315	mg/L			11/05/16 05:44	1
Chloride	18.0		1.00	0.192	mg/L			11/05/16 05:44	1
Nitrate as N	1.12		0.500	0.103	mg/L			11/05/16 05:44	1
Sulfate	23.0		1.00	0.377	mg/L			11/05/16 05:44	1
Fluoride	0.160		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/10/16 11:21	1
Phosphorus	0.0577	J	0.100	0.0410	mg/L		11/08/16 08:04	11/09/16 12:21	1
Total Organic Carbon	0.447	J	1.00	0.285	mg/L			11/10/16 15:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	237		5.00	5.00	mg/L			11/14/16 15:22	1
Bicarbonate Alkalinity as CaCO3	237		5.00	5.00	mg/L			11/14/16 15:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/14/16 15:22	1
Total Dissolved Solids	350		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	4.00		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.814	J	1.00	0.285	mg/L			11/15/16 11:34	1

Client Sample ID: HSM270 Trail

Lab Sample ID: 560-64786-25

Date Collected: 11/03/16 21:08

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/08/16 13:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM270 Trail

Lab Sample ID: 560-64786-25

Date Collected: 11/03/16 21:08

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/08/16 13:37	1
Benzene	0.330	U	1.00	0.330	ug/L			11/08/16 13:37	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/08/16 13:37	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/08/16 13:37	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/08/16 13:37	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/08/16 13:37	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/08/16 13:37	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/08/16 13:37	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/08/16 13:37	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/08/16 13:37	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/08/16 13:37	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/08/16 13:37	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/08/16 13:37	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/08/16 13:37	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/08/16 13:37	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/08/16 13:37	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/08/16 13:37	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/08/16 13:37	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/08/16 13:37	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/08/16 13:37	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/08/16 13:37	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/08/16 13:37	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/08/16 13:37	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/08/16 13:37	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/08/16 13:37	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/08/16 13:37	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/08/16 13:37	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/08/16 13:37	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/08/16 13:37	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/08/16 13:37	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/08/16 13:37	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/08/16 13:37	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/08/16 13:37	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/08/16 13:37	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/08/16 13:37	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/08/16 13:37	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/08/16 13:37	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/08/16 13:37	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/08/16 13:37	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/08/16 13:37	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/08/16 13:37	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/08/16 13:37	1
EDB	0.175	U	1.00	0.175	ug/L			11/08/16 13:37	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/08/16 13:37	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/08/16 13:37	1
Ethylene oxide	30.0	U F2	50.0	30.0	ug/L			11/08/16 13:37	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/08/16 13:37	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/08/16 13:37	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/08/16 13:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Client Sample ID: HSM270 Trail

Lab Sample ID: 560-64786-25

Date Collected: 11/03/16 21:08

Matrix: Water

Date Received: 11/04/16 11:46

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			11/08/16 13:37	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/08/16 13:37	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/08/16 13:37	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/08/16 13:37	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/08/16 13:37	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/08/16 13:37	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/08/16 13:37	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/08/16 13:37	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/08/16 13:37	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/08/16 13:37	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/08/16 13:37	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/08/16 13:37	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/08/16 13:37	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/08/16 13:37	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/08/16 13:37	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/08/16 13:37	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/08/16 13:37	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/08/16 13:37	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/08/16 13:37	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/08/16 13:37	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/08/16 13:37	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/08/16 13:37	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/08/16 13:37	1
Styrene	0.200	U	1.00	0.200	ug/L			11/08/16 13:37	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/08/16 13:37	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/08/16 13:37	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/08/16 13:37	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/08/16 13:37	1
Toluene	0.495	U	1.00	0.495	ug/L			11/08/16 13:37	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/08/16 13:37	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/08/16 13:37	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/08/16 13:37	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/08/16 13:37	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/08/16 13:37	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/08/16 13:37	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/08/16 13:37	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/08/16 13:37	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/08/16 13:37	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/08/16 13:37	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/08/16 13:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/08/16 13:37	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/08/16 13:37	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/08/16 13:37	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/08/16 13:37	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/08/16 13:37	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/08/16 13:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130		11/08/16 13:37	1
Dibromofluoromethane (Surr)	105		69 - 130		11/08/16 13:37	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Trail**

**Lab Sample ID: 560-64786-25**

**Date Collected: 11/03/16 21:08**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 140		11/08/16 13:37	1
Toluene-d8 (Surr)	99		70 - 130		11/08/16 13:37	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/09/16 14:46	11/10/16 16:33	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/09/16 14:46	11/10/16 16:33	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/09/16 14:46	11/10/16 16:33	1
Benzo[a]anthracene	0.646	U F1	10.0	0.646	ug/L		11/09/16 14:46	11/10/16 16:33	1
Benzo[a]pyrene	0.742	U F1	10.0	0.742	ug/L		11/09/16 14:46	11/10/16 16:33	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/09/16 14:46	11/10/16 16:33	1
Benzo[g,h,i]perylene	1.10	U F1	10.0	1.10	ug/L		11/09/16 14:46	11/10/16 16:33	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/09/16 14:46	11/10/16 16:33	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/09/16 14:46	11/10/16 16:33	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/09/16 14:46	11/10/16 16:33	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/09/16 14:46	11/10/16 16:33	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>17.4</b>	<b>J</b>	20.0	5.00	ug/L		11/09/16 14:46	11/10/16 16:33	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/09/16 14:46	11/10/16 16:33	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/09/16 14:46	11/10/16 16:33	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 16:33	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/09/16 14:46	11/10/16 16:33	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/09/16 14:46	11/10/16 16:33	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/09/16 14:46	11/10/16 16:33	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/09/16 14:46	11/10/16 16:33	1
Chrysene	0.494	U F1	10.0	0.494	ug/L		11/09/16 14:46	11/10/16 16:33	1
Dibenz(a,h)anthracene	0.874	U F1	10.0	0.874	ug/L		11/09/16 14:46	11/10/16 16:33	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/09/16 14:46	11/10/16 16:33	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/09/16 14:46	11/10/16 16:33	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/09/16 14:46	11/10/16 16:33	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/09/16 14:46	11/10/16 16:33	1
3,3'-Dichlorobenzidine	0.787	U F2 F1	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 16:33	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/09/16 14:46	11/10/16 16:33	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/09/16 14:46	11/10/16 16:33	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/09/16 14:46	11/10/16 16:33	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 16:33	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/09/16 14:46	11/10/16 16:33	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/09/16 14:46	11/10/16 16:33	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/09/16 14:46	11/10/16 16:33	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/09/16 14:46	11/10/16 16:33	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/09/16 14:46	11/10/16 16:33	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/09/16 14:46	11/10/16 16:33	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/09/16 14:46	11/10/16 16:33	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/09/16 14:46	11/10/16 16:33	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/09/16 14:46	11/10/16 16:33	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/09/16 14:46	11/10/16 16:33	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/09/16 14:46	11/10/16 16:33	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 16:33	1
Indeno[1,2,3-cd]pyrene	0.922	U F1	10.0	0.922	ug/L		11/09/16 14:46	11/10/16 16:33	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 16:33	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Trail**

**Lab Sample ID: 560-64786-25**

**Date Collected: 11/03/16 21:08**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/09/16 14:46	11/10/16 16:33	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/09/16 14:46	11/10/16 16:33	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/09/16 14:46	11/10/16 16:33	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 16:33	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/09/16 14:46	11/10/16 16:33	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/09/16 14:46	11/10/16 16:33	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/09/16 14:46	11/10/16 16:33	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/09/16 14:46	11/10/16 16:33	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/09/16 14:46	11/10/16 16:33	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/09/16 14:46	11/10/16 16:33	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/09/16 14:46	11/10/16 16:33	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/09/16 14:46	11/10/16 16:33	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/09/16 14:46	11/10/16 16:33	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/09/16 14:46	11/10/16 16:33	1
Phenol	0.768	U	10.0	0.768	ug/L		11/09/16 14:46	11/10/16 16:33	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/09/16 14:46	11/10/16 16:33	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/09/16 14:46	11/10/16 16:33	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/09/16 14:46	11/10/16 16:33	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/09/16 14:46	11/10/16 16:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	81		23 - 130	11/09/16 14:46	11/10/16 16:33	1
2-Fluorophenol	78		10 - 130	11/09/16 14:46	11/10/16 16:33	1
Nitrobenzene-d5	82		27 - 130	11/09/16 14:46	11/10/16 16:33	1
Phenol-d5	82		10 - 130	11/09/16 14:46	11/10/16 16:33	1
Terphenyl-d14	42		10 - 141	11/09/16 14:46	11/10/16 16:33	1
2,4,6-Tribromophenol	79		18 - 130	11/09/16 14:46	11/10/16 16:33	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00476	U	0.0571	0.00476	ug/L		11/08/16 08:34	11/14/16 16:27	1
alpha-BHC	0.00495	U	0.0571	0.00495	ug/L		11/08/16 08:34	11/14/16 16:27	1
alpha-Chlordane	0.00599	U	0.0571	0.00599	ug/L		11/08/16 08:34	11/14/16 16:27	1
beta-BHC	0.00476	U	0.0571	0.00476	ug/L		11/08/16 08:34	11/14/16 16:27	1
4,4'-DDD	0.00476	U	0.0571	0.00476	ug/L		11/08/16 08:34	11/14/16 16:27	1
4,4'-DDE	0.00476	U	0.0571	0.00476	ug/L		11/08/16 08:34	11/14/16 16:27	1
4,4'-DDT	0.00770	U	0.0571	0.00770	ug/L		11/08/16 08:34	11/14/16 16:27	1
delta-BHC	0.00476	U	0.0571	0.00476	ug/L		11/08/16 08:34	11/14/16 16:27	1
Dieldrin	0.0124	U	0.0571	0.0124	ug/L		11/08/16 08:34	11/14/16 16:27	1
Endosulfan I	0.00476	U	0.0571	0.00476	ug/L		11/08/16 08:34	11/14/16 16:27	1
Endosulfan II	0.00818	U	0.0571	0.00818	ug/L		11/08/16 08:34	11/14/16 16:27	1
Endosulfan sulfate	0.00837	U	0.0571	0.00837	ug/L		11/08/16 08:34	11/14/16 16:27	1
Endrin	0.00732	U	0.0571	0.00732	ug/L		11/08/16 08:34	11/14/16 16:27	1
Endrin aldehyde	0.00476	U	0.0571	0.00476	ug/L		11/08/16 08:34	11/14/16 16:27	1
Endrin ketone	0.00780	U	0.0571	0.00780	ug/L		11/08/16 08:34	11/14/16 16:27	1
gamma-BHC (Lindane)	0.00428	U	0.0571	0.00428	ug/L		11/08/16 08:34	11/14/16 16:27	1
gamma-Chlordane	0.00637	U	0.0571	0.00637	ug/L		11/08/16 08:34	11/14/16 16:27	1
Heptachlor	0.00618	U	0.0571	0.00618	ug/L		11/08/16 08:34	11/14/16 16:27	1
Heptachlor epoxide	0.00495	U	0.0571	0.00495	ug/L		11/08/16 08:34	11/14/16 16:27	1
Methoxychlor	0.00951	U	0.0571	0.00951	ug/L		11/08/16 08:34	11/14/16 16:27	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Trail**

**Lab Sample ID: 560-64786-25**

**Date Collected: 11/03/16 21:08**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toxaphene	0.647	U	5.71	0.647	ug/L		11/08/16 08:34	11/14/16 16:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	91		10 - 152				11/08/16 08:34	11/14/16 16:27	1
Tetrachloro-m-xylene	101		57 - 127				11/08/16 08:34	11/14/16 16:27	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.105	U	0.571	0.105	ug/L		11/08/16 08:34	11/14/16 16:58	1
Aroclor 1221	0.105	U	0.571	0.105	ug/L		11/08/16 08:34	11/14/16 16:58	1
Aroclor 1232	0.418	U	0.761	0.418	ug/L		11/08/16 08:34	11/14/16 16:58	1
Aroclor 1242	0.105	U	0.571	0.105	ug/L		11/08/16 08:34	11/14/16 16:58	1
Aroclor 1248	0.105	U	0.571	0.105	ug/L		11/08/16 08:34	11/14/16 16:58	1
Aroclor 1254	0.105	U	0.571	0.105	ug/L		11/08/16 08:34	11/14/16 16:58	1
Aroclor 1260	0.105	U	0.571	0.105	ug/L		11/08/16 08:34	11/14/16 16:58	1
Aroclor 1262	0.105	U	0.571	0.105	ug/L		11/08/16 08:34	11/14/16 16:58	1
Aroclor 1268	0.105	U	0.571	0.105	ug/L		11/08/16 08:34	11/14/16 16:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	117		10 - 150				11/08/16 08:34	11/14/16 16:58	1
DCB Decachlorobiphenyl	69		10 - 150				11/08/16 08:34	11/14/16 16:58	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000163	U	0.00242	0.000163	mg/L		11/09/16 22:36	11/16/16 03:21	1
Bolstar	0.000304	U	0.000968	0.000304	mg/L		11/09/16 22:36	11/16/16 03:21	1
Chlorpyrifos	0.000348	U	0.00145	0.000348	mg/L		11/09/16 22:36	11/16/16 03:21	1
Coumaphos	0.000131	U	0.000968	0.000131	mg/L		11/09/16 22:36	11/16/16 03:21	1
Demeton-O	0.000135	U	0.000968	0.000135	mg/L		11/09/16 22:36	11/16/16 03:21	1
Demeton-S	0.0000668	U	0.00194	0.0000668	mg/L		11/09/16 22:36	11/16/16 03:21	1
Diazinon	0.000142	U	0.000484	0.000142	mg/L		11/09/16 22:36	11/16/16 03:21	1
Demeton, Total	0.000202	U F1	0.00290	0.000202	mg/L		11/09/16 22:36	11/16/16 03:21	1
Dichlorvos	0.000157	U	0.000484	0.000157	mg/L		11/09/16 22:36	11/16/16 03:21	1
Dimethoate	0.000435	U	0.00145	0.000435	mg/L		11/09/16 22:36	11/16/16 03:21	1
Disulfoton	0.000312	U	0.000968	0.000312	mg/L		11/09/16 22:36	11/16/16 03:21	1
EPN	0.000144	U	0.00116	0.000144	mg/L		11/09/16 22:36	11/16/16 03:21	1
Ethoprop	0.000171	U	0.00145	0.000171	mg/L		11/09/16 22:36	11/16/16 03:21	1
Ethyl Parathion	0.000139	U	0.000968	0.000139	mg/L		11/09/16 22:36	11/16/16 03:21	1
Famphur	0.000173	U	0.000968	0.000173	mg/L		11/09/16 22:36	11/16/16 03:21	1
Fensulfothion	0.000526	U	0.00242	0.000526	mg/L		11/09/16 22:36	11/16/16 03:21	1
Fenthion	0.000149	U	0.00242	0.000149	mg/L		11/09/16 22:36	11/16/16 03:21	1
Malathion	0.000129	U	0.00194	0.000129	mg/L		11/09/16 22:36	11/16/16 03:21	1
Merphos	0.000168	U	0.00484	0.000168	mg/L		11/09/16 22:36	11/16/16 03:21	1
Methyl parathion	0.000136	U	0.00387	0.000136	mg/L		11/09/16 22:36	11/16/16 03:21	1
Mevinphos	0.000445	U	0.00600	0.000445	mg/L		11/09/16 22:36	11/16/16 03:21	1
Naled	0.000774	U	0.00194	0.000774	mg/L		11/09/16 22:36	11/16/16 03:21	1
Phorate	0.000149	U	0.00116	0.000149	mg/L		11/09/16 22:36	11/16/16 03:21	1
Ronnel	0.000112	U	0.00968	0.000112	mg/L		11/09/16 22:36	11/16/16 03:21	1
Sulfotepp	0.000163	U	0.00145	0.000163	mg/L		11/09/16 22:36	11/16/16 03:21	1
Tetrachlorvinphos (Stirophos)	0.000120	U	0.00339	0.000120	mg/L		11/09/16 22:36	11/16/16 03:21	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

**Client Sample ID: HSM270 Trail**

**Lab Sample ID: 560-64786-25**

**Date Collected: 11/03/16 21:08**

**Matrix: Water**

**Date Received: 11/04/16 11:46**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thionazin	0.000302	U	0.000968	0.000302	mg/L		11/09/16 22:36	11/16/16 03:21	1
Tokuthion	0.000119	U	0.00155	0.000119	mg/L		11/09/16 22:36	11/16/16 03:21	1
Trichloronate	0.000234	U	0.00145	0.000234	mg/L		11/09/16 22:36	11/16/16 03:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	54		49 - 171				11/09/16 22:36	11/16/16 03:21	1
Triphenylphosphate	80		60 - 154				11/09/16 22:36	11/16/16 03:21	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.0957	U	4.79	0.0957	ug/L		11/09/16 07:48	11/12/16 02:45	1
Dicamba	0.0814	U	0.479	0.0814	ug/L		11/09/16 07:48	11/12/16 02:45	1
Mecoprop	18.2	U	115	18.2	ug/L		11/09/16 07:48	11/12/16 02:45	1
MCPA	16.3	U	115	16.3	ug/L		11/09/16 07:48	11/12/16 02:45	1
Dichlorprop	0.144	U	0.479	0.144	ug/L		11/09/16 07:48	11/12/16 02:45	1
2,4-D	0.0354	U	0.479	0.0354	ug/L		11/09/16 07:48	11/12/16 02:45	1
Silvex (2,4,5-TP)	0.0594	U	0.239	0.0594	ug/L		11/09/16 07:48	11/12/16 02:45	1
2,4,5-T	0.0594	U	0.239	0.0594	ug/L		11/09/16 07:48	11/12/16 02:45	1
2,4-DB	0.144	U	0.479	0.144	ug/L		11/09/16 07:48	11/12/16 02:45	1
Dinoseb	0.153	U	0.957	0.153	ug/L		11/09/16 07:48	11/12/16 02:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	84		45 - 130				11/09/16 07:48	11/12/16 02:45	1

## Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	80.8	F1	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 19:03	1
Magnesium	14.5		0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 19:03	1
Potassium	2.42	B	0.500	0.375	mg/L		11/07/16 09:45	11/07/16 19:03	1
Silicon	5.35		0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 19:03	1
Sodium	11.4		1.00	0.310	mg/L		11/07/16 09:45	11/08/16 15:32	1
Strontium	0.457		0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 19:03	1

## Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.239		0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 15:05	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 15:05	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 15:05	1
Barium	0.0389		0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 15:05	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 15:05	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 15:05	1
Chromium	0.00145	J	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 15:05	1
Copper	0.0287		0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 15:05	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 15:05	1
Lead	0.00139	J	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 15:05	1
Manganese	0.0167	J	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 15:05	1
Nickel	0.0431	F1	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 15:05	1
Selenium	0.00249	J	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 15:05	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 15:05	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 15:05	1
Zinc	0.0560	F1	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 15:05	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/10/16 10:00	11/10/16 16:11	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.448	J	1.00	0.315	mg/L			11/05/16 07:02	1
Chloride	17.3		1.00	0.192	mg/L			11/05/16 07:02	1
Nitrate as N	1.05		0.500	0.103	mg/L			11/05/16 07:02	1
Sulfate	22.2		1.00	0.377	mg/L			11/05/16 07:02	1
Fluoride	0.135		0.100	0.0200	mg/L			11/09/16 10:50	1
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L			11/15/16 12:32	1
Phosphorus	0.0563	J	0.100	0.0410	mg/L		11/09/16 08:57	11/11/16 10:50	1
Total Organic Carbon	3.02		1.00	0.285	mg/L			11/10/16 15:31	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.5		0.1	0.1	SU			11/04/16 16:21	1
Total Alkalinity as CaCO3	216		5.00	5.00	mg/L			11/15/16 14:50	1
Bicarbonate Alkalinity as CaCO3	216		5.00	5.00	mg/L			11/15/16 14:50	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/15/16 14:50	1
Total Dissolved Solids	317		10.0	10.0	mg/L			11/09/16 09:38	1
Total Suspended Solids	8.20		2.00	2.00	mg/L			11/07/16 15:45	1

## General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.17		1.00	0.285	mg/L			11/15/16 11:34	1

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-133589/8

Matrix: Water

Analysis Batch: 133589

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/06/16 11:52	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/06/16 11:52	1
Benzene	0.330	U	1.00	0.330	ug/L			11/06/16 11:52	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/06/16 11:52	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 11:52	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/06/16 11:52	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/06/16 11:52	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/06/16 11:52	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/06/16 11:52	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/06/16 11:52	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/06/16 11:52	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/06/16 11:52	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/06/16 11:52	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/06/16 11:52	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/06/16 11:52	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/06/16 11:52	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/06/16 11:52	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/06/16 11:52	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/06/16 11:52	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/06/16 11:52	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/06/16 11:52	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 11:52	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/06/16 11:52	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/06/16 11:52	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/06/16 11:52	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/06/16 11:52	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/06/16 11:52	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/06/16 11:52	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/06/16 11:52	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/06/16 11:52	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/06/16 11:52	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/06/16 11:52	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/06/16 11:52	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/06/16 11:52	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/06/16 11:52	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/06/16 11:52	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/06/16 11:52	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/06/16 11:52	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/06/16 11:52	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/06/16 11:52	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/06/16 11:52	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/06/16 11:52	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/06/16 11:52	1
EDB	0.175	U	1.00	0.175	ug/L			11/06/16 11:52	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/06/16 11:52	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 11:52	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/06/16 11:52	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/06/16 11:52	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-133589/8

Matrix: Water

Analysis Batch: 133589

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/06/16 11:52	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/06/16 11:52	1
Hexane	2.00	U	5.00	2.00	ug/L			11/06/16 11:52	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/06/16 11:52	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/06/16 11:52	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/06/16 11:52	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/06/16 11:52	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/06/16 11:52	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/06/16 11:52	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/06/16 11:52	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/06/16 11:52	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/06/16 11:52	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/06/16 11:52	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/06/16 11:52	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/06/16 11:52	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/06/16 11:52	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/06/16 11:52	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/06/16 11:52	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/06/16 11:52	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/06/16 11:52	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/06/16 11:52	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/06/16 11:52	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/06/16 11:52	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/06/16 11:52	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/06/16 11:52	1
Styrene	0.200	U	1.00	0.200	ug/L			11/06/16 11:52	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 11:52	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/06/16 11:52	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/06/16 11:52	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/06/16 11:52	1
Toluene	0.495	U	1.00	0.495	ug/L			11/06/16 11:52	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/06/16 11:52	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/06/16 11:52	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/06/16 11:52	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/06/16 11:52	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/06/16 11:52	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/06/16 11:52	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/06/16 11:52	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/06/16 11:52	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/06/16 11:52	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/06/16 11:52	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/06/16 11:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/06/16 11:52	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 11:52	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/06/16 11:52	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/06/16 11:52	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/06/16 11:52	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/06/16 11:52	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-133589/8

Matrix: Water

Analysis Batch: 133589

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		70 - 130		11/06/16 11:52	1
Dibromofluoromethane (Surr)	102		69 - 130		11/06/16 11:52	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 140		11/06/16 11:52	1
Toluene-d8 (Surr)	100		70 - 130		11/06/16 11:52	1

Lab Sample ID: LCS 560-133589/3

Matrix: Water

Analysis Batch: 133589

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	26.95		ug/L		108	60 - 150
Acetonitrile	250	257.1		ug/L		103	52 - 160
Benzene	25.0	25.35		ug/L		101	70 - 130
Benzyl chloride	25.0	29.07		ug/L		116	66 - 153
Bromobenzene	25.0	25.83		ug/L		103	70 - 130
Bromochloromethane	25.0	26.32		ug/L		105	70 - 130
Bromoform	25.0	24.31		ug/L		97	63 - 145
Bromomethane	25.0	22.39		ug/L		90	50 - 146
1,3-Butadiene	25.0	23.77		ug/L		95	40 - 138
2-Butanone (MEK)	25.0	24.41		ug/L		98	68 - 144
Carbon disulfide	25.0	26.17		ug/L		105	52 - 156
Carbon tetrachloride	25.0	27.02		ug/L		108	70 - 138
Chlorobenzene	25.0	25.81		ug/L		103	70 - 130
2-Chloro-1,3-butadiene	25.0	26.89		ug/L		108	69 - 140
Chlorodibromomethane	25.0	24.84		ug/L		99	70 - 137
Chloroethane	25.0	20.72		ug/L		83	54 - 141
Chloroform	25.0	25.76		ug/L		103	70 - 130
1-Chlorohexane	25.0	27.06		ug/L		108	64 - 130
Chloromethane	25.0	22.09		ug/L		88	46 - 142
2-Chlorotoluene	25.0	25.66		ug/L		103	70 - 130
4-Chlorotoluene	25.0	26.62		ug/L		106	70 - 130
cis-1,4-Dichloro-2-butene	25.0	14.07		ug/L		56	10 - 184
cis-1,2-Dichloroethene	25.0	25.70		ug/L		103	70 - 130
cis-1,3-Dichloropropene	25.0	27.22		ug/L		109	70 - 138
Cyclohexane	25.0	24.83		ug/L		99	40 - 141
Cyclohexanone	125	149.7		ug/L		120	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	24.29		ug/L		97	70 - 149
Dibromomethane	25.0	25.72		ug/L		103	70 - 130
1,2-Dichlorobenzene	25.0	25.79		ug/L		103	70 - 130
1,3-Dichlorobenzene	25.0	25.61		ug/L		102	70 - 130
1,4-Dichlorobenzene	25.0	25.52		ug/L		102	70 - 130
Dichlorobromomethane	25.0	25.42		ug/L		102	70 - 130
Dichlorodifluoromethane	25.0	13.93		ug/L		56	10 - 181
1,1-Dichloroethane	25.0	24.53		ug/L		98	70 - 130
1,2-Dichloroethane	25.0	25.05		ug/L		100	70 - 131
1,1-Dichloroethene	25.0	26.48		ug/L		106	70 - 139
1,2-Dichloropropane	25.0	26.19		ug/L		105	70 - 130
1,3-Dichloropropane	25.0	25.74		ug/L		103	70 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-133589/3

Matrix: Water

Analysis Batch: 133589

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	26.01		ug/L		104	65 - 145
1,1-Dichloropropene	25.0	25.45		ug/L		102	70 - 130
1,4-Dioxane	500	614.5		ug/L		123	66 - 150
EDB	25.0	27.17		ug/L		109	70 - 130
Ethyl acetate	50.0	53.96		ug/L		108	59 - 200
Ethylbenzene	25.0	26.17		ug/L		105	70 - 130
Ethylene oxide	250	251.5		ug/L		101	10 - 200
Ethyl ether	25.0	25.89		ug/L		104	69 - 136
Ethyl methacrylate	25.0	26.82		ug/L		107	70 - 130
Hexachlorobutadiene	25.0	27.78		ug/L		111	68 - 165
Hexane	25.0	27.20		ug/L		109	10 - 185
2-Hexanone	25.0	27.02		ug/L		108	70 - 138
Iodomethane	25.0	24.62		ug/L		98	64 - 146
Isobutyl alcohol	625	646.4		ug/L		103	27 - 199
Isooctane	25.0	25.10		ug/L		100	10 - 181
Isopropylbenzene	25.0	27.12		ug/L		108	70 - 131
4-Isopropyltoluene	25.0	27.08		ug/L		108	70 - 130
Methacrylonitrile	250	259.0		ug/L		104	70 - 139
Methylene Chloride	25.0	24.85		ug/L		99	70 - 130
Methyl methacrylate	50.0	54.56		ug/L		109	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	26.30		ug/L		105	70 - 138
Methyl tert-butyl ether	25.0	25.33		ug/L		101	70 - 131
m-Xylene & p-Xylene	25.0	26.71		ug/L		107	70 - 139
Naphthalene	25.0	28.60		ug/L		114	70 - 159
n-Butylbenzene	25.0	27.62		ug/L		110	70 - 135
n-Heptane	25.0	25.94		ug/L		104	10 - 186
2-Nitropropane	50.0	55.20		ug/L		110	22 - 173
N-Propylbenzene	25.0	27.06		ug/L		108	70 - 131
1-Octene	25.0	25.73		ug/L		103	10 - 185
o-Xylene	25.0	25.88		ug/L		104	70 - 130
Pentachloroethane	25.0	25.37		ug/L		101	70 - 146
Propionitrile	250	241.2		ug/L		96	70 - 144
sec-Butylbenzene	25.0	27.26		ug/L		109	70 - 134
Styrene	25.0	27.47		ug/L		110	70 - 130
tert-Butylbenzene	25.0	27.08		ug/L		108	70 - 132
1,1,1,2-Tetrachloroethane	25.0	26.00		ug/L		104	65 - 130
1,1,2,2-Tetrachloroethane	25.0	25.82		ug/L		103	65 - 130
Tetrachloroethene	25.0	26.08		ug/L		104	70 - 135
Toluene	25.0	25.54		ug/L		102	70 - 130
trans-1,4-Dichloro-2-butene	25.0	15.08		ug/L		60	37 - 174
trans-1,2-Dichloroethene	25.0	26.95		ug/L		108	70 - 134
trans-1,3-Dichloropropene	25.0	24.08		ug/L		96	70 - 143
1,2,3-Trichlorobenzene	25.0	28.33		ug/L		113	70 - 158
1,2,4-Trichlorobenzene	25.0	26.70		ug/L		107	70 - 157
1,3,5-Trichlorobenzene	25.0	26.41		ug/L		106	70 - 131
1,1,1-Trichloroethane	25.0	26.45		ug/L		106	65 - 130
1,1,2-Trichloroethane	25.0	25.69		ug/L		103	70 - 130
Trichloroethene	25.0	26.46		ug/L		106	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-133589/3

Matrix: Water

Analysis Batch: 133589

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	26.90		ug/L		108	39 - 146
1,2,3-Trichloropropane	25.0	26.00		ug/L		104	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	25.49		ug/L		102	27 - 148
1,2,4-Trimethylbenzene	25.0	26.89		ug/L		108	70 - 130
1,3,5-Trimethylbenzene	25.0	27.35		ug/L		109	70 - 131
Vinyl acetate	50.0	52.33		ug/L		105	18 - 200
Vinyl chloride	25.0	20.07		ug/L		80	49 - 140
Xylenes, Total	50.0	52.59		ug/L		105	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
Dibromofluoromethane (Surr)	101		69 - 130
1,2-Dichloroethane-d4 (Surr)	102		70 - 140
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: 560-64653-A-6 MS

Matrix: Water

Analysis Batch: 133589

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	60.2	J	250	343.1		ug/L		113	32 - 157
Acetonitrile	100	U	2500	1080		ug/L		43	10 - 182
Benzene	1360		250	1518	4	ug/L		64	70 - 130
Benzyl chloride	2.78	U	250	262.7		ug/L		105	49 - 130
Bromobenzene	1.28	U	250	232.3		ug/L		93	69 - 130
Bromochloromethane	2.28	U	250	242.7		ug/L		97	70 - 130
Bromoform	5.00	U	250	201.4		ug/L		81	57 - 145
Bromomethane	3.92	U	250	191.7		ug/L		77	56 - 141
1,3-Butadiene	3.00	U	250	237.9		ug/L		95	25 - 196
2-Butanone (MEK)	10.0	U	250	239.7		ug/L		96	42 - 142
Carbon disulfide	5.00	U	250	238.9		ug/L		96	59 - 164
Carbon tetrachloride	2.51	U	250	239.4		ug/L		96	70 - 138
Chlorobenzene	1.36	U	250	230.5		ug/L		92	70 - 130
2-Chloro-1,3-butadiene	2.00	U	250	244.2		ug/L		98	55 - 144
Chlorodibromomethane	2.23	U	250	213.6		ug/L		85	62 - 145
Chloroethane	4.00	U	250	219.4		ug/L		88	62 - 142
Chloroform	1.73	U	250	236.7		ug/L		95	70 - 130
1-Chlorohexane	5.00	U	250	238.1		ug/L		95	64 - 130
Chloromethane	3.90	U	250	209.6		ug/L		84	57 - 148
2-Chlorotoluene	1.55	U	250	230.5		ug/L		92	70 - 130
4-Chlorotoluene	2.42	U	250	241.7		ug/L		97	69 - 130
cis-1,4-Dichloro-2-butene	5.00	U	250	94.71		ug/L		38	24 - 150
cis-1,2-Dichloroethene	1.21	U	250	242.8		ug/L		97	70 - 130
cis-1,3-Dichloropropene	1.46	U	250	235.4		ug/L		94	46 - 136
Cyclohexane	10.0	U	250	226.4		ug/L		91	46 - 144
Cyclohexanone	50.0	U	1250	1358		ug/L		109	10 - 193
1,2-Dibromo-3-Chloropropane	3.49	U	250	241.0		ug/L		96	56 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64653-A-6 MS

Matrix: Water

Analysis Batch: 133589

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	1.65	U	250	242.3		ug/L		97	70 - 130
1,2-Dichlorobenzene	1.70	U	250	238.8		ug/L		96	70 - 130
1,3-Dichlorobenzene	1.28	U	250	233.9		ug/L		94	70 - 130
1,4-Dichlorobenzene	2.00	U	250	233.4		ug/L		93	70 - 130
Dichlorobromomethane	1.75	U	250	229.4		ug/L		92	70 - 130
Dichlorodifluoromethane	4.29	U	250	127.3		ug/L		51	14 - 198
1,1-Dichloroethane	1.68	U	250	228.0		ug/L		91	70 - 130
1,2-Dichloroethane	1.72	U	250	264.8		ug/L		106	65 - 130
1,1-Dichloroethene	3.00	U	250	240.1		ug/L		96	67 - 143
1,2-Dichloropropane	1.73	U	250	234.4		ug/L		94	70 - 130
1,3-Dichloropropane	1.46	U	250	237.6		ug/L		95	70 - 130
2,2-Dichloropropane	3.35	U	250	252.3		ug/L		101	65 - 150
1,1-Dichloropropene	1.85	U	250	226.2		ug/L		90	70 - 130
1,4-Dioxane	159	U	5000	5494		ug/L		110	20 - 152
EDB	1.75	U	250	250.3		ug/L		100	70 - 130
Ethyl acetate	10.0	U	500	458.7		ug/L		92	53 - 144
Ethylbenzene	2.00	U	250	234.1		ug/L		94	70 - 130
Ethylene oxide	300	U	2500	1236		ug/L		49	12 - 185
Ethyl ether	187		250	440.6		ug/L		101	67 - 130
Ethyl methacrylate	5.00	U	250	252.7		ug/L		101	65 - 130
Hexachlorobutadiene	8.60	U	250	249.4		ug/L		100	52 - 143
Hexane	20.0	U	250	238.0		ug/L		95	51 - 159
2-Hexanone	5.00	U	250	254.1		ug/L		102	56 - 130
Iodomethane	2.23	U	250	239.9		ug/L		96	70 - 162
Isobutyl alcohol	50.0	U	6250	6137		ug/L		98	36 - 130
Isooctane	5.00	U	250	232.8		ug/L		93	52 - 150
Isopropylbenzene	2.00	U	250	241.8		ug/L		97	70 - 130
4-Isopropyltoluene	1.50	U	250	241.0		ug/L		96	69 - 130
Methacrylonitrile	20.0	U	2500	2512		ug/L		100	61 - 130
Methylene Chloride	20.0	U	250	230.1		ug/L		92	70 - 130
Methyl methacrylate	2.00	U	500	503.3		ug/L		101	63 - 130
4-Methyl-2-pentanone (MIBK)	5.10	U	250	258.2		ug/L		103	54 - 130
Methyl tert-butyl ether	29.0		250	269.4		ug/L		96	63 - 134
m-Xylene & p-Xylene	2.60	U	250	237.2		ug/L		95	67 - 130
Naphthalene	2.00	U	250	275.2		ug/L		110	62 - 145
n-Butylbenzene	2.00	U	250	243.2		ug/L		97	67 - 130
n-Heptane	3.00	U	250	234.8		ug/L		94	55 - 150
2-Nitropropane	10.0	U	500	516.9		ug/L		103	22 - 173
N-Propylbenzene	1.06	U	250	242.6		ug/L		97	70 - 130
1-Octene	4.40	U F1	250	324.4		ug/L		130	63 - 134
o-Xylene	2.00	U	250	233.0		ug/L		93	70 - 130
Pentachloroethane	3.02	U	250	226.7		ug/L		91	60 - 130
Propionitrile	26.9	U	2500	2466		ug/L		99	39 - 130
sec-Butylbenzene	3.00	U	250	242.2		ug/L		97	67 - 130
Styrene	2.00	U	250	246.0		ug/L		98	28 - 150
tert-Butylbenzene	2.00	U	250	242.0		ug/L		97	70 - 130
1,1,1,2-Tetrachloroethane	2.09	U	250	233.2		ug/L		93	65 - 130
1,1,2,2-Tetrachloroethane	1.90	U	250	238.1		ug/L		95	65 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64653-A-6 MS

Matrix: Water

Analysis Batch: 133589

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	1.89	U	250	235.5		ug/L		94	69 - 130
Toluene	4.95	U	250	229.8		ug/L		92	70 - 130
trans-1,4-Dichloro-2-butene	5.00	U	250	113.0		ug/L		45	35 - 130
trans-1,2-Dichloroethene	2.00	U	250	245.5		ug/L		98	57 - 148
trans-1,3-Dichloropropene	2.00	U	250	216.0		ug/L		86	44 - 139
1,2,3-Trichlorobenzene	2.17	U	250	262.1		ug/L		105	60 - 130
1,2,4-Trichlorobenzene	1.68	U	250	255.2		ug/L		102	60 - 142
1,3,5-Trichlorobenzene	2.03	U	250	247.0		ug/L		99	66 - 135
1,1,1-Trichloroethane	3.00	U	250	239.6		ug/L		96	65 - 133
1,1,2-Trichloroethane	1.73	U	250	240.5		ug/L		96	70 - 130
Trichloroethene	3.17	U	250	241.4		ug/L		97	70 - 130
Trichlorofluoromethane	2.44	U	250	247.9		ug/L		99	64 - 149
1,2,3-Trichloropropane	1.91	U	250	251.3		ug/L		101	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	4.10	U	250	236.6		ug/L		95	47 - 152
1,2,4-Trimethylbenzene	2.00	U	250	240.6		ug/L		96	70 - 130
1,3,5-Trimethylbenzene	2.00	U	250	245.2		ug/L		98	70 - 130
Vinyl acetate	5.00	U	500	487.6		ug/L		98	36 - 171
Vinyl chloride	3.00	U	250	185.6		ug/L		74	49 - 158
Xylenes, Total	2.00	U	500	470.1		ug/L		94	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
Dibromofluoromethane (Surr)	102		69 - 130
1,2-Dichloroethane-d4 (Surr)	102		70 - 140
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: 560-64653-A-6 MSD

Matrix: Water

Analysis Batch: 133589

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	60.2	J	250	389.5		ug/L		132	32 - 157	13	20
Acetonitrile	100	U	2500	1184		ug/L		47	10 - 182	9	20
Benzene	1360		250	1563	4	ug/L		82	70 - 130	3	20
Benzyl chloride	2.78	U	250	279.9		ug/L		112	49 - 130	6	20
Bromobenzene	1.28	U	250	245.1		ug/L		98	69 - 130	5	20
Bromochloromethane	2.28	U	250	254.7		ug/L		102	70 - 130	5	20
Bromoform	5.00	U	250	216.3		ug/L		87	57 - 145	7	20
Bromomethane	3.92	U	250	211.6		ug/L		85	56 - 141	10	20
1,3-Butadiene	3.00	U	250	256.9		ug/L		103	25 - 196	8	20
2-Butanone (MEK)	10.0	U	250	271.7		ug/L		109	42 - 142	13	20
Carbon disulfide	5.00	U	250	248.8		ug/L		100	59 - 164	4	20
Carbon tetrachloride	2.51	U	250	248.9		ug/L		100	70 - 138	4	20
Chlorobenzene	1.36	U	250	239.8		ug/L		96	70 - 130	4	20
2-Chloro-1,3-butadiene	2.00	U	250	254.2		ug/L		102	55 - 144	4	20
Chlorodibromomethane	2.23	U	250	230.3		ug/L		92	62 - 145	8	20
Chloroethane	4.00	U	250	215.6		ug/L		86	62 - 142	2	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64653-A-6 MSD

Matrix: Water

Analysis Batch: 133589

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	1.73	U	250	245.6		ug/L		98	70 - 130	4	20
1-Chlorohexane	5.00	U	250	249.5		ug/L		100	64 - 130	5	20
Chloromethane	3.90	U	250	215.7		ug/L		86	57 - 148	3	20
2-Chlorotoluene	1.55	U	250	245.0		ug/L		98	70 - 130	6	20
4-Chlorotoluene	2.42	U	250	251.2		ug/L		100	69 - 130	4	20
cis-1,4-Dichloro-2-butene	5.00	U	250	102.4		ug/L		41	24 - 150	8	20
cis-1,2-Dichloroethene	1.21	U	250	246.8		ug/L		99	70 - 130	2	20
cis-1,3-Dichloropropene	1.46	U	250	254.5		ug/L		102	46 - 136	8	20
Cyclohexane	10.0	U	250	243.8		ug/L		98	46 - 144	7	20
Cyclohexanone	50.0	U	1250	1526		ug/L		122	10 - 193	12	20
1,2-Dibromo-3-Chloropropane	3.49	U	250	267.2		ug/L		107	56 - 130	10	20
Dibromomethane	1.65	U	250	251.0		ug/L		100	70 - 130	4	20
1,2-Dichlorobenzene	1.70	U	250	250.4		ug/L		100	70 - 130	5	20
1,3-Dichlorobenzene	1.28	U	250	242.2		ug/L		97	70 - 130	3	20
1,4-Dichlorobenzene	2.00	U	250	240.6		ug/L		96	70 - 130	3	20
Dichlorobromomethane	1.75	U	250	241.7		ug/L		97	70 - 130	5	20
Dichlorodifluoromethane	4.29	U	250	136.8		ug/L		55	14 - 198	7	20
1,1-Dichloroethane	1.68	U	250	235.6		ug/L		94	70 - 130	3	20
1,2-Dichloroethane	1.72	U	250	280.1		ug/L		112	65 - 130	6	20
1,1-Dichloroethene	3.00	U	250	252.0		ug/L		101	67 - 143	5	20
1,2-Dichloropropane	1.73	U	250	246.8		ug/L		99	70 - 130	5	20
1,3-Dichloropropane	1.46	U	250	251.8		ug/L		101	70 - 130	6	20
2,2-Dichloropropane	3.35	U	250	235.2		ug/L		94	65 - 150	7	20
1,1-Dichloropropene	1.85	U	250	245.7		ug/L		98	70 - 130	8	20
1,4-Dioxane	159	U	5000	6443		ug/L		129	20 - 152	16	20
EDB	1.75	U	250	271.5		ug/L		109	70 - 130	8	20
Ethyl acetate	10.0	U	500	513.3		ug/L		103	53 - 144	11	20
Ethylbenzene	2.00	U	250	244.5		ug/L		98	70 - 130	4	20
Ethylene oxide	300	U	2500	1151		ug/L		46	12 - 185	7	20
Ethyl ether	187		250	459.0		ug/L		109	67 - 130	4	20
Ethyl methacrylate	5.00	U	250	270.1		ug/L		108	65 - 130	7	20
Hexachlorobutadiene	8.60	U	250	260.5		ug/L		104	52 - 143	4	20
Hexane	20.0	U	250	257.4		ug/L		103	51 - 159	8	20
2-Hexanone	5.00	U	250	281.5		ug/L		113	56 - 130	10	20
Iodomethane	2.23	U	250	233.6		ug/L		93	70 - 162	3	20
Isobutyl alcohol	50.0	U	6250	6923		ug/L		111	36 - 130	12	20
Isooctane	5.00	U	250	250.5		ug/L		100	52 - 150	7	20
Isopropylbenzene	2.00	U	250	257.6		ug/L		103	70 - 130	6	20
4-Isopropyltoluene	1.50	U	250	254.7		ug/L		102	69 - 130	6	20
Methacrylonitrile	20.0	U	2500	2788		ug/L		112	61 - 130	10	20
Methylene Chloride	20.0	U	250	245.8		ug/L		98	70 - 130	7	20
Methyl methacrylate	2.00	U	500	551.0		ug/L		110	63 - 130	9	20
4-Methyl-2-pentanone (MIBK)	5.10	U	250	281.4		ug/L		113	54 - 130	9	20
Methyl tert-butyl ether	29.0		250	282.1		ug/L		101	63 - 134	5	20
m-Xylene & p-Xylene	2.60	U	250	246.9		ug/L		99	67 - 130	4	20
Naphthalene	2.00	U	250	302.1		ug/L		121	62 - 145	9	20
n-Butylbenzene	2.00	U	250	256.9		ug/L		103	67 - 130	5	20
n-Heptane	3.00	U	250	251.0		ug/L		100	55 - 150	7	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64653-A-6 MSD

Matrix: Water

Analysis Batch: 133589

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Nitropropane	10.0	U	500	574.9		ug/L		115	22 - 173	11	20
N-Propylbenzene	1.06	U	250	255.8		ug/L		102	70 - 130	5	20
1-Octene	4.40	U F1	250	351.0	F1	ug/L		140	63 - 134	8	
o-Xylene	2.00	U	250	247.2		ug/L		99	70 - 130	6	20
Pentachloroethane	3.02	U	250	238.3		ug/L		95	60 - 130	5	20
Propionitrile	26.9	U	2500	2679		ug/L		107	39 - 130	8	20
sec-Butylbenzene	3.00	U	250	258.5		ug/L		103	67 - 130	7	20
Styrene	2.00	U	250	258.7		ug/L		103	28 - 150	5	20
tert-Butylbenzene	2.00	U	250	254.0		ug/L		102	70 - 130	5	20
1,1,1,2-Tetrachloroethane	2.09	U	250	243.8		ug/L		98	65 - 130	4	20
1,1,2,2-Tetrachloroethane	1.90	U	250	259.3		ug/L		104	65 - 130	9	20
Tetrachloroethene	1.89	U	250	244.4		ug/L		98	69 - 130	4	20
Toluene	4.95	U	250	241.9		ug/L		97	70 - 130	5	20
trans-1,4-Dichloro-2-butene	5.00	U	250	116.4		ug/L		47	35 - 130	3	20
trans-1,2-Dichloroethene	2.00	U	250	255.0		ug/L		102	57 - 148	4	20
trans-1,3-Dichloropropene	2.00	U	250	227.6		ug/L		91	44 - 139	5	20
1,2,3-Trichlorobenzene	2.17	U	250	280.5		ug/L		112	60 - 130	7	20
1,2,4-Trichlorobenzene	1.68	U	250	270.5		ug/L		108	60 - 142	6	20
1,3,5-Trichlorobenzene	2.03	U	250	254.0		ug/L		102	66 - 135	3	20
1,1,1-Trichloroethane	3.00	U	250	250.9		ug/L		100	65 - 133	5	20
1,1,2-Trichloroethane	1.73	U	250	250.6		ug/L		100	70 - 130	4	20
Trichloroethene	3.17	U	250	253.5		ug/L		101	70 - 130	5	20
Trichlorofluoromethane	2.44	U	250	257.5		ug/L		103	64 - 149	4	20
1,2,3-Trichloropropane	1.91	U	250	269.3		ug/L		108	70 - 130	7	20
1,1,2-Trichloro-1,2,2-trifluoroethane	4.10	U	250	250.0		ug/L		100	47 - 152	6	20
1,2,4-Trimethylbenzene	2.00	U	250	253.2		ug/L		101	70 - 130	5	20
1,3,5-Trimethylbenzene	2.00	U	250	259.8		ug/L		104	70 - 130	6	20
Vinyl acetate	5.00	U	500	526.8		ug/L		105	36 - 171	8	20
Vinyl chloride	3.00	U	250	193.3		ug/L		77	49 - 158	4	20
Xylenes, Total	2.00	U	500	494.1		ug/L		99	70 - 130	5	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		70 - 130
Dibromofluoromethane (Surr)	100		69 - 130
1,2-Dichloroethane-d4 (Surr)	102		70 - 140
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: MB 560-133609/8

Matrix: Water

Analysis Batch: 133609

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/07/16 12:39	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/07/16 12:39	1
Benzene	0.330	U	1.00	0.330	ug/L			11/07/16 12:39	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/07/16 12:39	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 12:39	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-133609/8

Matrix: Water

Analysis Batch: 133609

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/07/16 12:39	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/07/16 12:39	1
Bromomethane	0.392	U	5.00	0.392	ug/L			11/07/16 12:39	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/07/16 12:39	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/07/16 12:39	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/07/16 12:39	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/07/16 12:39	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/07/16 12:39	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/07/16 12:39	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/07/16 12:39	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/07/16 12:39	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/07/16 12:39	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/07/16 12:39	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/07/16 12:39	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/07/16 12:39	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/07/16 12:39	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 12:39	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/07/16 12:39	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/07/16 12:39	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/07/16 12:39	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/07/16 12:39	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/07/16 12:39	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/07/16 12:39	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/07/16 12:39	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/07/16 12:39	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/07/16 12:39	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/07/16 12:39	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/07/16 12:39	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/07/16 12:39	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/07/16 12:39	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/07/16 12:39	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/07/16 12:39	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/07/16 12:39	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/07/16 12:39	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/07/16 12:39	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/07/16 12:39	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/07/16 12:39	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/07/16 12:39	1
EDB	0.175	U	1.00	0.175	ug/L			11/07/16 12:39	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/07/16 12:39	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 12:39	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/07/16 12:39	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/07/16 12:39	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/07/16 12:39	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/07/16 12:39	1
Hexane	2.00	U	5.00	2.00	ug/L			11/07/16 12:39	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/07/16 12:39	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/07/16 12:39	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-133609/8

Matrix: Water

Analysis Batch: 133609

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/07/16 12:39	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/07/16 12:39	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/07/16 12:39	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/07/16 12:39	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/07/16 12:39	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/07/16 12:39	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/07/16 12:39	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/07/16 12:39	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/07/16 12:39	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/07/16 12:39	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/07/16 12:39	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/07/16 12:39	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/07/16 12:39	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/07/16 12:39	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/07/16 12:39	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/07/16 12:39	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/07/16 12:39	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/07/16 12:39	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/07/16 12:39	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/07/16 12:39	1
Styrene	0.200	U	1.00	0.200	ug/L			11/07/16 12:39	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 12:39	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/07/16 12:39	1
1,1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/07/16 12:39	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/07/16 12:39	1
Toluene	0.495	U	1.00	0.495	ug/L			11/07/16 12:39	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/07/16 12:39	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/07/16 12:39	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/07/16 12:39	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/07/16 12:39	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/07/16 12:39	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/07/16 12:39	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/07/16 12:39	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/07/16 12:39	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/07/16 12:39	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/07/16 12:39	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/07/16 12:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/07/16 12:39	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 12:39	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/07/16 12:39	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/07/16 12:39	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/07/16 12:39	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/07/16 12:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130		11/07/16 12:39	1
Dibromofluoromethane (Surr)	102		69 - 130		11/07/16 12:39	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 140		11/07/16 12:39	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-133609/8

Matrix: Water

Analysis Batch: 133609

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		70 - 130		11/07/16 12:39	1

Lab Sample ID: LCS 560-133609/3

Matrix: Water

Analysis Batch: 133609

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	25.42		ug/L		102	60 - 150
Acetonitrile	250	238.3		ug/L		95	52 - 160
Benzene	25.0	25.11		ug/L		100	70 - 130
Benzyl chloride	25.0	26.95		ug/L		108	66 - 153
Bromobenzene	25.0	24.88		ug/L		100	70 - 130
Bromochloromethane	25.0	25.82		ug/L		103	70 - 130
Bromoform	25.0	26.74		ug/L		107	63 - 145
Bromomethane	25.0	22.30		ug/L		89	50 - 146
1,3-Butadiene	25.0	20.47		ug/L		82	40 - 138
2-Butanone (MEK)	25.0	22.50		ug/L		90	68 - 144
Carbon disulfide	25.0	26.23		ug/L		105	52 - 156
Carbon tetrachloride	25.0	28.12		ug/L		112	70 - 138
Chlorobenzene	25.0	25.10		ug/L		100	70 - 130
2-Chloro-1,3-butadiene	25.0	27.02		ug/L		108	69 - 140
Chlorodibromomethane	25.0	25.47		ug/L		102	70 - 137
Chloroethane	25.0	23.75		ug/L		95	54 - 141
Chloroform	25.0	25.74		ug/L		103	70 - 130
1-Chlorohexane	25.0	26.50		ug/L		106	64 - 130
Chloromethane	25.0	20.87		ug/L		83	46 - 142
2-Chlorotoluene	25.0	24.48		ug/L		98	70 - 130
4-Chlorotoluene	25.0	25.58		ug/L		102	70 - 130
cis-1,4-Dichloro-2-butene	25.0	23.44		ug/L		94	10 - 184
cis-1,2-Dichloroethene	25.0	25.76		ug/L		103	70 - 130
cis-1,3-Dichloropropene	25.0	27.72		ug/L		111	70 - 138
Cyclohexane	25.0	24.04		ug/L		96	40 - 141
Cyclohexanone	125	144.9		ug/L		116	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	22.24		ug/L		89	70 - 149
Dibromomethane	25.0	25.88		ug/L		104	70 - 130
1,2-Dichlorobenzene	25.0	25.00		ug/L		100	70 - 130
1,3-Dichlorobenzene	25.0	24.57		ug/L		98	70 - 130
1,4-Dichlorobenzene	25.0	24.94		ug/L		100	70 - 130
Dichlorobromomethane	25.0	26.54		ug/L		106	70 - 130
Dichlorodifluoromethane	25.0	14.66		ug/L		59	10 - 181
1,1-Dichloroethane	25.0	24.42		ug/L		98	70 - 130
1,2-Dichloroethane	25.0	25.99		ug/L		104	70 - 131
1,1-Dichloroethene	25.0	26.53		ug/L		106	70 - 139
1,2-Dichloropropane	25.0	25.67		ug/L		103	70 - 130
1,3-Dichloropropane	25.0	25.66		ug/L		103	70 - 130
2,2-Dichloropropane	25.0	26.72		ug/L		107	65 - 145
1,1-Dichloropropene	25.0	26.06		ug/L		104	70 - 130
1,4-Dioxane	500	580.4		ug/L		116	66 - 150

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-133609/3

Matrix: Water

Analysis Batch: 133609

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
EDB	25.0	26.95		ug/L		108	70 - 130
Ethyl acetate	50.0	47.58		ug/L		95	59 - 200
Ethylbenzene	25.0	25.54		ug/L		102	70 - 130
Ethylene oxide	250	230.7		ug/L		92	10 - 200
Ethyl ether	25.0	24.98		ug/L		100	69 - 136
Ethyl methacrylate	25.0	25.93		ug/L		104	70 - 130
Hexachlorobutadiene	25.0	26.74		ug/L		107	68 - 165
Hexane	25.0	26.45		ug/L		106	10 - 185
2-Hexanone	25.0	25.48		ug/L		102	70 - 138
Iodomethane	25.0	25.58		ug/L		102	64 - 146
Isobutyl alcohol	625	592.4		ug/L		95	27 - 199
Isooctane	25.0	24.58		ug/L		98	10 - 181
Isopropylbenzene	25.0	25.95		ug/L		104	70 - 131
4-Isopropyltoluene	25.0	25.95		ug/L		104	70 - 130
Methacrylonitrile	250	249.3		ug/L		100	70 - 139
Methylene Chloride	25.0	24.53		ug/L		98	70 - 130
Methyl methacrylate	50.0	54.20		ug/L		108	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	23.76		ug/L		95	70 - 138
Methyl tert-butyl ether	25.0	24.55		ug/L		98	70 - 131
m-Xylene & p-Xylene	25.0	26.54		ug/L		106	70 - 139
Naphthalene	25.0	25.25		ug/L		101	70 - 159
n-Butylbenzene	25.0	26.15		ug/L		105	70 - 135
n-Heptane	25.0	25.56		ug/L		102	10 - 186
2-Nitropropane	50.0	53.77		ug/L		108	22 - 173
N-Propylbenzene	25.0	26.01		ug/L		104	70 - 131
1-Octene	25.0	25.56		ug/L		102	10 - 185
o-Xylene	25.0	25.50		ug/L		102	70 - 130
Pentachloroethane	25.0	25.17		ug/L		101	70 - 146
Propionitrile	250	230.9		ug/L		92	70 - 144
sec-Butylbenzene	25.0	26.34		ug/L		105	70 - 134
Styrene	25.0	27.17		ug/L		109	70 - 130
tert-Butylbenzene	25.0	26.01		ug/L		104	70 - 132
1,1,1,2-Tetrachloroethane	25.0	25.44		ug/L		102	65 - 130
1,1,2,2-Tetrachloroethane	25.0	24.23		ug/L		97	65 - 130
Tetrachloroethene	25.0	25.78		ug/L		103	70 - 135
Toluene	25.0	25.27		ug/L		101	70 - 130
trans-1,4-Dichloro-2-butene	25.0	21.65		ug/L		87	37 - 174
trans-1,2-Dichloroethene	25.0	26.42		ug/L		106	70 - 134
trans-1,3-Dichloropropene	25.0	25.38		ug/L		102	70 - 143
1,2,3-Trichlorobenzene	25.0	25.59		ug/L		102	70 - 158
1,2,4-Trichlorobenzene	25.0	25.14		ug/L		101	70 - 157
1,3,5-Trichlorobenzene	25.0	25.18		ug/L		101	70 - 131
1,1,1-Trichloroethane	25.0	26.96		ug/L		108	65 - 130
1,1,2-Trichloroethane	25.0	25.63		ug/L		103	70 - 130
Trichloroethene	25.0	26.94		ug/L		108	70 - 130
Trichlorofluoromethane	25.0	28.66		ug/L		115	39 - 146
1,2,3-Trichloropropane	25.0	25.02		ug/L		100	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-133609/3

Matrix: Water

Analysis Batch: 133609

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.35		ug/L		105	27 - 148
1,2,4-Trimethylbenzene	25.0	25.91		ug/L		104	70 - 130
1,3,5-Trimethylbenzene	25.0	26.39		ug/L		106	70 - 131
Vinyl acetate	50.0	50.22		ug/L		100	18 - 200
Vinyl chloride	25.0	18.80		ug/L		75	49 - 140
Xylenes, Total	50.0	52.03		ug/L		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
Dibromofluoromethane (Surr)	101		69 - 130
1,2-Dichloroethane-d4 (Surr)	105		70 - 140
Toluene-d8 (Surr)	98		70 - 130

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133609

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	5.00	U	25.0	25.60		ug/L		102	32 - 157
Acetonitrile	10.0	U	250	258.7		ug/L		103	10 - 182
Benzene	0.330	U	25.0	26.46		ug/L		106	70 - 130
Benzyl chloride	0.278	U	25.0	27.80		ug/L		111	49 - 130
Bromobenzene	0.128	U	25.0	25.71		ug/L		103	69 - 130
Bromochloromethane	0.228	U	25.0	28.13		ug/L		113	70 - 130
Bromoform	0.500	U	25.0	23.96		ug/L		96	57 - 145
Bromomethane	0.392	U	25.0	21.85		ug/L		87	56 - 141
1,3-Butadiene	0.300	U	25.0	24.51		ug/L		98	25 - 196
2-Butanone (MEK)	1.00	U	25.0	23.97		ug/L		96	42 - 142
Carbon disulfide	0.500	U	25.0	28.61		ug/L		114	59 - 164
Carbon tetrachloride	0.251	U	25.0	29.57		ug/L		118	70 - 138
Chlorobenzene	0.136	U	25.0	26.03		ug/L		104	70 - 130
2-Chloro-1,3-butadiene	0.200	U	25.0	29.09		ug/L		116	55 - 144
Chlorodibromomethane	0.223	U	25.0	25.68		ug/L		103	62 - 145
Chloroethane	0.400	U	25.0	25.97		ug/L		104	62 - 142
Chloroform	0.173	U	25.0	27.44		ug/L		110	70 - 130
1-Chlorohexane	0.500	U	25.0	27.00		ug/L		108	64 - 130
Chloromethane	0.390	U	25.0	23.02		ug/L		92	57 - 148
2-Chlorotoluene	0.155	U	25.0	26.59		ug/L		106	70 - 130
4-Chlorotoluene	0.242	U	25.0	26.98		ug/L		108	69 - 130
cis-1,4-Dichloro-2-butene	0.500	U	25.0	15.26		ug/L		61	24 - 150
cis-1,2-Dichloroethene	0.121	U	25.0	28.17		ug/L		113	70 - 130
cis-1,3-Dichloropropene	0.146	U	25.0	26.73		ug/L		107	46 - 136
Cyclohexane	1.00	U	25.0	26.50		ug/L		106	46 - 144
Cyclohexanone	5.00	U	125	115.6		ug/L		92	10 - 193
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	23.28		ug/L		93	56 - 130
Dibromomethane	0.165	U	25.0	26.67		ug/L		107	70 - 130
1,2-Dichlorobenzene	0.170	U	25.0	26.24		ug/L		105	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133609

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	0.128	U	25.0	25.86		ug/L		103	70 - 130
1,4-Dichlorobenzene	0.200	U	25.0	26.35		ug/L		105	70 - 130
Dichlorobromomethane	0.175	U	25.0	27.48		ug/L		110	70 - 130
Dichlorodifluoromethane	0.429	U	25.0	15.17		ug/L		61	14 - 198
1,1-Dichloroethane	0.168	U	25.0	26.23		ug/L		105	70 - 130
1,2-Dichloroethane	0.172	U	25.0	26.81		ug/L		107	65 - 130
1,1-Dichloroethene	0.300	U	25.0	28.54		ug/L		114	67 - 143
1,2-Dichloropropane	0.173	U	25.0	26.42		ug/L		106	70 - 130
1,3-Dichloropropane	0.146	U	25.0	25.44		ug/L		102	70 - 130
2,2-Dichloropropane	0.335	U	25.0	31.31		ug/L		125	65 - 150
1,1-Dichloropropene	0.185	U	25.0	27.49		ug/L		110	70 - 130
1,4-Dioxane	15.9	U	500	588.7		ug/L		118	20 - 152
EDB	0.175	U	25.0	26.47		ug/L		106	70 - 130
Ethyl acetate	1.00	U	50.0	50.13		ug/L		100	53 - 144
Ethylbenzene	0.200	U	25.0	27.10		ug/L		108	70 - 130
Ethylene oxide	30.0	U	250	174.1		ug/L		70	12 - 185
Ethyl ether	0.320	U	25.0	27.36		ug/L		109	67 - 130
Ethyl methacrylate	0.500	U	25.0	26.10		ug/L		104	65 - 130
Hexachlorobutadiene	0.860	U	25.0	27.41		ug/L		110	52 - 143
Hexane	2.00	U	25.0	26.51		ug/L		106	51 - 159
2-Hexanone	0.500	U	25.0	24.54		ug/L		98	56 - 130
Iodomethane	0.223	U	25.0	28.85		ug/L		115	70 - 162
Isobutyl alcohol	5.00	U	625	624.3		ug/L		100	36 - 130
Isooctane	0.500	U	25.0	26.02		ug/L		104	52 - 150
Isopropylbenzene	0.200	U	25.0	27.57		ug/L		110	70 - 130
4-Isopropyltoluene	0.150	U	25.0	27.26		ug/L		109	69 - 130
Methacrylonitrile	2.00	U	250	258.1		ug/L		103	61 - 130
Methylene Chloride	2.00	U	25.0	26.43		ug/L		106	70 - 130
Methyl methacrylate	0.200	U	50.0	51.52		ug/L		103	63 - 130
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	25.37		ug/L		101	54 - 130
Methyl tert-butyl ether	0.200	U	25.0	26.67		ug/L		107	63 - 134
m-Xylene & p-Xylene	0.260	U	25.0	26.48		ug/L		106	67 - 130
Naphthalene	0.200	U	25.0	27.93		ug/L		112	62 - 145
n-Butylbenzene	0.200	U	25.0	27.75		ug/L		111	67 - 130
n-Heptane	0.300	U	25.0	24.82		ug/L		99	55 - 150
2-Nitropropane	1.00	U	50.0	51.76		ug/L		104	22 - 173
N-Propylbenzene	0.106	U	25.0	27.48		ug/L		110	70 - 130
1-Octene	0.440	U	25.0	25.28		ug/L		101	63 - 134
o-Xylene	0.200	U	25.0	26.47		ug/L		106	70 - 130
Pentachloroethane	0.302	U	25.0	26.31		ug/L		105	60 - 130
Propionitrile	2.69	U	250	241.9		ug/L		97	39 - 130
sec-Butylbenzene	0.300	U	25.0	27.66		ug/L		111	67 - 130
Styrene	0.200	U	25.0	27.73		ug/L		111	28 - 150
tert-Butylbenzene	0.200	U	25.0	27.29		ug/L		109	70 - 130
1,1,1,2-Tetrachloroethane	0.209	U	25.0	26.20		ug/L		105	65 - 130
1,1,2,2-Tetrachloroethane	0.190	U	25.0	24.84		ug/L		99	65 - 130
Tetrachloroethene	0.189	U	25.0	27.17		ug/L		109	69 - 130
Toluene	0.495	U	25.0	26.08		ug/L		104	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133609

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,4-Dichloro-2-butene	0.500	U	25.0	15.70		ug/L		63	35 - 130
trans-1,2-Dichloroethene	0.200	U	25.0	28.82		ug/L		115	57 - 148
trans-1,3-Dichloropropene	0.200	U	25.0	24.18		ug/L		97	44 - 139
1,2,3-Trichlorobenzene	0.217	U	25.0	28.59		ug/L		114	60 - 130
1,2,4-Trichlorobenzene	0.168	U	25.0	27.77		ug/L		111	60 - 142
1,3,5-Trichlorobenzene	0.203	U	25.0	26.82		ug/L		107	66 - 135
1,1,1-Trichloroethane	0.300	U	25.0	28.70		ug/L		115	65 - 133
1,1,2-Trichloroethane	0.173	U	25.0	25.54		ug/L		102	70 - 130
Trichloroethene	0.317	U	25.0	27.55		ug/L		110	70 - 130
Trichlorofluoromethane	0.244	U	25.0	30.70		ug/L		123	64 - 149
1,2,3-Trichloropropane	0.191	U	25.0	26.06		ug/L		104	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	27.84		ug/L		111	47 - 152
1,2,4-Trimethylbenzene	0.200	U	25.0	27.29		ug/L		109	70 - 130
1,3,5-Trimethylbenzene	0.200	U	25.0	27.89		ug/L		112	70 - 130
Vinyl acetate	0.500	U	50.0	52.68		ug/L		105	36 - 171
Vinyl chloride	0.300	U	25.0	21.20		ug/L		85	49 - 158
Xylenes, Total	0.200	U	50.0	52.95		ug/L		106	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
Dibromofluoromethane (Surr)	103		69 - 130
1,2-Dichloroethane-d4 (Surr)	104		70 - 140
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133609

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	5.00	U	25.0	29.60		ug/L		118	32 - 157	15	20
Acetonitrile	10.0	U	250	233.3		ug/L		93	10 - 182	10	20
Benzene	0.330	U	25.0	25.84		ug/L		103	70 - 130	2	20
Benzyl chloride	0.278	U	25.0	26.82		ug/L		107	49 - 130	4	20
Bromobenzene	0.128	U	25.0	25.27		ug/L		101	69 - 130	2	20
Bromochloromethane	0.228	U	25.0	27.14		ug/L		109	70 - 130	4	20
Bromoform	0.500	U	25.0	24.14		ug/L		97	57 - 145	1	20
Bromomethane	0.392	U	25.0	22.22		ug/L		89	56 - 141	2	20
1,3-Butadiene	0.300	U	25.0	24.84		ug/L		99	25 - 196	1	20
2-Butanone (MEK)	1.00	U	25.0	26.60		ug/L		106	42 - 142	10	20
Carbon disulfide	0.500	U	25.0	27.24		ug/L		109	59 - 164	5	20
Carbon tetrachloride	0.251	U	25.0	27.95		ug/L		112	70 - 138	6	20
Chlorobenzene	0.136	U	25.0	25.48		ug/L		102	70 - 130	2	20
2-Chloro-1,3-butadiene	0.200	U	25.0	28.35		ug/L		113	55 - 144	3	20
Chlorodibromomethane	0.223	U	25.0	25.37		ug/L		101	62 - 145	1	20
Chloroethane	0.400	U	25.0	25.37		ug/L		101	62 - 142	2	20
Chloroform	0.173	U	25.0	26.37		ug/L		105	70 - 130	4	20
1-Chlorohexane	0.500	U	25.0	26.58		ug/L		106	64 - 130	2	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133609

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloromethane	0.390	U	25.0	22.40		ug/L		90	57 - 148	3	20
2-Chlorotoluene	0.155	U	25.0	25.75		ug/L		103	70 - 130	3	20
4-Chlorotoluene	0.242	U	25.0	26.49		ug/L		106	69 - 130	2	20
cis-1,4-Dichloro-2-butene	0.500	U	25.0	14.22		ug/L		57	24 - 150	7	20
cis-1,2-Dichloroethene	0.121	U	25.0	26.97		ug/L		108	70 - 130	4	20
cis-1,3-Dichloropropene	0.146	U	25.0	26.20		ug/L		105	46 - 136	2	20
Cyclohexane	1.00	U	25.0	26.25		ug/L		105	46 - 144	1	20
Cyclohexanone	5.00	U	125	118.8		ug/L		95	10 - 193	3	20
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	23.70		ug/L		95	56 - 130	2	20
Dibromomethane	0.165	U	25.0	26.22		ug/L		105	70 - 130	2	20
1,2-Dichlorobenzene	0.170	U	25.0	25.92		ug/L		104	70 - 130	1	20
1,3-Dichlorobenzene	0.128	U	25.0	25.17		ug/L		101	70 - 130	3	20
1,4-Dichlorobenzene	0.200	U	25.0	25.11		ug/L		100	70 - 130	5	20
Dichlorobromomethane	0.175	U	25.0	26.39		ug/L		106	70 - 130	4	20
Dichlorodifluoromethane	0.429	U	25.0	15.12		ug/L		60	14 - 198	0	20
1,1-Dichloroethane	0.168	U	25.0	25.23		ug/L		101	70 - 130	4	20
1,2-Dichloroethane	0.172	U	25.0	25.85		ug/L		103	65 - 130	4	20
1,1-Dichloroethene	0.300	U	25.0	27.65		ug/L		111	67 - 143	3	20
1,2-Dichloropropane	0.173	U	25.0	26.11		ug/L		104	70 - 130	1	20
1,3-Dichloropropane	0.146	U	25.0	25.61		ug/L		102	70 - 130	1	20
2,2-Dichloropropane	0.335	U	25.0	27.96		ug/L		112	65 - 150	11	20
1,1-Dichloropropene	0.185	U	25.0	26.80		ug/L		107	70 - 130	3	20
1,4-Dioxane	15.9	U	500	588.4		ug/L		118	20 - 152	0	20
EDB	0.175	U	25.0	27.37		ug/L		109	70 - 130	3	20
Ethyl acetate	1.00	U	50.0	52.69		ug/L		105	53 - 144	5	20
Ethylbenzene	0.200	U	25.0	26.33		ug/L		105	70 - 130	3	20
Ethylene oxide	30.0	U	250	197.8		ug/L		79	12 - 185	13	20
Ethyl ether	0.320	U	25.0	25.90		ug/L		104	67 - 130	5	20
Ethyl methacrylate	0.500	U	25.0	25.65		ug/L		103	65 - 130	2	20
Hexachlorobutadiene	0.860	U	25.0	27.02		ug/L		108	52 - 143	1	20
Hexane	2.00	U	25.0	27.67		ug/L		111	51 - 159	4	20
2-Hexanone	0.500	U	25.0	25.83		ug/L		103	56 - 130	5	20
Iodomethane	0.223	U	25.0	27.09		ug/L		108	70 - 162	6	20
Isobutyl alcohol	5.00	U	625	639.8		ug/L		102	36 - 130	2	20
Isooctane	0.500	U	25.0	25.71		ug/L		103	52 - 150	1	20
Isopropylbenzene	0.200	U	25.0	26.93		ug/L		108	70 - 130	2	20
4-Isopropyltoluene	0.150	U	25.0	26.81		ug/L		107	69 - 130	2	20
Methacrylonitrile	2.00	U	250	264.8		ug/L		106	61 - 130	3	20
Methylene Chloride	2.00	U	25.0	25.32		ug/L		101	70 - 130	4	20
Methyl methacrylate	0.200	U	50.0	53.07		ug/L		106	63 - 130	3	20
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	26.00		ug/L		104	54 - 130	2	20
Methyl tert-butyl ether	0.200	U	25.0	25.51		ug/L		102	63 - 134	4	20
m-Xylene & p-Xylene	0.260	U	25.0	26.88		ug/L		108	67 - 130	2	20
Naphthalene	0.200	U	25.0	27.97		ug/L		112	62 - 145	0	20
n-Butylbenzene	0.200	U	25.0	27.25		ug/L		109	67 - 130	2	20
n-Heptane	0.300	U	25.0	25.16		ug/L		101	55 - 150	1	20
2-Nitropropane	1.00	U	50.0	53.76		ug/L		108	22 - 173	4	20
N-Propylbenzene	0.106	U	25.0	26.55		ug/L		106	70 - 130	3	20

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133609

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Octene	0.440	U	25.0	25.60		ug/L		102	63 - 134	1	
o-Xylene	0.200	U	25.0	26.26		ug/L		105	70 - 130	1	20
Pentachloroethane	0.302	U	25.0	25.72		ug/L		103	60 - 130	2	20
Propionitrile	2.69	U	250	251.5		ug/L		101	39 - 130	4	20
sec-Butylbenzene	0.300	U	25.0	26.75		ug/L		107	67 - 130	3	20
Styrene	0.200	U	25.0	27.41		ug/L		110	28 - 150	1	20
tert-Butylbenzene	0.200	U	25.0	26.62		ug/L		106	70 - 130	2	20
1,1,1,2-Tetrachloroethane	0.209	U	25.0	26.69		ug/L		107	65 - 130	2	20
1,1,2,2-Tetrachloroethane	0.190	U	25.0	25.12		ug/L		100	65 - 130	1	20
Tetrachloroethene	0.189	U	25.0	25.92		ug/L		104	69 - 130	5	20
Toluene	0.495	U	25.0	25.89		ug/L		104	70 - 130	1	20
trans-1,4-Dichloro-2-butene	0.500	U	25.0	15.26		ug/L		61	35 - 130	3	20
trans-1,2-Dichloroethene	0.200	U	25.0	27.88		ug/L		112	57 - 148	3	20
trans-1,3-Dichloropropene	0.200	U	25.0	24.28		ug/L		97	44 - 139	0	20
1,2,3-Trichlorobenzene	0.217	U	25.0	28.04		ug/L		112	60 - 130	2	20
1,2,4-Trichlorobenzene	0.168	U	25.0	27.00		ug/L		108	60 - 142	3	20
1,3,5-Trichlorobenzene	0.203	U	25.0	26.43		ug/L		106	66 - 135	1	20
1,1,1-Trichloroethane	0.300	U	25.0	27.06		ug/L		108	65 - 133	6	20
1,1,2-Trichloroethane	0.173	U	25.0	25.67		ug/L		103	70 - 130	1	20
Trichloroethene	0.317	U	25.0	26.68		ug/L		107	70 - 130	3	20
Trichlorofluoromethane	0.244	U	25.0	29.70		ug/L		119	64 - 149	3	20
1,2,3-Trichloropropane	0.191	U	25.0	26.23		ug/L		105	70 - 130	1	20
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	27.81		ug/L		111	47 - 152	0	20
1,2,4-Trimethylbenzene	0.200	U	25.0	26.80		ug/L		107	70 - 130	2	20
1,3,5-Trimethylbenzene	0.200	U	25.0	26.91		ug/L		108	70 - 130	4	20
Vinyl acetate	0.500	U	50.0	52.00		ug/L		104	36 - 171	1	20
Vinyl chloride	0.300	U	25.0	20.58		ug/L		82	49 - 158	3	20
Xylenes, Total	0.200	U	50.0	53.14		ug/L		106	70 - 130	0	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
Dibromofluoromethane (Surr)	101		69 - 130
1,2-Dichloroethane-d4 (Surr)	105		70 - 140
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: MB 560-133656/8

Matrix: Water

Analysis Batch: 133656

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			11/08/16 13:13	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			11/08/16 13:13	1
Benzene	0.330	U	1.00	0.330	ug/L			11/08/16 13:13	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			11/08/16 13:13	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			11/08/16 13:13	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			11/08/16 13:13	1
Bromoform	0.500	U	5.00	0.500	ug/L			11/08/16 13:13	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-133656/8

Matrix: Water

Analysis Batch: 133656

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	0.392	U	5.00	0.392	ug/L			11/08/16 13:13	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			11/08/16 13:13	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			11/08/16 13:13	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			11/08/16 13:13	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			11/08/16 13:13	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			11/08/16 13:13	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			11/08/16 13:13	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			11/08/16 13:13	1
Chloroethane	0.400	U	5.00	0.400	ug/L			11/08/16 13:13	1
Chloroform	0.173	U	1.00	0.173	ug/L			11/08/16 13:13	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			11/08/16 13:13	1
Chloromethane	0.390	U	5.00	0.390	ug/L			11/08/16 13:13	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			11/08/16 13:13	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			11/08/16 13:13	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/08/16 13:13	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			11/08/16 13:13	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			11/08/16 13:13	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			11/08/16 13:13	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			11/08/16 13:13	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			11/08/16 13:13	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			11/08/16 13:13	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			11/08/16 13:13	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			11/08/16 13:13	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			11/08/16 13:13	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			11/08/16 13:13	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			11/08/16 13:13	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			11/08/16 13:13	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			11/08/16 13:13	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			11/08/16 13:13	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			11/08/16 13:13	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			11/08/16 13:13	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			11/08/16 13:13	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			11/08/16 13:13	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			11/08/16 13:13	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			11/08/16 13:13	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			11/08/16 13:13	1
EDB	0.175	U	1.00	0.175	ug/L			11/08/16 13:13	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			11/08/16 13:13	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			11/08/16 13:13	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			11/08/16 13:13	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			11/08/16 13:13	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			11/08/16 13:13	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			11/08/16 13:13	1
Hexane	2.00	U	5.00	2.00	ug/L			11/08/16 13:13	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			11/08/16 13:13	1
Iodomethane	0.223	U	2.00	0.223	ug/L			11/08/16 13:13	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			11/08/16 13:13	1
Isooctane	0.500	U	5.00	0.500	ug/L			11/08/16 13:13	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-133656/8

Matrix: Water

Analysis Batch: 133656

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			11/08/16 13:13	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			11/08/16 13:13	1
Methacrylonitrile	2.00	U	10.0	2.00	ug/L			11/08/16 13:13	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			11/08/16 13:13	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			11/08/16 13:13	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			11/08/16 13:13	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			11/08/16 13:13	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			11/08/16 13:13	1
Naphthalene	0.200	U	5.00	0.200	ug/L			11/08/16 13:13	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			11/08/16 13:13	1
n-Heptane	0.300	U	5.00	0.300	ug/L			11/08/16 13:13	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			11/08/16 13:13	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			11/08/16 13:13	1
1-Octene	0.440	U	5.00	0.440	ug/L			11/08/16 13:13	1
o-Xylene	0.200	U	1.00	0.200	ug/L			11/08/16 13:13	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			11/08/16 13:13	1
Propionitrile	2.69	U	10.0	2.69	ug/L			11/08/16 13:13	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			11/08/16 13:13	1
Styrene	0.200	U	1.00	0.200	ug/L			11/08/16 13:13	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			11/08/16 13:13	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			11/08/16 13:13	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			11/08/16 13:13	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			11/08/16 13:13	1
Toluene	0.495	U	1.00	0.495	ug/L			11/08/16 13:13	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			11/08/16 13:13	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			11/08/16 13:13	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			11/08/16 13:13	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			11/08/16 13:13	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			11/08/16 13:13	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			11/08/16 13:13	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			11/08/16 13:13	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			11/08/16 13:13	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			11/08/16 13:13	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			11/08/16 13:13	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			11/08/16 13:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			11/08/16 13:13	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/08/16 13:13	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			11/08/16 13:13	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			11/08/16 13:13	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			11/08/16 13:13	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			11/08/16 13:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130		11/08/16 13:13	1
Dibromofluoromethane (Surr)	106		69 - 130		11/08/16 13:13	1
1,2-Dichloroethane-d4 (Surr)	111		70 - 140		11/08/16 13:13	1
Toluene-d8 (Surr)	101		70 - 130		11/08/16 13:13	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-133656/3

Matrix: Water

Analysis Batch: 133656

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	27.96		ug/L		112	60 - 150
Acetonitrile	250	265.6		ug/L		106	52 - 160
Benzene	25.0	25.24		ug/L		101	70 - 130
Benzyl chloride	25.0	27.38		ug/L		110	66 - 153
Bromobenzene	25.0	25.14		ug/L		101	70 - 130
Bromochloromethane	25.0	26.66		ug/L		107	70 - 130
Bromoform	25.0	24.76		ug/L		99	63 - 145
Bromomethane	25.0	21.22		ug/L		85	50 - 146
1,3-Butadiene	25.0	22.30		ug/L		89	40 - 138
2-Butanone (MEK)	25.0	26.21		ug/L		105	68 - 144
Carbon disulfide	25.0	26.65		ug/L		107	52 - 156
Carbon tetrachloride	25.0	28.67		ug/L		115	70 - 138
Chlorobenzene	25.0	24.95		ug/L		100	70 - 130
2-Chloro-1,3-butadiene	25.0	27.73		ug/L		111	69 - 140
Chlorodibromomethane	25.0	25.00		ug/L		100	70 - 137
Chloroethane	25.0	24.42		ug/L		98	54 - 141
Chloroform	25.0	26.42		ug/L		106	70 - 130
1-Chlorohexane	25.0	25.94		ug/L		104	64 - 130
Chloromethane	25.0	22.07		ug/L		88	46 - 142
2-Chlorotoluene	25.0	24.68		ug/L		99	70 - 130
4-Chlorotoluene	25.0	25.71		ug/L		103	70 - 130
cis-1,4-Dichloro-2-butene	25.0	18.73		ug/L		75	10 - 184
cis-1,2-Dichloroethene	25.0	26.66		ug/L		107	70 - 130
cis-1,3-Dichloropropene	25.0	26.73		ug/L		107	70 - 138
Cyclohexane	25.0	25.19		ug/L		101	40 - 141
Cyclohexanone	125	162.0		ug/L		130	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	23.78		ug/L		95	70 - 149
Dibromomethane	25.0	26.83		ug/L		107	70 - 130
1,2-Dichlorobenzene	25.0	25.43		ug/L		102	70 - 130
1,3-Dichlorobenzene	25.0	25.36		ug/L		101	70 - 130
1,4-Dichlorobenzene	25.0	24.85		ug/L		99	70 - 130
Dichlorobromomethane	25.0	26.50		ug/L		106	70 - 130
Dichlorodifluoromethane	25.0	14.10		ug/L		56	10 - 181
1,1-Dichloroethane	25.0	25.04		ug/L		100	70 - 130
1,2-Dichloroethane	25.0	26.14		ug/L		105	70 - 131
1,1-Dichloroethene	25.0	27.25		ug/L		109	70 - 139
1,2-Dichloropropane	25.0	25.71		ug/L		103	70 - 130
1,3-Dichloropropane	25.0	25.03		ug/L		100	70 - 130
2,2-Dichloropropane	25.0	27.58		ug/L		110	65 - 145
1,1-Dichloropropene	25.0	26.26		ug/L		105	70 - 130
1,4-Dioxane	500	599.5		ug/L		120	66 - 150
EDB	25.0	26.71		ug/L		107	70 - 130
Ethyl acetate	50.0	53.45		ug/L		107	59 - 200
Ethylbenzene	25.0	25.71		ug/L		103	70 - 130
Ethylene oxide	250	263.3		ug/L		105	10 - 200
Ethyl ether	25.0	25.73		ug/L		103	69 - 136
Ethyl methacrylate	25.0	25.18		ug/L		101	70 - 130
Hexachlorobutadiene	25.0	27.94		ug/L		112	68 - 165

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-133656/3

Matrix: Water

Analysis Batch: 133656

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexane	25.0	26.75		ug/L		107	10 - 185
2-Hexanone	25.0	25.41		ug/L		102	70 - 138
Iodomethane	25.0	26.24		ug/L		105	64 - 146
Isobutyl alcohol	625	651.9		ug/L		104	27 - 199
Isooctane	25.0	25.36		ug/L		101	10 - 181
Isopropylbenzene	25.0	26.24		ug/L		105	70 - 131
4-Isopropyltoluene	25.0	26.52		ug/L		106	70 - 130
Methacrylonitrile	250	264.4		ug/L		106	70 - 139
Methylene Chloride	25.0	24.71		ug/L		99	70 - 130
Methyl methacrylate	50.0	53.59		ug/L		107	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	24.78		ug/L		99	70 - 138
Methyl tert-butyl ether	25.0	25.21		ug/L		101	70 - 131
m-Xylene & p-Xylene	25.0	25.54		ug/L		102	70 - 139
Naphthalene	25.0	27.76		ug/L		111	70 - 159
n-Butylbenzene	25.0	26.88		ug/L		108	70 - 135
n-Heptane	25.0	25.29		ug/L		101	10 - 186
2-Nitropropane	50.0	54.55		ug/L		109	22 - 173
N-Propylbenzene	25.0	26.27		ug/L		105	70 - 131
1-Octene	25.0	24.95		ug/L		100	10 - 185
o-Xylene	25.0	25.48		ug/L		102	70 - 130
Pentachloroethane	25.0	24.97		ug/L		100	70 - 146
Propionitrile	250	249.9		ug/L		100	70 - 144
sec-Butylbenzene	25.0	26.89		ug/L		108	70 - 134
Styrene	25.0	26.39		ug/L		106	70 - 130
tert-Butylbenzene	25.0	26.45		ug/L		106	70 - 132
1,1,1,2-Tetrachloroethane	25.0	25.67		ug/L		103	65 - 130
1,1,2,2-Tetrachloroethane	25.0	24.54		ug/L		98	65 - 130
Tetrachloroethene	25.0	26.53		ug/L		106	70 - 135
Toluene	25.0	24.95		ug/L		100	70 - 130
trans-1,4-Dichloro-2-butene	25.0	18.82		ug/L		75	37 - 174
trans-1,2-Dichloroethene	25.0	27.37		ug/L		109	70 - 134
trans-1,3-Dichloropropene	25.0	24.10		ug/L		96	70 - 143
1,2,3-Trichlorobenzene	25.0	27.98		ug/L		112	70 - 158
1,2,4-Trichlorobenzene	25.0	26.87		ug/L		107	70 - 157
1,3,5-Trichlorobenzene	25.0	26.28		ug/L		105	70 - 131
1,1,1-Trichloroethane	25.0	28.18		ug/L		113	65 - 130
1,1,2-Trichloroethane	25.0	24.88		ug/L		100	70 - 130
Trichloroethene	25.0	26.86		ug/L		107	70 - 130
Trichlorofluoromethane	25.0	29.50		ug/L		118	39 - 146
1,2,3-Trichloropropene	25.0	26.01		ug/L		104	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	27.42		ug/L		110	27 - 148
1,2,4-Trimethylbenzene	25.0	26.46		ug/L		106	70 - 130
1,3,5-Trimethylbenzene	25.0	26.84		ug/L		107	70 - 131
Vinyl acetate	50.0	51.98		ug/L		104	18 - 200
Vinyl chloride	25.0	20.80		ug/L		83	49 - 140
Xylenes, Total	50.0	51.02		ug/L		102	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-133656/3

Matrix: Water

Analysis Batch: 133656

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
Dibromofluoromethane (Surr)	102		69 - 130
1,2-Dichloroethane-d4 (Surr)	106		70 - 140
Toluene-d8 (Surr)	98		70 - 130

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133656

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	5.00	U	25.0	28.94		ug/L		116	32 - 157
Acetonitrile	10.0	U	250	255.2		ug/L		102	10 - 182
Benzene	0.330	U	25.0	26.11		ug/L		104	70 - 130
Benzyl chloride	0.278	U	25.0	25.93		ug/L		104	49 - 130
Bromobenzene	0.128	U	25.0	25.39		ug/L		102	69 - 130
Bromochloromethane	0.228	U	25.0	27.33		ug/L		109	70 - 130
Bromoform	0.500	U	25.0	24.67		ug/L		99	57 - 145
Bromomethane	0.392	U	25.0	22.37		ug/L		89	56 - 141
1,3-Butadiene	0.300	U	25.0	23.21		ug/L		93	25 - 196
2-Butanone (MEK)	1.00	U	25.0	26.36		ug/L		105	42 - 142
Carbon disulfide	0.500	U	25.0	27.30		ug/L		109	59 - 164
Carbon tetrachloride	0.251	U	25.0	28.41		ug/L		114	70 - 138
Chlorobenzene	0.136	U	25.0	25.54		ug/L		102	70 - 130
2-Chloro-1,3-butadiene	0.200	U	25.0	27.94		ug/L		112	55 - 144
Chlorodibromomethane	0.223	U	25.0	25.09		ug/L		100	62 - 145
Chloroethane	0.400	U	25.0	21.40		ug/L		86	62 - 142
Chloroform	0.173	U	25.0	26.95		ug/L		108	70 - 130
1-Chlorohexane	0.500	U	25.0	26.78		ug/L		107	64 - 130
Chloromethane	0.390	U	25.0	23.20		ug/L		93	57 - 148
2-Chlorotoluene	0.155	U	25.0	25.10		ug/L		100	70 - 130
4-Chlorotoluene	0.242	U	25.0	26.66		ug/L		107	69 - 130
cis-1,4-Dichloro-2-butene	0.500	U	25.0	18.98		ug/L		76	24 - 150
cis-1,2-Dichloroethene	0.121	U	25.0	27.17		ug/L		109	70 - 130
cis-1,3-Dichloropropene	0.146	U	25.0	27.82		ug/L		111	46 - 136
Cyclohexane	1.00	U	25.0	25.47		ug/L		102	46 - 144
Cyclohexanone	5.00	U	125	121.4		ug/L		97	10 - 193
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	24.34		ug/L		97	56 - 130
Dibromomethane	0.165	U	25.0	26.82		ug/L		107	70 - 130
1,2-Dichlorobenzene	0.170	U	25.0	25.14		ug/L		101	70 - 130
1,3-Dichlorobenzene	0.128	U	25.0	24.91		ug/L		100	70 - 130
1,4-Dichlorobenzene	0.200	U	25.0	24.91		ug/L		100	70 - 130
Dichlorobromomethane	0.175	U	25.0	26.94		ug/L		108	70 - 130
Dichlorodifluoromethane	0.429	U	25.0	13.75		ug/L		55	14 - 198
1,1-Dichloroethane	0.168	U	25.0	25.65		ug/L		103	70 - 130
1,2-Dichloroethane	0.172	U	25.0	26.81		ug/L		107	65 - 130
1,1-Dichloroethene	0.300	U	25.0	27.69		ug/L		111	67 - 143
1,2-Dichloropropane	0.173	U	25.0	26.85		ug/L		107	70 - 130
1,3-Dichloropropane	0.146	U	25.0	25.45		ug/L		102	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133656

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	0.335	U	25.0	29.42		ug/L		118	65 - 150
1,1-Dichloropropene	0.185	U	25.0	26.98		ug/L		108	70 - 130
1,4-Dioxane	15.9	U	500	609.1		ug/L		122	20 - 152
EDB	0.175	U	25.0	26.63		ug/L		107	70 - 130
Ethyl acetate	1.00	U	50.0	53.58		ug/L		107	53 - 144
Ethylbenzene	0.200	U	25.0	25.97		ug/L		104	70 - 130
Ethylene oxide	30.0	U F2	250	123.8		ug/L		50	12 - 185
Ethyl ether	0.320	U	25.0	26.77		ug/L		107	67 - 130
Ethyl methacrylate	0.500	U	25.0	25.88		ug/L		104	65 - 130
Hexachlorobutadiene	0.860	U	25.0	26.85		ug/L		107	52 - 143
Hexane	2.00	U	25.0	26.89		ug/L		108	51 - 159
2-Hexanone	0.500	U	25.0	26.34		ug/L		105	56 - 130
Iodomethane	0.223	U	25.0	26.63		ug/L		107	70 - 162
Isobutyl alcohol	5.00	U	625	672.8		ug/L		108	36 - 130
Isooctane	0.500	U	25.0	25.33		ug/L		101	52 - 150
Isopropylbenzene	0.200	U	25.0	26.61		ug/L		106	70 - 130
4-Isopropyltoluene	0.150	U	25.0	26.35		ug/L		105	69 - 130
Methacrylonitrile	2.00	U	250	266.0		ug/L		106	61 - 130
Methylene Chloride	2.00	U	25.0	25.42		ug/L		102	70 - 130
Methyl methacrylate	0.200	U	50.0	56.08		ug/L		112	63 - 130
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	25.35		ug/L		101	54 - 130
Methyl tert-butyl ether	0.200	U	25.0	26.22		ug/L		105	63 - 134
m-Xylene & p-Xylene	0.260	U	25.0	26.31		ug/L		105	67 - 130
Naphthalene	0.200	U	25.0	27.40		ug/L		110	62 - 145
n-Butylbenzene	0.200	U	25.0	26.08		ug/L		104	67 - 130
n-Heptane	0.300	U	25.0	25.31		ug/L		101	55 - 150
2-Nitropropane	1.00	U	50.0	55.63		ug/L		111	22 - 173
N-Propylbenzene	0.106	U	25.0	26.25		ug/L		105	70 - 130
1-Octene	0.440	U	25.0	25.00		ug/L		100	63 - 134
o-Xylene	0.200	U	25.0	25.76		ug/L		103	70 - 130
Pentachloroethane	0.302	U	25.0	26.28		ug/L		105	60 - 130
Propionitrile	2.69	U	250	253.2		ug/L		101	39 - 130
sec-Butylbenzene	0.300	U	25.0	26.60		ug/L		106	67 - 130
Styrene	0.200	U	25.0	26.86		ug/L		107	28 - 150
tert-Butylbenzene	0.200	U	25.0	26.64		ug/L		107	70 - 130
1,1,1,2-Tetrachloroethane	0.209	U	25.0	26.05		ug/L		104	65 - 130
1,1,2,2-Tetrachloroethane	0.190	U	25.0	25.09		ug/L		100	65 - 130
Tetrachloroethene	0.189	U	25.0	26.00		ug/L		104	69 - 130
Toluene	0.495	U	25.0	25.26		ug/L		101	70 - 130
trans-1,4-Dichloro-2-butene	0.500	U	25.0	18.33		ug/L		73	35 - 130
trans-1,2-Dichloroethene	0.200	U	25.0	27.75		ug/L		111	57 - 148
trans-1,3-Dichloropropene	0.200	U	25.0	24.60		ug/L		98	44 - 139
1,2,3-Trichlorobenzene	0.217	U	25.0	27.03		ug/L		108	60 - 130
1,2,4-Trichlorobenzene	0.168	U	25.0	26.01		ug/L		104	60 - 142
1,3,5-Trichlorobenzene	0.203	U	25.0	25.02		ug/L		100	66 - 135
1,1,1-Trichloroethane	0.300	U	25.0	28.49		ug/L		114	65 - 133
1,1,2-Trichloroethane	0.173	U	25.0	25.42		ug/L		102	70 - 130
Trichloroethene	0.317	U	25.0	26.81		ug/L		107	70 - 130

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133656

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	0.244	U	25.0	29.74		ug/L		119	64 - 149
1,2,3-Trichloropropane	0.191	U	25.0	26.15		ug/L		105	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	27.70		ug/L		111	47 - 152
1,2,4-Trimethylbenzene	0.200	U	25.0	26.32		ug/L		105	70 - 130
1,3,5-Trimethylbenzene	0.200	U	25.0	26.70		ug/L		107	70 - 130
Vinyl acetate	0.500	U	50.0	53.73		ug/L		107	36 - 171
Vinyl chloride	0.300	U	25.0	21.81		ug/L		87	49 - 158
Xylenes, Total	0.200	U	50.0	52.07		ug/L		104	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	102		69 - 130
1,2-Dichloroethane-d4 (Surr)	105		70 - 140
Toluene-d8 (Surr)	98		70 - 130

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133656

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	5.00	U	25.0	28.34		ug/L		113	32 - 157	2	20
Acetonitrile	10.0	U	250	245.5		ug/L		98	10 - 182	4	20
Benzene	0.330	U	25.0	25.85		ug/L		103	70 - 130	1	20
Benzyl chloride	0.278	U	25.0	25.97		ug/L		104	49 - 130	0	20
Bromobenzene	0.128	U	25.0	24.89		ug/L		100	69 - 130	2	20
Bromochloromethane	0.228	U	25.0	26.83		ug/L		107	70 - 130	2	20
Bromoform	0.500	U	25.0	23.87		ug/L		95	57 - 145	3	20
Bromomethane	0.392	U	25.0	21.61		ug/L		86	56 - 141	3	20
1,3-Butadiene	0.300	U	25.0	23.73		ug/L		95	25 - 196	2	20
2-Butanone (MEK)	1.00	U	25.0	24.48		ug/L		98	42 - 142	7	20
Carbon disulfide	0.500	U	25.0	26.93		ug/L		108	59 - 164	1	20
Carbon tetrachloride	0.251	U	25.0	28.56		ug/L		114	70 - 138	1	20
Chlorobenzene	0.136	U	25.0	25.28		ug/L		101	70 - 130	1	20
2-Chloro-1,3-butadiene	0.200	U	25.0	28.12		ug/L		112	55 - 144	1	20
Chlorodibromomethane	0.223	U	25.0	24.92		ug/L		100	62 - 145	1	20
Chloroethane	0.400	U	25.0	24.46		ug/L		98	62 - 142	13	20
Chloroform	0.173	U	25.0	26.51		ug/L		106	70 - 130	2	20
1-Chlorohexane	0.500	U	25.0	26.77		ug/L		107	64 - 130	0	20
Chloromethane	0.390	U	25.0	22.51		ug/L		90	57 - 148	3	20
2-Chlorotoluene	0.155	U	25.0	24.33		ug/L		97	70 - 130	3	20
4-Chlorotoluene	0.242	U	25.0	25.64		ug/L		103	69 - 130	4	20
cis-1,4-Dichloro-2-butene	0.500	U	25.0	15.98		ug/L		64	24 - 150	17	20
cis-1,2-Dichloroethene	0.121	U	25.0	26.86		ug/L		107	70 - 130	1	20
cis-1,3-Dichloropropene	0.146	U	25.0	26.53		ug/L		106	46 - 136	5	20
Cyclohexane	1.00	U	25.0	25.40		ug/L		102	46 - 144	0	20
Cyclohexanone	5.00	U	125	119.8		ug/L		96	10 - 193	1	20
1,2-Dibromo-3-Chloropropane	0.349	U	25.0	22.29		ug/L		89	56 - 130	9	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133656

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibromomethane	0.165	U	25.0	26.39		ug/L		106	70 - 130	2	20
1,2-Dichlorobenzene	0.170	U	25.0	25.19		ug/L		101	70 - 130	0	20
1,3-Dichlorobenzene	0.128	U	25.0	24.86		ug/L		99	70 - 130	0	20
1,4-Dichlorobenzene	0.200	U	25.0	24.98		ug/L		100	70 - 130	0	20
Dichlorobromomethane	0.175	U	25.0	26.52		ug/L		106	70 - 130	2	20
Dichlorodifluoromethane	0.429	U	25.0	13.52		ug/L		54	14 - 198	2	20
1,1-Dichloroethane	0.168	U	25.0	25.46		ug/L		102	70 - 130	1	20
1,2-Dichloroethane	0.172	U	25.0	26.17		ug/L		105	65 - 130	2	20
1,1-Dichloroethene	0.300	U	25.0	27.63		ug/L		111	67 - 143	0	20
1,2-Dichloropropane	0.173	U	25.0	26.63		ug/L		107	70 - 130	1	20
1,3-Dichloropropane	0.146	U	25.0	25.21		ug/L		101	70 - 130	1	20
2,2-Dichloropropane	0.335	U	25.0	28.27		ug/L		113	65 - 150	4	20
1,1-Dichloropropene	0.185	U	25.0	26.47		ug/L		106	70 - 130	2	20
1,4-Dioxane	15.9	U	500	568.0		ug/L		114	20 - 152	7	20
EDB	0.175	U	25.0	26.68		ug/L		107	70 - 130	0	20
Ethyl acetate	1.00	U	50.0	51.89		ug/L		104	53 - 144	3	20
Ethylbenzene	0.200	U	25.0	26.40		ug/L		106	70 - 130	2	20
Ethylene oxide	30.0	U F2	250	100.0	F2	ug/L		40	12 - 185	21	20
Ethyl ether	0.320	U	25.0	27.06		ug/L		108	67 - 130	1	20
Ethyl methacrylate	0.500	U	25.0	26.42		ug/L		106	65 - 130	2	20
Hexachlorobutadiene	0.860	U	25.0	26.38		ug/L		106	52 - 143	2	20
Hexane	2.00	U	25.0	26.68		ug/L		107	51 - 159	1	20
2-Hexanone	0.500	U	25.0	25.36		ug/L		101	56 - 130	4	20
Iodomethane	0.223	U	25.0	26.62		ug/L		106	70 - 162	0	20
Isobutyl alcohol	5.00	U	625	624.8		ug/L		100	36 - 130	7	20
Isooctane	0.500	U	25.0	25.40		ug/L		102	52 - 150	0	20
Isopropylbenzene	0.200	U	25.0	26.11		ug/L		104	70 - 130	2	20
4-Isopropyltoluene	0.150	U	25.0	25.93		ug/L		104	69 - 130	2	20
Methacrylonitrile	2.00	U	250	264.9		ug/L		106	61 - 130	0	20
Methylene Chloride	2.00	U	25.0	25.80		ug/L		103	70 - 130	1	20
Methyl methacrylate	0.200	U	50.0	53.33		ug/L		107	63 - 130	5	20
4-Methyl-2-pentanone (MIBK)	0.510	U	25.0	25.40		ug/L		102	54 - 130	0	20
Methyl tert-butyl ether	0.200	U	25.0	25.65		ug/L		103	63 - 134	2	20
m-Xylene & p-Xylene	0.260	U	25.0	26.29		ug/L		105	67 - 130	0	20
Naphthalene	0.200	U	25.0	26.72		ug/L		107	62 - 145	3	20
n-Butylbenzene	0.200	U	25.0	26.22		ug/L		105	67 - 130	1	20
n-Heptane	0.300	U	25.0	24.51		ug/L		98	55 - 150	3	20
2-Nitropropane	1.00	U	50.0	53.60		ug/L		107	22 - 173	4	20
N-Propylbenzene	0.106	U	25.0	25.99		ug/L		104	70 - 130	1	20
1-Octene	0.440	U	25.0	25.18		ug/L		101	63 - 134	1	20
o-Xylene	0.200	U	25.0	26.14		ug/L		105	70 - 130	1	20
Pentachloroethane	0.302	U	25.0	24.82		ug/L		99	60 - 130	6	20
Propionitrile	2.69	U	250	249.4		ug/L		100	39 - 130	1	20
sec-Butylbenzene	0.300	U	25.0	26.23		ug/L		105	67 - 130	1	20
Styrene	0.200	U	25.0	27.02		ug/L		108	28 - 150	1	20
tert-Butylbenzene	0.200	U	25.0	26.44		ug/L		106	70 - 130	1	20
1,1,1,2-Tetrachloroethane	0.209	U	25.0	25.91		ug/L		104	65 - 130	1	20
1,1,2,2-Tetrachloroethane	0.190	U	25.0	24.40		ug/L		98	65 - 130	3	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133656

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	0.189	U	25.0	25.97		ug/L		104	69 - 130	0	20
Toluene	0.495	U	25.0	25.60		ug/L		102	70 - 130	1	20
trans-1,4-Dichloro-2-butene	0.500	U	25.0	16.16		ug/L		65	35 - 130	13	20
trans-1,2-Dichloroethene	0.200	U	25.0	27.88		ug/L		112	57 - 148	0	20
trans-1,3-Dichloropropene	0.200	U	25.0	24.15		ug/L		97	44 - 139	2	20
1,2,3-Trichlorobenzene	0.217	U	25.0	26.78		ug/L		107	60 - 130	1	20
1,2,4-Trichlorobenzene	0.168	U	25.0	26.08		ug/L		104	60 - 142	0	20
1,3,5-Trichlorobenzene	0.203	U	25.0	25.71		ug/L		103	66 - 135	3	20
1,1,1-Trichloroethane	0.300	U	25.0	27.46		ug/L		110	65 - 133	4	20
1,1,2-Trichloroethane	0.173	U	25.0	25.12		ug/L		100	70 - 130	1	20
Trichloroethene	0.317	U	25.0	26.71		ug/L		107	70 - 130	0	20
Trichlorofluoromethane	0.244	U	25.0	29.01		ug/L		116	64 - 149	2	20
1,2,3-Trichloropropane	0.191	U	25.0	25.38		ug/L		102	70 - 130	3	20
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	25.0	27.39		ug/L		110	47 - 152	1	20
1,2,4-Trimethylbenzene	0.200	U	25.0	26.07		ug/L		104	70 - 130	1	20
1,3,5-Trimethylbenzene	0.200	U	25.0	26.03		ug/L		104	70 - 130	3	20
Vinyl acetate	0.500	U	50.0	52.70		ug/L		105	36 - 171	2	20
Vinyl chloride	0.300	U	25.0	20.84		ug/L		83	49 - 158	5	20
Xylenes, Total	0.200	U	50.0	52.43		ug/L		105	70 - 130	1	20

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	99		70 - 130
Dibromofluoromethane (Surr)	105		69 - 130
1,2-Dichloroethane-d4 (Surr)	106		70 - 140
Toluene-d8 (Surr)	99		70 - 130

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-133681/1-A

Matrix: Water

Analysis Batch: 133691

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133681

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/08/16 15:50	11/09/16 10:30	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/08/16 15:50	11/09/16 10:30	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/08/16 15:50	11/09/16 10:30	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/08/16 15:50	11/09/16 10:30	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/08/16 15:50	11/09/16 10:30	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/08/16 15:50	11/09/16 10:30	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/08/16 15:50	11/09/16 10:30	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/08/16 15:50	11/09/16 10:30	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/08/16 15:50	11/09/16 10:30	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/08/16 15:50	11/09/16 10:30	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/08/16 15:50	11/09/16 10:30	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		11/08/16 15:50	11/09/16 10:30	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/08/16 15:50	11/09/16 10:30	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/08/16 15:50	11/09/16 10:30	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-133681/1-A

Matrix: Water

Analysis Batch: 133691

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133681

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 10:30	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/08/16 15:50	11/09/16 10:30	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/08/16 15:50	11/09/16 10:30	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/08/16 15:50	11/09/16 10:30	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/08/16 15:50	11/09/16 10:30	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/08/16 15:50	11/09/16 10:30	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/08/16 15:50	11/09/16 10:30	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/08/16 15:50	11/09/16 10:30	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/08/16 15:50	11/09/16 10:30	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/08/16 15:50	11/09/16 10:30	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/08/16 15:50	11/09/16 10:30	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 10:30	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/08/16 15:50	11/09/16 10:30	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/08/16 15:50	11/09/16 10:30	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/08/16 15:50	11/09/16 10:30	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 10:30	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/08/16 15:50	11/09/16 10:30	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/08/16 15:50	11/09/16 10:30	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/08/16 15:50	11/09/16 10:30	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/08/16 15:50	11/09/16 10:30	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/08/16 15:50	11/09/16 10:30	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/08/16 15:50	11/09/16 10:30	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/08/16 15:50	11/09/16 10:30	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/08/16 15:50	11/09/16 10:30	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/08/16 15:50	11/09/16 10:30	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/08/16 15:50	11/09/16 10:30	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/08/16 15:50	11/09/16 10:30	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/08/16 15:50	11/09/16 10:30	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/08/16 15:50	11/09/16 10:30	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/08/16 15:50	11/09/16 10:30	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/08/16 15:50	11/09/16 10:30	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/08/16 15:50	11/09/16 10:30	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/08/16 15:50	11/09/16 10:30	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/08/16 15:50	11/09/16 10:30	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/08/16 15:50	11/09/16 10:30	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/08/16 15:50	11/09/16 10:30	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/08/16 15:50	11/09/16 10:30	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/08/16 15:50	11/09/16 10:30	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/08/16 15:50	11/09/16 10:30	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/08/16 15:50	11/09/16 10:30	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/08/16 15:50	11/09/16 10:30	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/08/16 15:50	11/09/16 10:30	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/08/16 15:50	11/09/16 10:30	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/08/16 15:50	11/09/16 10:30	1
Phenol	0.768	U	10.0	0.768	ug/L		11/08/16 15:50	11/09/16 10:30	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/08/16 15:50	11/09/16 10:30	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/08/16 15:50	11/09/16 10:30	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/08/16 15:50	11/09/16 10:30	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-133681/1-A

Matrix: Water

Analysis Batch: 133691

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133681

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/08/16 15:50	11/09/16 10:30	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	76		23 - 130				11/08/16 15:50	11/09/16 10:30	1
2-Fluorophenol	75		10 - 130				11/08/16 15:50	11/09/16 10:30	1
Nitrobenzene-d5	75		27 - 130				11/08/16 15:50	11/09/16 10:30	1
Phenol-d5	79		10 - 130				11/08/16 15:50	11/09/16 10:30	1
Terphenyl-d14	96		10 - 141				11/08/16 15:50	11/09/16 10:30	1
2,4,6-Tribromophenol	72		18 - 130				11/08/16 15:50	11/09/16 10:30	1

Lab Sample ID: LCS 560-133681/2-A

Matrix: Water

Analysis Batch: 133691

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133681

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	200	176.9		ug/L		88	54 - 130
Acenaphthylene	200	168.1		ug/L		84	54 - 130
Anthracene	200	179.8		ug/L		90	67 - 130
Benzo[a]anthracene	200	177.5		ug/L		89	70 - 130
Benzo[a]pyrene	200	177.3		ug/L		89	70 - 130
Benzo[b]fluoranthene	200	173.5		ug/L		87	69 - 130
Benzo[g,h,i]perylene	200	159.0		ug/L		80	62 - 130
Benzo[k]fluoranthene	200	188.9		ug/L		94	68 - 130
Benzyl alcohol	200	172.6		ug/L		86	52 - 130
Bis(2-chloroethoxy)methane	200	174.9		ug/L		87	55 - 130
Bis(2-chloroethyl)ether	200	165.3		ug/L		83	52 - 130
Bis(2-ethylhexyl) phthalate	200	608.3	*	ug/L		304	68 - 130
4-Bromophenyl phenyl ether	200	171.1		ug/L		86	69 - 130
Butyl benzyl phthalate	200	193.8		ug/L		97	68 - 130
4-Chloroaniline	200	108.7		ug/L		54	30 - 130
4-Chloro-3-methylphenol	200	174.5		ug/L		87	52 - 130
2-Chloronaphthalene	200	159.2		ug/L		80	51 - 130
2-Chlorophenol	200	164.6		ug/L		82	51 - 130
4-Chlorophenyl phenyl ether	200	167.1		ug/L		84	59 - 130
Chrysene	200	179.4		ug/L		90	70 - 130
Dibenz(a,h)anthracene	200	159.1		ug/L		80	65 - 130
Dibenzofuran	200	165.1		ug/L		83	53 - 130
1,2-Dichlorobenzene	200	142.2		ug/L		71	43 - 130
1,3-Dichlorobenzene	200	137.3		ug/L		69	40 - 130
1,4-Dichlorobenzene	200	139.5		ug/L		70	42 - 130
3,3'-Dichlorobenzidine	200	200.3		ug/L		100	61 - 130
2,4-Dichlorophenol	200	163.9		ug/L		82	51 - 130
Diethyl phthalate	200	189.4		ug/L		95	59 - 130
2,4-Dimethylphenol	200	173.4		ug/L		87	51 - 130
Dimethyl phthalate	200	176.0		ug/L		88	63 - 130
Di-n-butyl phthalate	200	190.0		ug/L		95	67 - 130
4,6-Dinitro-2-methylphenol	400	354.2		ug/L		89	63 - 130
2,4-Dinitrophenol	400	303.4		ug/L		76	47 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-133681/2-A

Matrix: Water

Analysis Batch: 133691

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133681

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-Dinitrotoluene	200	176.9		ug/L		88	67 - 130
2,6-Dinitrotoluene	200	174.9		ug/L		87	64 - 130
Di-n-octyl phthalate	200	190.6		ug/L		95	70 - 130
Fluoranthene	200	179.4		ug/L		90	65 - 130
Fluorene	200	173.0		ug/L		87	59 - 130
Hexachlorobenzene	200	168.9		ug/L		84	67 - 130
Hexachlorobutadiene	200	139.7		ug/L		70	44 - 130
Hexachlorocyclopentadiene	200	99.71		ug/L		50	10 - 130
Hexachloroethane	200	140.7		ug/L		70	38 - 130
Indeno[1,2,3-cd]pyrene	200	161.6		ug/L		81	66 - 130
Isophorone	200	173.0		ug/L		87	55 - 130
2-Methylnaphthalene	200	156.9		ug/L		78	54 - 130
2-Methylphenol	200	168.8		ug/L		84	47 - 130
3 & 4 Methylphenol	200	173.5		ug/L		87	41 - 130
Naphthalene	200	155.2		ug/L		78	51 - 130
2-Nitroaniline	200	186.1		ug/L		93	60 - 130
3-Nitroaniline	200	161.0		ug/L		81	57 - 130
4-Nitroaniline	200	191.4		ug/L		96	55 - 130
Nitrobenzene	200	173.6		ug/L		87	54 - 130
2-Nitrophenol	200	168.3		ug/L		84	54 - 130
4-Nitrophenol	400	343.6		ug/L		86	34 - 138
N-Nitrosodi-n-propylamine	200	183.4		ug/L		92	45 - 130
N-Nitrosodiphenylamine	200	179.3		ug/L		90	51 - 130
Pentachlorophenol	400	295.9		ug/L		74	55 - 130
Phenanthrene	200	178.3		ug/L		89	67 - 130
Phenol	200	167.7		ug/L		84	47 - 130
Pyrene	200	184.8		ug/L		92	66 - 130
1,2,4-Trichlorobenzene	200	144.9		ug/L		72	49 - 130
2,4,5-Trichlorophenol	200	170.0		ug/L		85	55 - 130
2,4,6-Trichlorophenol	200	160.4		ug/L		80	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	81		23 - 130
2-Fluorophenol	77		10 - 130
Nitrobenzene-d5	83		27 - 130
Phenol-d5	82		10 - 130
Terphenyl-d14	91		10 - 141
2,4,6-Tribromophenol	79		18 - 130

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133691

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 133681

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.460	U	238	166.7		ug/L		70	54 - 130
Acenaphthylene	0.452	U	238	169.6		ug/L		71	54 - 130
Anthracene	0.700	U	238	192.3		ug/L		81	67 - 130
Benzo[a]anthracene	0.646	U	238	197.8		ug/L		83	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133691

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 133681

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits		
	Result	Qualifier	Added	Result	Qualifier						
Benzo[a]pyrene	0.742	U	238	207.1		ug/L		87	70 - 130		
Benzo[b]fluoranthene	0.908	U	238	205.6		ug/L		86	69 - 130		
Benzo[g,h,i]perylene	1.10	U	238	174.1		ug/L		73	62 - 130		
Benzo[k]fluoranthene	1.49	U	238	206.3		ug/L		87	68 - 130		
Benzyl alcohol	0.827	U	238	176.0		ug/L		74	52 - 130		
Bis(2-chloroethoxy)methane	0.436	U	238	173.4		ug/L		73	55 - 130		
Bis(2-chloroethyl)ether	1.55	U	238	169.7		ug/L		71	52 - 130		
Bis(2-ethylhexyl) phthalate	8.46	J *	238	224.8		ug/L		91	68 - 130		
4-Bromophenyl phenyl ether	0.811	U	238	185.8		ug/L		78	69 - 130		
Butyl benzyl phthalate	0.816	U	238	213.2		ug/L		90	68 - 130		
4-Chloroaniline	0.549	U	238	135.2		ug/L		57	30 - 130		
4-Chloro-3-methylphenol	0.586	U	238	181.2		ug/L		76	52 - 130		
2-Chloronaphthalene	0.603	U	238	159.3		ug/L		67	51 - 130		
2-Chlorophenol	0.729	U	238	169.6		ug/L		71	51 - 130		
4-Chlorophenyl phenyl ether	0.529	U	238	174.8		ug/L		73	59 - 130		
Chrysene	0.494	U	238	197.1		ug/L		83	70 - 130		
Dibenz(a,h)anthracene	0.874	U	238	189.7		ug/L		80	65 - 130		
Dibenzofuran	0.485	U	238	169.4		ug/L		71	53 - 130		
1,2-Dichlorobenzene	0.775	U	238	145.7		ug/L		61	43 - 130		
1,3-Dichlorobenzene	0.491	U	238	140.8		ug/L		59	40 - 130		
1,4-Dichlorobenzene	0.815	U	238	144.5		ug/L		61	42 - 130		
3,3'-Dichlorobenzidine	0.787	U	238	191.2		ug/L		80	61 - 130		
2,4-Dichlorophenol	0.704	U	238	169.1		ug/L		71	51 - 130		
Diethyl phthalate	0.666	U	238	193.0		ug/L		81	59 - 130		
2,4-Dimethylphenol	0.593	U	238	174.4		ug/L		73	51 - 130		
Dimethyl phthalate	0.589	U	238	189.7		ug/L		80	63 - 130		
Di-n-butyl phthalate	0.709	U	238	200.4		ug/L		84	67 - 130		
4,6-Dinitro-2-methylphenol	0.959	U	476	412.8		ug/L		87	63 - 130		
2,4-Dinitrophenol	2.69	U	476	358.5		ug/L		75	47 - 130		
2,4-Dinitrotoluene	0.509	U	238	199.3		ug/L		84	67 - 130		
2,6-Dinitrotoluene	0.762	U	238	188.4		ug/L		79	64 - 130		
Di-n-octyl phthalate	1.11	U	238	215.3		ug/L		90	70 - 130		
Fluoranthene	0.496	U	238	194.8		ug/L		82	65 - 130		
Fluorene	0.421	U	238	178.8		ug/L		75	59 - 130		
Hexachlorobenzene	0.602	U	238	189.0		ug/L		79	67 - 130		
Hexachlorobutadiene	0.716	U	238	130.9		ug/L		55	44 - 130		
Hexachlorocyclopentadiene	0.839	U	238	116.9		ug/L		49	10 - 130		
Hexachloroethane	0.589	U	238	136.1		ug/L		57	38 - 130		
Indeno[1,2,3-cd]pyrene	0.922	U	238	186.5		ug/L		78	66 - 130		
Isophorone	0.549	U	238	178.8		ug/L		75	55 - 130		
2-Methylnaphthalene	0.702	U	238	155.7		ug/L		65	54 - 130		
2-Methylphenol	0.610	U	238	171.0		ug/L		72	47 - 130		
3 & 4 Methylphenol	0.763	U	238	171.3		ug/L		72	41 - 130		
Naphthalene	0.787	U	238	157.8		ug/L		66	51 - 130		
2-Nitroaniline	0.766	U	238	196.1		ug/L		82	60 - 130		
3-Nitroaniline	0.512	U	238	194.1		ug/L		82	57 - 130		
4-Nitroaniline	0.819	U	238	203.5		ug/L		85	55 - 130		
Nitrobenzene	0.587	U	238	178.2		ug/L		75	54 - 130		

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133691

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 133681

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitrophenol	0.808	U	238	172.1		ug/L		72	54 - 130
4-Nitrophenol	1.73	U	476	409.6		ug/L		86	34 - 138
N-Nitrosodi-n-propylamine	0.620	U	238	179.4		ug/L		75	45 - 130
N-Nitrosodiphenylamine	1.03	U	238	187.9		ug/L		79	51 - 130
Pentachlorophenol	1.32	U	476	373.7		ug/L		78	55 - 130
Phenanthrene	0.591	U	238	191.5		ug/L		80	67 - 130
Phenol	0.768	U	238	173.3		ug/L		73	47 - 130
Pyrene	0.440	U	238	199.4		ug/L		84	66 - 130
1,2,4-Trichlorobenzene	0.647	U	238	142.1		ug/L		60	49 - 130
2,4,5-Trichlorophenol	0.861	U	238	170.5		ug/L		72	55 - 130
2,4,6-Trichlorophenol	0.658	U	238	172.2		ug/L		72	53 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	71		23 - 130
2-Fluorophenol	70		10 - 130
Nitrobenzene-d5	75		27 - 130
Phenol-d5	75		10 - 130
Terphenyl-d14	89		10 - 141
2,4,6-Tribromophenol	82		18 - 130

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133691

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 133681

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	0.460	U	208	159.7		ug/L		77	54 - 130	4	30
Acenaphthylene	0.452	U	208	161.2		ug/L		77	54 - 130	5	30
Anthracene	0.700	U	208	177.1		ug/L		85	67 - 130	8	30
Benzo[a]anthracene	0.646	U	208	184.1		ug/L		88	70 - 130	7	30
Benzo[a]pyrene	0.742	U	208	188.8		ug/L		91	70 - 130	9	30
Benzo[b]fluoranthene	0.908	U	208	188.2		ug/L		90	69 - 130	9	30
Benzo[g,h,i]perylene	1.10	U	208	160.9		ug/L		77	62 - 130	8	30
Benzo[k]fluoranthene	1.49	U	208	191.3		ug/L		92	68 - 130	8	30
Benzyl alcohol	0.827	U	208	165.4		ug/L		79	52 - 130	6	30
Bis(2-chloroethoxy)methane	0.436	U	208	163.6		ug/L		79	55 - 130	6	30
Bis(2-chloroethyl)ether	1.55	U	208	159.1		ug/L		76	52 - 130	6	30
Bis(2-ethylhexyl) phthalate	8.46	J *	208	215.8		ug/L		100	68 - 130	4	30
4-Bromophenyl phenyl ether	0.811	U	208	169.2		ug/L		81	69 - 130	9	30
Butyl benzyl phthalate	0.816	U	208	198.7		ug/L		95	68 - 130	7	30
4-Chloroaniline	0.549	U	208	120.8		ug/L		58	30 - 130	11	30
4-Chloro-3-methylphenol	0.586	U	208	170.3		ug/L		82	52 - 130	6	30
2-Chloronaphthalene	0.603	U	208	155.3		ug/L		75	51 - 130	3	30
2-Chlorophenol	0.729	U	208	156.5		ug/L		75	51 - 130	8	30
4-Chlorophenyl phenyl ether	0.529	U	208	163.0		ug/L		78	59 - 130	7	30
Chrysene	0.494	U	208	184.6		ug/L		89	70 - 130	7	30
Dibenz(a,h)anthracene	0.874	U	208	175.7		ug/L		84	65 - 130	8	30
Dibenzofuran	0.485	U	208	158.6		ug/L		76	53 - 130	7	30
1,2-Dichlorobenzene	0.775	U	208	143.1		ug/L		69	43 - 130	2	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133691

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 133681

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3-Dichlorobenzene	0.491	U	208	142.1		ug/L		68	40 - 130	1	30
1,4-Dichlorobenzene	0.815	U	208	141.8		ug/L		68	42 - 130	2	30
3,3'-Dichlorobenzidine	0.787	U	208	166.7		ug/L		80	61 - 130	14	30
2,4-Dichlorophenol	0.704	U	208	159.2		ug/L		76	51 - 130	6	30
Diethyl phthalate	0.666	U	208	176.5		ug/L		85	59 - 130	9	30
2,4-Dimethylphenol	0.593	U	208	163.5		ug/L		78	51 - 130	6	30
Dimethyl phthalate	0.589	U	208	174.1		ug/L		84	63 - 130	9	30
Di-n-butyl phthalate	0.709	U	208	186.0		ug/L		89	67 - 130	7	30
4,6-Dinitro-2-methylphenol	0.959	U	417	377.3		ug/L		91	63 - 130	9	30
2,4-Dinitrophenol	2.69	U	417	337.8		ug/L		81	47 - 130	6	30
2,4-Dinitrotoluene	0.509	U	208	183.5		ug/L		88	67 - 130	8	30
2,6-Dinitrotoluene	0.762	U	208	174.3		ug/L		84	64 - 130	8	30
Di-n-octyl phthalate	1.11	U	208	200.0		ug/L		96	70 - 130	7	30
Fluoranthene	0.496	U	208	182.1		ug/L		87	65 - 130	7	30
Fluorene	0.421	U	208	165.9		ug/L		80	59 - 130	7	30
Hexachlorobenzene	0.602	U	208	173.3		ug/L		83	67 - 130	9	30
Hexachlorobutadiene	0.716	U	208	146.0		ug/L		70	44 - 130	11	30
Hexachlorocyclopentadiene	0.839	U	208	129.5		ug/L		62	10 - 130	10	30
Hexachloroethane	0.589	U	208	143.1		ug/L		69	38 - 130	5	30
Indeno[1,2,3-cd]pyrene	0.922	U	208	171.9		ug/L		83	66 - 130	8	30
Isophorone	0.549	U	208	169.0		ug/L		81	55 - 130	6	30
2-Methylnaphthalene	0.702	U	208	153.4		ug/L		74	54 - 130	1	30
2-Methylphenol	0.610	U	208	161.5		ug/L		78	47 - 130	6	30
3 & 4 Methylphenol	0.763	U	208	161.4		ug/L		77	41 - 130	6	30
Naphthalene	0.787	U	208	154.1		ug/L		74	51 - 130	2	30
2-Nitroaniline	0.766	U	208	178.6		ug/L		86	60 - 130	9	35
3-Nitroaniline	0.512	U	208	175.8		ug/L		84	57 - 130	10	30
4-Nitroaniline	0.819	U	208	184.4		ug/L		89	55 - 130	10	30
Nitrobenzene	0.587	U	208	168.1		ug/L		81	54 - 130	6	30
2-Nitrophenol	0.808	U	208	162.8		ug/L		78	54 - 130	6	30
4-Nitrophenol	1.73	U	417	381.4		ug/L		92	34 - 138	7	30
N-Nitrosodi-n-propylamine	0.620	U	208	169.3		ug/L		81	45 - 130	6	30
N-Nitrosodiphenylamine	1.03	U	208	169.2		ug/L		81	51 - 130	10	30
Pentachlorophenol	1.32	U	417	342.2		ug/L		82	55 - 130	9	30
Phenanthrene	0.591	U	208	174.9		ug/L		84	67 - 130	9	30
Phenol	0.768	U	208	160.7		ug/L		77	47 - 130	8	30
Pyrene	0.440	U	208	187.1		ug/L		90	66 - 130	6	30
1,2,4-Trichlorobenzene	0.647	U	208	144.8		ug/L		69	49 - 130	2	30
2,4,5-Trichlorophenol	0.861	U	208	162.8		ug/L		78	55 - 130	5	30
2,4,6-Trichlorophenol	0.658	U	208	161.8		ug/L		78	53 - 130	6	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	78		23 - 130
2-Fluorophenol	74		10 - 130
Nitrobenzene-d5	76		27 - 130
Phenol-d5	80		10 - 130
Terphenyl-d14	92		10 - 141
2,4,6-Tribromophenol	85		18 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Lab Sample ID: MB 560-133716/1-A

Matrix: Water

Analysis Batch: 133737

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133716

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/09/16 14:46	11/10/16 12:05	1
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/09/16 14:46	11/10/16 12:05	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/09/16 14:46	11/10/16 12:05	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/09/16 14:46	11/10/16 12:05	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/09/16 14:46	11/10/16 12:05	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/09/16 14:46	11/10/16 12:05	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/09/16 14:46	11/10/16 12:05	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/09/16 14:46	11/10/16 12:05	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/09/16 14:46	11/10/16 12:05	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/09/16 14:46	11/10/16 12:05	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/09/16 14:46	11/10/16 12:05	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		11/09/16 14:46	11/10/16 12:05	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/09/16 14:46	11/10/16 12:05	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/09/16 14:46	11/10/16 12:05	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 12:05	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/09/16 14:46	11/10/16 12:05	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/09/16 14:46	11/10/16 12:05	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/09/16 14:46	11/10/16 12:05	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/09/16 14:46	11/10/16 12:05	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/09/16 14:46	11/10/16 12:05	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/09/16 14:46	11/10/16 12:05	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/09/16 14:46	11/10/16 12:05	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/09/16 14:46	11/10/16 12:05	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/09/16 14:46	11/10/16 12:05	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/09/16 14:46	11/10/16 12:05	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 12:05	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/09/16 14:46	11/10/16 12:05	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/09/16 14:46	11/10/16 12:05	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/09/16 14:46	11/10/16 12:05	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 12:05	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/09/16 14:46	11/10/16 12:05	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/09/16 14:46	11/10/16 12:05	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/09/16 14:46	11/10/16 12:05	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/09/16 14:46	11/10/16 12:05	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/09/16 14:46	11/10/16 12:05	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/09/16 14:46	11/10/16 12:05	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/09/16 14:46	11/10/16 12:05	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/09/16 14:46	11/10/16 12:05	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/09/16 14:46	11/10/16 12:05	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/09/16 14:46	11/10/16 12:05	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/09/16 14:46	11/10/16 12:05	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/09/16 14:46	11/10/16 12:05	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/09/16 14:46	11/10/16 12:05	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/09/16 14:46	11/10/16 12:05	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/09/16 14:46	11/10/16 12:05	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/09/16 14:46	11/10/16 12:05	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/09/16 14:46	11/10/16 12:05	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/09/16 14:46	11/10/16 12:05	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/09/16 14:46	11/10/16 12:05	1
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/09/16 14:46	11/10/16 12:05	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-133716/1-A

Matrix: Water

Analysis Batch: 133737

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133716

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/09/16 14:46	11/10/16 12:05	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/09/16 14:46	11/10/16 12:05	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/09/16 14:46	11/10/16 12:05	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/09/16 14:46	11/10/16 12:05	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/09/16 14:46	11/10/16 12:05	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/09/16 14:46	11/10/16 12:05	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/09/16 14:46	11/10/16 12:05	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/09/16 14:46	11/10/16 12:05	1
Phenol	0.768	U	10.0	0.768	ug/L		11/09/16 14:46	11/10/16 12:05	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/09/16 14:46	11/10/16 12:05	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/09/16 14:46	11/10/16 12:05	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/09/16 14:46	11/10/16 12:05	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/09/16 14:46	11/10/16 12:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	85		23 - 130	11/09/16 14:46	11/10/16 12:05	1
2-Fluorophenol	83		10 - 130	11/09/16 14:46	11/10/16 12:05	1
Nitrobenzene-d5	86		27 - 130	11/09/16 14:46	11/10/16 12:05	1
Phenol-d5	85		10 - 130	11/09/16 14:46	11/10/16 12:05	1
Terphenyl-d14	70		10 - 141	11/09/16 14:46	11/10/16 12:05	1
2,4,6-Tribromophenol	83		18 - 130	11/09/16 14:46	11/10/16 12:05	1

Lab Sample ID: LCS 560-133716/2-A

Matrix: Water

Analysis Batch: 133737

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	200	156.4		ug/L		78	54 - 130
Acenaphthylene	200	157.4		ug/L		79	54 - 130
Anthracene	200	174.5		ug/L		87	67 - 130
Benzo[a]anthracene	200	185.1		ug/L		93	70 - 130
Benzo[a]pyrene	200	190.7		ug/L		95	70 - 130
Benzo[b]fluoranthene	200	193.9		ug/L		97	69 - 130
Benzo[g,h,i]perylene	200	158.7		ug/L		79	62 - 130
Benzo[k]fluoranthene	200	197.7		ug/L		99	68 - 130
Benzyl alcohol	200	158.2		ug/L		79	52 - 130
Bis(2-chloroethoxy)methane	200	158.7		ug/L		79	55 - 130
Bis(2-chloroethyl)ether	200	154.0		ug/L		77	52 - 130
Bis(2-ethylhexyl) phthalate	200	215.3		ug/L		108	68 - 130
4-Bromophenyl phenyl ether	200	167.8		ug/L		84	69 - 130
Butyl benzyl phthalate	200	199.5		ug/L		100	68 - 130
4-Chloroaniline	200	112.7		ug/L		56	30 - 130
4-Chloro-3-methylphenol	200	167.0		ug/L		83	52 - 130
2-Chloronaphthalene	200	151.2		ug/L		76	51 - 130
2-Chlorophenol	200	151.2		ug/L		76	51 - 130
4-Chlorophenyl phenyl ether	200	162.4		ug/L		81	59 - 130
Chrysene	200	186.9		ug/L		93	70 - 130
Dibenz(a,h)anthracene	200	175.1		ug/L		88	65 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-133716/2-A

Matrix: Water

Analysis Batch: 133737

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenzofuran	200	158.0		ug/L		79	53 - 130
1,2-Dichlorobenzene	200	135.5		ug/L		68	43 - 130
1,3-Dichlorobenzene	200	132.1		ug/L		66	40 - 130
1,4-Dichlorobenzene	200	133.2		ug/L		67	42 - 130
3,3'-Dichlorobenzidine	200	181.3		ug/L		91	61 - 130
2,4-Dichlorophenol	200	150.6		ug/L		75	51 - 130
Diethyl phthalate	200	175.7		ug/L		88	59 - 130
2,4-Dimethylphenol	200	159.0		ug/L		79	51 - 130
Dimethyl phthalate	200	174.1		ug/L		87	63 - 130
Di-n-butyl phthalate	200	185.2		ug/L		93	67 - 130
4,6-Dinitro-2-methylphenol	400	371.9		ug/L		93	63 - 130
2,4-Dinitrophenol	400	327.9		ug/L		82	47 - 130
2,4-Dinitrotoluene	200	183.1		ug/L		92	67 - 130
2,6-Dinitrotoluene	200	172.4		ug/L		86	64 - 130
Di-n-octyl phthalate	200	201.9		ug/L		101	70 - 130
Fluoranthene	200	183.7		ug/L		92	65 - 130
Fluorene	200	165.5		ug/L		83	59 - 130
Hexachlorobenzene	200	173.2		ug/L		87	67 - 130
Hexachlorobutadiene	200	133.0		ug/L		66	44 - 130
Hexachlorocyclopentadiene	200	102.2		ug/L		51	10 - 130
Hexachloroethane	200	135.6		ug/L		68	38 - 130
Indeno[1,2,3-cd]pyrene	200	170.4		ug/L		85	66 - 130
Isophorone	200	165.4		ug/L		83	55 - 130
2-Methylnaphthalene	200	144.9		ug/L		72	54 - 130
2-Methylphenol	200	155.6		ug/L		78	47 - 130
3 & 4 Methylphenol	200	157.3		ug/L		79	41 - 130
Naphthalene	200	144.1		ug/L		72	51 - 130
2-Nitroaniline	200	183.9		ug/L		92	60 - 130
3-Nitroaniline	200	176.8		ug/L		88	57 - 130
4-Nitroaniline	200	187.6		ug/L		94	55 - 130
Nitrobenzene	200	158.0		ug/L		79	54 - 130
2-Nitrophenol	200	155.3		ug/L		78	54 - 130
4-Nitrophenol	400	374.9		ug/L		94	34 - 138
N-Nitrosodi-n-propylamine	200	164.0		ug/L		82	45 - 130
N-Nitrosodiphenylamine	200	167.8		ug/L		84	51 - 130
Pentachlorophenol	400	334.6		ug/L		84	55 - 130
Phenanthrene	200	177.1		ug/L		89	67 - 130
Phenol	200	155.1		ug/L		78	47 - 130
Pyrene	200	189.3		ug/L		95	66 - 130
1,2,4-Trichlorobenzene	200	135.3		ug/L		68	49 - 130
2,4,5-Trichlorophenol	200	161.4		ug/L		81	55 - 130
2,4,6-Trichlorophenol	200	160.3		ug/L		80	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	76		23 - 130
2-Fluorophenol	73		10 - 130
Nitrobenzene-d5	79		27 - 130
Phenol-d5	80		10 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-133716/2-A

Matrix: Water

Analysis Batch: 133737

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133716

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	98		10 - 141
2,4,6-Tribromophenol	85		18 - 130

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133737

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 133716

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.460	U	200	152.5		ug/L		76	54 - 130
Acenaphthylene	0.452	U	200	154.2		ug/L		77	54 - 130
Anthracene	0.700	U	200	144.4		ug/L		72	67 - 130
Benzo[a]anthracene	0.646	U F1	200	132.8	F1	ug/L		66	70 - 130
Benzo[a]pyrene	0.742	U F1	200	133.8	F1	ug/L		67	70 - 130
Benzo[b]fluoranthene	0.908	U	200	137.0		ug/L		69	69 - 130
Benzo[g,h,i]perylene	1.10	U F1	200	110.5	F1	ug/L		55	62 - 130
Benzo[k]fluoranthene	1.49	U	200	138.7		ug/L		69	68 - 130
Benzyl alcohol	0.827	U	200	166.1		ug/L		83	52 - 130
Bis(2-chloroethoxy)methane	0.436	U	200	162.6		ug/L		81	55 - 130
Bis(2-chloroethyl)ether	1.55	U	200	166.8		ug/L		83	52 - 130
Bis(2-ethylhexyl) phthalate	17.4	J	200	161.6		ug/L		72	68 - 130
4-Bromophenyl phenyl ether	0.811	U	200	143.0		ug/L		72	69 - 130
Butyl benzyl phthalate	0.816	U	200	148.9		ug/L		74	68 - 130
4-Chloroaniline	0.549	U	200	107.2		ug/L		54	30 - 130
4-Chloro-3-methylphenol	0.586	U	200	166.7		ug/L		83	52 - 130
2-Chloronaphthalene	0.603	U	200	153.3		ug/L		77	51 - 130
2-Chlorophenol	0.729	U	200	165.3		ug/L		83	51 - 130
4-Chlorophenyl phenyl ether	0.529	U	200	145.2		ug/L		73	59 - 130
Chrysene	0.494	U F1	200	133.2	F1	ug/L		67	70 - 130
Dibenz(a,h)anthracene	0.874	U F1	200	119.9	F1	ug/L		60	65 - 130
Dibenzofuran	0.485	U	200	153.0		ug/L		76	53 - 130
1,2-Dichlorobenzene	0.775	U	200	153.8		ug/L		77	43 - 130
1,3-Dichlorobenzene	0.491	U	200	153.7		ug/L		77	40 - 130
1,4-Dichlorobenzene	0.815	U	200	152.8		ug/L		76	42 - 130
3,3'-Dichlorobenzidine	0.787	U F2 F1	200	97.51	F1	ug/L		49	61 - 130
2,4-Dichlorophenol	0.704	U	200	160.6		ug/L		80	51 - 130
Diethyl phthalate	0.666	U	200	158.5		ug/L		79	59 - 130
2,4-Dimethylphenol	0.593	U	200	163.1		ug/L		82	51 - 130
Dimethyl phthalate	0.589	U	200	160.1		ug/L		80	63 - 130
Di-n-butyl phthalate	0.709	U	200	147.0		ug/L		73	67 - 130
4,6-Dinitro-2-methylphenol	0.959	U	400	332.4		ug/L		83	63 - 130
2,4-Dinitrophenol	2.69	U	400	289.0		ug/L		72	47 - 130
2,4-Dinitrotoluene	0.509	U	200	160.5		ug/L		80	67 - 130
2,6-Dinitrotoluene	0.762	U	200	162.2		ug/L		81	64 - 130
Di-n-octyl phthalate	1.11	U	200	144.1		ug/L		72	70 - 130
Fluoranthene	0.496	U	200	140.0		ug/L		70	65 - 130
Fluorene	0.421	U	200	152.7		ug/L		76	59 - 130
Hexachlorobenzene	0.602	U	200	133.8		ug/L		67	67 - 130
Hexachlorobutadiene	0.716	U	200	139.0		ug/L		69	44 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133737

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 133716

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorocyclopentadiene	0.839	U	200	97.67		ug/L		49	10 - 130
Hexachloroethane	0.589	U	200	152.0		ug/L		76	38 - 130
Indeno[1,2,3-cd]pyrene	0.922	U F1	200	117.1	F1	ug/L		59	66 - 130
Isophorone	0.549	U	200	164.9		ug/L		82	55 - 130
2-Methylnaphthalene	0.702	U	200	152.1		ug/L		76	54 - 130
2-Methylphenol	0.610	U	200	166.2		ug/L		83	47 - 130
3 & 4 Methylphenol	0.763	U	200	163.8		ug/L		82	41 - 130
Naphthalene	0.787	U	200	156.4		ug/L		78	51 - 130
2-Nitroaniline	0.766	U	200	163.2		ug/L		82	60 - 130
3-Nitroaniline	0.512	U	200	155.2		ug/L		78	57 - 130
4-Nitroaniline	0.819	U	200	150.8		ug/L		75	55 - 130
Nitrobenzene	0.587	U	200	178.6		ug/L		89	54 - 130
2-Nitrophenol	0.808	U	200	168.1		ug/L		84	54 - 130
4-Nitrophenol	1.73	U	400	327.0		ug/L		82	34 - 138
N-Nitrosodi-n-propylamine	0.620	U	200	167.6		ug/L		84	45 - 130
N-Nitrosodiphenylamine	1.03	U	200	150.4		ug/L		75	51 - 130
Pentachlorophenol	1.32	U	400	301.4		ug/L		75	55 - 130
Phenanthrene	0.591	U	200	148.9		ug/L		74	67 - 130
Phenol	0.768	U	200	167.8		ug/L		84	47 - 130
Pyrene	0.440	U	200	141.0		ug/L		71	66 - 130
1,2,4-Trichlorobenzene	0.647	U	200	150.9		ug/L		75	49 - 130
2,4,5-Trichlorophenol	0.861	U	200	161.3		ug/L		81	55 - 130
2,4,6-Trichlorophenol	0.658	U	200	161.1		ug/L		81	53 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	77		23 - 130
2-Fluorophenol	84		10 - 130
Nitrobenzene-d5	82		27 - 130
Phenol-d5	86		10 - 130
Terphenyl-d14	57		10 - 141
2,4,6-Tribromophenol	81		18 - 130

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133737

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 133716

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acenaphthene	0.460	U	200	152.3		ug/L		76	54 - 130	0	30
Acenaphthylene	0.452	U	200	157.1		ug/L		79	54 - 130	2	30
Anthracene	0.700	U	200	157.7		ug/L		79	67 - 130	9	30
Benzo[a]anthracene	0.646	U F1	200	155.1		ug/L		78	70 - 130	15	30
Benzo[a]pyrene	0.742	U F1	200	155.1		ug/L		78	70 - 130	15	30
Benzo[b]fluoranthene	0.908	U	200	154.6		ug/L		77	69 - 130	12	30
Benzo[g,h,i]perylene	1.10	U F1	200	125.1		ug/L		63	62 - 130	12	30
Benzo[k]fluoranthene	1.49	U	200	165.6		ug/L		83	68 - 130	18	30
Benzyl alcohol	0.827	U	200	162.5		ug/L		81	52 - 130	2	30
Bis(2-chloroethoxy)methane	0.436	U	200	161.1		ug/L		81	55 - 130	1	30
Bis(2-chloroethyl)ether	1.55	U	200	159.8		ug/L		80	52 - 130	4	30

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133737

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 133716

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bis(2-ethylhexyl) phthalate	17.4	J	200	175.7		ug/L		79	68 - 130	8	30
4-Bromophenyl phenyl ether	0.811	U	200	153.5		ug/L		77	69 - 130	7	30
Butyl benzyl phthalate	0.816	U	200	170.6		ug/L		85	68 - 130	14	30
4-Chloroaniline	0.549	U	200	116.5		ug/L		58	30 - 130	8	30
4-Chloro-3-methylphenol	0.586	U	200	166.3		ug/L		83	52 - 130	0	30
2-Chloronaphthalene	0.603	U	200	150.3		ug/L		75	51 - 130	2	30
2-Chlorophenol	0.729	U	200	157.3		ug/L		79	51 - 130	5	30
4-Chlorophenyl phenyl ether	0.529	U	200	151.4		ug/L		76	59 - 130	4	30
Chrysene	0.494	U F1	200	153.8		ug/L		77	70 - 130	14	30
Dibenz(a,h)anthracene	0.874	U F1	200	136.9		ug/L		68	65 - 130	13	30
Dibenzofuran	0.485	U	200	151.1		ug/L		76	53 - 130	1	30
1,2-Dichlorobenzene	0.775	U	200	142.4		ug/L		71	43 - 130	8	30
1,3-Dichlorobenzene	0.491	U	200	141.2		ug/L		71	40 - 130	9	30
1,4-Dichlorobenzene	0.815	U	200	142.8		ug/L		71	42 - 130	7	30
3,3'-Dichlorobenzidine	0.787	U F2 F1	200	140.5	F2	ug/L		70	61 - 130	36	30
2,4-Dichlorophenol	0.704	U	200	157.4		ug/L		79	51 - 130	2	30
Diethyl phthalate	0.666	U	200	170.8		ug/L		85	59 - 130	7	30
2,4-Dimethylphenol	0.593	U	200	161.0		ug/L		81	51 - 130	1	30
Dimethyl phthalate	0.589	U	200	170.8		ug/L		85	63 - 130	6	30
Di-n-butyl phthalate	0.709	U	200	164.8		ug/L		82	67 - 130	11	30
4,6-Dinitro-2-methylphenol	0.959	U	400	369.0		ug/L		92	63 - 130	10	30
2,4-Dinitrophenol	2.69	U	400	323.5		ug/L		81	47 - 130	11	30
2,4-Dinitrotoluene	0.509	U	200	176.0		ug/L		88	67 - 130	9	30
2,6-Dinitrotoluene	0.762	U	200	169.8		ug/L		85	64 - 130	5	30
Di-n-octyl phthalate	1.11	U	200	168.6		ug/L		84	70 - 130	16	30
Fluoranthene	0.496	U	200	158.5		ug/L		79	65 - 130	12	30
Fluorene	0.421	U	200	158.1		ug/L		79	59 - 130	4	30
Hexachlorobenzene	0.602	U	200	147.4		ug/L		74	67 - 130	10	30
Hexachlorobutadiene	0.716	U	200	134.3		ug/L		67	44 - 130	3	30
Hexachlorocyclopentadiene	0.839	U	200	101.8		ug/L		51	10 - 130	4	30
Hexachloroethane	0.589	U	200	143.5		ug/L		72	38 - 130	6	30
Indeno[1,2,3-cd]pyrene	0.922	U F1	200	133.6		ug/L		67	66 - 130	13	30
Isophorone	0.549	U	200	166.6		ug/L		83	55 - 130	1	30
2-Methylnaphthalene	0.702	U	200	149.4		ug/L		75	54 - 130	2	30
2-Methylphenol	0.610	U	200	160.5		ug/L		80	47 - 130	3	30
3 & 4 Methylphenol	0.763	U	200	160.8		ug/L		80	41 - 130	2	30
Naphthalene	0.787	U	200	150.4		ug/L		75	51 - 130	4	30
2-Nitroaniline	0.766	U	200	176.4		ug/L		88	60 - 130	8	35
3-Nitroaniline	0.512	U	200	172.6		ug/L		86	57 - 130	11	30
4-Nitroaniline	0.819	U	200	175.2		ug/L		88	55 - 130	15	30
Nitrobenzene	0.587	U	200	170.5		ug/L		85	54 - 130	5	30
2-Nitrophenol	0.808	U	200	161.9		ug/L		81	54 - 130	4	30
4-Nitrophenol	1.73	U	400	369.4		ug/L		92	34 - 138	12	30
N-Nitrosodi-n-propylamine	0.620	U	200	165.3		ug/L		83	45 - 130	1	30
N-Nitrosodiphenylamine	1.03	U	200	161.1		ug/L		81	51 - 130	7	30
Pentachlorophenol	1.32	U	400	336.2		ug/L		84	55 - 130	11	30
Phenanthrene	0.591	U	200	162.1		ug/L		81	67 - 130	9	30
Phenol	0.768	U	200	161.5		ug/L		81	47 - 130	4	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133737

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 133716

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Pyrene	0.440	U	200	162.9		ug/L		81	66 - 130	14	30
1,2,4-Trichlorobenzene	0.647	U	200	143.3		ug/L		72	49 - 130	5	30
2,4,5-Trichlorophenol	0.861	U	200	161.7		ug/L		81	55 - 130	0	30
2,4,6-Trichlorophenol	0.658	U	200	162.4		ug/L		81	53 - 130	1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	76		23 - 130
2-Fluorophenol	78		10 - 130
Nitrobenzene-d5	79		27 - 130
Phenol-d5	84		10 - 130
Terphenyl-d14	78		10 - 141
2,4,6-Tribromophenol	88		18 - 130

Lab Sample ID: LB 560-133704/1-D

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133782

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	4.60	U	100	4.60	ug/L		11/11/16 07:23	11/11/16 10:25	1
Acenaphthylene	4.52	U	100	4.52	ug/L		11/11/16 07:23	11/11/16 10:25	1
Anthracene	7.00	U	100	7.00	ug/L		11/11/16 07:23	11/11/16 10:25	1
Benzo[a]anthracene	6.46	U	100	6.46	ug/L		11/11/16 07:23	11/11/16 10:25	1
Benzo[a]pyrene	7.42	U	100	7.42	ug/L		11/11/16 07:23	11/11/16 10:25	1
Benzo[b]fluoranthene	9.08	U	100	9.08	ug/L		11/11/16 07:23	11/11/16 10:25	1
Benzo[g,h,i]perylene	11.0	U	100	11.0	ug/L		11/11/16 07:23	11/11/16 10:25	1
Benzo[k]fluoranthene	14.9	U	100	14.9	ug/L		11/11/16 07:23	11/11/16 10:25	1
Benzyl alcohol	8.27	U	100	8.27	ug/L		11/11/16 07:23	11/11/16 10:25	1
Bis(2-chloroethoxy)methane	4.36	U	100	4.36	ug/L		11/11/16 07:23	11/11/16 10:25	1
Bis(2-chloroethyl)ether	15.5	U	100	15.5	ug/L		11/11/16 07:23	11/11/16 10:25	1
Bis(2-ethylhexyl) phthalate	136.9	J	200	50.0	ug/L		11/11/16 07:23	11/11/16 10:25	1
4-Bromophenyl phenyl ether	8.11	U	100	8.11	ug/L		11/11/16 07:23	11/11/16 10:25	1
Butyl benzyl phthalate	8.16	U	100	8.16	ug/L		11/11/16 07:23	11/11/16 10:25	1
4-Chloroaniline	5.49	U	100	5.49	ug/L		11/11/16 07:23	11/11/16 10:25	1
4-Chloro-3-methylphenol	5.86	U	100	5.86	ug/L		11/11/16 07:23	11/11/16 10:25	1
2-Chloronaphthalene	6.03	U	100	6.03	ug/L		11/11/16 07:23	11/11/16 10:25	1
2-Chlorophenol	7.29	U	100	7.29	ug/L		11/11/16 07:23	11/11/16 10:25	1
4-Chlorophenyl phenyl ether	5.29	U	100	5.29	ug/L		11/11/16 07:23	11/11/16 10:25	1
Chrysene	4.94	U	100	4.94	ug/L		11/11/16 07:23	11/11/16 10:25	1
Dibenz(a,h)anthracene	8.74	U	100	8.74	ug/L		11/11/16 07:23	11/11/16 10:25	1
Dibenzofuran	4.85	U	100	4.85	ug/L		11/11/16 07:23	11/11/16 10:25	1
1,2-Dichlorobenzene	7.75	U	100	7.75	ug/L		11/11/16 07:23	11/11/16 10:25	1
1,3-Dichlorobenzene	4.91	U	100	4.91	ug/L		11/11/16 07:23	11/11/16 10:25	1
1,4-Dichlorobenzene	8.15	U	100	8.15	ug/L		11/11/16 07:23	11/11/16 10:25	1
3,3'-Dichlorobenzidine	7.87	U	100	7.87	ug/L		11/11/16 07:23	11/11/16 10:25	1
2,4-Dichlorophenol	7.04	U	100	7.04	ug/L		11/11/16 07:23	11/11/16 10:25	1
Diethyl phthalate	6.66	U	100	6.66	ug/L		11/11/16 07:23	11/11/16 10:25	1
2,4-Dimethylphenol	5.93	U	100	5.93	ug/L		11/11/16 07:23	11/11/16 10:25	1
Dimethyl phthalate	5.89	U	100	5.89	ug/L		11/11/16 07:23	11/11/16 10:25	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB 560-133704/1-D

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133782

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	7.09	U	100	7.09	ug/L		11/11/16 07:23	11/11/16 10:25	1
4,6-Dinitro-2-methylphenol	9.59	U	100	9.59	ug/L		11/11/16 07:23	11/11/16 10:25	1
2,4-Dinitrophenol	26.9	U	200	26.9	ug/L		11/11/16 07:23	11/11/16 10:25	1
2,4-Dinitrotoluene	5.09	U	200	5.09	ug/L		11/11/16 07:23	11/11/16 10:25	1
2,6-Dinitrotoluene	7.62	U	100	7.62	ug/L		11/11/16 07:23	11/11/16 10:25	1
Di-n-octyl phthalate	11.1	U	100	11.1	ug/L		11/11/16 07:23	11/11/16 10:25	1
Fluoranthene	4.96	U	100	4.96	ug/L		11/11/16 07:23	11/11/16 10:25	1
Fluorene	4.21	U	100	4.21	ug/L		11/11/16 07:23	11/11/16 10:25	1
Hexachlorobenzene	6.02	U	100	6.02	ug/L		11/11/16 07:23	11/11/16 10:25	1
Hexachlorobutadiene	7.16	U	100	7.16	ug/L		11/11/16 07:23	11/11/16 10:25	1
Hexachlorocyclopentadiene	8.39	U	100	8.39	ug/L		11/11/16 07:23	11/11/16 10:25	1
Hexachloroethane	5.89	U	100	5.89	ug/L		11/11/16 07:23	11/11/16 10:25	1
Indeno[1,2,3-cd]pyrene	9.22	U	100	9.22	ug/L		11/11/16 07:23	11/11/16 10:25	1
Isophorone	5.49	U	100	5.49	ug/L		11/11/16 07:23	11/11/16 10:25	1
2-Methylnaphthalene	7.02	U	100	7.02	ug/L		11/11/16 07:23	11/11/16 10:25	1
2-Methylphenol	6.10	U	100	6.10	ug/L		11/11/16 07:23	11/11/16 10:25	1
3 & 4 Methylphenol	7.63	U	200	7.63	ug/L		11/11/16 07:23	11/11/16 10:25	1
Naphthalene	7.87	U	100	7.87	ug/L		11/11/16 07:23	11/11/16 10:25	1
2-Nitroaniline	7.66	U	100	7.66	ug/L		11/11/16 07:23	11/11/16 10:25	1
3-Nitroaniline	5.12	U	100	5.12	ug/L		11/11/16 07:23	11/11/16 10:25	1
4-Nitroaniline	8.19	U	100	8.19	ug/L		11/11/16 07:23	11/11/16 10:25	1
Nitrobenzene	5.87	U	100	5.87	ug/L		11/11/16 07:23	11/11/16 10:25	1
2-Nitrophenol	8.08	U	100	8.08	ug/L		11/11/16 07:23	11/11/16 10:25	1
4-Nitrophenol	17.3	U	100	17.3	ug/L		11/11/16 07:23	11/11/16 10:25	1
N-Nitrosodi-n-propylamine	6.20	U	100	6.20	ug/L		11/11/16 07:23	11/11/16 10:25	1
N-Nitrosodiphenylamine	10.3	U	100	10.3	ug/L		11/11/16 07:23	11/11/16 10:25	1
Pentachlorophenol	13.2	U	200	13.2	ug/L		11/11/16 07:23	11/11/16 10:25	1
Phenanthrene	5.91	U	100	5.91	ug/L		11/11/16 07:23	11/11/16 10:25	1
Phenol	7.68	U	100	7.68	ug/L		11/11/16 07:23	11/11/16 10:25	1
Pyrene	4.40	U	100	4.40	ug/L		11/11/16 07:23	11/11/16 10:25	1
1,2,4-Trichlorobenzene	6.47	U	100	6.47	ug/L		11/11/16 07:23	11/11/16 10:25	1
2,4,5-Trichlorophenol	8.61	U	100	8.61	ug/L		11/11/16 07:23	11/11/16 10:25	1
2,4,6-Trichlorophenol	6.58	U	100	6.58	ug/L		11/11/16 07:23	11/11/16 10:25	1

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		23 - 130	11/11/16 07:23	11/11/16 10:25	1
2-Fluorophenol	66		10 - 130	11/11/16 07:23	11/11/16 10:25	1
Nitrobenzene-d5	69		27 - 130	11/11/16 07:23	11/11/16 10:25	1
Phenol-d5	72		10 - 130	11/11/16 07:23	11/11/16 10:25	1
Terphenyl-d14	96		10 - 141	11/11/16 07:23	11/11/16 10:25	1
2,4,6-Tribromophenol	69		18 - 130	11/11/16 07:23	11/11/16 10:25	1

Lab Sample ID: MB 560-133782/1-A

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133782

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.460	U	10.0	0.460	ug/L		11/11/16 07:23	11/11/16 09:58	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-133782/1-A

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133782

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	0.452	U	10.0	0.452	ug/L		11/11/16 07:23	11/11/16 09:58	1
Anthracene	0.700	U	10.0	0.700	ug/L		11/11/16 07:23	11/11/16 09:58	1
Benzo[a]anthracene	0.646	U	10.0	0.646	ug/L		11/11/16 07:23	11/11/16 09:58	1
Benzo[a]pyrene	0.742	U	10.0	0.742	ug/L		11/11/16 07:23	11/11/16 09:58	1
Benzo[b]fluoranthene	0.908	U	10.0	0.908	ug/L		11/11/16 07:23	11/11/16 09:58	1
Benzo[g,h,i]perylene	1.10	U	10.0	1.10	ug/L		11/11/16 07:23	11/11/16 09:58	1
Benzo[k]fluoranthene	1.49	U	10.0	1.49	ug/L		11/11/16 07:23	11/11/16 09:58	1
Benzyl alcohol	0.827	U	10.0	0.827	ug/L		11/11/16 07:23	11/11/16 09:58	1
Bis(2-chloroethoxy)methane	0.436	U	10.0	0.436	ug/L		11/11/16 07:23	11/11/16 09:58	1
Bis(2-chloroethyl)ether	1.55	U	10.0	1.55	ug/L		11/11/16 07:23	11/11/16 09:58	1
Bis(2-ethylhexyl) phthalate	5.00	U	20.0	5.00	ug/L		11/11/16 07:23	11/11/16 09:58	1
4-Bromophenyl phenyl ether	0.811	U	10.0	0.811	ug/L		11/11/16 07:23	11/11/16 09:58	1
Butyl benzyl phthalate	0.816	U	10.0	0.816	ug/L		11/11/16 07:23	11/11/16 09:58	1
4-Chloroaniline	0.549	U	10.0	0.549	ug/L		11/11/16 07:23	11/11/16 09:58	1
4-Chloro-3-methylphenol	0.586	U	10.0	0.586	ug/L		11/11/16 07:23	11/11/16 09:58	1
2-Chloronaphthalene	0.603	U	10.0	0.603	ug/L		11/11/16 07:23	11/11/16 09:58	1
2-Chlorophenol	0.729	U	10.0	0.729	ug/L		11/11/16 07:23	11/11/16 09:58	1
4-Chlorophenyl phenyl ether	0.529	U	10.0	0.529	ug/L		11/11/16 07:23	11/11/16 09:58	1
Chrysene	0.494	U	10.0	0.494	ug/L		11/11/16 07:23	11/11/16 09:58	1
Dibenz(a,h)anthracene	0.874	U	10.0	0.874	ug/L		11/11/16 07:23	11/11/16 09:58	1
Dibenzofuran	0.485	U	10.0	0.485	ug/L		11/11/16 07:23	11/11/16 09:58	1
1,2-Dichlorobenzene	0.775	U	10.0	0.775	ug/L		11/11/16 07:23	11/11/16 09:58	1
1,3-Dichlorobenzene	0.491	U	10.0	0.491	ug/L		11/11/16 07:23	11/11/16 09:58	1
1,4-Dichlorobenzene	0.815	U	10.0	0.815	ug/L		11/11/16 07:23	11/11/16 09:58	1
3,3'-Dichlorobenzidine	0.787	U	10.0	0.787	ug/L		11/11/16 07:23	11/11/16 09:58	1
2,4-Dichlorophenol	0.704	U	10.0	0.704	ug/L		11/11/16 07:23	11/11/16 09:58	1
Diethyl phthalate	0.666	U	10.0	0.666	ug/L		11/11/16 07:23	11/11/16 09:58	1
2,4-Dimethylphenol	0.593	U	10.0	0.593	ug/L		11/11/16 07:23	11/11/16 09:58	1
Dimethyl phthalate	0.589	U	10.0	0.589	ug/L		11/11/16 07:23	11/11/16 09:58	1
Di-n-butyl phthalate	0.709	U	10.0	0.709	ug/L		11/11/16 07:23	11/11/16 09:58	1
4,6-Dinitro-2-methylphenol	0.959	U	10.0	0.959	ug/L		11/11/16 07:23	11/11/16 09:58	1
2,4-Dinitrophenol	2.69	U	20.0	2.69	ug/L		11/11/16 07:23	11/11/16 09:58	1
2,4-Dinitrotoluene	0.509	U	20.0	0.509	ug/L		11/11/16 07:23	11/11/16 09:58	1
2,6-Dinitrotoluene	0.762	U	10.0	0.762	ug/L		11/11/16 07:23	11/11/16 09:58	1
Di-n-octyl phthalate	1.11	U	10.0	1.11	ug/L		11/11/16 07:23	11/11/16 09:58	1
Fluoranthene	0.496	U	10.0	0.496	ug/L		11/11/16 07:23	11/11/16 09:58	1
Fluorene	0.421	U	10.0	0.421	ug/L		11/11/16 07:23	11/11/16 09:58	1
Hexachlorobenzene	0.602	U	10.0	0.602	ug/L		11/11/16 07:23	11/11/16 09:58	1
Hexachlorobutadiene	0.716	U	10.0	0.716	ug/L		11/11/16 07:23	11/11/16 09:58	1
Hexachlorocyclopentadiene	0.839	U	10.0	0.839	ug/L		11/11/16 07:23	11/11/16 09:58	1
Hexachloroethane	0.589	U	10.0	0.589	ug/L		11/11/16 07:23	11/11/16 09:58	1
Indeno[1,2,3-cd]pyrene	0.922	U	10.0	0.922	ug/L		11/11/16 07:23	11/11/16 09:58	1
Isophorone	0.549	U	10.0	0.549	ug/L		11/11/16 07:23	11/11/16 09:58	1
2-Methylnaphthalene	0.702	U	10.0	0.702	ug/L		11/11/16 07:23	11/11/16 09:58	1
2-Methylphenol	0.610	U	10.0	0.610	ug/L		11/11/16 07:23	11/11/16 09:58	1
3 & 4 Methylphenol	0.763	U	20.0	0.763	ug/L		11/11/16 07:23	11/11/16 09:58	1
Naphthalene	0.787	U	10.0	0.787	ug/L		11/11/16 07:23	11/11/16 09:58	1
2-Nitroaniline	0.766	U	10.0	0.766	ug/L		11/11/16 07:23	11/11/16 09:58	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-133782/1-A

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133782

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	0.512	U	10.0	0.512	ug/L		11/11/16 07:23	11/11/16 09:58	1
4-Nitroaniline	0.819	U	10.0	0.819	ug/L		11/11/16 07:23	11/11/16 09:58	1
Nitrobenzene	0.587	U	10.0	0.587	ug/L		11/11/16 07:23	11/11/16 09:58	1
2-Nitrophenol	0.808	U	10.0	0.808	ug/L		11/11/16 07:23	11/11/16 09:58	1
4-Nitrophenol	1.73	U	10.0	1.73	ug/L		11/11/16 07:23	11/11/16 09:58	1
N-Nitrosodi-n-propylamine	0.620	U	10.0	0.620	ug/L		11/11/16 07:23	11/11/16 09:58	1
N-Nitrosodiphenylamine	1.03	U	10.0	1.03	ug/L		11/11/16 07:23	11/11/16 09:58	1
Pentachlorophenol	1.32	U	20.0	1.32	ug/L		11/11/16 07:23	11/11/16 09:58	1
Phenanthrene	0.591	U	10.0	0.591	ug/L		11/11/16 07:23	11/11/16 09:58	1
Phenol	0.768	U	10.0	0.768	ug/L		11/11/16 07:23	11/11/16 09:58	1
Pyrene	0.440	U	10.0	0.440	ug/L		11/11/16 07:23	11/11/16 09:58	1
1,2,4-Trichlorobenzene	0.647	U	10.0	0.647	ug/L		11/11/16 07:23	11/11/16 09:58	1
2,4,5-Trichlorophenol	0.861	U	10.0	0.861	ug/L		11/11/16 07:23	11/11/16 09:58	1
2,4,6-Trichlorophenol	0.658	U	10.0	0.658	ug/L		11/11/16 07:23	11/11/16 09:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	85		23 - 130	11/11/16 07:23	11/11/16 09:58	1
2-Fluorophenol	84		10 - 130	11/11/16 07:23	11/11/16 09:58	1
Nitrobenzene-d5	86		27 - 130	11/11/16 07:23	11/11/16 09:58	1
Phenol-d5	90		10 - 130	11/11/16 07:23	11/11/16 09:58	1
Terphenyl-d14	95		10 - 141	11/11/16 07:23	11/11/16 09:58	1
2,4,6-Tribromophenol	79		18 - 130	11/11/16 07:23	11/11/16 09:58	1

Lab Sample ID: LCS 560-133782/3-A

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133782

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	2000	1581		ug/L		79	54 - 130
Acenaphthylene	2000	1572		ug/L		79	54 - 130
Anthracene	2000	1719		ug/L		86	67 - 130
Benzo[a]anthracene	2000	1800		ug/L		90	70 - 130
Benzo[a]pyrene	2000	1840		ug/L		92	70 - 130
Benzo[b]fluoranthene	2000	1876		ug/L		94	69 - 130
Benzo[g,h,i]perylene	2000	1387		ug/L		69	62 - 130
Benzo[k]fluoranthene	2000	1908		ug/L		95	68 - 130
Benzyl alcohol	2000	1654		ug/L		83	52 - 130
Bis(2-chloroethoxy)methane	2000	1600		ug/L		80	55 - 130
Bis(2-chloroethyl)ether	2000	1561		ug/L		78	52 - 130
Bis(2-ethylhexyl) phthalate	2000	2105		ug/L		105	68 - 130
4-Bromophenyl phenyl ether	2000	1677		ug/L		84	69 - 130
Butyl benzyl phthalate	2000	1918		ug/L		96	68 - 130
4-Chloroaniline	2000	1178		ug/L		59	30 - 130
4-Chloro-3-methylphenol	2000	1660		ug/L		83	52 - 130
2-Chloronaphthalene	2000	1524		ug/L		76	51 - 130
2-Chlorophenol	2000	1530		ug/L		76	51 - 130
4-Chlorophenyl phenyl ether	2000	1632		ug/L		82	59 - 130
Chrysene	2000	1803		ug/L		90	70 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-133782/3-A

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133782

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenz(a,h)anthracene	2000	1562		ug/L		78	65 - 130
Dibenzofuran	2000	1562		ug/L		78	53 - 130
1,2-Dichlorobenzene	2000	1283		ug/L		64	43 - 130
1,3-Dichlorobenzene	2000	1253		ug/L		63	40 - 130
1,4-Dichlorobenzene	2000	1267		ug/L		63	42 - 130
3,3'-Dichlorobenzidine	2000	1712		ug/L		86	61 - 130
2,4-Dichlorophenol	2000	1522		ug/L		76	51 - 130
Diethyl phthalate	2000	1699		ug/L		85	59 - 130
2,4-Dimethylphenol	2000	1595		ug/L		80	51 - 130
Dimethyl phthalate	2000	1721		ug/L		86	63 - 130
Di-n-butyl phthalate	2000	1805		ug/L		90	67 - 130
4,6-Dinitro-2-methylphenol	4000	3561		ug/L		89	63 - 130
2,4-Dinitrophenol	4000	3056		ug/L		76	47 - 130
2,4-Dinitrotoluene	2000	1741		ug/L		87	67 - 130
2,6-Dinitrotoluene	2000	1669		ug/L		83	64 - 130
Di-n-octyl phthalate	2000	1951		ug/L		98	70 - 130
Fluoranthene	2000	1779		ug/L		89	65 - 130
Fluorene	2000	1642		ug/L		82	59 - 130
Hexachlorobenzene	2000	1703		ug/L		85	67 - 130
Hexachlorobutadiene	2000	1312		ug/L		66	44 - 130
Hexachlorocyclopentadiene	2000	1088		ug/L		54	10 - 130
Hexachloroethane	2000	1253		ug/L		63	38 - 130
Indeno[1,2,3-cd]pyrene	2000	1525		ug/L		76	66 - 130
Isophorone	2000	1670		ug/L		84	55 - 130
2-Methylnaphthalene	2000	1472		ug/L		74	54 - 130
2-Methylphenol	2000	1597		ug/L		80	47 - 130
3 & 4 Methylphenol	2000	1587		ug/L		79	41 - 130
Naphthalene	2000	1448		ug/L		72	51 - 130
2-Nitroaniline	2000	1809		ug/L		90	60 - 130
3-Nitroaniline	2000	1720		ug/L		86	57 - 130
4-Nitroaniline	2000	1819		ug/L		91	55 - 130
Nitrobenzene	2000	1627		ug/L		81	54 - 130
2-Nitrophenol	2000	1558		ug/L		78	54 - 130
4-Nitrophenol	4000	3604		ug/L		90	34 - 138
N-Nitrosodi-n-propylamine	2000	1673		ug/L		84	45 - 130
N-Nitrosodiphenylamine	2000	1684		ug/L		84	51 - 130
Pentachlorophenol	4000	3280		ug/L		82	55 - 130
Phenanthrene	2000	1710		ug/L		86	67 - 130
Phenol	2000	1578		ug/L		79	47 - 130
Pyrene	2000	1786		ug/L		89	66 - 130
1,2,4-Trichlorobenzene	2000	1346		ug/L		67	49 - 130
2,4,5-Trichlorophenol	2000	1604		ug/L		80	55 - 130
2,4,6-Trichlorophenol	2000	1599		ug/L		80	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	78		23 - 130
2-Fluorophenol	76		10 - 130
Nitrobenzene-d5	80		27 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-133782/3-A

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133782

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Phenol-d5	82		10 - 130
Terphenyl-d14	96		10 - 141
2,4,6-Tribromophenol	85		18 - 130

Lab Sample ID: LCS 560-133782/4-A

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133782

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	200	156.5		ug/L		78	54 - 130
Acenaphthylene	200	159.5		ug/L		80	54 - 130
Anthracene	200	167.6		ug/L		84	67 - 130
Benzo[a]anthracene	200	173.0		ug/L		87	70 - 130
Benzo[a]pyrene	200	179.6		ug/L		90	70 - 130
Benzo[b]fluoranthene	200	181.5		ug/L		91	69 - 130
Benzo[g,h,i]perylene	200	131.9		ug/L		66	62 - 130
Benzo[k]fluoranthene	200	183.4		ug/L		92	68 - 130
Benzyl alcohol	200	166.3		ug/L		83	52 - 130
Bis(2-chloroethoxy)methane	200	164.0		ug/L		82	55 - 130
Bis(2-chloroethyl)ether	200	163.8		ug/L		82	52 - 130
Bis(2-ethylhexyl) phthalate	200	183.9		ug/L		92	68 - 130
4-Bromophenyl phenyl ether	200	163.7		ug/L		82	69 - 130
Butyl benzyl phthalate	200	184.6		ug/L		92	68 - 130
4-Chloroaniline	200	127.3		ug/L		64	30 - 130
4-Chloro-3-methylphenol	200	167.1		ug/L		84	52 - 130
2-Chloronaphthalene	200	153.3		ug/L		77	51 - 130
2-Chlorophenol	200	161.9		ug/L		81	51 - 130
4-Chlorophenyl phenyl ether	200	158.0		ug/L		79	59 - 130
Chrysene	200	171.0		ug/L		86	70 - 130
Dibenz(a,h)anthracene	200	148.4		ug/L		74	65 - 130
Dibenzofuran	200	155.8		ug/L		78	53 - 130
1,2-Dichlorobenzene	200	142.3		ug/L		71	43 - 130
1,3-Dichlorobenzene	200	139.5		ug/L		70	40 - 130
1,4-Dichlorobenzene	200	142.2		ug/L		71	42 - 130
3,3'-Dichlorobenzidine	200	175.3		ug/L		88	61 - 130
2,4-Dichlorophenol	200	159.9		ug/L		80	51 - 130
Diethyl phthalate	200	161.4		ug/L		81	59 - 130
2,4-Dimethylphenol	200	165.2		ug/L		83	51 - 130
Dimethyl phthalate	200	161.8		ug/L		81	63 - 130
Di-n-butyl phthalate	200	173.3		ug/L		87	67 - 130
4,6-Dinitro-2-methylphenol	400	340.3		ug/L		85	63 - 130
2,4-Dinitrophenol	400	296.6		ug/L		74	47 - 130
2,4-Dinitrotoluene	200	167.7		ug/L		84	67 - 130
2,6-Dinitrotoluene	200	161.4		ug/L		81	64 - 130
Di-n-octyl phthalate	200	188.2		ug/L		94	70 - 130
Fluoranthene	200	171.5		ug/L		86	65 - 130
Fluorene	200	160.9		ug/L		80	59 - 130
Hexachlorobenzene	200	165.2		ug/L		83	67 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-133782/4-A

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133782

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	200	139.9		ug/L		70	44 - 130
Hexachlorocyclopentadiene	200	116.7		ug/L		58	10 - 130
Hexachloroethane	200	143.1		ug/L		72	38 - 130
Indeno[1,2,3-cd]pyrene	200	145.1		ug/L		73	66 - 130
Isophorone	200	166.5		ug/L		83	55 - 130
2-Methylnaphthalene	200	154.1		ug/L		77	54 - 130
2-Methylphenol	200	165.6		ug/L		83	47 - 130
3 & 4 Methylphenol	200	163.7		ug/L		82	41 - 130
Naphthalene	200	152.5		ug/L		76	51 - 130
2-Nitroaniline	200	177.5		ug/L		89	60 - 130
3-Nitroaniline	200	167.2		ug/L		84	57 - 130
4-Nitroaniline	200	177.3		ug/L		89	55 - 130
Nitrobenzene	200	169.2		ug/L		85	54 - 130
2-Nitrophenol	200	164.1		ug/L		82	54 - 130
4-Nitrophenol	400	342.6		ug/L		86	34 - 138
N-Nitrosodi-n-propylamine	200	166.2		ug/L		83	45 - 130
N-Nitrosodiphenylamine	200	164.4		ug/L		82	51 - 130
Pentachlorophenol	400	316.8		ug/L		79	55 - 130
Phenanthrene	200	166.0		ug/L		83	67 - 130
Phenol	200	166.0		ug/L		83	47 - 130
Pyrene	200	175.1		ug/L		88	66 - 130
1,2,4-Trichlorobenzene	200	143.2		ug/L		72	49 - 130
2,4,5-Trichlorophenol	200	159.5		ug/L		80	55 - 130
2,4,6-Trichlorophenol	200	160.5		ug/L		80	53 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	81		23 - 130
2-Fluorophenol	83		10 - 130
Nitrobenzene-d5	87		27 - 130
Phenol-d5	88		10 - 130
Terphenyl-d14	93		10 - 141
2,4,6-Tribromophenol	84		18 - 130

Lab Sample ID: 600-139347-B-1-F MS

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Matrix Spike

Prep Type: TCLP

Prep Batch: 133782

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	4.60	U	2000	1522		ug/L		76	54 - 130
Acenaphthylene	4.52	U	2000	1530		ug/L		76	54 - 130
Anthracene	7.00	U	2000	1702		ug/L		85	67 - 130
Benzo[a]anthracene	6.46	U	2000	1804		ug/L		90	70 - 130
Benzo[a]pyrene	7.42	U	2000	1821		ug/L		91	70 - 130
Benzo[b]fluoranthene	9.08	U	2000	1868		ug/L		93	69 - 130
Benzo[g,h,i]perylene	11.0	U	2000	1313		ug/L		66	62 - 130
Benzo[k]fluoranthene	14.9	U	2000	1910		ug/L		96	68 - 130
Benzyl alcohol	8.27	U	2000	1560		ug/L		78	52 - 130
Bis(2-chloroethoxy)methane	4.36	U	2000	1551		ug/L		78	55 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 600-139347-B-1-F MS

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Matrix Spike

Prep Type: TCLP

Prep Batch: 133782

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethyl)ether	15.5	U	2000	1521		ug/L		76	52 - 130
Bis(2-ethylhexyl) phthalate	179	J B	2000	2331		ug/L		108	68 - 130
4-Bromophenyl phenyl ether	8.11	U	2000	1697		ug/L		85	69 - 130
Butyl benzyl phthalate	8.16	U	2000	1925		ug/L		96	68 - 130
4-Chloroaniline	5.49	U	2000	1242		ug/L		62	30 - 130
4-Chloro-3-methylphenol	5.86	U	2000	1608		ug/L		80	52 - 130
2-Chloronaphthalene	6.03	U	2000	1472		ug/L		74	51 - 130
2-Chlorophenol	7.29	U	2000	1498		ug/L		75	51 - 130
4-Chlorophenyl phenyl ether	5.29	U	2000	1577		ug/L		79	59 - 130
Chrysene	4.94	U	2000	1770		ug/L		89	70 - 130
Dibenz(a,h)anthracene	8.74	U	2000	1481		ug/L		74	65 - 130
Dibenzofuran	4.85	U	2000	1535		ug/L		77	53 - 130
1,2-Dichlorobenzene	7.75	U	2000	1302		ug/L		65	43 - 130
1,3-Dichlorobenzene	4.91	U	2000	1257		ug/L		63	40 - 130
1,4-Dichlorobenzene	8.15	U	2000	1285		ug/L		64	42 - 130
3,3'-Dichlorobenzidine	7.87	U	2000	1772		ug/L		89	61 - 130
2,4-Dichlorophenol	7.04	U	2000	1480		ug/L		74	51 - 130
Diethyl phthalate	6.66	U	2000	1662		ug/L		83	59 - 130
2,4-Dimethylphenol	5.93	U	2000	1561		ug/L		78	51 - 130
Dimethyl phthalate	5.89	U	2000	1664		ug/L		83	63 - 130
Di-n-butyl phthalate	7.09	U	2000	1782		ug/L		89	67 - 130
4,6-Dinitro-2-methylphenol	9.59	U	4000	3578		ug/L		89	63 - 130
2,4-Dinitrophenol	26.9	U	4000	3112		ug/L		78	47 - 130
2,4-Dinitrotoluene	5.09	U	2000	1738		ug/L		87	67 - 130
2,6-Dinitrotoluene	7.62	U	2000	1674		ug/L		84	64 - 130
Di-n-octyl phthalate	11.1	U	2000	1948		ug/L		97	70 - 130
Fluoranthene	4.96	U	2000	1756		ug/L		88	65 - 130
Fluorene	4.21	U	2000	1603		ug/L		80	59 - 130
Hexachlorobenzene	6.02	U	2000	1691		ug/L		85	67 - 130
Hexachlorobutadiene	7.16	U	2000	1320		ug/L		66	44 - 130
Hexachlorocyclopentadiene	8.39	U	2000	1038		ug/L		52	10 - 130
Hexachloroethane	5.89	U	2000	1268		ug/L		63	38 - 130
Indeno[1,2,3-cd]pyrene	9.22	U	2000	1443		ug/L		72	66 - 130
Isophorone	5.49	U	2000	1621		ug/L		81	55 - 130
2-Methylnaphthalene	9.57	J	2000	1470		ug/L		73	54 - 130
2-Methylphenol	6.10	U	2000	1532		ug/L		77	47 - 130
3 & 4 Methylphenol	7.63	U	2000	1533		ug/L		77	41 - 130
Naphthalene	7.87	U	2000	1429		ug/L		71	51 - 130
2-Nitroaniline	7.66	U	2000	1792		ug/L		90	60 - 130
3-Nitroaniline	5.12	U	2000	1724		ug/L		86	57 - 130
4-Nitroaniline	8.19	U	2000	1791		ug/L		90	55 - 130
Nitrobenzene	5.87	U	2000	1608		ug/L		80	54 - 130
2-Nitrophenol	8.08	U	2000	1539		ug/L		77	54 - 130
4-Nitrophenol	17.3	U	4000	3606		ug/L		90	34 - 138
N-Nitrosodi-n-propylamine	6.20	U	2000	1607		ug/L		80	45 - 130
N-Nitrosodiphenylamine	10.3	U	2000	1665		ug/L		83	51 - 130
Pentachlorophenol	13.2	U	4000	3310		ug/L		83	55 - 130
Phenanthrene	5.91	U	2000	1723		ug/L		86	67 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 600-139347-B-1-F MS

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Matrix Spike

Prep Type: TCLP

Prep Batch: 133782

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	7.68	U	2000	1553		ug/L		78	47 - 130
Pyrene	4.40	U	2000	1811		ug/L		91	66 - 130
1,2,4-Trichlorobenzene	6.47	U	2000	1346		ug/L		67	49 - 130
2,4,5-Trichlorophenol	8.61	U	2000	1555		ug/L		78	55 - 130
2,4,6-Trichlorophenol	6.58	U	2000	1552		ug/L		78	53 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	77		23 - 130
2-Fluorophenol	75		10 - 130
Nitrobenzene-d5	76		27 - 130
Phenol-d5	82		10 - 130
Terphenyl-d14	97		10 - 141
2,4,6-Tribromophenol	86		18 - 130

Lab Sample ID: 600-139347-B-1-G MSD

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Matrix Spike Duplicate

Prep Type: TCLP

Prep Batch: 133782

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	4.60	U	2000	1605		ug/L		80	54 - 130	5	30
Acenaphthylene	4.52	U	2000	1592		ug/L		80	54 - 130	4	30
Anthracene	7.00	U	2000	1750		ug/L		88	67 - 130	3	30
Benzo[a]anthracene	6.46	U	2000	1854		ug/L		93	70 - 130	3	30
Benzo[a]pyrene	7.42	U	2000	1877		ug/L		94	70 - 130	3	30
Benzo[b]fluoranthene	9.08	U	2000	2040		ug/L		102	69 - 130	9	30
Benzo[g,h,i]perylene	11.0	U	2000	1398		ug/L		70	62 - 130	6	30
Benzo[k]fluoranthene	14.9	U	2000	1884		ug/L		94	68 - 130	1	30
Benzyl alcohol	8.27	U	2000	1639		ug/L		82	52 - 130	5	30
Bis(2-chloroethoxy)methane	4.36	U	2000	1623		ug/L		81	55 - 130	5	30
Bis(2-chloroethyl)ether	15.5	U	2000	1571		ug/L		79	52 - 130	3	30
Bis(2-ethylhexyl) phthalate	179	J B	2000	2110		ug/L		97	68 - 130	10	30
4-Bromophenyl phenyl ether	8.11	U	2000	1716		ug/L		86	69 - 130	1	30
Butyl benzyl phthalate	8.16	U	2000	1995		ug/L		100	68 - 130	4	30
4-Chloroaniline	5.49	U	2000	1307		ug/L		65	30 - 130	5	30
4-Chloro-3-methylphenol	5.86	U	2000	1681		ug/L		84	52 - 130	4	30
2-Chloronaphthalene	6.03	U	2000	1534		ug/L		77	51 - 130	4	30
2-Chlorophenol	7.29	U	2000	1558		ug/L		78	51 - 130	4	30
4-Chlorophenyl phenyl ether	5.29	U	2000	1645		ug/L		82	59 - 130	4	30
Chrysene	4.94	U	2000	1870		ug/L		93	70 - 130	5	30
Dibenz(a,h)anthracene	8.74	U	2000	1575		ug/L		79	65 - 130	6	30
Dibenzofuran	4.85	U	2000	1572		ug/L		79	53 - 130	2	30
1,2-Dichlorobenzene	7.75	U	2000	1312		ug/L		66	43 - 130	1	30
1,3-Dichlorobenzene	4.91	U	2000	1288		ug/L		64	40 - 130	2	30
1,4-Dichlorobenzene	8.15	U	2000	1301		ug/L		65	42 - 130	1	30
3,3'-Dichlorobenzidine	7.87	U	2000	1760		ug/L		88	61 - 130	1	30
2,4-Dichlorophenol	7.04	U	2000	1551		ug/L		78	51 - 130	5	30
Diethyl phthalate	6.66	U	2000	1736		ug/L		87	59 - 130	4	30
2,4-Dimethylphenol	5.93	U	2000	1637		ug/L		82	51 - 130	5	30

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 600-139347-B-1-G MSD

Matrix: Water

Analysis Batch: 133787

Client Sample ID: Matrix Spike Duplicate

Prep Type: TCLP

Prep Batch: 133782

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dimethyl phthalate	5.89	U	2000	1742		ug/L		87	63 - 130	5	30
Di-n-butyl phthalate	7.09	U	2000	1834		ug/L		92	67 - 130	3	30
4,6-Dinitro-2-methylphenol	9.59	U	4000	3653		ug/L		91	63 - 130	2	30
2,4-Dinitrophenol	26.9	U	4000	3276		ug/L		82	47 - 130	5	30
2,4-Dinitrotoluene	5.09	U	2000	1798		ug/L		90	67 - 130	3	30
2,6-Dinitrotoluene	7.62	U	2000	1735		ug/L		87	64 - 130	4	30
Di-n-octyl phthalate	11.1	U	2000	1999		ug/L		100	70 - 130	3	30
Fluoranthene	4.96	U	2000	1801		ug/L		90	65 - 130	3	30
Fluorene	4.21	U	2000	1681		ug/L		84	59 - 130	5	30
Hexachlorobenzene	6.02	U	2000	1746		ug/L		87	67 - 130	3	30
Hexachlorobutadiene	7.16	U	2000	1369		ug/L		68	44 - 130	4	30
Hexachlorocyclopentadiene	8.39	U	2000	1116		ug/L		56	10 - 130	7	30
Hexachloroethane	5.89	U	2000	1292		ug/L		65	38 - 130	2	30
Indeno[1,2,3-cd]pyrene	9.22	U	2000	1529		ug/L		76	66 - 130	6	30
Isophorone	5.49	U	2000	1712		ug/L		86	55 - 130	5	30
2-Methylnaphthalene	9.57	J	2000	1524		ug/L		76	54 - 130	4	30
2-Methylphenol	6.10	U	2000	1608		ug/L		80	47 - 130	5	30
3 & 4 Methylphenol	7.63	U	2000	1604		ug/L		80	41 - 130	5	30
Naphthalene	7.87	U	2000	1484		ug/L		74	51 - 130	4	30
2-Nitroaniline	7.66	U	2000	1861		ug/L		93	60 - 130	4	35
3-Nitroaniline	5.12	U	2000	1784		ug/L		89	57 - 130	3	30
4-Nitroaniline	8.19	U	2000	1868		ug/L		93	55 - 130	4	30
Nitrobenzene	5.87	U	2000	1699		ug/L		85	54 - 130	6	30
2-Nitrophenol	8.08	U	2000	1626		ug/L		81	54 - 130	6	30
4-Nitrophenol	17.3	U	4000	3747		ug/L		94	34 - 138	4	30
N-Nitrosodi-n-propylamine	6.20	U	2000	1678		ug/L		84	45 - 130	4	30
N-Nitrosodiphenylamine	10.3	U	2000	1685		ug/L		84	51 - 130	1	30
Pentachlorophenol	13.2	U	4000	3402		ug/L		85	55 - 130	3	30
Phenanthrene	5.91	U	2000	1735		ug/L		87	67 - 130	1	30
Phenol	7.68	U	2000	1593		ug/L		80	47 - 130	3	30
Pyrene	4.40	U	2000	1871		ug/L		94	66 - 130	3	30
1,2,4-Trichlorobenzene	6.47	U	2000	1389		ug/L		69	49 - 130	3	30
2,4,5-Trichlorophenol	8.61	U	2000	1655		ug/L		83	55 - 130	6	30
2,4,6-Trichlorophenol	6.58	U	2000	1638		ug/L		82	53 - 130	5	30

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
2-Fluorobiphenyl	80		23 - 130
2-Fluorophenol	76		10 - 130
Nitrobenzene-d5	82		27 - 130
Phenol-d5	82		10 - 130
Terphenyl-d14	97		10 - 141
2,4,6-Tribromophenol	89		18 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 560-133624/1-A

Matrix: Water

Analysis Batch: 133771

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133624

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00500	U	0.0600	0.00500	ug/L		11/07/16 13:38	11/11/16 04:47	1
alpha-BHC	0.00520	U	0.0600	0.00520	ug/L		11/07/16 13:38	11/11/16 04:47	1
alpha-Chlordane	0.00630	U	0.0600	0.00630	ug/L		11/07/16 13:38	11/11/16 04:47	1
beta-BHC	0.00500	U	0.0600	0.00500	ug/L		11/07/16 13:38	11/11/16 04:47	1
4,4'-DDD	0.00500	U	0.0600	0.00500	ug/L		11/07/16 13:38	11/11/16 04:47	1
4,4'-DDE	0.00500	U	0.0600	0.00500	ug/L		11/07/16 13:38	11/11/16 04:47	1
4,4'-DDT	0.00810	U	0.0600	0.00810	ug/L		11/07/16 13:38	11/11/16 04:47	1
delta-BHC	0.00500	U	0.0600	0.00500	ug/L		11/07/16 13:38	11/11/16 04:47	1
Dieldrin	0.0130	U	0.0600	0.0130	ug/L		11/07/16 13:38	11/11/16 04:47	1
Endosulfan I	0.00500	U	0.0600	0.00500	ug/L		11/07/16 13:38	11/11/16 04:47	1
Endosulfan II	0.00860	U	0.0600	0.00860	ug/L		11/07/16 13:38	11/11/16 04:47	1
Endosulfan sulfate	0.00880	U	0.0600	0.00880	ug/L		11/07/16 13:38	11/11/16 04:47	1
Endrin	0.00770	U	0.0600	0.00770	ug/L		11/07/16 13:38	11/11/16 04:47	1
Endrin aldehyde	0.00500	U	0.0600	0.00500	ug/L		11/07/16 13:38	11/11/16 04:47	1
Endrin ketone	0.00820	U	0.0600	0.00820	ug/L		11/07/16 13:38	11/11/16 04:47	1
gamma-BHC (Lindane)	0.00450	U	0.0600	0.00450	ug/L		11/07/16 13:38	11/11/16 04:47	1
gamma-Chlordane	0.00670	U	0.0600	0.00670	ug/L		11/07/16 13:38	11/11/16 04:47	1
Heptachlor	0.00650	U	0.0600	0.00650	ug/L		11/07/16 13:38	11/11/16 04:47	1
Heptachlor epoxide	0.00520	U	0.0600	0.00520	ug/L		11/07/16 13:38	11/11/16 04:47	1
Methoxychlor	0.0100	U	0.0600	0.0100	ug/L		11/07/16 13:38	11/11/16 04:47	1
Toxaphene	0.680	U	6.00	0.680	ug/L		11/07/16 13:38	11/11/16 04:47	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	96		10 - 152				11/07/16 13:38	11/11/16 04:47	1
Tetrachloro-m-xylene	102		57 - 127				11/07/16 13:38	11/11/16 04:47	1

Lab Sample ID: LCS 560-133624/3-A

Matrix: Water

Analysis Batch: 133771

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133624

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.571	0.4905		ug/L		86	54 - 130
alpha-BHC	0.571	0.5406		ug/L		95	59 - 130
alpha-Chlordane	0.571	0.4680		ug/L		82	51 - 130
beta-BHC	0.571	0.4916		ug/L		86	56 - 130
4,4'-DDD	0.571	0.4679		ug/L		82	56 - 130
4,4'-DDE	0.571	0.4708		ug/L		82	53 - 130
4,4'-DDT	0.571	0.4683		ug/L		82	50 - 130
delta-BHC	0.571	0.5160		ug/L		90	56 - 130
Dieldrin	0.571	0.4816		ug/L		84	58 - 130
Endosulfan I	0.571	0.3276		ug/L		57	39 - 130
Endosulfan II	0.571	0.3573		ug/L		63	44 - 130
Endosulfan sulfate	0.571	0.4273		ug/L		75	52 - 130
Endrin	0.571	0.4619		ug/L		81	62 - 130
Endrin aldehyde	0.571	0.4188		ug/L		73	52 - 130
Endrin ketone	0.571	0.4489		ug/L		79	48 - 130
gamma-BHC (Lindane)	0.571	0.5311		ug/L		93	56 - 130
gamma-Chlordane	0.571	0.4790		ug/L		84	52 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 560-133624/3-A

Matrix: Water

Analysis Batch: 133771

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133624

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Heptachlor	0.571	0.5155		ug/L		90	57 - 130
Heptachlor epoxide	0.571	0.4360		ug/L		76	53 - 130
Methoxychlor	0.571	0.4652		ug/L		81	57 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	99		10 - 152
Tetrachloro-m-xylene	103		57 - 127

Lab Sample ID: LCS 560-133624/4-A

Matrix: Water

Analysis Batch: 133771

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133624

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toxaphene	11.4	10.76		ug/L		94	51 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	98		10 - 152
Tetrachloro-m-xylene	100		57 - 127

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133771

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 133624

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.00473	U	0.536	0.4373		ug/L		82	54 - 130
alpha-BHC	0.00492	U	0.536	0.4909		ug/L		92	59 - 130
alpha-Chlordane	0.00596	U	0.536	0.4319		ug/L		81	51 - 130
beta-BHC	0.00473	U	0.536	0.4457		ug/L		83	56 - 130
4,4'-DDD	0.00473	U	0.536	0.4321		ug/L		81	56 - 130
4,4'-DDE	0.00473	U	0.536	0.4368		ug/L		81	53 - 130
4,4'-DDT	0.00766	U	0.536	0.4361		ug/L		81	50 - 130
delta-BHC	0.00473	U	0.536	0.4714		ug/L		88	56 - 130
Dieldrin	0.0123	U	0.536	0.4470		ug/L		83	58 - 130
Endosulfan I	0.00473	U	0.536	0.3055		ug/L		57	39 - 130
Endosulfan II	0.00814	U	0.536	0.3343		ug/L		62	44 - 130
Endosulfan sulfate	0.00832	U	0.536	0.3659		ug/L		68	52 - 130
Endrin	0.00728	U	0.536	0.4311		ug/L		80	62 - 130
Endrin aldehyde	0.00473	U	0.536	0.3869		ug/L		72	52 - 130
Endrin ketone	0.00776	U	0.536	0.4041		ug/L		75	48 - 130
gamma-BHC (Lindane)	0.00426	U	0.536	0.4823		ug/L		90	56 - 130
gamma-Chlordane	0.00634	U	0.536	0.4282		ug/L		80	52 - 130
Heptachlor	0.00615	U	0.536	0.4642		ug/L		87	57 - 130
Heptachlor epoxide	0.00492	U	0.536	0.4196		ug/L		78	53 - 130
Methoxychlor	0.00946	U	0.536	0.4271		ug/L		80	57 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl	94		10 - 152

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133771

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 133624

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	99		57 - 127

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133771

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 133624

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aldrin	0.00473	U	0.542	0.4450		ug/L		82	54 - 130	2	30
alpha-BHC	0.00492	U	0.542	0.4975		ug/L		92	59 - 130	1	30
alpha-Chlordane	0.00596	U	0.542	0.4370		ug/L		81	51 - 130	1	30
beta-BHC	0.00473	U	0.542	0.4502		ug/L		83	56 - 130	1	30
4,4'-DDD	0.00473	U	0.542	0.4413		ug/L		81	56 - 130	2	30
4,4'-DDE	0.00473	U	0.542	0.4401		ug/L		81	53 - 130	1	30
4,4'-DDT	0.00766	U	0.542	0.4406		ug/L		81	50 - 130	1	30
delta-BHC	0.00473	U	0.542	0.4775		ug/L		88	56 - 130	1	30
Dieldrin	0.0123	U	0.542	0.4522		ug/L		83	58 - 130	1	30
Endosulfan I	0.00473	U	0.542	0.3075		ug/L		57	39 - 130	1	30
Endosulfan II	0.00814	U	0.542	0.3367		ug/L		62	44 - 130	1	30
Endosulfan sulfate	0.00832	U	0.542	0.3770		ug/L		70	52 - 130	6	30
Endrin	0.00728	U	0.542	0.4434		ug/L		82	62 - 130	3	30
Endrin aldehyde	0.00473	U	0.542	0.3928		ug/L		72	52 - 130	2	30
Endrin ketone	0.00776	U	0.542	0.4075		ug/L		75	48 - 130	1	30
gamma-BHC (Lindane)	0.00426	U	0.542	0.4886		ug/L		90	56 - 130	1	30
gamma-Chlordane	0.00634	U	0.542	0.4337		ug/L		80	52 - 130	1	30
Heptachlor	0.00615	U	0.542	0.4716		ug/L		87	57 - 130	2	30
Heptachlor epoxide	0.00492	U	0.542	0.4280		ug/L		79	53 - 130	2	30
Methoxychlor	0.00946	U	0.542	0.4314		ug/L		80	57 - 130	1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	93		10 - 152
Tetrachloro-m-xylene	101		57 - 127

Lab Sample ID: MB 560-133658/1-A

Matrix: Water

Analysis Batch: 133848

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133658

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.00500	U	0.0600	0.00500	ug/L		11/08/16 08:34	11/14/16 15:23	1
alpha-BHC	0.00520	U	0.0600	0.00520	ug/L		11/08/16 08:34	11/14/16 15:23	1
alpha-Chlordane	0.00630	U	0.0600	0.00630	ug/L		11/08/16 08:34	11/14/16 15:23	1
beta-BHC	0.00500	U	0.0600	0.00500	ug/L		11/08/16 08:34	11/14/16 15:23	1
4,4'-DDD	0.00500	U	0.0600	0.00500	ug/L		11/08/16 08:34	11/14/16 15:23	1
4,4'-DDE	0.00500	U	0.0600	0.00500	ug/L		11/08/16 08:34	11/14/16 15:23	1
4,4'-DDT	0.00810	U	0.0600	0.00810	ug/L		11/08/16 08:34	11/14/16 15:23	1
delta-BHC	0.00500	U	0.0600	0.00500	ug/L		11/08/16 08:34	11/14/16 15:23	1
Dieldrin	0.0130	U	0.0600	0.0130	ug/L		11/08/16 08:34	11/14/16 15:23	1
Endosulfan I	0.00500	U	0.0600	0.00500	ug/L		11/08/16 08:34	11/14/16 15:23	1
Endosulfan II	0.00860	U	0.0600	0.00860	ug/L		11/08/16 08:34	11/14/16 15:23	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 560-133658/1-A

Matrix: Water

Analysis Batch: 133848

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133658

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan sulfate	0.00880	U	0.0600	0.00880	ug/L		11/08/16 08:34	11/14/16 15:23	1
Endrin	0.00770	U	0.0600	0.00770	ug/L		11/08/16 08:34	11/14/16 15:23	1
Endrin aldehyde	0.00500	U	0.0600	0.00500	ug/L		11/08/16 08:34	11/14/16 15:23	1
Endrin ketone	0.00820	U	0.0600	0.00820	ug/L		11/08/16 08:34	11/14/16 15:23	1
gamma-BHC (Lindane)	0.00450	U	0.0600	0.00450	ug/L		11/08/16 08:34	11/14/16 15:23	1
gamma-Chlordane	0.00670	U	0.0600	0.00670	ug/L		11/08/16 08:34	11/14/16 15:23	1
Heptachlor	0.00650	U	0.0600	0.00650	ug/L		11/08/16 08:34	11/14/16 15:23	1
Heptachlor epoxide	0.00520	U	0.0600	0.00520	ug/L		11/08/16 08:34	11/14/16 15:23	1
Methoxychlor	0.0100	U	0.0600	0.0100	ug/L		11/08/16 08:34	11/14/16 15:23	1
Toxaphene	0.680	U	6.00	0.680	ug/L		11/08/16 08:34	11/14/16 15:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	113		10 - 152	11/08/16 08:34	11/14/16 15:23	1
Tetrachloro-m-xylene	116		57 - 127	11/08/16 08:34	11/14/16 15:23	1

Lab Sample ID: LCS 560-133658/3-A

Matrix: Water

Analysis Batch: 133848

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133658

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.571	0.4853		ug/L		85	54 - 130
alpha-BHC	0.571	0.5234		ug/L		92	59 - 130
alpha-Chlordane	0.571	0.4665		ug/L		82	51 - 130
beta-BHC	0.571	0.4796		ug/L		84	56 - 130
4,4'-DDD	0.571	0.4760		ug/L		83	56 - 130
4,4'-DDE	0.571	0.4697		ug/L		82	53 - 130
4,4'-DDT	0.571	0.4747		ug/L		83	50 - 130
delta-BHC	0.571	0.4990		ug/L		87	56 - 130
Dieldrin	0.571	0.4829		ug/L		85	58 - 130
Endosulfan I	0.571	0.3242		ug/L		57	39 - 130
Endosulfan II	0.571	0.3601		ug/L		63	44 - 130
Endosulfan sulfate	0.571	0.4150		ug/L		73	52 - 130
Endrin	0.571	0.4583		ug/L		80	62 - 130
Endrin aldehyde	0.571	0.4078		ug/L		71	52 - 130
Endrin ketone	0.571	0.4427		ug/L		77	48 - 130
gamma-BHC (Lindane)	0.571	0.5177		ug/L		91	56 - 130
gamma-Chlordane	0.571	0.4797		ug/L		84	52 - 130
Heptachlor	0.571	0.5053		ug/L		88	57 - 130
Heptachlor epoxide	0.571	0.4194		ug/L		73	53 - 130
Methoxychlor	0.571	0.4599		ug/L		80	57 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	105		10 - 152
Tetrachloro-m-xylene	104		57 - 127

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 560-133658/4-A

Matrix: Water

Analysis Batch: 133848

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133658

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toxaphene	11.4	10.66		ug/L		93	51 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	89		10 - 152
Tetrachloro-m-xylene	102		57 - 127

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133848

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 133658

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.00476	U	0.533	0.4472		ug/L		84	54 - 130
alpha-BHC	0.00495	U	0.533	0.4929		ug/L		92	59 - 130
alpha-Chlordane	0.00599	U	0.533	0.4353		ug/L		82	51 - 130
beta-BHC	0.00476	U	0.533	0.4489		ug/L		84	56 - 130
4,4'-DDD	0.00476	U	0.533	0.4344		ug/L		81	56 - 130
4,4'-DDE	0.00476	U	0.533	0.4361		ug/L		82	53 - 130
4,4'-DDT	0.00770	U	0.533	0.4343		ug/L		81	50 - 130
delta-BHC	0.00476	U	0.533	0.4739		ug/L		89	56 - 130
Dieldrin	0.0124	U	0.533	0.4491		ug/L		84	58 - 130
Endosulfan I	0.00476	U	0.533	0.3055		ug/L		57	39 - 130
Endosulfan II	0.00818	U	0.533	0.3415		ug/L		64	44 - 130
Endosulfan sulfate	0.00837	U	0.533	0.3992		ug/L		75	52 - 130
Endrin	0.00732	U	0.533	0.4226		ug/L		79	62 - 130
Endrin aldehyde	0.00476	U	0.533	0.3953		ug/L		74	52 - 130
Endrin ketone	0.00780	U	0.533	0.4091		ug/L		77	48 - 130
gamma-BHC (Lindane)	0.00428	U	0.533	0.4833		ug/L		91	56 - 130
gamma-Chlordane	0.00637	U	0.533	0.4382		ug/L		82	52 - 130
Heptachlor	0.00618	U	0.533	0.4703		ug/L		88	57 - 130
Heptachlor epoxide	0.00495	U	0.533	0.4216		ug/L		79	53 - 130
Methoxychlor	0.00951	U	0.533	0.4235		ug/L		79	57 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl	90		10 - 152
Tetrachloro-m-xylene	100		57 - 127

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133848

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 133658

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aldrin	0.00476	U	0.536	0.4353		ug/L		81	54 - 130	3	30
alpha-BHC	0.00495	U	0.536	0.4782		ug/L		89	59 - 130	3	30
alpha-Chlordane	0.00599	U	0.536	0.4256		ug/L		79	51 - 130	2	30
beta-BHC	0.00476	U	0.536	0.4355		ug/L		81	56 - 130	3	30
4,4'-DDD	0.00476	U	0.536	0.4282		ug/L		80	56 - 130	1	30
4,4'-DDE	0.00476	U	0.536	0.4296		ug/L		80	53 - 130	2	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133848

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 133658

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDT	0.00770	U	0.536	0.4261		ug/L		79	50 - 130	0	30
delta-BHC	0.00476	U	0.536	0.4610		ug/L		86	56 - 130	3	30
Dieldrin	0.0124	U	0.536	0.4385		ug/L		82	58 - 130	2	30
Endosulfan I	0.00476	U	0.536	0.3001		ug/L		56	39 - 130	2	30
Endosulfan II	0.00818	U	0.536	0.3279		ug/L		61	44 - 130	3	30
Endosulfan sulfate	0.00837	U	0.536	0.3971		ug/L		74	52 - 130	1	30
Endrin	0.00732	U	0.536	0.4143		ug/L		77	62 - 130	2	30
Endrin aldehyde	0.00476	U	0.536	0.3876		ug/L		72	52 - 130	1	30
Endrin ketone	0.00780	U	0.536	0.4001		ug/L		75	48 - 130	2	30
gamma-BHC (Lindane)	0.00428	U	0.536	0.4703		ug/L		88	56 - 130	3	30
gamma-Chlordane	0.00637	U	0.536	0.4288		ug/L		80	52 - 130	2	30
Heptachlor	0.00618	U	0.536	0.4580		ug/L		85	57 - 130	3	30
Heptachlor epoxide	0.00495	U	0.536	0.4193		ug/L		78	53 - 130	1	30
Methoxychlor	0.00951	U	0.536	0.4105		ug/L		77	57 - 130	0	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl	98		10 - 152
Tetrachloro-m-xylene	101		57 - 127

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 560-133624/1-A

Matrix: Water

Analysis Batch: 133733

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133624

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.110	U	0.600	0.110	ug/L		11/07/16 13:38	11/10/16 04:57	1
Aroclor 1221	0.110	U	0.600	0.110	ug/L		11/07/16 13:38	11/10/16 04:57	1
Aroclor 1232	0.440	U	0.800	0.440	ug/L		11/07/16 13:38	11/10/16 04:57	1
Aroclor 1242	0.110	U	0.600	0.110	ug/L		11/07/16 13:38	11/10/16 04:57	1
Aroclor 1248	0.110	U	0.600	0.110	ug/L		11/07/16 13:38	11/10/16 04:57	1
Aroclor 1254	0.110	U	0.600	0.110	ug/L		11/07/16 13:38	11/10/16 04:57	1
Aroclor 1260	0.110	U	0.600	0.110	ug/L		11/07/16 13:38	11/10/16 04:57	1
Aroclor 1262	0.110	U	0.600	0.110	ug/L		11/07/16 13:38	11/10/16 04:57	1
Aroclor 1268	0.110	U	0.600	0.110	ug/L		11/07/16 13:38	11/10/16 04:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	113		10 - 150	11/07/16 13:38	11/10/16 04:57	1
DCB Decachlorobiphenyl	70		10 - 150	11/07/16 13:38	11/10/16 04:57	1

Lab Sample ID: LCS 560-133624/2-A

Matrix: Water

Analysis Batch: 133733

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133624

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	11.4	12.83		ug/L		112	50 - 135
Aroclor 1260	11.4	9.838		ug/L		86	50 - 135

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 560-133624/2-A

Matrix: Water

Analysis Batch: 133733

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133624

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	102		10 - 150
DCB Decachlorobiphenyl	70		10 - 150

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133733

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 133624

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	0.104	U	10.9	11.65		ug/L		107	50 - 135
Aroclor 1260	0.104	U	10.9	9.679		ug/L		89	50 - 135
Surrogate	MS %Recovery	MS Qualifier	Limits						
Tetrachloro-m-xylene	100		10 - 150						
DCB Decachlorobiphenyl	75		10 - 150						

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133733

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 133624

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016	0.104	U	10.7	11.32		ug/L		106	50 - 135	3	30
Aroclor 1260	0.104	U	10.7	9.233		ug/L		87	50 - 135	5	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Tetrachloro-m-xylene	100		10 - 150								
DCB Decachlorobiphenyl	74		10 - 150								

Lab Sample ID: MB 560-133658/1-A

Matrix: Water

Analysis Batch: 133863

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133658

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	0.110	U	0.600	0.110	ug/L		11/08/16 08:34	11/14/16 16:23	1
Aroclor 1221	0.110	U	0.600	0.110	ug/L		11/08/16 08:34	11/14/16 16:23	1
Aroclor 1232	0.440	U	0.800	0.440	ug/L		11/08/16 08:34	11/14/16 16:23	1
Aroclor 1242	0.110	U	0.600	0.110	ug/L		11/08/16 08:34	11/14/16 16:23	1
Aroclor 1248	0.110	U	0.600	0.110	ug/L		11/08/16 08:34	11/14/16 16:23	1
Aroclor 1254	0.110	U	0.600	0.110	ug/L		11/08/16 08:34	11/14/16 16:23	1
Aroclor 1260	0.110	U	0.600	0.110	ug/L		11/08/16 08:34	11/14/16 16:23	1
Aroclor 1262	0.110	U	0.600	0.110	ug/L		11/08/16 08:34	11/14/16 16:23	1
Aroclor 1268	0.110	U	0.600	0.110	ug/L		11/08/16 08:34	11/14/16 16:23	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	100		10 - 150				11/08/16 08:34	11/14/16 16:23	1
DCB Decachlorobiphenyl	72		10 - 150				11/08/16 08:34	11/14/16 16:23	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 560-133658/2-A

Matrix: Water

Analysis Batch: 133863

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133658

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
Aroclor 1016	11.4	12.88		ug/L		113	50 - 135
Aroclor 1260	11.4	9.473		ug/L		83	50 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Tetrachloro-m-xylene	110		10 - 150				
DCB Decachlorobiphenyl	75		10 - 150				

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133863

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 133658

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Aroclor 1016	0.105	U	10.8	12.26		ug/L		113	50 - 135		
Aroclor 1260	0.105	U	10.8	9.210		ug/L		85	50 - 135		
Surrogate	MS %Recovery	MS Qualifier	Limits								
Tetrachloro-m-xylene	99		10 - 150								
DCB Decachlorobiphenyl	67		10 - 150								

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133863

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 133658

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aroclor 1016	0.105	U	10.8	13.21		ug/L		123	50 - 135	7	30
Aroclor 1260	0.105	U	10.8	9.400		ug/L		87	50 - 135	2	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Tetrachloro-m-xylene	107		10 - 150								
DCB Decachlorobiphenyl	69		10 - 150								

## Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 280-350606/1-A

Matrix: Water

Analysis Batch: 351570

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 350606

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000168	U	0.00250	0.000168	mg/L		11/09/16 12:33	11/16/16 05:58	1
Bolstar	0.000314	U	0.00100	0.000314	mg/L		11/09/16 12:33	11/16/16 05:58	1
Chlorpyrifos	0.000360	U	0.00150	0.000360	mg/L		11/09/16 12:33	11/16/16 05:58	1
Coumaphos	0.000135	U	0.00100	0.000135	mg/L		11/09/16 12:33	11/16/16 05:58	1
Demeton-O	0.000140	U	0.00100	0.000140	mg/L		11/09/16 12:33	11/16/16 05:58	1
Demeton-S	0.0000690	U	0.00200	0.0000690	mg/L		11/09/16 12:33	11/16/16 05:58	1
Diazinon	0.000147	U	0.000500	0.000147	mg/L		11/09/16 12:33	11/16/16 05:58	1
Demeton, Total	0.000209	U	0.00300	0.000209	mg/L		11/09/16 12:33	11/16/16 05:58	1
Dichlorvos	0.000162	U	0.000500	0.000162	mg/L		11/09/16 12:33	11/16/16 05:58	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: MB 280-350606/1-A

Matrix: Water

Analysis Batch: 351570

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 350606

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dimethoate	0.000449	U	0.00150	0.000449	mg/L		11/09/16 12:33	11/16/16 05:58	1
Disulfoton	0.000322	U	0.00100	0.000322	mg/L		11/09/16 12:33	11/16/16 05:58	1
EPN	0.000149	U	0.00120	0.000149	mg/L		11/09/16 12:33	11/16/16 05:58	1
Ethoprop	0.000177	U	0.00150	0.000177	mg/L		11/09/16 12:33	11/16/16 05:58	1
Ethyl Parathion	0.000144	U	0.00100	0.000144	mg/L		11/09/16 12:33	11/16/16 05:58	1
Famphur	0.000179	U	0.00100	0.000179	mg/L		11/09/16 12:33	11/16/16 05:58	1
Fensulfothion	0.000544	U	0.00250	0.000544	mg/L		11/09/16 12:33	11/16/16 05:58	1
Fenthion	0.000154	U	0.00250	0.000154	mg/L		11/09/16 12:33	11/16/16 05:58	1
Malathion	0.000133	U	0.00200	0.000133	mg/L		11/09/16 12:33	11/16/16 05:58	1
Merphos	0.000174	U	0.00500	0.000174	mg/L		11/09/16 12:33	11/16/16 05:58	1
Methyl parathion	0.000141	U	0.00400	0.000141	mg/L		11/09/16 12:33	11/16/16 05:58	1
Mevinphos	0.000460	U	0.00620	0.000460	mg/L		11/09/16 12:33	11/16/16 05:58	1
Naled	0.000800	U	0.00200	0.000800	mg/L		11/09/16 12:33	11/16/16 05:58	1
Phorate	0.000154	U	0.00120	0.000154	mg/L		11/09/16 12:33	11/16/16 05:58	1
Ronnel	0.000116	U	0.0100	0.000116	mg/L		11/09/16 12:33	11/16/16 05:58	1
Sulfotepp	0.000168	U	0.00150	0.000168	mg/L		11/09/16 12:33	11/16/16 05:58	1
Tetrachlorvinphos (Stirophos)	0.000124	U	0.00350	0.000124	mg/L		11/09/16 12:33	11/16/16 05:58	1
Thionazin	0.000312	U	0.00100	0.000312	mg/L		11/09/16 12:33	11/16/16 05:58	1
Tokuthion	0.000123	U	0.00160	0.000123	mg/L		11/09/16 12:33	11/16/16 05:58	1
Trichloronate	0.000242	U	0.00150	0.000242	mg/L		11/09/16 12:33	11/16/16 05:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	66		49 - 171	11/09/16 12:33	11/16/16 05:58	1
Triphenylphosphate	87		60 - 154	11/09/16 12:33	11/16/16 05:58	1

Lab Sample ID: LCS 280-350606/2-A

Matrix: Water

Analysis Batch: 351570

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 350606

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	0.00400	0.004443		mg/L		111	59 - 115
Chlorpyrifos	0.00400	0.003873		mg/L		97	54 - 115
Coumaphos	0.00400	0.004652		mg/L		116	63 - 118
Diazinon	0.00400	0.004153		mg/L		104	47 - 115
Demeton, Total	0.00400	0.003432		mg/L		86	44 - 115
Dichlorvos	0.00400	0.003233		mg/L		81	53 - 128
Dimethoate	0.00400	0.003175		mg/L		79	42 - 115
Disulfoton	0.00400	0.003711		mg/L		93	45 - 115
EPN	0.00400	0.003930		mg/L		98	56 - 115
Ethoprop	0.00400	0.004166		mg/L		104	50 - 115
Ethyl Parathion	0.00400	0.003679		mg/L		92	55 - 115
Famphur	0.00400	0.003499		mg/L		87	62 - 115
Fensulfothion	0.00400	0.003887		mg/L		97	50 - 115
Fenthion	0.00400	0.003616		mg/L		90	55 - 115
Malathion	0.00400	0.003236		mg/L		81	52 - 115
Merphos	0.00400	0.004123	J	mg/L		103	31 - 115
Methyl parathion	0.00400	0.003834	J	mg/L		96	58 - 115
Mevinphos	0.00400	0.003087	J	mg/L		77	42 - 115

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCS 280-350606/2-A

Matrix: Water

Analysis Batch: 351570

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 350606

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phorate	0.00400	0.003139		mg/L		78	40 - 115
Ronnel	0.00400	0.003999	J	mg/L		100	55 - 115
Sulfotepp	0.00400	0.003714		mg/L		93	53 - 115
Tetrachlorvinphos (Stirophos)	0.00400	0.003940		mg/L		99	54 - 115
Thionazin	0.00400	0.003465		mg/L		87	54 - 115
Trichloronate	0.00400	0.003948		mg/L		99	48 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Chlormefos	89		49 - 171
Triphenylphosphate	97		60 - 154

Lab Sample ID: LCSD 280-350606/3-A

Matrix: Water

Analysis Batch: 351570

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 350606

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	0.00400	0.003861		mg/L		97	59 - 115	14	20
Chlorpyrifos	0.00400	0.003438		mg/L		86	54 - 115	12	24
Coumaphos	0.00400	0.004002		mg/L		100	63 - 118	15	20
Diazinon	0.00400	0.003040		mg/L		76	47 - 115	31	37
Demeton, Total	0.00400	0.002691	J	mg/L		67	44 - 115	24	38
Dichlorvos	0.00400	0.002726		mg/L		68	53 - 128	17	37
Dimethoate	0.00400	0.003022		mg/L		76	42 - 115	5	38
Disulfoton	0.00400	0.002751		mg/L		69	45 - 115	30	31
EPN	0.00400	0.003357		mg/L		84	56 - 115	16	20
Ethoprop	0.00400	0.003202		mg/L		80	50 - 115	26	29
Ethyl Parathion	0.00400	0.003287		mg/L		82	55 - 115	11	20
Famphur	0.00400	0.003268		mg/L		82	62 - 115	7	20
Fensulfothion	0.00400	0.003473		mg/L		87	50 - 115	11	27
Fenthion	0.00400	0.003162		mg/L		79	55 - 115	13	22
Malathion	0.00400	0.002982		mg/L		75	52 - 115	8	20
Merphos	0.00400	0.003578	J	mg/L		89	31 - 115	14	25
Methyl parathion	0.00400	0.003310	J	mg/L		83	58 - 115	15	20
Mevinphos	0.00400	0.002434	J	mg/L		61	42 - 115	24	27
Phorate	0.00400	0.002434		mg/L		61	40 - 115	25	32
Ronnel	0.00400	0.003444	J	mg/L		86	55 - 115	15	28
Sulfotepp	0.00400	0.002920		mg/L		73	53 - 115	24	27
Tetrachlorvinphos (Stirophos)	0.00400	0.003529		mg/L		88	54 - 115	11	20
Thionazin	0.00400	0.002901		mg/L		73	54 - 115	18	27
Trichloronate	0.00400	0.003266		mg/L		82	48 - 115	19	26

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Chlormefos	64		49 - 171
Triphenylphosphate	85		60 - 154

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: MB 280-350683/1-A

Matrix: Water

Analysis Batch: 351570

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 350683

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000168	U	0.00250	0.000168	mg/L		11/09/16 22:36	11/15/16 23:41	1
Bolstar	0.000314	U	0.00100	0.000314	mg/L		11/09/16 22:36	11/15/16 23:41	1
Chlorpyrifos	0.000360	U	0.00150	0.000360	mg/L		11/09/16 22:36	11/15/16 23:41	1
Coumaphos	0.000135	U	0.00100	0.000135	mg/L		11/09/16 22:36	11/15/16 23:41	1
Demeton-O	0.000140	U	0.00100	0.000140	mg/L		11/09/16 22:36	11/15/16 23:41	1
Demeton-S	0.0000690	U	0.00200	0.0000690	mg/L		11/09/16 22:36	11/15/16 23:41	1
Diazinon	0.000147	U	0.000500	0.000147	mg/L		11/09/16 22:36	11/15/16 23:41	1
Demeton, Total	0.000209	U	0.00300	0.000209	mg/L		11/09/16 22:36	11/15/16 23:41	1
Dichlorvos	0.000162	U	0.000500	0.000162	mg/L		11/09/16 22:36	11/15/16 23:41	1
Dimethoate	0.000449	U	0.00150	0.000449	mg/L		11/09/16 22:36	11/15/16 23:41	1
Disulfoton	0.000322	U	0.00100	0.000322	mg/L		11/09/16 22:36	11/15/16 23:41	1
EPN	0.000149	U	0.00120	0.000149	mg/L		11/09/16 22:36	11/15/16 23:41	1
Ethoprop	0.000177	U	0.00150	0.000177	mg/L		11/09/16 22:36	11/15/16 23:41	1
Ethyl Parathion	0.000144	U	0.00100	0.000144	mg/L		11/09/16 22:36	11/15/16 23:41	1
Famphur	0.000179	U	0.00100	0.000179	mg/L		11/09/16 22:36	11/15/16 23:41	1
Fensulfothion	0.000544	U	0.00250	0.000544	mg/L		11/09/16 22:36	11/15/16 23:41	1
Fenthion	0.000154	U	0.00250	0.000154	mg/L		11/09/16 22:36	11/15/16 23:41	1
Malathion	0.000133	U	0.00200	0.000133	mg/L		11/09/16 22:36	11/15/16 23:41	1
Merphos	0.000174	U	0.00500	0.000174	mg/L		11/09/16 22:36	11/15/16 23:41	1
Methyl parathion	0.000141	U	0.00400	0.000141	mg/L		11/09/16 22:36	11/15/16 23:41	1
Mevinphos	0.000460	U	0.00620	0.000460	mg/L		11/09/16 22:36	11/15/16 23:41	1
Naled	0.000800	U	0.00200	0.000800	mg/L		11/09/16 22:36	11/15/16 23:41	1
Phorate	0.000154	U	0.00120	0.000154	mg/L		11/09/16 22:36	11/15/16 23:41	1
Ronnel	0.000116	U	0.0100	0.000116	mg/L		11/09/16 22:36	11/15/16 23:41	1
Sulfotepp	0.000168	U	0.00150	0.000168	mg/L		11/09/16 22:36	11/15/16 23:41	1
Tetrachlorvinphos (Stirophos)	0.000124	U	0.00350	0.000124	mg/L		11/09/16 22:36	11/15/16 23:41	1
Thionazin	0.000312	U	0.00100	0.000312	mg/L		11/09/16 22:36	11/15/16 23:41	1
Tokuthion	0.000123	U	0.00160	0.000123	mg/L		11/09/16 22:36	11/15/16 23:41	1
Trichloronate	0.000242	U	0.00150	0.000242	mg/L		11/09/16 22:36	11/15/16 23:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	78		49 - 171	11/09/16 22:36	11/15/16 23:41	1
Triphenylphosphate	82		60 - 154	11/09/16 22:36	11/15/16 23:41	1

Lab Sample ID: LCS 280-350683/2-A

Matrix: Water

Analysis Batch: 351570

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 350683

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	0.00400	0.004376		mg/L		109	59 - 115
Chlorpyrifos	0.00400	0.003560		mg/L		89	54 - 115
Coumaphos	0.00400	0.004516		mg/L		113	63 - 118
Diazinon	0.00400	0.003853		mg/L		96	47 - 115
Demeton, Total	0.00400	0.001776	J	mg/L		44	44 - 115
Dichlorvos	0.00400	0.003699		mg/L		92	53 - 128
Dimethoate	0.00400	0.003427		mg/L		86	42 - 115
Disulfoton	0.00400	0.003166		mg/L		79	45 - 115
EPN	0.00400	0.003722		mg/L		93	56 - 115

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCS 280-350683/2-A

Matrix: Water

Analysis Batch: 351570

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 350683

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethoprop	0.00400	0.003626		mg/L		91	50 - 115
Ethyl Parathion	0.00400	0.003625		mg/L		91	55 - 115
Famphur	0.00400	0.003542		mg/L		89	62 - 115
Fensulfothion	0.00400	0.003914		mg/L		98	50 - 115
Fenthion	0.00400	0.003498		mg/L		87	55 - 115
Malathion	0.00400	0.003354		mg/L		84	52 - 115
Merphos	0.00400	0.003786	J	mg/L		95	31 - 115
Methyl parathion	0.00400	0.003492	J	mg/L		87	58 - 115
Mevinphos	0.00400	0.003180	J	mg/L		79	42 - 115
Phorate	0.00400	0.002557		mg/L		64	40 - 115
Ronnel	0.00400	0.002992	J	mg/L		75	55 - 115
Sulfotepp	0.00400	0.003312		mg/L		83	53 - 115
Tetrachlorvinphos (Stirophos)	0.00400	0.003837		mg/L		96	54 - 115
Thionazin	0.00400	0.003269		mg/L		82	54 - 115
Trichloronate	0.00400	0.003354		mg/L		84	48 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Chlormefos	61		49 - 171
Triphenylphosphate	95		60 - 154

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 351570

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 350683

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	0.000161	U	0.00387	0.004379		mg/L		113	59 - 115
Chlorpyrifos	0.000346	U	0.00387	0.003673		mg/L		95	54 - 115
Coumaphos	0.000130	U	0.00387	0.004471		mg/L		115	63 - 118
Diazinon	0.000141	U	0.00387	0.003651		mg/L		94	47 - 115
Demeton, Total	0.000201	U *	0.00387	0.001827	J	mg/L		47	44 - 115
Dichlorvos	0.000156	U	0.00387	0.003195		mg/L		83	53 - 128
Dimethoate	0.000431	U	0.00387	0.003342		mg/L		86	42 - 115
Disulfoton	0.000309	U	0.00387	0.002437		mg/L		63	45 - 115
EPN	0.000143	U	0.00387	0.003727		mg/L		96	56 - 115
Ethoprop	0.000170	U	0.00387	0.003815		mg/L		99	50 - 115
Ethyl Parathion	0.000138	U	0.00387	0.003544		mg/L		92	55 - 115
Famphur	0.000172	U	0.00387	0.003650		mg/L		94	62 - 115
Fensulfothion	0.000523	U	0.00387	0.004070		mg/L		105	50 - 115
Fenthion	0.000148	U	0.00387	0.002976		mg/L		77	55 - 115
Malathion	0.000128	U	0.00387	0.003204		mg/L		83	52 - 115
Merphos	0.000167	U	0.00387	0.003828	J	mg/L		99	31 - 115
Methyl parathion	0.000135	U	0.00387	0.003689	J	mg/L		95	58 - 115
Mevinphos	0.000442	U	0.00387	0.003062	J	mg/L		79	42 - 115
Phorate	0.000148	U	0.00387	0.002483		mg/L		64	40 - 115
Ronnel	0.000111	U	0.00387	0.003602	J	mg/L		93	55 - 115
Sulfotepp	0.000161	U	0.00387	0.003567		mg/L		92	53 - 115
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00387	0.003759		mg/L		97	54 - 115
Thionazin	0.000300	U	0.00387	0.003275		mg/L		85	54 - 115

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 351570

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 350683

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichloronate	0.000232	U	0.00387	0.003579		mg/L		92	48 - 115
<b>Surrogate</b>	<b>MS %Recovery</b>	<b>MS Qualifier</b>	<b>Limits</b>						
Chlormefos	61		49 - 171						
Triphenylphosphate	97		60 - 154						

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 351570

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 350683

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Azinphos-methyl	0.000161	U	0.00383	0.004153		mg/L		108	59 - 115	5	20
Chlorpyrifos	0.000346	U	0.00383	0.003644		mg/L		95	54 - 115	1	24
Coumaphos	0.000130	U	0.00383	0.004308		mg/L		113	63 - 118	4	20
Diazinon	0.000141	U	0.00383	0.003684		mg/L		96	47 - 115	1	37
Demeton, Total	0.000201	U	0.00383	0.001841	J	mg/L		48	44 - 115	NC	38
Dichlorvos	0.000156	U	0.00383	0.002976		mg/L		78	53 - 128	7	37
Dimethoate	0.000431	U	0.00383	0.003546		mg/L		93	42 - 115	6	38
Disulfoton	0.000309	U	0.00383	0.002503		mg/L		65	45 - 115	3	31
EPN	0.000143	U	0.00383	0.003512		mg/L		92	56 - 115	6	20
Ethoprop	0.000170	U	0.00383	0.003549		mg/L		93	50 - 115	7	29
Ethyl Parathion	0.000138	U	0.00383	0.003504		mg/L		92	55 - 115	1	20
Famphur	0.000172	U	0.00383	0.003509		mg/L		92	62 - 115	NC	20
Fensulfothion	0.000523	U	0.00383	0.003860		mg/L		101	50 - 115	5	27
Fenthion	0.000148	U	0.00383	0.003001		mg/L		78	55 - 115	1	22
Malathion	0.000128	U	0.00383	0.003170		mg/L		83	52 - 115	1	20
Merphos	0.000167	U	0.00383	0.003763	J	mg/L		98	31 - 115	2	25
Methyl parathion	0.000135	U	0.00383	0.003586	J	mg/L		94	58 - 115	3	20
Mevinphos	0.000442	U	0.00383	0.002976	J	mg/L		78	42 - 115	3	27
Phorate	0.000148	U	0.00383	0.002505		mg/L		65	40 - 115	1	32
Ronnel	0.000111	U	0.00383	0.003533	J	mg/L		92	55 - 115	2	28
Sulfotepp	0.000161	U	0.00383	0.003403		mg/L		89	53 - 115	5	27
Tetrachlorvinphos (Stirophos)	0.000119	U	0.00383	0.003704		mg/L		97	54 - 115	1	20
Thionazin	0.000300	U	0.00383	0.003160		mg/L		83	54 - 115	4	27
Trichloronate	0.000232	U	0.00383	0.003579		mg/L		93	48 - 115	0	26
<b>Surrogate</b>	<b>MSD %Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
Chlormefos	61		49 - 171								
Triphenylphosphate	93		60 - 154								

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 351570

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 350683

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	0.000163	U	0.00391	0.004178		mg/L		107	59 - 115
Chlorpyrifos	0.000348	U	0.00391	0.003374		mg/L		86	54 - 115
Coumaphos	0.000131	U	0.00391	0.004448		mg/L		114	63 - 118

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 351570

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 350683

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diazinon	0.000142	U	0.00391	0.003197		mg/L		82	47 - 115
Demeton, Total	0.000202	U F1	0.00391	0.001367	J F1	mg/L		35	44 - 115
Dichlorvos	0.000157	U	0.00391	0.002809		mg/L		72	53 - 128
Dimethoate	0.000435	U	0.00391	0.003528		mg/L		90	42 - 115
Disulfoton	0.000312	U	0.00391	0.002064		mg/L		53	45 - 115
EPN	0.000144	U	0.00391	0.003480		mg/L		89	56 - 115
Ethoprop	0.000171	U	0.00391	0.003365		mg/L		86	50 - 115
Ethyl Parathion	0.000139	U	0.00391	0.003258		mg/L		83	55 - 115
Famphur	0.000173	U	0.00391	0.003463		mg/L		89	62 - 115
Fensulfothion	0.000526	U	0.00391	0.003915		mg/L		100	50 - 115
Fenthion	0.000149	U	0.00391	0.002601		mg/L		67	55 - 115
Malathion	0.000129	U	0.00391	0.003020		mg/L		77	52 - 115
Merphos	0.000168	U	0.00391	0.003556	J	mg/L		91	31 - 115
Methyl parathion	0.000136	U	0.00391	0.003253	J	mg/L		83	58 - 115
Mevinphos	0.000445	U	0.00391	0.002685	J	mg/L		69	42 - 115
Phorate	0.000149	U	0.00391	0.002196		mg/L		56	40 - 115
Ronnel	0.000112	U	0.00391	0.003342	J	mg/L		85	55 - 115
Sulfotepp	0.000163	U	0.00391	0.003149		mg/L		81	53 - 115
Tetrachlorvinphos (Stirophos)	0.000120	U	0.00391	0.003507		mg/L		90	54 - 115
Thionazin	0.000302	U	0.00391	0.002854		mg/L		73	54 - 115
Trichloronate	0.000234	U	0.00391	0.003236		mg/L		83	48 - 115
<b>MS MS</b>									
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
Chlormefos	56		49 - 171						
Triphenylphosphate	91		60 - 154						

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 351570

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 350683

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Azinphos-methyl	0.000163	U	0.00388	0.004251		mg/L		110	59 - 115	2	20
Chlorpyrifos	0.000348	U	0.00388	0.003630		mg/L		94	54 - 115	7	24
Coumaphos	0.000131	U	0.00388	0.004358		mg/L		112	63 - 118	2	20
Diazinon	0.000142	U	0.00388	0.003650		mg/L		94	47 - 115	13	37
Demeton, Total	0.000202	U F1	0.00388	0.001364	J F1	mg/L		35	44 - 115	0	38
Dichlorvos	0.000157	U	0.00388	0.003012		mg/L		78	53 - 128	7	37
Dimethoate	0.000435	U	0.00388	0.003210		mg/L		83	42 - 115	9	38
Disulfoton	0.000312	U	0.00388	0.002328		mg/L		60	45 - 115	12	31
EPN	0.000144	U	0.00388	0.003614		mg/L		93	56 - 115	4	20
Ethoprop	0.000171	U	0.00388	0.003634		mg/L		94	50 - 115	8	29
Ethyl Parathion	0.000139	U	0.00388	0.003451		mg/L		89	55 - 115	6	20
Famphur	0.000173	U	0.00388	0.003478		mg/L		90	62 - 115	0	20
Fensulfothion	0.000526	U	0.00388	0.004088		mg/L		105	50 - 115	4	27
Fenthion	0.000149	U	0.00388	0.002864		mg/L		74	55 - 115	10	22
Malathion	0.000129	U	0.00388	0.003132		mg/L		81	52 - 115	4	20
Merphos	0.000168	U	0.00388	0.003778	J	mg/L		97	31 - 115	6	25
Methyl parathion	0.000136	U	0.00388	0.003525	J	mg/L		91	58 - 115	8	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 351570

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 350683

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mevinphos	0.000445	U	0.00388	0.002947	J	mg/L		76	42 - 115	9	27
Phorate	0.000149	U	0.00388	0.002343		mg/L		60	40 - 115	6	32
Ronnel	0.000112	U	0.00388	0.003575	J	mg/L		92	55 - 115	7	28
Sulfotepp	0.000163	U	0.00388	0.003381		mg/L		87	53 - 115	7	27
Tetrachlorvinphos (Stirophos)	0.000120	U	0.00388	0.003658		mg/L		94	54 - 115	4	20
Thionazin	0.000302	U	0.00388	0.003145		mg/L		81	54 - 115	10	27
Trichloronate	0.000234	U	0.00388	0.003553		mg/L		92	48 - 115	9	26
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Chlormefos	62		49 - 171								
Triphenylphosphate	94		60 - 154								

Lab Sample ID: MB 280-353905/1-A

Matrix: Water

Analysis Batch: 354760

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 353905

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	0.000168	U	0.00250	0.000168	mg/L		12/01/16 17:56	12/08/16 19:12	1
Bolstar	0.000314	U	0.00100	0.000314	mg/L		12/01/16 17:56	12/08/16 19:12	1
Chlorpyrifos	0.000360	U	0.00150	0.000360	mg/L		12/01/16 17:56	12/08/16 19:12	1
Coumaphos	0.000135	U	0.00100	0.000135	mg/L		12/01/16 17:56	12/08/16 19:12	1
Demeton-O	0.000140	U	0.00100	0.000140	mg/L		12/01/16 17:56	12/08/16 19:12	1
Demeton-S	0.0000690	U	0.00200	0.0000690	mg/L		12/01/16 17:56	12/08/16 19:12	1
Diazinon	0.000147	U	0.000500	0.000147	mg/L		12/01/16 17:56	12/08/16 19:12	1
Demeton, Total	0.000209	U	0.00300	0.000209	mg/L		12/01/16 17:56	12/08/16 19:12	1
Dichlorvos	0.000162	U	0.000500	0.000162	mg/L		12/01/16 17:56	12/08/16 19:12	1
Dimethoate	0.000449	U	0.00150	0.000449	mg/L		12/01/16 17:56	12/08/16 19:12	1
Disulfoton	0.000322	U	0.00100	0.000322	mg/L		12/01/16 17:56	12/08/16 19:12	1
EPN	0.000149	U	0.00120	0.000149	mg/L		12/01/16 17:56	12/08/16 19:12	1
Ethoprop	0.000177	U	0.00150	0.000177	mg/L		12/01/16 17:56	12/08/16 19:12	1
Ethyl Parathion	0.000144	U	0.00100	0.000144	mg/L		12/01/16 17:56	12/08/16 19:12	1
Famphur	0.000179	U	0.00100	0.000179	mg/L		12/01/16 17:56	12/08/16 19:12	1
Fensulfothion	0.000544	U	0.00250	0.000544	mg/L		12/01/16 17:56	12/08/16 19:12	1
Fenthion	0.000154	U	0.00250	0.000154	mg/L		12/01/16 17:56	12/08/16 19:12	1
Malathion	0.000133	U	0.00200	0.000133	mg/L		12/01/16 17:56	12/08/16 19:12	1
Merphos	0.000174	U	0.00500	0.000174	mg/L		12/01/16 17:56	12/08/16 19:12	1
Methyl parathion	0.000141	U	0.00400	0.000141	mg/L		12/01/16 17:56	12/08/16 19:12	1
Mevinphos	0.000460	U	0.00620	0.000460	mg/L		12/01/16 17:56	12/08/16 19:12	1
Naled	0.000800	U	0.00200	0.000800	mg/L		12/01/16 17:56	12/08/16 19:12	1
Phorate	0.000154	U	0.00120	0.000154	mg/L		12/01/16 17:56	12/08/16 19:12	1
Ronnel	0.000116	U	0.0100	0.000116	mg/L		12/01/16 17:56	12/08/16 19:12	1
Sulfotepp	0.000168	U	0.00150	0.000168	mg/L		12/01/16 17:56	12/08/16 19:12	1
Tetrachlorvinphos (Stirophos)	0.000124	U	0.00350	0.000124	mg/L		12/01/16 17:56	12/08/16 19:12	1
Thionazin	0.000312	U	0.00100	0.000312	mg/L		12/01/16 17:56	12/08/16 19:12	1
Tokuthion	0.000123	U	0.00160	0.000123	mg/L		12/01/16 17:56	12/08/16 19:12	1
Trichloronate	0.000242	U	0.00150	0.000242	mg/L		12/01/16 17:56	12/08/16 19:12	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: MB 280-353905/1-A

Matrix: Water

Analysis Batch: 354760

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 353905

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
%Recovery	Qualifier					
Chlormefos	65		49 - 171	12/01/16 17:56	12/08/16 19:12	1
Triphenylphosphate	75		60 - 154	12/01/16 17:56	12/08/16 19:12	1

Lab Sample ID: LCS 280-353905/2-A

Matrix: Water

Analysis Batch: 354760

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 353905

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	0.00400	0.003477		mg/L		87	59 - 115
Chlorpyrifos	0.00400	0.003052		mg/L		76	54 - 115
Coumaphos	0.00400	0.003382		mg/L		85	63 - 118
Diazinon	0.00400	0.002758		mg/L		69	47 - 115
Demeton, Total	0.00400	0.002618	J	mg/L		65	44 - 115
Dichlorvos	0.00400	0.003055		mg/L		76	53 - 128
Dimethoate	0.00400	0.002188		mg/L		55	42 - 115
Disulfoton	0.00400	0.002513		mg/L		63	45 - 115
EPN	0.00400	0.003095		mg/L		77	56 - 115
Ethoprop	0.00400	0.002838		mg/L		71	50 - 115
Ethyl Parathion	0.00400	0.003022		mg/L		76	55 - 115
Famphur	0.00400	0.002829		mg/L		71	62 - 115
Fensulfothion	0.00400	0.002992		mg/L		75	50 - 115
Fenthion	0.00400	0.002948		mg/L		74	55 - 115
Malathion	0.00400	0.002392		mg/L		60	52 - 115
Merphos	0.00400	0.002115	J	mg/L		53	31 - 115
Methyl parathion	0.00400	0.003190	J	mg/L		80	58 - 115
Mevinphos	0.00400	0.001971	J	mg/L		49	42 - 115
Phorate	0.00400	0.002127		mg/L		53	40 - 115
Ronnel	0.00400	0.003095	J	mg/L		77	55 - 115
Sulfotepp	0.00400	0.002736		mg/L		68	53 - 115
Tetrachlorvinphos (Stirophos)	0.00400	0.003169	J	mg/L		79	54 - 115
Thionazin	0.00400	0.002828		mg/L		71	54 - 115
Trichloronate	0.00400	0.002784		mg/L		70	48 - 115

Surrogate	LCS	LCS	Limits
%Recovery	Qualifier		
Chlormefos	59		49 - 171
Triphenylphosphate	73		60 - 154

Lab Sample ID: LCSD 280-353905/3-A

Matrix: Water

Analysis Batch: 354760

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 353905

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Azinphos-methyl	0.00400	0.003247		mg/L		81	59 - 115	7	20
Chlorpyrifos	0.00400	0.002833		mg/L		71	54 - 115	6	24
Coumaphos	0.00400	0.003167		mg/L		79	63 - 118	7	20
Diazinon	0.00400	0.002605		mg/L		65	47 - 115	6	37
Demeton, Total	0.00400	0.002459	J	mg/L		61	44 - 115	6	38
Dichlorvos	0.00400	0.002886		mg/L		72	53 - 128	6	37

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCSD 280-353905/3-A

Matrix: Water

Analysis Batch: 354760

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 353905

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dimethoate	0.00400	0.002013		mg/L		50	42 - 115	8	38
Disulfoton	0.00400	0.002377		mg/L		59	45 - 115	6	31
EPN	0.00400	0.002841		mg/L		71	56 - 115	9	20
Ethoprop	0.00400	0.002636		mg/L		66	50 - 115	7	29
Ethyl Parathion	0.00400	0.002797		mg/L		70	55 - 115	8	20
Famphur	0.00400	0.002647		mg/L		66	62 - 115	7	20
Fensulfothion	0.00400	0.002859		mg/L		71	50 - 115	5	27
Fenthion	0.00400	0.002759		mg/L		69	55 - 115	7	22
Malathion	0.00400	0.002206		mg/L		55	52 - 115	8	20
Merphos	0.00400	0.001988	J	mg/L		50	31 - 115	6	25
Methyl parathion	0.00400	0.002940	J	mg/L		74	58 - 115	8	20
Mevinphos	0.00400	0.001835	J	mg/L		46	42 - 115	7	27
Phorate	0.00400	0.001978		mg/L		49	40 - 115	7	32
Ronnel	0.00400	0.002853	J	mg/L		71	55 - 115	8	28
Sulfotepp	0.00400	0.002536		mg/L		63	53 - 115	8	27
Tetrachlorvinphos (Stirophos)	0.00400	0.002952	J	mg/L		74	54 - 115	6	20
Thionazin	0.00400	0.002603		mg/L		65	54 - 115	8	27
Trichloronate	0.00400	0.002662		mg/L		67	48 - 115	8	26

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Chlormefos	58		49 - 171
Triphenylphosphate	68		60 - 154

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 680-456599/21-A

Matrix: Water

Analysis Batch: 457118

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 456599

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.100	U	5.00	0.100	ug/L		11/07/16 09:36	11/09/16 21:23	1
Dicamba	0.0850	U	0.500	0.0850	ug/L		11/07/16 09:36	11/09/16 21:23	1
Mecoprop	19.0	U	120	19.0	ug/L		11/07/16 09:36	11/09/16 21:23	1
MCPA	17.0	U	120	17.0	ug/L		11/07/16 09:36	11/09/16 21:23	1
Dichlorprop	0.150	U	0.500	0.150	ug/L		11/07/16 09:36	11/09/16 21:23	1
2,4-D	0.0370	U	0.500	0.0370	ug/L		11/07/16 09:36	11/09/16 21:23	1
Silvex (2,4,5-TP)	0.0620	U	0.250	0.0620	ug/L		11/07/16 09:36	11/09/16 21:23	1
2,4,5-T	0.0620	U	0.250	0.0620	ug/L		11/07/16 09:36	11/09/16 21:23	1
2,4-DB	0.150	U	0.500	0.150	ug/L		11/07/16 09:36	11/09/16 21:23	1
Dinoseb	0.160	U	1.00	0.160	ug/L		11/07/16 09:36	11/09/16 21:23	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenylacetic acid	82		45 - 130	11/07/16 09:36	11/09/16 21:23	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 680-456599/22-A

Matrix: Water

Analysis Batch: 457118

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 456599

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	2.00	1.500	J	ug/L		75	40 - 130
Dicamba	1.00	0.9137		ug/L		91	64 - 130
Mecoprop	200	160.1		ug/L		80	55 - 134
MCPA	200	159.9		ug/L		80	52 - 130
Dichlorprop	2.00	1.750		ug/L		88	52 - 130
2,4-D	2.00	1.607		ug/L		80	55 - 130
Silvex (2,4,5-TP)	0.500	0.4589		ug/L		92	60 - 130
2,4,5-T	0.500	0.4209		ug/L		84	58 - 130
2,4-DB	2.00	1.699		ug/L		85	60 - 147
Dinoseb	2.00	1.616		ug/L		81	14 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid	82		45 - 130

Lab Sample ID: 560-64715-P-2-A MS

Matrix: Water

Analysis Batch: 457118

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 456599

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	0.0954	U	1.92	1.545	J	ug/L		80	40 - 130
Dicamba	0.0811	U	0.961	0.9356		ug/L		97	64 - 130
Mecoprop	18.1	U	192	165.8		ug/L		86	55 - 134
MCPA	16.2	U	192	159.7		ug/L		83	52 - 130
Dichlorprop	0.143	U	1.92	1.859		ug/L		97	52 - 130
2,4-D	0.0353	U	1.92	1.843		ug/L		96	55 - 130
Silvex (2,4,5-TP)	0.0592	U	0.480	0.4840		ug/L		101	60 - 130
2,4,5-T	0.0592	U	0.480	0.4767		ug/L		99	58 - 130
2,4-DB	0.143	U	1.92	2.007		ug/L		104	60 - 147
Dinoseb	0.153	U	1.92	1.480		ug/L		77	14 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4-Dichlorophenylacetic acid	90		45 - 130

Lab Sample ID: 560-64715-Q-2-A MSD

Matrix: Water

Analysis Batch: 457118

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 456599

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dalapon	0.0954	U	1.91	1.545	J	ug/L		81	40 - 130	0	50
Dicamba	0.0811	U	0.956	0.9157		ug/L		96	64 - 130	2	50
Mecoprop	18.1	U	191	156.1		ug/L		82	55 - 134	6	50
MCPA	16.2	U	191	150.8		ug/L		79	52 - 130	6	50
Dichlorprop	0.143	U	1.91	1.770		ug/L		93	52 - 130	5	50
2,4-D	0.0353	U	1.91	1.694		ug/L		89	55 - 130	8	50
Silvex (2,4,5-TP)	0.0592	U	0.478	0.4615		ug/L		97	60 - 130	5	50
2,4,5-T	0.0592	U	0.478	0.4523		ug/L		95	58 - 130	5	50
2,4-DB	0.143	U	1.91	1.898		ug/L		99	60 - 147	6	50

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: 560-64715-Q-2-A MSD

Matrix: Water

Analysis Batch: 457118

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 456599

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Dinoseb	0.153	U	1.91	1.445		ug/L		76	14 - 130	2	50
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
2,4-Dichlorophenylacetic acid	86		45 - 130								

Lab Sample ID: MB 680-456929/21-A

Matrix: Water

Analysis Batch: 457427

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 456929

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dalapon	0.100	U	5.00	0.100	ug/L		11/09/16 07:48	11/11/16 19:15	1
Dicamba	0.0850	U	0.500	0.0850	ug/L		11/09/16 07:48	11/11/16 19:15	1
Mecoprop	19.0	U	120	19.0	ug/L		11/09/16 07:48	11/11/16 19:15	1
MCPA	17.0	U	120	17.0	ug/L		11/09/16 07:48	11/11/16 19:15	1
Dichlorprop	0.150	U	0.500	0.150	ug/L		11/09/16 07:48	11/11/16 19:15	1
2,4-D	0.0370	U	0.500	0.0370	ug/L		11/09/16 07:48	11/11/16 19:15	1
Silvex (2,4,5-TP)	0.0620	U	0.250	0.0620	ug/L		11/09/16 07:48	11/11/16 19:15	1
2,4,5-T	0.0620	U	0.250	0.0620	ug/L		11/09/16 07:48	11/11/16 19:15	1
2,4-DB	0.150	U	0.500	0.150	ug/L		11/09/16 07:48	11/11/16 19:15	1
Dinoseb	0.160	U	1.00	0.160	ug/L		11/09/16 07:48	11/11/16 19:15	1
Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac			
%Recovery	Qualifier								
2,4-Dichlorophenylacetic acid	81		45 - 130	11/09/16 07:48	11/11/16 19:15				

Lab Sample ID: LCS 680-456929/22-A

Matrix: Water

Analysis Batch: 457427

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 456929

Top Bottom 10002									
Analyte	Spike		LCS	LCS	Unit	D	%Rec	%Rec.	
	Added	Result	Qualifier	Limits					
Dalapon	2.00	1.826	J		ug/L		91	40 - 130	
Dicamba	1.00	0.9388			ug/L		94	64 - 130	
Mecoprop	200	171.3			ug/L		86	55 - 134	
MCPA	200	171.4			ug/L		86	52 - 130	
Dichlorprop	2.00	1.850			ug/L		92	52 - 130	
2,4-D	2.00	1.727			ug/L		86	55 - 130	
Silvex (2,4,5-TP)	0.500	0.4882			ug/L		98	60 - 130	
2,4,5-T	0.500	0.4604			ug/L		92	58 - 130	
2,4-DB	2.00	1.850			ug/L		93	60 - 147	
Dinoseb	2.00	1.267			ug/L		63	14 - 130	
Surrogate	LCS	LCS							
	%Recovery	Qualifier	Limits						
2,4-Dichlorophenylacetic acid	84		45 - 130						

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 457427

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 456929

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	0.0962	U	1.96	1.832	J	ug/L		94	40 - 130
Dicamba	0.0817	U	0.979	0.8748		ug/L		89	64 - 130
Mecoprop	18.3	U	196	153.2		ug/L		78	55 - 134
MCPA	16.3	U	196	166.0		ug/L		85	52 - 130
Dichlorprop	0.144	U	1.96	1.709		ug/L		87	52 - 130
2,4-D	0.0356	U	1.96	1.749		ug/L		89	55 - 130
Silvex (2,4,5-TP)	0.0596	U	0.489	0.4607		ug/L		94	60 - 130
2,4,5-T	0.0596	U	0.489	0.4448		ug/L		91	58 - 130
2,4-DB	0.144	U	1.96	2.213		ug/L		113	60 - 147
Dinoseb	0.154	U	1.96	0.9229	J	ug/L		47	14 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4-Dichlorophenylacetic acid	84		45 - 130

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 457427

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 456929

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dalapon	0.0962	U	1.92	1.681	J	ug/L		87	40 - 130	9	50
Dicamba	0.0817	U	0.961	0.8628		ug/L		90	64 - 130	1	50
Mecoprop	18.3	U	192	158.7		ug/L		83	55 - 134	4	50
MCPA	16.3	U	192	159.6		ug/L		83	52 - 130	4	50
Dichlorprop	0.144	U	1.92	1.722		ug/L		90	52 - 130	1	50
2,4-D	0.0356	U	1.92	1.779		ug/L		93	55 - 130	2	50
Silvex (2,4,5-TP)	0.0596	U	0.481	0.4560		ug/L		95	60 - 130	1	50
2,4,5-T	0.0596	U	0.481	0.4570		ug/L		95	58 - 130	3	50
2,4-DB	0.144	U	1.92	2.227		ug/L		116	60 - 147	1	50
Dinoseb	0.154	U	1.92	1.265		ug/L		66	14 - 130	31	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4-Dichlorophenylacetic acid	83		45 - 130

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 457427

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 456929

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	0.0957	U	1.94	1.226	J p	ug/L		63	40 - 130
Dicamba	0.0814	U	0.970	0.9026		ug/L		93	64 - 130
Mecoprop	18.2	U	194	143.6		ug/L		74	55 - 134
MCPA	16.3	U	194	153.2		ug/L		79	52 - 130
Dichlorprop	0.144	U	1.94	1.672		ug/L		86	52 - 130
2,4-D	0.0354	U	1.94	1.786		ug/L		92	55 - 130
Silvex (2,4,5-TP)	0.0594	U	0.485	0.4342		ug/L		90	60 - 130
2,4,5-T	0.0594	U	0.485	0.4394		ug/L		91	58 - 130
2,4-DB	0.144	U	1.94	2.402		ug/L		124	60 - 147

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 457427

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 456929

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dinoseb	0.153	U	1.94	1.646		ug/L		85	14 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
2,4-Dichlorophenylacetic acid	83		45 - 130						

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 457427

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Prep Batch: 456929

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dalapon	0.0957	U	2.53	2.388	J F2	ug/L		94	40 - 130	64	50
Dicamba	0.0814	U	1.27	1.184		ug/L		93	64 - 130	27	50
Mecoprop	18.2	U	253	178.6		ug/L		71	55 - 134	22	50
MCPA	16.3	U	253	189.1		ug/L		75	52 - 130	21	50
Dichlorprop	0.144	U	2.53	2.191		ug/L		86	52 - 130	27	50
2,4-D	0.0354	U	2.53	2.340		ug/L		92	55 - 130	27	50
Silvex (2,4,5-TP)	0.0594	U	0.633	0.5572		ug/L		88	60 - 130	25	50
2,4,5-T	0.0594	U	0.633	0.5460		ug/L		86	58 - 130	22	50
2,4-DB	0.144	U	2.53	3.197		ug/L		126	60 - 147	28	50
Dinoseb	0.153	U	2.53	1.712		ug/L		68	14 - 130	4	50
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
2,4-Dichlorophenylacetic acid	80		45 - 130								

Lab Sample ID: MB 680-457621/21-A

Matrix: Water

Analysis Batch: 457888

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 457621

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	0.100	U	5.00	0.100	ug/L		11/14/16 10:02	11/15/16 22:20	1
Dicamba	0.0850	U	0.500	0.0850	ug/L		11/14/16 10:02	11/15/16 22:20	1
Mecoprop	19.0	U	120	19.0	ug/L		11/14/16 10:02	11/15/16 22:20	1
MCPA	17.0	U	120	17.0	ug/L		11/14/16 10:02	11/15/16 22:20	1
Dichlorprop	0.150	U	0.500	0.150	ug/L		11/14/16 10:02	11/15/16 22:20	1
2,4-D	0.0370	U	0.500	0.0370	ug/L		11/14/16 10:02	11/15/16 22:20	1
Silvex (2,4,5-TP)	0.0620	U	0.250	0.0620	ug/L		11/14/16 10:02	11/15/16 22:20	1
2,4,5-T	0.0620	U	0.250	0.0620	ug/L		11/14/16 10:02	11/15/16 22:20	1
2,4-DB	0.150	U	0.500	0.150	ug/L		11/14/16 10:02	11/15/16 22:20	1
Dinoseb	0.160	U	1.00	0.160	ug/L		11/14/16 10:02	11/15/16 22:20	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac	
2,4-Dichlorophenylacetic acid	89		45 - 130			11/14/16 10:02	11/15/16 22:20	1	

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 680-457621/22-A

Matrix: Water

Analysis Batch: 457888

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 457621

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	2.00	1.796	J	ug/L		90	40 - 130
Dicamba	1.00	0.9695		ug/L		97	64 - 130
Mecoprop	200	185.7		ug/L		93	55 - 134
MCPA	200	169.0		ug/L		84	52 - 130
Dichlorprop	2.00	2.101		ug/L		105	52 - 130
2,4-D	2.00	1.722		ug/L		86	55 - 130
Silvex (2,4,5-TP)	0.500	0.4954		ug/L		99	60 - 130
2,4,5-T	0.500	0.4700		ug/L		94	58 - 130
2,4-DB	2.00	1.897		ug/L		95	60 - 147
Dinoseb	2.00	1.687		ug/L		84	14 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-Dichlorophenylacetic acid	93		45 - 130

Lab Sample ID: 680-131875-A-1-K MSD

Matrix: Water

Analysis Batch: 457888

Client Sample ID: Matrix Spike Duplicate

Prep Type: TCLP

Prep Batch: 457621

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dalapon	10.0	U	200	217.5	J	ug/L		109	40 - 130	0	50
Dicamba	8.50	U	100	116.9		ug/L		117	64 - 130	6	50
Mecoprop	1900	U	20000	24220	p	ug/L		121	55 - 134	4	50
MCPA	1700	U	20000	17050		ug/L		85	52 - 130	1	50
Dichlorprop	15.0	U	200	213.4	p	ug/L		107	52 - 130	1	50
2,4-D	3.70	U F1	200	296.3	F1	ug/L		148	55 - 130	6	50
Silvex (2,4,5-TP)	6.20	U	50.0	63.69		ug/L		127	60 - 130	0	50
2,4,5-T	6.20	U F1	50.0	70.15	F1	ug/L		140	58 - 130	1	50
2,4-DB	15.0	U F1	200	335.9	p F1	ug/L		168	60 - 147	2	50
Dinoseb	16.0	U F1	200	296.3	F1	ug/L		148	14 - 130	4	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4-Dichlorophenylacetic acid	113		45 - 130

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 560-133618/1-A

Matrix: Water

Analysis Batch: 133668

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133618

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.1057	J	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 20:21	1
Magnesium	0.0257	U	0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 20:21	1
Potassium	0.375	U	0.500	0.375	mg/L		11/07/16 09:45	11/07/16 20:21	1
Silicon	0.0707	U	0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 20:21	1
Sodium	0.310	U	1.00	0.310	mg/L		11/07/16 09:45	11/07/16 20:21	1
Strontium	0.000700	U	0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 20:21	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 560-133618/2-A

Matrix: Water

Analysis Batch: 133668

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133618

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	25.0	23.52		mg/L		94	80 - 120
Magnesium	25.0	23.78		mg/L		95	80 - 120
Potassium	25.0	26.40		mg/L		106	80 - 120
Silicon	10.0	9.898		mg/L		99	80 - 120
Sodium	25.0	27.02		mg/L		108	80 - 120
Strontium	0.250	0.2430		mg/L		97	80 - 120

Lab Sample ID: MB 560-133620/1-A

Matrix: Water

Analysis Batch: 133668

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133620

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	0.101	U	0.200	0.101	mg/L		11/07/16 09:45	11/07/16 18:55	1
Magnesium	0.0257	U	0.200	0.0257	mg/L		11/07/16 09:45	11/07/16 18:55	1
Potassium	0.4921	J	0.500	0.375	mg/L		11/07/16 09:45	11/07/16 18:55	1
Silicon	0.0707	U	0.500	0.0707	mg/L		11/07/16 09:45	11/07/16 18:55	1
Strontium	0.000700	U	0.00500	0.000700	mg/L		11/07/16 09:45	11/07/16 18:55	1

Lab Sample ID: MB 560-133620/1-A

Matrix: Water

Analysis Batch: 133683

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133620

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	0.310	U	1.00	0.310	mg/L		11/07/16 09:45	11/08/16 15:24	1

Lab Sample ID: LCS 560-133620/2-A

Matrix: Water

Analysis Batch: 133668

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133620

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	25.0	23.51		mg/L		94	80 - 120
Magnesium	25.0	23.28		mg/L		93	80 - 120
Potassium	25.0	25.98		mg/L		104	80 - 120
Silicon	10.0	10.10		mg/L		101	80 - 120
Strontium	0.250	0.2386		mg/L		95	80 - 120

Lab Sample ID: LCS 560-133620/2-A

Matrix: Water

Analysis Batch: 133683

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133620

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	25.0	25.23		mg/L		101	80 - 120

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133668

Client Sample ID: HSM260 Trail

Prep Type: Dissolved

Prep Batch: 133618

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	86.6	B	25.0	106.7		mg/L		80	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133668

Client Sample ID: HSM260 Trail

Prep Type: Dissolved

Prep Batch: 133618

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	16.0		25.0	39.33		mg/L		93	80 - 120
Potassium	1.75		25.0	28.32		mg/L		106	80 - 120
Silicon	5.40		10.0	15.29		mg/L		99	80 - 120
Sodium	12.1		25.0	38.58		mg/L		106	80 - 120
Strontium	0.501		0.250	0.7226		mg/L		89	80 - 120

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133668

Client Sample ID: HSM260 Trail

Prep Type: Dissolved

Prep Batch: 133618

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Calcium	86.6	B	25.0	109.0		mg/L		89	80 - 120	2	20
Magnesium	16.0		25.0	40.31		mg/L		97	80 - 120	2	20
Potassium	1.75		25.0	28.58		mg/L		107	80 - 120	1	20
Silicon	5.40		10.0	15.32		mg/L		99	80 - 120	0	20
Sodium	12.1		25.0	38.62		mg/L		106	80 - 120	0	20
Strontium	0.501		0.250	0.7396		mg/L		95	80 - 120	2	20

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133668

Client Sample ID: HSM270 Trail

Prep Type: Dissolved

Prep Batch: 133620

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	80.8	F1	25.0	99.19	F1	mg/L		74	80 - 120
Magnesium	14.5		25.0	38.11		mg/L		94	80 - 120
Potassium	2.42	B	25.0	28.00		mg/L		102	80 - 120
Silicon	5.35		10.0	14.52		mg/L		92	80 - 120
Strontium	0.457		0.250	0.6714		mg/L		86	80 - 120

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133683

Client Sample ID: HSM270 Trail

Prep Type: Dissolved

Prep Batch: 133620

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	11.4		25.0	36.41		mg/L		100	80 - 120

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133668

Client Sample ID: HSM270 Trail

Prep Type: Dissolved

Prep Batch: 133620

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Calcium	80.8	F1	25.0	104.1		mg/L		93	80 - 120	5	20
Magnesium	14.5		25.0	39.33		mg/L		99	80 - 120	3	20
Potassium	2.42	B	25.0	29.35		mg/L		108	80 - 120	5	20
Silicon	5.35		10.0	15.35		mg/L		100	80 - 120	6	20
Strontium	0.457		0.250	0.7040		mg/L		99	80 - 120	5	20

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133683

Client Sample ID: HSM270 Trail

Prep Type: Dissolved

Prep Batch: 133620

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	11.4		25.0	36.84		mg/L		102	80 - 120	1	20

## Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 560-133615/1-A

Matrix: Water

Analysis Batch: 133754

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133615

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 12:15	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 12:15	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 12:15	1
Barium	0.000810	U	0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 12:15	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 12:15	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 12:15	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 12:15	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 12:15	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 12:15	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 12:15	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 12:15	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 12:15	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 12:15	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 12:15	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 12:15	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 12:15	1

Lab Sample ID: LCS 560-133615/2-A

Matrix: Water

Analysis Batch: 133754

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133615

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	25.0	25.59		mg/L		102	80 - 120
Antimony	0.250	0.2428		mg/L		97	80 - 120
Arsenic	0.250	0.2491		mg/L		100	80 - 120
Barium	0.250	0.2499		mg/L		100	80 - 120
Beryllium	0.250	0.2346		mg/L		94	80 - 120
Cadmium	0.250	0.2480		mg/L		99	80 - 120
Chromium	0.250	0.2475		mg/L		99	80 - 120
Copper	0.250	0.2431		mg/L		97	80 - 120
Iron	25.0	24.83		mg/L		99	80 - 120
Lead	0.250	0.2542		mg/L		102	80 - 120
Manganese	2.50	2.542		mg/L		102	80 - 120
Nickel	0.250	0.2439		mg/L		98	80 - 120
Selenium	0.250	0.2516		mg/L		101	80 - 120
Silver	0.250	0.2551		mg/L		102	80 - 120
Thallium	0.100	0.09731		mg/L		97	80 - 120
Zinc	0.250	0.2523		mg/L		101	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 560-133619/1-A

Matrix: Water

Analysis Batch: 133754

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133619

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.0500	U	0.100	0.0500	mg/L		11/07/16 09:45	11/09/16 14:49	1
Antimony	0.00161	U	0.00500	0.00161	mg/L		11/07/16 09:45	11/09/16 14:49	1
Arsenic	0.00109	U	0.00500	0.00109	mg/L		11/07/16 09:45	11/09/16 14:49	1
Barium	0.000810	U	0.00500	0.000810	mg/L		11/07/16 09:45	11/09/16 14:49	1
Beryllium	0.00124	U	0.00400	0.00124	mg/L		11/07/16 09:45	11/09/16 14:49	1
Cadmium	0.000854	U	0.00200	0.000854	mg/L		11/07/16 09:45	11/09/16 14:49	1
Chromium	0.00140	U	0.00500	0.00140	mg/L		11/07/16 09:45	11/09/16 14:49	1
Copper	0.00200	U	0.0100	0.00200	mg/L		11/07/16 09:45	11/09/16 14:49	1
Iron	0.101	U	0.250	0.101	mg/L		11/07/16 09:45	11/09/16 14:49	1
Lead	0.000733	U	0.00500	0.000733	mg/L		11/07/16 09:45	11/09/16 14:49	1
Manganese	0.0116	U	0.0500	0.0116	mg/L		11/07/16 09:45	11/09/16 14:49	1
Nickel	0.00217	U	0.00500	0.00217	mg/L		11/07/16 09:45	11/09/16 14:49	1
Selenium	0.00108	U	0.00500	0.00108	mg/L		11/07/16 09:45	11/09/16 14:49	1
Silver	0.000941	U	0.00500	0.000941	mg/L		11/07/16 09:45	11/09/16 14:49	1
Thallium	0.000693	U	0.00200	0.000693	mg/L		11/07/16 09:45	11/09/16 14:49	1
Zinc	0.00355	U	0.0250	0.00355	mg/L		11/07/16 09:45	11/09/16 14:49	1

Lab Sample ID: LCS 560-133619/2-A

Matrix: Water

Analysis Batch: 133754

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133619

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	25.0	24.70		mg/L		99	80 - 120
Antimony	0.250	0.2422		mg/L		97	80 - 120
Arsenic	0.250	0.2348		mg/L		94	80 - 120
Barium	0.250	0.2520		mg/L		101	80 - 120
Beryllium	0.250	0.2280		mg/L		91	80 - 120
Cadmium	0.250	0.2447		mg/L		98	80 - 120
Chromium	0.250	0.2313		mg/L		93	80 - 120
Copper	0.250	0.2301		mg/L		92	80 - 120
Iron	25.0	23.42		mg/L		94	80 - 120
Lead	0.250	0.2418		mg/L		97	80 - 120
Manganese	2.50	2.416		mg/L		97	80 - 120
Nickel	0.250	0.2251		mg/L		90	80 - 120
Selenium	0.250	0.2362		mg/L		94	80 - 120
Silver	0.250	0.2398		mg/L		96	80 - 120
Thallium	0.100	0.09677		mg/L		97	80 - 120
Zinc	0.250	0.2377		mg/L		95	80 - 120

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133754

Client Sample ID: HSM260 Trail

Prep Type: Dissolved

Prep Batch: 133615

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	0.126		25.0	25.04		mg/L		100	80 - 120
Antimony	0.00161	U	0.250	0.2474		mg/L		99	80 - 120
Arsenic	0.00109	U	0.250	0.2435		mg/L		97	80 - 120
Barium	0.0402		0.250	0.2946		mg/L		102	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133754

Client Sample ID: HSM260 Trail

Prep Type: Dissolved

Prep Batch: 133615

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Beryllium	0.00124	U	0.250	0.2418		mg/L		97	80 - 120	
Cadmium	0.000854	U	0.250	0.2482		mg/L		99	80 - 120	
Chromium	0.00140	U	0.250	0.2392		mg/L		96	80 - 120	
Copper	0.0272		0.250	0.2345		mg/L		83	80 - 120	
Iron	0.101	U	25.0	24.06		mg/L		96	80 - 120	
Lead	0.00132	J	0.250	0.2477		mg/L		99	80 - 120	
Manganese	0.0178	J	2.50	2.494		mg/L		99	80 - 120	
Nickel	0.0616	F1	0.250	0.2316	F1	mg/L		68	80 - 120	
Selenium	0.00108	U	0.250	0.2415		mg/L		97	80 - 120	
Silver	0.000941	U	0.250	0.2489		mg/L		100	80 - 120	
Thallium	0.000693	U	0.100	0.09874		mg/L		99	80 - 120	
Zinc	0.0763	F1	0.250	0.2404	F1	mg/L		66	80 - 120	

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133754

Client Sample ID: HSM260 Trail

Prep Type: Dissolved

Prep Batch: 133615

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits		RPD	Limit
Aluminum	0.126		25.0	24.58		mg/L		98	80 - 120		2	20
Antimony	0.00161	U	0.250	0.2467		mg/L		99	80 - 120		0	20
Arsenic	0.00109	U	0.250	0.2411		mg/L		96	80 - 120		1	20
Barium	0.0402		0.250	0.2933		mg/L		101	80 - 120		0	20
Beryllium	0.00124	U	0.250	0.2329		mg/L		93	80 - 120		4	20
Cadmium	0.000854	U	0.250	0.2506		mg/L		100	80 - 120		1	20
Chromium	0.00140	U	0.250	0.2390		mg/L		96	80 - 120		0	20
Copper	0.0272		0.250	0.2351		mg/L		83	80 - 120		0	20
Iron	0.101	U	25.0	23.89		mg/L		96	80 - 120		1	20
Lead	0.00132	J	0.250	0.2467		mg/L		98	80 - 120		0	20
Manganese	0.0178	J	2.50	2.489		mg/L		99	80 - 120		0	20
Nickel	0.0616	F1	0.250	0.2329	F1	mg/L		69	80 - 120		1	20
Selenium	0.00108	U	0.250	0.2470		mg/L		99	80 - 120		2	20
Silver	0.000941	U	0.250	0.2459		mg/L		98	80 - 120		1	20
Thallium	0.000693	U	0.100	0.09713		mg/L		97	80 - 120		2	20
Zinc	0.0763	F1	0.250	0.2498	F1	mg/L		69	80 - 120		4	20

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133754

Client Sample ID: HSM270 Trail

Prep Type: Dissolved

Prep Batch: 133619

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Aluminum	0.239		25.0	25.38		mg/L		101	80 - 120	
Antimony	0.00161	U	0.250	0.2518		mg/L		101	80 - 120	
Arsenic	0.00109	U	0.250	0.2454		mg/L		98	80 - 120	
Barium	0.0389		0.250	0.2943		mg/L		102	80 - 120	
Beryllium	0.00124	U	0.250	0.2316		mg/L		93	80 - 120	
Cadmium	0.000854	U	0.250	0.2525		mg/L		101	80 - 120	
Chromium	0.00145	J	0.250	0.2366		mg/L		94	80 - 120	
Copper	0.0287		0.250	0.2350		mg/L		83	80 - 120	
Iron	0.101	U	25.0	23.89		mg/L		96	80 - 120	

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133754

Client Sample ID: HSM270 Trail

Prep Type: Dissolved

Prep Batch: 133619

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.00139	J	0.250	0.2474		mg/L		98	80 - 120
Manganese	0.0167	J	2.50	2.484		mg/L		99	80 - 120
Nickel	0.0431	F1	0.250	0.2296	F1	mg/L		75	80 - 120
Selenium	0.00249	J	0.250	0.2478		mg/L		98	80 - 120
Silver	0.000941	U	0.250	0.2434		mg/L		97	80 - 120
Thallium	0.000693	U	0.100	0.09899		mg/L		99	80 - 120
Zinc	0.0560	F1	0.250	0.2404	F1	mg/L		74	80 - 120

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133754

Client Sample ID: HSM270 Trail

Prep Type: Dissolved

Prep Batch: 133619

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	0.239		25.0	24.96		mg/L		99	80 - 120	2	20
Antimony	0.00161	U	0.250	0.2485		mg/L		99	80 - 120	1	20
Arsenic	0.00109	U	0.250	0.2469		mg/L		99	80 - 120	1	20
Barium	0.0389		0.250	0.2971		mg/L		103	80 - 120	1	20
Beryllium	0.00124	U	0.250	0.2346		mg/L		94	80 - 120	1	20
Cadmium	0.000854	U	0.250	0.2498		mg/L		100	80 - 120	1	20
Chromium	0.00145	J	0.250	0.2389		mg/L		95	80 - 120	1	20
Copper	0.0287		0.250	0.2333		mg/L		82	80 - 120	1	20
Iron	0.101	U	25.0	23.93		mg/L		96	80 - 120	0	20
Lead	0.00139	J	0.250	0.2498		mg/L		99	80 - 120	1	20
Manganese	0.0167	J	2.50	2.450		mg/L		97	80 - 120	1	20
Nickel	0.0431	F1	0.250	0.2293	F1	mg/L		74	80 - 120	0	20
Selenium	0.00249	J	0.250	0.2482		mg/L		98	80 - 120	0	20
Silver	0.000941	U	0.250	0.2406		mg/L		96	80 - 120	1	20
Thallium	0.000693	U	0.100	0.09799		mg/L		98	80 - 120	1	20
Zinc	0.0560	F1	0.250	0.2421	F1	mg/L		74	80 - 120	1	20

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 560-133639/27-A

Matrix: Water

Analysis Batch: 133638

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133639

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 16:17	1

Lab Sample ID: MB 560-133639/4-A

Matrix: Water

Analysis Batch: 133638

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133639

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/07/16 10:00	11/07/16 15:23	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 560-133639/28-A

Matrix: Water

Analysis Batch: 133638

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133639

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.005220		mg/L		104	80 - 120

Lab Sample ID: LCS 560-133639/5-A

Matrix: Water

Analysis Batch: 133638

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133639

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.005120		mg/L		102	80 - 120

Lab Sample ID: MB 560-133774/26-A

Matrix: Water

Analysis Batch: 133775

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133774

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0001690	J	0.00200	0.000130	mg/L		11/10/16 10:00	11/10/16 16:07	1

Lab Sample ID: MB 560-133774/4-A

Matrix: Water

Analysis Batch: 133775

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 133774

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000130	U	0.00200	0.000130	mg/L		11/10/16 10:00	11/10/16 15:22	1

Lab Sample ID: LCS 560-133774/25-A

Matrix: Water

Analysis Batch: 133775

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133774

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.004780		mg/L		96	80 - 120

Lab Sample ID: LCS 560-133774/5-A

Matrix: Water

Analysis Batch: 133775

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 133774

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.004780		mg/L		96	80 - 120

Lab Sample ID: 560-64786-10 MS

Matrix: Water

Analysis Batch: 133638

Client Sample ID: HSM230 Peak

Prep Type: Dissolved

Prep Batch: 133639

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U	0.00500	0.004550		mg/L		91	80 - 120

Lab Sample ID: 560-64786-10 MSD

Matrix: Water

Analysis Batch: 133638

Client Sample ID: HSM230 Peak

Prep Type: Dissolved

Prep Batch: 133639

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000130	U	0.00500	0.004550		mg/L		91	80 - 120	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Lab Sample ID: 560-64786-24 MS  
Matrix: Water  
Analysis Batch: 133775

Client Sample ID: HSM260 Trail  
Prep Type: Dissolved  
Prep Batch: 133774

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U	0.00500	0.004810		mg/L		96	80 - 120

Lab Sample ID: 560-64786-24 MSD  
Matrix: Water  
Analysis Batch: 133775

Client Sample ID: HSM260 Trail  
Prep Type: Dissolved  
Prep Batch: 133774

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000130	U	0.00500	0.004770		mg/L		95	80 - 120	1	20

Lab Sample ID: 560-64786-25 MS  
Matrix: Water  
Analysis Batch: 133775

Client Sample ID: HSM270 Trail  
Prep Type: Dissolved  
Prep Batch: 133774

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.000130	U	0.00500	0.005660		mg/L		113	80 - 120

Lab Sample ID: 560-64786-25 MSD  
Matrix: Water  
Analysis Batch: 133775

Client Sample ID: HSM270 Trail  
Prep Type: Dissolved  
Prep Batch: 133774

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.000130	U	0.00500	0.005690		mg/L		114	80 - 120	1	20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 560-133584/35  
Matrix: Water  
Analysis Batch: 133584

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L			11/04/16 21:56	1
Chloride	0.192	U	1.00	0.192	mg/L			11/04/16 21:56	1
Nitrate as N	0.103	U	0.500	0.103	mg/L			11/04/16 21:56	1
Sulfate	0.377	U	1.00	0.377	mg/L			11/04/16 21:56	1

Lab Sample ID: MB 560-133584/4  
Matrix: Water  
Analysis Batch: 133584

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	0.315	U	1.00	0.315	mg/L			11/04/16 08:27	1
Chloride	0.192	U	1.00	0.192	mg/L			11/04/16 08:27	1
Nitrate as N	0.103	U	0.500	0.103	mg/L			11/04/16 08:27	1
Sulfate	0.377	U	1.00	0.377	mg/L			11/04/16 08:27	1

Lab Sample ID: LCS 560-133584/36  
Matrix: Water  
Analysis Batch: 133584

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.618		mg/L		92	90 - 110

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 560-133584/36

Matrix: Water

Analysis Batch: 133584

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10.0	10.45		mg/L		104	90 - 110
Nitrate as N	5.00	4.969		mg/L		99	90 - 110
Sulfate	20.0	19.50		mg/L		97	90 - 110

Lab Sample ID: LCS 560-133584/5

Matrix: Water

Analysis Batch: 133584

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.597		mg/L		92	90 - 110
Chloride	10.0	10.44		mg/L		104	90 - 110
Nitrate as N	5.00	4.973		mg/L		99	90 - 110
Sulfate	20.0	20.11		mg/L		101	90 - 110

Lab Sample ID: 560-64786-2 MS

Matrix: Water

Analysis Batch: 133584

Client Sample ID: HSM230 Lead

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.405	J	5.00	4.541		mg/L		83	80 - 120
Chloride	6.99		10.0	16.49		mg/L		95	80 - 120
Nitrate as N	0.668		5.00	5.333		mg/L		93	80 - 120
Sulfate	10.5		20.0	29.46		mg/L		95	80 - 120

Lab Sample ID: 560-64786-2 MSD

Matrix: Water

Analysis Batch: 133584

Client Sample ID: HSM230 Lead

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Bromide	0.405	J	5.00	4.620		mg/L		84	80 - 120	2	20
Chloride	6.99		10.0	16.62		mg/L		96	80 - 120	1	20
Nitrate as N	0.668		5.00	5.359		mg/L		94	80 - 120	0	20
Sulfate	10.5		20.0	29.85		mg/L		97	80 - 120	1	20

Lab Sample ID: 560-64786-13 MS

Matrix: Water

Analysis Batch: 133584

Client Sample ID: HSM250 Peak

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.441	J	5.00	4.517		mg/L		82	80 - 120
Chloride	16.4		10.0	24.50		mg/L		81	80 - 120
Nitrate as N	1.01		5.00	5.603		mg/L		92	80 - 120
Sulfate	20.8		20.0	39.27		mg/L		92	80 - 120

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 560-64786-13 MSD

Matrix: Water

Analysis Batch: 133584

Client Sample ID: HSM250 Peak

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.441	J	5.00	4.554		mg/L		82	80 - 120	1	20
Chloride	16.4		10.0	25.85		mg/L		95	80 - 120	5	20
Nitrate as N	1.01		5.00	6.112		mg/L		102	80 - 120	9	20
Sulfate	20.8		20.0	40.73		mg/L		100	80 - 120	4	20

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133584

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.448	J	5.00	4.518		mg/L		81	80 - 120		
Chloride	18.0		10.0	26.70		mg/L		87	80 - 120		
Nitrate as N	1.12		5.00	5.749		mg/L		93	80 - 120		
Sulfate	23.0		20.0	40.59		mg/L		88	80 - 120		

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133584

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.448	J	5.00	4.602		mg/L		83	80 - 120	2	20
Chloride	18.0		10.0	27.00		mg/L		90	80 - 120	1	20
Nitrate as N	1.12		5.00	5.822		mg/L		94	80 - 120	1	20
Sulfate	23.0		20.0	41.66		mg/L		93	80 - 120	3	20

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133584

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.448	J	5.00	4.547		mg/L		82	80 - 120		
Chloride	17.3		10.0	26.27		mg/L		90	80 - 120		
Nitrate as N	1.05		5.00	5.678		mg/L		93	80 - 120		
Sulfate	22.2		20.0	40.77		mg/L		93	80 - 120		

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133584

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	0.448	J	5.00	4.624		mg/L		84	80 - 120	2	20
Chloride	17.3		10.0	26.35		mg/L		91	80 - 120	0	20
Nitrate as N	1.05		5.00	5.772		mg/L		95	80 - 120	2	20
Sulfate	22.2		20.0	41.11		mg/L		95	80 - 120	1	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 340.2 - Fluoride

Lab Sample ID: MB 560-133746/3

Matrix: Water

Analysis Batch: 133746

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			11/09/16 10:50	1

Lab Sample ID: MB 560-133746/31

Matrix: Water

Analysis Batch: 133746

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.0200	U	0.100	0.0200	mg/L			11/09/16 10:50	1

Lab Sample ID: LCS 560-133746/32

Matrix: Water

Analysis Batch: 133746

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.7900		mg/L		99	85 - 115

Lab Sample ID: LCS 560-133746/4

Matrix: Water

Analysis Batch: 133746

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.800	0.7680		mg/L		96	85 - 115

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133746

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.160		0.500	0.6520		mg/L		98	75 - 125

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133746

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.160		0.500	0.6550		mg/L		99	75 - 125	0	20

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133746

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.135		0.500	0.6310		mg/L		99	75 - 125

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133746

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.135		0.500	0.6330		mg/L		100	75 - 125	0	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 600-200640/10

Matrix: Water

Analysis Batch: 200640

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	—		11/10/16 11:19	1

Lab Sample ID: LCS 600-200640/11

Matrix: Water

Analysis Batch: 200640

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	10.54		mg/L	—	105	90 - 110

Lab Sample ID: 560-64786-9 MS

Matrix: Water

Analysis Batch: 200640

Client Sample ID: HSM210 Peak

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	9.254		mg/L	—	93	90 - 110

Lab Sample ID: 560-64786-9 MSD

Matrix: Water

Analysis Batch: 200640

Client Sample ID: HSM210 Peak

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U	10.0	9.394		mg/L	—	94	90 - 110	1	20

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 200640

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	9.765		mg/L	—	98	90 - 110

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 200640

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Kjeldahl	0.432	U	10.0	10.06		mg/L	—	101	90 - 110	3	20

Lab Sample ID: MB 600-200938/10

Matrix: Water

Analysis Batch: 200938

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.432	U	1.00	0.432	mg/L	—		11/15/16 12:30	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

Lab Sample ID: MB 600-200938/35

Matrix: Water

Analysis Batch: 200938

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	17.3	U	40.0	17.3	mg/L			11/15/16 12:52	1

Lab Sample ID: LCS 600-200938/11

Matrix: Water

Analysis Batch: 200938

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	10.0	10.90		mg/L		109	90 - 110

Lab Sample ID: LCS 600-200938/36

Matrix: Water

Analysis Batch: 200938

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	400	409.4		mg/L		102	90 - 110

Lab Sample ID: 560-64786-22 MS

Matrix: Water

Analysis Batch: 200938

Client Sample ID: HSM240 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	9.925		mg/L		99	90 - 110

Lab Sample ID: 560-64786-22 MSD

Matrix: Water

Analysis Batch: 200938

Client Sample ID: HSM240 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Nitrogen, Kjeldahl	0.432	U	10.0	9.100		mg/L		91	90 - 110	9	20

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 200938

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Kjeldahl	0.432	U	10.0	10.31		mg/L		103	90 - 110

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 200938

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Nitrogen, Kjeldahl	0.432	U	10.0	10.36		mg/L		104	90 - 110	1	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 365.4 - Phosphorus, Total

Lab Sample ID: MB 680-456744/10-A

Matrix: Water

Analysis Batch: 457684

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 456744

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		11/08/16 07:52	11/14/16 13:19	1

Lab Sample ID: LCS 680-456744/11-A

Matrix: Water

Analysis Batch: 457065

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 456744

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	2.130		mg/L		107	60 - 140

Lab Sample ID: 680-131766-B-1-B MS ^10

Matrix: Water

Analysis Batch: 457065

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 456744

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	18.3	B	2.00	21.50	4	mg/L		160	60 - 140

Lab Sample ID: 680-131766-B-1-C MSD ^10

Matrix: Water

Analysis Batch: 457065

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 456744

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phosphorus	18.3	B	2.00	24.50	4	mg/L		310	60 - 140	13	40

Lab Sample ID: MB 680-456745/1-A

Matrix: Water

Analysis Batch: 457065

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 456745

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		11/08/16 08:04	11/09/16 12:13	1

Lab Sample ID: LCS 680-456745/2-A

Matrix: Water

Analysis Batch: 457065

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 456745

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	1.990		mg/L		100	60 - 140

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 457065

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 456745

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	0.0577	J	2.00	1.840		mg/L		89	60 - 140

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 457065

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Prep Batch: 456745

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phosphorus	0.0577	J	2.00	1.910		mg/L		93	60 - 140	4	40

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Lab Sample ID: MB 680-456960/10-A  
Matrix: Water  
Analysis Batch: 457420

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 456960

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		11/09/16 08:57	11/11/16 11:03	1

Lab Sample ID: LCS 680-456960/11-A  
Matrix: Water  
Analysis Batch: 457420

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 456960

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	2.020		mg/L		101	60 - 140

Lab Sample ID: 560-64786-25 MS  
Matrix: Water  
Analysis Batch: 457420

Client Sample ID: HSM270 Trail  
Prep Type: Total/NA  
Prep Batch: 456960

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	0.0563	J	2.00	1.890		mg/L		92	60 - 140

Lab Sample ID: 560-64786-25 MSD  
Matrix: Water  
Analysis Batch: 457420

Client Sample ID: HSM270 Trail  
Prep Type: Total/NA  
Prep Batch: 456960

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phosphorus	0.0563	J	2.00	2.010		mg/L		98	60 - 140	6	40

Lab Sample ID: MB 680-457164/1-A  
Matrix: Water  
Analysis Batch: 457420

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 457164

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	0.0410	U	0.100	0.0410	mg/L		11/10/16 08:55	11/11/16 13:12	1

Lab Sample ID: LCS 680-457164/2-A  
Matrix: Water  
Analysis Batch: 457420

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 457164

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	2.00	2.020		mg/L		101	60 - 140

Lab Sample ID: 660-77151-G-1-B MS ^10  
Matrix: Water  
Analysis Batch: 457420

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 457164

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	4.83	F1	2.00	7.750	F1	mg/L		146	60 - 140

Lab Sample ID: 660-77151-G-1-C MSD ^10  
Matrix: Water  
Analysis Batch: 457420

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 457164

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phosphorus	4.83	F1	2.00	7.350		mg/L		126	60 - 140	5	40

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 9040C - pH

Lab Sample ID: LCS 560-133563/2

Matrix: Water

Analysis Batch: 133563

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	5.00	5.0		SU		100	98 - 102

Lab Sample ID: LCS 560-133563/28

Matrix: Water

Analysis Batch: 133563

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	5.00	5.0		SU		101	98 - 102

Lab Sample ID: 560-64786-10 DU

Matrix: Water

Analysis Batch: 133563

Client Sample ID: HSM230 Peak

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.2		7.2		SU		0.4	20

Lab Sample ID: 560-64786-20 DU

Matrix: Water

Analysis Batch: 133563

Client Sample ID: HSM231 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.3		7.3		SU		0.1	20

## Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 560-133739/4

Matrix: Water

Analysis Batch: 133739

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			11/09/16 15:16	1

Lab Sample ID: LCS 560-133739/5

Matrix: Water

Analysis Batch: 133739

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	23.96		mg/L		96	80 - 120

Lab Sample ID: 560-64823-A-1 MS

Matrix: Water

Analysis Batch: 133739

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	11.5		10.0	21.25		mg/L		97	75 - 125

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 9060 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 560-64823-A-1 MSD

Matrix: Water

Analysis Batch: 133739

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	11.5		10.0	20.66		mg/L		91	75 - 125	3	20

Lab Sample ID: MB 560-133784/4

Matrix: Water

Analysis Batch: 133784

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.285	U	1.00	0.285	mg/L			11/10/16 15:31	1

Lab Sample ID: LCS 560-133784/5

Matrix: Water

Analysis Batch: 133784

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	25.0	25.37		mg/L		101	80 - 120

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133784

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	0.447	J	10.0	10.28		mg/L		98	75 - 125

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133784

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	0.447	J	10.0	10.58		mg/L		101	75 - 125	3	20

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133784

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	3.02		10.0	12.44		mg/L		94	75 - 125

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133784

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	3.02		10.0	13.26		mg/L		102	75 - 125	6	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: 9060 - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 560-133934/32

Matrix: Water

Analysis Batch: 133934

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			11/15/16 11:34	1

Lab Sample ID: MB 560-133934/4

Matrix: Water

Analysis Batch: 133934

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.285	U	1.00	0.285	mg/L			11/15/16 11:34	1

Lab Sample ID: LCS 560-133934/33

Matrix: Water

Analysis Batch: 133934

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	24.55		mg/L		98	80 - 120

Lab Sample ID: LCS 560-133934/5

Matrix: Water

Analysis Batch: 133934

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	25.0	24.89		mg/L		100	80 - 120

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133934

Client Sample ID: HSM260 Trail

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	0.814	J	10.0	9.396		mg/L		86	75 - 125

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133934

Client Sample ID: HSM260 Trail

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	0.814	J	10.0	9.632		mg/L		88	75 - 125	2	20

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133934

Client Sample ID: HSM270 Trail

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.17		10.0	10.71		mg/L		95	75 - 125

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133934

Client Sample ID: HSM270 Trail

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.17		10.0	11.05		mg/L		99	75 - 125	3	20

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 560-133818/1

Matrix: Water

Analysis Batch: 133818

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/11/16 13:45	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/11/16 13:45	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/11/16 13:45	1

Lab Sample ID: LCS 560-133818/2

Matrix: Water

Analysis Batch: 133818

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	89.85		mg/L		90	85 - 115

Lab Sample ID: 560-64786-1 MS

Matrix: Water

Analysis Batch: 133818

Client Sample ID: HSM210 Lead

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	243		100	335.5		mg/L		92	75 - 125

Lab Sample ID: 560-64786-1 MSD

Matrix: Water

Analysis Batch: 133818

Client Sample ID: HSM210 Lead

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	243		100	329.2		mg/L		86	75 - 125	2	20

Lab Sample ID: MB 560-133903/1

Matrix: Water

Analysis Batch: 133903

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/14/16 15:22	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/14/16 15:22	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/14/16 15:22	1

Lab Sample ID: LCS 560-133903/2

Matrix: Water

Analysis Batch: 133903

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	90.45		mg/L		90	85 - 115

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133903

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	237		100	324.2		mg/L		87	75 - 125

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133903

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	237		100	323.4		mg/L		87	75 - 125	0	20

Lab Sample ID: MB 560-133936/1

Matrix: Water

Analysis Batch: 133936

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/15/16 14:50	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/15/16 14:50	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/15/16 14:50	1

Lab Sample ID: LCS 560-133936/2

Matrix: Water

Analysis Batch: 133936

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	90.85		mg/L		91	85 - 115

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133936

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	216		100	305.9		mg/L		90	75 - 125

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133936

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	216		100	305.3		mg/L		89	75 - 125	0	20

Lab Sample ID: MB 560-133957/1

Matrix: Water

Analysis Batch: 133957

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/16/16 13:17	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/16/16 13:17	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/L			11/16/16 13:17	1

Lab Sample ID: LCS 560-133957/2

Matrix: Water

Analysis Batch: 133957

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	100	88.44		mg/L		88	85 - 115

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 560-64805-A-1 MS

Matrix: Water

Analysis Batch: 133957

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Alkalinity as CaCO3	77.6		100	164.8		mg/L		87	75 - 125

Lab Sample ID: 560-64805-A-1 MSD

Matrix: Water

Analysis Batch: 133957

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Alkalinity as CaCO3	77.6		100	165.6		mg/L		88	75 - 125	0	20

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 560-133630/1

Matrix: Water

Analysis Batch: 133630

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			11/07/16 13:40	1

Lab Sample ID: LCS 560-133630/2

Matrix: Water

Analysis Batch: 133630

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	2250	2068		mg/L		92	90 - 110

Lab Sample ID: 560-64772-C-3 MS

Matrix: Water

Analysis Batch: 133630

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1480		2250	3507		mg/L		90	75 - 125

Lab Sample ID: 560-64772-C-3 MSD

Matrix: Water

Analysis Batch: 133630

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1480		2250	3617		mg/L		95	75 - 125	3	20

Lab Sample ID: MB 560-133706/1

Matrix: Water

Analysis Batch: 133706

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10.0	U	10.0	10.0	mg/L			11/09/16 09:38	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 560-133706/2

Matrix: Water

Analysis Batch: 133706

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			2250	2148		mg/L		95	90 - 110		

Lab Sample ID: 560-64786-24 MS

Matrix: Water

Analysis Batch: 133706

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids	350		2250	2402		mg/L		91	75 - 125		

Lab Sample ID: 560-64786-24 MSD

Matrix: Water

Analysis Batch: 133706

Client Sample ID: HSM260 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	350		2250	2392		mg/L		91	75 - 125	0	20

Lab Sample ID: 560-64786-25 MS

Matrix: Water

Analysis Batch: 133706

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids	317		2250	2382		mg/L		92	75 - 125		

Lab Sample ID: 560-64786-25 MSD

Matrix: Water

Analysis Batch: 133706

Client Sample ID: HSM270 Trail

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	317		2250	2360		mg/L		91	75 - 125	1	20

## Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 560-133653/25

Matrix: Water

Analysis Batch: 133653

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.00	U	2.00	2.00	mg/L			11/07/16 15:45	1

Lab Sample ID: MB 560-133653/50

Matrix: Water

Analysis Batch: 133653

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.00	U	2.00	2.00	mg/L			11/07/16 15:45	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 560-133653/26  
Matrix: Water  
Analysis Batch: 133653

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	202.5		mg/L		101	90 - 110

Lab Sample ID: LCS 560-133653/51  
Matrix: Water  
Analysis Batch: 133653

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	203.5		mg/L		102	90 - 110

Lab Sample ID: 560-64786-2 DU  
Matrix: Water  
Analysis Batch: 133653

Client Sample ID: HSM230 Lead  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	47.2		47.20		mg/L		0	20



# Certification Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-17
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Laboratory: TestAmerica Denver

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-17
Arizona	State Program	9	AZ0713	12-19-16
Arkansas DEQ	State Program	6	88-0687	06-01-17
California	State Program	9	2513	08-31-16 *
Connecticut	State Program	1	PH-0686	09-30-18
Florida	NELAP	4	E87667	06-30-17
Georgia	State Program	4	N/A	01-09-17
Illinois	NELAP	5	200017	04-30-17
Kansas	NELAP	7	E-10166	04-30-17
Louisiana	NELAP	6	02096	06-30-17
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-16
Nevada	State Program	9	CO0026	07-31-17
New Hampshire	NELAP	1	205310	04-28-17
New Jersey	NELAP	2	CO004	06-30-17
New York	NELAP	2	11964	04-01-17
North Carolina (WW/SW)	State Program	4	358	12-31-16
North Dakota	State Program	8	R-034	01-09-17
Oklahoma	State Program	6	8614	08-31-17
Oregon	NELAP	10	4025	01-09-17
Pennsylvania	NELAP	3	68-00664	07-31-17
South Carolina	State Program	4	72002001	01-09-17
Texas	NELAP	6	T104704183-15-11	09-30-17
USDA	Federal		P330-13-00369	12-17-16
Utah	NELAP	8	CO00026	07-31-17
Virginia	NELAP	3	460232	06-14-17
Washington	State Program	10	C583	08-02-17
West Virginia DEP	State Program	3	354	11-30-17
Wisconsin	State Program	5	999615430	08-31-17
Wyoming (UST)	A2LA	8	2907.01	10-31-17

## Laboratory: TestAmerica Houston

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	16-046-0	08-04-17
Louisiana	NELAP	6	01967	06-30-17
Oklahoma	State Program	6	2015-050	08-31-17
Texas	NELAP	6	T104704223-16-20	10-31-17
USDA	Federal		P330-14-00192	06-06-17

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

## Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-17
A2LA	ISO/IEC 17025		399.01	02-28-17
Alabama	State Program	4	41450	06-30-17
Alaska (UST)	State Program	10	UST-104	11-05-17
Arkansas DEQ	State Program	6	88-0692	01-31-17
California	State Program	9	2939	07-31-16 *
Colorado	State Program	8	N/A	12-31-16 *
Connecticut	State Program	1	PH-0161	03-31-17
Florida	NELAP	4	E87052	06-30-17
GA Dept. of Agriculture	State Program	4	N/A	06-12-17
Georgia	State Program	4	N/A	06-30-17
Georgia	State Program	4	803	06-30-17
Guam	State Program	9	15-005r	04-16-17
Hawaii	State Program	9	N/A	06-30-17
Illinois	NELAP	5	200022	11-30-16 *
Indiana	State Program	5	N/A	06-30-17
Iowa	State Program	7	353	06-30-17
Kentucky (DW)	State Program	4	90084	12-31-16 *
Kentucky (UST)	State Program	4	18	06-30-17
Kentucky (WW)	State Program	4	90084	12-31-16 *
Louisiana	NELAP	6	30690	06-30-17
Louisiana (DW)	NELAP	6	LA160019	12-31-16 *
Maine	State Program	1	GA00006	09-24-18
Maryland	State Program	3	250	12-31-16 *
Massachusetts	State Program	1	M-GA006	06-30-17
Michigan	State Program	5	9925	06-30-17
Mississippi	State Program	4	N/A	06-30-16 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-17
New Jersey	NELAP	2	GA769	06-30-17
New Mexico	State Program	6	N/A	06-30-17
New York	NELAP	2	10842	03-31-17
North Carolina (DW)	State Program	4	13701	07-31-17
North Carolina (WW/SW)	State Program	4	269	12-31-16 *
Oklahoma	State Program	6	9984	08-31-17
Pennsylvania	NELAP	3	68-00474	06-30-17
Puerto Rico	State Program	2	GA00006	12-31-16 *
South Carolina	State Program	4	98001	06-30-17
Tennessee	State Program	4	TN02961	06-30-17
Texas	NELAP	6	T104704185-16-9	11-30-17
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		SAV 3-04	06-11-17
Virginia	NELAP	3	460161	06-14-17
Washington	State Program	10	C805	06-10-17
West Virginia (DW)	State Program	3	9950C	12-31-16 *
West Virginia DEP	State Program	3	094	06-30-17
Wisconsin	State Program	5	999819810	08-31-17
Wyoming	State Program	8	8TMS-L	06-30-16 *

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

## Method Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CC
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CC
8081B	Organochlorine Pesticides (GC)	SW846	TAL CC
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CC
8141A	Organophosphorous Pesticides (GC)	SW846	TAL DEN
8151A	Herbicides (GC)	SW846	TAL SAV
6010B	Metals (ICP)	SW846	TAL CC
6020	Metals (ICP/MS)	SW846	TAL CC
7470A	Mercury (CVAA)	SW846	TAL CC
300.0	Anions, Ion Chromatography	MCAWW	TAL CC
340.2	Fluoride	MCAWW	TAL CC
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL HOU
365.4	Phosphorus, Total	EPA	TAL SAV
9040C	pH	SW846	TAL CC
9060	Organic Carbon, Dissolved (DOC)	SW846	TAL CC
9060	Organic Carbon, Total (TOC)	SW846	TAL CC
SM 2320B	Alkalinity	SM	TAL CC
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CC

### Protocol References:

EPA = US Environmental Protection Agency  
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.  
SM = "Standard Methods For The Examination Of Water And Wastewater",  
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673  
TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100  
TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444  
TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

## Sample Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-64786-1	HSM210 Lead	Water	11/03/16 16:48	11/04/16 11:46
560-64786-2	HSM230 Lead	Water	11/03/16 17:10	11/04/16 11:46
560-64786-3	HSM231 Lead	Water	11/03/16 16:40	11/04/16 11:46
560-64786-4	HSM240 Lead	Water	11/03/16 17:30	11/04/16 11:46
560-64786-5	HSM250 Lead	Water	11/03/16 17:05	11/04/16 11:46
560-64786-6	HSM260 Lead	Water	11/03/16 16:30	11/04/16 11:46
560-64786-7	HSM270 Lead	Water	11/03/16 16:50	11/04/16 11:46
560-64786-8	TB17	Water	11/03/16 00:00	11/04/16 11:46
560-64786-9	HSM210 Peak	Water	11/03/16 18:17	11/04/16 11:46
560-64786-10	HSM230 Peak	Water	11/03/16 18:31	11/04/16 11:46
560-64786-11	HSM231 Peak	Water	11/03/16 18:17	11/04/16 11:46
560-64786-12	HSM240 Peak	Water	11/03/16 18:54	11/04/16 11:46
560-64786-13	HSM250 Peak	Water	11/03/16 18:42	11/04/16 11:46
560-64786-14	HSM260 Peak	Water	11/03/16 18:00	11/04/16 11:46
560-64786-15	HSM270 Peak	Water	11/03/16 18:22	11/04/16 11:46
560-64786-16	HSM210 Trail	Water	11/03/16 20:53	11/04/16 11:46
560-64786-17	FDHSM210 Trail	Water	11/03/16 20:53	11/04/16 11:46
560-64786-18	HSM230 Trail	Water	11/03/16 21:25	11/04/16 11:46
560-64786-19	FDHSM230 Trail	Water	11/03/16 21:25	11/04/16 11:46
560-64786-20	HSM231 Trail	Water	11/03/16 20:52	11/04/16 11:46
560-64786-21	FDHSM231 Trail	Water	11/03/16 20:52	11/04/16 11:46
560-64786-22	HSM240 Trail	Water	11/03/16 21:08	11/04/16 11:46
560-64786-23	HSM250 Trail	Water	11/03/16 21:38	11/04/16 11:46
560-64786-24	HSM260 Trail	Water	11/03/16 20:34	11/04/16 11:46
560-64786-25	HSM270 Trail	Water	11/03/16 21:08	11/04/16 11:46

[illegible]

[illegible]


## Chain of Custody Record

<b>Client Information</b>		<b>Sampler:</b> Jennifer Morehead Philip Pearce Phone: 210-877-2847		<b>Lab PVI:</b> Maingot, Lindy E-Mail: lindy.maingot@testamericainc.com		<b>Carrier Tracking No(s):</b>		<b>COC No:</b> 560-21032-2626.1	
<b>Company:</b> SWCA, Inc.		<b>Address:</b> 6200 UTSA Boulevard Suite 102		<b>City:</b> San Antonio		<b>State, Zip:</b> TX, 78249		<b>Page:</b> 3 of 4	
<b>Phone:</b> 210-877-2847(Tel)		<b>PO #:</b> 27122.01		<b>WO #:</b>		<b>Project #:</b> 56005790		<b>Job #:</b>	
<b>Email:</b> PPearce@swca.com		<b>Site:</b> SAN MARCOS SPRINGS		<b>SSOW#:</b>		<b>Analysis Requested</b>		<b>Preservation Codes:</b>	
<b>Due Date Requested:</b>		<b>TAT Requested (days):</b> STANDARD		<b>Field Filtered Sample (Yes or No)</b>		<b>Analysis Requested</b>		<b>Preservation Codes:</b>	
<b>Sample Identification</b>		<b>Sample Date</b>		<b>Sample Time</b>		<b>Sample Type (C=Comp, G=grab)</b>		<b>Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=air)</b>	
HSM210 Trail		11/3/16		2053		G		W	
FDHSM210 Trail				2653		G		W	
HSM230 Trail				2125		G		W	
FDHSM230 Trail				2125		G		W	
HSM231 Trail				2052		G		W	
FDHSM231 Trail				2052		G		W	
HSM240 Trail				2108		G		W	
HSM250 Trail				2139		G		W	
HSM260 Trail				2034		G		W	
MS/MSDHSM260 Trail				2034		G		W	
HSM270 Trail				2108		G		W	
<b>Possible Hazard Identification</b>		<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		<b>Deliverable Requested:</b> I, II, III, IV, Other (specify)		<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months	
<b>Empty Kit Relinquished by:</b>		<b>Date:</b>		<b>Time:</b>		<b>Special Instructions/QC Requirements:</b>		<b>Method of Shipment:</b>	
Relinquished by: <i>[Signature]</i>		Date/Time: 11/4/16 8:00 am		Company: SWCA		Relinquished by: <i>[Signature]</i>		Date/Time: 11-4-16 8:55	
Relinquished by: <i>[Signature]</i>		Date/Time: 11-4-16 8:55 am		Company: SWCA		Relinquished by: <i>[Signature]</i>		Date/Time: 11/4/16 1146	
Relinquished by: <i>[Signature]</i>		Date/Time: 11-4-16 8:55		Company: SWCA		Relinquished by: <i>[Signature]</i>		Date/Time: 11/4/16 1146	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Custody Seal No.:		Custody Seal No.:		Custody Seal No.:	



## Chain of Custody Record

<b>Client Information</b> Client Contact: <u>Jennifer Norland</u> <u>Phil Pearce</u> Phone: <u>210-877-2847</u> E-Mail: <u>lindy.maingot@testamericainc.com</u>		Lab PM: <u>Maingot, Lindy</u> E-Mail: <u>lindy.maingot@testamericainc.com</u>		Carrier Tracking No(s): GOC No: <u>560-21032-2626.1</u> Page: <u>4</u> of <u>4</u> Job #:	
Company: <u>SWCA, Inc.</u> Address: <u>6200 UTSA Boulevard Suite 102</u> City: <u>San Antonio</u> State/Zip: <u>TX, 78249</u> Phone: <u>210-877-2847(Tel)</u> Email: <u>P Pearce@swca.com</u> Project Name: <u>EAA STORMWATER</u> Site: <u>SAN MARCOS SPRINGS</u>		<b>Analysis Requested</b> Due Date Requested: TAT Requested (days): <u>STANDARD</u> PO #: <u>27122.01</u> WO #: <u>56005790</u> Project #: <u>56005790</u> SOW#:			
<b>Sample Identification</b> Sample Date: <u>11/3/16</u> Sample Time: <u>2:08</u> Sample Type (C=Comp, G=grab): <u>G</u> Matrix (W=water, S=solid, O=wastewater, A=air, T=tissue): <u>W</u>		Field Filtered Sample (Yes or No): <u>Y</u> 8141A - Organo-P Pesticide (DENVER) 8081B, 8082A 8270C - SVOCs SUBCONTRACT - Caffeine 1694 - (WECK) 2320B, 300, 340.2, 9040C 6010B, 6020, 7470A 9060, 9060, Diss 8260B - VOCs 2540C, 2540D 351.2 NP - Nitrogen, Kjeldahl (HOUSTON) 8151A - Herbicides (SAVANNAH) 355.4 - Phosphorus (SAVANNAH)			
Total Number of containers: <u>22</u> Special Instructions/Note: <u>METALS, DOC FIELD FILTERED</u>		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anhydrous H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: <u>Sodium Azide</u>			
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)					
<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:					
Empty Kit Relinquished by: _____ Date: _____ Time: _____ Method of Shipment: _____					
Relinquished by: _____ Date/Time: <u>11/18/16 8:00 am</u> Company: <u>SWCA</u>					
Relinquished by: _____ Date/Time: <u>11/14/16 8:55 am</u> Company: <u>SWCA</u>					
Relinquished by: _____ Date/Time: <u>11-4-16 8:53</u> Company: <u>SWCA</u>					
Custody Seal No. <u>114115</u> 1196 <u>HAZ</u> Closes Seals Intact: <u>Yes</u> <input type="checkbox"/> No <input type="checkbox"/>					

Obs. 

Cr.  IR Gun

1.8	1.6	1.8
4.6	4.4	2.6
2.8	2.6	3.4
3.6	3.4	2
2.2	2	3.2
3.4	3.2	1
0.9	0.7	1.2
2.6	2.4	2.6
2.4	2.2	0.8
1.1	0.9	1.1
2.6	2.4	0.4
1.4	0.2	3.3
15	3.1	4
16	4.2	1.2
17	1	0.8
18	0.6	1
19	0.8	1
20	0.5	0.7
21	1.1	1.3
22	2.4	2.6
23	1.7	1.9
24	2.5	2.7
25	1.4	1.6
26.7	0.5	26.7

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica

THE LATEST REFERENCE MATERIALS



Client Information (Sub Contract Lab)		Sampler	Lab PM:	Carrier Tracking No(s)	COC No:						
Client Contact:		Phone:	Maingot, Lindy		560-14429.1						
Shipping/Receiving			E-Mail:	State of Origin:	Page:						
Company:			lindy.maingot@testamericainc.com	Texas	Page 1 of 4						
TestAmerica Laboratories, Inc.			Accreditations Required (See note):		Job #:						
Address:					560-64786-1						
City:											
State:											
Zip:											
Phone:											
Email:											
Project Name:											
Site:											
Project #:											
SSOW#:											
Due Date Requested:											
TAT Requested (days):											
PO #:											
WO #:											
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	351.2, NP	Analysis Requested	Preservation Codes:	Special Instructions/Note:
HSM210 Lead (560-64786-1)	11/3/16	16:48 Central	Water			X					
HSM230 Lead (560-64786-2)	11/3/16	17:10 Central	Water			X					
HSM231 Lead (560-64786-3)	11/3/16	16:40 Central	Water			X					
HSM240 Lead (560-64786-4)	11/3/16	17:30 Central	Water			X					
HSM250 Lead (560-64786-5)	11/3/16	17:05 Central	Water			X					
HSM260 Lead (560-64786-6)	11/3/16	16:30 Central	Water			X					
HSM270 Lead (560-64786-7)	11/3/16	16:50 Central	Water			X					
HSM210 Peak (560-64786-9)	11/3/16	18:17 Central	Water			X					
HSM230 Peak (560-64786-10)	11/3/16	18:31 Central	Water			X					

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification  
Unconfirmed  
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Time: Method of Shipment:

Relinquished by: Date/Time: Company: Received by: Date/Time: Company:

Relinquished by: Date/Time: Company: Received by: Date/Time: Company:

Relinquished by: Date/Time: Company: Received by: Date/Time: Company:

Custody Seal No.: Custody Seal No.: Cooler Temperature(s) °C and Other Remarks:



## Chain of Custody Record

<b>Client Information (Sub Contract Lab)</b>		Sampler: Lab PM: Mailingot, Lindy		Carrier Tracking No(s): 560-14429.2					
Client Contact: Shipping/Receiving		Phone: E-Mail: lindy.mailingot@lestamericainc.com		Page: Page 2 of 4					
Company: TestAmerica Laboratories, Inc.		Address: 6310 Rohlway Street, Houston, TX, 77040		Job #: 560-64786-1					
City: Houston		State, Zip: TX, 77040		Preservation Codes:					
Phone: 713-690-4444(Tel) 713-690-5646(Fax)		PO #: 713-690-4444(Tel) 713-690-5646(Fax)		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Anhydrous H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)					
Email: 713-690-4444(Tel) 713-690-5646(Fax)		WO #: 713-690-4444(Tel) 713-690-5646(Fax)		Other:					
Project Name: San Marcos Springs		Project #: 56005790		Total Number of containers					
Site: 56005790		SSON#: 56005790		Special Instructions/Note:					
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water/oil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	CSL, NP	Analysis Requested	Preservation Codes
HSM231 Peak (560-64786-11)	11/3/16	18:17	Central	Water	X	X	X		
HSM240 Peak (560-64786-12)	11/3/16	18:54	Central	Water	X	X	X		
HSM250 Peak (560-64786-13)	11/3/16	18:42	Central	Water	X	X	X		
HSM260 Peak (560-64786-14)	11/3/16	18:00	Central	Water	X	X	X		
HSM270 Peak (560-64786-15)	11/3/16	18:22	Central	Water	X	X	X		
HSM210 Trail (560-64786-16)	11/3/16	20:53	Central	Water	X	X	X		
FDHSM210 Trail (560-64786-17)	11/3/16	20:53	Central	Water	X	X	X		
HSM230 Trail (560-64786-18)	11/3/16	21:25	Central	Water	X	X	X		
FDHSM230 Trail (560-64786-19)	11/3/16	21:25	Central	Water	X	X	X		

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain of custody. 1

<b>Possible Hazard Identification</b>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Unconfirmed	Deliverable Requested: I, II, III, IV, Other (specify)	Return To Client	Disposal By Lab
Primary Deliverable Rank: 2		Archive For Months	
Empty Kit Relinquished by:		Special Instructions/QC Requirements:	
Relinquished by: <i>Cox</i>	Date: 11-7-16	Method of Shipment:	
Relinquished by: <i>Acc</i>	Date: 11-7-16	Received by: Company	
Relinquished by: <i>Acc</i>	Date: 11-7-16	Received by: Company	
Relinquished by: <i>Acc</i>	Date: 11-7-16	Received by: Company	
Custody Seals Intact: <i>Yes</i>	Custody Seal No.: <i>Yes</i>	Cooler Temperature(s) °C and Other Remarks:	

# Chain of Custody Record

<b>Client Information (Sub Contract Lab)</b>		Sampler: Lab PM: Maingot, Lindy		Carrier Tracking No(s):		COC No: 560-14429-3	
Client Contact: Shipping/Receiving		Phone: E-Mail: lindy.maingot@testamericainc.com		State of Origin: Texas		Page: Page 3 of 4	
Company: TestAmerica Laboratories, Inc.		Address: 6310 Rollway Street, Houston, TX, 77040		Accreditations Required (See note):		Job #: 560-64786-1	
Due Date Requested: 11/16/2016		TAT Requested (days):		Analysis Requested:		Preservation Codes:	
City: Houston		State: TX		PO #: 713-690-4444(Tel) 713-690-5646(Fax)		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Project Name: San Marcos Springs		Project #: 56005790		WO #: 56005790		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)	
Site:		SSOW#:		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)	
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)	
HSM231 Trail (560-64786-20)		11/3/16		20:52 Central		Water	
FDHSM231 Trail (560-64786-21)		11/3/16		20:52 Central		Water	
HSM240 Trail (560-64786-22)		11/3/16		21:08 Central		Water	
HSM250 Trail (560-64786-23)		11/3/16		21:38 Central		Water	
HSM260 Trail (560-64786-24)		11/3/16		20:34 Central		Water	
HSM260 Trail (560-64786-24MS)		11/3/16		20:34 Central		MS	
HSM260 Trail (560-64786-24MSD)		11/3/16		20:34 Central		MSD	
HSM270 Trail (560-64786-25)		11/3/16		21:08 Central		Water	
HSM270 Trail (560-64786-25MS)		11/3/16		21:08 Central		MS	
Total Number of containers		1		1		1	
Special Instructions/Note:							

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

<b>Possible Hazard Identification</b>		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Unconfirmed		Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Primary Deliverable Rank: 2		Method of Shipment:	
Empty Kit Relinquished by:		Time:	
Relinquished by: Coy ette		Date: 11-7-16	
Relinquished by:		Company: TACC	
Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:	
Relinquished by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:	
Cooler Temperature(s) °C and Other Remarks:			



[illegible]

## Sample Receipt Checklist

Loc: 560

64786

Date/Time Received:

CLIENT:

CARRIER/DRIVER:

UNPACKED BY:

Custody Seal Present:

☒ YES☐ NO

Number of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Therm CF	Corrected Temp (°C)
RW	Y / N	Y / N	0.2	545	0.5	0.9
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED:

☐ NO☒ YESBase samples are >pH 12: ☐ YES ☐ NO

Acid preserved are &lt;pH 2:

☒ YES☐ NO

pH paper Lot # \_\_\_\_\_

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☒ NA

YES NO

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?

COMMENTS:

Dallas . Ft Worth



560501



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64786-1

**Login Number: 64786**

**List Source: TestAmerica Corpus Christi**

**List Number: 1**

**Creator: Escalona-Garcia, Jose A**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64786-1

**Login Number: 64786**

**List Number: 3**

**Creator: Pottruff, Reed W**

**List Source: TestAmerica Denver**

**List Creation: 11/05/16 03:55 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	False	Not present
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64786-1

**Login Number: 64786**

**List Number: 4**

**Creator: Pottruff, Reed W**

**List Source: TestAmerica Denver**

**List Creation: 11/05/16 04:03 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64786-1

**Login Number: 64786**

**List Number: 6**

**Creator: Pottruff, Reed W**

**List Source: TestAmerica Denver**

**List Creation: 11/30/16 06:10 PM**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	False	
COC is filled out in ink and legible.	False	
COC is filled out with all pertinent information.	False	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64786-1

**Login Number: 64786**

**List Source: TestAmerica Houston**

**List Number: 5**

**List Creation: 11/09/16 01:35 PM**

**Creator: Bolinger, Lindale M**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64786-1

**Login Number: 64786**

**List Source: TestAmerica Savannah**

**List Number: 2**

**List Creation: 11/05/16 12:41 PM**

**Creator: Flanagan, Naomi V**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-64786-2

Client Project/Site: San Marcos Springs

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
12/20/2016 11:32:12 AM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

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*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-2

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

## Case Narrative

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-2

**Job ID: 560-64786-2**

**Laboratory: TestAmerica Corpus Christi**

### Narrative

#### Job Narrative 560-64786-2

### Comments

No additional comments.

### Receipt

The samples were received on 11/4/2016 11:46 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 26 coolers at receipt time were 0.2° C, 0.5° C, 0.5° C, 0.6° C, 0.6° C, 0.7° C, 0.8° C, 0.9° C, 1.0° C, 1.0° C, 1.1° C, 1.4° C, 1.6° C, 1.7° C, 2.0° C, 2.2° C, 2.4° C, 2.4° C, 2.4° C, 2.5° C, 2.6° C, 3.1° C, 3.2° C, 3.4° C, 4.0° C and 4.4° C.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Certification Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-2

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-17
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Method Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-2

Method	Method Description	Protocol	Laboratory
Local Method	General Sub Contract Method	NONE	Weck Lab

**Protocol References:**

NONE = NONE

**Laboratory References:**

Weck Lab = Weck Laboratories, Inc., 14859 East Clark Avenue, City of Industry, CA 917451396

# Sample Summary

Client: SWCA, Inc.  
Project/Site: San Marcos Springs

TestAmerica Job ID: 560-64786-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-64786-1	HSM210 Lead	Water	11/03/16 16:48	11/04/16 11:46
560-64786-2	HSM230 Lead	Water	11/03/16 17:10	11/04/16 11:46
560-64786-3	HSM231 Lead	Water	11/03/16 16:40	11/04/16 11:46
560-64786-4	HSM240 Lead	Water	11/03/16 17:30	11/04/16 11:46
560-64786-5	HSM250 Lead	Water	11/03/16 17:05	11/04/16 11:46
560-64786-6	HSM260 Lead	Water	11/03/16 16:30	11/04/16 11:46
560-64786-7	HSM270 Lead	Water	11/03/16 16:50	11/04/16 11:46
560-64786-9	HSM210 Peak	Water	11/03/16 18:17	11/04/16 11:46
560-64786-10	HSM230 Peak	Water	11/03/16 18:31	11/04/16 11:46
560-64786-11	HSM231 Peak	Water	11/03/16 18:17	11/04/16 11:46
560-64786-12	HSM240 Peak	Water	11/03/16 18:54	11/04/16 11:46
560-64786-13	HSM250 Peak	Water	11/03/16 18:42	11/04/16 11:46
560-64786-14	HSM260 Peak	Water	11/03/16 18:00	11/04/16 11:46
560-64786-15	HSM270 Peak	Water	11/03/16 18:22	11/04/16 11:46
560-64786-16	HSM210 Trail	Water	11/03/16 20:53	11/04/16 11:46
560-64786-17	FDHSM210 Trail	Water	11/03/16 20:53	11/04/16 11:46
560-64786-18	HSM230 Trail	Water	11/03/16 21:25	11/04/16 11:46
560-64786-19	FDHSM230 Trail	Water	11/03/16 21:25	11/04/16 11:46
560-64786-20	HSM231 Trail	Water	11/03/16 20:52	11/04/16 11:46
560-64786-21	FDHSM231 Trail	Water	11/03/16 20:52	11/04/16 11:46
560-64786-22	HSM240 Trail	Water	11/03/16 21:08	11/04/16 11:46
560-64786-23	HSM250 Trail	Water	11/03/16 21:38	11/04/16 11:46
560-64786-24	HSM260 Trail	Water	11/03/16 20:34	11/04/16 11:46
560-64786-25	HSM270 Trail	Water	11/03/16 21:08	11/04/16 11:46

Work Orders: 6K08099

Project: 560-64786-2

Attn: Lindy Maingot

Client: TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

Report Date: 12/19/2016

Received Date: 11/8/2016

Turnaround Time: Normal

Phones: (210) 344-9751

Fax: -

P.O. #:

DoD-ELAP #L15-366 • ELAP-CA #1132 • EPA-UCMR #CA00211 • HW-DOH # • ISO 17025 #L15-365 • LACSD #10143 • NELAP-OR #4047 • NJ-DEP #CA015 • NV-DEP #NAC 445A

*This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.*

Dear Lindy Maingot,

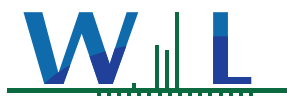
Enclosed are the results of analyses for samples received 11/08/16 with the Chain-of-Custody document. The samples were received in good condition, at 3.4 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Reviewed by:



Chris Samatmanakit  
Project Manager





WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

Project Number: 560-64786-2

Project Manager: Lindy Maingot

# Certificate of Analysis

FINAL REPORT

Reported:

12/19/2016 09:40

## Sample Summary

Sample ID	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
HSM210 Lead (560-64786-1)	Client	6K08099-01	Water	11/03/16 16:48	
HSM230 Lead (560-64786-2)	Client	6K08099-02	Water	11/03/16 17:10	
HSM231 Lead (560-64786-3)	Client	6K08099-03	Water	11/03/16 16:40	
HSM240 Lead (560-64786-4)	Client	6K08099-04	Water	11/03/16 17:30	
HSM250 Lead (560-64786-5)	Client	6K08099-05	Water	11/03/16 17:05	
HSM260 Lead (560-64786-6)	Client	6K08099-06	Water	11/03/16 16:30	
HSM270 Lead (560-64786-7)	Client	6K08099-07	Water	11/03/16 16:50	
HSM210 Peak (560-64786-9)	Client	6K08099-08	Water	11/03/16 18:17	
HSM230 Peak (560-64786-10)	Client	6K08099-09	Water	11/03/16 18:31	
HSM231 Peak (560-64786-11)	Client	6K08099-10	Water	11/03/16 18:17	
HSM240 Peak (560-64786-12)	Client	6K08099-11	Water	11/03/16 18:54	
HSM250 Peak (560-64786-13)	Client	6K08099-12	Water	11/03/16 18:42	
HSM260 Peak (560-64786-14)	Client	6K08099-13	Water	11/03/16 18:00	
HSM270 Peak (560-64786-15)	Client	6K08099-14	Water	11/03/16 18:22	
HSM210 Trail (560-64786-16)	Client	6K08099-15	Water	11/03/16 20:53	
FDHSM210 Trail (560-64786-17)	Client	6K08099-16	Water	11/03/16 20:53	
HSM230 Trail (560-64786-18)	Client	6K08099-17	Water	11/03/16 21:25	
FDHSM230 Trail (560-64786-19)	MS, GL	6K08099-18	Water	11/03/16 21:25	
HSM231 Trail (560-64786-20)	Client	6K08099-19	Water	11/03/16 20:52	
FDHSM231 Trail (560-64786-21)	Client	6K08099-20	Water	11/03/16 20:52	
HSM240 Trail (560-64786-22)	Client	6K08099-21	Water	11/03/16 21:08	
HSM250 Trail (560-64786-23)	Client	6K08099-22	Water	11/03/16 21:38	
HSM260 Trail (560-64786-24)	Client	6K08099-23	Water	11/03/16 20:34	
HSM270 Trail (560-64786-25)	Client	6K08099-24	Water	11/03/16 21:08	





WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64786-2

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

Sample: HSM210 Lead (560-64786-1)  
6K08099-01 (Water)

Sampled: 11/03/16 16:48 by Client

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1134	<b>Prepared:</b> 11/21/16 12:22				<b>Analyst:</b> agu
<b>Caffeine</b>	3700	100	ng/l	10	12/15/16 11:55	



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TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
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**Project Number:** 560-64786-2

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# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM230 Lead (560-64786-2)

Sampled: 11/03/16 17:10 by Client

6K08099-02 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1134	<b>Prepared:</b> 11/21/16 12:22				<b>Analyst:</b> agu
Caffeine	ND	10	ng/l	1	12/15/16 11:55	



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TestAmerica - Corpus Christi TX  
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**Project Number:** 560-64786-2

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# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM231 Lead (560-64786-3)

Sampled: 11/03/16 16:40 by Client

6K08099-03 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1134	<b>Prepared:</b> 11/21/16 12:22				<b>Analyst:</b> agu
<b>Caffeine</b> .....	<b>2200</b>	10	ng/l	1	12/15/16 11:55	



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**Project Number:** 560-64786-2

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# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM240 Lead (560-64786-4)

Sampled: 11/03/16 17:30 by Client

6K08099-04 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1134	<b>Prepared:</b> 11/21/16 12:22		<b>Analyst:</b> agu		
<b>Caffeine</b>	720	10	ng/l	1	12/15/16 11:55	



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# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM250 Lead (560-64786-5)

Sampled: 11/03/16 17:05 by Client

6K08099-05 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1134	<b>Prepared:</b> 11/21/16 12:22				<b>Analyst:</b> agu
<b>Caffeine</b>	1900	10	ng/l	1	12/15/16 11:55	



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**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM260 Lead (560-64786-6)

Sampled: 11/03/16 16:30 by Client

6K08099-06 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1134	<b>Prepared:</b> 11/21/16 12:22	<b>Analyst:</b> agu			
<b>Caffeine</b> .....	<b>69</b>	10	ng/l	1	12/15/16 11:55	



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**Project Number:** 560-64786-2

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# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM270 Lead (560-64786-7)

Sampled: 11/03/16 16:50 by Client

6K08099-07 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1134	<b>Prepared:</b> 11/21/16 12:22				<b>Analyst:</b> agu
<b>Caffeine</b>	1500	10	ng/l	1	12/15/16 11:55	





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# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM210 Peak (560-64786-9)

Sampled: 11/03/16 18:17 by Client

6K08099-08 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1134	<b>Prepared:</b> 11/21/16 12:22				<b>Analyst:</b> agu
Caffeine	ND	10	ng/l	1	12/15/16 11:55	



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# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM230 Peak (560-64786-10) Sampled: 11/03/16 18:31 by Client  
6K08099-09 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1134	<b>Prepared:</b> 11/21/16 12:22				<b>Analyst:</b> agu
<b>Caffeine</b> .....	<b>1100</b>	10	ng/l	1	12/15/16 11:55	



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# Certificate of Analysis

FINAL REPORT

**Reported:**

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## Sample Results

(Continued)

Sample: HSM231 Peak (560-64786-11)

Sampled: 11/03/16 18:17 by Client

6K08099-10 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1134	<b>Prepared:</b> 11/21/16 12:22	<b>Analyst:</b> agu			
<b>Caffeine</b>	150	10	ng/l	1	12/15/16 11:55	



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# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM240 Peak (560-64786-12) Sampled: 11/03/16 18:54 by Client  
6K08099-11 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1134	<b>Prepared:</b> 11/21/16 12:22				<b>Analyst:</b> agu
<b>Caffeine</b>	45	10	ng/l	1	12/15/16 11:55	



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# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM250 Peak (560-64786-13) Sampled: 11/03/16 18:42 by Client  
6K08099-12 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1135	<b>Prepared:</b> 11/21/16 12:27				<b>Analyst:</b> agu
<b>Caffeine</b>	1400	10	ng/l	1	12/16/16 12:44	



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TestAmerica - Corpus Christi TX  
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**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM260 Peak (560-64786-14) Sampled: 11/03/16 18:00 by Client  
6K08099-13 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1135	<b>Prepared:</b> 11/21/16 12:27				<b>Analyst:</b> agu
<b>Caffeine</b>	1200	10	ng/l	1	12/16/16 12:44	



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1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64786-2

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM270 Peak (560-64786-15) Sampled: 11/03/16 18:22 by Client  
6K08099-14 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1135	<b>Prepared:</b> 11/21/16 12:27				<b>Analyst:</b> agu
<b>Caffeine</b>	1200	10	ng/l	1	12/16/16 12:44	





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TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64786-2

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

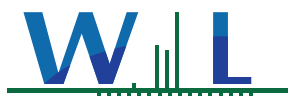
(Continued)

Sample: HSM210 Trail (560-64786-16)

Sampled: 11/03/16 20:53 by Client

6K08099-15 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1135	<b>Prepared:</b> 11/21/16 12:27				<b>Analyst:</b> agu
Caffeine	ND	10	ng/l	1	12/16/16 12:44	



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TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64786-2

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: FDHSM210 Trail (560-64786-17) Sampled: 11/03/16 20:53 by Client  
6K08099-16 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1135	<b>Prepared:</b> 11/21/16 12:27				<b>Analyst:</b> agu
Caffeine	ND	10	ng/l	1	12/16/16 12:44	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64786-2

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM230 Trail (560-64786-18)

Sampled: 11/03/16 21:25 by Client

6K08099-17 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1135	<b>Prepared:</b> 11/21/16 12:27				<b>Analyst:</b> agu
<b>Caffeine</b> .....	<b>600</b>	10	ng/l	1	12/16/16 12:44	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
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Corpus Christi, TX 78408

**Project Number:** 560-64786-2

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# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: FDHSM230 Trail (560-64786-19) Sampled: 11/03/16 21:25 by MS, GL  
6K08099-18 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1135	<b>Prepared:</b> 11/21/16 12:27	<b>Analyst:</b> agu			
<b>Caffeine</b>	600	10	ng/l	1	12/16/16 12:44	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
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Corpus Christi, TX 78408

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# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM231 Trail (560-64786-20)

Sampled: 11/03/16 20:52 by Client

6K08099-19 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1135	<b>Prepared:</b> 11/21/16 12:27				<b>Analyst:</b> agu
Caffeine	ND	10	ng/l	1	12/16/16 12:44	



WECK LABORATORIES, INC.

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1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64786-2

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

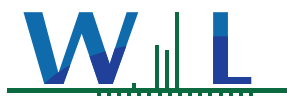
12/19/2016 09:40

## Sample Results

(Continued)

Sample: FDHSM231 Trail (560-64786-21) Sampled: 11/03/16 20:52 by Client  
6K08099-20 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1135	<b>Prepared:</b> 11/21/16 12:27				<b>Analyst:</b> agu
Caffeine	ND	10	ng/l	1	12/16/16 12:44	



WECK LABORATORIES, INC.

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Corpus Christi, TX 78408

**Project Number:** 560-64786-2

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

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## Sample Results

(Continued)

Sample: HSM240 Trail (560-64786-22)

Sampled: 11/03/16 21:08 by Client

6K08099-21 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1135	<b>Prepared:</b> 11/21/16 12:27				<b>Analyst:</b> agu
Caffeine	ND	10	ng/l	1	12/16/16 12:44	





WECK LABORATORIES, INC.

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1733 N. Padre Island Drive  
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**Project Number:** 560-64786-2

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

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12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM250 Trail (560-64786-23)

Sampled: 11/03/16 21:38 by Client

6K08099-22 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1135	<b>Prepared:</b> 11/21/16 12:27				<b>Analyst:</b> agu
<b>Caffeine</b>	230	10	ng/l	1	12/16/16 12:44	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64786-2

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM260 Trail (560-64786-24)

Sampled: 11/03/16 20:34 by Client

6K08099-23 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1134	<b>Prepared:</b> 11/21/16 12:22				<b>Analyst:</b> agu
<b>Caffeine</b> .....	<b>400</b>	10	ng/l	1	12/15/16 11:55	



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1733 N. Padre Island Drive  
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**Project Number:** 560-64786-2

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Sample Results

(Continued)

Sample: HSM270 Trail (560-64786-25)

Sampled: 11/03/16 21:08 by Client

6K08099-24 (Water)

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
<b>PPCPs - Pharmaceuticals by LC/MSMS-ESI+</b>						
<b>Method:</b> EPA 1694M-ESI+	<b>Batch ID:</b> W6K1135	<b>Prepared:</b> 11/21/16 12:27		<b>Analyst:</b> agu		
<b>Caffeine</b>	660	10	ng/l	1	12/16/16 12:44	



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

Project Number: 560-64786-2

Project Manager: Lindy Maingot

# Certificate of Analysis

FINAL REPORT

Reported:

12/19/2016 09:40

## Quality Control Results

PPCPs - Pharmaceuticals by LC/MSMS-ESI+

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
<b>Batch: W6K1134 - EPA 1694M-ESI+</b>										
<b>Blank (W6K1134-BLK1)</b>				<b>Prepared: 11/21/16 Analyzed: 12/15/16</b>						
Caffeine	ND	10	ng/l							
<b>LCS (W6K1134-BS1)</b>				<b>Prepared: 11/21/16 Analyzed: 12/15/16</b>						
Caffeine	51.0	10	ng/l	50.0		102	55-152			
<b>Matrix Spike (W6K1134-MS1)</b>				<b>Source: 6K08099-23 Prepared: 11/21/16 Analyzed: 12/15/16</b>						
Caffeine	511	10	ng/l	50.0	402	216	58-146			MS-02
<b>Matrix Spike Dup (W6K1134-MSD1)</b>				<b>Source: 6K08099-23 Prepared: 11/21/16 Analyzed: 12/15/16</b>						
Caffeine	480	10	ng/l	50.0	402	155	58-146	6	30	MS-02
<b>Batch: W6K1135 - EPA 1694M-ESI+</b>										
<b>Blank (W6K1135-BLK1)</b>				<b>Prepared: 11/21/16 Analyzed: 12/16/16</b>						
Caffeine	ND	10	ng/l							
<b>LCS (W6K1135-BS1)</b>				<b>Prepared: 11/21/16 Analyzed: 12/16/16</b>						
Caffeine	48.6	10	ng/l	50.0		97	55-152			
<b>Matrix Spike (W6K1135-MS1)</b>				<b>Source: 6K08099-24 Prepared: 11/21/16 Analyzed: 12/16/16</b>						
Caffeine	732	10	ng/l	50.0	662	141	58-146			
<b>Matrix Spike Dup (W6K1135-MSD1)</b>				<b>Source: 6K08099-24 Prepared: 11/21/16 Analyzed: 12/16/16</b>						
Caffeine	656	10	ng/l	50.0	662	NR	58-146	11	30	MS-02



WECK LABORATORIES, INC.

TestAmerica - Corpus Christi TX  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408

**Project Number:** 560-64786-2

**Project Manager:** Lindy Maingot

# Certificate of Analysis

FINAL REPORT

**Reported:**

12/19/2016 09:40

## Notes and Definitions

Item	Definition
MS-02	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB)

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.



## Chain of Custody Record

<b>Client Information</b> Client Contact: Philip Pearce Phone: 210-877-2847 Company: SWCA, Inc.		Lab PW: Maingot, Lindy E-Mail: lindy.maingot@testamericainc.com		Carrier Tracking No(s): COC No: 560-21032-2626.1 Page: 2 of 4 Job #:															
Address: 6200 UTSA Boulevard Suite 102 City: San Antonio State: TX Zip: 78249 Phone: 210-877-2847(Tel) Email: P.Pearce@swca.com Project Name: EAA STORMWATER Site: SAN MARCOS SPRINGS		<b>Analysis Requested</b> Due Date Requested: TAT Requested (days): STANDARD PO #: 27122.01 WO #: 56005790 Project #: 56005790 SSOW#:																	
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=Tissue, As=Air)	Field Filtered Sample (Yes or No)	8141A - Organo-Pesticide (DENVER)	8081B, 8082A	8270C - SVOCs	SUBCONTRACT - Caffeine 1694 - (WECK)	2320B, 300, 340, 2, 9040C	6010B, 6020, 7470A	9060, 9060, Diss	8260B - VOCs	2540C, 2540D	351.2 NP - Nitrogen, Kjeldahl (HOUSTON)	8151A - Herbicides (SAVANNAH)	355.4 - Phosphorus (SAVANNAH)	Total Number of containers	Special Instructions/Note:
HSM210 Peak	11/3/16	1817	G	W	N	N	N	N	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HSM230 Peak		1831	G	W	N	N	N	N	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HSM231 Peak		1817	G	W	N	N	N	N	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HSM240 Peak		1854	G	W	N	N	N	N	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HSM250 Peak		1842	G	W	N	N	N	N	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HSM260 Peak		1850	G	W	N	N	N	N	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
HSM270 Peak		1822	G	W	N	N	N	N	X	X	X	X	X	X	X	X	X	22	METALS, DOC FIELD FILTERED
																			Bottles may have 1622 sample time
																			1822 is correct time
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months													
<b>Deliverable Requested: I, II, III, IV, Other (specify)</b>						<b>Special Instructions/QC Requirements:</b>													
<b>Empty Kit Relinquished by:</b>						<b>Method of Shipment:</b>													
Relinquished by: [Signature] Date: 11/4/16 8:00 am Company: SWCA						Relinquished by: [Signature] Date: 11/4/16 8:55 am Company: SWCA													
Relinquished by: [Signature] Date: 11/4/16 8:55 am Company: SWCA						Relinquished by: [Signature] Date: 11/4/16 8:55 am Company: SWCA													
Custody Seal Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Custody Seal No.:						Cooler Temperature(s) °C and Other Remarks:													



Client Information						Lab PVI:					
Company: SWCA, Inc.						Maingot, Lindy					
Address: 6200 UTSA Boulevard Suite 102						E-Mail: lindy.maingot@testamericainc.com					
City: San Antonio											
State: TX											
Zip: 78249											
Phone: 210-877-2847(Tel)											
Email: PPearce@swca.com											
Project Name: EAA STORMWATER											
Site: SAN MARCOS SPRINGS											
Due Date Requested:						Analysis Requested					
TAT Requested (days): STANDARD											
PO #: 27122.01											
WO #: 56005790											
Sample Identification						Field Filled Sample (Yes or No)					
Sample Date						Preservation Code					
Sample Time						Matrix					
Sample Type (C=comp, G=grab)						(W=water, S=solid, O=ovastallol, BT=Tissue, A=slip)					
HSM210 Trail						G W					
FDHSM210 Trail						G W					
HSM230 Trail						G W					
FDHSM230 Trail						G W					
HSM231 Trail						G W					
FDHSM231 Trail						G W					
HSM240 Trail						G W					
HSM250 Trail						G W					
HSM260 Trail						G W					
MSMSDHSMD260 Trail						G W					
HSM270 Trail						G W					
Possible Hazard Identification						Radiological					
Non-Hazard						Poison B					
Flammable						Unknown					
Skin Irritant											
Deliverable Requested: I, II, III, IV, Other (specify)											
Empty Kit Relinquished by:						Date:					
Relinquished by:						Company:					
Relinquished by:						Date/Time:					
Relinquished by:						Date/Time:					
Relinquished by:						Date/Time:					
Custody Seal No.:						Custody Temperature(s) °C and Other Remarks:					

## Chain of Custody Record

<b>Client Information</b> Client Contact: <u>Jennifer Norland</u> <u>Phil Pearce</u> Phone: <u>210-877-2847</u> E-Mail: <u>lindy.maingot@testamericainc.com</u>		Carrier Tracking No(s): Lab PM: <u>Maingot, Lindy</u> E-Mail: <u>lindy.maingot@testamericainc.com</u>		GOC No: <u>560-21032-2626.1</u> Page: <u>4</u> of <u>4</u> Job #:	
Company: <u>SWCA, Inc.</u> Address: <u>6200 UTSA Boulevard Suite 102</u> City: <u>San Antonio</u> State: <u>TX</u> Zip: <u>78249</u> Phone: <u>210-877-2847(Tel)</u> Email: <u>P Pearce@swca.com</u> Project Name: <u>EAA STORMWATER</u> Site: <u>SAN MARCOS SPRINGS</u>		<b>Analysis Requested</b> Due Date Requested: TAT Requested (days): <u>STANDARD</u> PO #: <u>27122.01</u> WO #: <u>56005790</u> Project #: <u>56005790</u> SSOW#:			
<b>Sample Identification</b> Sample Date: <u>11/3/16</u> Sample Time: <u>2:08</u> Sample Type (C=Comp, G=grab): <u>G</u> Matrix (W=water, S=solid, O=wastewater, L=tissue, A=air): <u>W</u>		Field Filtered Sample (Yes or No): <u>Y</u> 8141A - Organo-P Pesticide (DENVER) <u>N</u> 8081B, 8082A <u>N</u> 8270C - SVOCs <u>N</u> SUBCONTRACT - Caffeine 1694 - (WECK) <u>N</u> 2320B, 300, 340.2, 9040C <u>N</u> 6010B, 6020, 7470A <u>N</u> 9060, 9060, Diss <u>S</u> 8260B - VOCs <u>A</u> 2540C, 2540D <u>N</u> 351.2 NP - Nitrogen, Kjeldahl (HOUSTON) <u>N</u> 8151A - Herbicides (SAVANNAH) <u>N</u> 355.4 - Phosphorus (SAVANNAH) <u>S</u>			
MS/MSDHSM270 Trail		Total Number of containers: <u>22</u> Special Instructions/Note: <u>METALS, DOC FIELD FILTERED</u>			
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:			
Empty Kit Relinquished by:		Date: _____ Time: _____ Method of Shipment:			
Relinquished by: <u>[Signature]</u> Company: <u>SWCA</u>		Date/Time: <u>11/18/16 8:00 am</u> Company: <u>SWCA</u>			
Relinquished by: <u>[Signature]</u> Company: <u>SWCA</u>		Date/Time: <u>11/14/16 8:55 am</u> Company: <u>SWCA</u>			
Relinquished by: <u>[Signature]</u> Company: <u>SWCA</u>		Date/Time: <u>11-4-16 8:53</u> Company: <u>SWCA</u>			
Custody Seal No. <u>114115</u>		Date/Time: <u>11/4/16 1946</u> Company: <u>SWCA</u>			
Custody Seals Intact: <u>Yes</u>		Cooling Temperature(s) °C and Other Remarks:			

Obs.

CT.

IR Gun

1.8	1.6	1.1
4.6	4.4	1.1
2.8	2.6	1.1
4.3	3.4	1.1
5.5	2	1.1
6.6	3.2	1.1
7.7	1	1.1
8.8	0.7	1.1
9.9	2.4	1.1
10	2.2	1.1
11	0.6	1.1
12	0.9	1.1
13	2.4	1.1
14	0.2	1.1
15	3.1	1.1
16	4	1.1
17	1	1.1
18	0.6	1.1
19	0.8	1.1
20	0.7	1.1
21	1.3	1.1
22	2.6	1.1
23	1.9	1.1
24	2.7	1.1
25	1.6	1.1
26.7		1.1
5.5	1.4	1.1

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-64786-2

Login Number: 64786

List Source: TestAmerica Corpus Christi

List Number: 1

Creator: Escalona-Garcia, Jose A

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-62017-1

Client Project/Site: Sediment Sampling  
Revision: 2

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
7/25/2016 11:38:23 AM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

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results through

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[www.testamericainc.com](http://www.testamericainc.com)

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

### GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
X	Surrogate is outside control limits

### GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate is outside control limits
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
E	Result exceeded calibration range.
*	ISTD response or retention time outside acceptable limits

### HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
H	Sample was prepped or analyzed beyond the specified holding time
F1	MS and/or MSD Recovery is outside acceptance limits.

### Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

### General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
U	Indicates the analyte was analyzed for but not detected.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid

TestAmerica Corpus Christi

## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

### Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



# Case Narrative

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Job ID: 560-62017-1**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

### Job Narrative 560-62017-1

#### **Revised Report 2 07-25-2016**

There was an additional analyte listed on the list for Semi-volatiles (N-Nitrosodimethylamine). This analyte was removed and no other changes were made. Test America apologizes for any inconvenience this may have caused the client.

In the original report the pH did not pull into the report. The pH tests now show up in the report and Test America apologizes for any inconvenience this may have caused the client.

#### **Receipt**

The samples were received on 6/9/2016 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.4° C.

#### **Receipt Exceptions**

The following samples were canceled by the client on 06-13-2016 for TKN, TDS and TSS. 560-62017-1-7.

Some Methods have been substituted per client permission.

Due to concerns about insufficient volume, the client request that both Method 300 & Method 340.2 be analyzed has been put on hold. The lab has been instructed to place 340.2 on hold, and if any volume remains after all other methods have been analyzed, Houston should send the necessary 100 g to Corpus Christi for analysis.

Job 560-62017 had Dalpon on the analyte list for Herbicides by method 8151. The client was contacted on 06-20-2016 and informed that the Houston Test America can not run Dalpon. These samples were logged in under the incorrect project because the client used a different COC instead of the one sent to them with the sample bottles. Test America apologizes for any inconvenience this may cause the client.

#### **GC/MS VOA**

Method 8260: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with sample 560-62017-4 were outside acceptable limits for various analytes. The LCS was within acceptable limits. Therefore, data are reported.

Method 8260: The relative percent deviation (RPD) was outside acceptable limits for various analytes in the MS/MSD pair associated with sample 560-62017-4. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### **GC/MS Semi VOA**

Method 8270C: Surrogate recovery for the following samples was outside control limits: HCS360 (560-62017-5) and FDHCS360 (560-62017-6). Re-extraction and re-analysis was performed with concurring results. The original analysis has been reported.

Method 8270: Percent recovery results for the MS/MSD pair, the MS or the MSD associated with sample 560-62017-4 were outside acceptable limits for various analytes. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **GC Semi VOA**

Method 8141A: The following samples were diluted due to the nature of the sample matrix: HCS310 (560-62017-1), HCS320 (560-62017-2), HCS330 (560-62017-3), HCS340 (560-62017-4), HCS340 (560-62017-4[MS]), HCS340 (560-62017-4[MSD]), HCS360 (560-62017-5) and FDHCS360 (560-62017-6). Elevated reporting limits (RLs) are provided. When run at a lower dilution the samples caused CCV failure. The matrix caused failed very low in the CCVs. The dilutions were also performed in order to protect the analytical instrumentation. Due to the dilution, the surrogate and matrix spike concentration in the samples were reduced to a level where the recovery calculation does not provide useful information.

Method 8141A: The continuing calibration verification (CCV) associated with batch 280-332552 recovered above the upper control limit for

# Case Narrative

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Job ID: 560-62017-1 (Continued)

### Laboratory: TestAmerica Corpus Christi (Continued)

Dichlorvos, Dimethoate and Mevinphos. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: HCS310 (560-62017-1), HCS320 (560-62017-2), HCS330 (560-62017-3), HCS340 (560-62017-4), HCS360 (560-62017-5) and FDHCS360 (560-62017-6).

CCVIS (front) Dimethoate +19%; (back) Mevinphos +17.2%  
MB, LCS, 560-62017-1, -2, -3, -4, -4MS, -4MSD, -5, -6  
CCV (front) Dichlorvos +18%; (back) Dichlorvos +20%

Method 8082A: 2 surrogates are used for this analysis. The laboratory's SOP allows 1 of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (CCVIS 560-129231/1). These results have been reported and qualified.

Method 8151A: The continuing calibration verification (CCV) associated with batch 600-191143 recovered above the upper control limit for 2,4-DB(15.7%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVRT 600-191143/2).

Method 8151A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 600-190936 and analytical batch 600-191143 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8151A: The continuing calibration verification (CCV) associated with batch 600-191143 recovered above the upper control limit for 2,4,5-T(17.3%) and 2,4-DB(43.8%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 600-191143/13).

Method 8151A: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 600-190936 and analytical batch 600-191143 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

Method 8151A: The 2,4-DB concentration was outside the calibration range, however, the %R was within the control limits. (LCS 600-190936/2-A)

Method 8151A: Surrogate recovery for the following sample was outside control limits: HCS330 (560-62017-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8151A: Surrogate recovery for the following sample was outside control limits: HCS360 (560-62017-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8151A: The continuing calibration verification (CCV) associated with batch 600-191143 recovered above the upper control limit for 2,4-DB(46.2%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 600-191143/24).

Method 8081B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 600-190731 and analytical batch 600-191263 recovered outside control limits for the following analytes: Methoxychlor. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8081B: The continuing calibration verification (CCV) associated with batch 600-191263 recovered above the upper control limit for 4,4-DDT(22.8%) and Methoxychlor(39.1%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 600-191263/3).

Method 8081B: Compound ISTD eluted outside the retention time window on the RTX-CLPesticides II column for the following samples: (LCS 600-190731/2-A) and (MB 600-190731/1-A). This retention time shift was taken into account when reviewing the sample(s) for target compounds.

Method 8081B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 600-190731 and analytical batch 600-191263 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

# Case Narrative

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Job ID: 560-62017-1 (Continued)

### Laboratory: TestAmerica Corpus Christi (Continued)

Method 8081B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 600-190731 and analytical batch 600-191263 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

Method 8081B: Compound ISTD eluted outside the retention time window on the RTX-CLPesticides 1 and RTX-CLPesticides II column for the following samples: HCS360 (560-62017-5). This retention time shift was taken into account when reviewing the sample(s) for target compounds.

Method 8081B: Compound ISTD eluted outside the retention time window on the RTX-CLPesticides II column for the following sample: FDHCS360 (560-62017-6). This retention time shift was taken into account when reviewing the sample(s) for target compounds.

Method 8081B: Surrogate recovery for the following sample was outside control limits: FDHCS360 (560-62017-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Metals

Method 6010B: Due to the high concentration of Ca, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 560-128926 and analytical batch 560-129037 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 6010: The relative percent deviation (RPD) was outside acceptable limits for various analytes in the MS/MSD pair associated with sample 560-62017-4. The LCS was within acceptable limits. Therefore, data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### General Chemistry

Method 300.0: The following samples were received outside of holding time due to some tests being on hold by the client due to insufficient sample volume: HCS310 (560-62017-1), HCS320 (560-62017-2), HCS330 (560-62017-3), HCS340 (560-62017-4), HCS360 (560-62017-5) and FDHCS360 (560-62017-6).

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Bromide preparation batch 600-191188 and analytical batch 600-191189 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### Industrial Hygiene

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

### Organic Prep

Method 3540C: The following samples could not be thoroughly homogenized before sub-sampling was performed due to sample matrix: HCS340 (560-62017-4), HCS340 (560-62017-4[MS]) and HCS340 (560-62017-4[MSD]). The sample was wet Shells.

analytical batch 280-330827

3540C 8141A

Batch: 330827

Method 3546: Due to the matrix, the following sample(s) could not be concentrated to the final method required volume: The samples 560-62017-5 and 6 would not blow down "concentrate" down to the desired 1 mL so I volumed up to the nearest clean mL during the organic prep. The reporting limits (RLs) are elevated proportionately.

Method 3546: Due to the matrix, the following sample(s) could not be concentrated to the final method required volume: The samples 560-62017-1, 1 and 4 would not blow down "concentrate" down to the desired 1 mL so I volumed up to the nearest clean mL during the organic prep. The reporting limits (RLs) are elevated proportionately.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

Client Sample ID: HCS310

Lab Sample ID: 560-62017-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	64.4	J	407	58.6	ug/Kg	1		✱	8260B	Total/NA
Bis(2-ethylhexyl) phthalate	163	J	633	96.8	ug/Kg	1		✱	8270C	Total/NA
Fluoranthene	65.6	J	633	63.3	ug/Kg	1		✱	8270C	Total/NA
Nitrate as N	2.23	J H	3.92	0.492	mg/Kg	1		✱	300.0	Soluble
Chloride	14.7		7.85	1.05	mg/Kg	1		✱	300.0	Soluble
Fluoride	3.47	J	3.92	1.18	mg/Kg	1		✱	300.0	Soluble
Sulfate	143		9.81	1.88	mg/Kg	1		✱	300.0	Soluble
Aluminum	952		7.82	4.80	mg/Kg	1		✱	6010B	Total/NA
Phosphorus	171		78.2	2.59	mg/Kg	1		✱	6010B	Total/NA
Antimony	2.00	J	3.13	0.417	mg/Kg	1		✱	6010B	Total/NA
Calcium	330000		782	227	mg/Kg	10		✱	6010B	Total/NA
Arsenic	1.25	J	3.13	0.227	mg/Kg	1		✱	6010B	Total/NA
Magnesium	1480		31.3	2.47	mg/Kg	1		✱	6010B	Total/NA
Barium	16.0		1.56	0.295	mg/Kg	1		✱	6010B	Total/NA
Potassium	212		156	23.8	mg/Kg	1		✱	6010B	Total/NA
Beryllium	0.0750	J	0.782	0.0422	mg/Kg	1		✱	6010B	Total/NA
Silicon	1890		31.3	9.88	mg/Kg	1		✱	6010B	Total/NA
Cadmium	0.258	J	0.782	0.0563	mg/Kg	1		✱	6010B	Total/NA
Sodium	90.7	J	156	23.6	mg/Kg	1		✱	6010B	Total/NA
Chromium	2.77		1.56	0.209	mg/Kg	1		✱	6010B	Total/NA
Strontium	108		1.56	0.122	mg/Kg	1		✱	6010B	Total/NA
Copper	2.83	J	3.13	0.314	mg/Kg	1		✱	6010B	Total/NA
Iron	1640		31.3	7.82	mg/Kg	1		✱	6010B	Total/NA
Lead	7.95		0.782	0.238	mg/Kg	1		✱	6010B	Total/NA
Manganese	41.2		3.91	0.727	mg/Kg	1		✱	6010B	Total/NA
Nickel	2.10	J	3.13	0.194	mg/Kg	1		✱	6010B	Total/NA
Selenium	2.41		1.56	0.310	mg/Kg	1		✱	6010B	Total/NA
Zinc	20.9		3.91	0.891	mg/Kg	1		✱	6010B	Total/NA
Mercury	0.0221	J	0.234	0.0210	mg/Kg	1		✱	7471A	Total/NA
pH	7.72	HF	0.100	0.100	SU	1			9045D	Total/NA
TOC	0.597		0.100	0.0415	%	1			WALKLEY BLACK	Total/NA
Alkalinity	227		9.89	9.89	mg/Kg	1		✱	SM 2320B	Soluble
Bicarbonate Alkalinity as CaCO3	227		9.89	9.89	mg/Kg	1		✱	SM 2320B	Soluble

Client Sample ID: HCS320

Lab Sample ID: 560-62017-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	43.1	J	84.9	12.2	ug/Kg	1		✱	8260B	Total/NA
2-Butanone (MEK)	7.38	J	17.0	3.23	ug/Kg	1		✱	8260B	Total/NA
Bis(2-ethylhexyl) phthalate	151	J	621	95.0	ug/Kg	1		✱	8270C	Total/NA
3 & 4 Methylphenol	374	J	1240	102	ug/Kg	1		✱	8270C	Total/NA
Dalapon	9.72	J p	191	5.55	ug/Kg	1		✱	8151A	Total/NA
Nitrate as N	2.34	J H	3.88	0.488	mg/Kg	1		✱	300.0	Soluble
Chloride	14.2		7.77	1.04	mg/Kg	1		✱	300.0	Soluble
Fluoride	3.42	J	3.88	1.17	mg/Kg	1		✱	300.0	Soluble
Sulfate	51.8		9.71	1.86	mg/Kg	1		✱	300.0	Soluble
Aluminum	2860		7.95	4.88	mg/Kg	1		✱	6010B	Total/NA
Phosphorus	342		79.5	2.64	mg/Kg	1		✱	6010B	Total/NA
Antimony	1.65	J	3.18	0.424	mg/Kg	1		✱	6010B	Total/NA
Calcium	276000		795	230	mg/Kg	10		✱	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Client Sample ID: HCS320 (Continued)

## Lab Sample ID: 560-62017-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Arsenic	3.75		3.18	0.230	mg/Kg	1		✱	6010B	Total/NA
Magnesium	1720		31.8	2.51	mg/Kg	1		✱	6010B	Total/NA
Barium	27.3		1.59	0.300	mg/Kg	1		✱	6010B	Total/NA
Potassium	365		159	24.2	mg/Kg	1		✱	6010B	Total/NA
Beryllium	0.257	J	0.795	0.0429	mg/Kg	1		✱	6010B	Total/NA
Silicon	2930		31.8	10.0	mg/Kg	1		✱	6010B	Total/NA
Cadmium	0.626	J	0.795	0.0572	mg/Kg	1		✱	6010B	Total/NA
Sodium	190		159	24.0	mg/Kg	1		✱	6010B	Total/NA
Chromium	7.27		1.59	0.213	mg/Kg	1		✱	6010B	Total/NA
Strontium	168		1.59	0.124	mg/Kg	1		✱	6010B	Total/NA
Copper	5.36		3.18	0.319	mg/Kg	1		✱	6010B	Total/NA
Iron	3980		31.8	7.95	mg/Kg	1		✱	6010B	Total/NA
Lead	10.4		0.795	0.242	mg/Kg	1		✱	6010B	Total/NA
Manganese	42.5		3.97	0.739	mg/Kg	1		✱	6010B	Total/NA
Nickel	5.88		3.18	0.197	mg/Kg	1		✱	6010B	Total/NA
Selenium	3.14		1.59	0.315	mg/Kg	1		✱	6010B	Total/NA
Zinc	43.0		3.97	0.906	mg/Kg	1		✱	6010B	Total/NA
pH	7.59	HF	0.100	0.100	SU	1			9045D	Total/NA
TOC	2.43		0.100	0.0415	%	1			WALKLEY BLACK	Total/NA
Alkalinity	295		9.57	9.57	mg/Kg	1		✱	SM 2320B	Soluble
Bicarbonate Alkalinity as CaCO3	295		9.57	9.57	mg/Kg	1		✱	SM 2320B	Soluble

## Client Sample ID: HCS330

## Lab Sample ID: 560-62017-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	9.15	J	56.3	8.11	ug/Kg	1		✱	8260B	Total/NA
Styrene	0.641	J	5.63	0.338	ug/Kg	1		✱	8260B	Total/NA
Benzo[b]fluoranthene	23.3	J	211	18.6	ug/Kg	1		✱	8270C	Total/NA
Bis(2-ethylhexyl) phthalate	531		211	32.2	ug/Kg	1		✱	8270C	Total/NA
Fluoranthene	44.3	J	211	21.1	ug/Kg	1		✱	8270C	Total/NA
Indeno[1,2,3-cd]pyrene	44.9	J	211	19.8	ug/Kg	1		✱	8270C	Total/NA
Chloride	4.73	J	4.89	0.653	mg/Kg	1		✱	300.0	Soluble
Fluoride	3.14		2.44	0.735	mg/Kg	1		✱	300.0	Soluble
Sulfate	22.5		6.11	1.17	mg/Kg	1		✱	300.0	Soluble
Aluminum	4120		4.57	2.81	mg/Kg	1		✱	6010B	Total/NA
Phosphorus	251		45.7	1.52	mg/Kg	1		✱	6010B	Total/NA
Antimony	1.01	J	1.83	0.244	mg/Kg	1		✱	6010B	Total/NA
Calcium	218000		457	133	mg/Kg	10		✱	6010B	Total/NA
Arsenic	3.10		1.83	0.133	mg/Kg	1		✱	6010B	Total/NA
Magnesium	3860		18.3	1.45	mg/Kg	1		✱	6010B	Total/NA
Barium	51.5		0.915	0.173	mg/Kg	1		✱	6010B	Total/NA
Potassium	754		91.5	13.9	mg/Kg	1		✱	6010B	Total/NA
Beryllium	0.391	J	0.457	0.0247	mg/Kg	1		✱	6010B	Total/NA
Silicon	2290		18.3	5.78	mg/Kg	1		✱	6010B	Total/NA
Cadmium	0.597		0.457	0.0329	mg/Kg	1		✱	6010B	Total/NA
Sodium	103		91.5	13.8	mg/Kg	1		✱	6010B	Total/NA
Chromium	6.90		0.915	0.123	mg/Kg	1		✱	6010B	Total/NA
Strontium	348		0.915	0.0713	mg/Kg	1		✱	6010B	Total/NA
Copper	3.99		1.83	0.184	mg/Kg	1		✱	6010B	Total/NA
Iron	4970		18.3	4.57	mg/Kg	1		✱	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Client Sample ID: HCS330 (Continued)

## Lab Sample ID: 560-62017-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Lead	8.20		0.457	0.139	mg/Kg	1		✱	6010B	Total/NA
Manganese	291		2.29	0.425	mg/Kg	1		✱	6010B	Total/NA
Nickel	6.22		1.83	0.113	mg/Kg	1		✱	6010B	Total/NA
Selenium	1.11		0.915	0.181	mg/Kg	1		✱	6010B	Total/NA
Zinc	14.2		2.29	0.521	mg/Kg	1		✱	6010B	Total/NA
pH	7.76	HF	0.100	0.100	SU	1			9045D	Total/NA
TOC	0.584		0.100	0.0415	%	1			WALKLEY BLACK	Total/NA
Alkalinity	124		6.10	6.10	mg/Kg	1		✱	SM 2320B	Soluble
Bicarbonate Alkalinity as CaCO3	124		6.10	6.10	mg/Kg	1		✱	SM 2320B	Soluble

## Client Sample ID: HCS340

## Lab Sample ID: 560-62017-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	41.2	J	73.9	10.6	ug/Kg	1		✱	8260B	Total/NA
2-Butanone (MEK)	8.68	J	14.8	2.81	ug/Kg	1		✱	8260B	Total/NA
Bis(2-ethylhexyl) phthalate	761		531	81.2	ug/Kg	1		✱	8270C	Total/NA
Fluoranthene	61.9	J	531	53.1	ug/Kg	1		✱	8270C	Total/NA
3 & 4 Methylphenol	572	J F1	1060	87.4	ug/Kg	1		✱	8270C	Total/NA
Aroclor 1262	16.5	J	51.4	7.95	ug/Kg	1		✱	8082A	Total/NA
Nitrate as N	1.93	J H	3.30	0.415	mg/Kg	1		✱	300.0	Soluble
Chloride	16.9		6.61	0.882	mg/Kg	1		✱	300.0	Soluble
Fluoride	1.92	J	3.30	0.994	mg/Kg	1		✱	300.0	Soluble
Sulfate	31.1		8.26	1.58	mg/Kg	1		✱	300.0	Soluble
Aluminum	1320	F1 F2	6.98	4.29	mg/Kg	1		✱	6010B	Total/NA
Phosphorus	240		69.8	2.32	mg/Kg	1		✱	6010B	Total/NA
Antimony	1.69	J F1	2.79	0.373	mg/Kg	1		✱	6010B	Total/NA
Calcium	282000		698	203	mg/Kg	10		✱	6010B	Total/NA
Arsenic	1.22	J	2.79	0.203	mg/Kg	1		✱	6010B	Total/NA
Magnesium	1200		27.9	2.21	mg/Kg	1		✱	6010B	Total/NA
Barium	48.0	F1 F2	1.40	0.264	mg/Kg	1		✱	6010B	Total/NA
Potassium	281		140	21.2	mg/Kg	1		✱	6010B	Total/NA
Beryllium	0.189	J	0.698	0.0377	mg/Kg	1		✱	6010B	Total/NA
Silicon	3100		27.9	8.83	mg/Kg	1		✱	6010B	Total/NA
Cadmium	0.397	J	0.698	0.0503	mg/Kg	1		✱	6010B	Total/NA
Sodium	915		140	21.1	mg/Kg	1		✱	6010B	Total/NA
Chromium	3.75		1.40	0.187	mg/Kg	1		✱	6010B	Total/NA
Strontium	426		1.40	0.109	mg/Kg	1		✱	6010B	Total/NA
Copper	4.74		2.79	0.281	mg/Kg	1		✱	6010B	Total/NA
Iron	2490	F1 F2	27.9	6.98	mg/Kg	1		✱	6010B	Total/NA
Lead	5.92		0.698	0.212	mg/Kg	1		✱	6010B	Total/NA
Manganese	62.3		3.49	0.649	mg/Kg	1		✱	6010B	Total/NA
Nickel	4.01		2.79	0.173	mg/Kg	1		✱	6010B	Total/NA
Selenium	2.53		1.40	0.277	mg/Kg	1		✱	6010B	Total/NA
Zinc	13.6	F1 F2	3.49	0.796	mg/Kg	1		✱	6010B	Total/NA
Mercury	0.0279	J	0.168	0.0151	mg/Kg	1		✱	7471A	Total/NA
pH	7.77	HF	0.100	0.100	SU	1			9045D	Total/NA
TOC	1.66		0.100	0.0415	%	1			WALKLEY BLACK	Total/NA
Alkalinity	212		8.17	8.17	mg/Kg	1		✱	SM 2320B	Soluble
Bicarbonate Alkalinity as CaCO3	212		8.17	8.17	mg/Kg	1		✱	SM 2320B	Soluble

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



# Detection Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

Client Sample ID: HCS360

Lab Sample ID: 560-62017-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	199	J	540	77.7	ug/Kg	1		✱	8260B	Total/NA
Benzo[a]anthracene	140	J	750	92.6	ug/Kg	1		✱	8270C	Total/NA
Benzo[a]pyrene	184	J	750	75.0	ug/Kg	1		✱	8270C	Total/NA
Benzo[b]fluoranthene	376	J	750	66.2	ug/Kg	1		✱	8270C	Total/NA
Benzo[g,h,i]perylene	89.2	J	750	66.2	ug/Kg	1		✱	8270C	Total/NA
Benzo[k]fluoranthene	152	J	750	57.4	ug/Kg	1		✱	8270C	Total/NA
Bis(2-ethylhexyl) phthalate	381	J	750	115	ug/Kg	1		✱	8270C	Total/NA
Chrysene	244	J	750	66.2	ug/Kg	1		✱	8270C	Total/NA
Fluoranthene	440	J	750	75.0	ug/Kg	1		✱	8270C	Total/NA
Indeno[1,2,3-cd]pyrene	223	J	750	70.6	ug/Kg	1		✱	8270C	Total/NA
Phenanthrene	104	J	750	92.6	ug/Kg	1		✱	8270C	Total/NA
Pyrene	256	J	750	75.0	ug/Kg	1		✱	8270C	Total/NA
Chloride	22.9		9.43	1.26	mg/Kg	1		✱	300.0	Soluble
Fluoride	4.24	J	4.72	1.42	mg/Kg	1		✱	300.0	Soluble
Sulfate	193		11.8	2.26	mg/Kg	1		✱	300.0	Soluble
Aluminum	5540		8.91	5.47	mg/Kg	1		✱	6010B	Total/NA
Phosphorus	488		89.1	2.96	mg/Kg	1		✱	6010B	Total/NA
Antimony	1.10	J	3.56	0.476	mg/Kg	1		✱	6010B	Total/NA
Calcium	120000		891	258	mg/Kg	10		✱	6010B	Total/NA
Arsenic	3.07	J	3.56	0.258	mg/Kg	1		✱	6010B	Total/NA
Magnesium	2520		35.6	2.82	mg/Kg	1		✱	6010B	Total/NA
Barium	51.4		1.78	0.337	mg/Kg	1		✱	6010B	Total/NA
Potassium	1120		178	27.1	mg/Kg	1		✱	6010B	Total/NA
Beryllium	0.480	J	0.891	0.0481	mg/Kg	1		✱	6010B	Total/NA
Silicon	4110		35.6	11.3	mg/Kg	1		✱	6010B	Total/NA
Cadmium	0.848	J	0.891	0.0642	mg/Kg	1		✱	6010B	Total/NA
Sodium	117	J	178	26.9	mg/Kg	1		✱	6010B	Total/NA
Chromium	10.2		1.78	0.239	mg/Kg	1		✱	6010B	Total/NA
Strontium	170		1.78	0.139	mg/Kg	1		✱	6010B	Total/NA
Copper	11.4		3.56	0.358	mg/Kg	1		✱	6010B	Total/NA
Iron	6120		35.6	8.91	mg/Kg	1		✱	6010B	Total/NA
Lead	23.5		0.891	0.271	mg/Kg	1		✱	6010B	Total/NA
Manganese	126		4.46	0.829	mg/Kg	1		✱	6010B	Total/NA
Nickel	7.94		3.56	0.221	mg/Kg	1		✱	6010B	Total/NA
Selenium	1.94		1.78	0.353	mg/Kg	1		✱	6010B	Total/NA
Zinc	89.1		4.46	1.02	mg/Kg	1		✱	6010B	Total/NA
pH	7.59	HF	0.100	0.100	SU	1			9045D	Total/NA
TOC	3.75		0.100	0.0415	%	1			WALKLEY BLACK	Total/NA
Alkalinity	380		11.8	11.8	mg/Kg	1		✱	SM 2320B	Soluble
Bicarbonate Alkalinity as CaCO3	380		11.8	11.8	mg/Kg	1		✱	SM 2320B	Soluble

Client Sample ID: FDHCS360

Lab Sample ID: 560-62017-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	224	J	554	79.7	ug/Kg	1		✱	8260B	Total/NA
2-Butanone (MEK)	38.7	J	111	21.0	ug/Kg	1		✱	8260B	Total/NA
4-Isopropyltoluene	46.3	J	55.4	4.37	ug/Kg	1		✱	8260B	Total/NA
Benzo[a]anthracene	156	J	753	93.0	ug/Kg	1		✱	8270C	Total/NA
Benzo[a]pyrene	192	J	753	75.3	ug/Kg	1		✱	8270C	Total/NA
Benzo[b]fluoranthene	437	J	753	66.5	ug/Kg	1		✱	8270C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



# Detection Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

Client Sample ID: FDHCS360 (Continued)

Lab Sample ID: 560-62017-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Benzo[g,h,i]perylene	89.1	J	753	66.5	ug/Kg	1		✱	8270C	Total/NA
Benzo[k]fluoranthene	185	J	753	57.6	ug/Kg	1		✱	8270C	Total/NA
Bis(2-ethylhexyl) phthalate	356	J	753	115	ug/Kg	1		✱	8270C	Total/NA
Chrysene	294	J	753	66.5	ug/Kg	1		✱	8270C	Total/NA
Fluoranthene	505	J	753	75.3	ug/Kg	1		✱	8270C	Total/NA
Indeno[1,2,3-cd]pyrene	224	J	753	70.9	ug/Kg	1		✱	8270C	Total/NA
Phenanthrene	119	J	753	93.0	ug/Kg	1		✱	8270C	Total/NA
Pyrene	295	J	753	75.3	ug/Kg	1		✱	8270C	Total/NA
2,4-D	5.05	J	15.7	1.33	ug/Kg	1		✱	8151A	Total/NA
Chloride	25.1		9.26	1.24	mg/Kg	1		✱	300.0	Soluble
Fluoride	3.82	J	4.63	1.39	mg/Kg	1		✱	300.0	Soluble
Sulfate	169		11.6	2.22	mg/Kg	1		✱	300.0	Soluble
Aluminum	5060		9.54	5.86	mg/Kg	1		✱	6010B	Total/NA
Phosphorus	459		95.4	3.17	mg/Kg	1		✱	6010B	Total/NA
Antimony	1.02	J	3.82	0.510	mg/Kg	1		✱	6010B	Total/NA
Calcium	153000		954	277	mg/Kg	10		✱	6010B	Total/NA
Arsenic	2.85	J	3.82	0.277	mg/Kg	1		✱	6010B	Total/NA
Magnesium	2380		38.2	3.02	mg/Kg	1		✱	6010B	Total/NA
Barium	48.8		1.91	0.361	mg/Kg	1		✱	6010B	Total/NA
Potassium	1060		191	29.0	mg/Kg	1		✱	6010B	Total/NA
Beryllium	0.446	J	0.954	0.0515	mg/Kg	1		✱	6010B	Total/NA
Silicon	4480		38.2	12.1	mg/Kg	1		✱	6010B	Total/NA
Cadmium	0.762	J	0.954	0.0687	mg/Kg	1		✱	6010B	Total/NA
Sodium	128	J	191	28.8	mg/Kg	1		✱	6010B	Total/NA
Chromium	9.73		1.91	0.256	mg/Kg	1		✱	6010B	Total/NA
Strontium	171		1.91	0.149	mg/Kg	1		✱	6010B	Total/NA
Copper	10.3		3.82	0.384	mg/Kg	1		✱	6010B	Total/NA
Iron	5780		38.2	9.54	mg/Kg	1		✱	6010B	Total/NA
Lead	22.3		0.954	0.290	mg/Kg	1		✱	6010B	Total/NA
Manganese	130		4.77	0.888	mg/Kg	1		✱	6010B	Total/NA
Nickel	7.38		3.82	0.237	mg/Kg	1		✱	6010B	Total/NA
Selenium	1.97		1.91	0.378	mg/Kg	1		✱	6010B	Total/NA
Zinc	74.1		4.77	1.09	mg/Kg	1		✱	6010B	Total/NA
Mercury	0.0366	J	0.249	0.0224	mg/Kg	1		✱	7471A	Total/NA
pH	7.63	HF	0.100	0.100	SU	1			9045D	Total/NA
TOC	4.00		0.100	0.0415	%	1			WALKLEY BLACK	Total/NA
Alkalinity	386		11.7	11.7	mg/Kg	1		✱	SM 2320B	Soluble
Bicarbonate Alkalinity as CaCO3	386		11.7	11.7	mg/Kg	1		✱	SM 2320B	Soluble

Client Sample ID: TB07

Lab Sample ID: 560-62017-7

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS310**

**Date Collected: 06/08/16 11:09**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-1**

**Matrix: Solid**

**Percent Solids: 50.4**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	64.4	J	407	58.6	ug/Kg	☼		06/15/16 17:55	1
Acetonitrile	301	U	407	301	ug/Kg	☼		06/15/16 17:55	1
Benzene	5.13	U	40.7	5.13	ug/Kg	☼		06/15/16 17:55	1
Benzyl chloride	4.07	U	40.7	4.07	ug/Kg	☼		06/15/16 17:55	1
Bromobenzene	6.02	U	40.7	6.02	ug/Kg	☼		06/15/16 17:55	1
Bromochloromethane	7.32	U	40.7	7.32	ug/Kg	☼		06/15/16 17:55	1
Bromoform	4.15	U	40.7	4.15	ug/Kg	☼		06/15/16 17:55	1
Bromomethane	8.95	U	40.7	8.95	ug/Kg	☼		06/15/16 17:55	1
1,3-Butadiene	2.44	U	40.7	2.44	ug/Kg	☼		06/15/16 17:55	1
2-Butanone (MEK)	15.5	U	81.4	15.5	ug/Kg	☼		06/15/16 17:55	1
Carbon disulfide	8.14	U	40.7	8.14	ug/Kg	☼		06/15/16 17:55	1
Carbon tetrachloride	4.15	U	40.7	4.15	ug/Kg	☼		06/15/16 17:55	1
Chlorobenzene	2.44	U	40.7	2.44	ug/Kg	☼		06/15/16 17:55	1
2-Chloro-1,3-butadiene	5.61	U	40.7	5.61	ug/Kg	☼		06/15/16 17:55	1
Chlorodibromomethane	5.21	U	40.7	5.21	ug/Kg	☼		06/15/16 17:55	1
Chloroethane	2.12	U	40.7	2.12	ug/Kg	☼		06/15/16 17:55	1
Chloroform	7.08	U	40.7	7.08	ug/Kg	☼		06/15/16 17:55	1
1-Chlorohexane	4.48	U	40.7	4.48	ug/Kg	☼		06/15/16 17:55	1
Chloromethane	9.76	U	40.7	9.76	ug/Kg	☼		06/15/16 17:55	1
2-Chlorotoluene	2.44	U	40.7	2.44	ug/Kg	☼		06/15/16 17:55	1
4-Chlorotoluene	5.61	U	40.7	5.61	ug/Kg	☼		06/15/16 17:55	1
cis-1,4-Dichloro-2-butene	2.60	U	40.7	2.60	ug/Kg	☼		06/15/16 17:55	1
cis-1,2-Dichloroethene	4.64	U	40.7	4.64	ug/Kg	☼		06/15/16 17:55	1
cis-1,3-Dichloropropene	1.63	U	40.7	1.63	ug/Kg	☼		06/15/16 17:55	1
Cyclohexane	8.06	U	81.4	8.06	ug/Kg	☼		06/15/16 17:55	1
Cyclohexanone	81.4	U	81.4	81.4	ug/Kg	☼		06/15/16 17:55	1
1,2-Dibromo-3-Chloropropane	2.69	U	40.7	2.69	ug/Kg	☼		06/15/16 17:55	1
Dibromomethane	5.78	U	40.7	5.78	ug/Kg	☼		06/15/16 17:55	1
1,3-Dichlorobenzene	2.52	U	40.7	2.52	ug/Kg	☼		06/15/16 17:55	1
1,2-Dichlorobenzene	2.03	U	40.7	2.03	ug/Kg	☼		06/15/16 17:55	1
1,4-Dichlorobenzene	2.60	U	40.7	2.60	ug/Kg	☼		06/15/16 17:55	1
Dichlorobromomethane	1.63	U	40.7	1.63	ug/Kg	☼		06/15/16 17:55	1
Dichlorodifluoromethane	5.94	U	40.7	5.94	ug/Kg	☼		06/15/16 17:55	1
1,2-Dichloroethane	4.23	U	40.7	4.23	ug/Kg	☼		06/15/16 17:55	1
1,1-Dichloroethane	4.80	U	40.7	4.80	ug/Kg	☼		06/15/16 17:55	1
1,1-Dichloroethene	4.07	U	40.7	4.07	ug/Kg	☼		06/15/16 17:55	1
1,2-Dichloroethene, Total	4.07	U	40.7	4.07	ug/Kg	☼		06/15/16 17:55	1
1,2-Dichloropropane	4.07	U	40.7	4.07	ug/Kg	☼		06/15/16 17:55	1
1,3-Dichloropropane	2.44	U	40.7	2.44	ug/Kg	☼		06/15/16 17:55	1
2,2-Dichloropropane	6.83	U	40.7	6.83	ug/Kg	☼		06/15/16 17:55	1
1,1-Dichloropropene	4.23	U	40.7	4.23	ug/Kg	☼		06/15/16 17:55	1
1,3-Dichloropropene, Total	4.23	U	40.7	4.23	ug/Kg	☼		06/15/16 17:55	1
1,4-Dioxane	155	U	81.4	155	ug/Kg	☼		06/15/16 17:55	1
EDB	2.44	U	40.7	2.44	ug/Kg	☼		06/15/16 17:55	1
Ethyl acetate	22.9	U	40.7	22.9	ug/Kg	☼		06/15/16 17:55	1
Ethylbenzene	3.66	U	40.7	3.66	ug/Kg	☼		06/15/16 17:55	1
Ethylene oxide	244	U	81.4	244	ug/Kg	☼		06/15/16 17:55	1
Ethyl ether	4.07	U	203	4.07	ug/Kg	☼		06/15/16 17:55	1
Ethyl methacrylate	4.15	U	40.7	4.15	ug/Kg	☼		06/15/16 17:55	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS310**

**Date Collected: 06/08/16 11:09**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-1**

**Matrix: Solid**

**Percent Solids: 50.4**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	5.21	U	40.7	5.21	ug/Kg	☼		06/15/16 17:55	1
Hexane	10.6	U	40.7	10.6	ug/Kg	☼		06/15/16 17:55	1
2-Hexanone	12.2	U	81.4	12.2	ug/Kg	☼		06/15/16 17:55	1
Iodomethane	6.51	U	40.7	6.51	ug/Kg	☼		06/15/16 17:55	1
Isobutyl alcohol	553	U	2030	553	ug/Kg	☼		06/15/16 17:55	1
Isooctane	4.07	U	40.7	4.07	ug/Kg	☼		06/15/16 17:55	1
Isopropylbenzene	4.07	U	40.7	4.07	ug/Kg	☼		06/15/16 17:55	1
4-Isopropyltoluene	3.21	U	40.7	3.21	ug/Kg	☼		06/15/16 17:55	1
Methacrylonitrile	19.5	U	40.7	19.5	ug/Kg	☼		06/15/16 17:55	1
Methylene Chloride	40.7	U	203	40.7	ug/Kg	☼		06/15/16 17:55	1
Methyl methacrylate	8.95	U	40.7	8.95	ug/Kg	☼		06/15/16 17:55	1
4-Methyl-2-pentanone (MIBK)	12.2	U	81.4	12.2	ug/Kg	☼		06/15/16 17:55	1
Methyl tert-butyl ether	4.96	U	40.7	4.96	ug/Kg	☼		06/15/16 17:55	1
m-Xylene & p-Xylene	4.07	U	81.4	4.07	ug/Kg	☼		06/15/16 17:55	1
Naphthalene	9.76	U	81.4	9.76	ug/Kg	☼		06/15/16 17:55	1
n-Butylbenzene	2.20	U	40.7	2.20	ug/Kg	☼		06/15/16 17:55	1
n-Heptane	4.31	U	40.7	4.31	ug/Kg	☼		06/15/16 17:55	1
2-Nitropropane	4.23	U	81.4	4.23	ug/Kg	☼		06/15/16 17:55	1
N-Propylbenzene	2.44	U	40.7	2.44	ug/Kg	☼		06/15/16 17:55	1
1-Octene	4.07	U	40.7	4.07	ug/Kg	☼		06/15/16 17:55	1
o-Xylene	3.25	U	40.7	3.25	ug/Kg	☼		06/15/16 17:55	1
Pentachloroethane	11.4	U	40.7	11.4	ug/Kg	☼		06/15/16 17:55	1
Propionitrile	39.9	U	40.7	39.9	ug/Kg	☼		06/15/16 17:55	1
sec-Butylbenzene	2.44	U	40.7	2.44	ug/Kg	☼		06/15/16 17:55	1
Styrene	2.44	U	40.7	2.44	ug/Kg	☼		06/15/16 17:55	1
tert-Butylbenzene	2.03	U	40.7	2.03	ug/Kg	☼		06/15/16 17:55	1
1,1,2,2-Tetrachloroethane	3.09	U	40.7	3.09	ug/Kg	☼		06/15/16 17:55	1
1,1,1,2-Tetrachloroethane	2.20	U	40.7	2.20	ug/Kg	☼		06/15/16 17:55	1
Tetrachloroethene	6.02	U	40.7	6.02	ug/Kg	☼		06/15/16 17:55	1
Toluene	7.32	U	40.7	7.32	ug/Kg	☼		06/15/16 17:55	1
trans-1,4-Dichloro-2-butene	7.16	U	40.7	7.16	ug/Kg	☼		06/15/16 17:55	1
trans-1,2-Dichloroethene	4.07	U	40.7	4.07	ug/Kg	☼		06/15/16 17:55	1
trans-1,3-Dichloropropene	4.23	U	40.7	4.23	ug/Kg	☼		06/15/16 17:55	1
1,2,4-Trichlorobenzene	7.89	U	40.7	7.89	ug/Kg	☼		06/15/16 17:55	1
1,2,3-Trichlorobenzene	3.58	U	40.7	3.58	ug/Kg	☼		06/15/16 17:55	1
1,3,5-Trichlorobenzene	2.52	U	40.7	2.52	ug/Kg	☼		06/15/16 17:55	1
1,1,1-Trichloroethane	4.07	U	40.7	4.07	ug/Kg	☼		06/15/16 17:55	1
1,1,2-Trichloroethane	4.07	U	40.7	4.07	ug/Kg	☼		06/15/16 17:55	1
Trichloroethene	2.28	U	40.7	2.28	ug/Kg	☼		06/15/16 17:55	1
Trichlorofluoromethane	4.07	U	40.7	4.07	ug/Kg	☼		06/15/16 17:55	1
1,2,3-Trichloropropane	6.18	U	40.7	6.18	ug/Kg	☼		06/15/16 17:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	5.45	U	40.7	5.45	ug/Kg	☼		06/15/16 17:55	1
1,2,4-Trimethylbenzene	3.09	U	40.7	3.09	ug/Kg	☼		06/15/16 17:55	1
1,3,5-Trimethylbenzene	2.85	U	40.7	2.85	ug/Kg	☼		06/15/16 17:55	1
Vinyl acetate	8.95	U	40.7	8.95	ug/Kg	☼		06/15/16 17:55	1
Vinyl chloride	4.88	U	40.7	4.88	ug/Kg	☼		06/15/16 17:55	1
Xylenes, Total	4.07	U	81.4	4.07	ug/Kg	☼		06/15/16 17:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		65 - 152		06/15/16 17:55	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS310**

**Date Collected: 06/08/16 11:09**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-1**

**Matrix: Solid**

**Percent Solids: 50.4**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		65 - 139		06/15/16 17:55	1
Dibromofluoromethane (Surr)	106		50 - 136		06/15/16 17:55	1
4-Bromofluorobenzene (Surr)	103		61 - 142		06/15/16 17:55	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	63.3	U	633	63.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Acenaphthylene	52.1	U	633	52.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Anthracene	70.7	U	633	70.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Benzo[a]anthracene	78.2	U	633	78.2	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Benzo[a]pyrene	63.3	U	633	63.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Benzo[b]fluoranthene	55.8	U	633	55.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Benzo[g,h,i]perylene	55.8	U	633	55.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Benzo[k]fluoranthene	48.4	U	633	48.4	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Benzyl alcohol	134	U	633	134	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Bis(2-chloroethoxy)methane	63.3	U	633	63.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Bis(2-chloroethyl)ether	96.8	U	633	96.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>163</b>	<b>J</b>	633	96.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
4-Bromophenyl phenyl ether	81.9	U	633	81.9	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Butyl benzyl phthalate	52.1	U	633	52.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
4-Chloroaniline	112	U	633	112	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
4-Chloro-3-methylphenol	89.3	U	633	89.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
2-Chloronaphthalene	63.3	U	633	63.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
2-Chlorophenol	63.3	U	633	63.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
4-Chlorophenyl phenyl ether	85.6	U	633	85.6	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Chrysene	55.8	U	633	55.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Dibenz(a,h)anthracene	52.1	U	633	52.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Dibenzofuran	70.7	U	633	70.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
1,3-Dichlorobenzene	67.0	U	633	67.0	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
1,4-Dichlorobenzene	81.9	U	633	81.9	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
1,2-Dichlorobenzene	70.7	U	633	70.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
3,3'-Dichlorobenzidine	596	U	633	596	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
2,4-Dichlorophenol	63.3	U	633	63.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Diethyl phthalate	59.6	U	633	59.6	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
2,4-Dimethylphenol	208	U	633	208	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Dimethyl phthalate	63.3	U	633	63.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Di-n-butyl phthalate	134	U	633	134	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
4,6-Dinitro-2-methylphenol	112	U	2460	112	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
2,4-Dinitrophenol	112	U	2460	112	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
2,6-Dinitrotoluene	81.9	U	633	81.9	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
2,4-Dinitrotoluene	59.6	U	633	59.6	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Di-n-octyl phthalate	48.4	U	633	48.4	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
<b>Fluoranthene</b>	<b>65.6</b>	<b>J</b>	633	63.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Fluorene	70.7	U	633	70.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Hexachlorobenzene	74.4	U	633	74.4	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Hexachlorobutadiene	104	U	633	104	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Hexachlorocyclopentadiene	186	U	633	186	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Hexachloroethane	74.4	U	633	74.4	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Indeno[1,2,3-cd]pyrene	59.6	U	633	59.6	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS310**

**Date Collected: 06/08/16 11:09**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-1**

**Matrix: Solid**

**Percent Solids: 50.4**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	55.8	U	633	55.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
2-Methylnaphthalene	55.8	U	633	55.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
2-Methylphenol	74.4	U	633	74.4	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
3 & 4 Methylphenol	104	U	1270	104	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Naphthalene	59.6	U	633	59.6	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
2-Nitroaniline	81.9	U	633	81.9	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
3-Nitroaniline	63.3	U	633	63.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
4-Nitroaniline	104	U	633	104	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Nitrobenzene	55.8	U	633	55.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
2-Nitrophenol	59.6	U	633	59.6	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
4-Nitrophenol	112	U	2460	112	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
N-Nitrosodi-n-propylamine	93.1	U	633	93.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
N-Nitrosodiphenylamine	81.9	U	633	81.9	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Pentachlorophenol	1230	U	2460	1230	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Phenanthrene	78.2	U	633	78.2	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Phenol	70.7	U	633	70.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
Pyrene	63.3	U	633	63.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
1,2,4-Trichlorobenzene	59.6	U	633	59.6	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
2,4,6-Trichlorophenol	67.0	U	633	67.0	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1
2,4,5-Trichlorophenol	115	U	633	115	ug/Kg	☼	06/21/16 07:56	06/21/16 13:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	59		24 - 101	06/21/16 07:56	06/21/16 13:54	1
Nitrobenzene-d5	46		17 - 112	06/21/16 07:56	06/21/16 13:54	1
2-Fluorobiphenyl	58		32 - 101	06/21/16 07:56	06/21/16 13:54	1
2,4,6-Tribromophenol	87		21 - 130	06/21/16 07:56	06/21/16 13:54	1
Terphenyl-d14	72		62 - 129	06/21/16 07:56	06/21/16 13:54	1
Phenol-d5 (Surr)	62		23 - 106	06/21/16 07:56	06/21/16 13:54	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	2.58	U	3.34	2.58	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
alpha-BHC	1.97	U	3.34	1.97	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
alpha-Chlordane	3.13	U	6.49	3.13	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
beta-BHC	2.00	U	3.34	2.00	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
4,4'-DDD	3.18	U	6.49	3.18	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
4,4'-DDE	2.85	U	6.49	2.85	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
4,4'-DDT	3.64	U	6.49	3.64	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
delta-BHC	1.67	U	3.34	1.67	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
Dieldrin	2.73	U	6.49	2.73	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
Endosulfan I	1.97	U	3.34	1.97	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
Endosulfan II	2.97	U	3.34	2.97	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
Endosulfan sulfate	3.30	U	6.49	3.30	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
Endrin	3.01	U	6.49	3.01	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
Endrin aldehyde	3.07	U	6.49	3.07	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
Endrin ketone	3.03	U	6.49	3.03	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
gamma-BHC (Lindane)	1.83	U	3.34	1.83	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
gamma-Chlordane	2.46	U	6.49	2.46	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
Heptachlor	1.83	U	3.34	1.83	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
Heptachlor epoxide	2.30	U	3.34	2.30	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS310**

**Date Collected: 06/08/16 11:09**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-1**

**Matrix: Solid**

**Percent Solids: 50.4**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	15.9	U *	33.4	15.9	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
Toxaphene	144	U	334	144	ug/Kg	☼	06/16/16 09:25	06/23/16 14:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	120		50 - 143				06/16/16 09:25	06/23/16 14:38	1
DCB Decachlorobiphenyl	106		47 - 150				06/16/16 09:25	06/23/16 14:38	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1262	10.3	U	66.5	10.3	ug/Kg	☼	06/22/16 07:52	06/23/16 12:29	1
Aroclor 1268	10.3	U	66.5	10.3	ug/Kg	☼	06/22/16 07:52	06/23/16 12:29	1
PCB-1016	10.3	U	66.5	10.3	ug/Kg	☼	06/22/16 07:52	06/23/16 12:29	1
PCB-1221	10.3	U	66.5	10.3	ug/Kg	☼	06/22/16 07:52	06/23/16 12:29	1
PCB-1232	10.3	U	66.5	10.3	ug/Kg	☼	06/22/16 07:52	06/23/16 12:29	1
PCB-1242	10.3	U	66.5	10.3	ug/Kg	☼	06/22/16 07:52	06/23/16 12:29	1
PCB-1248	10.3	U	66.5	10.3	ug/Kg	☼	06/22/16 07:52	06/23/16 12:29	1
PCB-1254	10.3	U	66.5	10.3	ug/Kg	☼	06/22/16 07:52	06/23/16 12:29	1
PCB-1260	20.2	U	66.5	20.2	ug/Kg	☼	06/22/16 07:52	06/23/16 12:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	106		32 - 132				06/22/16 07:52	06/23/16 12:29	1
DCB Decachlorobiphenyl	84		57 - 138				06/22/16 07:52	06/23/16 12:29	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	690	U	2560	690	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Bolstar	836	U	2560	836	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Chlorpyrifos	1270	U	3940	1270	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Coumaphos	552	U	2560	552	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Demeton-O	1040	U	7690	1040	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Demeton-S	958	U	2960	958	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Diazinon	1430	U	4340	1430	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Dichlorvos	1460	U	4540	1460	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Dimethoate	1400	U	4340	1400	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Disulfoton	1520	U	9470	1520	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
EPN	726	U	2560	726	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Ethoprop	972	U	2960	972	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Ethyl Parathion	1040	U	3550	1040	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Famphur	635	U	2560	635	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Fensulfothion	1610	U	4930	1610	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Fenthion	1720	U	6510	1720	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Malathion	915	U	2960	915	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Merphos	1010	U	5920	1010	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Methyl parathion	1260	U	3940	1260	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Mevinphos	911	U	2960	911	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Naled	4460	U	13800	4460	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Phorate	1120	U	3940	1120	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Ronnel	3000	U	9070	3000	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Sulfotepp	1230	U	3940	1230	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Tetrachlorvinphos (Stirophos)	860	U	2960	860	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS310**

**Date Collected: 06/08/16 11:09**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-1**

**Matrix: Solid**

**Percent Solids: 50.4**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thionazin	1100	U	3550	1100	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Tokuthion	771	U	3940	771	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Trichloronate	1230	U	3940	1230	ug/Kg	☼	06/22/16 12:48	07/06/16 14:02	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	68	D	42 - 132				06/22/16 12:48	07/06/16 14:02	100
Triphenylphosphate	116	D	47 - 161				06/22/16 12:48	07/06/16 14:02	100

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	1.12	U	13.2	1.12	ug/Kg	☼	06/20/16 08:59	06/22/16 14:49	1
2,4-DB	2.18	U	13.2	2.18	ug/Kg	☼	06/20/16 08:59	06/22/16 14:49	1
Dicamba	1.52	U	13.2	1.52	ug/Kg	☼	06/20/16 08:59	06/22/16 14:49	1
Dichlorprop	1.49	U	13.2	1.49	ug/Kg	☼	06/20/16 08:59	06/22/16 14:49	1
Dinoseb	1.06	U	13.2	1.06	ug/Kg	☼	06/20/16 08:59	06/22/16 14:49	1
MCPA	215	U	132	215	ug/Kg	☼	06/20/16 08:59	06/22/16 14:49	1
Mecoprop	152	U	132	152	ug/Kg	☼	06/20/16 08:59	06/22/16 14:49	1
Silvex (2,4,5-TP)	1.42	U	13.2	1.42	ug/Kg	☼	06/20/16 08:59	06/22/16 14:49	1
2,4,5-T	1.46	U	13.2	1.46	ug/Kg	☼	06/20/16 08:59	06/22/16 14:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-DCAA	112		22 - 130				06/20/16 08:59	06/22/16 14:49	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	5.67	U	196	5.67	ug/Kg	☼	06/21/16 15:57	06/23/16 21:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-DCAA	92		35 - 137				06/21/16 15:57	06/23/16 21:57	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	1.97	U	7.85	1.97	mg/Kg	☼		06/17/16 21:33	1
Nitrate as N	2.23	J H	3.92	0.492	mg/Kg	☼		06/17/16 21:33	1
Chloride	14.7		7.85	1.05	mg/Kg	☼		06/17/16 21:33	1
Fluoride	3.47	J	3.92	1.18	mg/Kg	☼		06/17/16 21:33	1
Sulfate	143		9.81	1.88	mg/Kg	☼		06/17/16 21:33	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	952		7.82	4.80	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Phosphorus	171		78.2	2.59	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Antimony	2.00	J	3.13	0.417	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Calcium	330000		782	227	mg/Kg	☼	06/21/16 08:00	06/22/16 16:30	10
Arsenic	1.25	J	3.13	0.227	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Magnesium	1480		31.3	2.47	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Barium	16.0		1.56	0.295	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Potassium	212		156	23.8	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Beryllium	0.0750	J	0.782	0.0422	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Silicon	1890		31.3	9.88	mg/Kg	☼	06/21/16 08:00	06/22/16 16:26	1
Cadmium	0.258	J	0.782	0.0563	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS310**

**Date Collected: 06/08/16 11:09**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-1**

**Matrix: Solid**

**Percent Solids: 50.4**

## Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	90.7	J	156	23.6	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Chromium	2.77		1.56	0.209	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Strontium	108		1.56	0.122	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Copper	2.83	J	3.13	0.314	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Iron	1640		31.3	7.82	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Lead	7.95		0.782	0.238	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Manganese	41.2		3.91	0.727	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Nickel	2.10	J	3.13	0.194	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Selenium	2.41		1.56	0.310	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Silver	0.172	U	0.782	0.172	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Thallium	0.186	U	1.56	0.186	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1
Zinc	20.9		3.91	0.891	mg/Kg	☼	06/14/16 11:03	06/16/16 11:09	1

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0221	J	0.234	0.0210	mg/Kg	☼	06/15/16 10:00	06/15/16 16:43	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.72	HF	0.100	0.100	SU	-		06/15/16 14:26	1
TOC	0.597		0.100	0.0415	%			06/24/16 09:00	1

## General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	227		9.89	9.89	mg/Kg	☼		06/17/16 15:00	1
Bicarbonate Alkalinity as CaCO3	227		9.89	9.89	mg/Kg	☼		06/17/16 15:00	1
Carbonate Alkalinity as CaCO3	9.89	U	9.89	9.89	mg/Kg	☼		06/17/16 15:00	1

**Client Sample ID: HCS320**

**Date Collected: 06/08/16 11:32**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-2**

**Matrix: Solid**

**Percent Solids: 52.0**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	43.1	J	84.9	12.2	ug/Kg	☼		06/15/16 12:51	1
Acetonitrile	62.8	U	84.9	62.8	ug/Kg	☼		06/15/16 12:51	1
Benzene	1.07	U	8.49	1.07	ug/Kg	☼		06/15/16 12:51	1
Benzyl chloride	0.849	U	8.49	0.849	ug/Kg	☼		06/15/16 12:51	1
Bromobenzene	1.26	U	8.49	1.26	ug/Kg	☼		06/15/16 12:51	1
Bromochloromethane	1.53	U	8.49	1.53	ug/Kg	☼		06/15/16 12:51	1
Bromoform	0.866	U	8.49	0.866	ug/Kg	☼		06/15/16 12:51	1
Bromomethane	1.87	U	8.49	1.87	ug/Kg	☼		06/15/16 12:51	1
1,3-Butadiene	0.510	U	8.49	0.510	ug/Kg	☼		06/15/16 12:51	1
2-Butanone (MEK)	7.38	J	17.0	3.23	ug/Kg	☼		06/15/16 12:51	1
Carbon disulfide	1.70	U	8.49	1.70	ug/Kg	☼		06/15/16 12:51	1
Carbon tetrachloride	0.866	U	8.49	0.866	ug/Kg	☼		06/15/16 12:51	1
Chlorobenzene	0.510	U	8.49	0.510	ug/Kg	☼		06/15/16 12:51	1
2-Chloro-1,3-butadiene	1.17	U	8.49	1.17	ug/Kg	☼		06/15/16 12:51	1
Chlorodibromomethane	1.09	U	8.49	1.09	ug/Kg	☼		06/15/16 12:51	1
Chloroethane	0.442	U	8.49	0.442	ug/Kg	☼		06/15/16 12:51	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS320**

**Date Collected: 06/08/16 11:32**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-2**

**Matrix: Solid**

**Percent Solids: 52.0**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	1.48	U	8.49	1.48	ug/Kg	☼		06/15/16 12:51	1
1-Chlorohexane	0.934	U	8.49	0.934	ug/Kg	☼		06/15/16 12:51	1
Chloromethane	2.04	U	8.49	2.04	ug/Kg	☼		06/15/16 12:51	1
2-Chlorotoluene	0.510	U	8.49	0.510	ug/Kg	☼		06/15/16 12:51	1
4-Chlorotoluene	1.17	U	8.49	1.17	ug/Kg	☼		06/15/16 12:51	1
cis-1,4-Dichloro-2-butene	0.544	U	8.49	0.544	ug/Kg	☼		06/15/16 12:51	1
cis-1,2-Dichloroethene	0.968	U	8.49	0.968	ug/Kg	☼		06/15/16 12:51	1
cis-1,3-Dichloropropene	0.340	U	8.49	0.340	ug/Kg	☼		06/15/16 12:51	1
Cyclohexane	1.68	U	17.0	1.68	ug/Kg	☼		06/15/16 12:51	1
Cyclohexanone	17.0	U	170	17.0	ug/Kg	☼		06/15/16 12:51	1
1,2-Dibromo-3-Chloropropane	0.561	U	8.49	0.561	ug/Kg	☼		06/15/16 12:51	1
Dibromomethane	1.21	U	8.49	1.21	ug/Kg	☼		06/15/16 12:51	1
1,3-Dichlorobenzene	0.527	U	8.49	0.527	ug/Kg	☼		06/15/16 12:51	1
1,2-Dichlorobenzene	0.425	U	8.49	0.425	ug/Kg	☼		06/15/16 12:51	1
1,4-Dichlorobenzene	0.544	U	8.49	0.544	ug/Kg	☼		06/15/16 12:51	1
Dichlorobromomethane	0.340	U	8.49	0.340	ug/Kg	☼		06/15/16 12:51	1
Dichlorodifluoromethane	1.24	U	8.49	1.24	ug/Kg	☼		06/15/16 12:51	1
1,2-Dichloroethane	0.883	U	8.49	0.883	ug/Kg	☼		06/15/16 12:51	1
1,1-Dichloroethane	1.00	U	8.49	1.00	ug/Kg	☼		06/15/16 12:51	1
1,1-Dichloroethene	0.849	U	8.49	0.849	ug/Kg	☼		06/15/16 12:51	1
1,2-Dichloroethene, Total	0.849	U	8.49	0.849	ug/Kg	☼		06/15/16 12:51	1
1,2-Dichloropropane	0.849	U	8.49	0.849	ug/Kg	☼		06/15/16 12:51	1
1,3-Dichloropropane	0.510	U	8.49	0.510	ug/Kg	☼		06/15/16 12:51	1
2,2-Dichloropropane	1.43	U	8.49	1.43	ug/Kg	☼		06/15/16 12:51	1
1,1-Dichloropropene	0.883	U	8.49	0.883	ug/Kg	☼		06/15/16 12:51	1
1,3-Dichloropropene, Total	0.883	U	8.49	0.883	ug/Kg	☼		06/15/16 12:51	1
1,4-Dioxane	32.3	U	170	32.3	ug/Kg	☼		06/15/16 12:51	1
EDB	0.510	U	8.49	0.510	ug/Kg	☼		06/15/16 12:51	1
Ethyl acetate	4.77	U	8.49	4.77	ug/Kg	☼		06/15/16 12:51	1
Ethylbenzene	0.764	U	8.49	0.764	ug/Kg	☼		06/15/16 12:51	1
Ethylene oxide	51.0	U	170	51.0	ug/Kg	☼		06/15/16 12:51	1
Ethyl ether	0.849	U	42.5	0.849	ug/Kg	☼		06/15/16 12:51	1
Ethyl methacrylate	0.866	U	8.49	0.866	ug/Kg	☼		06/15/16 12:51	1
Hexachlorobutadiene	1.09	U	8.49	1.09	ug/Kg	☼		06/15/16 12:51	1
Hexane	2.21	U	8.49	2.21	ug/Kg	☼		06/15/16 12:51	1
2-Hexanone	2.55	U	17.0	2.55	ug/Kg	☼		06/15/16 12:51	1
Iodomethane	1.36	U	8.49	1.36	ug/Kg	☼		06/15/16 12:51	1
Isobutyl alcohol	116	U	425	116	ug/Kg	☼		06/15/16 12:51	1
Isooctane	0.849	U	8.49	0.849	ug/Kg	☼		06/15/16 12:51	1
Isopropylbenzene	0.849	U	8.49	0.849	ug/Kg	☼		06/15/16 12:51	1
4-Isopropyltoluene	0.671	U	8.49	0.671	ug/Kg	☼		06/15/16 12:51	1
Methacrylonitrile	4.08	U	84.9	4.08	ug/Kg	☼		06/15/16 12:51	1
Methylene Chloride	8.49	U	42.5	8.49	ug/Kg	☼		06/15/16 12:51	1
Methyl methacrylate	1.87	U	8.49	1.87	ug/Kg	☼		06/15/16 12:51	1
4-Methyl-2-pentanone (MIBK)	2.55	U	17.0	2.55	ug/Kg	☼		06/15/16 12:51	1
Methyl tert-butyl ether	1.04	U	8.49	1.04	ug/Kg	☼		06/15/16 12:51	1
m-Xylene & p-Xylene	0.849	U	17.0	0.849	ug/Kg	☼		06/15/16 12:51	1
Naphthalene	2.04	U	17.0	2.04	ug/Kg	☼		06/15/16 12:51	1
n-Butylbenzene	0.459	U	8.49	0.459	ug/Kg	☼		06/15/16 12:51	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS320**

**Date Collected: 06/08/16 11:32**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-2**

**Matrix: Solid**

**Percent Solids: 52.0**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Heptane	0.900	U	8.49	0.900	ug/Kg	☼		06/15/16 12:51	1
2-Nitropropane	0.883	U	17.0	0.883	ug/Kg	☼		06/15/16 12:51	1
N-Propylbenzene	0.510	U	8.49	0.510	ug/Kg	☼		06/15/16 12:51	1
1-Octene	0.849	U	8.49	0.849	ug/Kg	☼		06/15/16 12:51	1
o-Xylene	0.679	U	8.49	0.679	ug/Kg	☼		06/15/16 12:51	1
Pentachloroethane	2.38	U	8.49	2.38	ug/Kg	☼		06/15/16 12:51	1
Propionitrile	8.32	U	84.9	8.32	ug/Kg	☼		06/15/16 12:51	1
sec-Butylbenzene	0.510	U	8.49	0.510	ug/Kg	☼		06/15/16 12:51	1
Styrene	0.510	U	8.49	0.510	ug/Kg	☼		06/15/16 12:51	1
tert-Butylbenzene	0.425	U	8.49	0.425	ug/Kg	☼		06/15/16 12:51	1
1,1,2,2-Tetrachloroethane	0.645	U	8.49	0.645	ug/Kg	☼		06/15/16 12:51	1
1,1,1,2-Tetrachloroethane	0.459	U	8.49	0.459	ug/Kg	☼		06/15/16 12:51	1
Tetrachloroethene	1.26	U	8.49	1.26	ug/Kg	☼		06/15/16 12:51	1
Toluene	1.53	U	8.49	1.53	ug/Kg	☼		06/15/16 12:51	1
trans-1,4-Dichloro-2-butene	1.49	U	8.49	1.49	ug/Kg	☼		06/15/16 12:51	1
trans-1,2-Dichloroethene	0.849	U	8.49	0.849	ug/Kg	☼		06/15/16 12:51	1
trans-1,3-Dichloropropene	0.883	U	8.49	0.883	ug/Kg	☼		06/15/16 12:51	1
1,2,4-Trichlorobenzene	1.65	U	8.49	1.65	ug/Kg	☼		06/15/16 12:51	1
1,2,3-Trichlorobenzene	0.747	U	8.49	0.747	ug/Kg	☼		06/15/16 12:51	1
1,3,5-Trichlorobenzene	0.527	U	8.49	0.527	ug/Kg	☼		06/15/16 12:51	1
1,1,1-Trichloroethane	0.849	U	8.49	0.849	ug/Kg	☼		06/15/16 12:51	1
1,1,2-Trichloroethane	0.849	U	8.49	0.849	ug/Kg	☼		06/15/16 12:51	1
Trichloroethene	0.476	U	8.49	0.476	ug/Kg	☼		06/15/16 12:51	1
Trichlorofluoromethane	0.849	U	8.49	0.849	ug/Kg	☼		06/15/16 12:51	1
1,2,3-Trichloropropane	1.29	U	8.49	1.29	ug/Kg	☼		06/15/16 12:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.14	U	8.49	1.14	ug/Kg	☼		06/15/16 12:51	1
1,2,4-Trimethylbenzene	0.645	U	8.49	0.645	ug/Kg	☼		06/15/16 12:51	1
1,3,5-Trimethylbenzene	0.595	U	8.49	0.595	ug/Kg	☼		06/15/16 12:51	1
Vinyl acetate	1.87	U	8.49	1.87	ug/Kg	☼		06/15/16 12:51	1
Vinyl chloride	1.02	U	8.49	1.02	ug/Kg	☼		06/15/16 12:51	1
Xylenes, Total	0.849	U	17.0	0.849	ug/Kg	☼		06/15/16 12:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		65 - 152		06/15/16 12:51	1
Toluene-d8 (Surr)	98		65 - 139		06/15/16 12:51	1
Dibromofluoromethane (Surr)	102		50 - 136		06/15/16 12:51	1
4-Bromofluorobenzene (Surr)	109		61 - 142		06/15/16 12:51	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	62.1	U	621	62.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Acenaphthylene	51.1	U	621	51.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Anthracene	69.4	U	621	69.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Benzo[a]anthracene	76.7	U	621	76.7	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Benzo[a]pyrene	62.1	U	621	62.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Benzo[b]fluoranthene	54.8	U	621	54.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Benzo[g,h,i]perylene	54.8	U	621	54.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Benzo[k]fluoranthene	47.5	U	621	47.5	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Benzyl alcohol	132	U	621	132	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Bis(2-chloroethoxy)methane	62.1	U	621	62.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS320**

**Date Collected: 06/08/16 11:32**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-2**

**Matrix: Solid**

**Percent Solids: 52.0**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-chloroethyl)ether	95.0	U	621	95.0	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>151</b>	<b>J</b>	621	95.0	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
4-Bromophenyl phenyl ether	80.4	U	621	80.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Butyl benzyl phthalate	51.1	U	621	51.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
4-Chloroaniline	110	U	621	110	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
4-Chloro-3-methylphenol	87.7	U	621	87.7	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
2-Chloronaphthalene	62.1	U	621	62.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
2-Chlorophenol	62.1	U	621	62.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
4-Chlorophenyl phenyl ether	84.0	U	621	84.0	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Chrysene	54.8	U	621	54.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Dibenz(a,h)anthracene	51.1	U	621	51.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Dibenzofuran	69.4	U	621	69.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
1,3-Dichlorobenzene	65.8	U	621	65.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
1,4-Dichlorobenzene	80.4	U	621	80.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
1,2-Dichlorobenzene	69.4	U	621	69.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
3,3'-Dichlorobenzidine	585	U	621	585	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
2,4-Dichlorophenol	62.1	U	621	62.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Diethyl phthalate	58.5	U	621	58.5	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
2,4-Dimethylphenol	205	U	621	205	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Dimethyl phthalate	62.1	U	621	62.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Di-n-butyl phthalate	132	U	621	132	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
4,6-Dinitro-2-methylphenol	110	U	2410	110	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
2,4-Dinitrophenol	110	U	2410	110	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
2,6-Dinitrotoluene	80.4	U	621	80.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
2,4-Dinitrotoluene	58.5	U	621	58.5	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Di-n-octyl phthalate	47.5	U	621	47.5	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Fluoranthene	62.1	U	621	62.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Fluorene	69.4	U	621	69.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Hexachlorobenzene	73.1	U	621	73.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Hexachlorobutadiene	102	U	621	102	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Hexachlorocyclopentadiene	183	U	621	183	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Hexachloroethane	73.1	U	621	73.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Indeno[1,2,3-cd]pyrene	58.5	U	621	58.5	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Isophorone	54.8	U	621	54.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
2-Methylnaphthalene	54.8	U	621	54.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
2-Methylphenol	73.1	U	621	73.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
<b>3 &amp; 4 Methylphenol</b>	<b>374</b>	<b>J</b>	1240	102	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Naphthalene	58.5	U	621	58.5	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
2-Nitroaniline	80.4	U	621	80.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
3-Nitroaniline	62.1	U	621	62.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
4-Nitroaniline	102	U	621	102	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Nitrobenzene	54.8	U	621	54.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
2-Nitrophenol	58.5	U	621	58.5	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
4-Nitrophenol	110	U	2410	110	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
N-Nitrosodi-n-propylamine	91.3	U	621	91.3	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
N-Nitrosodiphenylamine	80.4	U	621	80.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Pentachlorophenol	1210	U	2410	1210	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Phenanthrene	76.7	U	621	76.7	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
Phenol	69.4	U	621	69.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS320**

**Date Collected: 06/08/16 11:32**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-2**

**Matrix: Solid**

**Percent Solids: 52.0**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	62.1	U	621	62.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
1,2,4-Trichlorobenzene	58.5	U	621	58.5	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
2,4,6-Trichlorophenol	65.8	U	621	65.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1
2,4,5-Trichlorophenol	113	U	621	113	ug/Kg	☼	06/21/16 07:56	06/21/16 14:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	42		24 - 101	06/21/16 07:56	06/21/16 14:20	1
Nitrobenzene-d5	37		17 - 112	06/21/16 07:56	06/21/16 14:20	1
2-Fluorobiphenyl	42		32 - 101	06/21/16 07:56	06/21/16 14:20	1
2,4,6-Tribromophenol	74		21 - 130	06/21/16 07:56	06/21/16 14:20	1
Terphenyl-d14	63		62 - 129	06/21/16 07:56	06/21/16 14:20	1
Phenol-d5 (Surr)	44		23 - 106	06/21/16 07:56	06/21/16 14:20	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	2.51	U	3.25	2.51	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
alpha-BHC	1.91	U	3.25	1.91	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
alpha-Chlordane	3.04	U	6.31	3.04	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
beta-BHC	1.95	U	3.25	1.95	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
4,4'-DDD	3.10	U	6.31	3.10	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
4,4'-DDE	2.77	U	6.31	2.77	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
4,4'-DDT	3.54	U	6.31	3.54	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
delta-BHC	1.63	U	3.25	1.63	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
Dieldrin	2.66	U	6.31	2.66	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
Endosulfan I	1.91	U	3.25	1.91	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
Endosulfan II	2.89	U	3.25	2.89	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
Endosulfan sulfate	3.21	U	6.31	3.21	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
Endrin	2.93	U	6.31	2.93	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
Endrin aldehyde	2.98	U	6.31	2.98	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
Endrin ketone	2.95	U	6.31	2.95	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
gamma-BHC (Lindane)	1.78	U	3.25	1.78	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
gamma-Chlordane	2.39	U	6.31	2.39	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
Heptachlor	1.78	U	3.25	1.78	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
Heptachlor epoxide	2.24	U	3.25	2.24	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
Methoxychlor	15.4	U *	32.5	15.4	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1
Toxaphene	140	U	325	140	ug/Kg	☼	06/16/16 09:25	06/23/16 15:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	132		50 - 143	06/16/16 09:25	06/23/16 15:02	1
DCB Decachlorobiphenyl	101		47 - 150	06/16/16 09:25	06/23/16 15:02	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1262	9.19	U	59.5	9.19	ug/Kg	☼	06/22/16 07:52	06/23/16 12:49	1
Aroclor 1268	9.19	U	59.5	9.19	ug/Kg	☼	06/22/16 07:52	06/23/16 12:49	1
PCB-1016	9.19	U	59.5	9.19	ug/Kg	☼	06/22/16 07:52	06/23/16 12:49	1
PCB-1221	9.19	U	59.5	9.19	ug/Kg	☼	06/22/16 07:52	06/23/16 12:49	1
PCB-1232	9.19	U	59.5	9.19	ug/Kg	☼	06/22/16 07:52	06/23/16 12:49	1
PCB-1242	9.19	U	59.5	9.19	ug/Kg	☼	06/22/16 07:52	06/23/16 12:49	1
PCB-1248	9.19	U	59.5	9.19	ug/Kg	☼	06/22/16 07:52	06/23/16 12:49	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS320**

**Date Collected: 06/08/16 11:32**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-2**

**Matrix: Solid**

**Percent Solids: 52.0**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1254	9.19	U	59.5	9.19	ug/Kg	☼	06/22/16 07:52	06/23/16 12:49	1
PCB-1260	18.0	U	59.5	18.0	ug/Kg	☼	06/22/16 07:52	06/23/16 12:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	84		32 - 132				06/22/16 07:52	06/23/16 12:49	1
DCB Decachlorobiphenyl	74		57 - 138				06/22/16 07:52	06/23/16 12:49	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	658	U	2440	658	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Bolstar	797	U	2440	797	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Chlorpyrifos	1210	U	3760	1210	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Coumaphos	526	U	2440	526	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Demeton-O	994	U	7330	994	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Demeton-S	913	U	2820	913	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Diazinon	1370	U	4130	1370	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Dichlorvos	1390	U	4320	1390	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Dimethoate	1330	U	4130	1330	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Disulfoton	1450	U	9020	1450	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
EPN	691	U	2440	691	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Ethoprop	926	U	2820	926	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Ethyl Parathion	994	U	3380	994	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Famphur	605	U	2440	605	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Fensulfothion	1530	U	4700	1530	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Fenthion	1640	U	6200	1640	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Malathion	872	U	2820	872	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Merphos	966	U	5640	966	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Methyl parathion	1200	U	3760	1200	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Mevinphos	868	U	2820	868	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Naled	4250	U	13200	4250	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Phorate	1070	U	3760	1070	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Ronnel	2860	U	8640	2860	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Sulfotepp	1180	U	3760	1180	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Tetrachlorvinphos (Stirophos)	819	U	2820	819	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Thionazin	1050	U	3380	1050	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Tokuthion	735	U	3760	735	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Trichloronate	1170	U	3760	1170	ug/Kg	☼	06/22/16 12:48	07/06/16 14:32	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	68	D	42 - 132				06/22/16 12:48	07/06/16 14:32	100
Triphenylphosphate	98	D	47 - 161				06/22/16 12:48	07/06/16 14:32	100

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	1.09	U	12.8	1.09	ug/Kg	☼	06/20/16 08:59	06/22/16 15:14	1
2,4-DB	2.11	U	12.8	2.11	ug/Kg	☼	06/20/16 08:59	06/22/16 15:14	1
Dicamba	1.47	U	12.8	1.47	ug/Kg	☼	06/20/16 08:59	06/22/16 15:14	1
Dichlorprop	1.44	U	12.8	1.44	ug/Kg	☼	06/20/16 08:59	06/22/16 15:14	1
Dinoseb	1.02	U	12.8	1.02	ug/Kg	☼	06/20/16 08:59	06/22/16 15:14	1
MCPA	208	U	128	208	ug/Kg	☼	06/20/16 08:59	06/22/16 15:14	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS320**

**Date Collected: 06/08/16 11:32**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-2**

**Matrix: Solid**

**Percent Solids: 52.0**

## Method: 8151A - Herbicides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mecoprop	147	U	128	147	ug/Kg	☼	06/20/16 08:59	06/22/16 15:14	1
Silvex (2,4,5-TP)	1.37	U	12.8	1.37	ug/Kg	☼	06/20/16 08:59	06/22/16 15:14	1
2,4,5-T	1.41	U	12.8	1.41	ug/Kg	☼	06/20/16 08:59	06/22/16 15:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-DCAA	69		22 - 130				06/20/16 08:59	06/22/16 15:14	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	9.72	J p	191	5.55	ug/Kg	☼	06/21/16 15:57	06/23/16 22:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-DCAA	71		35 - 137				06/21/16 15:57	06/23/16 22:17	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	1.95	U	7.77	1.95	mg/Kg	☼		06/17/16 22:33	1
Nitrate as N	2.34	J H	3.88	0.488	mg/Kg	☼		06/17/16 22:33	1
Chloride	14.2		7.77	1.04	mg/Kg	☼		06/17/16 22:33	1
Fluoride	3.42	J	3.88	1.17	mg/Kg	☼		06/17/16 22:33	1
Sulfate	51.8		9.71	1.86	mg/Kg	☼		06/17/16 22:33	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	2860		7.95	4.88	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Phosphorus	342		79.5	2.64	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Antimony	1.65	J	3.18	0.424	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Calcium	276000		795	230	mg/Kg	☼	06/21/16 08:00	06/22/16 16:37	10
Arsenic	3.75		3.18	0.230	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Magnesium	1720		31.8	2.51	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Barium	27.3		1.59	0.300	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Potassium	365		159	24.2	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Beryllium	0.257	J	0.795	0.0429	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Silicon	2930		31.8	10.0	mg/Kg	☼	06/21/16 08:00	06/22/16 16:33	1
Cadmium	0.626	J	0.795	0.0572	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Sodium	190		159	24.0	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Chromium	7.27		1.59	0.213	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Strontium	168		1.59	0.124	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Copper	5.36		3.18	0.319	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Iron	3980		31.8	7.95	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Lead	10.4		0.795	0.242	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Manganese	42.5		3.97	0.739	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Nickel	5.88		3.18	0.197	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Selenium	3.14		1.59	0.315	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Silver	0.175	U	0.795	0.175	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Thallium	0.189	U	1.59	0.189	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1
Zinc	43.0		3.97	0.906	mg/Kg	☼	06/14/16 11:03	06/16/16 11:12	1

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0167	U	0.186	0.0167	mg/Kg	☼	06/15/16 10:00	06/15/16 16:45	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.59	HF	0.100	0.100	SU			06/15/16 14:26	1
TOC	2.43		0.100	0.0415	%			06/24/16 09:00	1

## General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	295		9.57	9.57	mg/Kg	⊗		06/17/16 15:00	1
Bicarbonate Alkalinity as CaCO3	295		9.57	9.57	mg/Kg	⊗		06/17/16 15:00	1
Carbonate Alkalinity as CaCO3	9.57	U	9.57	9.57	mg/Kg	⊗		06/17/16 15:00	1

Client Sample ID: HCS330

Lab Sample ID: 560-62017-3

Date Collected: 06/08/16 15:07

Matrix: Solid

Date Received: 06/09/16 09:30

Percent Solids: 81.0

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	9.15	J	56.3	8.11	ug/Kg	⊗		06/15/16 13:17	1
Acetonitrile	41.7	U	56.3	41.7	ug/Kg	⊗		06/15/16 13:17	1
Benzene	0.710	U	5.63	0.710	ug/Kg	⊗		06/15/16 13:17	1
Benzyl chloride	0.563	U	5.63	0.563	ug/Kg	⊗		06/15/16 13:17	1
Bromobenzene	0.834	U	5.63	0.834	ug/Kg	⊗		06/15/16 13:17	1
Bromochloromethane	1.01	U	5.63	1.01	ug/Kg	⊗		06/15/16 13:17	1
Bromoform	0.575	U	5.63	0.575	ug/Kg	⊗		06/15/16 13:17	1
Bromomethane	1.24	U	5.63	1.24	ug/Kg	⊗		06/15/16 13:17	1
1,3-Butadiene	0.338	U	5.63	0.338	ug/Kg	⊗		06/15/16 13:17	1
2-Butanone (MEK)	2.14	U	11.3	2.14	ug/Kg	⊗		06/15/16 13:17	1
Carbon disulfide	1.13	U	5.63	1.13	ug/Kg	⊗		06/15/16 13:17	1
Carbon tetrachloride	0.575	U	5.63	0.575	ug/Kg	⊗		06/15/16 13:17	1
Chlorobenzene	0.338	U	5.63	0.338	ug/Kg	⊗		06/15/16 13:17	1
2-Chloro-1,3-butadiene	0.777	U	5.63	0.777	ug/Kg	⊗		06/15/16 13:17	1
Chlorodibromomethane	0.721	U	5.63	0.721	ug/Kg	⊗		06/15/16 13:17	1
Chloroethane	0.293	U	5.63	0.293	ug/Kg	⊗		06/15/16 13:17	1
Chloroform	0.980	U	5.63	0.980	ug/Kg	⊗		06/15/16 13:17	1
1-Chlorohexane	0.620	U	5.63	0.620	ug/Kg	⊗		06/15/16 13:17	1
Chloromethane	1.35	U	5.63	1.35	ug/Kg	⊗		06/15/16 13:17	1
2-Chlorotoluene	0.338	U	5.63	0.338	ug/Kg	⊗		06/15/16 13:17	1
4-Chlorotoluene	0.777	U	5.63	0.777	ug/Kg	⊗		06/15/16 13:17	1
cis-1,4-Dichloro-2-butene	0.360	U	5.63	0.360	ug/Kg	⊗		06/15/16 13:17	1
cis-1,2-Dichloroethene	0.642	U	5.63	0.642	ug/Kg	⊗		06/15/16 13:17	1
cis-1,3-Dichloropropene	0.225	U	5.63	0.225	ug/Kg	⊗		06/15/16 13:17	1
Cyclohexane	1.12	U	11.3	1.12	ug/Kg	⊗		06/15/16 13:17	1
Cyclohexanone	11.3	U	11.3	11.3	ug/Kg	⊗		06/15/16 13:17	1
1,2-Dibromo-3-Chloropropane	0.372	U	5.63	0.372	ug/Kg	⊗		06/15/16 13:17	1
Dibromomethane	0.800	U	5.63	0.800	ug/Kg	⊗		06/15/16 13:17	1
1,3-Dichlorobenzene	0.349	U	5.63	0.349	ug/Kg	⊗		06/15/16 13:17	1
1,2-Dichlorobenzene	0.282	U	5.63	0.282	ug/Kg	⊗		06/15/16 13:17	1
1,4-Dichlorobenzene	0.360	U	5.63	0.360	ug/Kg	⊗		06/15/16 13:17	1
Dichlorobromomethane	0.225	U	5.63	0.225	ug/Kg	⊗		06/15/16 13:17	1
Dichlorodifluoromethane	0.822	U	5.63	0.822	ug/Kg	⊗		06/15/16 13:17	1
1,2-Dichloroethane	0.586	U	5.63	0.586	ug/Kg	⊗		06/15/16 13:17	1
1,1-Dichloroethane	0.665	U	5.63	0.665	ug/Kg	⊗		06/15/16 13:17	1
1,1-Dichloroethene	0.563	U	5.63	0.563	ug/Kg	⊗		06/15/16 13:17	1
1,2-Dichloroethene, Total	0.563	U	5.63	0.563	ug/Kg	⊗		06/15/16 13:17	1
1,2-Dichloropropane	0.563	U	5.63	0.563	ug/Kg	⊗		06/15/16 13:17	1
1,3-Dichloropropane	0.338	U	5.63	0.338	ug/Kg	⊗		06/15/16 13:17	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS330**

**Date Collected: 06/08/16 15:07**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-3**

**Matrix: Solid**

**Percent Solids: 81.0**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,2-Dichloropropane	0.946	U	5.63	0.946	ug/Kg	☼		06/15/16 13:17	1
1,1-Dichloropropene	0.586	U	5.63	0.586	ug/Kg	☼		06/15/16 13:17	1
1,3-Dichloropropene, Total	0.586	U	5.63	0.586	ug/Kg	☼		06/15/16 13:17	1
1,4-Dioxane	21.4	U	113	21.4	ug/Kg	☼		06/15/16 13:17	1
EDB	0.338	U	5.63	0.338	ug/Kg	☼		06/15/16 13:17	1
Ethyl acetate	3.17	U	5.63	3.17	ug/Kg	☼		06/15/16 13:17	1
Ethylbenzene	0.507	U	5.63	0.507	ug/Kg	☼		06/15/16 13:17	1
Ethylene oxide	33.8	U	113	33.8	ug/Kg	☼		06/15/16 13:17	1
Ethyl ether	0.563	U	28.2	0.563	ug/Kg	☼		06/15/16 13:17	1
Ethyl methacrylate	0.575	U	5.63	0.575	ug/Kg	☼		06/15/16 13:17	1
Hexachlorobutadiene	0.721	U	5.63	0.721	ug/Kg	☼		06/15/16 13:17	1
Hexane	1.46	U	5.63	1.46	ug/Kg	☼		06/15/16 13:17	1
2-Hexanone	1.69	U	11.3	1.69	ug/Kg	☼		06/15/16 13:17	1
Iodomethane	0.901	U	5.63	0.901	ug/Kg	☼		06/15/16 13:17	1
Isobutyl alcohol	76.6	U	282	76.6	ug/Kg	☼		06/15/16 13:17	1
Isooctane	0.563	U	5.63	0.563	ug/Kg	☼		06/15/16 13:17	1
Isopropylbenzene	0.563	U	5.63	0.563	ug/Kg	☼		06/15/16 13:17	1
4-Isopropyltoluene	0.445	U	5.63	0.445	ug/Kg	☼		06/15/16 13:17	1
Methacrylonitrile	2.70	U	56.3	2.70	ug/Kg	☼		06/15/16 13:17	1
Methylene Chloride	5.63	U	28.2	5.63	ug/Kg	☼		06/15/16 13:17	1
Methyl methacrylate	1.24	U	5.63	1.24	ug/Kg	☼		06/15/16 13:17	1
4-Methyl-2-pentanone (MIBK)	1.69	U	11.3	1.69	ug/Kg	☼		06/15/16 13:17	1
Methyl tert-butyl ether	0.687	U	5.63	0.687	ug/Kg	☼		06/15/16 13:17	1
m-Xylene & p-Xylene	0.563	U	11.3	0.563	ug/Kg	☼		06/15/16 13:17	1
Naphthalene	1.35	U	11.3	1.35	ug/Kg	☼		06/15/16 13:17	1
n-Butylbenzene	0.304	U	5.63	0.304	ug/Kg	☼		06/15/16 13:17	1
n-Heptane	0.597	U	5.63	0.597	ug/Kg	☼		06/15/16 13:17	1
2-Nitropropane	0.586	U	11.3	0.586	ug/Kg	☼		06/15/16 13:17	1
N-Propylbenzene	0.338	U	5.63	0.338	ug/Kg	☼		06/15/16 13:17	1
1-Octene	0.563	U	5.63	0.563	ug/Kg	☼		06/15/16 13:17	1
o-Xylene	0.451	U	5.63	0.451	ug/Kg	☼		06/15/16 13:17	1
Pentachloroethane	1.58	U	5.63	1.58	ug/Kg	☼		06/15/16 13:17	1
Propionitrile	5.52	U	56.3	5.52	ug/Kg	☼		06/15/16 13:17	1
sec-Butylbenzene	0.338	U	5.63	0.338	ug/Kg	☼		06/15/16 13:17	1
<b>Styrene</b>	<b>0.641</b>	<b>J</b>	5.63	0.338	ug/Kg	☼		06/15/16 13:17	1
tert-Butylbenzene	0.282	U	5.63	0.282	ug/Kg	☼		06/15/16 13:17	1
1,1,2,2-Tetrachloroethane	0.428	U	5.63	0.428	ug/Kg	☼		06/15/16 13:17	1
1,1,1,2-Tetrachloroethane	0.304	U	5.63	0.304	ug/Kg	☼		06/15/16 13:17	1
Tetrachloroethene	0.834	U	5.63	0.834	ug/Kg	☼		06/15/16 13:17	1
Toluene	1.01	U	5.63	1.01	ug/Kg	☼		06/15/16 13:17	1
trans-1,4-Dichloro-2-butene	0.991	U	5.63	0.991	ug/Kg	☼		06/15/16 13:17	1
trans-1,2-Dichloroethene	0.563	U	5.63	0.563	ug/Kg	☼		06/15/16 13:17	1
trans-1,3-Dichloropropene	0.586	U	5.63	0.586	ug/Kg	☼		06/15/16 13:17	1
1,2,4-Trichlorobenzene	1.09	U	5.63	1.09	ug/Kg	☼		06/15/16 13:17	1
1,2,3-Trichlorobenzene	0.496	U	5.63	0.496	ug/Kg	☼		06/15/16 13:17	1
1,3,5-Trichlorobenzene	0.349	U	5.63	0.349	ug/Kg	☼		06/15/16 13:17	1
1,1,1-Trichloroethane	0.563	U	5.63	0.563	ug/Kg	☼		06/15/16 13:17	1
1,1,2-Trichloroethane	0.563	U	5.63	0.563	ug/Kg	☼		06/15/16 13:17	1
Trichloroethene	0.315	U	5.63	0.315	ug/Kg	☼		06/15/16 13:17	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS330**

**Date Collected: 06/08/16 15:07**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-3**

**Matrix: Solid**

**Percent Solids: 81.0**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	0.563	U	5.63	0.563	ug/Kg	☼		06/15/16 13:17	1
1,2,3-Trichloropropane	0.856	U	5.63	0.856	ug/Kg	☼		06/15/16 13:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.755	U	5.63	0.755	ug/Kg	☼		06/15/16 13:17	1
1,2,4-Trimethylbenzene	0.428	U	5.63	0.428	ug/Kg	☼		06/15/16 13:17	1
1,3,5-Trimethylbenzene	0.394	U	5.63	0.394	ug/Kg	☼		06/15/16 13:17	1
Vinyl acetate	1.24	U	5.63	1.24	ug/Kg	☼		06/15/16 13:17	1
Vinyl chloride	0.676	U	5.63	0.676	ug/Kg	☼		06/15/16 13:17	1
Xylenes, Total	0.563	U	11.3	0.563	ug/Kg	☼		06/15/16 13:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		65 - 152					06/15/16 13:17	1
Toluene-d8 (Surr)	98		65 - 139					06/15/16 13:17	1
Dibromofluoromethane (Surr)	99		50 - 136					06/15/16 13:17	1
4-Bromofluorobenzene (Surr)	105		61 - 142					06/15/16 13:17	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	21.1	U	211	21.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Acenaphthylene	17.4	U	211	17.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Anthracene	23.6	U	211	23.6	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Benzo[a]anthracene	26.0	U	211	26.0	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Benzo[a]pyrene	21.1	U	211	21.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
<b>Benzo[b]fluoranthene</b>	<b>23.3</b>	<b>J</b>	211	18.6	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Benzo[g,h,i]perylene	18.6	U	211	18.6	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Benzo[k]fluoranthene	16.1	U	211	16.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Benzyl alcohol	44.6	U	211	44.6	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Bis(2-chloroethoxy)methane	21.1	U	211	21.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Bis(2-chloroethyl)ether	32.2	U	211	32.2	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>531</b>		211	32.2	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
4-Bromophenyl phenyl ether	27.3	U	211	27.3	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Butyl benzyl phthalate	17.4	U	211	17.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
4-Chloroaniline	37.2	U	211	37.2	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
4-Chloro-3-methylphenol	29.8	U	211	29.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
2-Chloronaphthalene	21.1	U	211	21.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
2-Chlorophenol	21.1	U	211	21.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
4-Chlorophenyl phenyl ether	28.5	U	211	28.5	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Chrysene	18.6	U	211	18.6	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Dibenz(a,h)anthracene	17.4	U	211	17.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Dibenzofuran	23.6	U	211	23.6	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
1,3-Dichlorobenzene	22.3	U	211	22.3	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
1,4-Dichlorobenzene	27.3	U	211	27.3	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
1,2-Dichlorobenzene	23.6	U	211	23.6	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
3,3'-Dichlorobenzidine	198	U	211	198	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
2,4-Dichlorophenol	21.1	U	211	21.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Diethyl phthalate	19.8	U	211	19.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
2,4-Dimethylphenol	69.4	U	211	69.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Dimethyl phthalate	21.1	U	211	21.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Di-n-butyl phthalate	44.6	U	211	44.6	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
4,6-Dinitro-2-methylphenol	37.2	U	818	37.2	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
2,4-Dinitrophenol	37.2	U	818	37.2	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS330**

**Date Collected: 06/08/16 15:07**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-3**

**Matrix: Solid**

**Percent Solids: 81.0**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	27.3	U	211	27.3	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
2,4-Dinitrotoluene	19.8	U	211	19.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Di-n-octyl phthalate	16.1	U	211	16.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
<b>Fluoranthene</b>	<b>44.3</b>	<b>J</b>	211	21.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Fluorene	23.6	U	211	23.6	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Hexachlorobenzene	24.8	U	211	24.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Hexachlorobutadiene	34.7	U	211	34.7	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Hexachlorocyclopentadiene	62.0	U	211	62.0	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Hexachloroethane	24.8	U	211	24.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>44.9</b>	<b>J</b>	211	19.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Isophorone	18.6	U	211	18.6	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
2-Methylnaphthalene	18.6	U	211	18.6	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
2-Methylphenol	24.8	U	211	24.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
3 & 4 Methylphenol	34.7	U	421	34.7	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Naphthalene	19.8	U	211	19.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
2-Nitroaniline	27.3	U	211	27.3	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
3-Nitroaniline	21.1	U	211	21.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
4-Nitroaniline	34.7	U	211	34.7	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Nitrobenzene	18.6	U	211	18.6	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
2-Nitrophenol	19.8	U	211	19.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
4-Nitrophenol	37.2	U	818	37.2	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
N-Nitrosodi-n-propylamine	31.0	U	211	31.0	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
N-Nitrosodiphenylamine	27.3	U	211	27.3	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Pentachlorophenol	409	U	818	409	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Phenanthrene	26.0	U	211	26.0	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Phenol	23.6	U	211	23.6	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
Pyrene	21.1	U	211	21.1	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
1,2,4-Trichlorobenzene	19.8	U	211	19.8	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
2,4,6-Trichlorophenol	22.3	U	211	22.3	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1
2,4,5-Trichlorophenol	38.4	U	211	38.4	ug/Kg	☼	06/21/16 07:56	06/21/16 14:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	65		24 - 101	06/21/16 07:56	06/21/16 14:46	1
Nitrobenzene-d5	54		17 - 112	06/21/16 07:56	06/21/16 14:46	1
2-Fluorobiphenyl	62		32 - 101	06/21/16 07:56	06/21/16 14:46	1
2,4,6-Tribromophenol	76		21 - 130	06/21/16 07:56	06/21/16 14:46	1
Terphenyl-d14	78		62 - 129	06/21/16 07:56	06/21/16 14:46	1
Phenol-d5 (Surr)	64		23 - 106	06/21/16 07:56	06/21/16 14:46	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	1.61	U	2.09	1.61	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
alpha-BHC	1.23	U	2.09	1.23	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
alpha-Chlordane	1.96	U	4.07	1.96	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
beta-BHC	1.26	U	2.09	1.26	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
4,4'-DDD	2.00	U	4.07	2.00	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
4,4'-DDE	1.79	U	4.07	1.79	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
4,4'-DDT	2.28	U	4.07	2.28	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
delta-BHC	1.05	U	2.09	1.05	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
Dieldrin	1.71	U	4.07	1.71	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS330**

**Date Collected: 06/08/16 15:07**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-3**

**Matrix: Solid**

**Percent Solids: 81.0**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan I	1.23	U	2.09	1.23	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
Endosulfan II	1.86	U	2.09	1.86	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
Endosulfan sulfate	2.07	U	4.07	2.07	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
Endrin	1.89	U	4.07	1.89	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
Endrin aldehyde	1.92	U	4.07	1.92	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
Endrin ketone	1.90	U	4.07	1.90	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
gamma-BHC (Lindane)	1.15	U	2.09	1.15	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
gamma-Chlordane	1.54	U	4.07	1.54	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
Heptachlor	1.15	U	2.09	1.15	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
Heptachlor epoxide	1.44	U	2.09	1.44	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
Methoxychlor	9.94	U *	20.9	9.94	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1
Toxaphene	90.1	U	209	90.1	ug/Kg	☼	06/16/16 09:25	06/23/16 15:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	53		50 - 143	06/16/16 09:25	06/23/16 15:27	1
DCB Decachlorobiphenyl	71		47 - 150	06/16/16 09:25	06/23/16 15:27	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1262	6.00	U	38.8	6.00	ug/Kg	☼	06/22/16 07:52	06/23/16 13:09	1
Aroclor 1268	6.00	U	38.8	6.00	ug/Kg	☼	06/22/16 07:52	06/23/16 13:09	1
PCB-1016	6.00	U	38.8	6.00	ug/Kg	☼	06/22/16 07:52	06/23/16 13:09	1
PCB-1221	6.00	U	38.8	6.00	ug/Kg	☼	06/22/16 07:52	06/23/16 13:09	1
PCB-1232	6.00	U	38.8	6.00	ug/Kg	☼	06/22/16 07:52	06/23/16 13:09	1
PCB-1242	6.00	U	38.8	6.00	ug/Kg	☼	06/22/16 07:52	06/23/16 13:09	1
PCB-1248	6.00	U	38.8	6.00	ug/Kg	☼	06/22/16 07:52	06/23/16 13:09	1
PCB-1254	6.00	U	38.8	6.00	ug/Kg	☼	06/22/16 07:52	06/23/16 13:09	1
PCB-1260	11.8	U	38.8	11.8	ug/Kg	☼	06/22/16 07:52	06/23/16 13:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	88		32 - 132	06/22/16 07:52	06/23/16 13:09	1
DCB Decachlorobiphenyl	86		57 - 138	06/22/16 07:52	06/23/16 13:09	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	404	U	1500	404	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Bolstar	489	U	1500	489	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Chlorpyrifos	745	U	2310	745	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Coumaphos	323	U	1500	323	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Demeton-O	610	U	4500	610	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Demeton-S	561	U	1730	561	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Diazinon	839	U	2540	839	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Dichlorvos	854	U	2650	854	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Dimethoate	817	U	2540	817	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Disulfoton	892	U	5540	892	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
EPN	425	U	1500	425	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Ethoprop	569	U	1730	569	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Ethyl Parathion	610	U	2080	610	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Famphur	372	U	1500	372	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Fensulfothion	940	U	2880	940	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS330**

**Date Collected: 06/08/16 15:07**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-3**

**Matrix: Solid**

**Percent Solids: 81.0**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fenthion	1010	U	3810	1010	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Malathion	535	U	1730	535	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Merphos	593	U	3460	593	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Methyl parathion	735	U	2310	735	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Mevinphos	533	U	1730	533	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Naled	2610	U	8080	2610	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Phorate	658	U	2310	658	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Ronnel	1750	U	5310	1750	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Sulfotepp	722	U	2310	722	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Tetrachlorvinphos (Stirophos)	503	U	1730	503	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Thionazin	643	U	2080	643	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Tokuthion	451	U	2310	451	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100
Trichloronate	721	U	2310	721	ug/Kg	☼	06/22/16 12:48	07/06/16 15:03	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	80	D	42 - 132	06/22/16 12:48	07/06/16 15:03	100
Triphenylphosphate	101	D	47 - 161	06/22/16 12:48	07/06/16 15:03	100

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	0.698	U	8.21	0.698	ug/Kg	☼	06/20/16 08:59	06/22/16 15:39	1
2,4-DB	1.35	U	8.21	1.35	ug/Kg	☼	06/20/16 08:59	06/22/16 15:39	1
Dicamba	0.944	U	8.21	0.944	ug/Kg	☼	06/20/16 08:59	06/22/16 15:39	1
Dichlorprop	0.923	U	8.21	0.923	ug/Kg	☼	06/20/16 08:59	06/22/16 15:39	1
Dinoseb	0.657	U	8.21	0.657	ug/Kg	☼	06/20/16 08:59	06/22/16 15:39	1
MCPA	133	U	82.1	133	ug/Kg	☼	06/20/16 08:59	06/22/16 15:39	1
Mecoprop	94.1	U	82.1	94.1	ug/Kg	☼	06/20/16 08:59	06/22/16 15:39	1
Silvex (2,4,5-TP)	0.882	U	8.21	0.882	ug/Kg	☼	06/20/16 08:59	06/22/16 15:39	1
2,4,5-T	0.903	U	8.21	0.903	ug/Kg	☼	06/20/16 08:59	06/22/16 15:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-DCAA	348	X	22 - 130	06/20/16 08:59	06/22/16 15:39	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	3.56	U	123	3.56	ug/Kg	☼	06/21/16 15:57	06/23/16 18:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-DCAA	59		35 - 137	06/21/16 15:57	06/23/16 18:40	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	1.23	U	4.89	1.23	mg/Kg	☼		06/17/16 22:53	1
Nitrate as N	0.307	U H	2.44	0.307	mg/Kg	☼		06/17/16 22:53	1
Chloride	4.73	J	4.89	0.653	mg/Kg	☼		06/17/16 22:53	1
Fluoride	3.14		2.44	0.735	mg/Kg	☼		06/17/16 22:53	1
Sulfate	22.5		6.11	1.17	mg/Kg	☼		06/17/16 22:53	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4120		4.57	2.81	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS330**

**Date Collected: 06/08/16 15:07**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-3**

**Matrix: Solid**

**Percent Solids: 81.0**

## Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	251		45.7	1.52	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Antimony	1.01	J	1.83	0.244	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Calcium	218000		457	133	mg/Kg	☼	06/21/16 08:00	06/22/16 16:45	10
Arsenic	3.10		1.83	0.133	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Magnesium	3860		18.3	1.45	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Barium	51.5		0.915	0.173	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Potassium	754		91.5	13.9	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Beryllium	0.391	J	0.457	0.0247	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Silicon	2290		18.3	5.78	mg/Kg	☼	06/21/16 08:00	06/22/16 16:41	1
Cadmium	0.597		0.457	0.0329	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Sodium	103		91.5	13.8	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Chromium	6.90		0.915	0.123	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Strontium	348		0.915	0.0713	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Copper	3.99		1.83	0.184	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Iron	4970		18.3	4.57	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Lead	8.20		0.457	0.139	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Manganese	291		2.29	0.425	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Nickel	6.22		1.83	0.113	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Selenium	1.11		0.915	0.181	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Silver	0.101	U	0.457	0.101	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Thallium	0.109	U	0.915	0.109	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1
Zinc	14.2		2.29	0.521	mg/Kg	☼	06/14/16 11:03	06/16/16 11:16	1

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0114	U	0.127	0.0114	mg/Kg	☼	06/15/16 10:00	06/15/16 16:50	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.76	HF	0.100	0.100	SU	—		06/15/16 14:26	1
TOC	0.584		0.100	0.0415	%			06/24/16 09:00	1

## General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	124		6.10	6.10	mg/Kg	☼		06/17/16 15:00	1
Bicarbonate Alkalinity as CaCO3	124		6.10	6.10	mg/Kg	☼		06/17/16 15:00	1
Carbonate Alkalinity as CaCO3	6.10	U	6.10	6.10	mg/Kg	☼		06/17/16 15:00	1

**Client Sample ID: HCS340**

**Date Collected: 06/08/16 12:26**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-4**

**Matrix: Solid**

**Percent Solids: 60.2**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	41.2	J	73.9	10.6	ug/Kg	☼		06/15/16 12:00	1
Acetonitrile	54.7	U	73.9	54.7	ug/Kg	☼		06/15/16 12:00	1
Benzene	0.932	U	7.39	0.932	ug/Kg	☼		06/15/16 12:00	1
Benzyl chloride	0.739	U	7.39	0.739	ug/Kg	☼		06/15/16 12:00	1
Bromobenzene	1.09	U	7.39	1.09	ug/Kg	☼		06/15/16 12:00	1
Bromochloromethane	1.33	U	7.39	1.33	ug/Kg	☼		06/15/16 12:00	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS340**

**Date Collected: 06/08/16 12:26**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-4**

**Matrix: Solid**

**Percent Solids: 60.2**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	0.754	U F1	7.39	0.754	ug/Kg	☼		06/15/16 12:00	1
Bromomethane	1.63	U	7.39	1.63	ug/Kg	☼		06/15/16 12:00	1
1,3-Butadiene	0.444	U	7.39	0.444	ug/Kg	☼		06/15/16 12:00	1
<b>2-Butanone (MEK)</b>	<b>8.68</b>	<b>J</b>	14.8	2.81	ug/Kg	☼		06/15/16 12:00	1
Carbon disulfide	1.48	U	7.39	1.48	ug/Kg	☼		06/15/16 12:00	1
Carbon tetrachloride	0.754	U	7.39	0.754	ug/Kg	☼		06/15/16 12:00	1
Chlorobenzene	0.444	U	7.39	0.444	ug/Kg	☼		06/15/16 12:00	1
2-Chloro-1,3-butadiene	1.02	U	7.39	1.02	ug/Kg	☼		06/15/16 12:00	1
Chlorodibromomethane	0.946	U F1	7.39	0.946	ug/Kg	☼		06/15/16 12:00	1
Chloroethane	0.384	U	7.39	0.384	ug/Kg	☼		06/15/16 12:00	1
Chloroform	1.29	U	7.39	1.29	ug/Kg	☼		06/15/16 12:00	1
1-Chlorohexane	0.813	U	7.39	0.813	ug/Kg	☼		06/15/16 12:00	1
Chloromethane	1.77	U	7.39	1.77	ug/Kg	☼		06/15/16 12:00	1
2-Chlorotoluene	0.444	U	7.39	0.444	ug/Kg	☼		06/15/16 12:00	1
4-Chlorotoluene	1.02	U	7.39	1.02	ug/Kg	☼		06/15/16 12:00	1
cis-1,4-Dichloro-2-butene	0.473	U F1	7.39	0.473	ug/Kg	☼		06/15/16 12:00	1
cis-1,2-Dichloroethene	0.843	U	7.39	0.843	ug/Kg	☼		06/15/16 12:00	1
cis-1,3-Dichloropropene	0.296	U	7.39	0.296	ug/Kg	☼		06/15/16 12:00	1
Cyclohexane	1.46	U	14.8	1.46	ug/Kg	☼		06/15/16 12:00	1
Cyclohexanone	14.8	U	148	14.8	ug/Kg	☼		06/15/16 12:00	1
1,2-Dibromo-3-Chloropropane	0.488	U F1	7.39	0.488	ug/Kg	☼		06/15/16 12:00	1
Dibromomethane	1.05	U	7.39	1.05	ug/Kg	☼		06/15/16 12:00	1
1,3-Dichlorobenzene	0.458	U F1	7.39	0.458	ug/Kg	☼		06/15/16 12:00	1
1,2-Dichlorobenzene	0.370	U F1	7.39	0.370	ug/Kg	☼		06/15/16 12:00	1
1,4-Dichlorobenzene	0.473	U F1	7.39	0.473	ug/Kg	☼		06/15/16 12:00	1
Dichlorobromomethane	0.296	U F1	7.39	0.296	ug/Kg	☼		06/15/16 12:00	1
Dichlorodifluoromethane	1.08	U	7.39	1.08	ug/Kg	☼		06/15/16 12:00	1
1,2-Dichloroethane	0.769	U	7.39	0.769	ug/Kg	☼		06/15/16 12:00	1
1,1-Dichloroethane	0.872	U	7.39	0.872	ug/Kg	☼		06/15/16 12:00	1
1,1-Dichloroethene	0.739	U	7.39	0.739	ug/Kg	☼		06/15/16 12:00	1
1,2-Dichloroethene, Total	0.739	U	7.39	0.739	ug/Kg	☼		06/15/16 12:00	1
1,2-Dichloropropane	0.739	U	7.39	0.739	ug/Kg	☼		06/15/16 12:00	1
1,3-Dichloropropane	0.444	U	7.39	0.444	ug/Kg	☼		06/15/16 12:00	1
2,2-Dichloropropane	1.24	U	7.39	1.24	ug/Kg	☼		06/15/16 12:00	1
1,1-Dichloropropene	0.769	U	7.39	0.769	ug/Kg	☼		06/15/16 12:00	1
1,3-Dichloropropene, Total	0.769	U	7.39	0.769	ug/Kg	☼		06/15/16 12:00	1
1,4-Dioxane	28.1	U	148	28.1	ug/Kg	☼		06/15/16 12:00	1
EDB	0.444	U	7.39	0.444	ug/Kg	☼		06/15/16 12:00	1
Ethyl acetate	4.16	U F1 F2	7.39	4.16	ug/Kg	☼		06/15/16 12:00	1
Ethylbenzene	0.665	U	7.39	0.665	ug/Kg	☼		06/15/16 12:00	1
Ethylene oxide	44.4	U	148	44.4	ug/Kg	☼		06/15/16 12:00	1
Ethyl ether	0.739	U	37.0	0.739	ug/Kg	☼		06/15/16 12:00	1
Ethyl methacrylate	0.754	U F1 F2	7.39	0.754	ug/Kg	☼		06/15/16 12:00	1
Hexachlorobutadiene	0.946	U F1	7.39	0.946	ug/Kg	☼		06/15/16 12:00	1
Hexane	1.92	U	7.39	1.92	ug/Kg	☼		06/15/16 12:00	1
2-Hexanone	2.22	U	14.8	2.22	ug/Kg	☼		06/15/16 12:00	1
Iodomethane	1.18	U	7.39	1.18	ug/Kg	☼		06/15/16 12:00	1
Isobutyl alcohol	101	U	370	101	ug/Kg	☼		06/15/16 12:00	1
Isooctane	0.739	U F1	7.39	0.739	ug/Kg	☼		06/15/16 12:00	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS340**

**Date Collected: 06/08/16 12:26**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-4**

**Matrix: Solid**

**Percent Solids: 60.2**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	0.739	U	7.39	0.739	ug/Kg	☼		06/15/16 12:00	1
4-Isopropyltoluene	0.584	U F1	7.39	0.584	ug/Kg	☼		06/15/16 12:00	1
Methacrylonitrile	3.55	U	73.9	3.55	ug/Kg	☼		06/15/16 12:00	1
Methylene Chloride	7.39	U	37.0	7.39	ug/Kg	☼		06/15/16 12:00	1
Methyl methacrylate	1.63	U	7.39	1.63	ug/Kg	☼		06/15/16 12:00	1
4-Methyl-2-pentanone (MIBK)	2.22	U	14.8	2.22	ug/Kg	☼		06/15/16 12:00	1
Methyl tert-butyl ether	0.902	U	7.39	0.902	ug/Kg	☼		06/15/16 12:00	1
m-Xylene & p-Xylene	0.739	U	14.8	0.739	ug/Kg	☼		06/15/16 12:00	1
Naphthalene	1.77	U F1	14.8	1.77	ug/Kg	☼		06/15/16 12:00	1
n-Butylbenzene	0.399	U F1	7.39	0.399	ug/Kg	☼		06/15/16 12:00	1
n-Heptane	0.784	U	7.39	0.784	ug/Kg	☼		06/15/16 12:00	1
2-Nitropropane	0.769	U	14.8	0.769	ug/Kg	☼		06/15/16 12:00	1
N-Propylbenzene	0.444	U	7.39	0.444	ug/Kg	☼		06/15/16 12:00	1
1-Octene	0.739	U	7.39	0.739	ug/Kg	☼		06/15/16 12:00	1
o-Xylene	0.591	U	7.39	0.591	ug/Kg	☼		06/15/16 12:00	1
Pentachloroethane	2.07	U	7.39	2.07	ug/Kg	☼		06/15/16 12:00	1
Propionitrile	7.25	U	73.9	7.25	ug/Kg	☼		06/15/16 12:00	1
sec-Butylbenzene	0.444	U F1	7.39	0.444	ug/Kg	☼		06/15/16 12:00	1
Styrene	0.444	U	7.39	0.444	ug/Kg	☼		06/15/16 12:00	1
tert-Butylbenzene	0.370	U	7.39	0.370	ug/Kg	☼		06/15/16 12:00	1
1,1,2,2-Tetrachloroethane	0.562	U	7.39	0.562	ug/Kg	☼		06/15/16 12:00	1
1,1,1,2-Tetrachloroethane	0.399	U	7.39	0.399	ug/Kg	☼		06/15/16 12:00	1
Tetrachloroethene	1.09	U	7.39	1.09	ug/Kg	☼		06/15/16 12:00	1
Toluene	1.33	U	7.39	1.33	ug/Kg	☼		06/15/16 12:00	1
trans-1,4-Dichloro-2-butene	1.30	U	7.39	1.30	ug/Kg	☼		06/15/16 12:00	1
trans-1,2-Dichloroethene	0.739	U	7.39	0.739	ug/Kg	☼		06/15/16 12:00	1
trans-1,3-Dichloropropene	0.769	U	7.39	0.769	ug/Kg	☼		06/15/16 12:00	1
1,2,4-Trichlorobenzene	1.43	U	7.39	1.43	ug/Kg	☼		06/15/16 12:00	1
1,2,3-Trichlorobenzene	0.651	U	7.39	0.651	ug/Kg	☼		06/15/16 12:00	1
1,3,5-Trichlorobenzene	0.458	U F1	7.39	0.458	ug/Kg	☼		06/15/16 12:00	1
1,1,1-Trichloroethane	0.739	U	7.39	0.739	ug/Kg	☼		06/15/16 12:00	1
1,1,2-Trichloroethane	0.739	U	7.39	0.739	ug/Kg	☼		06/15/16 12:00	1
Trichloroethene	0.414	U	7.39	0.414	ug/Kg	☼		06/15/16 12:00	1
Trichlorofluoromethane	0.739	U	7.39	0.739	ug/Kg	☼		06/15/16 12:00	1
1,2,3-Trichloropropane	1.12	U	7.39	1.12	ug/Kg	☼		06/15/16 12:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.991	U	7.39	0.991	ug/Kg	☼		06/15/16 12:00	1
1,2,4-Trimethylbenzene	0.562	U	7.39	0.562	ug/Kg	☼		06/15/16 12:00	1
1,3,5-Trimethylbenzene	0.518	U	7.39	0.518	ug/Kg	☼		06/15/16 12:00	1
Vinyl acetate	1.63	U	7.39	1.63	ug/Kg	☼		06/15/16 12:00	1
Vinyl chloride	0.887	U	7.39	0.887	ug/Kg	☼		06/15/16 12:00	1
Xylenes, Total	0.739	U	14.8	0.739	ug/Kg	☼		06/15/16 12:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		65 - 152		06/15/16 12:00	1
Toluene-d8 (Surr)	103		65 - 139		06/15/16 12:00	1
Dibromofluoromethane (Surr)	98		50 - 136		06/15/16 12:00	1
4-Bromofluorobenzene (Surr)	116		61 - 142		06/15/16 12:00	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS340**

**Date Collected: 06/08/16 12:26**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-4**

**Matrix: Solid**

**Percent Solids: 60.2**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	53.1	U	531	53.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Acenaphthylene	43.7	U	531	43.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Anthracene	59.3	U	531	59.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Benzo[a]anthracene	65.6	U	531	65.6	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Benzo[a]pyrene	53.1	U	531	53.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Benzo[b]fluoranthene	46.8	U	531	46.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Benzo[g,h,i]perylene	46.8	U	531	46.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Benzo[k]fluoranthene	40.6	U	531	40.6	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Benzyl alcohol	112	U F1	531	112	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Bis(2-chloroethoxy)methane	53.1	U F1	531	53.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Bis(2-chloroethyl)ether	81.2	U F1	531	81.2	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
<b>Bis(2-ethylhexyl) phthalate</b>	<b>761</b>		531	81.2	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
4-Bromophenyl phenyl ether	68.7	U	531	68.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Butyl benzyl phthalate	43.7	U	531	43.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
4-Chloroaniline	93.7	U F1	531	93.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
4-Chloro-3-methylphenol	74.9	U	531	74.9	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
2-Chloronaphthalene	53.1	U F1	531	53.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
2-Chlorophenol	53.1	U F1	531	53.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
4-Chlorophenyl phenyl ether	71.8	U	531	71.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Chrysene	46.8	U	531	46.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Dibenz(a,h)anthracene	43.7	U	531	43.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Dibenzofuran	59.3	U	531	59.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
1,3-Dichlorobenzene	56.2	U F1	531	56.2	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
1,4-Dichlorobenzene	68.7	U F1	531	68.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
1,2-Dichlorobenzene	59.3	U F1	531	59.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
3,3'-Dichlorobenzidine	500	U	531	500	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
2,4-Dichlorophenol	53.1	U F1	531	53.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Diethyl phthalate	50.0	U	531	50.0	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
2,4-Dimethylphenol	175	U F1	531	175	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Dimethyl phthalate	53.1	U	531	53.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Di-n-butyl phthalate	112	U	531	112	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
4,6-Dinitro-2-methylphenol	93.7	U F1	2060	93.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
2,4-Dinitrophenol	93.7	U	2060	93.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
2,6-Dinitrotoluene	68.7	U	531	68.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
2,4-Dinitrotoluene	50.0	U	531	50.0	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Di-n-octyl phthalate	40.6	U	531	40.6	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
<b>Fluoranthene</b>	<b>61.9</b>	<b>J</b>	531	53.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Fluorene	59.3	U	531	59.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Hexachlorobenzene	62.4	U	531	62.4	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Hexachlorobutadiene	87.4	U F1	531	87.4	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Hexachlorocyclopentadiene	156	U F1	531	156	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Hexachloroethane	62.4	U F1	531	62.4	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Indeno[1,2,3-cd]pyrene	50.0	U	531	50.0	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Isophorone	46.8	U F1	531	46.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
2-Methylnaphthalene	46.8	U F1	531	46.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
2-Methylphenol	62.4	U F1	531	62.4	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
<b>3 &amp; 4 Methylphenol</b>	<b>572</b>	<b>J F1</b>	1060	87.4	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Naphthalene	50.0	U F1	531	50.0	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
2-Nitroaniline	68.7	U	531	68.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS340**

**Date Collected: 06/08/16 12:26**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-4**

**Matrix: Solid**

**Percent Solids: 60.2**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	53.1	U	531	53.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
4-Nitroaniline	87.4	U	531	87.4	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Nitrobenzene	46.8	U F1	531	46.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
2-Nitrophenol	50.0	U F1	531	50.0	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
4-Nitrophenol	93.7	U	2060	93.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
N-Nitrosodi-n-propylamine	78.1	U F1	531	78.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
N-Nitrosodiphenylamine	68.7	U	531	68.7	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Pentachlorophenol	1030	U	2060	1030	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Phenanthrene	65.6	U	531	65.6	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Phenol	59.3	U F1	531	59.3	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
Pyrene	53.1	U F1	531	53.1	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
1,2,4-Trichlorobenzene	50.0	U F1	531	50.0	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
2,4,6-Trichlorophenol	56.2	U	531	56.2	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1
2,4,5-Trichlorophenol	96.8	U	531	96.8	ug/Kg	☼	06/21/16 07:56	06/21/16 13:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	49		24 - 101	06/21/16 07:56	06/21/16 13:28	1
Nitrobenzene-d5	45		17 - 112	06/21/16 07:56	06/21/16 13:28	1
2-Fluorobiphenyl	49		32 - 101	06/21/16 07:56	06/21/16 13:28	1
2,4,6-Tribromophenol	78		21 - 130	06/21/16 07:56	06/21/16 13:28	1
Terphenyl-d14	69		62 - 129	06/21/16 07:56	06/21/16 13:28	1
Phenol-d5 (Surr)	51		23 - 106	06/21/16 07:56	06/21/16 13:28	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	2.16	U	2.81	2.16	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
alpha-BHC	1.65	U	2.81	1.65	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
alpha-Chlordane	2.63	U	5.45	2.63	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
beta-BHC	1.69	U	2.81	1.69	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
4,4'-DDD	2.68	U F1	5.45	2.68	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
4,4'-DDE	2.40	U	5.45	2.40	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
4,4'-DDT	3.06	U	5.45	3.06	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
delta-BHC	1.40	U	2.81	1.40	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
Dieldrin	2.30	U F2	5.45	2.30	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
Endosulfan I	1.65	U	2.81	1.65	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
Endosulfan II	2.49	U	2.81	2.49	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
Endosulfan sulfate	2.78	U	5.45	2.78	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
Endrin	2.53	U	5.45	2.53	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
Endrin aldehyde	2.58	U	5.45	2.58	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
Endrin ketone	2.54	U	5.45	2.54	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
gamma-BHC (Lindane)	1.54	U	2.81	1.54	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
gamma-Chlordane	2.07	U	5.45	2.07	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
Heptachlor	1.54	U F1	2.81	1.54	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
Heptachlor epoxide	1.93	U	2.81	1.93	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
Methoxychlor	13.3	U * F1 F2	28.1	13.3	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1
Toxaphene	121	U	281	121	ug/Kg	☼	06/16/16 09:25	06/23/16 15:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	92		50 - 143	06/16/16 09:25	06/23/16 15:52	1
DCB Decachlorobiphenyl	85		47 - 150	06/16/16 09:25	06/23/16 15:52	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS340**

**Date Collected: 06/08/16 12:26**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-4**

**Matrix: Solid**

**Percent Solids: 60.2**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Aroclor 1262</b>	<b>16.5</b>	<b>J</b>	51.4	7.95	ug/Kg	☼	06/22/16 07:52	06/23/16 14:50	1
Aroclor 1268	7.95	U	51.4	7.95	ug/Kg	☼	06/22/16 07:52	06/23/16 14:50	1
PCB-1016	7.95	U	51.4	7.95	ug/Kg	☼	06/22/16 07:52	06/23/16 14:50	1
PCB-1221	7.95	U	51.4	7.95	ug/Kg	☼	06/22/16 07:52	06/23/16 14:50	1
PCB-1232	7.95	U	51.4	7.95	ug/Kg	☼	06/22/16 07:52	06/23/16 14:50	1
PCB-1242	7.95	U	51.4	7.95	ug/Kg	☼	06/22/16 07:52	06/23/16 14:50	1
PCB-1248	7.95	U	51.4	7.95	ug/Kg	☼	06/22/16 07:52	06/23/16 14:50	1
PCB-1254	7.95	U	51.4	7.95	ug/Kg	☼	06/22/16 07:52	06/23/16 14:50	1
PCB-1260	15.6	U	51.4	15.6	ug/Kg	☼	06/22/16 07:52	06/23/16 14:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	96		32 - 132	06/22/16 07:52	06/23/16 14:50	1
DCB Decachlorobiphenyl	91		57 - 138	06/22/16 07:52	06/23/16 14:50	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	554	U	2060	554	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Bolstar	671	U	2060	671	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Chlorpyrifos	1020	U	3170	1020	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Coumaphos	443	U	2060	443	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Demeton-O	837	U	6170	837	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Demeton-S	769	U	2370	769	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Diazinon	1150	U	3480	1150	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Dichlorvos	1170	U	3640	1170	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Dimethoate	1120	U	3480	1120	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Disulfoton	1220	U	7600	1220	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
EPN	582	U	2060	582	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Ethoprop	780	U	2370	780	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Ethyl Parathion	837	U	2850	837	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Famphur	510	U	2060	510	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Fensulfothion	1290	U	3960	1290	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Fenthion	1380	U	5220	1380	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Malathion	734	U	2370	734	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Merphos	814	U	4750	814	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Methyl parathion	1010	U	3170	1010	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Mevinphos	731	U	2370	731	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Naled	3580	U	11100	3580	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Phorate	902	U	3170	902	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Ronnel	2410	U	7280	2410	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Sulfotepp	991	U	3170	991	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Tetrachlorvinphos (Stirophos)	690	U	2370	690	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Thionazin	882	U	2850	882	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Tokuthion	619	U	3170	619	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100
Trichloronate	989	U	3170	989	ug/Kg	☼	06/22/16 12:48	07/06/16 15:34	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	81	D	42 - 132	06/22/16 12:48	07/06/16 15:34	100
Triphenylphosphate	103	D	47 - 161	06/22/16 12:48	07/06/16 15:34	100

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS340**

**Date Collected: 06/08/16 12:26**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-4**

**Matrix: Solid**

**Percent Solids: 60.2**

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	0.940	U	11.1	0.940	ug/Kg	☼	06/20/16 08:59	06/22/16 16:04	1
2,4-DB	1.82	U F1 F2	11.1	1.82	ug/Kg	☼	06/20/16 08:59	06/22/16 16:04	1
Dicamba	1.27	U	11.1	1.27	ug/Kg	☼	06/20/16 08:59	06/22/16 16:04	1
Dichlorprop	1.24	U F1 F2	11.1	1.24	ug/Kg	☼	06/20/16 08:59	06/22/16 16:04	1
Dinoseb	0.885	U F1	11.1	0.885	ug/Kg	☼	06/20/16 08:59	06/22/16 16:04	1
MCPA	180	U F2	111	180	ug/Kg	☼	06/20/16 08:59	06/22/16 16:04	1
Mecoprop	127	U	111	127	ug/Kg	☼	06/20/16 08:59	06/22/16 16:04	1
Silvex (2,4,5-TP)	1.19	U	11.1	1.19	ug/Kg	☼	06/20/16 08:59	06/22/16 16:04	1
2,4,5-T	1.22	U	11.1	1.22	ug/Kg	☼	06/20/16 08:59	06/22/16 16:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-DCAA	80		22 - 130				06/20/16 08:59	06/22/16 16:04	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	4.76	U	164	4.76	ug/Kg	☼	06/21/16 15:57	06/23/16 22:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-DCAA	78		35 - 137				06/21/16 15:57	06/23/16 22:36	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	1.66	U	6.61	1.66	mg/Kg	☼		06/17/16 23:13	1
Nitrate as N	1.93	J H	3.30	0.415	mg/Kg	☼		06/17/16 23:13	1
Chloride	16.9		6.61	0.882	mg/Kg	☼		06/17/16 23:13	1
Fluoride	1.92	J	3.30	0.994	mg/Kg	☼		06/17/16 23:13	1
Sulfate	31.1		8.26	1.58	mg/Kg	☼		06/17/16 23:13	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1320	F1 F2	6.98	4.29	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Phosphorus	240		69.8	2.32	mg/Kg	☼	06/21/16 08:00	06/22/16 16:10	1
Antimony	1.69	J F1	2.79	0.373	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Calcium	282000		698	203	mg/Kg	☼	06/21/16 08:00	06/22/16 16:22	10
Arsenic	1.22	J	2.79	0.203	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Magnesium	1200		27.9	2.21	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Barium	48.0	F1 F2	1.40	0.264	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Potassium	281		140	21.2	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Beryllium	0.189	J	0.698	0.0377	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Silicon	3100		27.9	8.83	mg/Kg	☼	06/21/16 08:00	06/22/16 16:10	1
Cadmium	0.397	J	0.698	0.0503	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Sodium	915		140	21.1	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Chromium	3.75		1.40	0.187	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Strontium	426		1.40	0.109	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Copper	4.74		2.79	0.281	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Iron	2490	F1 F2	27.9	6.98	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Lead	5.92		0.698	0.212	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Manganese	62.3		3.49	0.649	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Nickel	4.01		2.79	0.173	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Selenium	2.53		1.40	0.277	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Silver	0.154	U	0.698	0.154	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS340**

**Date Collected: 06/08/16 12:26**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-4**

**Matrix: Solid**

**Percent Solids: 60.2**

## Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.166	U	1.40	0.166	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1
Zinc	13.6	F1 F2	3.49	0.796	mg/Kg	☼	06/14/16 11:03	06/16/16 10:45	1

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0279	J	0.168	0.0151	mg/Kg	☼	06/23/16 10:00	06/23/16 15:23	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.77	HF	0.100	0.100	SU	-		06/15/16 14:26	1
TOC	1.66		0.100	0.0415	%			06/24/16 09:00	1

## General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	212		8.17	8.17	mg/Kg	☼		06/17/16 15:00	1
Bicarbonate Alkalinity as CaCO3	212		8.17	8.17	mg/Kg	☼		06/17/16 15:00	1
Carbonate Alkalinity as CaCO3	8.17	U	8.17	8.17	mg/Kg	☼		06/17/16 15:00	1

**Client Sample ID: HCS360**

**Date Collected: 06/08/16 12:49**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-5**

**Matrix: Solid**

**Percent Solids: 42.5**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	199	J	540	77.7	ug/Kg	☼		06/15/16 18:21	1
Acetonitrile	399	U	540	399	ug/Kg	☼		06/15/16 18:21	1
Benzene	6.80	U	54.0	6.80	ug/Kg	☼		06/15/16 18:21	1
Benzyl chloride	5.40	U	54.0	5.40	ug/Kg	☼		06/15/16 18:21	1
Bromobenzene	7.99	U	54.0	7.99	ug/Kg	☼		06/15/16 18:21	1
Bromochloromethane	9.71	U	54.0	9.71	ug/Kg	☼		06/15/16 18:21	1
Bromoform	5.50	U	54.0	5.50	ug/Kg	☼		06/15/16 18:21	1
Bromomethane	11.9	U	54.0	11.9	ug/Kg	☼		06/15/16 18:21	1
1,3-Butadiene	3.24	U	54.0	3.24	ug/Kg	☼		06/15/16 18:21	1
2-Butanone (MEK)	20.5	U	108	20.5	ug/Kg	☼		06/15/16 18:21	1
Carbon disulfide	10.8	U	54.0	10.8	ug/Kg	☼		06/15/16 18:21	1
Carbon tetrachloride	5.50	U	54.0	5.50	ug/Kg	☼		06/15/16 18:21	1
Chlorobenzene	3.24	U	54.0	3.24	ug/Kg	☼		06/15/16 18:21	1
2-Chloro-1,3-butadiene	7.45	U	54.0	7.45	ug/Kg	☼		06/15/16 18:21	1
Chlorodibromomethane	6.91	U	54.0	6.91	ug/Kg	☼		06/15/16 18:21	1
Chloroethane	2.81	U	54.0	2.81	ug/Kg	☼		06/15/16 18:21	1
Chloroform	9.39	U	54.0	9.39	ug/Kg	☼		06/15/16 18:21	1
1-Chlorohexane	5.94	U	54.0	5.94	ug/Kg	☼		06/15/16 18:21	1
Chloromethane	13.0	U	54.0	13.0	ug/Kg	☼		06/15/16 18:21	1
2-Chlorotoluene	3.24	U	54.0	3.24	ug/Kg	☼		06/15/16 18:21	1
4-Chlorotoluene	7.45	U	54.0	7.45	ug/Kg	☼		06/15/16 18:21	1
cis-1,4-Dichloro-2-butene	3.45	U	54.0	3.45	ug/Kg	☼		06/15/16 18:21	1
cis-1,2-Dichloroethene	6.15	U	54.0	6.15	ug/Kg	☼		06/15/16 18:21	1
cis-1,3-Dichloropropene	2.16	U	54.0	2.16	ug/Kg	☼		06/15/16 18:21	1
Cyclohexane	10.7	U	108	10.7	ug/Kg	☼		06/15/16 18:21	1
Cyclohexanone	108	U	1080	108	ug/Kg	☼		06/15/16 18:21	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS360**

**Date Collected: 06/08/16 12:49**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-5**

**Matrix: Solid**

**Percent Solids: 42.5**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	3.56	U	54.0	3.56	ug/Kg	☼		06/15/16 18:21	1
Dibromomethane	7.66	U	54.0	7.66	ug/Kg	☼		06/15/16 18:21	1
1,3-Dichlorobenzene	3.35	U	54.0	3.35	ug/Kg	☼		06/15/16 18:21	1
1,2-Dichlorobenzene	2.70	U	54.0	2.70	ug/Kg	☼		06/15/16 18:21	1
1,4-Dichlorobenzene	3.45	U	54.0	3.45	ug/Kg	☼		06/15/16 18:21	1
Dichlorobromomethane	2.16	U	54.0	2.16	ug/Kg	☼		06/15/16 18:21	1
Dichlorodifluoromethane	7.88	U	54.0	7.88	ug/Kg	☼		06/15/16 18:21	1
1,2-Dichloroethane	5.61	U	54.0	5.61	ug/Kg	☼		06/15/16 18:21	1
1,1-Dichloroethane	6.37	U	54.0	6.37	ug/Kg	☼		06/15/16 18:21	1
1,1-Dichloroethene	5.40	U	54.0	5.40	ug/Kg	☼		06/15/16 18:21	1
1,2-Dichloroethene, Total	5.40	U	54.0	5.40	ug/Kg	☼		06/15/16 18:21	1
1,2-Dichloropropane	5.40	U	54.0	5.40	ug/Kg	☼		06/15/16 18:21	1
1,3-Dichloropropane	3.24	U	54.0	3.24	ug/Kg	☼		06/15/16 18:21	1
2,2-Dichloropropane	9.07	U	54.0	9.07	ug/Kg	☼		06/15/16 18:21	1
1,1-Dichloropropene	5.61	U	54.0	5.61	ug/Kg	☼		06/15/16 18:21	1
1,3-Dichloropropene, Total	5.61	U	54.0	5.61	ug/Kg	☼		06/15/16 18:21	1
1,4-Dioxane	205	U	1080	205	ug/Kg	☼		06/15/16 18:21	1
EDB	3.24	U	54.0	3.24	ug/Kg	☼		06/15/16 18:21	1
Ethyl acetate	30.3	U	54.0	30.3	ug/Kg	☼		06/15/16 18:21	1
Ethylbenzene	4.86	U	54.0	4.86	ug/Kg	☼		06/15/16 18:21	1
Ethylene oxide	324	U	1080	324	ug/Kg	☼		06/15/16 18:21	1
Ethyl ether	5.40	U	270	5.40	ug/Kg	☼		06/15/16 18:21	1
Ethyl methacrylate	5.50	U	54.0	5.50	ug/Kg	☼		06/15/16 18:21	1
Hexachlorobutadiene	6.91	U	54.0	6.91	ug/Kg	☼		06/15/16 18:21	1
Hexane	14.0	U	54.0	14.0	ug/Kg	☼		06/15/16 18:21	1
2-Hexanone	16.2	U	108	16.2	ug/Kg	☼		06/15/16 18:21	1
Iodomethane	8.63	U	54.0	8.63	ug/Kg	☼		06/15/16 18:21	1
Isobutyl alcohol	734	U	2700	734	ug/Kg	☼		06/15/16 18:21	1
Isooctane	5.40	U	54.0	5.40	ug/Kg	☼		06/15/16 18:21	1
Isopropylbenzene	5.40	U	54.0	5.40	ug/Kg	☼		06/15/16 18:21	1
4-Isopropyltoluene	4.26	U	54.0	4.26	ug/Kg	☼		06/15/16 18:21	1
Methacrylonitrile	25.9	U	540	25.9	ug/Kg	☼		06/15/16 18:21	1
Methylene Chloride	54.0	U	270	54.0	ug/Kg	☼		06/15/16 18:21	1
Methyl methacrylate	11.9	U	54.0	11.9	ug/Kg	☼		06/15/16 18:21	1
4-Methyl-2-pentanone (MIBK)	16.2	U	108	16.2	ug/Kg	☼		06/15/16 18:21	1
Methyl tert-butyl ether	6.58	U	54.0	6.58	ug/Kg	☼		06/15/16 18:21	1
m-Xylene & p-Xylene	5.40	U	108	5.40	ug/Kg	☼		06/15/16 18:21	1
Naphthalene	13.0	U	108	13.0	ug/Kg	☼		06/15/16 18:21	1
n-Butylbenzene	2.91	U	54.0	2.91	ug/Kg	☼		06/15/16 18:21	1
n-Heptane	5.72	U	54.0	5.72	ug/Kg	☼		06/15/16 18:21	1
2-Nitropropane	5.61	U	108	5.61	ug/Kg	☼		06/15/16 18:21	1
N-Propylbenzene	3.24	U	54.0	3.24	ug/Kg	☼		06/15/16 18:21	1
1-Octene	5.40	U	54.0	5.40	ug/Kg	☼		06/15/16 18:21	1
o-Xylene	4.32	U	54.0	4.32	ug/Kg	☼		06/15/16 18:21	1
Pentachloroethane	15.1	U	54.0	15.1	ug/Kg	☼		06/15/16 18:21	1
Propionitrile	52.9	U	540	52.9	ug/Kg	☼		06/15/16 18:21	1
sec-Butylbenzene	3.24	U	54.0	3.24	ug/Kg	☼		06/15/16 18:21	1
Styrene	3.24	U	54.0	3.24	ug/Kg	☼		06/15/16 18:21	1
tert-Butylbenzene	2.70	U	54.0	2.70	ug/Kg	☼		06/15/16 18:21	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS360**

**Date Collected: 06/08/16 12:49**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-5**

**Matrix: Solid**

**Percent Solids: 42.5**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	4.10	U	54.0	4.10	ug/Kg	☼		06/15/16 18:21	1
1,1,1,2-Tetrachloroethane	2.91	U	54.0	2.91	ug/Kg	☼		06/15/16 18:21	1
Tetrachloroethene	7.99	U	54.0	7.99	ug/Kg	☼		06/15/16 18:21	1
Toluene	9.71	U	54.0	9.71	ug/Kg	☼		06/15/16 18:21	1
trans-1,4-Dichloro-2-butene	9.50	U	54.0	9.50	ug/Kg	☼		06/15/16 18:21	1
trans-1,2-Dichloroethene	5.40	U	54.0	5.40	ug/Kg	☼		06/15/16 18:21	1
trans-1,3-Dichloropropene	5.61	U	54.0	5.61	ug/Kg	☼		06/15/16 18:21	1
1,2,4-Trichlorobenzene	10.5	U	54.0	10.5	ug/Kg	☼		06/15/16 18:21	1
1,2,3-Trichlorobenzene	4.75	U	54.0	4.75	ug/Kg	☼		06/15/16 18:21	1
1,3,5-Trichlorobenzene	3.35	U	54.0	3.35	ug/Kg	☼		06/15/16 18:21	1
1,1,1-Trichloroethane	5.40	U	54.0	5.40	ug/Kg	☼		06/15/16 18:21	1
1,1,2-Trichloroethane	5.40	U	54.0	5.40	ug/Kg	☼		06/15/16 18:21	1
Trichloroethene	3.02	U	54.0	3.02	ug/Kg	☼		06/15/16 18:21	1
Trichlorofluoromethane	5.40	U	54.0	5.40	ug/Kg	☼		06/15/16 18:21	1
1,2,3-Trichloropropane	8.20	U	54.0	8.20	ug/Kg	☼		06/15/16 18:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	7.23	U	54.0	7.23	ug/Kg	☼		06/15/16 18:21	1
1,2,4-Trimethylbenzene	4.10	U	54.0	4.10	ug/Kg	☼		06/15/16 18:21	1
1,3,5-Trimethylbenzene	3.78	U	54.0	3.78	ug/Kg	☼		06/15/16 18:21	1
Vinyl acetate	11.9	U	54.0	11.9	ug/Kg	☼		06/15/16 18:21	1
Vinyl chloride	6.48	U	54.0	6.48	ug/Kg	☼		06/15/16 18:21	1
Xylenes, Total	5.40	U	108	5.40	ug/Kg	☼		06/15/16 18:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		65 - 152		06/15/16 18:21	1
Toluene-d8 (Surr)	97		65 - 139		06/15/16 18:21	1
Dibromofluoromethane (Surr)	107		50 - 136		06/15/16 18:21	1
4-Bromofluorobenzene (Surr)	103		61 - 142		06/15/16 18:21	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	75.0	U	750	75.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Acenaphthylene	61.8	U	750	61.8	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Anthracene	83.8	U	750	83.8	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Benzo[a]anthracene	140	J	750	92.6	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Benzo[a]pyrene	184	J	750	75.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Benzo[b]fluoranthene	376	J	750	66.2	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Benzo[g,h,i]perylene	89.2	J	750	66.2	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Benzo[k]fluoranthene	152	J	750	57.4	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Benzyl alcohol	159	U	750	159	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Bis(2-chloroethoxy)methane	75.0	U	750	75.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Bis(2-chloroethyl)ether	115	U	750	115	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Bis(2-ethylhexyl) phthalate	381	J	750	115	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
4-Bromophenyl phenyl ether	97.1	U	750	97.1	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Butyl benzyl phthalate	61.8	U	750	61.8	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
4-Chloroaniline	132	U	750	132	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
4-Chloro-3-methylphenol	106	U	750	106	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
2-Chloronaphthalene	75.0	U	750	75.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
2-Chlorophenol	75.0	U	750	75.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
4-Chlorophenyl phenyl ether	101	U	750	101	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Chrysene	244	J	750	66.2	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS360**

**Date Collected: 06/08/16 12:49**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-5**

**Matrix: Solid**

**Percent Solids: 42.5**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	61.8	U	750	61.8	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Dibenzofuran	83.8	U	750	83.8	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
1,3-Dichlorobenzene	79.4	U	750	79.4	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
1,4-Dichlorobenzene	97.1	U	750	97.1	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
1,2-Dichlorobenzene	83.8	U	750	83.8	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
3,3'-Dichlorobenzidine	706	U	750	706	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
2,4-Dichlorophenol	75.0	U	750	75.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Diethyl phthalate	70.6	U	750	70.6	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
2,4-Dimethylphenol	247	U	750	247	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Dimethyl phthalate	75.0	U	750	75.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Di-n-butyl phthalate	159	U	750	159	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
4,6-Dinitro-2-methylphenol	132	U	2910	132	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
2,4-Dinitrophenol	132	U	2910	132	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
2,6-Dinitrotoluene	97.1	U	750	97.1	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
2,4-Dinitrotoluene	70.6	U	750	70.6	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Di-n-octyl phthalate	57.4	U	750	57.4	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
<b>Fluoranthene</b>	<b>440</b>	<b>J</b>	750	75.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Fluorene	83.8	U	750	83.8	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Hexachlorobenzene	88.2	U	750	88.2	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Hexachlorobutadiene	124	U	750	124	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Hexachlorocyclopentadiene	221	U	750	221	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Hexachloroethane	88.2	U	750	88.2	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>223</b>	<b>J</b>	750	70.6	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Isophorone	66.2	U	750	66.2	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
2-Methylnaphthalene	66.2	U	750	66.2	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
2-Methylphenol	88.2	U	750	88.2	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
3 & 4 Methylphenol	124	U	1500	124	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Naphthalene	70.6	U	750	70.6	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
2-Nitroaniline	97.1	U	750	97.1	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
3-Nitroaniline	75.0	U	750	75.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
4-Nitroaniline	124	U	750	124	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Nitrobenzene	66.2	U	750	66.2	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
2-Nitrophenol	70.6	U	750	70.6	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
4-Nitrophenol	132	U	2910	132	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
N-Nitrosodi-n-propylamine	110	U	750	110	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
N-Nitrosodiphenylamine	97.1	U	750	97.1	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Pentachlorophenol	1460	U	2910	1460	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
<b>Phenanthrene</b>	<b>104</b>	<b>J</b>	750	92.6	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
Phenol	83.8	U	750	83.8	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
<b>Pyrene</b>	<b>256</b>	<b>J</b>	750	75.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
1,2,4-Trichlorobenzene	70.6	U	750	70.6	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
2,4,6-Trichlorophenol	79.4	U	750	79.4	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1
2,4,5-Trichlorophenol	137	U	750	137	ug/Kg	☼	06/21/16 07:56	06/21/16 15:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	20	X	24 - 101	06/21/16 07:56	06/21/16 15:12	1
Nitrobenzene-d5	14	X	17 - 112	06/21/16 07:56	06/21/16 15:12	1
2-Fluorobiphenyl	26	X	32 - 101	06/21/16 07:56	06/21/16 15:12	1
2,4,6-Tribromophenol	75		21 - 130	06/21/16 07:56	06/21/16 15:12	1
Terphenyl-d14	69		62 - 129	06/21/16 07:56	06/21/16 15:12	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS360**

**Date Collected: 06/08/16 12:49**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-5**

**Matrix: Solid**

**Percent Solids: 42.5**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	30		23 - 106	06/21/16 07:56	06/21/16 15:12	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	3.08	U *	4.00	3.08	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
alpha-BHC	2.35	U *	4.00	2.35	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
alpha-Chlordane	3.74	U *	7.76	3.74	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
beta-BHC	2.40	U *	4.00	2.40	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
4,4'-DDD	3.81	U *	7.76	3.81	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
4,4'-DDE	3.41	U *	7.76	3.41	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
4,4'-DDT	4.35	U *	7.76	4.35	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
delta-BHC	2.00	U *	4.00	2.00	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
Dieldrin	3.27	U *	7.76	3.27	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
Endosulfan I	2.35	U *	4.00	2.35	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
Endosulfan II	3.55	U *	4.00	3.55	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
Endosulfan sulfate	3.95	U *	7.76	3.95	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
Endrin	3.60	U *	7.76	3.60	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
Endrin aldehyde	3.67	U *	7.76	3.67	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
Endrin ketone	3.62	U *	7.76	3.62	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
gamma-BHC (Lindane)	2.19	U *	4.00	2.19	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
gamma-Chlordane	2.94	U *	7.76	2.94	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
Heptachlor	2.19	U *	4.00	2.19	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
Heptachlor epoxide	2.75	U *	4.00	2.75	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
Methoxychlor	19.0	U *	40.0	19.0	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1
Toxaphene	172	U *	400	172	ug/Kg	☼	06/16/16 09:25	06/23/16 17:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	89	*	50 - 143	06/16/16 09:25	06/23/16 17:33	1
DCB Decachlorobiphenyl	80	*	47 - 150	06/16/16 09:25	06/23/16 17:33	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1262	11.7	U	75.6	11.7	ug/Kg	☼	06/22/16 07:52	06/23/16 13:29	1
Aroclor 1268	11.7	U	75.6	11.7	ug/Kg	☼	06/22/16 07:52	06/23/16 13:29	1
PCB-1016	11.7	U	75.6	11.7	ug/Kg	☼	06/22/16 07:52	06/23/16 13:29	1
PCB-1221	11.7	U	75.6	11.7	ug/Kg	☼	06/22/16 07:52	06/23/16 13:29	1
PCB-1232	11.7	U	75.6	11.7	ug/Kg	☼	06/22/16 07:52	06/23/16 13:29	1
PCB-1242	11.7	U	75.6	11.7	ug/Kg	☼	06/22/16 07:52	06/23/16 13:29	1
PCB-1248	11.7	U	75.6	11.7	ug/Kg	☼	06/22/16 07:52	06/23/16 13:29	1
PCB-1254	11.7	U	75.6	11.7	ug/Kg	☼	06/22/16 07:52	06/23/16 13:29	1
PCB-1260	22.9	U	75.6	22.9	ug/Kg	☼	06/22/16 07:52	06/23/16 13:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	94		32 - 132	06/22/16 07:52	06/23/16 13:29	1
DCB Decachlorobiphenyl	87		57 - 138	06/22/16 07:52	06/23/16 13:29	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	815	U	3030	815	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Bolstar	988	U	3030	988	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS360**

**Date Collected: 06/08/16 12:49**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-5**

**Matrix: Solid**

**Percent Solids: 42.5**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorpyrifos	1500	U	4660	1500	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Coumaphos	652	U	3030	652	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Demeton-O	1230	U	9090	1230	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Demeton-S	1130	U	3490	1130	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Diazinon	1690	U	5130	1690	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Dichlorvos	1720	U	5360	1720	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Dimethoate	1650	U	5130	1650	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Disulfoton	1800	U	11200	1800	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
EPN	857	U	3030	857	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Ethoprop	1150	U	3490	1150	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Ethyl Parathion	1230	U	4190	1230	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Famphur	750	U	3030	750	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Fensulfothion	1900	U	5820	1900	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Fenthion	2040	U	7690	2040	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Malathion	1080	U	3490	1080	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Merphos	1200	U	6990	1200	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Methyl parathion	1480	U	4660	1480	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Mevinphos	1080	U	3490	1080	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Naled	5260	U	16300	5260	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Phorate	1330	U	4660	1330	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Ronnel	3540	U	10700	3540	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Sulfotepp	1460	U	4660	1460	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Tetrachlorvinphos (Stirophos)	1020	U	3490	1020	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Thionazin	1300	U	4190	1300	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Tokuthion	911	U	4660	911	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100
Trichloronate	1460	U	4660	1460	ug/Kg	☼	06/22/16 12:48	07/06/16 17:06	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	68	D	42 - 132	06/22/16 12:48	07/06/16 17:06	100
Triphenylphosphate	100	D	47 - 161	06/22/16 12:48	07/06/16 17:06	100

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	1.33	U	15.7	1.33	ug/Kg	☼	06/20/16 08:59	06/22/16 17:46	1
2,4-DB	2.59	U	15.7	2.59	ug/Kg	☼	06/20/16 08:59	06/22/16 17:46	1
Dicamba	1.80	U	15.7	1.80	ug/Kg	☼	06/20/16 08:59	06/22/16 17:46	1
Dichlorprop	1.76	U	15.7	1.76	ug/Kg	☼	06/20/16 08:59	06/22/16 17:46	1
Dinoseb	1.25	U	15.7	1.25	ug/Kg	☼	06/20/16 08:59	06/22/16 17:46	1
MCPA	255	U	157	255	ug/Kg	☼	06/20/16 08:59	06/22/16 17:46	1
Mecoprop	180	U	157	180	ug/Kg	☼	06/20/16 08:59	06/22/16 17:46	1
Silvex (2,4,5-TP)	1.69	U	15.7	1.69	ug/Kg	☼	06/20/16 08:59	06/22/16 17:46	1
2,4,5-T	1.72	U	15.7	1.72	ug/Kg	☼	06/20/16 08:59	06/22/16 17:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-DCAA	160	X	22 - 130	06/20/16 08:59	06/22/16 17:46	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	6.75	U	233	6.75	ug/Kg	☼	06/21/16 15:57	06/23/16 19:00	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: HCS360**

**Date Collected: 06/08/16 12:49**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-5**

**Matrix: Solid**

**Percent Solids: 42.5**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-DCAA	79		35 - 137	06/21/16 15:57	06/23/16 19:00	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	2.37	U	9.43	2.37	mg/Kg	☼		06/17/16 23:33	1
Nitrate as N	0.592	U H	4.72	0.592	mg/Kg	☼		06/17/16 23:33	1
Chloride	22.9		9.43	1.26	mg/Kg	☼		06/17/16 23:33	1
Fluoride	4.24	J	4.72	1.42	mg/Kg	☼		06/17/16 23:33	1
Sulfate	193		11.8	2.26	mg/Kg	☼		06/17/16 23:33	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	5540		8.91	5.47	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Phosphorus	488		89.1	2.96	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Antimony	1.10	J	3.56	0.476	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Calcium	120000		891	258	mg/Kg	☼	06/21/16 08:00	06/23/16 13:45	10
Arsenic	3.07	J	3.56	0.258	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Magnesium	2520		35.6	2.82	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Barium	51.4		1.78	0.337	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Potassium	1120		178	27.1	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Beryllium	0.480	J	0.891	0.0481	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Silicon	4110		35.6	11.3	mg/Kg	☼	06/21/16 08:00	06/23/16 13:14	1
Cadmium	0.848	J	0.891	0.0642	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Sodium	117	J	178	26.9	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Chromium	10.2		1.78	0.239	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Strontium	170		1.78	0.139	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Copper	11.4		3.56	0.358	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Iron	6120		35.6	8.91	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Lead	23.5		0.891	0.271	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Manganese	126		4.46	0.829	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Nickel	7.94		3.56	0.221	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Selenium	1.94		1.78	0.353	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Silver	0.196	U	0.891	0.196	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Thallium	0.212	U	1.78	0.212	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1
Zinc	89.1		4.46	1.02	mg/Kg	☼	06/14/16 11:03	06/16/16 11:20	1

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0203	U	0.226	0.0203	mg/Kg	☼	06/15/16 10:00	06/15/16 16:52	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.59	HF	0.100	0.100	SU	—		06/15/16 14:26	1
TOC	3.75		0.100	0.0415	%			06/24/16 09:00	1

## General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	380		11.8	11.8	mg/Kg	☼		06/17/16 15:00	1
Bicarbonate Alkalinity as CaCO3	380		11.8	11.8	mg/Kg	☼		06/17/16 15:00	1
Carbonate Alkalinity as CaCO3	11.8	U	11.8	11.8	mg/Kg	☼		06/17/16 15:00	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: FDHCS360**

**Lab Sample ID: 560-62017-6**

**Date Collected: 06/08/16 12:49**

**Matrix: Solid**

**Date Received: 06/09/16 09:30**

**Percent Solids: 42.6**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>224</b>	<b>J</b>	554	79.7	ug/Kg	☼		06/15/16 18:46	1
Acetonitrile	410	U	554	410	ug/Kg	☼		06/15/16 18:46	1
Benzene	6.98	U	55.4	6.98	ug/Kg	☼		06/15/16 18:46	1
Benzyl chloride	5.54	U	55.4	5.54	ug/Kg	☼		06/15/16 18:46	1
Bromobenzene	8.20	U	55.4	8.20	ug/Kg	☼		06/15/16 18:46	1
Bromochloromethane	9.97	U	55.4	9.97	ug/Kg	☼		06/15/16 18:46	1
Bromoform	5.65	U	55.4	5.65	ug/Kg	☼		06/15/16 18:46	1
Bromomethane	12.2	U	55.4	12.2	ug/Kg	☼		06/15/16 18:46	1
1,3-Butadiene	3.32	U	55.4	3.32	ug/Kg	☼		06/15/16 18:46	1
<b>2-Butanone (MEK)</b>	<b>38.7</b>	<b>J</b>	111	21.0	ug/Kg	☼		06/15/16 18:46	1
Carbon disulfide	11.1	U	55.4	11.1	ug/Kg	☼		06/15/16 18:46	1
Carbon tetrachloride	5.65	U	55.4	5.65	ug/Kg	☼		06/15/16 18:46	1
Chlorobenzene	3.32	U	55.4	3.32	ug/Kg	☼		06/15/16 18:46	1
2-Chloro-1,3-butadiene	7.64	U	55.4	7.64	ug/Kg	☼		06/15/16 18:46	1
Chlorodibromomethane	7.09	U	55.4	7.09	ug/Kg	☼		06/15/16 18:46	1
Chloroethane	2.88	U	55.4	2.88	ug/Kg	☼		06/15/16 18:46	1
Chloroform	9.64	U	55.4	9.64	ug/Kg	☼		06/15/16 18:46	1
1-Chlorohexane	6.09	U	55.4	6.09	ug/Kg	☼		06/15/16 18:46	1
Chloromethane	13.3	U	55.4	13.3	ug/Kg	☼		06/15/16 18:46	1
2-Chlorotoluene	3.32	U	55.4	3.32	ug/Kg	☼		06/15/16 18:46	1
4-Chlorotoluene	7.64	U	55.4	7.64	ug/Kg	☼		06/15/16 18:46	1
cis-1,4-Dichloro-2-butene	3.54	U	55.4	3.54	ug/Kg	☼		06/15/16 18:46	1
cis-1,2-Dichloroethene	6.31	U	55.4	6.31	ug/Kg	☼		06/15/16 18:46	1
cis-1,3-Dichloropropene	2.22	U	55.4	2.22	ug/Kg	☼		06/15/16 18:46	1
Cyclohexane	11.0	U	111	11.0	ug/Kg	☼		06/15/16 18:46	1
Cyclohexanone	111	U	1110	111	ug/Kg	☼		06/15/16 18:46	1
1,2-Dibromo-3-Chloropropane	3.65	U	55.4	3.65	ug/Kg	☼		06/15/16 18:46	1
Dibromomethane	7.86	U	55.4	7.86	ug/Kg	☼		06/15/16 18:46	1
1,3-Dichlorobenzene	3.43	U	55.4	3.43	ug/Kg	☼		06/15/16 18:46	1
1,2-Dichlorobenzene	2.77	U	55.4	2.77	ug/Kg	☼		06/15/16 18:46	1
1,4-Dichlorobenzene	3.54	U	55.4	3.54	ug/Kg	☼		06/15/16 18:46	1
Dichlorobromomethane	2.22	U	55.4	2.22	ug/Kg	☼		06/15/16 18:46	1
Dichlorodifluoromethane	8.09	U	55.4	8.09	ug/Kg	☼		06/15/16 18:46	1
1,2-Dichloroethane	5.76	U	55.4	5.76	ug/Kg	☼		06/15/16 18:46	1
1,1-Dichloroethane	6.53	U	55.4	6.53	ug/Kg	☼		06/15/16 18:46	1
1,1-Dichloroethene	5.54	U	55.4	5.54	ug/Kg	☼		06/15/16 18:46	1
1,2-Dichloroethene, Total	5.54	U	55.4	5.54	ug/Kg	☼		06/15/16 18:46	1
1,2-Dichloropropane	5.54	U	55.4	5.54	ug/Kg	☼		06/15/16 18:46	1
1,3-Dichloropropane	3.32	U	55.4	3.32	ug/Kg	☼		06/15/16 18:46	1
2,2-Dichloropropane	9.30	U	55.4	9.30	ug/Kg	☼		06/15/16 18:46	1
1,1-Dichloropropene	5.76	U	55.4	5.76	ug/Kg	☼		06/15/16 18:46	1
1,3-Dichloropropene, Total	5.76	U	55.4	5.76	ug/Kg	☼		06/15/16 18:46	1
1,4-Dioxane	210	U	1110	210	ug/Kg	☼		06/15/16 18:46	1
EDB	3.32	U	55.4	3.32	ug/Kg	☼		06/15/16 18:46	1
Ethyl acetate	31.1	U	55.4	31.1	ug/Kg	☼		06/15/16 18:46	1
Ethylbenzene	4.98	U	55.4	4.98	ug/Kg	☼		06/15/16 18:46	1
Ethylene oxide	332	U	1110	332	ug/Kg	☼		06/15/16 18:46	1
Ethyl ether	5.54	U	277	5.54	ug/Kg	☼		06/15/16 18:46	1
Ethyl methacrylate	5.65	U	55.4	5.65	ug/Kg	☼		06/15/16 18:46	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: FDHCS360**

**Lab Sample ID: 560-62017-6**

**Date Collected: 06/08/16 12:49**

**Matrix: Solid**

**Date Received: 06/09/16 09:30**

**Percent Solids: 42.6**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	7.09	U	55.4	7.09	ug/Kg	☼		06/15/16 18:46	1
Hexane	14.4	U	55.4	14.4	ug/Kg	☼		06/15/16 18:46	1
2-Hexanone	16.6	U	111	16.6	ug/Kg	☼		06/15/16 18:46	1
Iodomethane	8.86	U	55.4	8.86	ug/Kg	☼		06/15/16 18:46	1
Isobutyl alcohol	753	U	2770	753	ug/Kg	☼		06/15/16 18:46	1
Isooctane	5.54	U	55.4	5.54	ug/Kg	☼		06/15/16 18:46	1
Isopropylbenzene	5.54	U	55.4	5.54	ug/Kg	☼		06/15/16 18:46	1
<b>4-Isopropyltoluene</b>	<b>46.3</b>	<b>J</b>	55.4	4.37	ug/Kg	☼		06/15/16 18:46	1
Methacrylonitrile	26.6	U	55.4	26.6	ug/Kg	☼		06/15/16 18:46	1
Methylene Chloride	55.4	U	277	55.4	ug/Kg	☼		06/15/16 18:46	1
Methyl methacrylate	12.2	U	55.4	12.2	ug/Kg	☼		06/15/16 18:46	1
4-Methyl-2-pentanone (MIBK)	16.6	U	111	16.6	ug/Kg	☼		06/15/16 18:46	1
Methyl tert-butyl ether	6.76	U	55.4	6.76	ug/Kg	☼		06/15/16 18:46	1
m-Xylene & p-Xylene	5.54	U	111	5.54	ug/Kg	☼		06/15/16 18:46	1
Naphthalene	13.3	U	111	13.3	ug/Kg	☼		06/15/16 18:46	1
n-Butylbenzene	2.99	U	55.4	2.99	ug/Kg	☼		06/15/16 18:46	1
n-Heptane	5.87	U	55.4	5.87	ug/Kg	☼		06/15/16 18:46	1
2-Nitropropane	5.76	U	111	5.76	ug/Kg	☼		06/15/16 18:46	1
N-Propylbenzene	3.32	U	55.4	3.32	ug/Kg	☼		06/15/16 18:46	1
1-Octene	5.54	U	55.4	5.54	ug/Kg	☼		06/15/16 18:46	1
o-Xylene	4.43	U	55.4	4.43	ug/Kg	☼		06/15/16 18:46	1
Pentachloroethane	15.5	U	55.4	15.5	ug/Kg	☼		06/15/16 18:46	1
Propionitrile	54.3	U	55.4	54.3	ug/Kg	☼		06/15/16 18:46	1
sec-Butylbenzene	3.32	U	55.4	3.32	ug/Kg	☼		06/15/16 18:46	1
Styrene	3.32	U	55.4	3.32	ug/Kg	☼		06/15/16 18:46	1
tert-Butylbenzene	2.77	U	55.4	2.77	ug/Kg	☼		06/15/16 18:46	1
1,1,2,2-Tetrachloroethane	4.21	U	55.4	4.21	ug/Kg	☼		06/15/16 18:46	1
1,1,1,2-Tetrachloroethane	2.99	U	55.4	2.99	ug/Kg	☼		06/15/16 18:46	1
Tetrachloroethene	8.20	U	55.4	8.20	ug/Kg	☼		06/15/16 18:46	1
Toluene	9.97	U	55.4	9.97	ug/Kg	☼		06/15/16 18:46	1
trans-1,4-Dichloro-2-butene	9.75	U	55.4	9.75	ug/Kg	☼		06/15/16 18:46	1
trans-1,2-Dichloroethene	5.54	U	55.4	5.54	ug/Kg	☼		06/15/16 18:46	1
trans-1,3-Dichloropropene	5.76	U	55.4	5.76	ug/Kg	☼		06/15/16 18:46	1
1,2,4-Trichlorobenzene	10.7	U	55.4	10.7	ug/Kg	☼		06/15/16 18:46	1
1,2,3-Trichlorobenzene	4.87	U	55.4	4.87	ug/Kg	☼		06/15/16 18:46	1
1,3,5-Trichlorobenzene	3.43	U	55.4	3.43	ug/Kg	☼		06/15/16 18:46	1
1,1,1-Trichloroethane	5.54	U	55.4	5.54	ug/Kg	☼		06/15/16 18:46	1
1,1,2-Trichloroethane	5.54	U	55.4	5.54	ug/Kg	☼		06/15/16 18:46	1
Trichloroethene	3.10	U	55.4	3.10	ug/Kg	☼		06/15/16 18:46	1
Trichlorofluoromethane	5.54	U	55.4	5.54	ug/Kg	☼		06/15/16 18:46	1
1,2,3-Trichloropropane	8.42	U	55.4	8.42	ug/Kg	☼		06/15/16 18:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	7.42	U	55.4	7.42	ug/Kg	☼		06/15/16 18:46	1
1,2,4-Trimethylbenzene	4.21	U	55.4	4.21	ug/Kg	☼		06/15/16 18:46	1
1,3,5-Trimethylbenzene	3.88	U	55.4	3.88	ug/Kg	☼		06/15/16 18:46	1
Vinyl acetate	12.2	U	55.4	12.2	ug/Kg	☼		06/15/16 18:46	1
Vinyl chloride	6.65	U	55.4	6.65	ug/Kg	☼		06/15/16 18:46	1
Xylenes, Total	5.54	U	111	5.54	ug/Kg	☼		06/15/16 18:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		65 - 152		06/15/16 18:46	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: FDHCS360**

**Date Collected: 06/08/16 12:49**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-6**

**Matrix: Solid**

**Percent Solids: 42.6**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		65 - 139		06/15/16 18:46	1
Dibromofluoromethane (Surr)	105		50 - 136		06/15/16 18:46	1
4-Bromofluorobenzene (Surr)	102		61 - 142		06/15/16 18:46	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	75.3	U	753	75.3	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Acenaphthylene	62.0	U	753	62.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Anthracene	84.2	U	753	84.2	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Benzo[a]anthracene	156	J	753	93.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Benzo[a]pyrene	192	J	753	75.3	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Benzo[b]fluoranthene	437	J	753	66.5	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Benzo[g,h,i]perylene	89.1	J	753	66.5	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Benzo[k]fluoranthene	185	J	753	57.6	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Benzyl alcohol	159	U	753	159	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Bis(2-chloroethoxy)methane	75.3	U	753	75.3	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Bis(2-chloroethyl)ether	115	U	753	115	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Bis(2-ethylhexyl) phthalate	356	J	753	115	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
4-Bromophenyl phenyl ether	97.5	U	753	97.5	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Butyl benzyl phthalate	62.0	U	753	62.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
4-Chloroaniline	133	U	753	133	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
4-Chloro-3-methylphenol	106	U	753	106	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
2-Chloronaphthalene	75.3	U	753	75.3	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
2-Chlorophenol	75.3	U	753	75.3	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
4-Chlorophenyl phenyl ether	102	U	753	102	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Chrysene	294	J	753	66.5	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Dibenz(a,h)anthracene	62.0	U	753	62.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Dibenzofuran	84.2	U	753	84.2	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
1,3-Dichlorobenzene	79.7	U	753	79.7	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
1,4-Dichlorobenzene	97.5	U	753	97.5	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
1,2-Dichlorobenzene	84.2	U	753	84.2	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
3,3'-Dichlorobenzidine	709	U	753	709	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
2,4-Dichlorophenol	75.3	U	753	75.3	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Diethyl phthalate	70.9	U	753	70.9	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
2,4-Dimethylphenol	248	U	753	248	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Dimethyl phthalate	75.3	U	753	75.3	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Di-n-butyl phthalate	159	U	753	159	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
4,6-Dinitro-2-methylphenol	133	U	2920	133	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
2,4-Dinitrophenol	133	U	2920	133	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
2,6-Dinitrotoluene	97.5	U	753	97.5	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
2,4-Dinitrotoluene	70.9	U	753	70.9	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Di-n-octyl phthalate	57.6	U	753	57.6	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Fluoranthene	505	J	753	75.3	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Fluorene	84.2	U	753	84.2	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Hexachlorobenzene	88.6	U	753	88.6	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Hexachlorobutadiene	124	U	753	124	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Hexachlorocyclopentadiene	222	U	753	222	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Hexachloroethane	88.6	U	753	88.6	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Indeno[1,2,3-cd]pyrene	224	J	753	70.9	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: FDHCS360**

**Date Collected: 06/08/16 12:49**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-6**

**Matrix: Solid**

**Percent Solids: 42.6**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isophorone	66.5	U	753	66.5	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
2-Methylnaphthalene	66.5	U	753	66.5	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
2-Methylphenol	88.6	U	753	88.6	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
3 & 4 Methylphenol	124	U	1510	124	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Naphthalene	70.9	U	753	70.9	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
2-Nitroaniline	97.5	U	753	97.5	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
3-Nitroaniline	75.3	U	753	75.3	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
4-Nitroaniline	124	U	753	124	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Nitrobenzene	66.5	U	753	66.5	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
2-Nitrophenol	70.9	U	753	70.9	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
4-Nitrophenol	133	U	2920	133	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
N-Nitrosodi-n-propylamine	111	U	753	111	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
N-Nitrosodiphenylamine	97.5	U	753	97.5	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Pentachlorophenol	1460	U	2920	1460	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
<b>Phenanthrene</b>	<b>119</b>	<b>J</b>	753	93.0	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
Phenol	84.2	U	753	84.2	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
<b>Pyrene</b>	<b>295</b>	<b>J</b>	753	75.3	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
1,2,4-Trichlorobenzene	70.9	U	753	70.9	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
2,4,6-Trichlorophenol	79.7	U	753	79.7	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1
2,4,5-Trichlorophenol	137	U	753	137	ug/Kg	☼	06/21/16 07:56	06/21/16 15:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	20	X	24 - 101	06/21/16 07:56	06/21/16 15:38	1
Nitrobenzene-d5	15	X	17 - 112	06/21/16 07:56	06/21/16 15:38	1
2-Fluorobiphenyl	23	X	32 - 101	06/21/16 07:56	06/21/16 15:38	1
2,4,6-Tribromophenol	84		21 - 130	06/21/16 07:56	06/21/16 15:38	1
Terphenyl-d14	79		62 - 129	06/21/16 07:56	06/21/16 15:38	1
Phenol-d5 (Surr)	28		23 - 106	06/21/16 07:56	06/21/16 15:38	1

## Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	3.07	U *	3.98	3.07	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
alpha-BHC	2.34	U *	3.98	2.34	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
alpha-Chlordane	3.72	U *	7.72	3.72	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
beta-BHC	2.39	U *	3.98	2.39	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
4,4'-DDD	3.79	U *	7.72	3.79	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
4,4'-DDE	3.39	U *	7.72	3.39	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
4,4'-DDT	4.33	U *	7.72	4.33	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
delta-BHC	1.99	U *	3.98	1.99	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
Dieldrin	3.25	U *	7.72	3.25	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
Endosulfan I	2.34	U *	3.98	2.34	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
Endosulfan II	3.53	U *	3.98	3.53	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
Endosulfan sulfate	3.93	U *	7.72	3.93	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
Endrin	3.58	U *	7.72	3.58	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
Endrin aldehyde	3.65	U *	7.72	3.65	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
Endrin ketone	3.60	U *	7.72	3.60	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
gamma-BHC (Lindane)	2.18	U *	3.98	2.18	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
gamma-Chlordane	2.93	U *	7.72	2.93	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
Heptachlor	2.18	U *	3.98	2.18	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
Heptachlor epoxide	2.74	U *	3.98	2.74	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: FDHCS360**

**Date Collected: 06/08/16 12:49**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-6**

**Matrix: Solid**

**Percent Solids: 42.6**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methoxychlor	18.9	U *	39.8	18.9	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
Toxaphene	171	U *	398	171	ug/Kg	☼	06/16/16 09:25	06/23/16 17:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	225	X *	50 - 143				06/16/16 09:25	06/23/16 17:58	1
DCB Decachlorobiphenyl	155	X *	47 - 150				06/16/16 09:25	06/23/16 17:58	1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1262	12.0	U	77.4	12.0	ug/Kg	☼	06/22/16 07:52	06/23/16 13:50	1
Aroclor 1268	12.0	U	77.4	12.0	ug/Kg	☼	06/22/16 07:52	06/23/16 13:50	1
PCB-1016	12.0	U	77.4	12.0	ug/Kg	☼	06/22/16 07:52	06/23/16 13:50	1
PCB-1221	12.0	U	77.4	12.0	ug/Kg	☼	06/22/16 07:52	06/23/16 13:50	1
PCB-1232	12.0	U	77.4	12.0	ug/Kg	☼	06/22/16 07:52	06/23/16 13:50	1
PCB-1242	12.0	U	77.4	12.0	ug/Kg	☼	06/22/16 07:52	06/23/16 13:50	1
PCB-1248	12.0	U	77.4	12.0	ug/Kg	☼	06/22/16 07:52	06/23/16 13:50	1
PCB-1254	12.0	U	77.4	12.0	ug/Kg	☼	06/22/16 07:52	06/23/16 13:50	1
PCB-1260	23.5	U	77.4	23.5	ug/Kg	☼	06/22/16 07:52	06/23/16 13:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	78		32 - 132				06/22/16 07:52	06/23/16 13:50	1
DCB Decachlorobiphenyl	74		57 - 138				06/22/16 07:52	06/23/16 13:50	1

## Method: 8141A - Organophosphorous Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	822	U	3050	822	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Bolstar	996	U	3050	996	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Chlorpyrifos	1520	U	4700	1520	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Coumaphos	657	U	3050	657	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Demeton-O	1240	U	9160	1240	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Demeton-S	1140	U	3520	1140	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Diazinon	1710	U	5170	1710	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Dichlorvos	1740	U	5400	1740	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Dimethoate	1660	U	5170	1660	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Disulfoton	1820	U	11300	1820	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
EPN	864	U	3050	864	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Ethoprop	1160	U	3520	1160	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Ethyl Parathion	1240	U	4230	1240	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Famphur	756	U	3050	756	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Fensulfothion	1910	U	5870	1910	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Fenthion	2050	U	7750	2050	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Malathion	1090	U	3520	1090	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Merphos	1210	U	7040	1210	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Methyl parathion	1500	U	4700	1500	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Mevinphos	1080	U	3520	1080	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Naled	5310	U	16400	5310	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Phorate	1340	U	4700	1340	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Ronnel	3570	U	10800	3570	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Sulfotepp	1470	U	4700	1470	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Tetrachlorvinphos (Stirophos)	1020	U	3520	1020	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: FDHCS360**

**Date Collected: 06/08/16 12:49**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-6**

**Matrix: Solid**

**Percent Solids: 42.6**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thionazin	1310	U	4230	1310	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Tokuthion	918	U	4700	918	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Trichloronate	1470	U	4700	1470	ug/Kg	☼	06/22/16 12:48	07/06/16 17:37	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Chlormefos	78	D	42 - 132				06/22/16 12:48	07/06/16 17:37	100
Triphenylphosphate	100	D	47 - 161				06/22/16 12:48	07/06/16 17:37	100

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	5.05	J	15.7	1.33	ug/Kg	☼	06/20/16 08:59	06/22/16 18:21	1
2,4-DB	2.58	U	15.7	2.58	ug/Kg	☼	06/20/16 08:59	06/22/16 18:21	1
Dicamba	1.80	U	15.7	1.80	ug/Kg	☼	06/20/16 08:59	06/22/16 18:21	1
Dichlorprop	1.76	U	15.7	1.76	ug/Kg	☼	06/20/16 08:59	06/22/16 18:21	1
Dinoseb	1.25	U	15.7	1.25	ug/Kg	☼	06/20/16 08:59	06/22/16 18:21	1
MCPA	254	U	157	254	ug/Kg	☼	06/20/16 08:59	06/22/16 18:21	1
Mecoprop	180	U	157	180	ug/Kg	☼	06/20/16 08:59	06/22/16 18:21	1
Silvex (2,4,5-TP)	1.68	U	15.7	1.68	ug/Kg	☼	06/20/16 08:59	06/22/16 18:21	1
2,4,5-T	1.72	U	15.7	1.72	ug/Kg	☼	06/20/16 08:59	06/22/16 18:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-DCAA	90		22 - 130				06/20/16 08:59	06/22/16 18:21	1

## Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	6.78	U	234	6.78	ug/Kg	☼	06/21/16 15:57	06/23/16 19:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4-DCAA	74		35 - 137				06/21/16 15:57	06/23/16 19:20	1

## Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	2.33	U	9.26	2.33	mg/Kg	☼		06/17/16 23:53	1
Nitrate as N	0.581	U H	4.63	0.581	mg/Kg	☼		06/17/16 23:53	1
Chloride	25.1		9.26	1.24	mg/Kg	☼		06/17/16 23:53	1
Fluoride	3.82	J	4.63	1.39	mg/Kg	☼		06/17/16 23:53	1
Sulfate	169		11.6	2.22	mg/Kg	☼		06/17/16 23:53	1

## Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	5060		9.54	5.86	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Phosphorus	459		95.4	3.17	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Antimony	1.02	J	3.82	0.510	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Calcium	153000		954	277	mg/Kg	☼	06/21/16 08:00	06/23/16 13:53	10
Arsenic	2.85	J	3.82	0.277	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Magnesium	2380		38.2	3.02	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Barium	48.8		1.91	0.361	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Potassium	1060		191	29.0	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Beryllium	0.446	J	0.954	0.0515	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Silicon	4480		38.2	12.1	mg/Kg	☼	06/21/16 08:00	06/23/16 13:49	1
Cadmium	0.762	J	0.954	0.0687	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: FDHCS360**

**Date Collected: 06/08/16 12:49**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-6**

**Matrix: Solid**

**Percent Solids: 42.6**

## Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	128	J	191	28.8	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Chromium	9.73		1.91	0.256	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Strontium	171		1.91	0.149	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Copper	10.3		3.82	0.384	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Iron	5780		38.2	9.54	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Lead	22.3		0.954	0.290	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Manganese	130		4.77	0.888	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Nickel	7.38		3.82	0.237	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Selenium	1.97		1.91	0.378	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Silver	0.210	U	0.954	0.210	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Thallium	0.227	U	1.91	0.227	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1
Zinc	74.1		4.77	1.09	mg/Kg	☼	06/14/16 11:03	06/16/16 11:24	1

## Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0366	J	0.249	0.0224	mg/Kg	☼	06/15/16 10:00	06/15/16 16:54	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.63	HF	0.100	0.100	SU			06/15/16 14:26	1
TOC	4.00		0.100	0.0415	%			06/24/16 09:00	1

## General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	386		11.7	11.7	mg/Kg	☼		06/17/16 15:00	1
Bicarbonate Alkalinity as CaCO3	386		11.7	11.7	mg/Kg	☼		06/17/16 15:00	1
Carbonate Alkalinity as CaCO3	11.7	U	11.7	11.7	mg/Kg	☼		06/17/16 15:00	1

**Client Sample ID: TB07**

**Date Collected: 06/08/16 00:00**

**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L			06/15/16 19:43	1
Acetonitrile	10.0	U	50.0	10.0	ug/L			06/15/16 19:43	1
Benzene	0.330	U	1.00	0.330	ug/L			06/15/16 19:43	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			06/15/16 19:43	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			06/15/16 19:43	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			06/15/16 19:43	1
Bromoform	0.500	U	5.00	0.500	ug/L			06/15/16 19:43	1
Bromomethane	0.392	U	5.00	0.392	ug/L			06/15/16 19:43	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			06/15/16 19:43	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			06/15/16 19:43	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			06/15/16 19:43	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			06/15/16 19:43	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			06/15/16 19:43	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			06/15/16 19:43	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			06/15/16 19:43	1
Chloroethane	0.400	U	5.00	0.400	ug/L			06/15/16 19:43	1

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: TB07**  
**Date Collected: 06/08/16 00:00**  
**Date Received: 06/09/16 09:30**

**Lab Sample ID: 560-62017-7**  
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	0.173	U	1.00	0.173	ug/L			06/15/16 19:43	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			06/15/16 19:43	1
Chloromethane	0.390	U	5.00	0.390	ug/L			06/15/16 19:43	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			06/15/16 19:43	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			06/15/16 19:43	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			06/15/16 19:43	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			06/15/16 19:43	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			06/15/16 19:43	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			06/15/16 19:43	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			06/15/16 19:43	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			06/15/16 19:43	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			06/15/16 19:43	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			06/15/16 19:43	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			06/15/16 19:43	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			06/15/16 19:43	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			06/15/16 19:43	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			06/15/16 19:43	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			06/15/16 19:43	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			06/15/16 19:43	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			06/15/16 19:43	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			06/15/16 19:43	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			06/15/16 19:43	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			06/15/16 19:43	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			06/15/16 19:43	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			06/15/16 19:43	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			06/15/16 19:43	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			06/15/16 19:43	1
EDB	0.175	U	1.00	0.175	ug/L			06/15/16 19:43	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			06/15/16 19:43	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			06/15/16 19:43	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			06/15/16 19:43	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			06/15/16 19:43	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			06/15/16 19:43	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			06/15/16 19:43	1
Hexane	2.00	U	5.00	2.00	ug/L			06/15/16 19:43	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			06/15/16 19:43	1
Iodomethane	0.223	U	2.00	0.223	ug/L			06/15/16 19:43	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			06/15/16 19:43	1
Isooctane	0.500	U	5.00	0.500	ug/L			06/15/16 19:43	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			06/15/16 19:43	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			06/15/16 19:43	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			06/15/16 19:43	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			06/15/16 19:43	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			06/15/16 19:43	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			06/15/16 19:43	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			06/15/16 19:43	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			06/15/16 19:43	1
Naphthalene	0.200	U	5.00	0.200	ug/L			06/15/16 19:43	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			06/15/16 19:43	1

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# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

**Client Sample ID: TB07**

**Lab Sample ID: 560-62017-7**

**Date Collected: 06/08/16 00:00**

**Matrix: Water**

**Date Received: 06/09/16 09:30**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Heptane	0.300	U	5.00	0.300	ug/L			06/15/16 19:43	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			06/15/16 19:43	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			06/15/16 19:43	1
1-Octene	0.440	U	5.00	0.440	ug/L			06/15/16 19:43	1
o-Xylene	0.200	U	1.00	0.200	ug/L			06/15/16 19:43	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			06/15/16 19:43	1
Propionitrile	2.69	U	10.0	2.69	ug/L			06/15/16 19:43	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			06/15/16 19:43	1
Styrene	0.200	U	1.00	0.200	ug/L			06/15/16 19:43	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			06/15/16 19:43	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			06/15/16 19:43	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			06/15/16 19:43	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			06/15/16 19:43	1
Toluene	0.495	U	1.00	0.495	ug/L			06/15/16 19:43	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			06/15/16 19:43	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			06/15/16 19:43	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			06/15/16 19:43	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			06/15/16 19:43	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			06/15/16 19:43	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			06/15/16 19:43	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			06/15/16 19:43	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			06/15/16 19:43	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			06/15/16 19:43	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			06/15/16 19:43	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			06/15/16 19:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			06/15/16 19:43	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			06/15/16 19:43	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			06/15/16 19:43	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			06/15/16 19:43	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			06/15/16 19:43	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			06/15/16 19:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	99		69 - 130		06/15/16 19:43	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 140		06/15/16 19:43	1
Toluene-d8 (Surr)	104		70 - 130		06/15/16 19:43	1
4-Bromofluorobenzene (Surr)	104		70 - 130		06/15/16 19:43	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-128952/8

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	7.20	U	50.0	7.20	ug/Kg			06/15/16 11:35	1
Acetonitrile	37.0	U	50.0	37.0	ug/Kg			06/15/16 11:35	1
Benzene	0.630	U	5.00	0.630	ug/Kg			06/15/16 11:35	1
Benzyl chloride	0.500	U	5.00	0.500	ug/Kg			06/15/16 11:35	1
Bromobenzene	0.740	U	5.00	0.740	ug/Kg			06/15/16 11:35	1
Bromochloromethane	0.900	U	5.00	0.900	ug/Kg			06/15/16 11:35	1
Bromoform	0.510	U	5.00	0.510	ug/Kg			06/15/16 11:35	1
Bromomethane	1.10	U	5.00	1.10	ug/Kg			06/15/16 11:35	1
1,3-Butadiene	0.300	U	5.00	0.300	ug/Kg			06/15/16 11:35	1
2-Butanone (MEK)	1.90	U	10.0	1.90	ug/Kg			06/15/16 11:35	1
Carbon disulfide	1.00	U	5.00	1.00	ug/Kg			06/15/16 11:35	1
Carbon tetrachloride	0.510	U	5.00	0.510	ug/Kg			06/15/16 11:35	1
Chlorobenzene	0.300	U	5.00	0.300	ug/Kg			06/15/16 11:35	1
2-Chloro-1,3-butadiene	0.690	U	5.00	0.690	ug/Kg			06/15/16 11:35	1
Chlorodibromomethane	0.640	U	5.00	0.640	ug/Kg			06/15/16 11:35	1
Chloroethane	0.260	U	5.00	0.260	ug/Kg			06/15/16 11:35	1
Chloroform	0.870	U	5.00	0.870	ug/Kg			06/15/16 11:35	1
1-Chlorohexane	0.550	U	5.00	0.550	ug/Kg			06/15/16 11:35	1
Chloromethane	1.20	U	5.00	1.20	ug/Kg			06/15/16 11:35	1
2-Chlorotoluene	0.300	U	5.00	0.300	ug/Kg			06/15/16 11:35	1
4-Chlorotoluene	0.690	U	5.00	0.690	ug/Kg			06/15/16 11:35	1
cis-1,4-Dichloro-2-butene	0.320	U	5.00	0.320	ug/Kg			06/15/16 11:35	1
cis-1,2-Dichloroethene	0.570	U	5.00	0.570	ug/Kg			06/15/16 11:35	1
cis-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/Kg			06/15/16 11:35	1
Cyclohexane	0.990	U	10.0	0.990	ug/Kg			06/15/16 11:35	1
Cyclohexanone	10.0	U	100	10.0	ug/Kg			06/15/16 11:35	1
1,2-Dibromo-3-Chloropropane	0.330	U	5.00	0.330	ug/Kg			06/15/16 11:35	1
Dibromomethane	0.710	U	5.00	0.710	ug/Kg			06/15/16 11:35	1
1,3-Dichlorobenzene	0.310	U	5.00	0.310	ug/Kg			06/15/16 11:35	1
1,2-Dichlorobenzene	0.250	U	5.00	0.250	ug/Kg			06/15/16 11:35	1
1,4-Dichlorobenzene	0.320	U	5.00	0.320	ug/Kg			06/15/16 11:35	1
Dichlorobromomethane	0.200	U	5.00	0.200	ug/Kg			06/15/16 11:35	1
Dichlorodifluoromethane	0.730	U	5.00	0.730	ug/Kg			06/15/16 11:35	1
1,2-Dichloroethane	0.520	U	5.00	0.520	ug/Kg			06/15/16 11:35	1
1,1-Dichloroethane	0.590	U	5.00	0.590	ug/Kg			06/15/16 11:35	1
1,1-Dichloroethene	0.500	U	5.00	0.500	ug/Kg			06/15/16 11:35	1
1,2-Dichloroethene, Total	0.500	U	5.00	0.500	ug/Kg			06/15/16 11:35	1
1,2-Dichloropropane	0.500	U	5.00	0.500	ug/Kg			06/15/16 11:35	1
2,2-Dichloropropane	0.840	U	5.00	0.840	ug/Kg			06/15/16 11:35	1
1,3-Dichloropropane	0.300	U	5.00	0.300	ug/Kg			06/15/16 11:35	1
1,1-Dichloropropene	0.520	U	5.00	0.520	ug/Kg			06/15/16 11:35	1
1,3-Dichloropropene, Total	0.520	U	5.00	0.520	ug/Kg			06/15/16 11:35	1
1,4-Dioxane	19.0	U	100	19.0	ug/Kg			06/15/16 11:35	1
EDB	0.300	U	5.00	0.300	ug/Kg			06/15/16 11:35	1
Ethyl acetate	2.81	U	5.00	2.81	ug/Kg			06/15/16 11:35	1
Ethylbenzene	0.450	U	5.00	0.450	ug/Kg			06/15/16 11:35	1
Ethylene oxide	30.0	U	100	30.0	ug/Kg			06/15/16 11:35	1
Ethyl ether	0.500	U	25.0	0.500	ug/Kg			06/15/16 11:35	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-128952/8

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl methacrylate	0.510	U	5.00	0.510	ug/Kg			06/15/16 11:35	1
Hexachlorobutadiene	0.640	U	5.00	0.640	ug/Kg			06/15/16 11:35	1
Hexane	1.30	U	5.00	1.30	ug/Kg			06/15/16 11:35	1
2-Hexanone	1.50	U	10.0	1.50	ug/Kg			06/15/16 11:35	1
Iodomethane	0.800	U	5.00	0.800	ug/Kg			06/15/16 11:35	1
Isobutyl alcohol	68.0	U	250	68.0	ug/Kg			06/15/16 11:35	1
Isooctane	0.500	U	5.00	0.500	ug/Kg			06/15/16 11:35	1
Isopropylbenzene	0.500	U	5.00	0.500	ug/Kg			06/15/16 11:35	1
4-Isopropyltoluene	0.395	U	5.00	0.395	ug/Kg			06/15/16 11:35	1
Methacrylonitrile	2.40	U	50.0	2.40	ug/Kg			06/15/16 11:35	1
Methylene Chloride	5.488	J	25.0	5.00	ug/Kg			06/15/16 11:35	1
Methyl methacrylate	1.10	U	5.00	1.10	ug/Kg			06/15/16 11:35	1
4-Methyl-2-pentanone (MIBK)	1.50	U	10.0	1.50	ug/Kg			06/15/16 11:35	1
Methyl tert-butyl ether	0.610	U	5.00	0.610	ug/Kg			06/15/16 11:35	1
m-Xylene & p-Xylene	0.500	U	10.0	0.500	ug/Kg			06/15/16 11:35	1
Naphthalene	1.20	U	10.0	1.20	ug/Kg			06/15/16 11:35	1
n-Butylbenzene	0.270	U	5.00	0.270	ug/Kg			06/15/16 11:35	1
n-Heptane	0.530	U	5.00	0.530	ug/Kg			06/15/16 11:35	1
2-Nitropropane	0.520	U	10.0	0.520	ug/Kg			06/15/16 11:35	1
N-Propylbenzene	0.300	U	5.00	0.300	ug/Kg			06/15/16 11:35	1
1-Octene	0.500	U	5.00	0.500	ug/Kg			06/15/16 11:35	1
o-Xylene	0.400	U	5.00	0.400	ug/Kg			06/15/16 11:35	1
Pentachloroethane	1.40	U	5.00	1.40	ug/Kg			06/15/16 11:35	1
Propionitrile	4.90	U	50.0	4.90	ug/Kg			06/15/16 11:35	1
sec-Butylbenzene	0.300	U	5.00	0.300	ug/Kg			06/15/16 11:35	1
Styrene	0.300	U	5.00	0.300	ug/Kg			06/15/16 11:35	1
tert-Butylbenzene	0.250	U	5.00	0.250	ug/Kg			06/15/16 11:35	1
1,1,2,2-Tetrachloroethane	0.380	U	5.00	0.380	ug/Kg			06/15/16 11:35	1
1,1,1,2-Tetrachloroethane	0.270	U	5.00	0.270	ug/Kg			06/15/16 11:35	1
Tetrachloroethene	0.740	U	5.00	0.740	ug/Kg			06/15/16 11:35	1
Toluene	0.900	U	5.00	0.900	ug/Kg			06/15/16 11:35	1
trans-1,4-Dichloro-2-butene	0.880	U	5.00	0.880	ug/Kg			06/15/16 11:35	1
trans-1,2-Dichloroethene	0.500	U	5.00	0.500	ug/Kg			06/15/16 11:35	1
trans-1,3-Dichloropropene	0.520	U	5.00	0.520	ug/Kg			06/15/16 11:35	1
1,2,4-Trichlorobenzene	0.970	U	5.00	0.970	ug/Kg			06/15/16 11:35	1
1,2,3-Trichlorobenzene	0.440	U	5.00	0.440	ug/Kg			06/15/16 11:35	1
1,3,5-Trichlorobenzene	0.310	U	5.00	0.310	ug/Kg			06/15/16 11:35	1
1,1,1-Trichloroethane	0.500	U	5.00	0.500	ug/Kg			06/15/16 11:35	1
1,1,2-Trichloroethane	0.500	U	5.00	0.500	ug/Kg			06/15/16 11:35	1
Trichloroethene	0.280	U	5.00	0.280	ug/Kg			06/15/16 11:35	1
Trichlorofluoromethane	0.500	U	5.00	0.500	ug/Kg			06/15/16 11:35	1
1,2,3-Trichloropropane	0.760	U	5.00	0.760	ug/Kg			06/15/16 11:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.670	U	5.00	0.670	ug/Kg			06/15/16 11:35	1
1,2,4-Trimethylbenzene	0.380	U	5.00	0.380	ug/Kg			06/15/16 11:35	1
1,3,5-Trimethylbenzene	0.350	U	5.00	0.350	ug/Kg			06/15/16 11:35	1
Vinyl acetate	1.10	U	5.00	1.10	ug/Kg			06/15/16 11:35	1
Vinyl chloride	0.600	U	5.00	0.600	ug/Kg			06/15/16 11:35	1
Xylenes, Total	0.500	U	10.0	0.500	ug/Kg			06/15/16 11:35	1

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-128952/8

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		65 - 152		06/15/16 11:35	1
Toluene-d8 (Surr)	94		65 - 139		06/15/16 11:35	1
Dibromofluoromethane (Surr)	99		50 - 136		06/15/16 11:35	1
4-Bromofluorobenzene (Surr)	99		61 - 142		06/15/16 11:35	1

Lab Sample ID: LCS 560-128952/3

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	125	120.2		ug/Kg		96	41 - 173
Acetonitrile	250	285.4		ug/Kg		114	28 - 183
Benzene	25.0	23.05		ug/Kg		92	70 - 131
Benzyl chloride	25.0	21.38		ug/Kg		86	52 - 135
Bromobenzene	25.0	21.82		ug/Kg		87	70 - 130
Bromochloromethane	25.0	23.15		ug/Kg		93	70 - 130
Bromoform	25.0	20.19		ug/Kg		81	59 - 128
Bromomethane	25.0	25.93		ug/Kg		104	57 - 155
1,3-Butadiene	25.0	23.41		ug/Kg		94	52 - 141
2-Butanone (MEK)	125	117.6		ug/Kg		94	48 - 146
Carbon disulfide	25.0	23.82		ug/Kg		95	70 - 138
Carbon tetrachloride	25.0	24.13		ug/Kg		97	70 - 136
Chlorobenzene	25.0	22.33		ug/Kg		89	70 - 130
2-Chloro-1,3-butadiene	25.0	23.88		ug/Kg		96	70 - 139
Chlorodibromomethane	25.0	21.41		ug/Kg		86	70 - 130
Chloroethane	25.0	22.73		ug/Kg		91	62 - 146
Chloroform	25.0	23.88		ug/Kg		96	70 - 130
1-Chlorohexane	25.0	23.95		ug/Kg		96	70 - 130
Chloromethane	25.0	25.08		ug/Kg		100	61 - 137
2-Chlorotoluene	25.0	21.79		ug/Kg		87	70 - 130
4-Chlorotoluene	25.0	22.70		ug/Kg		91	70 - 130
cis-1,4-Dichloro-2-butene	25.0	20.09		ug/Kg		80	52 - 154
cis-1,2-Dichloroethene	25.0	24.07		ug/Kg		96	70 - 130
cis-1,3-Dichloropropene	25.0	22.01		ug/Kg		88	70 - 130
Cyclohexane	25.0	23.79		ug/Kg		95	70 - 130
Cyclohexanone	125	103.2		ug/Kg		83	45 - 159
1,2-Dibromo-3-Chloropropane	25.0	16.16		ug/Kg		65	51 - 135
Dibromomethane	25.0	22.61		ug/Kg		90	70 - 130
1,3-Dichlorobenzene	25.0	21.81		ug/Kg		87	70 - 130
1,2-Dichlorobenzene	25.0	22.51		ug/Kg		90	70 - 130
1,4-Dichlorobenzene	25.0	22.34		ug/Kg		89	70 - 130
Dichlorobromomethane	25.0	23.18		ug/Kg		93	70 - 130
Dichlorodifluoromethane	25.0	24.75		ug/Kg		99	62 - 146
1,2-Dichloroethane	25.0	23.70		ug/Kg		95	70 - 130
1,1-Dichloroethane	25.0	22.70		ug/Kg		91	70 - 130
1,1-Dichloroethene	25.0	23.86		ug/Kg		95	70 - 130
1,2-Dichloroethene, Total	50.0	48.37		ug/Kg		97	70 - 130
1,2-Dichloropropane	25.0	23.86		ug/Kg		95	70 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-128952/3

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	25.90		ug/Kg		104	64 - 154
1,3-Dichloropropane	25.0	22.19		ug/Kg		89	70 - 130
1,1-Dichloropropene	25.0	22.82		ug/Kg		91	70 - 130
1,4-Dioxane	500	501.9		ug/Kg		100	42 - 173
EDB	25.0	22.12		ug/Kg		88	70 - 130
Ethyl acetate	50.0	47.41		ug/Kg		95	55 - 160
Ethylbenzene	25.0	22.03		ug/Kg		88	70 - 130
Ethylene oxide	250	229.4		ug/Kg		92	31 - 161
Ethyl ether	25.0	22.91	J	ug/Kg		92	70 - 130
Ethyl methacrylate	25.0	19.71		ug/Kg		79	51 - 138
Hexachlorobutadiene	25.0	23.28		ug/Kg		93	68 - 138
Hexane	25.0	22.56		ug/Kg		90	70 - 137
2-Hexanone	125	107.6		ug/Kg		86	53 - 135
Iodomethane	25.0	24.10		ug/Kg		96	70 - 136
Isobutyl alcohol	625	520.2		ug/Kg		83	12 - 200
Isooctane	25.0	23.54		ug/Kg		94	65 - 140
Isopropylbenzene	25.0	22.43		ug/Kg		90	70 - 134
4-Isopropyltoluene	25.0	22.09		ug/Kg		88	70 - 130
Methacrylonitrile	250	230.1		ug/Kg		92	70 - 130
Methylene Chloride	25.0	27.27		ug/Kg		109	61 - 150
Methyl methacrylate	50.0	43.83		ug/Kg		88	62 - 130
4-Methyl-2-pentanone (MIBK)	125	110.6		ug/Kg		88	57 - 133
Methyl tert-butyl ether	25.0	22.68		ug/Kg		91	70 - 130
m-Xylene & p-Xylene	25.0	21.16		ug/Kg		85	70 - 130
Naphthalene	25.0	19.83		ug/Kg		79	64 - 140
n-Butylbenzene	25.0	22.32		ug/Kg		89	70 - 141
n-Heptane	25.0	23.77		ug/Kg		95	70 - 135
2-Nitropropane	50.0	38.16		ug/Kg		76	45 - 140
N-Propylbenzene	25.0	22.61		ug/Kg		90	70 - 133
1-Octene	25.0	22.71		ug/Kg		91	70 - 137
o-Xylene	25.0	21.44		ug/Kg		86	70 - 130
Pentachloroethane	25.0	22.02		ug/Kg		88	70 - 132
Propionitrile	250	233.2		ug/Kg		93	61 - 139
sec-Butylbenzene	25.0	22.61		ug/Kg		90	70 - 130
Styrene	25.0	20.71		ug/Kg		83	70 - 130
tert-Butylbenzene	25.0	23.20		ug/Kg		93	70 - 131
1,1,2,2-Tetrachloroethane	25.0	20.57		ug/Kg		82	61 - 130
1,1,1,2-Tetrachloroethane	25.0	22.09		ug/Kg		88	70 - 130
Tetrachloroethene	25.0	22.12		ug/Kg		88	70 - 130
Toluene	25.0	22.09		ug/Kg		88	70 - 130
trans-1,4-Dichloro-2-butene	25.0	20.92		ug/Kg		84	56 - 132
trans-1,2-Dichloroethene	25.0	24.30		ug/Kg		97	70 - 132
trans-1,3-Dichloropropene	25.0	21.37		ug/Kg		85	70 - 131
1,2,4-Trichlorobenzene	25.0	22.37		ug/Kg		89	68 - 137
1,2,3-Trichlorobenzene	25.0	22.03		ug/Kg		88	66 - 135
1,3,5-Trichlorobenzene	25.0	23.38		ug/Kg		94	68 - 138
1,1,1-Trichloroethane	25.0	23.32		ug/Kg		93	70 - 132
1,1,2-Trichloroethane	25.0	21.43		ug/Kg		86	70 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-128952/3

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichloroethene	25.0	23.01		ug/Kg		92	70 - 130
Trichlorofluoromethane	25.0	26.42		ug/Kg		106	68 - 146
1,2,3-Trichloropropane	25.0	22.32		ug/Kg		89	64 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.82		ug/Kg		91	70 - 134
1,2,4-Trimethylbenzene	25.0	21.83		ug/Kg		87	70 - 131
1,3,5-Trimethylbenzene	25.0	22.31		ug/Kg		89	70 - 131
Vinyl acetate	50.0	48.86		ug/Kg		98	56 - 147
Vinyl chloride	25.0	23.50		ug/Kg		94	65 - 139
Xylenes, Total	50.0	42.60		ug/Kg		85	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		65 - 152
Toluene-d8 (Surr)	96		65 - 139
Dibromofluoromethane (Surr)	101		50 - 136
4-Bromofluorobenzene (Surr)	100		61 - 142

Lab Sample ID: 560-62017-4 MS

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: HCS340

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	41.2	J	191	238.6		ug/Kg	☼	103	10 - 200
Acetonitrile	54.7	U	382	381.6		ug/Kg	☼	100	10 - 194
Benzene	0.932	U	38.2	31.26		ug/Kg	☼	82	56 - 132
Benzyl chloride	0.739	U	38.2	18.54		ug/Kg	☼	49	33 - 142
Bromobenzene	1.09	U	38.2	27.69		ug/Kg	☼	72	70 - 130
Bromochloromethane	1.33	U	38.2	32.67		ug/Kg	☼	86	70 - 130
Bromoform	0.754	U F1	38.2	16.64	F1	ug/Kg	☼	44	51 - 130
Bromomethane	1.63	U	38.2	33.94		ug/Kg	☼	89	37 - 147
1,3-Butadiene	0.444	U	38.2	28.76		ug/Kg	☼	75	18 - 150
2-Butanone (MEK)	8.68	J	191	142.8		ug/Kg	☼	70	11 - 164
Carbon disulfide	1.48	U	38.2	28.06		ug/Kg	☼	73	51 - 151
Carbon tetrachloride	0.754	U	38.2	30.49		ug/Kg	☼	80	57 - 135
Chlorobenzene	0.444	U	38.2	26.93		ug/Kg	☼	71	62 - 130
2-Chloro-1,3-butadiene	1.02	U	38.2	28.77		ug/Kg	☼	75	66 - 136
Chlorodibromomethane	0.946	U F1	38.2	20.87	F1	ug/Kg	☼	55	61 - 130
Chloroethane	0.384	U	38.2	30.94		ug/Kg	☼	81	44 - 136
Chloroform	1.29	U	38.2	32.87		ug/Kg	☼	86	61 - 133
1-Chlorohexane	0.813	U	38.2	29.43		ug/Kg	☼	77	62 - 130
Chloromethane	1.77	U	38.2	35.10		ug/Kg	☼	92	44 - 131
2-Chlorotoluene	0.444	U	38.2	27.00		ug/Kg	☼	71	70 - 130
4-Chlorotoluene	1.02	U	38.2	26.58		ug/Kg	☼	70	70 - 130
cis-1,4-Dichloro-2-butene	0.473	U F1	38.2	20.47		ug/Kg	☼	54	52 - 154
cis-1,2-Dichloroethene	0.843	U	38.2	32.40		ug/Kg	☼	85	56 - 130
cis-1,3-Dichloropropene	0.296	U	38.2	26.46		ug/Kg	☼	69	52 - 130
Cyclohexane	1.46	U	38.2	30.50		ug/Kg	☼	80	54 - 130
Cyclohexanone	14.8	U	191	159.0		ug/Kg	☼	83	10 - 200

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-62017-4 MS

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: HCS340

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	0.488	U F1	38.2	16.05	F1	ug/Kg	✱	42	49 - 150
Dibromomethane	1.05	U	38.2	30.84		ug/Kg	✱	81	56 - 130
1,3-Dichlorobenzene	0.458	U F1	38.2	21.88	F1	ug/Kg	✱	57	70 - 130
1,2-Dichlorobenzene	0.370	U F1	38.2	20.68	F1	ug/Kg	✱	54	70 - 130
1,4-Dichlorobenzene	0.473	U F1	38.2	22.49	F1	ug/Kg	✱	59	70 - 130
Dichlorobromomethane	0.296	U F1	38.2	25.02		ug/Kg	✱	66	66 - 130
Dichlorodifluoromethane	1.08	U	38.2	35.24		ug/Kg	✱	92	10 - 152
1,2-Dichloroethane	0.769	U	38.2	30.98		ug/Kg	✱	81	55 - 132
1,1-Dichloroethane	0.872	U	38.2	32.40		ug/Kg	✱	85	55 - 133
1,1-Dichloroethene	0.739	U	38.2	31.46		ug/Kg	✱	82	50 - 134
1,2-Dichloroethene, Total	0.739	U	76.4	66.54		ug/Kg	✱	87	70 - 130
1,2-Dichloropropane	0.739	U	38.2	31.76		ug/Kg	✱	83	61 - 130
1,3-Dichloropropane	0.444	U	38.2	28.96		ug/Kg	✱	76	62 - 130
2,2-Dichloropropane	1.24	U	38.2	35.94		ug/Kg	✱	94	59 - 132
1,1-Dichloropropene	0.769	U	38.2	30.13		ug/Kg	✱	79	57 - 130
1,4-Dioxane	28.1	U	764	780.1		ug/Kg	✱	102	10 - 182
EDB	0.444	U	38.2	27.14		ug/Kg	✱	71	57 - 130
Ethyl acetate	4.16	U F1 F2	76.4	25.90		ug/Kg	✱	34	10 - 192
Ethylbenzene	0.665	U	38.2	27.34		ug/Kg	✱	72	48 - 138
Ethylene oxide	44.4	U	382	271.9		ug/Kg	✱	71	17 - 200
Ethyl ether	0.739	U	38.2	30.86	J	ug/Kg	✱	81	34 - 151
Ethyl methacrylate	0.754	U F1 F2	38.2	7.650		ug/Kg	✱	20	10 - 168
Hexachlorobutadiene	0.946	U F1	38.2	11.49	F1	ug/Kg	✱	30	56 - 140
Hexane	1.92	U	38.2	27.97		ug/Kg	✱	73	61 - 144
2-Hexanone	2.22	U	191	139.3		ug/Kg	✱	73	33 - 145
Iodomethane	1.18	U	38.2	29.32		ug/Kg	✱	77	64 - 151
Isobutyl alcohol	101	U	955	621.4		ug/Kg	✱	65	26 - 169
Isooctane	0.739	U F1	38.2	19.55	F1	ug/Kg	✱	51	62 - 140
Isopropylbenzene	0.739	U	38.2	31.15		ug/Kg	✱	82	70 - 130
4-Isopropyltoluene	0.584	U F1	38.2	23.88	F1	ug/Kg	✱	63	70 - 130
Methacrylonitrile	3.55	U	382	286.3		ug/Kg	✱	75	61 - 140
Methylene Chloride	7.39	U	38.2	36.49	J	ug/Kg	✱	96	48 - 147
Methyl methacrylate	1.63	U	76.4	51.55		ug/Kg	✱	67	22 - 180
4-Methyl-2-pentanone (MIBK)	2.22	U	191	157.4		ug/Kg	✱	82	32 - 141
Methyl tert-butyl ether	0.902	U	38.2	30.33		ug/Kg	✱	79	26 - 170
m-Xylene & p-Xylene	0.739	U	38.2	25.35		ug/Kg	✱	66	33 - 140
Naphthalene	1.77	U F1	38.2	10.39	J F1	ug/Kg	✱	27	33 - 134
n-Butylbenzene	0.399	U F1	38.2	20.98	F1	ug/Kg	✱	55	70 - 130
n-Heptane	0.784	U	38.2	22.76		ug/Kg	✱	60	46 - 147
2-Nitropropane	0.769	U	76.4	50.18		ug/Kg	✱	66	20 - 147
N-Propylbenzene	0.444	U	38.2	28.83		ug/Kg	✱	75	70 - 130
1-Octene	0.739	U	38.2	22.89		ug/Kg	✱	60	44 - 156
o-Xylene	0.591	U	38.2	25.54		ug/Kg	✱	67	38 - 142
Pentachloroethane	2.07	U	38.2	23.92		ug/Kg	✱	63	58 - 133
Propionitrile	7.25	U	382	301.2		ug/Kg	✱	79	39 - 164
sec-Butylbenzene	0.444	U F1	38.2	25.83	F1	ug/Kg	✱	68	70 - 130
Styrene	0.444	U	38.2	20.80		ug/Kg	✱	54	46 - 130
tert-Butylbenzene	0.370	U	38.2	27.61		ug/Kg	✱	72	70 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-62017-4 MS

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: HCS340

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	0.562	U	38.2	27.76		ug/Kg	☼	73	19 - 178
1,1,1,2-Tetrachloroethane	0.399	U	38.2	26.43		ug/Kg	☼	69	59 - 130
Tetrachloroethene	1.09	U	38.2	27.75		ug/Kg	☼	73	66 - 130
Toluene	1.33	U	38.2	30.02		ug/Kg	☼	79	48 - 135
trans-1,4-Dichloro-2-butene	1.30	U	38.2	22.17		ug/Kg	☼	58	50 - 142
trans-1,2-Dichloroethene	0.739	U	38.2	34.14		ug/Kg	☼	89	55 - 132
trans-1,3-Dichloropropene	0.769	U	38.2	25.16		ug/Kg	☼	66	40 - 135
1,2,4-Trichlorobenzene	1.43	U	38.2	11.02		ug/Kg	☼	29	10 - 130
1,2,3-Trichlorobenzene	0.651	U	38.2	8.769		ug/Kg	☼	23	10 - 136
1,3,5-Trichlorobenzene	0.458	U F1	38.2	14.25	F1	ug/Kg	☼	37	65 - 136
1,1,1-Trichloroethane	0.739	U	38.2	31.62		ug/Kg	☼	83	60 - 135
1,1,2-Trichloroethane	0.739	U	38.2	28.17		ug/Kg	☼	74	53 - 138
Trichloroethene	0.414	U	38.2	30.00		ug/Kg	☼	79	57 - 130
Trichlorofluoromethane	0.739	U	38.2	36.96		ug/Kg	☼	97	44 - 130
1,2,3-Trichloropropane	1.12	U	38.2	30.90		ug/Kg	☼	81	48 - 171
1,1,2-Trichloro-1,2,2-trifluoroethane	0.991	U	38.2	29.02		ug/Kg	☼	76	38 - 130
1,2,4-Trimethylbenzene	0.562	U	38.2	25.84		ug/Kg	☼	68	51 - 139
1,3,5-Trimethylbenzene	0.518	U	38.2	27.26		ug/Kg	☼	71	55 - 137
Vinyl acetate	1.63	U	76.4	20.95		ug/Kg	☼	27	10 - 186
Vinyl chloride	0.887	U	38.2	34.64		ug/Kg	☼	91	41 - 135
Xylenes, Total	0.739	U	76.4	50.89		ug/Kg	☼	67	49 - 137

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		65 - 152
Toluene-d8 (Surr)	103		65 - 139
Dibromofluoromethane (Surr)	101		50 - 136
4-Bromofluorobenzene (Surr)	112		61 - 142

Lab Sample ID: 560-62017-4 MSD

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: HCS340

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	41.2	J	202	282.2		ug/Kg	☼	119	10 - 200	17	40.0
Acetonitrile	54.7	U	404	429.7		ug/Kg	☼	106	10 - 194	12	40.0
Benzene	0.932	U	40.4	33.65		ug/Kg	☼	83	56 - 132	7	40.0
Benzyl chloride	0.739	U	40.4	17.47		ug/Kg	☼	43	33 - 142	6	40.0
Bromobenzene	1.09	U	40.4	31.90		ug/Kg	☼	79	70 - 130	14	40.0
Bromochloromethane	1.33	U	40.4	36.54		ug/Kg	☼	90	70 - 130	11	40.0
Bromoform	0.754	U F1	40.4	14.97	F1	ug/Kg	☼	37	51 - 130	11	40.0
Bromomethane	1.63	U	40.4	34.24		ug/Kg	☼	85	37 - 147	1	40.0
1,3-Butadiene	0.444	U	40.4	31.47		ug/Kg	☼	78	18 - 150	9	40.0
2-Butanone (MEK)	8.68	J	202	142.3		ug/Kg	☼	66	11 - 164	0	40.0
Carbon disulfide	1.48	U	40.4	27.13		ug/Kg	☼	67	51 - 151	3	40.0
Carbon tetrachloride	0.754	U	40.4	30.99		ug/Kg	☼	77	57 - 135	2	40.0
Chlorobenzene	0.444	U	40.4	28.88		ug/Kg	☼	71	62 - 130	7	40.0
2-Chloro-1,3-butadiene	1.02	U	40.4	29.54		ug/Kg	☼	73	66 - 136	3	40.0

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-62017-4 MSD

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: HCS340

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorodibromomethane	0.946	U F1	40.4	20.82	F1	ug/Kg	✱	51	61 - 130	0	40.0
Chloroethane	0.384	U	40.4	40.71		ug/Kg	✱	101	44 - 136	27	40.0
Chloroform	1.29	U	40.4	36.09		ug/Kg	✱	89	61 - 133	9	40.0
1-Chlorohexane	0.813	U	40.4	30.23		ug/Kg	✱	75	62 - 130	3	40.0
Chloromethane	1.77	U	40.4	37.38		ug/Kg	✱	92	44 - 131	6	40.0
2-Chlorotoluene	0.444	U	40.4	31.15		ug/Kg	✱	77	70 - 130	14	40.0
4-Chlorotoluene	1.02	U	40.4	30.50		ug/Kg	✱	75	70 - 130	14	40.0
cis-1,4-Dichloro-2-butene	0.473	U F1	40.4	18.63	F1	ug/Kg	✱	46	52 - 154	9	40.0
cis-1,2-Dichloroethene	0.843	U	40.4	35.95		ug/Kg	✱	89	56 - 130	10	40.0
cis-1,3-Dichloropropene	0.296	U	40.4	28.66		ug/Kg	✱	71	52 - 130	8	40.0
Cyclohexane	1.46	U	40.4	31.10		ug/Kg	✱	77	54 - 130	2	40.0
Cyclohexanone	14.8	U	202	181.2		ug/Kg	✱	90	10 - 200	13	40.0
1,2-Dibromo-3-Chloropropane	0.488	U F1	40.4	18.36	F1	ug/Kg	✱	45	49 - 150	13	40.0
Dibromomethane	1.05	U	40.4	34.62		ug/Kg	✱	86	56 - 130	12	40.0
1,3-Dichlorobenzene	0.458	U F1	40.4	24.28	F1	ug/Kg	✱	60	70 - 130	10	40.0
1,2-Dichlorobenzene	0.370	U F1	40.4	23.24	F1	ug/Kg	✱	57	70 - 130	12	40.0
1,4-Dichlorobenzene	0.473	U F1	40.4	26.62	F1	ug/Kg	✱	66	70 - 130	17	40.0
Dichlorobromomethane	0.296	U F1	40.4	25.34	F1	ug/Kg	✱	63	66 - 130	1	40.0
Dichlorodifluoromethane	1.08	U	40.4	37.24		ug/Kg	✱	92	10 - 152	5	40.0
1,2-Dichloroethane	0.769	U	40.4	34.34		ug/Kg	✱	85	55 - 132	10	40.0
1,1-Dichloroethane	0.872	U	40.4	35.66		ug/Kg	✱	88	55 - 133	10	40.0
1,1-Dichloroethene	0.739	U	40.4	34.76		ug/Kg	✱	86	50 - 134	10	40.0
1,2-Dichloroethene, Total	0.739	U	80.8	72.40		ug/Kg	✱	90	70 - 130	8	40.0
1,2-Dichloropropane	0.739	U	40.4	34.37		ug/Kg	✱	85	61 - 130	8	40.0
1,3-Dichloropropane	0.444	U	40.4	32.35		ug/Kg	✱	80	62 - 130	11	40.0
2,2-Dichloropropane	1.24	U	40.4	39.74		ug/Kg	✱	98	59 - 132	10	40.0
1,1-Dichloropropene	0.769	U	40.4	31.19		ug/Kg	✱	77	57 - 130	3	40.0
1,4-Dioxane	28.1	U	808	779.2		ug/Kg	✱	96	10 - 182	0	40.0
EDB	0.444	U	40.4	30.23		ug/Kg	✱	75	57 - 130	11	40.0
Ethyl acetate	4.16	U F1 F2	80.8	7.122	J F1 F2	ug/Kg	✱	9	10 - 192	114	40.0
Ethylbenzene	0.665	U	40.4	29.11		ug/Kg	✱	72	48 - 138	6	40.0
Ethylene oxide	44.4	U	404	314.1		ug/Kg	✱	78	17 - 200	14	40.0
Ethyl ether	0.739	U	40.4	34.98	J	ug/Kg	✱	87	34 - 151	12	40.0
Ethyl methacrylate	0.754	U F1 F2	40.4	2.250	J F1 F2	ug/Kg	✱	6	10 - 168	109	40.0
Hexachlorobutadiene	0.946	U F1	40.4	13.09	F1	ug/Kg	✱	32	56 - 140	13	40.0
Hexane	1.92	U	40.4	30.28		ug/Kg	✱	75	61 - 144	8	40.0
2-Hexanone	2.22	U	202	140.2		ug/Kg	✱	69	33 - 145	1	40.0
Iodomethane	1.18	U	40.4	30.71		ug/Kg	✱	76	64 - 151	5	40.0
Isobutyl alcohol	101	U	1010	680.3		ug/Kg	✱	67	26 - 169	9	40.0
Isooctane	0.739	U F1	40.4	22.17	F1	ug/Kg	✱	55	62 - 140	13	40.0
Isopropylbenzene	0.739	U	40.4	36.29		ug/Kg	✱	90	70 - 130	15	40.0
4-Isopropyltoluene	0.584	U F1	40.4	28.06	F1	ug/Kg	✱	69	70 - 130	16	40.0
Methacrylonitrile	3.55	U	404	292.9		ug/Kg	✱	72	61 - 140	2	40.0
Methylene Chloride	7.39	U	40.4	42.04		ug/Kg	✱	104	48 - 147	14	40.0
Methyl methacrylate	1.63	U	80.8	43.96		ug/Kg	✱	54	22 - 180	16	40.0
4-Methyl-2-pentanone (MIBK)	2.22	U	202	171.8		ug/Kg	✱	85	32 - 141	9	40.0
Methyl tert-butyl ether	0.902	U	40.4	34.34		ug/Kg	✱	85	26 - 170	12	40.0
m-Xylene & p-Xylene	0.739	U	40.4	27.01		ug/Kg	✱	67	33 - 140	6	40.0

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-62017-4 MSD

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: HCS340

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Naphthalene	1.77	U F1	40.4	9.086	J F1	ug/Kg	✱	22	33 - 134	13	40.0
n-Butylbenzene	0.399	U F1	40.4	23.83	F1	ug/Kg	✱	59	70 - 130	13	40.0
n-Heptane	0.784	U	40.4	24.67		ug/Kg	✱	61	46 - 147	8	40.0
2-Nitropropane	0.769	U	80.8	55.03		ug/Kg	✱	68	20 - 147	9	40.0
N-Propylbenzene	0.444	U	40.4	33.47		ug/Kg	✱	83	70 - 130	15	40.0
1-Octene	0.739	U	40.4	24.24		ug/Kg	✱	60	44 - 156	6	40.0
o-Xylene	0.591	U	40.4	26.86		ug/Kg	✱	66	38 - 142	5	40.0
Pentachloroethane	2.07	U	40.4	29.36		ug/Kg	✱	73	58 - 133	20	40.0
Propionitrile	7.25	U	40.4	323.1		ug/Kg	✱	80	39 - 164	7	40.0
sec-Butylbenzene	0.444	U F1	40.4	30.31		ug/Kg	✱	75	70 - 130	16	40.0
Styrene	0.444	U	40.4	20.99		ug/Kg	✱	52	46 - 130	1	40.0
tert-Butylbenzene	0.370	U	40.4	33.01		ug/Kg	✱	82	70 - 130	18	40.0
1,1,2,2-Tetrachloroethane	0.562	U	40.4	33.71		ug/Kg	✱	83	19 - 178	19	40.0
1,1,1,2-Tetrachloroethane	0.399	U	40.4	28.92		ug/Kg	✱	72	59 - 130	9	40.0
Tetrachloroethene	1.09	U	40.4	29.53		ug/Kg	✱	73	66 - 130	6	40.0
Toluene	1.33	U	40.4	32.66		ug/Kg	✱	81	48 - 135	8	40.0
trans-1,4-Dichloro-2-butene	1.30	U	40.4	22.90		ug/Kg	✱	57	50 - 142	3	40.0
trans-1,2-Dichloroethene	0.739	U	40.4	36.45		ug/Kg	✱	90	55 - 132	7	40.0
trans-1,3-Dichloropropene	0.769	U	40.4	26.62		ug/Kg	✱	66	40 - 135	6	40.0
1,2,4-Trichlorobenzene	1.43	U	40.4	10.94		ug/Kg	✱	27	10 - 130	1	40.0
1,2,3-Trichlorobenzene	0.651	U	40.4	8.934		ug/Kg	✱	22	10 - 136	2	40.0
1,3,5-Trichlorobenzene	0.458	U F1	40.4	15.44	F1	ug/Kg	✱	38	65 - 136	8	40.0
1,1,1-Trichloroethane	0.739	U	40.4	34.25		ug/Kg	✱	85	60 - 135	8	40.0
1,1,2-Trichloroethane	0.739	U	40.4	32.61		ug/Kg	✱	81	53 - 138	15	40.0
Trichloroethene	0.414	U	40.4	31.22		ug/Kg	✱	77	57 - 130	4	40.0
Trichlorofluoromethane	0.739	U	40.4	39.64		ug/Kg	✱	98	44 - 130	7	40.0
1,2,3-Trichloropropane	1.12	U	40.4	38.79		ug/Kg	✱	96	48 - 171	23	40.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.991	U	40.4	31.39		ug/Kg	✱	78	38 - 130	8	40.0
1,2,4-Trimethylbenzene	0.562	U	40.4	29.82		ug/Kg	✱	74	51 - 139	14	40.0
1,3,5-Trimethylbenzene	0.518	U	40.4	31.84		ug/Kg	✱	79	55 - 137	16	40.0
Vinyl acetate	1.63	U	80.8	22.43		ug/Kg	✱	28	10 - 186	7	40.0
Vinyl chloride	0.887	U	40.4	36.73		ug/Kg	✱	91	41 - 135	6	40.0
Xylenes, Total	0.739	U	80.8	53.87		ug/Kg	✱	67	49 - 137	6	40.0

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		65 - 152
Toluene-d8 (Surr)	106		65 - 139
Dibromofluoromethane (Surr)	100		50 - 136
4-Bromofluorobenzene (Surr)	120		61 - 142

Lab Sample ID: MB 560-128956/8

Matrix: Water

Analysis Batch: 128956

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.00	U	10.0	5.00	ug/L	-		06/15/16 11:44	1
Acetonitrile	10.0	U	50.0	10.0	ug/L	-		06/15/16 11:44	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-128956/8

Matrix: Water

Analysis Batch: 128956

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.330	U	1.00	0.330	ug/L			06/15/16 11:44	1
Benzyl chloride	0.278	U	5.00	0.278	ug/L			06/15/16 11:44	1
Bromobenzene	0.128	U	1.00	0.128	ug/L			06/15/16 11:44	1
Bromochloromethane	0.228	U	1.00	0.228	ug/L			06/15/16 11:44	1
Bromoform	0.500	U	5.00	0.500	ug/L			06/15/16 11:44	1
Bromomethane	0.392	U	5.00	0.392	ug/L			06/15/16 11:44	1
1,3-Butadiene	0.300	U	2.00	0.300	ug/L			06/15/16 11:44	1
2-Butanone (MEK)	1.00	U	10.0	1.00	ug/L			06/15/16 11:44	1
Carbon disulfide	0.500	U	5.00	0.500	ug/L			06/15/16 11:44	1
Carbon tetrachloride	0.251	U	1.00	0.251	ug/L			06/15/16 11:44	1
Chlorobenzene	0.136	U	1.00	0.136	ug/L			06/15/16 11:44	1
2-Chloro-1,3-butadiene	0.200	U	1.00	0.200	ug/L			06/15/16 11:44	1
Chlorodibromomethane	0.223	U	2.00	0.223	ug/L			06/15/16 11:44	1
Chloroethane	0.400	U	5.00	0.400	ug/L			06/15/16 11:44	1
Chloroform	0.173	U	1.00	0.173	ug/L			06/15/16 11:44	1
1-Chlorohexane	0.500	U	5.00	0.500	ug/L			06/15/16 11:44	1
Chloromethane	0.390	U	5.00	0.390	ug/L			06/15/16 11:44	1
2-Chlorotoluene	0.155	U	1.00	0.155	ug/L			06/15/16 11:44	1
4-Chlorotoluene	0.242	U	1.00	0.242	ug/L			06/15/16 11:44	1
cis-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			06/15/16 11:44	1
cis-1,2-Dichloroethene	0.121	U	1.00	0.121	ug/L			06/15/16 11:44	1
cis-1,3-Dichloropropene	0.146	U	1.00	0.146	ug/L			06/15/16 11:44	1
Cyclohexane	1.00	U	2.00	1.00	ug/L			06/15/16 11:44	1
Cyclohexanone	5.00	U	50.0	5.00	ug/L			06/15/16 11:44	1
1,2-Dibromo-3-Chloropropane	0.349	U	5.00	0.349	ug/L			06/15/16 11:44	1
Dibromomethane	0.165	U	1.00	0.165	ug/L			06/15/16 11:44	1
1,3-Dichlorobenzene	0.128	U	1.00	0.128	ug/L			06/15/16 11:44	1
1,2-Dichlorobenzene	0.170	U	1.00	0.170	ug/L			06/15/16 11:44	1
1,4-Dichlorobenzene	0.200	U	1.00	0.200	ug/L			06/15/16 11:44	1
Dichlorobromomethane	0.175	U	1.00	0.175	ug/L			06/15/16 11:44	1
Dichlorodifluoromethane	0.429	U	5.00	0.429	ug/L			06/15/16 11:44	1
1,2-Dichloroethane	0.172	U	1.00	0.172	ug/L			06/15/16 11:44	1
1,1-Dichloroethane	0.168	U	1.00	0.168	ug/L			06/15/16 11:44	1
1,1-Dichloroethene	0.300	U	1.00	0.300	ug/L			06/15/16 11:44	1
1,2-Dichloroethene, Total	0.200	U	2.00	0.200	ug/L			06/15/16 11:44	1
1,2-Dichloropropane	0.173	U	1.00	0.173	ug/L			06/15/16 11:44	1
2,2-Dichloropropane	0.335	U	1.00	0.335	ug/L			06/15/16 11:44	1
1,3-Dichloropropane	0.146	U	1.00	0.146	ug/L			06/15/16 11:44	1
1,1-Dichloropropene	0.185	U	1.00	0.185	ug/L			06/15/16 11:44	1
1,3-Dichloropropene, Total	0.300	U	1.00	0.300	ug/L			06/15/16 11:44	1
1,4-Dioxane	15.9	U	100	15.9	ug/L			06/15/16 11:44	1
EDB	0.175	U	1.00	0.175	ug/L			06/15/16 11:44	1
Ethyl acetate	1.00	U	5.00	1.00	ug/L			06/15/16 11:44	1
Ethylbenzene	0.200	U	1.00	0.200	ug/L			06/15/16 11:44	1
Ethylene oxide	30.0	U	50.0	30.0	ug/L			06/15/16 11:44	1
Ethyl ether	0.320	U	5.00	0.320	ug/L			06/15/16 11:44	1
Ethyl methacrylate	0.500	U	5.00	0.500	ug/L			06/15/16 11:44	1
Hexachlorobutadiene	0.860	U	5.00	0.860	ug/L			06/15/16 11:44	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-128956/8

Matrix: Water

Analysis Batch: 128956

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	2.00	U	5.00	2.00	ug/L			06/15/16 11:44	1
2-Hexanone	0.500	U	5.00	0.500	ug/L			06/15/16 11:44	1
Iodomethane	0.223	U	2.00	0.223	ug/L			06/15/16 11:44	1
Isobutyl alcohol	5.00	U	50.0	5.00	ug/L			06/15/16 11:44	1
Isooctane	0.500	U	5.00	0.500	ug/L			06/15/16 11:44	1
Isopropylbenzene	0.200	U	5.00	0.200	ug/L			06/15/16 11:44	1
4-Isopropyltoluene	0.150	U	1.00	0.150	ug/L			06/15/16 11:44	1
Methacrylonitrile	2.00	U	5.00	2.00	ug/L			06/15/16 11:44	1
Methylene Chloride	2.00	U	10.0	2.00	ug/L			06/15/16 11:44	1
Methyl methacrylate	0.200	U	5.00	0.200	ug/L			06/15/16 11:44	1
4-Methyl-2-pentanone (MIBK)	0.510	U	5.00	0.510	ug/L			06/15/16 11:44	1
Methyl tert-butyl ether	0.200	U	1.00	0.200	ug/L			06/15/16 11:44	1
m-Xylene & p-Xylene	0.260	U	2.00	0.260	ug/L			06/15/16 11:44	1
Naphthalene	0.200	U	5.00	0.200	ug/L			06/15/16 11:44	1
n-Butylbenzene	0.200	U	1.00	0.200	ug/L			06/15/16 11:44	1
n-Heptane	0.300	U	5.00	0.300	ug/L			06/15/16 11:44	1
2-Nitropropane	1.00	U	10.0	1.00	ug/L			06/15/16 11:44	1
N-Propylbenzene	0.106	U	1.00	0.106	ug/L			06/15/16 11:44	1
1-Octene	0.440	U	5.00	0.440	ug/L			06/15/16 11:44	1
o-Xylene	0.200	U	1.00	0.200	ug/L			06/15/16 11:44	1
Pentachloroethane	0.302	U	5.00	0.302	ug/L			06/15/16 11:44	1
Propionitrile	2.69	U	10.0	2.69	ug/L			06/15/16 11:44	1
sec-Butylbenzene	0.300	U	2.00	0.300	ug/L			06/15/16 11:44	1
Styrene	0.200	U	1.00	0.200	ug/L			06/15/16 11:44	1
tert-Butylbenzene	0.200	U	2.00	0.200	ug/L			06/15/16 11:44	1
1,1,2,2-Tetrachloroethane	0.190	U	1.00	0.190	ug/L			06/15/16 11:44	1
1,1,1,2-Tetrachloroethane	0.209	U	1.00	0.209	ug/L			06/15/16 11:44	1
Tetrachloroethene	0.189	U	1.00	0.189	ug/L			06/15/16 11:44	1
Toluene	0.495	U	1.00	0.495	ug/L			06/15/16 11:44	1
trans-1,4-Dichloro-2-butene	0.500	U	5.00	0.500	ug/L			06/15/16 11:44	1
trans-1,2-Dichloroethene	0.200	U	1.00	0.200	ug/L			06/15/16 11:44	1
trans-1,3-Dichloropropene	0.200	U	5.00	0.200	ug/L			06/15/16 11:44	1
1,2,4-Trichlorobenzene	0.168	U	5.00	0.168	ug/L			06/15/16 11:44	1
1,2,3-Trichlorobenzene	0.217	U	5.00	0.217	ug/L			06/15/16 11:44	1
1,3,5-Trichlorobenzene	0.203	U	5.00	0.203	ug/L			06/15/16 11:44	1
1,1,1-Trichloroethane	0.300	U	1.00	0.300	ug/L			06/15/16 11:44	1
1,1,2-Trichloroethane	0.173	U	1.00	0.173	ug/L			06/15/16 11:44	1
Trichloroethene	0.317	U	1.00	0.317	ug/L			06/15/16 11:44	1
Trichlorofluoromethane	0.244	U	1.00	0.244	ug/L			06/15/16 11:44	1
1,2,3-Trichloropropane	0.191	U	1.00	0.191	ug/L			06/15/16 11:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	0.410	U	1.00	0.410	ug/L			06/15/16 11:44	1
1,2,4-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			06/15/16 11:44	1
1,3,5-Trimethylbenzene	0.200	U	2.00	0.200	ug/L			06/15/16 11:44	1
Vinyl acetate	0.500	U	5.00	0.500	ug/L			06/15/16 11:44	1
Vinyl chloride	0.300	U	1.00	0.300	ug/L			06/15/16 11:44	1
Xylenes, Total	0.200	U	2.00	0.200	ug/L			06/15/16 11:44	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-128956/8

Matrix: Water

Analysis Batch: 128956

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 140		06/15/16 11:44	1
Toluene-d8 (Surr)	106		70 - 130		06/15/16 11:44	1
Dibromofluoromethane (Surr)	98		69 - 130		06/15/16 11:44	1
4-Bromofluorobenzene (Surr)	110		70 - 130		06/15/16 11:44	1

Lab Sample ID: LCS 560-128956/3

Matrix: Water

Analysis Batch: 128956

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	25.0	22.54		ug/L		90	60 - 150
Acetonitrile	250	179.8		ug/L		72	52 - 160
Benzene	25.0	25.58		ug/L		102	70 - 130
Benzyl chloride	25.0	24.77		ug/L		99	66 - 153
Bromobenzene	25.0	26.95		ug/L		108	70 - 130
Bromochloromethane	25.0	24.61		ug/L		98	70 - 130
Bromoform	25.0	27.56		ug/L		110	63 - 145
Bromomethane	25.0	26.86		ug/L		107	50 - 146
1,3-Butadiene	25.0	24.93		ug/L		100	40 - 138
2-Butanone (MEK)	25.0	24.10		ug/L		96	68 - 144
Carbon disulfide	25.0	27.75		ug/L		111	52 - 156
Carbon tetrachloride	25.0	28.10		ug/L		112	70 - 138
Chlorobenzene	25.0	25.64		ug/L		103	70 - 130
2-Chloro-1,3-butadiene	25.0	24.96		ug/L		100	69 - 140
Chlorodibromomethane	25.0	27.67		ug/L		111	70 - 137
Chloroethane	25.0	27.19		ug/L		109	54 - 141
Chloroform	25.0	26.04		ug/L		104	70 - 130
1-Chlorohexane	25.0	28.05		ug/L		112	64 - 130
Chloromethane	25.0	26.77		ug/L		107	46 - 142
2-Chlorotoluene	25.0	28.28		ug/L		113	70 - 130
4-Chlorotoluene	25.0	28.56		ug/L		114	70 - 130
cis-1,4-Dichloro-2-butene	25.0	25.25		ug/L		101	10 - 184
cis-1,2-Dichloroethene	25.0	27.27		ug/L		109	70 - 130
cis-1,3-Dichloropropene	25.0	28.79		ug/L		115	70 - 138
Cyclohexane	25.0	27.41		ug/L		110	40 - 141
Cyclohexanone	125	134.2		ug/L		107	33 - 199
1,2-Dibromo-3-Chloropropane	25.0	24.21		ug/L		97	70 - 149
Dibromomethane	25.0	26.40		ug/L		106	70 - 130
1,3-Dichlorobenzene	25.0	27.59		ug/L		110	70 - 130
1,2-Dichlorobenzene	25.0	27.85		ug/L		111	70 - 130
1,4-Dichlorobenzene	25.0	27.04		ug/L		108	70 - 130
Dichlorobromomethane	25.0	26.98		ug/L		108	70 - 130
Dichlorodifluoromethane	25.0	25.38		ug/L		102	10 - 181
1,2-Dichloroethane	25.0	25.69		ug/L		103	70 - 131
1,1-Dichloroethane	25.0	25.40		ug/L		102	70 - 130
1,1-Dichloroethene	25.0	25.94		ug/L		104	70 - 139
1,2-Dichloroethene, Total	50.0	54.26		ug/L		109	70 - 131
1,2-Dichloropropane	25.0	27.58		ug/L		110	70 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-128956/3

Matrix: Water

Analysis Batch: 128956

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	28.00		ug/L		112	65 - 143
1,3-Dichloropropane	25.0	26.72		ug/L		107	70 - 130
1,1-Dichloropropene	25.0	26.51		ug/L		106	70 - 130
1,4-Dioxane	500	539.1		ug/L		108	66 - 150
EDB	25.0	25.78		ug/L		103	70 - 130
Ethyl acetate	50.0	54.38		ug/L		109	59 - 200
Ethylbenzene	25.0	27.52		ug/L		110	70 - 130
Ethylene oxide	100	174.8		ug/L		175	10 - 200
Ethyl ether	25.0	26.06		ug/L		104	69 - 136
Ethyl methacrylate	25.0	26.52		ug/L		106	70 - 130
Hexachlorobutadiene	25.0	33.79		ug/L		135	68 - 165
Hexane	25.0	28.79		ug/L		115	10 - 185
2-Hexanone	25.0	29.37		ug/L		117	70 - 138
Iodomethane	25.0	27.06		ug/L		108	64 - 146
Isobutyl alcohol	625	623.4		ug/L		100	27 - 199
Isooctane	25.0	29.13		ug/L		117	10 - 181
Isopropylbenzene	25.0	30.86		ug/L		123	70 - 131
4-Isopropyltoluene	25.0	30.03		ug/L		120	70 - 130
Methacrylonitrile	250	255.6		ug/L		102	70 - 139
Methylene Chloride	25.0	24.99		ug/L		100	70 - 130
Methyl methacrylate	50.0	51.19		ug/L		102	70 - 137
4-Methyl-2-pentanone (MIBK)	25.0	30.42		ug/L		122	70 - 138
Methyl tert-butyl ether	25.0	26.15		ug/L		105	70 - 131
m-Xylene & p-Xylene	25.0	27.51		ug/L		110	70 - 139
Naphthalene	25.0	26.43		ug/L		106	70 - 159
n-Butylbenzene	25.0	30.18		ug/L		121	70 - 135
n-Heptane	25.0	29.73		ug/L		119	10 - 186
2-Nitropropane	50.0	47.28		ug/L		95	22 - 173
N-Propylbenzene	25.0	30.78		ug/L		123	70 - 131
1-Octene	25.0	32.18		ug/L		129	10 - 185
o-Xylene	25.0	27.23		ug/L		109	70 - 130
Pentachloroethane	25.0	31.28		ug/L		125	70 - 146
Propionitrile	250	258.8		ug/L		104	70 - 144
sec-Butylbenzene	25.0	32.07		ug/L		128	70 - 134
Styrene	25.0	26.77		ug/L		107	70 - 130
tert-Butylbenzene	25.0	31.02		ug/L		124	70 - 132
1,1,2,2-Tetrachloroethane	25.0	28.45		ug/L		114	70 - 130
1,1,1,2-Tetrachloroethane	25.0	25.00		ug/L		100	70 - 130
Tetrachloroethene	25.0	24.31		ug/L		97	70 - 135
Toluene	25.0	27.07		ug/L		108	70 - 130
trans-1,4-Dichloro-2-butene	25.0	29.22		ug/L		117	37 - 174
trans-1,2-Dichloroethene	25.0	26.99		ug/L		108	70 - 134
trans-1,3-Dichloropropene	25.0	27.87		ug/L		111	70 - 143
1,2,4-Trichlorobenzene	25.0	27.87		ug/L		111	70 - 157
1,2,3-Trichlorobenzene	25.0	27.09		ug/L		108	70 - 158
1,3,5-Trichlorobenzene	25.0	29.22		ug/L		117	70 - 131
1,1,1-Trichloroethane	25.0	26.82		ug/L		107	70 - 130
1,1,2-Trichloroethane	25.0	27.10		ug/L		108	70 - 130

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-128956/3

Matrix: Water

Analysis Batch: 128956

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichloroethene	25.0	25.74		ug/L		103	70 - 130
Trichlorofluoromethane	25.0	26.36		ug/L		105	39 - 146
1,2,3-Trichloropropane	25.0	28.11		ug/L		112	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.14		ug/L		105	27 - 148
1,2,4-Trimethylbenzene	25.0	30.64		ug/L		123	70 - 130
1,3,5-Trimethylbenzene	25.0	30.27		ug/L		121	70 - 131
Vinyl acetate	50.0	46.85		ug/L		94	18 - 200
Vinyl chloride	25.0	26.81		ug/L		107	49 - 140
Xylenes, Total	50.0	54.74		ug/L		109	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 140
Toluene-d8 (Surr)	102		70 - 130
Dibromofluoromethane (Surr)	102		69 - 130
4-Bromofluorobenzene (Surr)	103		70 - 130

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-129125/1-A

Matrix: Solid

Analysis Batch: 129140

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 129125

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	17.0	U	170	17.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Acenaphthylene	14.0	U	170	14.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Anthracene	19.0	U	170	19.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Benzo[a]anthracene	21.0	U	170	21.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Benzo[a]pyrene	17.0	U	170	17.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Benzo[b]fluoranthene	15.0	U	170	15.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Benzo[g,h,i]perylene	15.0	U	170	15.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Benzo[k]fluoranthene	13.0	U	170	13.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Benzyl alcohol	36.0	U	170	36.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Bis(2-chloroethoxy)methane	17.0	U	170	17.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Bis(2-chloroethyl)ether	26.0	U	170	26.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Bis(2-ethylhexyl) phthalate	26.0	U	170	26.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
4-Bromophenyl phenyl ether	22.0	U	170	22.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Butyl benzyl phthalate	14.0	U	170	14.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
4-Chloroaniline	30.0	U	170	30.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
4-Chloro-3-methylphenol	24.0	U	170	24.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
2-Chloronaphthalene	17.0	U	170	17.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
2-Chlorophenol	17.0	U	170	17.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
4-Chlorophenyl phenyl ether	23.0	U	170	23.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Chrysene	15.0	U	170	15.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Dibenz(a,h)anthracene	14.0	U	170	14.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Dibenzofuran	19.0	U	170	19.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
1,3-Dichlorobenzene	18.0	U	170	18.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
1,4-Dichlorobenzene	22.0	U	170	22.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-129125/1-A

Matrix: Solid

Analysis Batch: 129140

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 129125

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	19.0	U	170	19.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
3,3'-Dichlorobenzidine	160	U	170	160	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
2,4-Dichlorophenol	17.0	U	170	17.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Diethyl phthalate	16.0	U	170	16.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
2,4-Dimethylphenol	56.0	U	170	56.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Dimethyl phthalate	17.0	U	170	17.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Di-n-butyl phthalate	36.0	U	170	36.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
4,6-Dinitro-2-methylphenol	30.0	U	660	30.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
2,4-Dinitrophenol	30.0	U	660	30.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
2,6-Dinitrotoluene	22.0	U	170	22.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
2,4-Dinitrotoluene	16.0	U	170	16.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Di-n-octyl phthalate	13.0	U	170	13.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Fluoranthene	17.0	U	170	17.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Fluorene	19.0	U	170	19.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Hexachlorobenzene	20.0	U	170	20.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Hexachlorobutadiene	28.0	U	170	28.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Hexachlorocyclopentadiene	50.0	U	170	50.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Hexachloroethane	20.0	U	170	20.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Indeno[1,2,3-cd]pyrene	16.0	U	170	16.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Isophorone	15.0	U	170	15.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
2-Methylnaphthalene	15.0	U	170	15.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
2-Methylphenol	20.0	U	170	20.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
3 & 4 Methylphenol	28.0	U	340	28.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Naphthalene	16.0	U	170	16.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
2-Nitroaniline	22.0	U	170	22.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
3-Nitroaniline	17.0	U	170	17.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
4-Nitroaniline	28.0	U	170	28.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Nitrobenzene	15.0	U	170	15.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
2-Nitrophenol	16.0	U	170	16.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
4-Nitrophenol	30.0	U	660	30.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
N-Nitrosodi-n-propylamine	25.0	U	170	25.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
N-Nitrosodiphenylamine	22.0	U	170	22.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Pentachlorophenol	330	U	660	330	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Phenanthrene	21.0	U	170	21.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Phenol	19.0	U	170	19.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
Pyrene	17.0	U	170	17.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
1,2,4-Trichlorobenzene	16.0	U	170	16.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
2,4,6-Trichlorophenol	18.0	U	170	18.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1
2,4,5-Trichlorophenol	31.0	U	170	31.0	ug/Kg		06/21/16 07:56	06/21/16 12:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	64		24 - 101	06/21/16 07:56	06/21/16 12:07	1
Nitrobenzene-d5	60		17 - 112	06/21/16 07:56	06/21/16 12:07	1
2-Fluorobiphenyl	64		32 - 101	06/21/16 07:56	06/21/16 12:07	1
2,4,6-Tribromophenol	72		21 - 130	06/21/16 07:56	06/21/16 12:07	1
Terphenyl-d14	89		62 - 129	06/21/16 07:56	06/21/16 12:07	1
Phenol-d5 (Surr)	64		23 - 106	06/21/16 07:56	06/21/16 12:07	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-129125/2-A

Matrix: Solid

Analysis Batch: 129140

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 129125

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	3330	2603		ug/Kg		78	60 - 130
Acenaphthylene	3330	2399		ug/Kg		72	57 - 130
Anthracene	3330	2939		ug/Kg		88	70 - 130
Benzo[a]anthracene	3330	3231		ug/Kg		97	70 - 130
Benzo[a]pyrene	3330	3345		ug/Kg		100	70 - 130
Benzo[b]fluoranthene	3330	3390		ug/Kg		102	70 - 130
Benzo[g,h,i]perylene	3330	3581		ug/Kg		107	63 - 130
Benzo[k]fluoranthene	3330	3147		ug/Kg		94	70 - 130
Benzyl alcohol	3330	2111		ug/Kg		63	50 - 130
Bis(2-chloroethoxy)methane	3330	2442		ug/Kg		73	60 - 130
Bis(2-chloroethyl)ether	3330	2552		ug/Kg		77	55 - 130
Bis(2-ethylhexyl) phthalate	3330	2948		ug/Kg		88	70 - 130
4-Bromophenyl phenyl ether	3330	2966		ug/Kg		89	69 - 130
Butyl benzyl phthalate	3330	3303		ug/Kg		99	70 - 130
4-Chloroaniline	3330	2109		ug/Kg		63	53 - 130
4-Chloro-3-methylphenol	3330	2620		ug/Kg		79	63 - 130
2-Chloronaphthalene	3330	2593		ug/Kg		78	56 - 130
2-Chlorophenol	3330	2439		ug/Kg		73	60 - 130
4-Chlorophenyl phenyl ether	3330	2829		ug/Kg		85	59 - 130
Chrysene	3330	3265		ug/Kg		98	70 - 130
Dibenz(a,h)anthracene	3330	3118		ug/Kg		94	70 - 130
Dibenzofuran	3330	2582		ug/Kg		77	63 - 130
1,3-Dichlorobenzene	3330	2178		ug/Kg		65	55 - 130
1,4-Dichlorobenzene	3330	2207		ug/Kg		66	56 - 130
1,2-Dichlorobenzene	3330	2221		ug/Kg		67	57 - 130
3,3'-Dichlorobenzidine	3330	2604		ug/Kg		78	63 - 130
2,4-Dichlorophenol	3330	2531		ug/Kg		76	61 - 130
Diethyl phthalate	3330	3109		ug/Kg		93	65 - 130
2,4-Dimethylphenol	3330	2452		ug/Kg		74	61 - 130
Dimethyl phthalate	3330	2857		ug/Kg		86	61 - 130
Di-n-butyl phthalate	3330	2956		ug/Kg		89	70 - 130
4,6-Dinitro-2-methylphenol	6670	4992		ug/Kg		75	53 - 130
2,4-Dinitrophenol	6670	4497		ug/Kg		67	40 - 130
2,6-Dinitrotoluene	3330	2847		ug/Kg		85	57 - 130
2,4-Dinitrotoluene	3330	3047		ug/Kg		91	61 - 130
Di-n-octyl phthalate	3330	3034		ug/Kg		91	70 - 130
Fluoranthene	3330	3008		ug/Kg		90	70 - 130
Fluorene	3330	2696		ug/Kg		81	61 - 130
Hexachlorobenzene	3330	2932		ug/Kg		88	70 - 130
Hexachlorobutadiene	3330	2358		ug/Kg		71	55 - 130
Hexachlorocyclopentadiene	3330	2073		ug/Kg		62	30 - 130
Hexachloroethane	3330	2121		ug/Kg		64	55 - 130
Indeno[1,2,3-cd]pyrene	3330	3119		ug/Kg		94	68 - 130
Isophorone	3330	2445		ug/Kg		73	60 - 130
2-Methylnaphthalene	3330	2358		ug/Kg		71	61 - 130
2-Methylphenol	3330	2458		ug/Kg		74	61 - 130
3 & 4 Methylphenol	3330	2642		ug/Kg		79	59 - 130
Naphthalene	3330	2299		ug/Kg		69	61 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-129125/2-A

Matrix: Solid

Analysis Batch: 129140

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 129125

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitroaniline	3330	2722		ug/Kg		82	53 - 130
3-Nitroaniline	3330	2297		ug/Kg		69	40 - 130
4-Nitroaniline	3330	2981		ug/Kg		89	56 - 130
Nitrobenzene	3330	2366		ug/Kg		71	60 - 130
2-Nitrophenol	3330	2275		ug/Kg		68	60 - 130
4-Nitrophenol	6670	5408		ug/Kg		81	56 - 130
N-Nitrosodi-n-propylamine	3330	2523		ug/Kg		76	59 - 130
N-Nitrosodiphenylamine	3330	2901		ug/Kg		87	69 - 130
Pentachlorophenol	6670	5122		ug/Kg		77	66 - 130
Phenanthrene	3330	2807		ug/Kg		84	70 - 130
Phenol	3330	2398		ug/Kg		72	60 - 130
Pyrene	3330	3214		ug/Kg		96	77 - 130
1,2,4-Trichlorobenzene	3330	2403		ug/Kg		72	59 - 130
2,4,6-Trichlorophenol	3330	2570		ug/Kg		77	54 - 130
2,4,5-Trichlorophenol	3330	2514		ug/Kg		75	55 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorophenol	61		24 - 101
Nitrobenzene-d5	64		17 - 112
2-Fluorobiphenyl	64		32 - 101
2,4,6-Tribromophenol	83		21 - 130
Terphenyl-d14	88		62 - 129
Phenol-d5 (Surr)	67		23 - 106

Lab Sample ID: 560-62017-4 MS

Matrix: Solid

Analysis Batch: 129175

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 129125

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	53.1	U	5230	3189		ug/Kg	☼	61	60 - 130
Acenaphthylene	43.7	U	5230	3071		ug/Kg	☼	59	57 - 130
Anthracene	59.3	U	5230	4170		ug/Kg	☼	80	70 - 130
Benzo[a]anthracene	65.6	U	5230	4047		ug/Kg	☼	77	70 - 130
Benzo[a]pyrene	53.1	U	5230	4118		ug/Kg	☼	79	70 - 130
Benzo[b]fluoranthene	46.8	U	5230	4170		ug/Kg	☼	80	70 - 130
Benzo[g,h,i]perylene	46.8	U	5230	3984		ug/Kg	☼	76	63 - 130
Benzo[k]fluoranthene	40.6	U	5230	3966		ug/Kg	☼	76	70 - 130
Benzyl alcohol	112	U F1	5230	2492	F1	ug/Kg	☼	48	50 - 130
Bis(2-chloroethoxy)methane	53.1	U F1	5230	2536	F1	ug/Kg	☼	48	60 - 130
Bis(2-chloroethyl)ether	81.2	U F1	5230	2479	F1	ug/Kg	☼	47	55 - 130
Bis(2-ethylhexyl) phthalate	761		5230	4648		ug/Kg	☼	74	70 - 130
4-Bromophenyl phenyl ether	68.7	U	5230	3683		ug/Kg	☼	70	69 - 130
Butyl benzyl phthalate	43.7	U	5230	4161		ug/Kg	☼	80	70 - 130
4-Chloroaniline	93.7	U F1	5230	2402	F1	ug/Kg	☼	46	53 - 130
4-Chloro-3-methylphenol	74.9	U	5230	3377		ug/Kg	☼	65	63 - 130
2-Chloronaphthalene	53.1	U F1	5230	2743	F1	ug/Kg	☼	52	56 - 130
2-Chlorophenol	53.1	U F1	5230	2464	F1	ug/Kg	☼	47	60 - 130
4-Chlorophenyl phenyl ether	71.8	U	5230	3404		ug/Kg	☼	65	59 - 130

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-62017-4 MS

Matrix: Solid

Analysis Batch: 129175

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 129125

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Chrysene	46.8	U	5230	4035		ug/Kg	☼	77	70 - 130
Dibenz(a,h)anthracene	43.7	U	5230	4130		ug/Kg	☼	79	70 - 130
Dibenzofuran	59.3	U	5230	3501		ug/Kg	☼	67	63 - 130
1,3-Dichlorobenzene	56.2	U F1	5230	2044	F1	ug/Kg	☼	39	55 - 130
1,4-Dichlorobenzene	68.7	U F1	5230	2090	F1	ug/Kg	☼	40	56 - 130
1,2-Dichlorobenzene	59.3	U F1	5230	2163	F1	ug/Kg	☼	41	57 - 130
3,3'-Dichlorobenzidine	500	U	5230	3569		ug/Kg	☼	68	63 - 130
2,4-Dichlorophenol	53.1	U F1	5230	2786	F1	ug/Kg	☼	53	61 - 130
Diethyl phthalate	50.0	U	5230	3836		ug/Kg	☼	73	65 - 130
2,4-Dimethylphenol	175	U F1	5230	2685	F1	ug/Kg	☼	51	61 - 130
Dimethyl phthalate	53.1	U	5230	3439		ug/Kg	☼	66	61 - 130
Di-n-butyl phthalate	112	U	5230	4247		ug/Kg	☼	81	70 - 130
4,6-Dinitro-2-methylphenol	93.7	U F1	10500	5341	F1	ug/Kg	☼	51	53 - 130
2,4-Dinitrophenol	93.7	U	10500	4207		ug/Kg	☼	40	40 - 130
2,6-Dinitrotoluene	68.7	U	5230	3310		ug/Kg	☼	63	57 - 130
2,4-Dinitrotoluene	50.0	U	5230	3632		ug/Kg	☼	69	61 - 130
Di-n-octyl phthalate	40.6	U	5230	4475		ug/Kg	☼	86	70 - 130
Fluoranthene	61.9	J	5230	4238		ug/Kg	☼	80	70 - 130
Fluorene	59.3	U	5230	3697		ug/Kg	☼	71	61 - 130
Hexachlorobenzene	62.4	U	5230	3666		ug/Kg	☼	70	70 - 130
Hexachlorobutadiene	87.4	U F1	5230	2357	F1	ug/Kg	☼	45	55 - 130
Hexachlorocyclopentadiene	156	U F1	5230	157	U F1	ug/Kg	☼	0	30 - 130
Hexachloroethane	62.4	U F1	5230	1587	F1	ug/Kg	☼	30	55 - 130
Indeno[1,2,3-cd]pyrene	50.0	U	5230	4057		ug/Kg	☼	78	68 - 130
Isophorone	46.8	U F1	5230	2636	F1	ug/Kg	☼	50	60 - 130
2-Methylnaphthalene	46.8	U F1	5230	2763	F1	ug/Kg	☼	53	61 - 130
2-Methylphenol	62.4	U F1	5230	2615	F1	ug/Kg	☼	50	61 - 130
3 & 4 Methylphenol	572	J F1	5230	3491	F1	ug/Kg	☼	56	59 - 130
Naphthalene	50.0	U F1	5230	2659	F1	ug/Kg	☼	51	61 - 130
2-Nitroaniline	68.7	U	5230	3405		ug/Kg	☼	65	53 - 130
3-Nitroaniline	53.1	U	5230	3697		ug/Kg	☼	71	40 - 130
4-Nitroaniline	87.4	U	5230	3623		ug/Kg	☼	69	56 - 130
Nitrobenzene	46.8	U F1	5230	2474	F1	ug/Kg	☼	47	60 - 130
2-Nitrophenol	50.0	U F1	5230	2291	F1	ug/Kg	☼	44	60 - 130
4-Nitrophenol	93.7	U	10500	8288		ug/Kg	☼	79	56 - 130
N-Nitrosodi-n-propylamine	78.1	U F1	5230	2606	F1	ug/Kg	☼	50	59 - 130
N-Nitrosodiphenylamine	68.7	U	5230	3933		ug/Kg	☼	75	69 - 130
Pentachlorophenol	1030	U	10500	7744		ug/Kg	☼	74	66 - 130
Phenanthrene	65.6	U	5230	4046		ug/Kg	☼	77	70 - 130
Phenol	59.3	U F1	5230	2605	F1	ug/Kg	☼	50	60 - 130
Pyrene	53.1	U F1	5230	3745	F1	ug/Kg	☼	72	77 - 130
1,2,4-Trichlorobenzene	50.0	U F1	5230	2354	F1	ug/Kg	☼	45	59 - 130
2,4,6-Trichlorophenol	56.2	U	5230	3118		ug/Kg	☼	60	54 - 130
2,4,5-Trichlorophenol	96.8	U	5230	3286		ug/Kg	☼	63	55 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorophenol	43		24 - 101
Nitrobenzene-d5	43		17 - 112

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-62017-4 MS

Matrix: Solid

Analysis Batch: 129175

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 129125

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	43		32 - 101
2,4,6-Tribromophenol	78		21 - 130
Terphenyl-d14	67		62 - 129
Phenol-d5 (Surr)	44		23 - 106

Lab Sample ID: 560-62017-4 MSD

Matrix: Solid

Analysis Batch: 129175

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 129125

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	53.1	U	5500	3519		ug/Kg	☼	64	60 - 130	10	40
Acenaphthylene	43.7	U	5500	3339		ug/Kg	☼	61	57 - 130	8	40
Anthracene	59.3	U	5500	4679		ug/Kg	☼	85	70 - 130	12	40
Benzo[a]anthracene	65.6	U	5500	4581		ug/Kg	☼	83	70 - 130	12	40
Benzo[a]pyrene	53.1	U	5500	4745		ug/Kg	☼	86	70 - 130	14	40
Benzo[b]fluoranthene	46.8	U	5500	4735		ug/Kg	☼	86	70 - 130	13	40
Benzo[g,h,i]perylene	46.8	U	5500	4023		ug/Kg	☼	73	63 - 130	1	40
Benzo[k]fluoranthene	40.6	U	5500	4706		ug/Kg	☼	86	70 - 130	17	40
Benzyl alcohol	112	U F1	5500	2772		ug/Kg	☼	50	50 - 130	11	40
Bis(2-chloroethoxy)methane	53.1	U F1	5500	2715	F1	ug/Kg	☼	49	60 - 130	7	40
Bis(2-chloroethyl)ether	81.2	U F1	5500	2777	F1	ug/Kg	☼	51	55 - 130	11	40
Bis(2-ethylhexyl) phthalate	761		5500	4968		ug/Kg	☼	77	70 - 130	7	40
4-Bromophenyl phenyl ether	68.7	U	5500	4110		ug/Kg	☼	75	69 - 130	11	40
Butyl benzyl phthalate	43.7	U	5500	4573		ug/Kg	☼	83	70 - 130	9	40
4-Chloroaniline	93.7	U F1	5500	2646	F1	ug/Kg	☼	48	53 - 130	10	40
4-Chloro-3-methylphenol	74.9	U	5500	3608		ug/Kg	☼	66	63 - 130	7	40
2-Chloronaphthalene	53.1	U F1	5500	2966	F1	ug/Kg	☼	54	56 - 130	8	40
2-Chlorophenol	53.1	U F1	5500	2739	F1	ug/Kg	☼	50	60 - 130	11	40
4-Chlorophenyl phenyl ether	71.8	U	5500	3703		ug/Kg	☼	67	59 - 130	8	40
Chrysene	46.8	U	5500	4493		ug/Kg	☼	82	70 - 130	11	40
Dibenz(a,h)anthracene	43.7	U	5500	4334		ug/Kg	☼	79	70 - 130	5	40
Dibenzofuran	59.3	U	5500	3917		ug/Kg	☼	71	63 - 130	11	40
1,3-Dichlorobenzene	56.2	U F1	5500	2180	F1	ug/Kg	☼	40	55 - 130	6	40
1,4-Dichlorobenzene	68.7	U F1	5500	2210	F1	ug/Kg	☼	40	56 - 130	6	40
1,2-Dichlorobenzene	59.3	U F1	5500	2326	F1	ug/Kg	☼	42	57 - 130	7	40
3,3'-Dichlorobenzidine	500	U	5500	3956		ug/Kg	☼	72	63 - 130	10	40
2,4-Dichlorophenol	53.1	U F1	5500	3043	F1	ug/Kg	☼	55	61 - 130	9	40
Diethyl phthalate	50.0	U	5500	4212		ug/Kg	☼	77	65 - 130	9	40
2,4-Dimethylphenol	175	U F1	5500	2926	F1	ug/Kg	☼	53	61 - 130	9	40
Dimethyl phthalate	53.1	U	5500	3811		ug/Kg	☼	69	61 - 130	10	40
Di-n-butyl phthalate	112	U	5500	4634		ug/Kg	☼	84	70 - 130	9	40
4,6-Dinitro-2-methylphenol	93.7	U F1	11000	5438	F1	ug/Kg	☼	49	53 - 130	2	40
2,4-Dinitrophenol	93.7	U	11000	4387		ug/Kg	☼	40	40 - 130	4	40
2,6-Dinitrotoluene	68.7	U	5500	3632		ug/Kg	☼	66	57 - 130	9	40
2,4-Dinitrotoluene	50.0	U	5500	3920		ug/Kg	☼	71	61 - 130	8	40
Di-n-octyl phthalate	40.6	U	5500	4909		ug/Kg	☼	89	70 - 130	9	40
Fluoranthene	61.9	J	5500	4743		ug/Kg	☼	85	70 - 130	11	40
Fluorene	59.3	U	5500	4025		ug/Kg	☼	73	61 - 130	8	40

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 560-62017-4 MSD

Matrix: Solid

Analysis Batch: 129175

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 129125

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hexachlorobenzene	62.4	U	5500	4144		ug/Kg	✱	75	70 - 130	12	40
Hexachlorobutadiene	87.4	U F1	5500	2551	F1	ug/Kg	✱	46	55 - 130	8	40
Hexachlorocyclopentadiene	156	U F1	5500	165	U F1	ug/Kg	✱	0	30 - 130	NC	40
Hexachloroethane	62.4	U F1	5500	1397	F1	ug/Kg	✱	25	55 - 130	13	40
Indeno[1,2,3-cd]pyrene	50.0	U	5500	4233		ug/Kg	✱	77	68 - 130	4	40
Isophorone	46.8	U F1	5500	2836	F1	ug/Kg	✱	52	60 - 130	7	40
2-Methylnaphthalene	46.8	U F1	5500	2959	F1	ug/Kg	✱	54	61 - 130	7	40
2-Methylphenol	62.4	U F1	5500	2989	F1	ug/Kg	✱	54	61 - 130	13	40
3 & 4 Methylphenol	572	J F1	5500	3704	F1	ug/Kg	✱	57	59 - 130	6	40
Naphthalene	50.0	U F1	5500	2841	F1	ug/Kg	✱	52	61 - 130	7	40
2-Nitroaniline	68.7	U	5500	3756		ug/Kg	✱	68	53 - 130	10	40
3-Nitroaniline	53.1	U	5500	3666		ug/Kg	✱	67	40 - 130	1	40
4-Nitroaniline	87.4	U	5500	4015		ug/Kg	✱	73	56 - 130	10	40
Nitrobenzene	46.8	U F1	5500	2637	F1	ug/Kg	✱	48	60 - 130	6	40
2-Nitrophenol	50.0	U F1	5500	2472	F1	ug/Kg	✱	45	60 - 130	8	40
4-Nitrophenol	93.7	U	11000	9187		ug/Kg	✱	84	56 - 130	10	40
N-Nitrosodi-n-propylamine	78.1	U F1	5500	2866	F1	ug/Kg	✱	52	59 - 130	10	40
N-Nitrosodiphenylamine	68.7	U	5500	4413		ug/Kg	✱	80	69 - 130	12	40
Pentachlorophenol	1030	U	11000	8543		ug/Kg	✱	78	66 - 130	10	40
Phenanthrene	65.6	U	5500	4476		ug/Kg	✱	81	70 - 130	10	40
Phenol	59.3	U F1	5500	2824	F1	ug/Kg	✱	51	60 - 130	8	40
Pyrene	53.1	U F1	5500	4240		ug/Kg	✱	77	77 - 130	12	40
1,2,4-Trichlorobenzene	50.0	U F1	5500	2548	F1	ug/Kg	✱	46	59 - 130	8	40
2,4,6-Trichlorophenol	56.2	U	5500	3509		ug/Kg	✱	64	54 - 130	12	40
2,4,5-Trichlorophenol	96.8	U	5500	3702		ug/Kg	✱	67	55 - 130	12	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorophenol	45		24 - 101
Nitrobenzene-d5	47		17 - 112
2-Fluorobiphenyl	45		32 - 101
2,4,6-Tribromophenol	85		21 - 130
Terphenyl-d14	71		62 - 129
Phenol-d5 (Surr)	46		23 - 106

## Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 600-190731/1-A

Matrix: Solid

Analysis Batch: 191263

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 190731

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	1.31	U *	1.70	1.31	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
alpha-BHC	0.998	U *	1.70	0.998	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
alpha-Chlordane	1.59	U *	3.29	1.59	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
beta-BHC	1.02	U *	1.70	1.02	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
4,4'-DDD	1.62	U *	3.29	1.62	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
4,4'-DDE	1.45	U *	3.29	1.45	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
4,4'-DDT	1.85	U *	3.29	1.85	ug/Kg		06/16/16 09:25	06/23/16 13:48	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 600-190731/1-A

Matrix: Solid

Analysis Batch: 191263

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 190731

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
delta-BHC	0.848	U *	1.70	0.848	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
Dieldrin	1.39	U *	3.29	1.39	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
Endosulfan I	0.998	U *	1.70	0.998	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
Endosulfan II	1.51	U *	1.70	1.51	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
Endosulfan sulfate	1.68	U *	3.29	1.68	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
Endrin	1.53	U *	3.29	1.53	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
Endrin aldehyde	1.56	U *	3.29	1.56	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
Endrin ketone	1.54	U *	3.29	1.54	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
gamma-BHC (Lindane)	0.928	U *	1.70	0.928	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
gamma-Chlordane	1.25	U *	3.29	1.25	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
Heptachlor	0.928	U *	1.70	0.928	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
Heptachlor epoxide	1.17	U *	1.70	1.17	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
Methoxychlor	8.05	U *	17.0	8.05	ug/Kg		06/16/16 09:25	06/23/16 13:48	1
Toxaphene	73.0	U *	170	73.0	ug/Kg		06/16/16 09:25	06/23/16 13:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	57	*	50 - 143	06/16/16 09:25	06/23/16 13:48	1
DCB Decachlorobiphenyl	71	*	47 - 150	06/16/16 09:25	06/23/16 13:48	1

Lab Sample ID: LCS 600-190731/2-A

Matrix: Solid

Analysis Batch: 191263

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 190731

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aldrin	16.7	17.81	*	ug/Kg		107	42 - 150
alpha-BHC	16.7	17.82	*	ug/Kg		107	63 - 130
alpha-Chlordane	16.7	17.51	*	ug/Kg		105	40 - 150
beta-BHC	16.7	16.73	*	ug/Kg		100	32 - 150
4,4'-DDD	16.7	20.69	*	ug/Kg		124	60 - 150
4,4'-DDE	16.7	18.09	*	ug/Kg		109	46 - 150
4,4'-DDT	16.7	23.69	*	ug/Kg		142	46 - 150
delta-BHC	16.7	18.54	*	ug/Kg		111	33 - 150
Dieldrin	16.7	18.72	*	ug/Kg		112	42 - 150
Endosulfan I	16.7	17.79	*	ug/Kg		107	37 - 150
Endosulfan II	16.7	18.03	*	ug/Kg		108	43 - 150
Endosulfan sulfate	16.7	18.78	*	ug/Kg		113	32 - 150
Endrin	16.7	21.23	*	ug/Kg		127	41 - 150
Endrin aldehyde	16.7	18.12	*	ug/Kg		109	42 - 150
Endrin ketone	16.7	18.37	*	ug/Kg		110	25 - 150
gamma-BHC (Lindane)	16.7	17.58	*	ug/Kg		105	36 - 150
gamma-Chlordane	16.7	17.45	*	ug/Kg		105	41 - 150
Heptachlor	16.7	22.62	*	ug/Kg		136	35 - 150
Heptachlor epoxide	16.7	17.65	*	ug/Kg		106	42 - 150
Methoxychlor	16.7	27.99	*	ug/Kg		168	48 - 150

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	62	*	50 - 143

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 600-190731/2-A

Matrix: Solid

Analysis Batch: 191263

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 190731

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	65	*	47 - 150

Lab Sample ID: 560-62017-4 MS

Matrix: Solid

Analysis Batch: 191263

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 190731

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Aldrin	2.16	U	27.8	32.32		ug/Kg	☼	116	42 - 150		
alpha-BHC	1.65	U	27.8	33.01		ug/Kg	☼	119	63 - 130		
alpha-Chlordane	2.63	U	27.8	32.04		ug/Kg	☼	115	40 - 150		
beta-BHC	1.69	U	27.8	32.23		ug/Kg	☼	116	32 - 150		
4,4'-DDD	2.68	U F1	27.8	41.02		ug/Kg	☼	147	60 - 150		
4,4'-DDE	2.40	U	27.8	35.28		ug/Kg	☼	127	46 - 150		
4,4'-DDT	3.06	U	27.8	39.52		ug/Kg	☼	142	46 - 150		
delta-BHC	1.40	U	27.8	31.04		ug/Kg	☼	111	33 - 150		
Dieldrin	2.30	U F2	27.8	16.40		ug/Kg	☼	59	42 - 150		
Endosulfan I	1.65	U	27.8	31.35		ug/Kg	☼	113	37 - 150		
Endosulfan II	2.49	U	27.8	27.63		ug/Kg	☼	99	43 - 150		
Endosulfan sulfate	2.78	U	27.8	21.90		ug/Kg	☼	79	32 - 150		
Endrin	2.53	U	27.8	36.68		ug/Kg	☼	132	41 - 150		
Endrin aldehyde	2.58	U	27.8	16.28		ug/Kg	☼	58	42 - 150		
Endrin ketone	2.54	U	27.8	28.58		ug/Kg	☼	103	25 - 150		
gamma-BHC (Lindane)	1.54	U	27.8	33.20		ug/Kg	☼	119	36 - 150		
gamma-Chlordane	2.07	U	27.8	33.38		ug/Kg	☼	120	41 - 150		
Heptachlor	1.54	U F1	27.8	40.15		ug/Kg	☼	144	35 - 150		
Heptachlor epoxide	1.93	U	27.8	31.32		ug/Kg	☼	112	42 - 150		
Methoxychlor	13.3	U * F1 F2	27.8	69.15	F1	ug/Kg	☼	248	48 - 150		
	MS	MS									
Surrogate	%Recovery	Qualifier	Limits								
Tetrachloro-m-xylene	72		50 - 143								
DCB Decachlorobiphenyl	119		47 - 150								

Lab Sample ID: 560-62017-4 MSD

Matrix: Solid

Analysis Batch: 191263

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 190731

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aldrin	2.16	U	28.7	36.01		ug/Kg	☼	126	42 - 150	11	30
alpha-BHC	1.65	U	28.7	35.57		ug/Kg	☼	124	63 - 130	7	30
alpha-Chlordane	2.63	U	28.7	34.34		ug/Kg	☼	120	40 - 150	7	30
beta-BHC	1.69	U	28.7	33.66		ug/Kg	☼	117	32 - 150	4	30
4,4'-DDD	2.68	U F1	28.7	45.80	F1	ug/Kg	☼	160	60 - 150	11	30
4,4'-DDE	2.40	U	28.7	38.76		ug/Kg	☼	135	46 - 150	9	30
4,4'-DDT	3.06	U	28.7	34.51		ug/Kg	☼	120	46 - 150	14	30
delta-BHC	1.40	U	28.7	35.55		ug/Kg	☼	124	33 - 150	14	30
Dieldrin	2.30	U F2	28.7	38.16	F2	ug/Kg	☼	133	42 - 150	80	30
Endosulfan I	1.65	U	28.7	33.72		ug/Kg	☼	118	37 - 150	7	30
Endosulfan II	2.49	U	28.7	30.96		ug/Kg	☼	108	43 - 150	11	30

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 560-62017-4 MSD

Matrix: Solid

Analysis Batch: 191263

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 190731

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Endosulfan sulfate	2.78	U	28.7	25.46		ug/Kg	☼	89	32 - 150	15	30
Endrin	2.53	U	28.7	40.45		ug/Kg	☼	141	41 - 150	10	30
Endrin aldehyde	2.58	U	28.7	17.12		ug/Kg	☼	60	42 - 150	5	30
Endrin ketone	2.54	U	28.7	27.13		ug/Kg	☼	95	25 - 150	5	30
gamma-BHC (Lindane)	1.54	U	28.7	35.39		ug/Kg	☼	123	36 - 150	6	30
gamma-Chlordane	2.07	U	28.7	35.98		ug/Kg	☼	125	41 - 150	7	30
Heptachlor	1.54	U F1	28.7	43.85	F1	ug/Kg	☼	153	35 - 150	9	30
Heptachlor epoxide	1.93	U	28.7	35.56		ug/Kg	☼	124	42 - 150	13	30
Methoxychlor	13.3	U * F1 F2	28.7	48.32	F1 F2	ug/Kg	☼	168	48 - 150	35	30
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
Tetrachloro-m-xylene	81		50 - 143								
DCB Decachlorobiphenyl	104		47 - 150								

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 560-129173/1-A

Matrix: Solid

Analysis Batch: 129231

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 129173

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1262	5.10	U	33.0	5.10	ug/Kg		06/22/16 07:52	06/23/16 10:28	1
Aroclor 1268	5.10	U	33.0	5.10	ug/Kg		06/22/16 07:52	06/23/16 10:28	1
PCB-1016	5.10	U	33.0	5.10	ug/Kg		06/22/16 07:52	06/23/16 10:28	1
PCB-1221	5.10	U	33.0	5.10	ug/Kg		06/22/16 07:52	06/23/16 10:28	1
PCB-1232	5.10	U	33.0	5.10	ug/Kg		06/22/16 07:52	06/23/16 10:28	1
PCB-1242	5.10	U	33.0	5.10	ug/Kg		06/22/16 07:52	06/23/16 10:28	1
PCB-1248	5.10	U	33.0	5.10	ug/Kg		06/22/16 07:52	06/23/16 10:28	1
PCB-1254	5.10	U	33.0	5.10	ug/Kg		06/22/16 07:52	06/23/16 10:28	1
PCB-1260	10.0	U	33.0	10.0	ug/Kg		06/22/16 07:52	06/23/16 10:28	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	116		32 - 132				06/22/16 07:52	06/23/16 10:28	1
DCB Decachlorobiphenyl	115		57 - 138				06/22/16 07:52	06/23/16 10:28	1

Lab Sample ID: LCS 560-129173/2-A

Matrix: Solid

Analysis Batch: 129231

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 129173

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	667	586.6		ug/Kg		88	40 - 130
PCB-1260	667	638.6		ug/Kg		96	40 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
Tetrachloro-m-xylene	112		32 - 132				
DCB Decachlorobiphenyl	99		57 - 138				

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 560-62017-4 MS

Matrix: Solid

Analysis Batch: 129231

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 129173

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
PCB-1016	7.95	U	1050	975.8		ug/Kg	☼	93	40 - 130
PCB-1260	15.6	U	1050	947.3		ug/Kg	☼	91	40 - 130
<b>MS MS</b>									
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
Tetrachloro-m-xylene	102		32 - 132						
DCB Decachlorobiphenyl	88		57 - 138						

Lab Sample ID: 560-62017-4 MSD

Matrix: Solid

Analysis Batch: 129231

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 129173

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
PCB-1016	7.95	U	1080	870.0		ug/Kg	☼	80	40 - 130	11	50
PCB-1260	15.6	U	1080	791.3		ug/Kg	☼	73	40 - 130	18	50
<b>MSD MSD</b>											
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
Tetrachloro-m-xylene	90		32 - 132								
DCB Decachlorobiphenyl	76		57 - 138								

## Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 280-330827/1-A

Matrix: Solid

Analysis Batch: 332552

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 330827

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Azinphos-methyl	3.50	U	13.0	3.50	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Bolstar	4.24	U	13.0	4.24	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Chlorpyrifos	6.46	U	20.0	6.46	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Coumaphos	2.80	U	13.0	2.80	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Demeton-O	5.29	U	39.0	5.29	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Demeton-S	4.86	U	15.0	4.86	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Diazinon	7.27	U	22.0	7.27	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Dichlorvos	7.40	U	23.0	7.40	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Dimethoate	7.08	U	22.0	7.08	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Disulfoton	7.73	U	48.0	7.73	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
EPN	3.68	U	13.0	3.68	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Ethoprop	4.93	U	15.0	4.93	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Ethyl Parathion	5.29	U	18.0	5.29	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Famphur	3.22	U	13.0	3.22	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Fensulfothion	8.15	U	25.0	8.15	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Fenthion	8.74	U	33.0	8.74	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Malathion	4.64	U	15.0	4.64	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Merphos	5.14	U	30.0	5.14	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Methyl parathion	6.37	U	20.0	6.37	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Mevinphos	4.62	U	15.0	4.62	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Naled	22.6	U	70.0	22.6	ug/Kg		06/22/16 12:48	07/06/16 13:01	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: MB 280-330827/1-A

Matrix: Solid

Analysis Batch: 332552

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 330827

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phorate	5.70	U	20.0	5.70	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Ronnel	15.2	U	46.0	15.2	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Sulfotepp	6.26	U	20.0	6.26	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Tetrachlorvinphos (Stirophos)	4.36	U	15.0	4.36	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Thionazin	5.57	U	18.0	5.57	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Tokuthion	3.91	U	20.0	3.91	ug/Kg		06/22/16 12:48	07/06/16 13:01	1
Trichloronate	6.25	U	20.0	6.25	ug/Kg		06/22/16 12:48	07/06/16 13:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Chlormefos	67		42 - 132	06/22/16 12:48	07/06/16 13:01	1
Triphenylphosphate	97		47 - 161	06/22/16 12:48	07/06/16 13:01	1

Lab Sample ID: LCS 280-330827/2-A

Matrix: Solid

Analysis Batch: 332552

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 330827

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Azinphos-methyl	133	137.1		ug/Kg		103	51 - 122
Chlorpyrifos	133	118.4		ug/Kg		89	38 - 130
Coumaphos	133	142.8		ug/Kg		107	50 - 119
Diazinon	133	107.1		ug/Kg		80	53 - 115
Dichlorvos	133	135.1		ug/Kg		101	43 - 139
Dimethoate	133	112.3		ug/Kg		84	25 - 138
Disulfoton	133	96.31		ug/Kg		72	29 - 115
EPN	133	134.9		ug/Kg		101	58 - 131
Ethoprop	133	108.1		ug/Kg		81	53 - 115
Ethyl Parathion	133	120.9		ug/Kg		91	24 - 163
Famphur	133	129.0		ug/Kg		97	49 - 140
Fensulfothion	133	131.2		ug/Kg		98	52 - 121
Fenthion	133	119.4		ug/Kg		90	45 - 115
Malathion	133	108.2		ug/Kg		81	50 - 122
Merphos	133	38.44		ug/Kg		29	19 - 115
Methyl parathion	133	130.8		ug/Kg		98	46 - 119
Mevinphos	133	88.87		ug/Kg		67	10 - 226
Phorate	133	89.18		ug/Kg		67	40 - 115
Ronnel	133	126.1		ug/Kg		95	43 - 118
Sulfotepp	133	108.8		ug/Kg		82	55 - 115
Tetrachlorvinphos (Stirophos)	133	131.5		ug/Kg		99	44 - 118
Thionazin	133	101.8		ug/Kg		76	46 - 115
Trichloronate	133	53.69		ug/Kg		40	27 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Chlormefos	71		42 - 132
Triphenylphosphate	94		47 - 161

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-62017-4 MS

Matrix: Solid

Analysis Batch: 332552

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 330827

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Azinphos-methyl	554	U	210	552	U D	ug/Kg	☼	NC	51 - 122
Chlorpyrifos	1020	U	210	1020	U D	ug/Kg	☼	NC	38 - 130
Coumaphos	443	U	210	442	U D	ug/Kg	☼	NC	50 - 119
Diazinon	1150	U	210	1150	U D	ug/Kg	☼	NC	53 - 115
Dichlorvos	1170	U	210	1170	U D	ug/Kg	☼	NC	43 - 139
Dimethoate	1120	U	210	1120	U D	ug/Kg	☼	NC	25 - 138
Disulfoton	1220	U	210	1220	U D	ug/Kg	☼	NC	29 - 115
EPN	582	U	210	580	U D	ug/Kg	☼	NC	58 - 131
Ethoprop	780	U	210	777	U D	ug/Kg	☼	NC	53 - 115
Ethyl Parathion	837	U	210	834	U D	ug/Kg	☼	NC	24 - 163
Famphur	510	U	210	508	U D	ug/Kg	☼	NC	49 - 140
Fensulfothion	1290	U	210	1290	U D	ug/Kg	☼	NC	52 - 121
Fenthion	1380	U	210	1380	U D	ug/Kg	☼	NC	45 - 115
Malathion	734	U	210	732	U D	ug/Kg	☼	NC	50 - 122
Merphos	814	U	210	811	U D	ug/Kg	☼	NC	19 - 115
Methyl parathion	1010	U	210	1000	U D	ug/Kg	☼	NC	46 - 119
Mevinphos	731	U	210	729	U D	ug/Kg	☼	NC	10 - 226
Phorate	902	U	210	899	U D	ug/Kg	☼	NC	40 - 115
Ronnel	2410	U	210	2400	U D	ug/Kg	☼	NC	43 - 118
Sulfotepp	991	U	210	987	U D	ug/Kg	☼	NC	55 - 115
Tetrachlorvinphos (Stirophos)	690	U	210	688	U D	ug/Kg	☼	NC	44 - 118
Thionazin	882	U	210	878	U D	ug/Kg	☼	NC	46 - 115
Trichloronate	989	U	210	986	U D	ug/Kg	☼	NC	27 - 115

Surrogate	MS %Recovery	MS Qualifier	Limits
Chlormefos	62	D	42 - 132
Triphenylphosphate	108	D	47 - 161

Lab Sample ID: 560-62017-4 MSD

Matrix: Solid

Analysis Batch: 332552

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 330827

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Azinphos-methyl	554	U	223	586	U D	ug/Kg	☼	NC	51 - 122	NC	43
Chlorpyrifos	1020	U	223	1080	U D	ug/Kg	☼	NC	38 - 130	NC	37
Coumaphos	443	U	223	469	U D	ug/Kg	☼	NC	50 - 119	NC	27
Diazinon	1150	U	223	1220	U D	ug/Kg	☼	NC	53 - 115	NC	40
Dichlorvos	1170	U	223	1240	U D	ug/Kg	☼	NC	43 - 139	NC	77
Dimethoate	1120	U	223	1190	U D	ug/Kg	☼	NC	25 - 138	NC	98
Disulfoton	1220	U	223	1290	U D	ug/Kg	☼	NC	29 - 115	NC	40
EPN	582	U	223	616	U D	ug/Kg	☼	NC	58 - 131	NC	50
Ethoprop	780	U	223	825	U D	ug/Kg	☼	NC	53 - 115	NC	54
Ethyl Parathion	837	U	223	886	U D	ug/Kg	☼	NC	24 - 163	NC	47
Famphur	510	U	223	539	U D	ug/Kg	☼	NC	49 - 140	NC	31
Fensulfothion	1290	U	223	1360	U D	ug/Kg	☼	NC	52 - 121	NC	49
Fenthion	1380	U	223	1460	U D	ug/Kg	☼	NC	45 - 115	NC	43
Malathion	734	U	223	777	U D	ug/Kg	☼	NC	50 - 122	NC	53
Merphos	814	U	223	861	U D	ug/Kg	☼	NC	19 - 115	NC	50

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: 560-62017-4 MSD

Matrix: Solid

Analysis Batch: 332552

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 330827

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl parathion	1010	U	223	1070	U D	ug/Kg	☼	NC	46 - 119	NC	53
Mevinphos	731	U	223	773	U D	ug/Kg	☼	NC	10 - 226	NC	78
Phorate	902	U	223	954	U D	ug/Kg	☼	NC	40 - 115	NC	40
Ronnel	2410	U	223	2540	U D	ug/Kg	☼	NC	43 - 118	NC	41
Sulfotepp	991	U	223	1050	U D	ug/Kg	☼	NC	55 - 115	NC	40
Tetrachlorvinphos (Stirophos)	690	U	223	730	U D	ug/Kg	☼	NC	44 - 118	NC	24
Thionazin	882	U	223	932	U D	ug/Kg	☼	NC	46 - 115	NC	40
Trichloronate	989	U	223	1050	U D	ug/Kg	☼	NC	27 - 115	NC	43

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Chlormefos	88	D	42 - 132
Triphenylphosphate	117	D	47 - 161

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 600-190936/1-A

Matrix: Solid

Analysis Batch: 191143

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 190936

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	0.566	U	6.66	0.566	ug/Kg		06/20/16 08:58	06/22/16 13:58	1
2,4-DB	1.10	U	6.66	1.10	ug/Kg		06/20/16 08:58	06/22/16 13:58	1
Dicamba	0.765	U	6.66	0.765	ug/Kg		06/20/16 08:58	06/22/16 13:58	1
Dichlorprop	0.749	U	6.66	0.749	ug/Kg		06/20/16 08:58	06/22/16 13:58	1
Dinoseb	0.532	U	6.66	0.532	ug/Kg		06/20/16 08:58	06/22/16 13:58	1
MCPA	108	U	66.6	108	ug/Kg		06/20/16 08:58	06/22/16 13:58	1
Mecoprop	76.3	U	66.6	76.3	ug/Kg		06/20/16 08:58	06/22/16 13:58	1
Silvex (2,4,5-TP)	0.715	U	6.66	0.715	ug/Kg		06/20/16 08:58	06/22/16 13:58	1
2,4,5-T	0.732	U	6.66	0.732	ug/Kg		06/20/16 08:58	06/22/16 13:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-DCAA	107		22 - 130	06/20/16 08:58	06/22/16 13:58	1

Lab Sample ID: LCS 600-190936/2-A

Matrix: Solid

Analysis Batch: 191143

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 190936

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-D	26.7	24.25		ug/Kg		91	33 - 159
2,4-DB	26.7	36.31	E	ug/Kg		136	39 - 157
Dicamba	26.7	21.17		ug/Kg		79	22 - 146
Dichlorprop	26.7	25.79		ug/Kg		97	22 - 179
Dinoseb	26.7	11.70		ug/Kg		44	12 - 122
MCPA	2670	1698		ug/Kg		64	12 - 158
Mecoprop	2670	1144		ug/Kg		43	26 - 143
Silvex (2,4,5-TP)	26.7	26.17		ug/Kg		98	32 - 160
2,4,5-T	26.7	23.33		ug/Kg		88	24 - 165

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 600-190936/2-A  
Matrix: Solid  
Analysis Batch: 191143

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 190936

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4-DCAA	102		22 - 130

Lab Sample ID: 560-62017-4 MS  
Matrix: Solid  
Analysis Batch: 191143

Client Sample ID: HCS340  
Prep Type: Total/NA  
Prep Batch: 190936

	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
2,4-D	0.940	U	44.5	23.44		ug/Kg	☼	53	33 - 159		
2,4-DB	1.82	U F1 F2	44.5	8.577	J F1	ug/Kg	☼	19	39 - 157		
Dicamba	1.27	U	44.5	33.43		ug/Kg	☼	75	22 - 146		
Dichlorprop	1.24	U F1 F2	44.5	212.1	E F1	ug/Kg	☼	477	22 - 179		
Dinoseb	0.885	U F1	44.5	2.479	J F1	ug/Kg	☼	6	12 - 122		
MCPA	180	U F2	4450	2103		ug/Kg	☼	47	12 - 158		
Mecoprop	127	U	4450	3866		ug/Kg	☼	87	26 - 143		
Silvex (2,4,5-TP)	1.19	U	44.5	41.06		ug/Kg	☼	92	32 - 160		
2,4,5-T	1.22	U	44.5	27.60		ug/Kg	☼	62	24 - 165		

Lab Sample ID: 560-62017-4 MSD  
Matrix: Solid  
Analysis Batch: 191143

Client Sample ID: HCS340  
Prep Type: Total/NA  
Prep Batch: 190936

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
2,4-D	0.940	U	46.1	30.72		ug/Kg	☼	67	33 - 159	27	30
2,4-DB	1.82	U F1 F2	46.1	56.40	F2	ug/Kg	☼	122	39 - 157	147	30
Dicamba	1.27	U	46.1	34.71		ug/Kg	☼	75	22 - 146	4	30
Dichlorprop	1.24	U F1 F2	46.1	57.10	F2	ug/Kg	☼	124	22 - 179	115	30
Dinoseb	0.885	U F1	46.1	0.922	U F1	ug/Kg	☼	0	12 - 122	NC	30
MCPA	180	U F2	4610	2937	F2	ug/Kg	☼	64	12 - 158	33	30
Mecoprop	127	U	4610	3292		ug/Kg	☼	71	26 - 143	16	30
Silvex (2,4,5-TP)	1.19	U	46.1	46.27		ug/Kg	☼	100	32 - 160	12	30
2,4,5-T	1.22	U	46.1	34.76		ug/Kg	☼	75	24 - 165	23	30

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 680-438299/15-A  
Matrix: Solid  
Analysis Batch: 438679

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 438299

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dalapon	2.88	U	99.4	2.88	ug/Kg		06/21/16 15:57	06/23/16 17:21	1

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# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: MB 680-438299/15-A  
Matrix: Solid  
Analysis Batch: 438679

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 438299

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4-DCAA	67		35 - 137	06/21/16 15:57	06/23/16 17:21	1

Lab Sample ID: LCS 680-438299/16-A  
Matrix: Solid  
Analysis Batch: 438679

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 438299

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	65.6	55.35	J	ug/Kg		84	19 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
2,4-DCAA	79		35 - 137				

Lab Sample ID: 560-62017-4 MS  
Matrix: Solid  
Analysis Batch: 438679

Client Sample ID: HCS340  
Prep Type: Total/NA  
Prep Batch: 438299

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dalapon	4.76	U	110	64.66	J p	ug/Kg	☼	59	19 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
2,4-DCAA	63		35 - 137						

Lab Sample ID: 560-62017-4 MSD  
Matrix: Solid  
Analysis Batch: 438679

Client Sample ID: HCS340  
Prep Type: Total/NA  
Prep Batch: 438299

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dalapon	4.76	U	114	69.44	J p	ug/Kg	☼	61	19 - 130	7	50
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
2,4-DCAA	69		35 - 137								

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-190874/1-A  
Matrix: Solid  
Analysis Batch: 190875

Client Sample ID: Method Blank  
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	1.01	U	4.00	1.01	mg/Kg			06/17/16 20:53	1
Chloride	0.534	U	4.00	0.534	mg/Kg			06/17/16 20:53	1
Fluoride	0.601	U	2.00	0.601	mg/Kg			06/17/16 20:53	1
Sulfate	0.957	U	5.00	0.957	mg/Kg			06/17/16 20:53	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 600-190874/2-A

Matrix: Solid

Analysis Batch: 190875

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	100	98.57		mg/Kg		99	90 - 110
Chloride	200	201.4		mg/Kg		101	90 - 110
Fluoride	100	101.2		mg/Kg		101	90 - 110
Sulfate	200	202.3		mg/Kg		101	90 - 110

Lab Sample ID: 560-62017-1 MS

Matrix: Solid

Analysis Batch: 190875

Client Sample ID: HCS310

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	1.97	U	39.2	46.76		mg/Kg	☼	119	80 - 120
Chloride	14.7		196	217.6		mg/Kg	☼	103	80 - 120
Fluoride	3.47	J	39.2	46.69		mg/Kg	☼	110	80 - 120
Sulfate	143		196	342.8		mg/Kg	☼	102	80 - 120

Lab Sample ID: 560-62017-1 MSD

Matrix: Solid

Analysis Batch: 190875

Client Sample ID: HCS310

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	1.97	U	39.2	46.82		mg/Kg	☼	119	80 - 120	0	20
Chloride	14.7		196	218.0		mg/Kg	☼	104	80 - 120	0	20
Fluoride	3.47	J	39.2	46.95		mg/Kg	☼	111	80 - 120	1	20
Sulfate	143		196	341.1		mg/Kg	☼	101	80 - 120	0	20

Lab Sample ID: MB 600-190874/1-A

Matrix: Solid

Analysis Batch: 190876

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.251	U	2.00	0.251	mg/Kg			06/17/16 20:53	1

Lab Sample ID: LCS 600-190874/2-A

Matrix: Solid

Analysis Batch: 190876

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	100	102.1		mg/Kg		102	90 - 110

Lab Sample ID: 560-62017-1 MS

Matrix: Solid

Analysis Batch: 190876

Client Sample ID: HCS310

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	2.23	J H	39.2	40.53		mg/Kg	☼	98	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 560-62017-1 MSD

Matrix: Solid

Analysis Batch: 190876

Client Sample ID: HCS310

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	2.23	J H	39.2	40.65		mg/Kg	☼	98	80 - 120	0	20

Lab Sample ID: MB 600-191188/1-A

Matrix: Solid

Analysis Batch: 191189

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	1.01	U	4.00	1.01	mg/Kg			06/23/16 01:34	1
Chloride	0.534	U	4.00	0.534	mg/Kg			06/23/16 01:34	1
Fluoride	0.601	U	2.00	0.601	mg/Kg			06/23/16 01:34	1
Sulfate	0.957	U	5.00	0.957	mg/Kg			06/23/16 01:34	1

Lab Sample ID: LCS 600-191188/2-A

Matrix: Solid

Analysis Batch: 191189

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	100	97.54		mg/Kg		98	90 - 110
Chloride	200	199.5		mg/Kg		100	90 - 110
Fluoride	100	102.7		mg/Kg		103	90 - 110
Sulfate	200	189.6		mg/Kg		95	90 - 110

Lab Sample ID: 560-62017-4 MS

Matrix: Solid

Analysis Batch: 191189

Client Sample ID: HCS340

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	1.66	U F1	33.2	47.27	F1	mg/Kg	☼	143	80 - 120
Chloride	19.8		166	185.3		mg/Kg	☼	100	80 - 120
Fluoride	2.39	J	33.2	34.76		mg/Kg	☼	98	80 - 120
Sulfate	35.3		166	198.6		mg/Kg	☼	98	80 - 120

Lab Sample ID: 560-62017-4 MSD

Matrix: Solid

Analysis Batch: 191189

Client Sample ID: HCS340

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	1.66	U F1	34.3	51.23	F1	mg/Kg	☼	149	80 - 120	8	20
Chloride	19.8		172	193.3		mg/Kg	☼	101	80 - 120	4	20
Fluoride	2.39	J	34.3	40.96		mg/Kg	☼	112	80 - 120	16	20
Sulfate	35.3		172	206.8		mg/Kg	☼	100	80 - 120	4	20

Lab Sample ID: MB 600-191188/1-A

Matrix: Solid

Analysis Batch: 191190

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.251	U	2.00	0.251	mg/Kg			06/23/16 01:34	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 600-191188/2-A  
Matrix: Solid  
Analysis Batch: 191190

Client Sample ID: Lab Control Sample  
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	100	101.1		mg/Kg		101	90 - 110

Lab Sample ID: 560-62017-4 MS  
Matrix: Solid  
Analysis Batch: 191190

Client Sample ID: HCS340  
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	1.94	J H	33.2	33.01	H	mg/Kg	☼	94	80 - 120

Lab Sample ID: 560-62017-4 MSD  
Matrix: Solid  
Analysis Batch: 191190

Client Sample ID: HCS340  
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	1.94	J H	34.3	34.25	H	mg/Kg	☼	94	80 - 120	4	20

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 560-128926/1-A  
Matrix: Solid  
Analysis Batch: 128998

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 128926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	3.07	U	5.00	3.07	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Antimony	0.267	U	2.00	0.267	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Arsenic	0.145	U	2.00	0.145	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Magnesium	1.58	U	20.0	1.58	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Barium	0.189	U	1.00	0.189	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Potassium	15.2	U	100	15.2	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Beryllium	0.0270	U	0.500	0.0270	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Cadmium	0.0360	U	0.500	0.0360	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Sodium	15.1	U	100	15.1	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Chromium	0.134	U	1.00	0.134	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Strontium	0.0780	U	1.00	0.0780	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Iron	5.00	U	20.0	5.00	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Lead	0.152	U	0.500	0.152	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Manganese	0.465	U	2.50	0.465	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Nickel	0.124	U	2.00	0.124	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Silver	0.110	U	0.500	0.110	mg/Kg		06/14/16 11:03	06/15/16 11:38	1
Zinc	0.570	U	2.50	0.570	mg/Kg		06/14/16 11:03	06/15/16 11:38	1

Lab Sample ID: MB 560-128926/1-A  
Matrix: Solid  
Analysis Batch: 129037

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 128926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	14.5	U	50.0	14.5	mg/Kg		06/14/16 11:03	06/16/16 10:38	1
Copper	0.201	U	2.00	0.201	mg/Kg		06/14/16 11:03	06/16/16 10:38	1
Selenium	0.198	U	1.00	0.198	mg/Kg		06/14/16 11:03	06/16/16 10:38	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 560-128926/1-A

Matrix: Solid

Analysis Batch: 129037

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 128926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.119	U	1.00	0.119	mg/Kg		06/14/16 11:03	06/16/16 10:38	1

Lab Sample ID: LCS 560-128926/2-A

Matrix: Solid

Analysis Batch: 128998

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 128926

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	1250	1209		mg/Kg		97	80 - 120
Antimony	12.5	12.40		mg/Kg		99	80 - 120
Arsenic	12.5	12.51		mg/Kg		100	80 - 120
Magnesium	1250	1241		mg/Kg		99	80 - 120
Barium	12.5	11.70		mg/Kg		94	80 - 120
Potassium	1250	1303		mg/Kg		104	80 - 120
Beryllium	12.5	12.28		mg/Kg		98	80 - 120
Cadmium	12.5	13.45		mg/Kg		108	80 - 120
Sodium	1250	1163		mg/Kg		93	80 - 120
Chromium	12.5	12.17		mg/Kg		97	80 - 120
Strontium	12.5	11.95		mg/Kg		96	80 - 120
Iron	1250	1200		mg/Kg		96	80 - 120
Lead	12.5	12.34		mg/Kg		99	80 - 120
Manganese	125	135.3		mg/Kg		108	80 - 120
Nickel	12.5	12.40		mg/Kg		99	80 - 120
Silver	12.5	12.28		mg/Kg		98	80 - 120
Zinc	12.5	13.10		mg/Kg		105	80 - 120

Lab Sample ID: LCS 560-128926/2-A

Matrix: Solid

Analysis Batch: 129037

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 128926

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phosphorus	125	128.2		mg/Kg		103	80 - 120
Calcium	1250	1370		mg/Kg		110	80 - 120
Copper	12.5	11.24		mg/Kg		90	80 - 120
Selenium	12.5	11.87		mg/Kg		95	80 - 120
Thallium	5.00	4.143		mg/Kg		83	80 - 120

Lab Sample ID: 560-62017-4 MS

Matrix: Solid

Analysis Batch: 129037

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 128926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	1320	F1 F2	1710	2832		mg/Kg	☼	88	75 - 125
Antimony	1.69	J F1	17.1	12.52	F1	mg/Kg	☼	63	75 - 125
Calcium	192000	F2 E	1710	235800	E 4	mg/Kg	☼	2579	75 - 125
Arsenic	1.22	J	17.1	16.54		mg/Kg	☼	89	75 - 125
Magnesium	1200		1710	2642		mg/Kg	☼	84	75 - 125
Barium	48.0	F1 F2	17.1	85.02	F1	mg/Kg	☼	216	75 - 125
Potassium	281		1710	2217		mg/Kg	☼	113	75 - 125
Beryllium	0.189	J	17.1	15.29		mg/Kg	☼	88	75 - 125

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 560-62017-4 MS

Matrix: Solid

Analysis Batch: 129037

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 128926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.397	J	17.1	18.40		mg/Kg	☼	105	75 - 125
Sodium	915	F2	1710	2998		mg/Kg	☼	122	75 - 125
Chromium	3.75		17.1	18.73		mg/Kg	☼	87	75 - 125
Strontium	426	F2	17.1	666.1	4	mg/Kg	☼	1403	75 - 125
Copper	4.74		17.1	18.72		mg/Kg	☼	82	75 - 125
Iron	2490	F1 F2	1710	2814	F1	mg/Kg	☼	19	75 - 125
Lead	5.92		17.1	21.52		mg/Kg	☼	91	75 - 125
Manganese	62.3		171	218.7		mg/Kg	☼	91	75 - 125
Nickel	4.01		17.1	19.12		mg/Kg	☼	88	75 - 125
Selenium	2.53		17.1	16.19		mg/Kg	☼	80	75 - 125
Silver	0.154	U	17.1	18.88		mg/Kg	☼	110	75 - 125
Thallium	0.166	U	6.85	6.996		mg/Kg	☼	102	75 - 125
Zinc	13.6	F1 F2	17.1	22.43	F1	mg/Kg	☼	51	75 - 125

Lab Sample ID: 560-62017-4 MSD

Matrix: Solid

Analysis Batch: 129037

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 128926

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aluminum	1320	F1 F2	1720	3594	F1 F2	mg/Kg	☼	132	75 - 125	24	20
Antimony	1.69	J F1	17.2	12.15	F1	mg/Kg	☼	61	75 - 125	3	20
Calcium	192000	F2 E	1720	160400	E 4 F2	mg/Kg	☼	-1823	75 - 125	38	20
Arsenic	1.22	J	17.2	17.96		mg/Kg	☼	98	75 - 125	8	20
Magnesium	1200		1720	2959		mg/Kg	☼	102	75 - 125	11	20
Barium	48.0	F1 F2	17.2	61.99	F2	mg/Kg	☼	81	75 - 125	31	20
Potassium	281		1720	2311		mg/Kg	☼	118	75 - 125	4	20
Beryllium	0.189	J	17.2	16.12		mg/Kg	☼	93	75 - 125	5	20
Cadmium	0.397	J	17.2	19.79		mg/Kg	☼	113	75 - 125	7	20
Sodium	915	F2	1720	2335	F2	mg/Kg	☼	83	75 - 125	25	20
Chromium	3.75		17.2	21.70		mg/Kg	☼	105	75 - 125	15	20
Strontium	426	F2	17.2	360.4	4 F2	mg/Kg	☼	-381	75 - 125	60	20
Copper	4.74		17.2	22.55		mg/Kg	☼	104	75 - 125	19	20
Iron	2490	F1 F2	1720	4267	F2	mg/Kg	☼	103	75 - 125	41	20
Lead	5.92		17.2	25.16		mg/Kg	☼	112	75 - 125	16	20
Manganese	62.3		172	229.7		mg/Kg	☼	98	75 - 125	5	20
Nickel	4.01		17.2	21.26		mg/Kg	☼	100	75 - 125	11	20
Selenium	2.53		17.2	17.74		mg/Kg	☼	89	75 - 125	9	20
Silver	0.154	U	17.2	18.62		mg/Kg	☼	109	75 - 125	1	20
Thallium	0.166	U	6.86	6.442		mg/Kg	☼	94	75 - 125	8	20
Zinc	13.6	F1 F2	17.2	32.29	F2	mg/Kg	☼	109	75 - 125	36	20

Lab Sample ID: MB 560-129134/1-A

Matrix: Solid

Analysis Batch: 129167

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 129134

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silicon	6.32	U	20.0	6.32	mg/Kg	-	06/21/16 08:00	06/21/16 12:13	1

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 560-129134/1-A  
Matrix: Solid  
Analysis Batch: 129228

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 129134

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phosphorus	1.66	U	50.0	1.66	mg/Kg		06/21/16 08:00	06/22/16 15:55	1
Calcium	14.5	U	50.0	14.5	mg/Kg		06/21/16 08:00	06/22/16 15:55	1
Silicon	6.32	U	20.0	6.32	mg/Kg		06/21/16 08:00	06/22/16 15:55	1

Lab Sample ID: LCS 560-129134/2-A  
Matrix: Solid  
Analysis Batch: 129167

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 129134  
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Silicon	500	498.9		mg/Kg		100	80 - 120

Lab Sample ID: LCS 560-129134/2-A  
Matrix: Solid  
Analysis Batch: 129228

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 129134  
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Phosphorus	125	122.5		mg/Kg		98	80 - 120
Calcium	1250	1247		mg/Kg		100	80 - 120
Silicon	500	464.5		mg/Kg		93	80 - 120

Lab Sample ID: 560-62017-4 MS  
Matrix: Solid  
Analysis Batch: 129228

Client Sample ID: HCS340  
Prep Type: Total/NA  
Prep Batch: 129134  
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Phosphorus	240		171	410.2		mg/Kg	✱	99	75 - 125

Lab Sample ID: 560-62017-4 MSD  
Matrix: Solid  
Analysis Batch: 129228

Client Sample ID: HCS340  
Prep Type: Total/NA  
Prep Batch: 129134  
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Phosphorus	240		172	429.7		mg/Kg	✱	111	75 - 125	5	20

## Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 560-129000/4-A  
Matrix: Solid  
Analysis Batch: 128999

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 129000

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0108	U	0.120	0.0108	mg/Kg		06/15/16 10:00	06/15/16 16:14	1

Lab Sample ID: LCS 560-129000/5-A  
Matrix: Solid  
Analysis Batch: 128999

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 129000  
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.250	0.2575		mg/Kg		103	80 - 120

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: MB 560-129262/4-A

Matrix: Solid

Analysis Batch: 129265

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 129262

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0108	U	0.120	0.0108	mg/Kg		06/23/16 10:00	06/23/16 15:19	1

Lab Sample ID: LCS 560-129262/5-A

Matrix: Solid

Analysis Batch: 129265

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 129262

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.250	0.2690		mg/Kg		108	80 - 120

Lab Sample ID: 560-62017-4 MS

Matrix: Solid

Analysis Batch: 129265

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 129262

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0279	J	0.357	0.3707		mg/Kg	☼	96	80 - 120

Lab Sample ID: 560-62017-4 MSD

Matrix: Solid

Analysis Batch: 129265

Client Sample ID: HCS340

Prep Type: Total/NA

Prep Batch: 129262

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.0279	J	0.367	0.4039		mg/Kg	☼	103	80 - 120	9	20

## Method: 9045D - pH

Lab Sample ID: LCS 560-128989/2

Matrix: Solid

Analysis Batch: 128989

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	5.00	5.050		SU		101	98 - 102

Lab Sample ID: 560-62017-4 DU

Matrix: Solid

Analysis Batch: 128989

Client Sample ID: HCS340

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.77	HF	7.680		SU		1	20

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 560-128961/17-A

Matrix: Solid

Analysis Batch: 129073

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	5.00	U	5.00	5.00	mg/Kg			06/17/16 15:00	1
Bicarbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/Kg			06/17/16 15:00	1
Carbonate Alkalinity as CaCO3	5.00	U	5.00	5.00	mg/Kg			06/17/16 15:00	1

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

Lab Sample ID: LCS 560-128961/18-A  
Matrix: Solid  
Analysis Batch: 129073

Client Sample ID: Lab Control Sample  
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	100	91.10		mg/Kg		91	85 - 115

Lab Sample ID: 560-62017-4 MS  
Matrix: Solid  
Analysis Batch: 129073

Client Sample ID: HCS340  
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	212		164	368.9		mg/Kg	✱	95	75 - 125

Lab Sample ID: 560-62017-4 MSD  
Matrix: Solid  
Analysis Batch: 129073

Client Sample ID: HCS340  
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	212		171	389.2		mg/Kg	✱	103	75 - 125	5	20

## Method: WALKLEY BLACK - Total Organic Carbon (Walkley Black)

Lab Sample ID: MB 600-191393/1  
Matrix: Solid  
Analysis Batch: 191393

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC	0.0415	U	0.100	0.0415	%			06/24/16 09:00	1

Lab Sample ID: LCS 600-191393/2  
Matrix: Solid  
Analysis Batch: 191393

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
TOC	2.34	2.383		%		102	80 - 120

Lab Sample ID: 560-62017-1 DU  
Matrix: Solid  
Analysis Batch: 191393

Client Sample ID: HCS310  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
TOC	0.597		0.5970		%		0	20

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Oklahoma	State Program	6	2015-119	08-31-16
Texas	NELAP	6	T104704210-16-18	03-31-17
USDA	Federal		P330-14-00328	09-30-17

## Laboratory: TestAmerica Denver

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-17
Arizona	State Program	9	AZ0713	12-19-16
Arkansas DEQ	State Program	6	88-0687	06-01-17
California	State Program	9	2513	08-31-16 *
Connecticut	State Program	1	PH-0686	09-30-16
Florida	NELAP	4	E87667	06-30-16 *
Georgia	State Program	4	N/A	01-09-17
Illinois	NELAP	5	200017	04-30-17
Iowa	State Program	7	370	11-30-16
Kansas	NELAP	7	E-10166	07-31-16 *
Louisiana	NELAP	6	02096	06-30-17
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-16
Nevada	State Program	9	CO0026	07-31-17
New Hampshire	NELAP	1	205310	04-28-17
New Jersey	NELAP	2	CO004	06-30-17
New York	NELAP	2	11964	04-01-17
North Carolina (WW/SW)	State Program	4	358	12-31-16
North Dakota	State Program	8	R-034	01-09-17
Oklahoma	State Program	6	8614	08-31-16 *
Oregon	NELAP	10	4025	01-09-17
Pennsylvania	NELAP	3	68-00664	07-31-16 *
South Carolina	State Program	4	72002001	01-09-17
Texas	NELAP	6	T104704183-15-11	09-30-16
USDA	Federal		P330-13-00369	12-17-16
Utah	NELAP	8	CO00026	07-31-16 *
Virginia	NELAP	3	460232	06-14-17
Washington	State Program	10	C583	08-03-16 *
West Virginia DEP	State Program	3	354	11-30-16
Wisconsin	State Program	5	999615430	08-31-16
Wyoming (UST)	A2LA	8	2907.01	10-31-17

## Laboratory: TestAmerica Houston

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Texas	NELAP	6	T104704223-16-19	10-31-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
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\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Laboratory: TestAmerica Houston (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Texas	NELAP	6	T104704223-16-19	10-31-16
The following analytes are included in this report, but certification is not offered by the governing authority:				
Analysis Method	Prep Method	Matrix	Analyte	
2540B		Solid	Percent Moisture	
2540B		Solid	Percent Solids	

## Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-17
A2LA	ISO/IEC 17025		399.01	02-28-17
Alabama	State Program	4	41450	06-30-17
Alaska (UST)	State Program	10	UST-104	11-05-16
Arkansas DEQ	State Program	6	88-0692	01-31-17
California	State Program	9	2939	07-31-16 *
Colorado	State Program	8	N/A	12-31-16
Connecticut	State Program	1	PH-0161	03-31-17
Florida	NELAP	4	E87052	06-30-17
GA Dept. of Agriculture	State Program	4	N/A	06-12-17
Georgia	State Program	4	N/A	06-30-17
Georgia	State Program	4	803	06-30-17
Guam	State Program	9	15-005r	04-16-17
Hawaii	State Program	9	N/A	06-30-17
Illinois	NELAP	5	200022	11-30-16
Indiana	State Program	5	N/A	06-30-17
Iowa	State Program	7	353	06-30-17
Kentucky (DW)	State Program	4	90084	12-31-16
Kentucky (UST)	State Program	4	18	06-30-17
Kentucky (WW)	State Program	4	90084	12-31-16
Louisiana	NELAP	6	30690	06-30-17
Louisiana (DW)	NELAP	6	LA160019	12-31-16
Maine	State Program	1	GA00006	09-24-16
Maryland	State Program	3	250	12-31-16
Massachusetts	State Program	1	M-GA006	06-30-17
Michigan	State Program	5	9925	06-30-16 *
Mississippi	State Program	4	N/A	06-30-16 *
Nebraska	State Program	7	TestAmerica-Savannah	06-30-16 *
New Jersey	NELAP	2	GA769	06-30-17
New Mexico	State Program	6	N/A	06-30-17
New York	NELAP	2	10842	03-31-17
North Carolina (DW)	State Program	4	13701	07-31-16 *
North Carolina (WW/SW)	State Program	4	269	12-31-16
Oklahoma	State Program	6	9984	08-31-16
Pennsylvania	NELAP	3	68-00474	06-30-17
Puerto Rico	State Program	2	GA00006	12-31-16
South Carolina	State Program	4	98001	06-30-16 *
Tennessee	State Program	4	TN02961	06-30-16 *
Texas	NELAP	6	T104704185-14-7	11-30-16

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

## Laboratory: TestAmerica Savannah (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
USDA	Federal		SAV 3-04	06-11-17
Virginia	NELAP	3	460161	06-14-17
Washington	State Program	10	C805	06-10-16 *
West Virginia (DW)	State Program	3	9950C	12-31-16
West Virginia DEP	State Program	3	094	08-31-16
Wisconsin	State Program	5	999819810	08-31-16
Wyoming	State Program	8	8TMS-L	06-30-16 *

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

## Method Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CC
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CC
8081B	Organochlorine Pesticides (GC)	SW846	TAL HOU
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CC
8141A	Organophosphorous Pesticides (GC)	SW846	TAL DEN
8151A	Herbicides (GC)	SW846	TAL HOU
8151A	Herbicides (GC)	SW846	TAL SAV
300.0	Anions, Ion Chromatography	MCAWW	TAL HOU
6010B	Metals (ICP)	SW846	TAL CC
7471A	Mercury (CVAA)	SW846	TAL CC
2540B	Percent Moisture	SM20	TAL HOU
9045D	pH	SW846	TAL CC
SM 2320B	Alkalinity	SM	TAL CC
WALKLEY BLACK 2540G	Total Organic Carbon (Walkley Black)	MSA	TAL HOU  TAL HOU

### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

MSA = "Methods Of Soil Analysis, Chemical And Microbiological Properties", Part 2, 2nd Ed., 1982 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SM20 = "Standard Methods For The Examination Of Water And Wastewater", 20th Edition."

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858



# Sample Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62017-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
560-62017-1	HCS310	Solid	06/08/16 11:09	06/09/16 09:30
560-62017-2	HCS320	Solid	06/08/16 11:32	06/09/16 09:30
560-62017-3	HCS330	Solid	06/08/16 15:07	06/09/16 09:30
560-62017-4	HCS340	Solid	06/08/16 12:26	06/09/16 09:30
560-62017-5	HCS360	Solid	06/08/16 12:49	06/09/16 09:30
560-62017-6	FDHCS360	Solid	06/08/16 12:49	06/09/16 09:30
560-62017-7	TB07	Water	06/08/16 00:00	06/09/16 09:30

# Chain of Custody Record

62017

<b>Client Information</b>		Sampler: Jennifer Moreland		Lab PM: Maingot, Lindy	Carrier Tracking No(s):
Client Contact: Jennifer Moreland		Phone: 210-877-2847		E-Mail: lindy.maingot@testamericainc.com	COC No: 600-43444-134
Company: SWCA, Inc.		Address: 6200 UTSA Boulevard Suite 102		City: San Antonio	State: TX
Phone: 210-877-2847(Tel)		PO #: Purchase Order Requested		WO #: 60006903	
Email: JMoreland@swca.com		Project Name: 2016 - Sediment Sampling		Site: Comal Springs	

Analysis Requested				Due Date Requested:			
Analysis Requested				TAT Requested (days):			
Analysis Requested				PO #:			
Analysis Requested				WO #:			
Analysis Requested				Project #:			
Analysis Requested				SSOW#:			
Analysis Requested				Sample Date			
Analysis Requested				Sample Time			
Analysis Requested				Sample Type (C=Comp, G=Grab)			
Analysis Requested				Matrix (W=water, S=solid, G=wastefill, BT=tissue, A=air)			
Analysis Requested				Preservation Code:			
Analysis Requested				Field Filtered Sample (Yes or No)			
Analysis Requested				8141A - Organophosphorous Pesticides (DENVER)			
Analysis Requested				6020 - Metals Diss (Custom List 16 - CORPUS) Dissol			
Analysis Requested				8270C - SVOCs (Target Compound List)			
Analysis Requested				8081B - Organochlorine Pesticides (GC)			
Analysis Requested				8082A - PCBs			
Analysis Requested				6010B, 7471A - Metals Dissolved			
Analysis Requested				9060 - Total Organic Carbon			
Analysis Requested				8260B - VOCs (Target Compound List)			
Analysis Requested				8151A - Herbicides			
Analysis Requested				2320B, 2540C, Calcd, 2540D, 300, ORGFM, 28D, 300, ORGFM, 9040C, 340, 2 FI			
Analysis Requested				Total Number of containers			
Analysis Requested				Preservation Codes:			
Analysis Requested				A - HCL			
Analysis Requested				B - NaOH			
Analysis Requested				C - Zn Acetate			
Analysis Requested				D - Nitric Acid			
Analysis Requested				E - NaHSO4			
Analysis Requested				F - MeOH			
Analysis Requested				G - Na2S2O3			
Analysis Requested				H - H2SO4			
Analysis Requested				I - Ascorbic Acid			
Analysis Requested				J - Ice			
Analysis Requested				K - DI Water			
Analysis Requested				L - EDTA			
Analysis Requested				M - Hexane			
Analysis Requested				N - None			
Analysis Requested				O - AsNaO2			
Analysis Requested				P - Na2O4S			
Analysis Requested				Q - Na2SO3			
Analysis Requested				R - Na2SO3			
Analysis Requested				S - H2SO4			
Analysis Requested				T - TSP Dodecahydrate			
Analysis Requested				U - Acetone			
Analysis Requested				V - MCAA			
Analysis Requested				W - ph 4-5			
Analysis Requested				X - EDA			
Analysis Requested				Y - Other (specify)			
Analysis Requested				Z - Other (specify)			
Analysis Requested				Other: NaN3			

Possible Hazard Identification  
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unl  
 Deliverable Requested: I, II, III, IV, Other (specify)

Empty Kit Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: 6/8/16 16:42 Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: 6-8-16 14:42 Company: \_\_\_\_\_

Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

Custody Seals Intact: ☒ Yes ☐ No Custody Seal No.: \_\_\_\_\_

Cooler Temperature(s) °C and Other Remarks: 65.0.9 / co. 0.4 IN

## Chain of Custody Record



# TestAmerica

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 84

| Client Information (Sub Contract Lab)                  |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
|--|--|--|--|------------------------|--|---------|--|
| Lab P/N:   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Client Contact:  |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Shipping/Receiving                                     |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Company:   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Address:   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| City:  |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| State, Zip:  |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Phone:   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Email:   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Project Name:  |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| SSON#:   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Due Date Requested:                                    |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| TAT Requested (days):                                  |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| PO #:  |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| WO #:  |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Project #:   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| SSON#:   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Sample Date  |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Sample Time  |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Sample Type (C=Comp, G=grab)                           |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Matrix (W=water, S=solid, O=oil, BT=Tissue, A=Air)     |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Preservation Code                                      |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Field Filtered Sample (Yes or No)                      |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Perform MS/MSD (Yes or No)                             |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| 8141A/3640C Organophosphorus Pesticides (DENVER)       |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Total Number of Containers                             |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Special Instructions/Note:                             |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Preservation Codes:                                    |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| M - Hexane   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| N - None   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| O - AsNaO2   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| P - Na2O4S   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Q - Na2SO3   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| R - Na2SO3   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| S - H2SO4  |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| T - TSP Dodecalhydrate                                 |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| U - Acetone  |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| V - MCAA   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| W - ph 4-5   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Z - other (specify)                                    |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Other:   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Sample Identification - Client ID (Lab ID)             |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| HCS310 (560-62017-1)                                   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| HCS320 (560-62017-2)                                   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| HCS330 (560-62017-3)                                   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| HCS340 (560-62017-4)                                   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| HCS340 (560-62017-4MS)                                 |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| HCS340 (560-62017-4MSD)                                |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| HCS360 (560-62017-5)                                   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| FDHCS360 (560-62017-6)                                 |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Possible Hazard Identification                         |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Unconfirmed  |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Deliverable Requested: I, II, III, IV, Other (specify) |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Empty Kit Relinquished by:                             |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Relinquished by:                                       |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Relinquished by:                                       |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Relinquished by:                                       |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| Custody Seal No.:                                      |  |  |  | Carrier Tracking No(s) |  | COC No: |  |
| A Yes A No   |  |  |  | Carrier Tracking No(s) |  | COC No: |  |

America Corpus Christi  
33 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica

THE TESTAMERICA CHAIN OF CUSTODY RECORD

| Client Information (Sub Contract Lab)                  |  | Lab P/N:                         |  | Carrier Tracking No(s) |  | OCC No   |  |
|--|--|----------------------------------|--|------------------------|--|--|--|
| Client Contact   |  | Maingot, Lindy                   |  |                        |  | 560-13727.1  |  |
| Shipping/Receiving                                     |  | E-Mail                           |  |                        |  | Page 1 of 1  |  |
| Company  |  | lindy.maingot@testamericainc.com |  |                        |  | Job #  |  |
| Company  |  |                                  |  |                        |  | 560-62017-1  |  |
| Address  |  | Due Date Requested:              |  | Analysis Requested     |  | Preservation Codes:  |  |
| 6310 Rothway Street,                                   |  | 6/23/2016                        |  |                        |  | A - HCL<br>B - NaOH<br>C - Zn Acetate<br>D - Nitric Acid<br>E - NaHSO4<br>F - MeOH<br>G - Amchlor<br>H - Ascorbic Acid<br>I - Ice<br>J - DI Water<br>K - EDTA<br>L - EDA<br>Other:   |  |
| City   |  | 7AT Requested (days):            |  |                        |  | M - Hexane<br>N - None<br>O - AsNaO2<br>P - Na2OAS<br>Q - Na2SO3<br>R - Na2SO4<br>S - H2SO4<br>T - TSP Dodecahydrate<br>U - Acetone<br>V - MCAA<br>W - pH 4-5<br>Z - other (specify) |  |
| State, Zip   |  |                                  |  |                        |  |  |  |
| TX, 77040  |  |                                  |  |                        |  |  |  |
| Phone:   |  | PO #:                            |  |                        |  |  |  |
| 713-690-4444 (Tel) 713-690-5646 (Fax)                  |  |                                  |  |                        |  |  |  |
| Email:   |  | WO #:                            |  |                        |  |  |  |
| Project Name:  |  | Project #                        |  |                        |  |  |  |
| 2016 Sampling Requirements                             |  | 60006903                         |  |                        |  |  |  |
| Site:  |  | SSOY#                            |  |                        |  |  |  |
| Sample Identification - Client ID (Lab ID)             |  | Sample Date                      |  | Sample Time            |  | Sample Type (C=Comp, G=grab) [RT=Issue, A=Alt]   |  |
| HCS310 (560-62017-1)                                   |  | 6/8/16                           |  | 11:09                  |  | Solid  |  |
| HCS320 (560-62017-2)                                   |  | 6/8/16                           |  | 11:32                  |  | Solid  |  |
| HCS330 (560-62017-3)                                   |  | 6/8/16                           |  | 15:07                  |  | Solid  |  |
| HCS340 (560-62017-4)                                   |  | 6/8/16                           |  | 12:26                  |  | Solid  |  |
| HCS340 (560-62017-4MS)                                 |  | 6/8/16                           |  | 12:26                  |  | Solid  |  |
| HCS340 (560-62017-4MSD)                                |  | 6/8/16                           |  | 12:26                  |  | Solid  |  |
| HCS360 (560-62017-5)                                   |  | 6/8/16                           |  | 12:49                  |  | Solid  |  |
| FDHCS360 (560-62017-6)                                 |  | 6/8/16                           |  | 12:49                  |  | Solid  |  |
| Possible Hazard Identification                         |  |                                  |  |                        |  |  |  |
| Unconfirmed  |  |                                  |  |                        |  |  |  |
| Deliverable Requested: I, II, III, IV, Other (specify) |  |                                  |  |                        |  |  |  |
| Empty Kit Relinquished by:                             |  | Date:                            |  | Time                   |  | Method of Shipment   |  |
| Relinquished by: <i>Col Soto</i>                       |  | 6-M-16                           |  | 1700                   |  | TAC Company  |  |
| Relinquished by:                                       |  |                                  |  |                        |  | Received by: <i>[Signature]</i>  |  |
| Relinquished by:                                       |  |                                  |  |                        |  | Date/Time: 6-15-16 1008  |  |
| Custody Seals Intact                                   |  |                                  |  |                        |  | Company: TA  |  |
| Custody Seal No.                                       |  |                                  |  |                        |  | Company: Company   |  |
| Cooler Temperature(s) °C and Other Remarks:            |  |                                  |  |                        |  | Company: Company   |  |

560-62017 Chain of Custody

Loc: 560

62017

## Sample Receipt Checklist

Date/Time Received: \_\_\_\_\_

JOB NUMBER: \_\_\_\_\_

CLIENT: TA Corpus

7/16 JUN 15 10:08

UNPACKED BY: \_\_\_\_\_

CARRIER/DRIVER: FE Stew. O.N

Custody Seal Present:

☒ YES☐ NONumber of Coolers Received: 2

| Cooler ID | Temp Blank   | Trip Blank   | Observed Temp (°C) | Therm ID    | Therm CF       | Corrected Temp (°C) |
|-----------|--------------|--------------|--------------------|-------------|----------------|---------------------|
| <u>Rw</u> | <u>Y / N</u> | <u>Y / N</u> | <u>0.8</u>         | <u>Cole</u> | <u>0.1</u>     | <u>0.9</u>          |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |             |                |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    | <u>LR</u>   | <u>6-15-16</u> |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |             |                |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |             |                |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |             |                |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |             |                |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |             |                |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |             |                |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |             |                |                     |

CF = correction factor

Samples received on ice? ☒ YES☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED:

☐ NO☐ YES

Base samples are &gt;pH 12:

☐ YES☐ NO

Acid preserved are &lt;pH 2:

☐ YES☐ NO

pH paper Lot # \_\_\_\_\_

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

YES NO

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?

COMMENTS: ~~6727~~ 6727 7877 7752

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING

| Client Information (Sub Contract Lab)   |             | Sampler  |                                 | Lab PM                                      |                                   | Carrier Tracking No(s)     |  | IOC No   |                            |
|---|-------------|--|---------------------------------|---|-----------------------------------|----------------------------|--|--|----------------------------|
| Client Contact<br>Shipping/Receiving  |             | Phone  |                                 | Maingot, Lindy                              |                                   |                            |  | 560-13751-1  |                            |
| Company<br>TestAmerica Laboratories, Inc.   |             |  |                                 | E-Mail<br>lindy.maingot@testamericainc.com  |                                   |                            |  | Page<br>Page 1 of 1  |                            |
| Address:<br>5102 LaRoche Avenue,<br>City<br>Savannah<br>State, Zip<br>GA, 31404<br>Phone<br>912-354-7858(Tel) 912-352-0165(Fax)<br>Email<br>Project Name<br>Sediment Sampling<br>Site                                       |             | Due Date Requested:<br>6/21/2016<br>TAT Requested (days):<br>PO #<br>WO #<br>Project #<br>80006903<br>SOW# |                                 | Analysis Requested                          |                                   | Job #<br>560-62017-1       |  | Preservation Codes:<br>A - HCL<br>B - NaOH<br>C - Zn Acetate<br>D - Nitric Acid<br>E - NaHSO4<br>F - MeOH<br>G - Amchlor<br>H - Ascorbic Acid<br>I - Ice<br>J - Di Water<br>K - EDTA<br>L - EDA<br>Other:<br>M - Hexane<br>N - None<br>O - AsNaO2<br>P - Na2O4S<br>Q - Na2SO3<br>R - Na2SO3<br>S - H2SO4<br>T - TSP Dodecalhydrate<br>U - Acetone<br>V - MCAA<br>W - pH 4.5<br>Z - other (specify) |                            |
| Sample Identification - Client ID (Lab ID)  | Sample Date | Sample Time  | Sample Type<br>(C=Comp, G=grab) | Matrix<br>(W=water, S=solid, O=wash, A=air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 816/A/815-A, SP (MOD) Routine Herbicides Dalapon | Total Number of Containers   | Special Instructions/Note: |
| HCS310 (560-62017-1)  | 6/8/16      | 11:09  | Central                         | Solid                                       |                                   | X                          |  |  |                            |
| HCS320 (560-62017-2)  | 6/8/16      | 11:32  | Central                         | Solid                                       |                                   | X                          |  |  |                            |
| HCS330 (560-62017-3)  | 6/8/16      | 15:07  | Central                         | Solid                                       |                                   | X                          |  |  |                            |
| HCS340 (560-62017-4)  | 6/8/16      | 12:26  | Central                         | Solid                                       |                                   | X                          |  |  |                            |
| HCS340 (560-62017-4MS)  | 6/8/16      | 12:26  | MS                              | Solid                                       |                                   | X                          |  |  |                            |
| HCS340 (560-62017-4MSD)   | 6/8/16      | 12:26  | MSD                             | Solid                                       |                                   | X                          |  |  |                            |
| HCS360 (560-62017-5)  | 6/8/16      | 12:49  | Central                         | Solid                                       |                                   | X                          |  |  |                            |
| FDHCS360 (560-62017-6)  | 6/8/16      | 12:49  | Central                         | Solid                                       |                                   | X                          |  |  |                            |
| Possible Hazard Identification  |             |  |                                 |   |                                   |                            |  |  |                            |
| Unconfirmed   |             |  |                                 |   |                                   |                            |  |  |                            |
| Deliverable Requested: I, II, III, IV, Other (specify)  |             |  |                                 |   |                                   |                            |  |  |                            |
| Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)<br><input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months |             |  |                                 |   |                                   |                            |  |  |                            |
| Special Instructions/QC Requirements:   |             |  |                                 |   |                                   |                            |  |  |                            |
| Empty Kit Relinquished by:  |             |  |                                 |   |                                   |                            |  |  |                            |
| Relinquished by: <i>Cap Soto</i> Date/Time: 6-20-16 1700 Company: TACS  |             |  |                                 |   |                                   |                            |  |  |                            |
| Relinquished by: Date/Time: Company:  |             |  |                                 |   |                                   |                            |  |  |                            |
| Relinquished by: Date/Time: Company:  |             |  |                                 |   |                                   |                            |  |  |                            |
| Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No  |             |  |                                 |   |                                   |                            |  |  |                            |
| Custody Seal No.: 49/S.2  |             |  |                                 |   |                                   |                            |  |  |                            |



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-62017-1

**Login Number: 62017**

**List Source: TestAmerica Corpus Christi**

**List Number: 1**

**Creator: Escalona-Garcia, Jose A**

| Question   | Answer | Comment   |
|--|--------|---|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |   |
| The cooler's custody seal, if present, is intact.  | True   |   |
| Sample custody seals, if present, are intact.  | True   |   |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |   |
| Samples were received on ice.  | True   |   |
| Cooler Temperature is acceptable.  | True   |   |
| Cooler Temperature is recorded.  | True   |   |
| COC is present.  | True   |   |
| COC is filled out in ink and legible.  | True   |   |
| COC is filled out with all pertinent information.  | True   |   |
| Is the Field Sampler's name present on COC?  | True   |   |
| There are no discrepancies between the containers received and the COC.                  | False  | Refer to Job Narrative for details.                 |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |   |
| Sample containers have legible labels.   | True   |   |
| Containers are not broken or leaking.  | True   |   |
| Sample collection date/times are provided.   | True   |   |
| Appropriate sample containers are used.  | True   |   |
| Sample bottles are completely filled.  | True   |   |
| Sample Preservation Verified.  | True   |   |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |   |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | N/A    |   |
| Multiphasic samples are not present.   | True   |   |
| Samples do not require splitting or compositing.   | False  | Sample splitting required for subcontract purposes. |
| Residual Chlorine Checked.   | N/A    |   |



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-62017-1

**Login Number: 62017**

**List Number: 3**

**Creator: Pottruff, Reed W**

**List Source: TestAmerica Denver**

**List Creation: 06/15/16 01:36 PM**

| Question   | Answer | Comment  |
|--|--------|--|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |  |
| The cooler's custody seal, if present, is intact.  | True   |  |
| Sample custody seals, if present, are intact.  | True   |  |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |  |
| Samples were received on ice.  | True   |  |
| Cooler Temperature is acceptable.  | True   |  |
| Cooler Temperature is recorded.  | True   |  |
| COC is present.  | True   |  |
| COC is filled out in ink and legible.  | True   |  |
| COC is filled out with all pertinent information.  | True   |  |
| Is the Field Sampler's name present on COC?  | N/A    |  |
| There are no discrepancies between the containers received and the COC.                  | True   |  |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |  |
| Sample containers have legible labels.   | True   |  |
| Containers are not broken or leaking.  | False  | SOIL JAR CONTAINERS HAVE WATER IN THEM AND MIGHT BE CONTAMINATED |
| Sample collection date/times are provided.   | True   |  |
| Appropriate sample containers are used.  | True   |  |
| Sample bottles are completely filled.  | True   |  |
| Sample Preservation Verified.  | True   |  |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |  |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | N/A    |  |
| Multiphasic samples are not present.   | True   |  |
| Samples do not require splitting or compositing.   | True   |  |
| Residual Chlorine Checked.   | N/A    |  |

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-62017-1

**Login Number: 62017**

**List Number: 2**

**Creator: Bolinger, Lindale M**

**List Source: TestAmerica Houston**

**List Creation: 06/15/16 01:50 PM**

| Question   | Answer | Comment                                     |
|--|--------|---|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    | Lab does not accept radioactive samples.    |
| The cooler's custody seal, if present, is intact.  | True   |   |
| Sample custody seals, if present, are intact.  | True   |   |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |   |
| Samples were received on ice.  | True   |   |
| Cooler Temperature is acceptable.  | True   |   |
| Cooler Temperature is recorded.  | True   | 0.9   |
| COC is present.  | True   |   |
| COC is filled out in ink and legible.  | True   |   |
| COC is filled out with all pertinent information.  | True   |   |
| Is the Field Sampler's name present on COC?  | True   |   |
| There are no discrepancies between the containers received and the COC.                  | True   |   |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |   |
| Sample containers have legible labels.   | True   |   |
| Containers are not broken or leaking.  | True   |   |
| Sample collection date/times are provided.   | True   |   |
| Appropriate sample containers are used.  | True   |   |
| Sample bottles are completely filled.  | True   |   |
| Sample Preservation Verified.  | True   |   |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |   |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |   |
| Multiphasic samples are not present.   | True   |   |
| Samples do not require splitting or compositing.   | True   |   |
| Residual Chlorine Checked.   | N/A    | Check done at department level as required. |

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-62017-1

Login Number: 62017

List Number: 4

Creator: Jennings, Carly F

List Source: TestAmerica Savannah

List Creation: 06/21/16 06:01 PM

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |         |
| The cooler's custody seal, if present, is intact.  | True   |         |
| Sample custody seals, if present, are intact.  | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.  | True   |         |
| Is the Field Sampler's name present on COC?  | N/A    |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.   | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | N/A    |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | N/A    |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.   | True   |         |
| Residual Chlorine Checked.   | N/A    |         |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-62041-1

Client Project/Site: Sediment Sampling

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
7/13/2016 10:29:11 AM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

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*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

1  
2  
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11

# Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description  |
|-----------|--|
| U         | Indicates the analyte was analyzed for but not detected.   |
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| *         | LCS or LCSD is outside acceptance limits.  |
| B         | Compound was found in the blank and sample.  |

### GC/MS Semi VOA

| Qualifier | Qualifier Description  |
|-----------|--|
| U         | Indicates the analyte was analyzed for but not detected.   |
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### GC Semi VOA

| Qualifier | Qualifier Description   |
|-----------|---|
| U         | Indicates the analyte was analyzed for but not detected.  |
| D         | Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples. |
| *         | ISTD response or retention time outside acceptable limits   |
| *         | LCS or LCSD is outside acceptance limits.   |
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.                      |
| X         | Surrogate is outside control limits   |
| E         | Result exceeded calibration range.  |

### HPLC/IC

| Qualifier | Qualifier Description  |
|-----------|--|
| U         | Indicates the analyte was analyzed for but not detected.   |
| H         | Sample was prepped or analyzed beyond the specified holding time   |
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### Metals

| Qualifier | Qualifier Description  |
|-----------|--|
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| U         | Indicates the analyte was analyzed for but not detected.   |

### General Chemistry

| Qualifier | Qualifier Description  |
|-----------|--|
| U         | Indicates the analyte was analyzed for but not detected.   |
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| HF        | Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.           |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| α              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains no Free Liquid   |
| DER            | Duplicate error ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision level concentration  |
| MDA            | Minimum detectable activity   |
| EDL            | Estimated Detection Limit   |
| MDC            | Minimum detectable concentration  |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |

TestAmerica Corpus Christi

## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

### Glossary (Continued)

| Abbreviation | These commonly used abbreviations may or may not be present in this report.          |
|--------------|--|
| ND           | Not detected at the reporting limit (or MDL or EDL if shown)                         |
| PQL          | Practical Quantitation Limit   |
| QC           | Quality Control  |
| RER          | Relative error ratio   |
| RL           | Reporting Limit or Requested Limit (Radiochemistry)                                  |
| RPD          | Relative Percent Difference, a measure of the relative difference between two points |
| TEF          | Toxicity Equivalent Factor (Dioxin)  |
| TEQ          | Toxicity Equivalent Quotient (Dioxin)  |

# Case Narrative

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Job ID: 560-62041-1**

**Laboratory: TestAmerica Corpus Christi**

## Narrative

### Job Narrative 560-62041-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 6/10/2016 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.4° C.

#### Receipt Exceptions

The following samples were canceled by the client on 06/13/16 for Metals analysis. Client will re-sample and bring new containers to lab for samples 560-62041-10 and 11.

The following samples were canceled by the client on 06/13/16 for TDS & TSS: 560-62041-10 and 11.

Some Methods have been substituted per client permission.

Due to concerns about insufficient volume, the client request that both Method 300 & Method 340.2 be analyzed has been put on hold. The lab has been instructed to place 340.2 on hold, and if any volume remains after all other methods have been analyzed, Houston should send the necessary 100 g to Corpus Christi for analysis.

Sample 10 EB01 had two containers, P and Q which are amber one liters with about half of the volume in the container.

#### GC/MS VOA

Method 8260B: The following sample: HMSM350 (560-62041-5) was analyzed using less sample weight due to the internal standard failures in the original 1X analysis. Elevating reporting limits are provided.

Method 8260B: The method blank for analytical batch 560-129009 contained methylene chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260B: The laboratory control sample (LCS) for analytical batch 560-129047 recovered outside control limits for the following analytes: Ethylene oxide. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC/MS Semi VOA

Method 8270C: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 560-128987 and analytical batch 560-129026 was outside control limits. Sample matrix interference is suspected.

Method 8270C: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample: HMSM330 (560-62041-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### GC Semi VOA

Method 8141A: The continuing calibration verification (CCV) associated with batch 280-331214 recovered above the upper control limit for Dichlorvos. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: EB01 (560-62041-10) and EB02 (560-62041-11).

CCVIS OK

CCV2 (front) OK; (back) Dichlorvos +25%

MB, LCS, LCSD, 560-62041-10, -11



## Case Narrative

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

### Job ID: 560-62041-1 (Continued)

#### Laboratory: TestAmerica Corpus Christi (Continued)

CCV3 (front) Dichlorvos+17%; (back) Dichlorvos +26%

Method 8141A: The following samples were diluted due to the nature of the sample matrix: HMSM310 (560-62041-1), HMSM320 (560-62041-2), HMSM330 (560-62041-3), HMSM340 (560-62041-4), HMSM350 (560-62041-5), HMSM360 (560-62041-6), HSM370 (560-62041-7) and FDHSM370 (560-62041-8). Elevated reporting limits (RLs) are provided. When run at a lower dilution the samples caused CCV failure. The matrix caused failed very low in the CCVs. The dilutions were also performed in order to protect the analytical instrumentation. Due to the dilution, the surrogate and matrix spike concentration in the samples were reduced to a level where the recovery calculation does not provide useful information.

Method 8141A: The continuing calibration verification (CCV) associated with batch 280-332552 recovered above the upper control limit for Dichlorvos, Dimethoate and Mevinphos. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: HMSM310 (560-62041-1), HMSM320 (560-62041-2), HMSM330 (560-62041-3), HMSM340 (560-62041-4), HMSM350 (560-62041-5), HMSM360 (560-62041-6), HSM370 (560-62041-7) and FDHSM370 (560-62041-8).

CCVIS (front) Dimethoate +19%; (back) Mevinphos +17.2%

CCV (front) Dichlorvos +18%; (back) Dichlorvos +20%

MB, LCS, 560-62041-1, -2, -3, -4, -5, -6, -7, -8

CCV (front) Dichlorvos +19%, Dimethoate +16%; (back) Dichlorvos +24%

Method 8082A: The method blank for preparation batch 560-129018 contained Aroclor 1260 above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method 8151A: The continuing calibration verification (CCV) associated with batch 600-191143 recovered above the upper control limit for 2,4-DB(15.7%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVRT 600-191143/2).

Method 8151A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 600-190936 and analytical batch 600-191143 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8151A: The continuing calibration verification (CCV) associated with batch 600-191143 recovered above the upper control limit for 2,4,5-T(17.3%) and 2,4-DB(43.8%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 600-191143/13).

Method 8151A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 600-190936 and analytical batch 600-191143 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8151A: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 600-190936 and analytical batch 600-191143 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

Method 8151A: The 2,4-DB concentration was outside the calibration range, however, the %R was within the control limits. (LCS 600-190936/2-A)

Method 8151A: The continuing calibration verification (CCV) associated with batch 600-191143 recovered above the upper control limit for 2,4-DB(46.2%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 600-191143/24).

Method 8151A: The continuing calibration verification (CCV) associated with batch 600-191259 recovered above the upper control limit for 2,4-DB(37.3%) and Dinoseb(37.3%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVRT 600-191259/2).

Method 8151A: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch

## Case Narrative

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

### Job ID: 560-62041-1 (Continued)

#### Laboratory: TestAmerica Corpus Christi (Continued)

600-190717 and analytical batch 600-190893 recovered outside control limits for the following analyte(s): Dinoseb. Dinoseb has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Method 8151A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 600-190598 and 600-190717 and analytical batch 600-190893 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8151A: The continuing calibration verification (CCV) associated with batch 600-190893 recovered above the upper control limit for 2,4-DB(39.2%) and Dinoseb(53.7%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 600-190893/13).

Method 8081B: Surrogate recovery for the following sample was outside control limits: HMSM340 (560-62041-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8081B: Compound ISTD eluted outside the retention time window on the RTX-CLPesticides II column for the following sample: (MB 600-190731/1-A). This retention time shift was taken into account when reviewing the sample(s) for target compounds.

Method 8081B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 600-190731 and analytical batch 600-191263 recovered outside control limits for the following analytes: Methoxychlor. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8081B: Compound ISTD eluted outside the retention time window on the RTX-CLPesticides II column for the following sample: (LCS 600-190731/2-A). This retention time shift was taken into account when reviewing the sample(s) for target compounds.

Method 8081B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 600-190731 and analytical batch 600-191263 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8081B: Compound ISTD eluted outside the retention time window on the RTX-CLPesticides II column for the following samples: HMSM310 (560-62041-1) and HMSM320 (560-62041-2). This retention time shift was taken into account when reviewing the sample(s) for target compounds.

Method 8081B: Compound ISTD eluted outside the retention time window on the RTX-CLPesticides II column for the following samples: HMSM340 (560-62041-4), HMSM350 (560-62041-5) and HMSM360 (560-62041-6). This retention time shift was taken into account when reviewing the sample(s) for target compounds.

Method 8081B: The continuing calibration verification (CCV) associated with batch 600-191263 recovered above the upper control limit for 4,4-DDT(22.8%) and Methoxychlor(39.1%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 600-191263/3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### General Chemistry

Method 9040C: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe. 560-62041-1-8.

Method 9045: This analysis is normally performed in the field and has a method-defined holding time of 15 minutes. The following samples has been qualified with the "HF" flag to indicate analysis was performed in the laboratory outside the 15 minute timeframe. 560-62041-10 and 11

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Bromide, Chloride, Sulfate analytical batch 600-190667

## Case Narrative

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

### Job ID: 560-62041-1 (Continued)

#### Laboratory: TestAmerica Corpus Christi (Continued)

were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 300.0: The following samples was received outside of holding time because the client had the samples on hold due to insufficient sample volume for all of the tests requested: EB01 (560-62041-10) and EB02 (560-62041-11).

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Bromide preparation batch 600-191188 and analytical batch 600-191189 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 300.0: The following samples was analyzed outside of analytical holding time due to being activated for short holds past hold time. The client had requested to hold off on this tests to see if there was sufficient sample volume for all of the tests. HMSM310 (560-62041-1), HMSM320 (560-62041-2), HMSM330 (560-62041-3), HMSM340 (560-62041-4), HMSM350 (560-62041-5), HMSM360 (560-62041-6), HSM370 (560-62041-7) and FDHSM370 (560-62041-8).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Industrial Hygiene

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

#### Organic Prep

Method 3510C/8141A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 280-330102. (8141)

Method 3540C: Batch 330856, 8141. The samples associated with this batch had the parent of a MS/D pair burn up during the extraction process. Per PM advisement(MaingotL), the samples will be sent on for analysis, with this accompanying NCM. The associated MS/D will be canceled per the PM. HMSM310 (560-62041-1), HMSM320 (560-62041-2), HMSM330 (560-62041-3), HMSM340 (560-62041-4), HMSM350 (560-62041-5), HMSM360 (560-62041-6), HSM370 (560-62041-7) and FDHSM370 (560-62041-8)

Method 3546: Due to the matrix, the following sample(s) could not be concentrated to the final method required volume: The sample would not blow down "concentrate" down to the desired 1 mL so I volumed up to the nearest clean mL during the organic prep. The reporting limits (RLs) are elevated proportionately.

Method 3546: Due to the matrix, the following sample(s) could not be concentrated to the final method required volume: The sample would not concentrate or blow down to the desired 1 mL so I volumed up to the nearest clean mL during the organic prep method. The reporting limits (RLs) are elevated proportionately.

Method 3546: Due to the matrix, the following sample(s) could not be concentrated to the final method required volume: The sample would not concentrate or blow down to the desired 1 mL so I volumed up to the nearest clean mL during the organic prep method. The reporting limits (RLs) are elevated proportionately.

Method 3546: The following sample(s) required a sulfuric acid clean-up, via EPA Method 3665A, to reduce matrix interferences: Due to matrix interference with the detection of PCBs a sulfuric acid clean-up was required during the organic prep method.

Method 8151A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 190717.

Method 8151A: Elevated reporting limits are provided for the following sample due to insufficient sample provided for preparation: EB01 (560-62041-10).

Method 3546: The following samples required a Florisil clean-up, via EPA Method 3620B, to reduce matrix interferences: HMSM310 (560-62041-1), HMSM320 (560-62041-2), HMSM330 (560-62041-3), HMSM340 (560-62041-4), HMSM350 (560-62041-5), HMSM360 (560-62041-6), HSM370 (560-62041-7) and FDHSM370 (560-62041-8).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

Client Sample ID: HMSM310

Lab Sample ID: 560-62041-1

| Analyte                         | Result | Qualifier | RL    | MDL    | Unit  | Dil | Fac | D | Method           | Prep Type |
|---------------------------------|--------|-----------|-------|--------|-------|-----|-----|---|------------------|-----------|
| Acetone                         | 226    | J         | 602   | 86.6   | ug/Kg | 1   |     | ✖ | 8260B            | Total/NA  |
| 2-Butanone (MEK)                | 40.4   | J         | 120   | 22.9   | ug/Kg | 1   |     | ✖ | 8260B            | Total/NA  |
| 3 & 4 Methylphenol              | 883    | J         | 1620  | 134    | ug/Kg | 1   |     | ✖ | 8270C            | Total/NA  |
| Nitrate as N                    | 3.65   | J H       | 4.99  | 0.627  | mg/Kg | 1   |     | ✖ | 300.0            | Soluble   |
| Chloride                        | 42.8   |           | 9.99  | 1.33   | mg/Kg | 1   |     | ✖ | 300.0            | Soluble   |
| Fluoride                        | 6.20   |           | 4.99  | 1.50   | mg/Kg | 1   |     | ✖ | 300.0            | Soluble   |
| Sulfate                         | 507    |           | 12.5  | 2.39   | mg/Kg | 1   |     | ✖ | 300.0            | Soluble   |
| Aluminum                        | 5560   |           | 10.5  | 6.46   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Phosphorus                      | 592    |           | 105   | 3.49   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Calcium                         | 71700  |           | 105   | 30.5   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Arsenic                         | 7.44   |           | 4.21  | 0.305  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Magnesium                       | 1730   |           | 42.1  | 3.33   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Barium                          | 60.4   |           | 2.11  | 0.398  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Potassium                       | 1110   |           | 211   | 32.0   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Beryllium                       | 0.586  | J         | 1.05  | 0.0568 | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Silicon                         | 5270   |           | 42.1  | 13.3   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Cadmium                         | 1.20   |           | 1.05  | 0.0758 | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Sodium                          | 91.1   | J         | 211   | 31.8   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Chromium                        | 13.7   |           | 2.11  | 0.282  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Strontium                       | 107    |           | 2.11  | 0.164  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Copper                          | 7.24   |           | 4.21  | 0.423  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Iron                            | 11400  |           | 42.1  | 10.5   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Lead                            | 11.5   |           | 1.05  | 0.320  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Manganese                       | 710    |           | 5.26  | 0.979  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Nickel                          | 10.6   |           | 4.21  | 0.261  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Selenium                        | 1.44   | J         | 2.11  | 0.417  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Zinc                            | 30.4   |           | 5.26  | 1.20   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Mercury                         | 0.0261 | J         | 0.271 | 0.0244 | mg/Kg | 1   |     | ✖ | 7471A            | Total/NA  |
| pH                              | 7.48   |           | 0.100 | 0.100  | SU    | 1   |     |   | 9045D            | Total/NA  |
| TOC                             | 4.44   |           | 0.100 | 0.0415 | %     | 1   |     |   | WALKLEY<br>BLACK | Total/NA  |
| Alkalinity                      | 404    |           | 12.4  | 12.4   | mg/Kg | 1   |     | ✖ | SM 2320B         | Soluble   |
| Bicarbonate Alkalinity as CaCO3 | 404    |           | 12.4  | 12.4   | mg/Kg | 1   |     | ✖ | SM 2320B         | Soluble   |

Client Sample ID: HMSM320

Lab Sample ID: 560-62041-2

| Analyte                     | Result | Qualifier | RL   | MDL  | Unit  | Dil | Fac | D | Method | Prep Type |
|-----------------------------|--------|-----------|------|------|-------|-----|-----|---|--------|-----------|
| Acetone                     | 247    | J         | 685  | 98.7 | ug/Kg | 1   |     | ✖ | 8260B  | Total/NA  |
| 2-Butanone (MEK)            | 33.3   | J         | 137  | 26.0 | ug/Kg | 1   |     | ✖ | 8260B  | Total/NA  |
| Toluene                     | 129    |           | 68.5 | 12.3 | ug/Kg | 1   |     | ✖ | 8260B  | Total/NA  |
| Anthracene                  | 232    | J         | 1110 | 124  | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Benzo[a]anthracene          | 1850   |           | 1110 | 137  | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Benzo[a]pyrene              | 2090   |           | 1110 | 111  | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Benzo[b]fluoranthene        | 3670   |           | 1110 | 98.1 | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Benzo[g,h,i]perylene        | 1550   |           | 1110 | 98.1 | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Benzo[k]fluoranthene        | 1300   |           | 1110 | 85.0 | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Bis(2-ethylhexyl) phthalate | 350    | J         | 1110 | 170  | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Chrysene                    | 2620   |           | 1110 | 98.1 | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Dibenz(a,h)anthracene       | 606    | J         | 1110 | 91.5 | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Fluoranthene                | 4380   |           | 1110 | 111  | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Indeno[1,2,3-cd]pyrene      | 1640   |           | 1110 | 105  | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Client Sample ID: HMSM320 (Continued)

## Lab Sample ID: 560-62041-2

| Analyte                         | Result | Qualifier | RL    | MDL    | Unit  | Dil Fac | D | Method           | Prep Type |
|---------------------------------|--------|-----------|-------|--------|-------|---------|---|------------------|-----------|
| 3 & 4 Methylphenol              | 289    | J         | 2220  | 183    | ug/Kg | 1       | ✱ | 8270C            | Total/NA  |
| Phenanthrene                    | 1230   |           | 1110  | 137    | ug/Kg | 1       | ✱ | 8270C            | Total/NA  |
| Pyrene                          | 2980   |           | 1110  | 111    | ug/Kg | 1       | ✱ | 8270C            | Total/NA  |
| 4,4'-DDD                        | 16.0   | *         | 11.4  | 5.61   | ug/Kg | 1       | ✱ | 8081B            | Total/NA  |
| 4,4'-DDE                        | 103    | *         | 11.4  | 5.02   | ug/Kg | 1       | ✱ | 8081B            | Total/NA  |
| Nitrate as N                    | 5.21   | J H       | 6.98  | 0.876  | mg/Kg | 1       | ✱ | 300.0            | Soluble   |
| Chloride                        | 48.0   |           | 14.0  | 1.86   | mg/Kg | 1       | ✱ | 300.0            | Soluble   |
| Fluoride                        | 6.19   | J         | 6.98  | 2.10   | mg/Kg | 1       | ✱ | 300.0            | Soluble   |
| Sulfate                         | 221    |           | 17.4  | 3.34   | mg/Kg | 1       | ✱ | 300.0            | Soluble   |
| Aluminum                        | 2420   |           | 13.0  | 7.98   | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Phosphorus                      | 384    |           | 130   | 4.31   | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Calcium                         | 59900  |           | 130   | 37.7   | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Arsenic                         | 3.78   | J         | 5.20  | 0.377  | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Magnesium                       | 1460   |           | 52.0  | 4.11   | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Barium                          | 24.6   |           | 2.60  | 0.491  | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Potassium                       | 606    |           | 260   | 39.5   | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Beryllium                       | 0.251  | J         | 1.30  | 0.0702 | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Silicon                         | 4390   |           | 52.0  | 16.4   | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Cadmium                         | 0.650  | J         | 1.30  | 0.0935 | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Sodium                          | 87.3   | J         | 260   | 39.2   | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Chromium                        | 5.96   |           | 2.60  | 0.348  | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Strontium                       | 93.5   |           | 2.60  | 0.203  | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Copper                          | 10.7   |           | 5.20  | 0.522  | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Iron                            | 6440   |           | 52.0  | 13.0   | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Lead                            | 17.2   |           | 1.30  | 0.395  | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Manganese                       | 68.0   |           | 6.50  | 1.21   | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Nickel                          | 5.03   | J         | 5.20  | 0.322  | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Selenium                        | 2.78   |           | 2.60  | 0.514  | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Zinc                            | 48.8   |           | 6.50  | 1.48   | mg/Kg | 1       | ✱ | 6010B            | Total/NA  |
| Mercury                         | 0.0386 | J         | 0.376 | 0.0339 | mg/Kg | 1       | ✱ | 7471A            | Total/NA  |
| pH                              | 7.53   |           | 0.100 | 0.100  | SU    | 1       |   | 9045D            | Total/NA  |
| TOC                             | 5.17   |           | 0.100 | 0.0415 | %     | 1       |   | WALKLEY<br>BLACK | Total/NA  |
| Alkalinity                      | 582    |           | 17.2  | 17.2   | mg/Kg | 1       | ✱ | SM 2320B         | Soluble   |
| Bicarbonate Alkalinity as CaCO3 | 582    |           | 17.2  | 17.2   | mg/Kg | 1       | ✱ | SM 2320B         | Soluble   |

## Client Sample ID: HMSM330

## Lab Sample ID: 560-62041-3

| Analyte                     | Result | Qualifier | RL   | MDL  | Unit  | Dil Fac | D | Method | Prep Type |
|-----------------------------|--------|-----------|------|------|-------|---------|---|--------|-----------|
| Acetone                     | 12.7   | J         | 49.6 | 7.14 | ug/Kg | 1       | ✱ | 8260B  | Total/NA  |
| Acenaphthene                | 515    | J         | 754  | 75.4 | ug/Kg | 2       | ✱ | 8270C  | Total/NA  |
| Anthracene                  | 1030   |           | 754  | 84.3 | ug/Kg | 2       | ✱ | 8270C  | Total/NA  |
| Benzo[a]anthracene          | 1930   |           | 754  | 93.2 | ug/Kg | 2       | ✱ | 8270C  | Total/NA  |
| Benzo[a]pyrene              | 1670   |           | 754  | 75.4 | ug/Kg | 2       | ✱ | 8270C  | Total/NA  |
| Benzo[b]fluoranthene        | 2690   |           | 754  | 66.6 | ug/Kg | 2       | ✱ | 8270C  | Total/NA  |
| Benzo[g,h,i]perylene        | 634    | J         | 754  | 66.6 | ug/Kg | 2       | ✱ | 8270C  | Total/NA  |
| Benzo[k]fluoranthene        | 1100   |           | 754  | 57.7 | ug/Kg | 2       | ✱ | 8270C  | Total/NA  |
| Bis(2-ethylhexyl) phthalate | 668    | J         | 754  | 115  | ug/Kg | 2       | ✱ | 8270C  | Total/NA  |
| Chrysene                    | 2080   |           | 754  | 66.6 | ug/Kg | 2       | ✱ | 8270C  | Total/NA  |
| Dibenz(a,h)anthracene       | 324    | J         | 754  | 62.1 | ug/Kg | 2       | ✱ | 8270C  | Total/NA  |
| Dibenzofuran                | 314    | J         | 754  | 84.3 | ug/Kg | 2       | ✱ | 8270C  | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

Client Sample ID: HMSM330 (Continued)

Lab Sample ID: 560-62041-3

| Analyte                         | Result | Qualifier | RL    | MDL    | Unit  | Dil | Fac | D | Method   | Prep Type |
|---------------------------------|--------|-----------|-------|--------|-------|-----|-----|---|----------|-----------|
| Diethyl phthalate               | 216    | J         | 754   | 71.0   | ug/Kg |     | 2   | ☼ | 8270C    | Total/NA  |
| Fluoranthene                    | 5030   |           | 754   | 75.4   | ug/Kg |     | 2   | ☼ | 8270C    | Total/NA  |
| Fluorene                        | 613    | J         | 754   | 84.3   | ug/Kg |     | 2   | ☼ | 8270C    | Total/NA  |
| Indeno[1,2,3-cd]pyrene          | 825    |           | 754   | 71.0   | ug/Kg |     | 2   | ☼ | 8270C    | Total/NA  |
| 2-Methylnaphthalene             | 109    | J         | 754   | 66.6   | ug/Kg |     | 2   | ☼ | 8270C    | Total/NA  |
| Naphthalene                     | 402    | J         | 754   | 71.0   | ug/Kg |     | 2   | ☼ | 8270C    | Total/NA  |
| Phenanthrene                    | 4430   |           | 754   | 93.2   | ug/Kg |     | 2   | ☼ | 8270C    | Total/NA  |
| Pyrene                          | 3220   |           | 754   | 75.4   | ug/Kg |     | 2   | ☼ | 8270C    | Total/NA  |
| Nitrate as N                    | 1.62   | J H       | 2.30  | 0.289  | mg/Kg |     | 1   | ☼ | 300.0    | Soluble   |
| Chloride                        | 4.71   |           | 4.61  | 0.615  | mg/Kg |     | 1   | ☼ | 300.0    | Soluble   |
| Fluoride                        | 1.62   | J         | 2.30  | 0.693  | mg/Kg |     | 1   | ☼ | 300.0    | Soluble   |
| Sulfate                         | 67.1   |           | 5.76  | 1.10   | mg/Kg |     | 1   | ☼ | 300.0    | Soluble   |
| Aluminum                        | 1210   |           | 4.41  | 2.71   | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Phosphorus                      | 347    |           | 44.1  | 1.46   | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Antimony                        | 1.72   | J         | 1.76  | 0.235  | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Calcium                         | 394000 |           | 441   | 128    | mg/Kg |     | 10  | ☼ | 6010B    | Total/NA  |
| Arsenic                         | 7.01   |           | 1.76  | 0.128  | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Magnesium                       | 2890   |           | 17.6  | 1.39   | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Barium                          | 21.2   |           | 0.882 | 0.167  | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Potassium                       | 270    |           | 88.2  | 13.4   | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Beryllium                       | 0.172  | J         | 0.441 | 0.0238 | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Silicon                         | 1680   |           | 17.6  | 5.57   | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Cadmium                         | 0.819  |           | 0.441 | 0.0317 | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Sodium                          | 107    |           | 88.2  | 13.3   | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Chromium                        | 6.77   |           | 0.882 | 0.118  | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Strontium                       | 121    |           | 0.882 | 0.0688 | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Copper                          | 5.65   |           | 1.76  | 0.177  | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Iron                            | 8050   |           | 17.6  | 4.41   | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Lead                            | 10.2   |           | 0.441 | 0.134  | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Manganese                       | 338    |           | 2.20  | 0.410  | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Nickel                          | 7.51   |           | 1.76  | 0.109  | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Selenium                        | 1.54   |           | 0.882 | 0.175  | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Zinc                            | 32.1   |           | 2.20  | 0.503  | mg/Kg |     | 1   | ☼ | 6010B    | Total/NA  |
| Mercury                         | 0.0161 | J         | 0.125 | 0.0112 | mg/Kg |     | 1   | ☼ | 7471A    | Total/NA  |
| pH                              | 8.08   |           | 0.100 | 0.100  | SU    |     | 1   |   | 9045D    | Total/NA  |
| TOC                             | 0.302  |           | 0.100 | 0.0415 | %     |     | 1   |   | WALKLEY  | Total/NA  |
|                                 |        |           |       |        |       |     |     |   | BLACK    |           |
| Alkalinity                      | 107    |           | 5.75  | 5.75   | mg/Kg |     | 1   | ☼ | SM 2320B | Soluble   |
| Bicarbonate Alkalinity as CaCO3 | 107    |           | 5.75  | 5.75   | mg/Kg |     | 1   | ☼ | SM 2320B | Soluble   |

Client Sample ID: HMSM340

Lab Sample ID: 560-62041-4

| Analyte                     | Result | Qualifier | RL  | MDL  | Unit  | Dil | Fac | D | Method | Prep Type |
|-----------------------------|--------|-----------|-----|------|-------|-----|-----|---|--------|-----------|
| Acetone                     | 62.8   | J         | 353 | 50.8 | ug/Kg | 1   |     | ☼ | 8260B  | Total/NA  |
| Anthracene                  | 84.1   | J         | 468 | 52.3 | ug/Kg | 1   |     | ☼ | 8270C  | Total/NA  |
| Benzo[a]anthracene          | 295    | J         | 468 | 57.8 | ug/Kg | 1   |     | ☼ | 8270C  | Total/NA  |
| Benzo[a]pyrene              | 307    | J         | 468 | 46.8 | ug/Kg | 1   |     | ☼ | 8270C  | Total/NA  |
| Benzo[b]fluoranthene        | 547    |           | 468 | 41.3 | ug/Kg | 1   |     | ☼ | 8270C  | Total/NA  |
| Benzo[g,h,i]perylene        | 105    | J         | 468 | 41.3 | ug/Kg | 1   |     | ☼ | 8270C  | Total/NA  |
| Benzo[k]fluoranthene        | 210    | J         | 468 | 35.8 | ug/Kg | 1   |     | ☼ | 8270C  | Total/NA  |
| Bis(2-ethylhexyl) phthalate | 211    | J         | 468 | 71.6 | ug/Kg | 1   |     | ☼ | 8270C  | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



# Detection Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

Client Sample ID: HMSM340 (Continued)

Lab Sample ID: 560-62041-4

| Analyte                         | Result | Qualifier | RL    | MDL    | Unit  | Dil | Fac | D | Method           | Prep Type |
|---------------------------------|--------|-----------|-------|--------|-------|-----|-----|---|------------------|-----------|
| Butyl benzyl phthalate          | 55.4   | J         | 468   | 38.5   | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Chrysene                        | 346    | J         | 468   | 41.3   | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Dibenz(a,h)anthracene           | 98.6   | J         | 468   | 38.5   | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Fluoranthene                    | 792    |           | 468   | 46.8   | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Indeno[1,2,3-cd]pyrene          | 207    | J         | 468   | 44.0   | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Phenanthrene                    | 337    | J         | 468   | 57.8   | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Pyrene                          | 589    |           | 468   | 46.8   | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| alpha-Chlordane                 | 7.54   | *         | 4.80  | 2.31   | ug/Kg | 1   |     | ✱ | 8081B            | Total/NA  |
| 4,4'-DDD                        | 13.3   | *         | 4.80  | 2.35   | ug/Kg | 1   |     | ✱ | 8081B            | Total/NA  |
| 4,4'-DDE                        | 31.5   | *         | 4.80  | 2.11   | ug/Kg | 1   |     | ✱ | 8081B            | Total/NA  |
| gamma-Chlordane                 | 19.2   | *         | 4.80  | 1.82   | ug/Kg | 1   |     | ✱ | 8081B            | Total/NA  |
| PCB-1260                        | 26.3   | J         | 45.4  | 13.8   | ug/Kg | 1   |     | ✱ | 8082A            | Total/NA  |
| Chloride                        | 11.3   |           | 5.87  | 0.784  | mg/Kg | 1   |     | ✱ | 300.0            | Soluble   |
| Fluoride                        | 3.23   |           | 2.93  | 0.882  | mg/Kg | 1   |     | ✱ | 300.0            | Soluble   |
| Sulfate                         | 144    |           | 7.34  | 1.40   | mg/Kg | 1   |     | ✱ | 300.0            | Soluble   |
| Aluminum                        | 4340   |           | 5.35  | 3.29   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Phosphorus                      | 415    |           | 53.5  | 1.78   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Antimony                        | 0.861  | J         | 2.14  | 0.286  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Calcium                         | 193000 |           | 535   | 155    | mg/Kg | 10  |     | ✱ | 6010B            | Total/NA  |
| Arsenic                         | 3.47   |           | 2.14  | 0.155  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Magnesium                       | 2820   |           | 21.4  | 1.69   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Barium                          | 41.3   |           | 1.07  | 0.202  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Potassium                       | 867    |           | 107   | 16.3   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Beryllium                       | 0.437  | J         | 0.535 | 0.0289 | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Silicon                         | 2760   |           | 21.4  | 6.77   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Cadmium                         | 0.788  |           | 0.535 | 0.0386 | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Sodium                          | 101    | J         | 107   | 16.2   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Chromium                        | 35.8   |           | 1.07  | 0.144  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Strontium                       | 105    |           | 1.07  | 0.0835 | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Copper                          | 9.28   |           | 2.14  | 0.215  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Iron                            | 5540   |           | 21.4  | 5.35   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Lead                            | 260    |           | 0.535 | 0.163  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Manganese                       | 156    |           | 2.68  | 0.498  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Nickel                          | 7.14   |           | 2.14  | 0.133  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Selenium                        | 1.15   |           | 1.07  | 0.212  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Zinc                            | 52.7   |           | 2.68  | 0.610  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Mercury                         | 0.0715 | J         | 0.152 | 0.0137 | mg/Kg | 1   |     | ✱ | 7471A            | Total/NA  |
| pH                              | 7.84   |           | 0.100 | 0.100  | SU    | 1   |     |   | 9045D            | Total/NA  |
| TOC                             | 2.07   |           | 0.100 | 0.0415 | %     | 1   |     |   | WALKLEY<br>BLACK | Total/NA  |
| Alkalinity                      | 162    |           | 7.26  | 7.26   | mg/Kg | 1   |     | ✱ | SM 2320B         | Soluble   |
| Bicarbonate Alkalinity as CaCO3 | 162    |           | 7.26  | 7.26   | mg/Kg | 1   |     | ✱ | SM 2320B         | Soluble   |

Client Sample ID: HMSM350

Lab Sample ID: 560-62041-5

| Analyte            | Result | Qualifier | RL   | MDL  | Unit  | Dil | Fac | D | Method | Prep Type |
|--------------------|--------|-----------|------|------|-------|-----|-----|---|--------|-----------|
| Acetone            | 225    | J         | 446  | 64.3 | ug/Kg | 1   |     | ✱ | 8260B  | Total/NA  |
| 2-Butanone (MEK)   | 35.2   | J         | 89.3 | 17.0 | ug/Kg | 1   |     | ✱ | 8260B  | Total/NA  |
| 4-Isopropyltoluene | 15.7   | J         | 44.6 | 3.53 | ug/Kg | 1   |     | ✱ | 8260B  | Total/NA  |
| Methylene Chloride | 56.6   | J B       | 223  | 44.6 | ug/Kg | 1   |     | ✱ | 8260B  | Total/NA  |
| Benzo[a]anthracene | 210    | J         | 1200 | 148  | ug/Kg | 1   |     | ✱ | 8270C  | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi



# Detection Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

Client Sample ID: HMSM350 (Continued)

Lab Sample ID: 560-62041-5

| Analyte                         | Result | Qualifier | RL    | MDL    | Unit  | Dil | Fac | D | Method           | Prep Type |
|---------------------------------|--------|-----------|-------|--------|-------|-----|-----|---|------------------|-----------|
| Benzo[a]pyrene                  | 246    | J         | 1200  | 120    | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Benzo[b]fluoranthene            | 511    | J         | 1200  | 106    | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Benzo[g,h,i]perylene            | 108    | J         | 1200  | 106    | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Benzo[k]fluoranthene            | 172    | J         | 1200  | 91.8   | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Bis(2-ethylhexyl) phthalate     | 586    | J         | 1200  | 184    | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Chrysene                        | 281    | J         | 1200  | 106    | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Fluoranthene                    | 590    | J         | 1200  | 120    | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Indeno[1,2,3-cd]pyrene          | 324    | J         | 1200  | 113    | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| 3 & 4 Methylphenol              | 4330   |           | 2400  | 198    | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Phenanthrene                    | 182    | J         | 1200  | 148    | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| Pyrene                          | 352    | J         | 1200  | 120    | ug/Kg | 1   |     | ✱ | 8270C            | Total/NA  |
| 4,4'-DDE                        | 9.72   | *         | 6.18  | 2.71   | ug/Kg | 1   |     | ✱ | 8081B            | Total/NA  |
| Nitrate as N                    | 2.15   | J H       | 3.76  | 0.472  | mg/Kg | 1   |     | ✱ | 300.0            | Soluble   |
| Chloride                        | 27.0   |           | 7.52  | 1.00   | mg/Kg | 1   |     | ✱ | 300.0            | Soluble   |
| Fluoride                        | 3.21   | J         | 3.76  | 1.13   | mg/Kg | 1   |     | ✱ | 300.0            | Soluble   |
| Sulfate                         | 212    |           | 9.39  | 1.80   | mg/Kg | 1   |     | ✱ | 300.0            | Soluble   |
| Aluminum                        | 3020   |           | 7.62  | 4.68   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Phosphorus                      | 1150   |           | 76.2  | 2.53   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Antimony                        | 1.35   | J         | 3.05  | 0.407  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Calcium                         | 274000 |           | 762   | 221    | mg/Kg | 10  |     | ✱ | 6010B            | Total/NA  |
| Arsenic                         | 4.14   |           | 3.05  | 0.221  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Magnesium                       | 2590   |           | 30.5  | 2.41   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Barium                          | 38.3   |           | 1.52  | 0.288  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Potassium                       | 626    |           | 152   | 23.2   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Beryllium                       | 0.312  | J         | 0.762 | 0.0412 | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Silicon                         | 3730   |           | 30.5  | 9.64   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Cadmium                         | 1.11   |           | 0.762 | 0.0549 | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Sodium                          | 259    |           | 152   | 23.0   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Chromium                        | 10.5   |           | 1.52  | 0.204  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Strontium                       | 197    |           | 1.52  | 0.119  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Copper                          | 10.1   |           | 3.05  | 0.306  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Iron                            | 5880   |           | 30.5  | 7.62   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Lead                            | 43.4   |           | 0.762 | 0.232  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Manganese                       | 294    |           | 3.81  | 0.709  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Nickel                          | 8.87   |           | 3.05  | 0.189  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Selenium                        | 1.93   |           | 1.52  | 0.302  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Zinc                            | 46.3   |           | 3.81  | 0.869  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Mercury                         | 0.0799 | J         | 0.199 | 0.0179 | mg/Kg | 1   |     | ✱ | 7471A            | Total/NA  |
| pH                              | 7.42   |           | 0.100 | 0.100  | SU    | 1   |     |   | 9045D            | Total/NA  |
| TOC                             | 3.47   |           | 0.100 | 0.0415 | %     | 1   |     |   | WALKLEY<br>BLACK | Total/NA  |
| Alkalinity                      | 362    |           | 9.16  | 9.16   | mg/Kg | 1   |     | ✱ | SM 2320B         | Soluble   |
| Bicarbonate Alkalinity as CaCO3 | 362    |           | 9.16  | 9.16   | mg/Kg | 1   |     | ✱ | SM 2320B         | Soluble   |

Client Sample ID: HMSM360

Lab Sample ID: 560-62041-6

| Analyte              | Result | Qualifier | RL   | MDL  | Unit  | Dil | Fac | D | Method | Prep Type |
|----------------------|--------|-----------|------|------|-------|-----|-----|---|--------|-----------|
| Acetone              | 25.8   | J         | 63.8 | 9.19 | ug/Kg | 1   |     | ✱ | 8260B  | Total/NA  |
| 2-Butanone (MEK)     | 3.89   | J         | 12.8 | 2.43 | ug/Kg | 1   |     | ✱ | 8260B  | Total/NA  |
| Benzo[a]pyrene       | 57.8   | J         | 450  | 45.0 | ug/Kg | 1   |     | ✱ | 8270C  | Total/NA  |
| Benzo[b]fluoranthene | 91.5   | J         | 450  | 39.7 | ug/Kg | 1   |     | ✱ | 8270C  | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Client Sample ID: HMSM360 (Continued)

## Lab Sample ID: 560-62041-6

| Analyte                         | Result | Qualifier | RL    | MDL    | Unit  | Dil | Fac | D | Method           | Prep Type |
|---------------------------------|--------|-----------|-------|--------|-------|-----|-----|---|------------------|-----------|
| Benzo[k]fluoranthene            | 60.1   | J         | 450   | 34.4   | ug/Kg | 1   |     | ✖ | 8270C            | Total/NA  |
| Bis(2-ethylhexyl) phthalate     | 156    | J         | 450   | 68.8   | ug/Kg | 1   |     | ✖ | 8270C            | Total/NA  |
| Chrysene                        | 77.4   | J         | 450   | 39.7   | ug/Kg | 1   |     | ✖ | 8270C            | Total/NA  |
| Fluoranthene                    | 130    | J         | 450   | 45.0   | ug/Kg | 1   |     | ✖ | 8270C            | Total/NA  |
| Indeno[1,2,3-cd]pyrene          | 114    | J         | 450   | 42.3   | ug/Kg | 1   |     | ✖ | 8270C            | Total/NA  |
| Pyrene                          | 73.0   | J         | 450   | 45.0   | ug/Kg | 1   |     | ✖ | 8270C            | Total/NA  |
| Chloride                        | 5.91   |           | 5.55  | 0.740  | mg/Kg | 1   |     | ✖ | 300.0            | Soluble   |
| Fluoride                        | 3.10   |           | 2.77  | 0.834  | mg/Kg | 1   |     | ✖ | 300.0            | Soluble   |
| Sulfate                         | 72.9   |           | 6.93  | 1.33   | mg/Kg | 1   |     | ✖ | 300.0            | Soluble   |
| Aluminum                        | 5050   |           | 5.55  | 3.41   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Phosphorus                      | 618    |           | 55.5  | 1.84   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Antimony                        | 0.820  | J         | 2.22  | 0.296  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Calcium                         | 163000 |           | 555   | 161    | mg/Kg | 10  |     | ✖ | 6010B            | Total/NA  |
| Arsenic                         | 5.76   |           | 2.22  | 0.161  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Magnesium                       | 2370   |           | 22.2  | 1.75   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Barium                          | 38.1   |           | 1.11  | 0.210  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Potassium                       | 1220   |           | 111   | 16.9   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Beryllium                       | 0.474  | J         | 0.555 | 0.0299 | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Silicon                         | 2780   |           | 22.2  | 7.01   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Cadmium                         | 0.955  |           | 0.555 | 0.0399 | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Sodium                          | 88.8   | J         | 111   | 16.7   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Chromium                        | 16.9   |           | 1.11  | 0.149  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Strontium                       | 109    |           | 1.11  | 0.0865 | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Copper                          | 8.80   |           | 2.22  | 0.223  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Iron                            | 7260   |           | 22.2  | 5.55   | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Lead                            | 116    |           | 0.555 | 0.169  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Manganese                       | 352    |           | 2.77  | 0.516  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Nickel                          | 8.90   |           | 2.22  | 0.138  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Selenium                        | 1.09   | J         | 1.11  | 0.220  | mg/Kg | 1   |     | ✖ | 6010B            | Total/NA  |
| Zinc                            | 447    |           | 27.7  | 6.32   | mg/Kg | 10  |     | ✖ | 6010B            | Total/NA  |
| Mercury                         | 0.0201 | J         | 0.149 | 0.0134 | mg/Kg | 1   |     | ✖ | 7471A            | Total/NA  |
| pH                              | 7.72   |           | 0.100 | 0.100  | SU    | 1   |     |   | 9045D            | Total/NA  |
| TOC                             | 1.53   |           | 0.100 | 0.0415 | %     | 1   |     |   | WALKLEY<br>BLACK | Total/NA  |
| Alkalinity                      | 238    |           | 6.73  | 6.73   | mg/Kg | 1   |     | ✖ | SM 2320B         | Soluble   |
| Bicarbonate Alkalinity as CaCO3 | 238    |           | 6.73  | 6.73   | mg/Kg | 1   |     | ✖ | SM 2320B         | Soluble   |

## Client Sample ID: HSM370

## Lab Sample ID: 560-62041-7

| Analyte                     | Result | Qualifier | RL   | MDL   | Unit  | Dil | Fac | D | Method | Prep Type |
|-----------------------------|--------|-----------|------|-------|-------|-----|-----|---|--------|-----------|
| Acetone                     | 13.1   | J         | 62.0 | 8.93  | ug/Kg | 1   |     | ✖ | 8260B  | Total/NA  |
| Benzo[a]pyrene              | 24.4   | J         | 233  | 23.3  | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Benzo[b]fluoranthene        | 49.8   | J         | 233  | 20.5  | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Bis(2-ethylhexyl) phthalate | 67.1   | J         | 233  | 35.6  | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Chrysene                    | 29.1   | J         | 233  | 20.5  | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Fluoranthene                | 49.2   | J         | 233  | 23.3  | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Indeno[1,2,3-cd]pyrene      | 59.6   | J         | 233  | 21.9  | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Pyrene                      | 27.3   | J         | 233  | 23.3  | ug/Kg | 1   |     | ✖ | 8270C  | Total/NA  |
| Nitrate as N                | 1.71   | J H       | 2.84 | 0.357 | mg/Kg | 1   |     | ✖ | 300.0  | Soluble   |
| Chloride                    | 7.69   |           | 5.68 | 0.759 | mg/Kg | 1   |     | ✖ | 300.0  | Soluble   |
| Fluoride                    | 2.34   | J         | 2.84 | 0.855 | mg/Kg | 1   |     | ✖ | 300.0  | Soluble   |

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Client Sample ID: HSM370 (Continued)

## Lab Sample ID: 560-62041-7

| Analyte                         | Result | Qualifier | RL    | MDL    | Unit  | Dil | Fac | D | Method           | Prep Type |
|---------------------------------|--------|-----------|-------|--------|-------|-----|-----|---|------------------|-----------|
| Sulfate                         | 157    |           | 7.10  | 1.36   | mg/Kg | 1   |     | ✱ | 300.0            | Soluble   |
| Aluminum                        | 3930   |           | 5.22  | 3.21   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Phosphorus                      | 450    |           | 52.2  | 1.73   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Antimony                        | 1.05   | J         | 2.09  | 0.279  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Calcium                         | 249000 |           | 522   | 151    | mg/Kg | 10  |     | ✱ | 6010B            | Total/NA  |
| Arsenic                         | 3.16   |           | 2.09  | 0.151  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Magnesium                       | 2060   |           | 20.9  | 1.65   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Barium                          | 36.9   |           | 1.04  | 0.197  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Potassium                       | 677    |           | 104   | 15.9   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Beryllium                       | 0.512  | J         | 0.522 | 0.0282 | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Silicon                         | 2330   |           | 20.9  | 6.60   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Cadmium                         | 0.777  |           | 0.522 | 0.0376 | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Sodium                          | 129    |           | 104   | 15.8   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Chromium                        | 7.97   |           | 1.04  | 0.140  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Strontium                       | 142    |           | 1.04  | 0.0814 | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Copper                          | 5.03   |           | 2.09  | 0.210  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Iron                            | 5970   |           | 20.9  | 5.22   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Lead                            | 14.5   |           | 0.522 | 0.159  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Manganese                       | 302    |           | 2.61  | 0.486  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Nickel                          | 7.27   |           | 2.09  | 0.129  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Selenium                        | 0.952  | J         | 1.04  | 0.207  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Zinc                            | 28.7   |           | 2.61  | 0.595  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Mercury                         | 0.0234 | J         | 0.161 | 0.0145 | mg/Kg | 1   |     | ✱ | 7471A            | Total/NA  |
| pH                              | 7.64   |           | 0.100 | 0.100  | SU    | 1   |     |   | 9045D            | Total/NA  |
| TOC                             | 0.529  |           | 0.100 | 0.0415 | %     | 1   |     |   | WALKLEY<br>BLACK | Total/NA  |
| Alkalinity                      | 174    |           | 6.86  | 6.86   | mg/Kg | 1   |     | ✱ | SM 2320B         | Soluble   |
| Bicarbonate Alkalinity as CaCO3 | 174    |           | 6.86  | 6.86   | mg/Kg | 1   |     | ✱ | SM 2320B         | Soluble   |

## Client Sample ID: FDHSM370

## Lab Sample ID: 560-62041-8

| Analyte                     | Result | Qualifier | RL    | MDL    | Unit  | Dil | Fac | D | Method | Prep Type |
|-----------------------------|--------|-----------|-------|--------|-------|-----|-----|---|--------|-----------|
| Acetone                     | 10.4   | J         | 65.7  | 9.47   | ug/Kg | 1   |     | ✱ | 8260B  | Total/NA  |
| Bis(2-ethylhexyl) phthalate | 81.6   | J         | 237   | 36.2   | ug/Kg | 1   |     | ✱ | 8270C  | Total/NA  |
| Fluoranthene                | 36.1   | J         | 237   | 23.7   | ug/Kg | 1   |     | ✱ | 8270C  | Total/NA  |
| Indeno[1,2,3-cd]pyrene      | 50.3   | J         | 237   | 22.3   | ug/Kg | 1   |     | ✱ | 8270C  | Total/NA  |
| Nitrate as N                | 1.82   | J H       | 2.95  | 0.370  | mg/Kg | 1   |     | ✱ | 300.0  | Soluble   |
| Chloride                    | 7.90   |           | 5.89  | 0.787  | mg/Kg | 1   |     | ✱ | 300.0  | Soluble   |
| Fluoride                    | 2.47   | J         | 2.95  | 0.886  | mg/Kg | 1   |     | ✱ | 300.0  | Soluble   |
| Sulfate                     | 128    |           | 7.37  | 1.41   | mg/Kg | 1   |     | ✱ | 300.0  | Soluble   |
| Aluminum                    | 3380   |           | 5.43  | 3.34   | mg/Kg | 1   |     | ✱ | 6010B  | Total/NA  |
| Phosphorus                  | 640    |           | 54.3  | 1.80   | mg/Kg | 1   |     | ✱ | 6010B  | Total/NA  |
| Antimony                    | 1.28   | J         | 2.17  | 0.290  | mg/Kg | 1   |     | ✱ | 6010B  | Total/NA  |
| Calcium                     | 225000 |           | 543   | 158    | mg/Kg | 10  |     | ✱ | 6010B  | Total/NA  |
| Arsenic                     | 2.40   |           | 2.17  | 0.158  | mg/Kg | 1   |     | ✱ | 6010B  | Total/NA  |
| Magnesium                   | 2140   |           | 21.7  | 1.72   | mg/Kg | 1   |     | ✱ | 6010B  | Total/NA  |
| Barium                      | 37.1   |           | 1.09  | 0.205  | mg/Kg | 1   |     | ✱ | 6010B  | Total/NA  |
| Potassium                   | 611    |           | 109   | 16.5   | mg/Kg | 1   |     | ✱ | 6010B  | Total/NA  |
| Beryllium                   | 0.347  | J         | 0.543 | 0.0293 | mg/Kg | 1   |     | ✱ | 6010B  | Total/NA  |
| Silicon                     | 2790   |           | 21.7  | 6.87   | mg/Kg | 1   |     | ✱ | 6010B  | Total/NA  |
| Cadmium                     | 0.784  |           | 0.543 | 0.0391 | mg/Kg | 1   |     | ✱ | 6010B  | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Detection Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Client Sample ID: FDHSM370 (Continued)

## Lab Sample ID: 560-62041-8

| Analyte                         | Result | Qualifier | RL    | MDL    | Unit  | Dil | Fac | D | Method           | Prep Type |
|---------------------------------|--------|-----------|-------|--------|-------|-----|-----|---|------------------|-----------|
| Sodium                          | 154    |           | 109   | 16.4   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Chromium                        | 9.16   |           | 1.09  | 0.146  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Strontium                       | 171    |           | 1.09  | 0.0848 | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Copper                          | 4.47   |           | 2.17  | 0.218  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Iron                            | 4710   |           | 21.7  | 5.43   | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Lead                            | 17.3   |           | 0.543 | 0.165  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Manganese                       | 339    |           | 2.72  | 0.505  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Nickel                          | 5.47   |           | 2.17  | 0.135  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Selenium                        | 1.13   |           | 1.09  | 0.215  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| Zinc                            | 25.9   |           | 2.72  | 0.620  | mg/Kg | 1   |     | ✱ | 6010B            | Total/NA  |
| pH                              | 7.70   |           | 0.100 | 0.100  | SU    | 1   |     |   | 9045D            | Total/NA  |
| TOC                             | 0.472  |           | 0.100 | 0.0415 | %     | 1   |     |   | WALKLEY<br>BLACK | Total/NA  |
| Alkalinity                      | 183    |           | 7.25  | 7.25   | mg/Kg | 1   |     | ✱ | SM 2320B         | Soluble   |
| Bicarbonate Alkalinity as CaCO3 | 183    |           | 7.25  | 7.25   | mg/Kg | 1   |     | ✱ | SM 2320B         | Soluble   |

## Client Sample ID: TB08

## Lab Sample ID: 560-62041-9

No Detections.

## Client Sample ID: EB01

## Lab Sample ID: 560-62041-10

| Analyte              | Result | Qualifier | RL    | MDL    | Unit | Dil | Fac | D | Method      | Prep Type |
|----------------------|--------|-----------|-------|--------|------|-----|-----|---|-------------|-----------|
| Nitrate as N         | 0.115  | J H       | 0.200 | 0.0251 | mg/L | 1   |     |   | 300.0       | Total/NA  |
| Chloride             | 6.74   |           | 0.400 | 0.0534 | mg/L | 1   |     |   | 300.0       | Total/NA  |
| Fluoride             | 0.0200 | J         | 0.100 | 0.0200 | mg/L | 1   |     |   | 340.2       | Total/NA  |
| Total Organic Carbon | 0.461  | J         | 1.00  | 0.437  | mg/L | 1   |     |   | 5310 D-2000 | Total/NA  |
| pH                   | 7.96   | HF        | 0.100 | 0.100  | SU   | 1   |     |   | 9040C       | Total/NA  |

## Client Sample ID: EB02

## Lab Sample ID: 560-62041-11

| Analyte                     | Result | Qualifier | RL    | MDL    | Unit | Dil | Fac | D | Method      | Prep Type |
|-----------------------------|--------|-----------|-------|--------|------|-----|-----|---|-------------|-----------|
| Bis(2-ethylhexyl) phthalate | 19.4   | J         | 20.0  | 5.00   | ug/L | 1   |     |   | 8270C       | Total/NA  |
| Phenol                      | 2.17   | J         | 10.0  | 0.768  | ug/L | 1   |     |   | 8270C       | Total/NA  |
| Nitrate as N                | 0.116  | J H       | 0.200 | 0.0251 | mg/L | 1   |     |   | 300.0       | Total/NA  |
| Chloride                    | 7.35   |           | 0.400 | 0.0534 | mg/L | 1   |     |   | 300.0       | Total/NA  |
| Total Organic Carbon        | 0.473  | J         | 1.00  | 0.437  | mg/L | 1   |     |   | 5310 D-2000 | Total/NA  |
| pH                          | 8.06   | HF        | 0.100 | 0.100  | SU   | 1   |     |   | 9040C       | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HMSM310**

**Date Collected: 06/09/16 10:38**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-1**

**Matrix: Solid**

**Percent Solids: 39.6**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte                     | Result      | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-------------|-----------|------|------|-------|---|----------|----------------|---------|
| <b>Acetone</b>              | <b>226</b>  | <b>J</b>  | 602  | 86.6 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Acetonitrile                | 445         | U         | 602  | 445  | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Benzene                     | 7.58        | U         | 60.2 | 7.58 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Benzyl chloride             | 6.02        | U         | 60.2 | 6.02 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Bromobenzene                | 8.90        | U         | 60.2 | 8.90 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Bromochloromethane          | 10.8        | U         | 60.2 | 10.8 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Bromoform                   | 6.14        | U         | 60.2 | 6.14 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Bromomethane                | 13.2        | U         | 60.2 | 13.2 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,3-Butadiene               | 3.61        | U         | 60.2 | 3.61 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| <b>2-Butanone (MEK)</b>     | <b>40.4</b> | <b>J</b>  | 120  | 22.9 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Carbon disulfide            | 12.0        | U         | 60.2 | 12.0 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Carbon tetrachloride        | 6.14        | U         | 60.2 | 6.14 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Chlorobenzene               | 3.61        | U         | 60.2 | 3.61 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 2-Chloro-1,3-butadiene      | 8.30        | U         | 60.2 | 8.30 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Chlorodibromomethane        | 7.70        | U         | 60.2 | 7.70 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Chloroethane                | 3.13        | U         | 60.2 | 3.13 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Chloroform                  | 10.5        | U         | 60.2 | 10.5 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1-Chlorohexane              | 6.62        | U         | 60.2 | 6.62 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Chloromethane               | 14.4        | U         | 60.2 | 14.4 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 2-Chlorotoluene             | 3.61        | U         | 60.2 | 3.61 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 4-Chlorotoluene             | 8.30        | U         | 60.2 | 8.30 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| cis-1,4-Dichloro-2-butene   | 3.85        | U         | 60.2 | 3.85 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| cis-1,2-Dichloroethene      | 6.86        | U         | 60.2 | 6.86 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| cis-1,3-Dichloropropene     | 2.41        | U         | 60.2 | 2.41 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Cyclohexane                 | 11.9        | U         | 120  | 11.9 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Cyclohexanone               | 120         | U         | 1200 | 120  | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,2-Dibromo-3-Chloropropane | 3.97        | U         | 60.2 | 3.97 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Dibromomethane              | 8.54        | U         | 60.2 | 8.54 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,3-Dichlorobenzene         | 3.73        | U         | 60.2 | 3.73 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,2-Dichlorobenzene         | 3.01        | U         | 60.2 | 3.01 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,4-Dichlorobenzene         | 3.85        | U         | 60.2 | 3.85 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Dichlorobromomethane        | 2.41        | U         | 60.2 | 2.41 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Dichlorodifluoromethane     | 8.78        | U         | 60.2 | 8.78 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,2-Dichloroethane          | 6.26        | U         | 60.2 | 6.26 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,1-Dichloroethane          | 7.10        | U         | 60.2 | 7.10 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,1-Dichloroethene          | 6.02        | U         | 60.2 | 6.02 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,2-Dichloroethene, Total   | 6.02        | U         | 60.2 | 6.02 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,2-Dichloropropane         | 6.02        | U         | 60.2 | 6.02 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 2,2-Dichloropropane         | 10.1        | U         | 60.2 | 10.1 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,3-Dichloropropane         | 3.61        | U         | 60.2 | 3.61 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,1-Dichloropropene         | 6.26        | U         | 60.2 | 6.26 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,3-Dichloropropene, Total  | 6.26        | U         | 60.2 | 6.26 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,4-Dioxane                 | 229         | U         | 1200 | 229  | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| EDB                         | 3.61        | U         | 60.2 | 3.61 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Ethyl acetate               | 33.8        | U         | 60.2 | 33.8 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Ethylbenzene                | 5.41        | U         | 60.2 | 5.41 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Ethylene oxide              | 361         | U         | 1200 | 361  | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Ethyl ether                 | 6.02        | U         | 301  | 6.02 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Ethyl methacrylate          | 6.14        | U         | 60.2 | 6.14 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM310**

**Lab Sample ID: 560-62041-1**

**Date Collected: 06/09/16 10:38**

**Matrix: Solid**

**Date Received: 06/10/16 08:00**

**Percent Solids: 39.6**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                               | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
| Hexachlorobutadiene                   | 7.70   | U         | 60.2 | 7.70 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Hexane                                | 15.6   | U         | 60.2 | 15.6 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 2-Hexanone                            | 18.0   | U         | 120  | 18.0 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Iodomethane                           | 9.62   | U         | 60.2 | 9.62 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Isobutyl alcohol                      | 818    | U         | 3010 | 818  | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Isooctane                             | 6.02   | U         | 60.2 | 6.02 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Isopropylbenzene                      | 6.02   | U         | 60.2 | 6.02 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 4-Isopropyltoluene                    | 4.75   | U         | 60.2 | 4.75 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Methacrylonitrile                     | 28.9   | U         | 602  | 28.9 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Methylene Chloride                    | 60.2   | U         | 301  | 60.2 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Methyl methacrylate                   | 13.2   | U         | 60.2 | 13.2 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 4-Methyl-2-pentanone (MIBK)           | 18.0   | U         | 120  | 18.0 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Methyl tert-butyl ether               | 7.34   | U         | 60.2 | 7.34 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| m-Xylene & p-Xylene                   | 6.02   | U         | 120  | 6.02 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Naphthalene                           | 14.4   | U         | 120  | 14.4 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| n-Butylbenzene                        | 3.25   | U         | 60.2 | 3.25 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| n-Heptane                             | 6.38   | U         | 60.2 | 6.38 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 2-Nitropropane                        | 6.26   | U         | 120  | 6.26 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| N-Propylbenzene                       | 3.61   | U         | 60.2 | 3.61 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1-Octene                              | 6.02   | U         | 60.2 | 6.02 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| o-Xylene                              | 4.81   | U         | 60.2 | 4.81 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Pentachloroethane                     | 16.8   | U         | 60.2 | 16.8 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Propionitrile                         | 58.9   | U         | 602  | 58.9 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| sec-Butylbenzene                      | 3.61   | U         | 60.2 | 3.61 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Styrene                               | 3.61   | U         | 60.2 | 3.61 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| tert-Butylbenzene                     | 3.01   | U         | 60.2 | 3.01 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,1,2,2-Tetrachloroethane             | 4.57   | U         | 60.2 | 4.57 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,1,1,2-Tetrachloroethane             | 3.25   | U         | 60.2 | 3.25 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Tetrachloroethene                     | 8.90   | U         | 60.2 | 8.90 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Toluene                               | 10.8   | U         | 60.2 | 10.8 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| trans-1,4-Dichloro-2-butene           | 10.6   | U         | 60.2 | 10.6 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| trans-1,2-Dichloroethene              | 6.02   | U         | 60.2 | 6.02 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| trans-1,3-Dichloropropene             | 6.26   | U         | 60.2 | 6.26 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,2,4-Trichlorobenzene                | 11.7   | U         | 60.2 | 11.7 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,2,3-Trichlorobenzene                | 5.29   | U         | 60.2 | 5.29 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,3,5-Trichlorobenzene                | 3.73   | U         | 60.2 | 3.73 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,1,1-Trichloroethane                 | 6.02   | U         | 60.2 | 6.02 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,1,2-Trichloroethane                 | 6.02   | U         | 60.2 | 6.02 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Trichloroethene                       | 3.37   | U         | 60.2 | 3.37 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Trichlorofluoromethane                | 6.02   | U         | 60.2 | 6.02 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,2,3-Trichloropropane                | 9.14   | U         | 60.2 | 9.14 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 8.06   | U         | 60.2 | 8.06 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,2,4-Trimethylbenzene                | 4.57   | U         | 60.2 | 4.57 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| 1,3,5-Trimethylbenzene                | 4.21   | U         | 60.2 | 4.21 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Vinyl acetate                         | 13.2   | U         | 60.2 | 13.2 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Vinyl chloride                        | 7.22   | U         | 60.2 | 7.22 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |
| Xylenes, Total                        | 6.02   | U         | 120  | 6.02 | ug/Kg | ☼ |          | 06/15/16 19:11 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 105       |           | 61 - 142 |          | 06/15/16 19:11 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM310**

**Date Collected: 06/09/16 10:38**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-1**

**Matrix: Solid**

**Percent Solids: 39.6**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| Dibromofluoromethane (Surr)  | 104       |           | 50 - 136 |          | 06/15/16 19:11 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 109       |           | 65 - 152 |          | 06/15/16 19:11 | 1       |
| Toluene-d8 (Surr)            | 97        |           | 65 - 139 |          | 06/15/16 19:11 | 1       |

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

| Analyte                     | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Acenaphthene                | 81.1   | U         | 811  | 81.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Acenaphthylene              | 66.8   | U         | 811  | 66.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Anthracene                  | 90.7   | U         | 811  | 90.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Benzo[a]anthracene          | 100    | U         | 811  | 100  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Benzo[a]pyrene              | 81.1   | U         | 811  | 81.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Benzo[b]fluoranthene        | 71.6   | U         | 811  | 71.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Benzo[g,h,i]perylene        | 71.6   | U         | 811  | 71.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Benzo[k]fluoranthene        | 62.0   | U         | 811  | 62.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Benzyl alcohol              | 172    | U         | 811  | 172  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Bis(2-chloroethoxy)methane  | 81.1   | U         | 811  | 81.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Bis(2-chloroethyl)ether     | 124    | U         | 811  | 124  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Bis(2-ethylhexyl) phthalate | 124    | U         | 811  | 124  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 4-Bromophenyl phenyl ether  | 105    | U         | 811  | 105  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Butyl benzyl phthalate      | 66.8   | U         | 811  | 66.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 4-Chloroaniline             | 143    | U         | 811  | 143  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 4-Chloro-3-methylphenol     | 115    | U         | 811  | 115  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2-Chloronaphthalene         | 81.1   | U         | 811  | 81.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2-Chlorophenol              | 81.1   | U         | 811  | 81.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 4-Chlorophenyl phenyl ether | 110    | U         | 811  | 110  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Chrysene                    | 71.6   | U         | 811  | 71.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Dibenz(a,h)anthracene       | 66.8   | U         | 811  | 66.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Dibenzofuran                | 90.7   | U         | 811  | 90.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 1,3-Dichlorobenzene         | 85.9   | U         | 811  | 85.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 1,4-Dichlorobenzene         | 105    | U         | 811  | 105  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 1,2-Dichlorobenzene         | 90.7   | U         | 811  | 90.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 3,3'-Dichlorobenzidine      | 764    | U         | 811  | 764  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2,4-Dichlorophenol          | 81.1   | U         | 811  | 81.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Diethyl phthalate           | 76.4   | U         | 811  | 76.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2,4-Dimethylphenol          | 267    | U         | 811  | 267  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Dimethyl phthalate          | 81.1   | U         | 811  | 81.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Di-n-butyl phthalate        | 172    | U         | 811  | 172  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 4,6-Dinitro-2-methylphenol  | 143    | U         | 3150 | 143  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2,4-Dinitrophenol           | 143    | U         | 3150 | 143  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2,6-Dinitrotoluene          | 105    | U         | 811  | 105  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2,4-Dinitrotoluene          | 76.4   | U         | 811  | 76.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Di-n-octyl phthalate        | 62.0   | U         | 811  | 62.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Fluoranthene                | 81.1   | U         | 811  | 81.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Fluorene                    | 90.7   | U         | 811  | 90.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Hexachlorobenzene           | 95.5   | U         | 811  | 95.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Hexachlorobutadiene         | 134    | U         | 811  | 134  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Hexachlorocyclopentadiene   | 239    | U         | 811  | 239  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Hexachloroethane            | 95.5   | U         | 811  | 95.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Indeno[1,2,3-cd]pyrene      | 76.4   | U         | 811  | 76.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM310**

**Date Collected: 06/09/16 10:38**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-1**

**Matrix: Solid**

**Percent Solids: 39.6**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                       | Result     | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|------------|-----------|------|------|-------|---|----------------|----------------|---------|
| Isophorone                    | 71.6       | U         | 811  | 71.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2-Methylnaphthalene           | 71.6       | U         | 811  | 71.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2-Methylphenol                | 95.5       | U         | 811  | 95.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| <b>3 &amp; 4 Methylphenol</b> | <b>883</b> | <b>J</b>  | 1620 | 134  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Naphthalene                   | 76.4       | U         | 811  | 76.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2-Nitroaniline                | 105        | U         | 811  | 105  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 3-Nitroaniline                | 81.1       | U         | 811  | 81.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 4-Nitroaniline                | 134        | U         | 811  | 134  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Nitrobenzene                  | 71.6       | U         | 811  | 71.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2-Nitrophenol                 | 76.4       | U         | 811  | 76.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 4-Nitrophenol                 | 143        | U         | 3150 | 143  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| N-Nitrosodi-n-propylamine     | 119        | U         | 811  | 119  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| N-Nitrosodiphenylamine        | 105        | U         | 811  | 105  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Pentachlorophenol             | 1570       | U         | 3150 | 1570 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Phenanthrene                  | 100        | U         | 811  | 100  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Phenol                        | 90.7       | U         | 811  | 90.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Pyrene                        | 81.1       | U         | 811  | 81.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 1,2,4-Trichlorobenzene        | 76.4       | U         | 811  | 76.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2,4,6-Trichlorophenol         | 85.9       | U         | 811  | 85.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2,4,5-Trichlorophenol         | 148        | U         | 811  | 148  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 16:04 | 1       |

| Surrogate            | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2-Fluorophenol       | 36        |           | 24 - 101 | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Nitrobenzene-d5      | 20        |           | 17 - 112 | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2-Fluorobiphenyl     | 39        |           | 32 - 101 | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| 2,4,6-Tribromophenol | 80        |           | 21 - 130 | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Terphenyl-d14        | 71        |           | 62 - 129 | 06/21/16 07:56 | 06/21/16 16:04 | 1       |
| Phenol-d5 (Surr)     | 42        |           | 23 - 106 | 06/21/16 07:56 | 06/21/16 16:04 | 1       |

## Method: 8081B - Organochlorine Pesticides (GC)

| Analyte             | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Aldrin              | 3.29   | U *       | 4.26 | 3.29 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| alpha-BHC           | 2.51   | U *       | 4.26 | 2.51 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| alpha-Chlordane     | 3.99   | U *       | 8.28 | 3.99 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| beta-BHC            | 2.56   | U *       | 4.26 | 2.56 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| 4,4'-DDD            | 4.06   | U *       | 8.28 | 4.06 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| 4,4'-DDE            | 3.64   | U *       | 8.28 | 3.64 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| 4,4'-DDT            | 4.64   | U *       | 8.28 | 4.64 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| delta-BHC           | 2.13   | U *       | 4.26 | 2.13 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| Dieldrin            | 3.49   | U *       | 8.28 | 3.49 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| Endosulfan I        | 2.51   | U *       | 4.26 | 2.51 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| Endosulfan II       | 3.79   | U *       | 4.26 | 3.79 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| Endosulfan sulfate  | 4.21   | U *       | 8.28 | 4.21 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| Endrin              | 3.84   | U *       | 8.28 | 3.84 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| Endrin aldehyde     | 3.91   | U *       | 8.28 | 3.91 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| Endrin ketone       | 3.86   | U *       | 8.28 | 3.86 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| gamma-BHC (Lindane) | 2.33   | U *       | 4.26 | 2.33 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| gamma-Chlordane     | 3.13   | U *       | 8.28 | 3.13 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| Heptachlor          | 2.33   | U *       | 4.26 | 2.33 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| Heptachlor epoxide  | 2.93   | U *       | 4.26 | 2.93 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM310**

**Date Collected: 06/09/16 10:38**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-1**

**Matrix: Solid**

**Percent Solids: 39.6**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

| Analyte                | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Methoxychlor           | 20.2      | U *       | 42.6     | 20.2 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| Toxaphene              | 183       | U *       | 426      | 183  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| Surrogate              | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| Tetrachloro-m-xylene   | 77        | *         | 50 - 143 |      |       |   | 06/16/16 09:25 | 06/23/16 18:22 | 1       |
| DCB Decachlorobiphenyl | 87        | *         | 47 - 150 |      |       |   | 06/16/16 09:25 | 06/23/16 18:22 | 1       |

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte                | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| PCB-1016               | 12.7      | U         | 82.4     | 12.7 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:10 | 1       |
| PCB-1221               | 12.7      | U         | 82.4     | 12.7 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:10 | 1       |
| PCB-1232               | 12.7      | U         | 82.4     | 12.7 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:10 | 1       |
| PCB-1242               | 12.7      | U         | 82.4     | 12.7 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:10 | 1       |
| PCB-1248               | 12.7      | U         | 82.4     | 12.7 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:10 | 1       |
| PCB-1254               | 12.7      | U         | 82.4     | 12.7 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:10 | 1       |
| PCB-1260               | 25.0      | U         | 82.4     | 25.0 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:10 | 1       |
| Aroclor 1262           | 12.7      | U         | 82.4     | 12.7 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:10 | 1       |
| Aroclor 1268           | 12.7      | U         | 82.4     | 12.7 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:10 | 1       |
| Surrogate              | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| Tetrachloro-m-xylene   | 101       |           | 32 - 132 |      |       |   | 06/22/16 07:52 | 06/23/16 14:10 | 1       |
| DCB Decachlorobiphenyl | 94        |           | 57 - 138 |      |       |   | 06/22/16 07:52 | 06/23/16 14:10 | 1       |

## Method: 8141A - Organophosphorous Pesticides (GC)

| Analyte                       | Result | Qualifier | RL    | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|--------|-----------|-------|------|-------|---|----------------|----------------|---------|
| Azinophos methyl              | 829    | U         | 3080  | 829  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Bolstar                       | 1000   | U         | 3080  | 1000 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Chlorpyrifos                  | 1530   | U         | 4740  | 1530 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Coumaphos                     | 663    | U         | 3080  | 663  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Demeton-O                     | 1250   | U         | 9240  | 1250 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Demeton-S                     | 1150   | U         | 3550  | 1150 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Diazinon                      | 1720   | U         | 5210  | 1720 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Dichlorvos                    | 1750   | U         | 5450  | 1750 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Dimethoate                    | 1680   | U         | 5210  | 1680 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Disulfoton                    | 1830   | U         | 11400 | 1830 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| EPN                           | 872    | U         | 3080  | 872  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Ethoprop                      | 1170   | U         | 3550  | 1170 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Ethyl Parathion               | 1250   | U         | 4260  | 1250 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Famphur                       | 763    | U         | 3080  | 763  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Fensulfothion                 | 1930   | U         | 5920  | 1930 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Fenthion                      | 2070   | U         | 7820  | 2070 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Malathion                     | 1100   | U         | 3550  | 1100 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Merphos                       | 1220   | U         | 7110  | 1220 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Methyl parathion              | 1510   | U         | 4740  | 1510 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Mevinphos                     | 1090   | U         | 3550  | 1090 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Naled                         | 5350   | U         | 16600 | 5350 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Phorate                       | 1350   | U         | 4740  | 1350 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Ronnel                        | 3600   | U         | 10900 | 3600 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Sulfotepp                     | 1480   | U         | 4740  | 1480 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Tetrachlorvinphos (Stirophos) | 1030   | U         | 3550  | 1030 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HMSM310**

**Date Collected: 06/09/16 10:38**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-1**

**Matrix: Solid**

**Percent Solids: 39.6**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

| Analyte            | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Thionazin          | 1320      | U         | 4260     | 1320 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Tokuthion          | 926       | U         | 4740     | 926  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Trichloronate      | 1480      | U         | 4740     | 1480 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Surrogate          | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| Chlormefos         | 68        | D         | 42 - 132 |      |       |   | 06/22/16 12:40 | 07/06/16 20:10 | 100     |
| Triphenylphosphate | 95        | D         | 47 - 161 |      |       |   | 06/22/16 12:40 | 07/06/16 20:10 | 100     |

## Method: 8151A - Herbicides (GC)

| Analyte           | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| 2,4-D             | 1.43      | U         | 16.8     | 1.43 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 18:47 | 1       |
| 2,4-DB            | 2.77      | U         | 16.8     | 2.77 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 18:47 | 1       |
| Dicamba           | 1.93      | U         | 16.8     | 1.93 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 18:47 | 1       |
| Dichlorprop       | 1.89      | U         | 16.8     | 1.89 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 18:47 | 1       |
| Dinoseb           | 1.34      | U         | 16.8     | 1.34 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 18:47 | 1       |
| MCPA              | 273       | U         | 168      | 273  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 18:47 | 1       |
| Mecoprop          | 193       | U         | 168      | 193  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 18:47 | 1       |
| Silvex (2,4,5-TP) | 1.81      | U         | 16.8     | 1.81 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 18:47 | 1       |
| 2,4,5-T           | 1.85      | U         | 16.8     | 1.85 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 18:47 | 1       |
| Surrogate         | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| 2,4-DCAA          | 84        |           | 22 - 130 |      |       |   | 06/20/16 08:59 | 06/22/16 18:47 | 1       |

## Method: 8151A - Herbicides (GC)

| Analyte   | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Dalapon   | 7.26      | U         | 250      | 7.26 | ug/Kg | ☼ | 06/21/16 15:57 | 06/23/16 19:39 | 1       |
| Surrogate | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| 2,4-DCAA  | 45        |           | 35 - 137 |      |       |   | 06/21/16 15:57 | 06/23/16 19:39 | 1       |

## Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte      | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| Bromide      | 2.51   | U         | 9.99 | 2.51  | mg/Kg | ☼ |          | 06/23/16 03:14 | 1       |
| Nitrate as N | 3.65   | J H       | 4.99 | 0.627 | mg/Kg | ☼ |          | 06/23/16 03:14 | 1       |
| Chloride     | 42.8   |           | 9.99 | 1.33  | mg/Kg | ☼ |          | 06/23/16 03:14 | 1       |
| Fluoride     | 6.20   |           | 4.99 | 1.50  | mg/Kg | ☼ |          | 06/23/16 03:14 | 1       |
| Sulfate      | 507    |           | 12.5 | 2.39  | mg/Kg | ☼ |          | 06/23/16 03:14 | 1       |

## Method: 6010B - Metals (ICP)

| Analyte    | Result | Qualifier | RL   | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|------|--------|-------|---|----------------|----------------|---------|
| Aluminum   | 5560   |           | 10.5 | 6.46   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Phosphorus | 592    |           | 105  | 3.49   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Antimony   | 0.562  | U         | 4.21 | 0.562  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Calcium    | 71700  |           | 105  | 30.5   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Arsenic    | 7.44   |           | 4.21 | 0.305  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Magnesium  | 1730   |           | 42.1 | 3.33   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Barium     | 60.4   |           | 2.11 | 0.398  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Potassium  | 1110   |           | 211  | 32.0   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Beryllium  | 0.586  | J         | 1.05 | 0.0568 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Silicon    | 5270   |           | 42.1 | 13.3   | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 13:57 | 1       |
| Cadmium    | 1.20   |           | 1.05 | 0.0758 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HMSM310**

**Date Collected: 06/09/16 10:38**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-1**

**Matrix: Solid**

**Percent Solids: 39.6**

## Method: 6010B - Metals (ICP) (Continued)

| Analyte   | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|-------|---|----------------|----------------|---------|
| Sodium    | 91.1   | J         | 211  | 31.8  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Chromium  | 13.7   |           | 2.11 | 0.282 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Strontium | 107    |           | 2.11 | 0.164 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Copper    | 7.24   |           | 4.21 | 0.423 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Iron      | 11400  |           | 42.1 | 10.5  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Lead      | 11.5   |           | 1.05 | 0.320 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Manganese | 710    |           | 5.26 | 0.979 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Nickel    | 10.6   |           | 4.21 | 0.261 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Selenium  | 1.44   | J         | 2.11 | 0.417 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Silver    | 0.232  | U         | 1.05 | 0.232 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Thallium  | 0.251  | U         | 2.11 | 0.251 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |
| Zinc      | 30.4   |           | 5.26 | 1.20  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:28 | 1       |

## Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Mercury | 0.0261 | J         | 0.271 | 0.0244 | mg/Kg | ☼ | 06/15/16 10:00 | 06/15/16 16:56 | 1       |

## General Chemistry

| Analyte | Result | Qualifier | RL    | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| pH      | 7.48   |           | 0.100 | 0.100  | SU   |   |          | 06/15/16 14:26 | 1       |
| TOC     | 4.44   |           | 0.100 | 0.0415 | %    |   |          | 06/24/16 09:00 | 1       |

## General Chemistry - Soluble

| Analyte                         | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
| Alkalinity                      | 404    |           | 12.4 | 12.4 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Bicarbonate Alkalinity as CaCO3 | 404    |           | 12.4 | 12.4 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Carbonate Alkalinity as CaCO3   | 12.4   | U         | 12.4 | 12.4 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |

**Client Sample ID: HMSM320**

**Date Collected: 06/09/16 11:02**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-2**

**Matrix: Solid**

**Percent Solids: 28.7**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte                | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
| Acetone                | 247    | J         | 685  | 98.7 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Acetonitrile           | 507    | U         | 685  | 507  | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Benzene                | 8.64   | U         | 68.5 | 8.64 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Benzyl chloride        | 6.85   | U         | 68.5 | 6.85 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Bromobenzene           | 10.1   | U         | 68.5 | 10.1 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Bromochloromethane     | 12.3   | U         | 68.5 | 12.3 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Bromoform              | 6.99   | U         | 68.5 | 6.99 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Bromomethane           | 15.1   | U         | 68.5 | 15.1 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,3-Butadiene          | 4.11   | U         | 68.5 | 4.11 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 2-Butanone (MEK)       | 33.3   | J         | 137  | 26.0 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Carbon disulfide       | 13.7   | U         | 68.5 | 13.7 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Carbon tetrachloride   | 6.99   | U         | 68.5 | 6.99 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Chlorobenzene          | 4.11   | U         | 68.5 | 4.11 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 2-Chloro-1,3-butadiene | 9.46   | U         | 68.5 | 9.46 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Chlorodibromomethane   | 8.77   | U         | 68.5 | 8.77 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Chloroethane           | 3.56   | U         | 68.5 | 3.56 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM320**

**Lab Sample ID: 560-62041-2**

**Date Collected: 06/09/16 11:02**

**Matrix: Solid**

**Date Received: 06/10/16 08:00**

**Percent Solids: 28.7**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                     | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
| Chloroform                  | 11.9   | U         | 68.5 | 11.9 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1-Chlorohexane              | 7.54   | U         | 68.5 | 7.54 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Chloromethane               | 16.5   | U         | 68.5 | 16.5 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 2-Chlorotoluene             | 4.11   | U         | 68.5 | 4.11 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 4-Chlorotoluene             | 9.46   | U         | 68.5 | 9.46 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| cis-1,4-Dichloro-2-butene   | 4.39   | U         | 68.5 | 4.39 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| cis-1,2-Dichloroethene      | 7.81   | U         | 68.5 | 7.81 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| cis-1,3-Dichloropropene     | 2.74   | U         | 68.5 | 2.74 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Cyclohexane                 | 13.6   | U         | 137  | 13.6 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Cyclohexanone               | 137    | U         | 1370 | 137  | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,2-Dibromo-3-Chloropropane | 4.52   | U         | 68.5 | 4.52 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Dibromomethane              | 9.73   | U         | 68.5 | 9.73 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,3-Dichlorobenzene         | 4.25   | U         | 68.5 | 4.25 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,2-Dichlorobenzene         | 3.43   | U         | 68.5 | 3.43 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,4-Dichlorobenzene         | 4.39   | U         | 68.5 | 4.39 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Dichlorobromomethane        | 2.74   | U         | 68.5 | 2.74 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Dichlorodifluoromethane     | 10.0   | U         | 68.5 | 10.0 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,2-Dichloroethane          | 7.13   | U         | 68.5 | 7.13 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,1-Dichloroethane          | 8.09   | U         | 68.5 | 8.09 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,1-Dichloroethene          | 6.85   | U         | 68.5 | 6.85 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,2-Dichloroethene, Total   | 6.85   | U         | 68.5 | 6.85 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,2-Dichloropropane         | 6.85   | U         | 68.5 | 6.85 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 2,2-Dichloropropane         | 11.5   | U         | 68.5 | 11.5 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,3-Dichloropropane         | 4.11   | U         | 68.5 | 4.11 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,1-Dichloropropene         | 7.13   | U         | 68.5 | 7.13 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,3-Dichloropropene, Total  | 7.13   | U         | 68.5 | 7.13 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,4-Dioxane                 | 260    | U         | 1370 | 260  | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| EDB                         | 4.11   | U         | 68.5 | 4.11 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Ethyl acetate               | 38.5   | U         | 68.5 | 38.5 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Ethylbenzene                | 6.17   | U         | 68.5 | 6.17 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Ethylene oxide              | 411    | U         | 1370 | 411  | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Ethyl ether                 | 6.85   | U         | 343  | 6.85 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Ethyl methacrylate          | 6.99   | U         | 68.5 | 6.99 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Hexachlorobutadiene         | 8.77   | U         | 68.5 | 8.77 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Hexane                      | 17.8   | U         | 68.5 | 17.8 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 2-Hexanone                  | 20.6   | U         | 137  | 20.6 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Iodomethane                 | 11.0   | U         | 68.5 | 11.0 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Isobutyl alcohol            | 932    | U         | 3430 | 932  | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Isooctane                   | 6.85   | U         | 68.5 | 6.85 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Isopropylbenzene            | 6.85   | U         | 68.5 | 6.85 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 4-Isopropyltoluene          | 5.41   | U         | 68.5 | 5.41 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Methacrylonitrile           | 32.9   | U         | 685  | 32.9 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Methylene Chloride          | 68.5   | U         | 343  | 68.5 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Methyl methacrylate         | 15.1   | U         | 68.5 | 15.1 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 4-Methyl-2-pentanone (MIBK) | 20.6   | U         | 137  | 20.6 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Methyl tert-butyl ether     | 8.36   | U         | 68.5 | 8.36 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| m-Xylene & p-Xylene         | 6.85   | U         | 137  | 6.85 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Naphthalene                 | 16.5   | U         | 137  | 16.5 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| n-Butylbenzene              | 3.70   | U         | 68.5 | 3.70 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM320**

**Date Collected: 06/09/16 11:02**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-2**

**Matrix: Solid**

**Percent Solids: 28.7**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                               | Result     | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|------------|-----------|------|------|-------|---|----------|----------------|---------|
| n-Heptane                             | 7.27       | U         | 68.5 | 7.27 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 2-Nitropropane                        | 7.13       | U         | 137  | 7.13 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| N-Propylbenzene                       | 4.11       | U         | 68.5 | 4.11 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1-Octene                              | 6.85       | U         | 68.5 | 6.85 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| o-Xylene                              | 5.48       | U         | 68.5 | 5.48 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Pentachloroethane                     | 19.2       | U         | 68.5 | 19.2 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Propionitrile                         | 67.2       | U         | 685  | 67.2 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| sec-Butylbenzene                      | 4.11       | U         | 68.5 | 4.11 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Styrene                               | 4.11       | U         | 68.5 | 4.11 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| tert-Butylbenzene                     | 3.43       | U         | 68.5 | 3.43 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,1,2,2-Tetrachloroethane             | 5.21       | U         | 68.5 | 5.21 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,1,1,2-Tetrachloroethane             | 3.70       | U         | 68.5 | 3.70 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Tetrachloroethene                     | 10.1       | U         | 68.5 | 10.1 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| <b>Toluene</b>                        | <b>129</b> |           | 68.5 | 12.3 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| trans-1,4-Dichloro-2-butene           | 12.1       | U         | 68.5 | 12.1 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| trans-1,2-Dichloroethene              | 6.85       | U         | 68.5 | 6.85 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| trans-1,3-Dichloropropene             | 7.13       | U         | 68.5 | 7.13 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,2,4-Trichlorobenzene                | 13.3       | U         | 68.5 | 13.3 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,2,3-Trichlorobenzene                | 6.03       | U         | 68.5 | 6.03 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,3,5-Trichlorobenzene                | 4.25       | U         | 68.5 | 4.25 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,1,1-Trichloroethane                 | 6.85       | U         | 68.5 | 6.85 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,1,2-Trichloroethane                 | 6.85       | U         | 68.5 | 6.85 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Trichloroethene                       | 3.84       | U         | 68.5 | 3.84 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Trichlorofluoromethane                | 6.85       | U         | 68.5 | 6.85 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,2,3-Trichloropropane                | 10.4       | U         | 68.5 | 10.4 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 9.18       | U         | 68.5 | 9.18 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,2,4-Trimethylbenzene                | 5.21       | U         | 68.5 | 5.21 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| 1,3,5-Trimethylbenzene                | 4.80       | U         | 68.5 | 4.80 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Vinyl acetate                         | 15.1       | U         | 68.5 | 15.1 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Vinyl chloride                        | 8.23       | U         | 68.5 | 8.23 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |
| Xylenes, Total                        | 6.85       | U         | 137  | 6.85 | ug/Kg | ☼ |          | 06/15/16 19:36 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr)  | 103       |           | 61 - 142 |          | 06/15/16 19:36 | 1       |
| Dibromofluoromethane (Surr)  | 107       |           | 50 - 136 |          | 06/15/16 19:36 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 108       |           | 65 - 152 |          | 06/15/16 19:36 | 1       |
| Toluene-d8 (Surr)            | 96        |           | 65 - 139 |          | 06/15/16 19:36 | 1       |

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

| Analyte                     | Result      | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-------------|-----------|------|------|-------|---|----------------|----------------|---------|
| Acenaphthene                | 111         | U         | 1110 | 111  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Acenaphthylene              | 91.5        | U         | 1110 | 91.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| <b>Anthracene</b>           | <b>232</b>  | <b>J</b>  | 1110 | 124  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| <b>Benzo[a]anthracene</b>   | <b>1850</b> |           | 1110 | 137  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| <b>Benzo[a]pyrene</b>       | <b>2090</b> |           | 1110 | 111  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| <b>Benzo[b]fluoranthene</b> | <b>3670</b> |           | 1110 | 98.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| <b>Benzo[g,h,i]perylene</b> | <b>1550</b> |           | 1110 | 98.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| <b>Benzo[k]fluoranthene</b> | <b>1300</b> |           | 1110 | 85.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Benzyl alcohol              | 235         | U         | 1110 | 235  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Bis(2-chloroethoxy)methane  | 111         | U         | 1110 | 111  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM320**

**Date Collected: 06/09/16 11:02**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-2**

**Matrix: Solid**

**Percent Solids: 28.7**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                            | Result      | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------|-------------|-----------|------|------|-------|---|----------------|----------------|---------|
| Bis(2-chloroethyl)ether            | 170         | U         | 1110 | 170  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| <b>Bis(2-ethylhexyl) phthalate</b> | <b>350</b>  | <b>J</b>  | 1110 | 170  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 4-Bromophenyl phenyl ether         | 144         | U         | 1110 | 144  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Butyl benzyl phthalate             | 91.5        | U         | 1110 | 91.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 4-Chloroaniline                    | 196         | U         | 1110 | 196  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 4-Chloro-3-methylphenol            | 157         | U         | 1110 | 157  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2-Chloronaphthalene                | 111         | U         | 1110 | 111  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2-Chlorophenol                     | 111         | U         | 1110 | 111  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 4-Chlorophenyl phenyl ether        | 150         | U         | 1110 | 150  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| <b>Chrysene</b>                    | <b>2620</b> |           | 1110 | 98.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| <b>Dibenz(a,h)anthracene</b>       | <b>606</b>  | <b>J</b>  | 1110 | 91.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Dibenzofuran                       | 124         | U         | 1110 | 124  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 1,3-Dichlorobenzene                | 118         | U         | 1110 | 118  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 1,4-Dichlorobenzene                | 144         | U         | 1110 | 144  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 1,2-Dichlorobenzene                | 124         | U         | 1110 | 124  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 3,3'-Dichlorobenzidine             | 1050        | U         | 1110 | 1050 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2,4-Dichlorophenol                 | 111         | U         | 1110 | 111  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Diethyl phthalate                  | 105         | U         | 1110 | 105  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2,4-Dimethylphenol                 | 366         | U         | 1110 | 366  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Dimethyl phthalate                 | 111         | U         | 1110 | 111  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Di-n-butyl phthalate               | 235         | U         | 1110 | 235  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 4,6-Dinitro-2-methylphenol         | 196         | U         | 4310 | 196  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2,4-Dinitrophenol                  | 196         | U         | 4310 | 196  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2,6-Dinitrotoluene                 | 144         | U         | 1110 | 144  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2,4-Dinitrotoluene                 | 105         | U         | 1110 | 105  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Di-n-octyl phthalate               | 85.0        | U         | 1110 | 85.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| <b>Fluoranthene</b>                | <b>4380</b> |           | 1110 | 111  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Fluorene                           | 124         | U         | 1110 | 124  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Hexachlorobenzene                  | 131         | U         | 1110 | 131  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Hexachlorobutadiene                | 183         | U         | 1110 | 183  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Hexachlorocyclopentadiene          | 327         | U         | 1110 | 327  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Hexachloroethane                   | 131         | U         | 1110 | 131  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| <b>Indeno[1,2,3-cd]pyrene</b>      | <b>1640</b> |           | 1110 | 105  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Isophorone                         | 98.1        | U         | 1110 | 98.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2-Methylnaphthalene                | 98.1        | U         | 1110 | 98.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2-Methylphenol                     | 131         | U         | 1110 | 131  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| <b>3 &amp; 4 Methylphenol</b>      | <b>289</b>  | <b>J</b>  | 2220 | 183  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Naphthalene                        | 105         | U         | 1110 | 105  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2-Nitroaniline                     | 144         | U         | 1110 | 144  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 3-Nitroaniline                     | 111         | U         | 1110 | 111  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 4-Nitroaniline                     | 183         | U         | 1110 | 183  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Nitrobenzene                       | 98.1        | U         | 1110 | 98.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2-Nitrophenol                      | 105         | U         | 1110 | 105  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 4-Nitrophenol                      | 196         | U         | 4310 | 196  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| N-Nitrosodi-n-propylamine          | 163         | U         | 1110 | 163  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| N-Nitrosodiphenylamine             | 144         | U         | 1110 | 144  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Pentachlorophenol                  | 2160        | U         | 4310 | 2160 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| <b>Phenanthrene</b>                | <b>1230</b> |           | 1110 | 137  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Phenol                             | 124         | U         | 1110 | 124  | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HMSM320**

**Date Collected: 06/09/16 11:02**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-2**

**Matrix: Solid**

**Percent Solids: 28.7**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                | Result      | Qualifier | RL       | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------|-------------|-----------|----------|-----|-------|---|----------------|----------------|---------|
| <b>Pyrene</b>          | <b>2980</b> |           | 1110     | 111 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 1,2,4-Trichlorobenzene | 105         | U         | 1110     | 105 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2,4,6-Trichlorophenol  | 118         | U         | 1110     | 118 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2,4,5-Trichlorophenol  | 203         | U         | 1110     | 203 | ug/Kg | ☼ | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Surrogate              | %Recovery   | Qualifier | Limits   |     |       |   | Prepared       | Analyzed       | Dil Fac |
| 2-Fluorophenol         | 43          |           | 24 - 101 |     |       |   | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Nitrobenzene-d5        | 38          |           | 17 - 112 |     |       |   | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2-Fluorobiphenyl       | 48          |           | 32 - 101 |     |       |   | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| 2,4,6-Tribromophenol   | 76          |           | 21 - 130 |     |       |   | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Terphenyl-d14          | 72          |           | 62 - 129 |     |       |   | 06/21/16 07:56 | 06/21/16 13:02 | 1       |
| Phenol-d5 (Surr)       | 47          |           | 23 - 106 |     |       |   | 06/21/16 07:56 | 06/21/16 13:02 | 1       |

## Method: 8081B - Organochlorine Pesticides (GC)

| Analyte                | Result      | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------|-------------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Aldrin                 | 4.53        | U *       | 5.88     | 4.53 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| alpha-BHC              | 3.46        | U *       | 5.88     | 3.46 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| alpha-Chlordane        | 5.50        | U *       | 11.4     | 5.50 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| beta-BHC               | 3.53        | U *       | 5.88     | 3.53 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| <b>4,4'-DDD</b>        | <b>16.0</b> | <b>*</b>  | 11.4     | 5.61 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| <b>4,4'-DDE</b>        | <b>103</b>  | <b>*</b>  | 11.4     | 5.02 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| 4,4'-DDT               | 6.40        | U *       | 11.4     | 6.40 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| delta-BHC              | 2.94        | U *       | 5.88     | 2.94 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| Dieldrin               | 4.81        | U *       | 11.4     | 4.81 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| Endosulfan I           | 3.46        | U *       | 5.88     | 3.46 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| Endosulfan II          | 5.23        | U *       | 5.88     | 5.23 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| Endosulfan sulfate     | 5.81        | U *       | 11.4     | 5.81 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| Endrin                 | 5.30        | U *       | 11.4     | 5.30 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| Endrin aldehyde        | 5.40        | U *       | 11.4     | 5.40 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| Endrin ketone          | 5.33        | U *       | 11.4     | 5.33 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| gamma-BHC (Lindane)    | 3.22        | U *       | 5.88     | 3.22 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| gamma-Chlordane        | 4.33        | U *       | 11.4     | 4.33 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| Heptachlor             | 3.22        | U *       | 5.88     | 3.22 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| Heptachlor epoxide     | 4.05        | U *       | 5.88     | 4.05 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| Methoxychlor           | 27.9        | U *       | 58.8     | 27.9 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| Toxaphene              | 253         | U *       | 588      | 253  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| Surrogate              | %Recovery   | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| Tetrachloro-m-xylene   | 120         | *         | 50 - 143 |      |       |   | 06/16/16 09:25 | 06/23/16 18:47 | 1       |
| DCB Decachlorobiphenyl | 131         | *         | 47 - 150 |      |       |   | 06/16/16 09:25 | 06/23/16 18:47 | 1       |

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte  | Result | Qualifier | RL  | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| PCB-1016 | 16.6   | U         | 108 | 16.6 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:30 | 1       |
| PCB-1221 | 16.6   | U         | 108 | 16.6 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:30 | 1       |
| PCB-1232 | 16.6   | U         | 108 | 16.6 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:30 | 1       |
| PCB-1242 | 16.6   | U         | 108 | 16.6 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:30 | 1       |
| PCB-1248 | 16.6   | U         | 108 | 16.6 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:30 | 1       |
| PCB-1254 | 16.6   | U         | 108 | 16.6 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:30 | 1       |
| PCB-1260 | 32.6   | U         | 108 | 32.6 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:30 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM320**

**Date Collected: 06/09/16 11:02**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-2**

**Matrix: Solid**

**Percent Solids: 28.7**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

| Analyte                | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Aroclor 1262           | 16.6      | U         | 108      | 16.6 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:30 | 1       |
| Aroclor 1268           | 16.6      | U         | 108      | 16.6 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 14:30 | 1       |
| Surrogate              | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| Tetrachloro-m-xylene   | 102       |           | 32 - 132 |      |       |   | 06/22/16 07:52 | 06/23/16 14:30 | 1       |
| DCB Decachlorobiphenyl | 90        |           | 57 - 138 |      |       |   | 06/22/16 07:52 | 06/23/16 14:30 | 1       |

## Method: 8141A - Organophosphorous Pesticides (GC)

| Analyte                       | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Azinophos methyl              | 1190      | U         | 4410     | 1190 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Bolstar                       | 1440      | U         | 4410     | 1440 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Chlorpyrifos                  | 2190      | U         | 6780     | 2190 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Coumaphos                     | 950       | U         | 4410     | 950  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Demeton-O                     | 1790      | U         | 13200    | 1790 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Demeton-S                     | 1650      | U         | 5090     | 1650 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Diazinon                      | 2470      | U         | 7460     | 2470 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Dichlorvos                    | 2510      | U         | 7800     | 2510 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Dimethoate                    | 2400      | U         | 7460     | 2400 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Disulfoton                    | 2620      | U         | 16300    | 2620 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| EPN                           | 1250      | U         | 4410     | 1250 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Ethoprop                      | 1670      | U         | 5090     | 1670 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Ethyl Parathion               | 1790      | U         | 6100     | 1790 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Famphur                       | 1090      | U         | 4410     | 1090 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Fensulfothion                 | 2760      | U         | 8480     | 2760 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Fenthion                      | 2960      | U         | 11200    | 2960 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Malathion                     | 1570      | U         | 5090     | 1570 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Merphos                       | 1740      | U         | 10200    | 1740 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Methyl parathion              | 2160      | U         | 6780     | 2160 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Mevinphos                     | 1570      | U         | 5090     | 1570 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Naled                         | 7660      | U         | 23700    | 7660 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Phorate                       | 1930      | U         | 6780     | 1930 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Ronnel                        | 5160      | U         | 15600    | 5160 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Sulfotepp                     | 2120      | U         | 6780     | 2120 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Tetrachlorvinphos (Stirophos) | 1480      | U         | 5090     | 1480 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Thionazin                     | 1890      | U         | 6100     | 1890 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Tokuthion                     | 1330      | U         | 6780     | 1330 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Trichloronate                 | 2120      | U         | 6780     | 2120 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Surrogate                     | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| Chlormefos                    | 53        | D         | 42 - 132 |      |       |   | 06/22/16 12:40 | 07/06/16 20:41 | 100     |
| Triphenylphosphate            | 88        | D         | 47 - 161 |      |       |   | 06/22/16 12:40 | 07/06/16 20:41 | 100     |

## Method: 8151A - Herbicides (GC)

| Analyte     | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| 2,4-D       | 1.97   | U         | 23.2 | 1.97 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:12 | 1       |
| 2,4-DB      | 3.83   | U         | 23.2 | 3.83 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:12 | 1       |
| Dicamba     | 2.67   | U         | 23.2 | 2.67 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:12 | 1       |
| Dichlorprop | 2.61   | U         | 23.2 | 2.61 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:12 | 1       |
| Dinoseb     | 1.86   | U         | 23.2 | 1.86 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:12 | 1       |
| MCPA        | 377    | U         | 232  | 377  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:12 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HMSM320**

**Date Collected: 06/09/16 11:02**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-2**

**Matrix: Solid**

**Percent Solids: 28.7**

## Method: 8151A - Herbicides (GC) (Continued)

| Analyte           | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Mecoprop          | 266       | U         | 232      | 266  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:12 | 1       |
| Silvex (2,4,5-TP) | 2.50      | U         | 23.2     | 2.50 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:12 | 1       |
| 2,4,5-T           | 2.55      | U         | 23.2     | 2.55 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:12 | 1       |
| Surrogate         | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| 2,4-DCAA          | 92        |           | 22 - 130 |      |       |   | 06/20/16 08:59 | 06/22/16 19:12 | 1       |

## Method: 8151A - Herbicides (GC)

| Analyte   | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Dalapon   | 10.1      | U         | 348      | 10.1 | ug/Kg | ☼ | 06/21/16 15:57 | 06/23/16 22:56 | 1       |
| Surrogate | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| 2,4-DCAA  | 39        |           | 35 - 137 |      |       |   | 06/21/16 15:57 | 06/23/16 22:56 | 1       |

## Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte      | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| Bromide      | 3.51   | U         | 14.0 | 3.51  | mg/Kg | ☼ |          | 06/23/16 03:34 | 1       |
| Nitrate as N | 5.21   | J H       | 6.98 | 0.876 | mg/Kg | ☼ |          | 06/23/16 03:34 | 1       |
| Chloride     | 48.0   |           | 14.0 | 1.86  | mg/Kg | ☼ |          | 06/23/16 03:34 | 1       |
| Fluoride     | 6.19   | J         | 6.98 | 2.10  | mg/Kg | ☼ |          | 06/23/16 03:34 | 1       |
| Sulfate      | 221    |           | 17.4 | 3.34  | mg/Kg | ☼ |          | 06/23/16 03:34 | 1       |

## Method: 6010B - Metals (ICP)

| Analyte    | Result | Qualifier | RL   | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|------|--------|-------|---|----------------|----------------|---------|
| Aluminum   | 2420   |           | 13.0 | 7.98   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Phosphorus | 384    |           | 130  | 4.31   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Antimony   | 0.694  | U         | 5.20 | 0.694  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Calcium    | 59900  |           | 130  | 37.7   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Arsenic    | 3.78   | J         | 5.20 | 0.377  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Magnesium  | 1460   |           | 52.0 | 4.11   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Barium     | 24.6   |           | 2.60 | 0.491  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Potassium  | 606    |           | 260  | 39.5   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Beryllium  | 0.251  | J         | 1.30 | 0.0702 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Silicon    | 4390   |           | 52.0 | 16.4   | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 14:05 | 1       |
| Cadmium    | 0.650  | J         | 1.30 | 0.0935 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Sodium     | 87.3   | J         | 260  | 39.2   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Chromium   | 5.96   |           | 2.60 | 0.348  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Strontium  | 93.5   |           | 2.60 | 0.203  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Copper     | 10.7   |           | 5.20 | 0.522  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Iron       | 6440   |           | 52.0 | 13.0   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Lead       | 17.2   |           | 1.30 | 0.395  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Manganese  | 68.0   |           | 6.50 | 1.21   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Nickel     | 5.03   | J         | 5.20 | 0.322  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Selenium   | 2.78   |           | 2.60 | 0.514  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Silver     | 0.286  | U         | 1.30 | 0.286  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Thallium   | 0.309  | U         | 2.60 | 0.309  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |
| Zinc       | 48.8   |           | 6.50 | 1.48   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:32 | 1       |

## Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Mercury | 0.0386 | J         | 0.376 | 0.0339 | mg/Kg | ☼ | 06/15/16 10:00 | 06/15/16 16:58 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## General Chemistry

| Analyte | Result | Qualifier | RL    | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| pH      | 7.53   |           | 0.100 | 0.100  | SU   |   |          | 06/15/16 14:26 | 1       |
| TOC     | 5.17   |           | 0.100 | 0.0415 | %    |   |          | 06/24/16 09:00 | 1       |

## General Chemistry - Soluble

| Analyte                         | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
| Alkalinity                      | 582    |           | 17.2 | 17.2 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Bicarbonate Alkalinity as CaCO3 | 582    |           | 17.2 | 17.2 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Carbonate Alkalinity as CaCO3   | 17.2   | U         | 17.2 | 17.2 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |

Client Sample ID: HMSM330

Lab Sample ID: 560-62041-3

Date Collected: 06/09/16 11:19

Matrix: Solid

Date Received: 06/10/16 08:00

Percent Solids: 85.9

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte                     | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| Acetone                     | 12.7   | J         | 49.6 | 7.14  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Acetonitrile                | 36.7   | U         | 49.6 | 36.7  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Benzene                     | 0.625  | U         | 4.96 | 0.625 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Benzyl chloride             | 0.496  | U         | 4.96 | 0.496 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Bromobenzene                | 0.734  | U         | 4.96 | 0.734 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Bromochloromethane          | 0.892  | U         | 4.96 | 0.892 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Bromoform                   | 0.506  | U         | 4.96 | 0.506 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Bromomethane                | 1.09   | U         | 4.96 | 1.09  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,3-Butadiene               | 0.297  | U         | 4.96 | 0.297 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 2-Butanone (MEK)            | 1.88   | U         | 9.91 | 1.88  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Carbon disulfide            | 0.991  | U         | 4.96 | 0.991 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Carbon tetrachloride        | 0.506  | U         | 4.96 | 0.506 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Chlorobenzene               | 0.297  | U         | 4.96 | 0.297 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 2-Chloro-1,3-butadiene      | 0.684  | U         | 4.96 | 0.684 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Chlorodibromomethane        | 0.635  | U         | 4.96 | 0.635 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Chloroethane                | 0.258  | U         | 4.96 | 0.258 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Chloroform                  | 0.863  | U         | 4.96 | 0.863 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1-Chlorohexane              | 0.545  | U         | 4.96 | 0.545 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Chloromethane               | 1.19   | U         | 4.96 | 1.19  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 2-Chlorotoluene             | 0.297  | U         | 4.96 | 0.297 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 4-Chlorotoluene             | 0.684  | U         | 4.96 | 0.684 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| cis-1,4-Dichloro-2-butene   | 0.317  | U         | 4.96 | 0.317 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| cis-1,2-Dichloroethene      | 0.565  | U         | 4.96 | 0.565 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| cis-1,3-Dichloropropene     | 0.198  | U         | 4.96 | 0.198 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Cyclohexane                 | 0.982  | U         | 9.91 | 0.982 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Cyclohexanone               | 9.91   | U         | 99.1 | 9.91  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,2-Dibromo-3-Chloropropane | 0.327  | U         | 4.96 | 0.327 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Dibromomethane              | 0.704  | U         | 4.96 | 0.704 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,3-Dichlorobenzene         | 0.307  | U         | 4.96 | 0.307 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,2-Dichlorobenzene         | 0.248  | U         | 4.96 | 0.248 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,4-Dichlorobenzene         | 0.317  | U         | 4.96 | 0.317 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Dichlorobromomethane        | 0.198  | U         | 4.96 | 0.198 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Dichlorodifluoromethane     | 0.724  | U         | 4.96 | 0.724 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,2-Dichloroethane          | 0.516  | U         | 4.96 | 0.516 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,1-Dichloroethane          | 0.585  | U         | 4.96 | 0.585 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,1-Dichloroethene          | 0.496  | U         | 4.96 | 0.496 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,2-Dichloroethene, Total   | 0.496  | U         | 4.96 | 0.496 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,2-Dichloropropane         | 0.496  | U         | 4.96 | 0.496 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 2,2-Dichloropropane         | 0.833  | U         | 4.96 | 0.833 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM330**

**Lab Sample ID: 560-62041-3**

**Date Collected: 06/09/16 11:19**

**Matrix: Solid**

**Date Received: 06/10/16 08:00**

**Percent Solids: 85.9**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                     | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| 1,3-Dichloropropane         | 0.297  | U         | 4.96 | 0.297 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,1-Dichloropropene         | 0.516  | U         | 4.96 | 0.516 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,3-Dichloropropene, Total  | 0.516  | U         | 4.96 | 0.516 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,4-Dioxane                 | 18.8   | U         | 99.1 | 18.8  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| EDB                         | 0.297  | U         | 4.96 | 0.297 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Ethyl acetate               | 2.79   | U         | 4.96 | 2.79  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Ethylbenzene                | 0.446  | U         | 4.96 | 0.446 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Ethylene oxide              | 29.7   | U         | 99.1 | 29.7  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Ethyl ether                 | 0.496  | U         | 24.8 | 0.496 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Ethyl methacrylate          | 0.506  | U         | 4.96 | 0.506 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Hexachlorobutadiene         | 0.635  | U         | 4.96 | 0.635 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Hexane                      | 1.29   | U         | 4.96 | 1.29  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 2-Hexanone                  | 1.49   | U         | 9.91 | 1.49  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Iodomethane                 | 0.793  | U         | 4.96 | 0.793 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Isobutyl alcohol            | 67.4   | U         | 248  | 67.4  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Isooctane                   | 0.496  | U         | 4.96 | 0.496 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Isopropylbenzene            | 0.496  | U         | 4.96 | 0.496 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 4-Isopropyltoluene          | 0.392  | U         | 4.96 | 0.392 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Methacrylonitrile           | 2.38   | U         | 49.6 | 2.38  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Methylene Chloride          | 4.96   | U         | 24.8 | 4.96  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Methyl methacrylate         | 1.09   | U         | 4.96 | 1.09  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 4-Methyl-2-pentanone (MIBK) | 1.49   | U         | 9.91 | 1.49  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Methyl tert-butyl ether     | 0.605  | U         | 4.96 | 0.605 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| m-Xylene & p-Xylene         | 0.496  | U         | 9.91 | 0.496 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Naphthalene                 | 1.19   | U         | 9.91 | 1.19  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| n-Butylbenzene              | 0.268  | U         | 4.96 | 0.268 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| n-Heptane                   | 0.525  | U         | 4.96 | 0.525 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 2-Nitropropane              | 0.516  | U         | 9.91 | 0.516 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| N-Propylbenzene             | 0.297  | U         | 4.96 | 0.297 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1-Octene                    | 0.496  | U         | 4.96 | 0.496 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| o-Xylene                    | 0.397  | U         | 4.96 | 0.397 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Pentachloroethane           | 1.39   | U         | 4.96 | 1.39  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Propionitrile               | 4.86   | U         | 49.6 | 4.86  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| sec-Butylbenzene            | 0.297  | U         | 4.96 | 0.297 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Styrene                     | 0.297  | U         | 4.96 | 0.297 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| tert-Butylbenzene           | 0.248  | U         | 4.96 | 0.248 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,1,2,2-Tetrachloroethane   | 0.377  | U         | 4.96 | 0.377 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,1,1,2-Tetrachloroethane   | 0.268  | U         | 4.96 | 0.268 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Tetrachloroethene           | 0.734  | U         | 4.96 | 0.734 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Toluene                     | 0.892  | U         | 4.96 | 0.892 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| trans-1,4-Dichloro-2-butene | 0.872  | U         | 4.96 | 0.872 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| trans-1,2-Dichloroethene    | 0.496  | U         | 4.96 | 0.496 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| trans-1,3-Dichloropropene   | 0.516  | U         | 4.96 | 0.516 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,2,4-Trichlorobenzene      | 0.962  | U         | 4.96 | 0.962 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,2,3-Trichlorobenzene      | 0.436  | U         | 4.96 | 0.436 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,3,5-Trichlorobenzene      | 0.307  | U         | 4.96 | 0.307 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,1,1-Trichloroethane       | 0.496  | U         | 4.96 | 0.496 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,1,2-Trichloroethane       | 0.496  | U         | 4.96 | 0.496 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Trichloroethene             | 0.278  | U         | 4.96 | 0.278 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM330**

**Lab Sample ID: 560-62041-3**

**Date Collected: 06/09/16 11:19**

**Matrix: Solid**

**Date Received: 06/10/16 08:00**

**Percent Solids: 85.9**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                               | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| Trichlorofluoromethane                | 0.496  | U         | 4.96 | 0.496 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,2,3-Trichloropropane                | 0.754  | U         | 4.96 | 0.754 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.664  | U         | 4.96 | 0.664 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,2,4-Trimethylbenzene                | 0.377  | U         | 4.96 | 0.377 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| 1,3,5-Trimethylbenzene                | 0.347  | U         | 4.96 | 0.347 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Vinyl acetate                         | 1.09   | U         | 4.96 | 1.09  | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Vinyl chloride                        | 0.595  | U         | 4.96 | 0.595 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |
| Xylenes, Total                        | 0.496  | U         | 9.91 | 0.496 | ug/Kg | ☼ |          | 06/15/16 15:23 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr)  | 104       |           | 61 - 142 |          | 06/15/16 15:23 | 1       |
| Dibromofluoromethane (Surr)  | 102       |           | 50 - 136 |          | 06/15/16 15:23 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 106       |           | 65 - 152 |          | 06/15/16 15:23 | 1       |
| Toluene-d8 (Surr)            | 98        |           | 65 - 139 |          | 06/15/16 15:23 | 1       |

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

| Analyte                     | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Acenaphthene                | 515    | J         | 754  | 75.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Acenaphthylene              | 62.1   | U         | 754  | 62.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Anthracene                  | 1030   |           | 754  | 84.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Benzo[a]anthracene          | 1930   |           | 754  | 93.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Benzo[a]pyrene              | 1670   |           | 754  | 75.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Benzo[b]fluoranthene        | 2690   |           | 754  | 66.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Benzo[g,h,i]perylene        | 634    | J         | 754  | 66.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Benzo[k]fluoranthene        | 1100   |           | 754  | 57.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Benzyl alcohol              | 160    | U         | 754  | 160  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Bis(2-chloroethoxy)methane  | 75.4   | U         | 754  | 75.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Bis(2-chloroethyl)ether     | 115    | U         | 754  | 115  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Bis(2-ethylhexyl) phthalate | 668    | J         | 754  | 115  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 4-Bromophenyl phenyl ether  | 97.6   | U         | 754  | 97.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Butyl benzyl phthalate      | 62.1   | U         | 754  | 62.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 4-Chloroaniline             | 133    | U         | 754  | 133  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 4-Chloro-3-methylphenol     | 106    | U         | 754  | 106  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 2-Chloronaphthalene         | 75.4   | U         | 754  | 75.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 2-Chlorophenol              | 75.4   | U         | 754  | 75.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 4-Chlorophenyl phenyl ether | 102    | U         | 754  | 102  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Chrysene                    | 2080   |           | 754  | 66.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Dibenz(a,h)anthracene       | 324    | J         | 754  | 62.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Dibenzofuran                | 314    | J         | 754  | 84.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 1,3-Dichlorobenzene         | 79.9   | U         | 754  | 79.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 1,4-Dichlorobenzene         | 97.6   | U         | 754  | 97.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 1,2-Dichlorobenzene         | 84.3   | U         | 754  | 84.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 3,3'-Dichlorobenzidine      | 710    | U         | 754  | 710  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 2,4-Dichlorophenol          | 75.4   | U         | 754  | 75.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Diethyl phthalate           | 216    | J         | 754  | 71.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 2,4-Dimethylphenol          | 248    | U         | 754  | 248  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Dimethyl phthalate          | 75.4   | U         | 754  | 75.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Di-n-butyl phthalate        | 160    | U         | 754  | 160  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 4,6-Dinitro-2-methylphenol  | 133    | U         | 2930 | 133  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 2,4-Dinitrophenol           | 133    | U         | 2930 | 133  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM330**

**Date Collected: 06/09/16 11:19**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-3**

**Matrix: Solid**

**Percent Solids: 85.9**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                       | Result       | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|--------------|-----------|------|------|-------|---|----------------|----------------|---------|
| 2,6-Dinitrotoluene            | 97.6         | U         | 754  | 97.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 2,4-Dinitrotoluene            | 71.0         | U         | 754  | 71.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Di-n-octyl phthalate          | 57.7         | U         | 754  | 57.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| <b>Fluoranthene</b>           | <b>5030</b>  |           | 754  | 75.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| <b>Fluorene</b>               | <b>613 J</b> |           | 754  | 84.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Hexachlorobenzene             | 88.7         | U         | 754  | 88.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Hexachlorobutadiene           | 124          | U         | 754  | 124  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Hexachlorocyclopentadiene     | 222          | U         | 754  | 222  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Hexachloroethane              | 88.7         | U         | 754  | 88.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| <b>Indeno[1,2,3-cd]pyrene</b> | <b>825</b>   |           | 754  | 71.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Isophorone                    | 66.6         | U         | 754  | 66.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| <b>2-Methylnaphthalene</b>    | <b>109 J</b> |           | 754  | 66.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 2-Methylphenol                | 88.7         | U         | 754  | 88.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 3 & 4 Methylphenol            | 124          | U         | 1510 | 124  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| <b>Naphthalene</b>            | <b>402 J</b> |           | 754  | 71.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 2-Nitroaniline                | 97.6         | U         | 754  | 97.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 3-Nitroaniline                | 75.4         | U         | 754  | 75.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 4-Nitroaniline                | 124          | U         | 754  | 124  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Nitrobenzene                  | 66.6         | U         | 754  | 66.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 2-Nitrophenol                 | 71.0         | U         | 754  | 71.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 4-Nitrophenol                 | 133          | U         | 2930 | 133  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| N-Nitrosodi-n-propylamine     | 111          | U         | 754  | 111  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| N-Nitrosodiphenylamine        | 97.6         | U         | 754  | 97.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Pentachlorophenol             | 1460         | U         | 2930 | 1460 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| <b>Phenanthrene</b>           | <b>4430</b>  |           | 754  | 93.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Phenol                        | 84.3         | U         | 754  | 84.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| <b>Pyrene</b>                 | <b>3220</b>  |           | 754  | 75.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 1,2,4-Trichlorobenzene        | 71.0         | U         | 754  | 71.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 2,4,6-Trichlorophenol         | 79.9         | U         | 754  | 79.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 2,4,5-Trichlorophenol         | 138          | U         | 754  | 138  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:16 | 2       |

| Surrogate            | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2-Fluorophenol       | 69        |           | 24 - 101 | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Nitrobenzene-d5      | 61        |           | 17 - 112 | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 2-Fluorobiphenyl     | 68        |           | 32 - 101 | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| 2,4,6-Tribromophenol | 88        |           | 21 - 130 | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Terphenyl-d14        | 72        |           | 62 - 129 | 06/21/16 07:56 | 06/22/16 12:16 | 2       |
| Phenol-d5 (Surr)     | 69        |           | 23 - 106 | 06/21/16 07:56 | 06/22/16 12:16 | 2       |

## Method: 8081B - Organochlorine Pesticides (GC)

| Analyte         | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------|--------|-----------|------|-------|-------|---|----------------|----------------|---------|
| Aldrin          | 1.51   | U         | 1.96 | 1.51  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| alpha-BHC       | 1.15   | U         | 1.96 | 1.15  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| alpha-Chlordane | 1.83   | U         | 3.81 | 1.83  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| beta-BHC        | 1.18   | U         | 1.96 | 1.18  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| 4,4'-DDD        | 1.87   | U         | 3.81 | 1.87  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| 4,4'-DDE        | 1.67   | U         | 3.81 | 1.67  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| 4,4'-DDT        | 2.13   | U         | 3.81 | 2.13  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| delta-BHC       | 0.980  | U         | 1.96 | 0.980 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| Dieldrin        | 1.60   | U         | 3.81 | 1.60  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM330**

**Date Collected: 06/09/16 11:19**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-3**

**Matrix: Solid**

**Percent Solids: 85.9**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

| Analyte             | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Endosulfan I        | 1.15   | U         | 1.96 | 1.15 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| Endosulfan II       | 1.74   | U         | 1.96 | 1.74 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| Endosulfan sulfate  | 1.94   | U         | 3.81 | 1.94 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| Endrin              | 1.76   | U         | 3.81 | 1.76 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| Endrin aldehyde     | 1.80   | U         | 3.81 | 1.80 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| Endrin ketone       | 1.78   | U         | 3.81 | 1.78 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| gamma-BHC (Lindane) | 1.07   | U         | 1.96 | 1.07 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| gamma-Chlordane     | 1.44   | U         | 3.81 | 1.44 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| Heptachlor          | 1.07   | U         | 1.96 | 1.07 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| Heptachlor epoxide  | 1.35   | U         | 1.96 | 1.35 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| Methoxychlor        | 9.31   | U *       | 19.6 | 9.31 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| Toxaphene           | 84.3   | U         | 196  | 84.3 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:12 | 1       |

| Surrogate              | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 83        |           | 50 - 143 | 06/16/16 09:25 | 06/23/16 19:12 | 1       |
| DCB Decachlorobiphenyl | 133       |           | 47 - 150 | 06/16/16 09:25 | 06/23/16 19:12 | 1       |

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte      | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| PCB-1016     | 6.05   | U         | 39.1 | 6.05 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:10 | 1       |
| PCB-1221     | 6.05   | U         | 39.1 | 6.05 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:10 | 1       |
| PCB-1232     | 6.05   | U         | 39.1 | 6.05 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:10 | 1       |
| PCB-1242     | 6.05   | U         | 39.1 | 6.05 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:10 | 1       |
| PCB-1248     | 6.05   | U         | 39.1 | 6.05 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:10 | 1       |
| PCB-1254     | 6.05   | U         | 39.1 | 6.05 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:10 | 1       |
| PCB-1260     | 11.9   | U         | 39.1 | 11.9 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:10 | 1       |
| Aroclor 1262 | 6.05   | U         | 39.1 | 6.05 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:10 | 1       |
| Aroclor 1268 | 6.05   | U         | 39.1 | 6.05 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:10 | 1       |

| Surrogate              | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 107       |           | 32 - 132 | 06/22/16 07:52 | 06/23/16 15:10 | 1       |
| DCB Decachlorobiphenyl | 89        |           | 57 - 138 | 06/22/16 07:52 | 06/23/16 15:10 | 1       |

## Method: 8141A - Organophosphorous Pesticides (GC)

| Analyte          | Result | Qualifier | RL   | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------|--------|-----------|------|-----|-------|---|----------------|----------------|---------|
| Azinophos methyl | 394    | U         | 1460 | 394 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Bolstar          | 478    | U         | 1460 | 478 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Chlorpyrifos     | 728    | U         | 2250 | 728 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Coumaphos        | 315    | U         | 1460 | 315 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Demeton-O        | 596    | U         | 4390 | 596 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Demeton-S        | 547    | U         | 1690 | 547 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Diazinon         | 819    | U         | 2480 | 819 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Dichlorvos       | 834    | U         | 2590 | 834 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Dimethoate       | 798    | U         | 2480 | 798 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Disulfoton       | 871    | U         | 5410 | 871 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| EPN              | 415    | U         | 1460 | 415 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Ethoprop         | 555    | U         | 1690 | 555 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Ethyl Parathion  | 596    | U         | 2030 | 596 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Famphur          | 363    | U         | 1460 | 363 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Fensulfothion    | 918    | U         | 2820 | 918 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM330**

**Date Collected: 06/09/16 11:19**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-3**

**Matrix: Solid**

**Percent Solids: 85.9**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

| Analyte                       | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Fenthion                      | 984    | U         | 3720 | 984  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Malathion                     | 523    | U         | 1690 | 523  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Merphos                       | 579    | U         | 3380 | 579  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Methyl parathion              | 718    | U         | 2250 | 718  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Mevinphos                     | 520    | U         | 1690 | 520  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Naled                         | 2550   | U         | 7880 | 2550 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Phorate                       | 642    | U         | 2250 | 642  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Ronnel                        | 1710   | U         | 5180 | 1710 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Sulfotepp                     | 705    | U         | 2250 | 705  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Tetrachlorvinphos (Stirophos) | 491    | U         | 1690 | 491  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Thionazin                     | 627    | U         | 2030 | 627  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Tokuthion                     | 440    | U         | 2250 | 440  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Trichloronate                 | 704    | U         | 2250 | 704  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:12 | 100     |

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------------|----------------|---------|
| Chlormefos         | 73        | D         | 42 - 132 | 06/22/16 12:40 | 07/06/16 21:12 | 100     |
| Triphenylphosphate | 87        | D         | 47 - 161 | 06/22/16 12:40 | 07/06/16 21:12 | 100     |

## Method: 8151A - Herbicides (GC)

| Analyte           | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|--------|-----------|------|-------|-------|---|----------------|----------------|---------|
| 2,4-D             | 0.660  | U         | 7.76 | 0.660 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:37 | 1       |
| 2,4-DB            | 1.28   | U         | 7.76 | 1.28  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:37 | 1       |
| Dicamba           | 0.892  | U         | 7.76 | 0.892 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:37 | 1       |
| Dichlorprop       | 0.873  | U         | 7.76 | 0.873 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:37 | 1       |
| Dinoseb           | 0.621  | U         | 7.76 | 0.621 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:37 | 1       |
| MCPA              | 126    | U         | 77.6 | 126   | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:37 | 1       |
| Mecoprop          | 89.0   | U         | 77.6 | 89.0  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:37 | 1       |
| Silvex (2,4,5-TP) | 0.834  | U         | 7.76 | 0.834 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:37 | 1       |
| 2,4,5-T           | 0.854  | U         | 7.76 | 0.854 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 19:37 | 1       |

| Surrogate | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|----------------|----------------|---------|
| 2,4-DCAA  | 88        |           | 22 - 130 | 06/20/16 08:59 | 06/22/16 19:37 | 1       |

## Method: 8151A - Herbicides (GC)

| Analyte | Result | Qualifier | RL  | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Dalapon | 3.33   | U         | 115 | 3.33 | ug/Kg | ☼ | 06/21/16 15:57 | 06/23/16 23:15 | 1       |

| Surrogate | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|----------------|----------------|---------|
| 2,4-DCAA  | 64        |           | 35 - 137 | 06/21/16 15:57 | 06/23/16 23:15 | 1       |

## Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte      | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| Bromide      | 1.16   | U         | 4.61 | 1.16  | mg/Kg | ☼ |          | 06/23/16 03:54 | 1       |
| Nitrate as N | 1.62   | J H       | 2.30 | 0.289 | mg/Kg | ☼ |          | 06/23/16 03:54 | 1       |
| Chloride     | 4.71   |           | 4.61 | 0.615 | mg/Kg | ☼ |          | 06/23/16 03:54 | 1       |
| Fluoride     | 1.62   | J         | 2.30 | 0.693 | mg/Kg | ☼ |          | 06/23/16 03:54 | 1       |
| Sulfate      | 67.1   |           | 5.76 | 1.10  | mg/Kg | ☼ |          | 06/23/16 03:54 | 1       |

## Method: 6010B - Metals (ICP)

| Analyte  | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|----------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Aluminum | 1210   |           | 4.41 | 2.71 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HMSM330**

**Date Collected: 06/09/16 11:19**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-3**

**Matrix: Solid**

**Percent Solids: 85.9**

## Method: 6010B - Metals (ICP) (Continued)

| Analyte    | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Phosphorus | 347    |           | 44.1  | 1.46   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Antimony   | 1.72   | J         | 1.76  | 0.235  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Calcium    | 394000 |           | 441   | 128    | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 14:24 | 10      |
| Arsenic    | 7.01   |           | 1.76  | 0.128  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Magnesium  | 2890   |           | 17.6  | 1.39   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Barium     | 21.2   |           | 0.882 | 0.167  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Potassium  | 270    |           | 88.2  | 13.4   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Beryllium  | 0.172  | J         | 0.441 | 0.0238 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Silicon    | 1680   |           | 17.6  | 5.57   | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 14:12 | 1       |
| Cadmium    | 0.819  |           | 0.441 | 0.0317 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Sodium     | 107    |           | 88.2  | 13.3   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Chromium   | 6.77   |           | 0.882 | 0.118  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Strontium  | 121    |           | 0.882 | 0.0688 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Copper     | 5.65   |           | 1.76  | 0.177  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Iron       | 8050   |           | 17.6  | 4.41   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Lead       | 10.2   |           | 0.441 | 0.134  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Manganese  | 338    |           | 2.20  | 0.410  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Nickel     | 7.51   |           | 1.76  | 0.109  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Selenium   | 1.54   |           | 0.882 | 0.175  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Silver     | 0.0970 | U         | 0.441 | 0.0970 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Thallium   | 0.105  | U         | 0.882 | 0.105  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |
| Zinc       | 32.1   |           | 2.20  | 0.503  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:36 | 1       |

## Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Mercury | 0.0161 | J         | 0.125 | 0.0112 | mg/Kg | ☼ | 06/15/16 10:00 | 06/15/16 17:01 | 1       |

## General Chemistry

| Analyte | Result | Qualifier | RL    | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| pH      | 8.08   |           | 0.100 | 0.100  | SU   | — |          | 06/15/16 14:26 | 1       |
| TOC     | 0.302  |           | 0.100 | 0.0415 | %    |   |          | 06/24/16 09:00 | 1       |

## General Chemistry - Soluble

| Analyte                         | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
| Alkalinity                      | 107    |           | 5.75 | 5.75 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Bicarbonate Alkalinity as CaCO3 | 107    |           | 5.75 | 5.75 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Carbonate Alkalinity as CaCO3   | 5.75   | U         | 5.75 | 5.75 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |

**Client Sample ID: HMSM340**

**Date Collected: 06/09/16 11:39**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-4**

**Matrix: Solid**

**Percent Solids: 68.2**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte            | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|--------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
| Acetone            | 62.8   | J         | 353  | 50.8 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Acetonitrile       | 261    | U         | 353  | 261  | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Benzene            | 4.44   | U         | 35.3 | 4.44 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Benzyl chloride    | 3.53   | U         | 35.3 | 3.53 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Bromobenzene       | 5.22   | U         | 35.3 | 5.22 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Bromochloromethane | 6.35   | U         | 35.3 | 6.35 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM340**

**Lab Sample ID: 560-62041-4**

**Date Collected: 06/09/16 11:39**

**Matrix: Solid**

**Date Received: 06/10/16 08:00**

**Percent Solids: 68.2**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                     | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
| Bromoform                   | 3.60   | U         | 35.3 | 3.60 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Bromomethane                | 7.76   | U         | 35.3 | 7.76 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,3-Butadiene               | 2.12   | U         | 35.3 | 2.12 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 2-Butanone (MEK)            | 13.4   | U         | 70.5 | 13.4 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Carbon disulfide            | 7.05   | U         | 35.3 | 7.05 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Carbon tetrachloride        | 3.60   | U         | 35.3 | 3.60 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Chlorobenzene               | 2.12   | U         | 35.3 | 2.12 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 2-Chloro-1,3-butadiene      | 4.87   | U         | 35.3 | 4.87 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Chlorodibromomethane        | 4.51   | U         | 35.3 | 4.51 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Chloroethane                | 1.83   | U         | 35.3 | 1.83 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Chloroform                  | 6.14   | U         | 35.3 | 6.14 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1-Chlorohexane              | 3.88   | U         | 35.3 | 3.88 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Chloromethane               | 8.46   | U         | 35.3 | 8.46 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 2-Chlorotoluene             | 2.12   | U         | 35.3 | 2.12 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 4-Chlorotoluene             | 4.87   | U         | 35.3 | 4.87 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| cis-1,4-Dichloro-2-butene   | 2.26   | U         | 35.3 | 2.26 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| cis-1,2-Dichloroethene      | 4.02   | U         | 35.3 | 4.02 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| cis-1,3-Dichloropropene     | 1.41   | U         | 35.3 | 1.41 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Cyclohexane                 | 6.98   | U         | 70.5 | 6.98 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Cyclohexanone               | 70.5   | U         | 705  | 70.5 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,2-Dibromo-3-Chloropropane | 2.33   | U         | 35.3 | 2.33 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Dibromomethane              | 5.01   | U         | 35.3 | 5.01 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,3-Dichlorobenzene         | 2.19   | U         | 35.3 | 2.19 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,2-Dichlorobenzene         | 1.76   | U         | 35.3 | 1.76 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,4-Dichlorobenzene         | 2.26   | U         | 35.3 | 2.26 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Dichlorobromomethane        | 1.41   | U         | 35.3 | 1.41 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Dichlorodifluoromethane     | 5.15   | U         | 35.3 | 5.15 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,2-Dichloroethane          | 3.67   | U         | 35.3 | 3.67 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,1-Dichloroethane          | 4.16   | U         | 35.3 | 4.16 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,1-Dichloroethene          | 3.53   | U         | 35.3 | 3.53 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,2-Dichloroethene, Total   | 3.53   | U         | 35.3 | 3.53 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,2-Dichloropropane         | 3.53   | U         | 35.3 | 3.53 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 2,2-Dichloropropane         | 5.93   | U         | 35.3 | 5.93 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,3-Dichloropropane         | 2.12   | U         | 35.3 | 2.12 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,1-Dichloropropene         | 3.67   | U         | 35.3 | 3.67 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,3-Dichloropropene, Total  | 3.67   | U         | 35.3 | 3.67 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,4-Dioxane                 | 134    | U         | 705  | 134  | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| EDB                         | 2.12   | U         | 35.3 | 2.12 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Ethyl acetate               | 19.8   | U         | 35.3 | 19.8 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Ethylbenzene                | 3.17   | U         | 35.3 | 3.17 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Ethylene oxide              | 212    | U         | 705  | 212  | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Ethyl ether                 | 3.53   | U         | 176  | 3.53 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Ethyl methacrylate          | 3.60   | U         | 35.3 | 3.60 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Hexachlorobutadiene         | 4.51   | U         | 35.3 | 4.51 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Hexane                      | 9.17   | U         | 35.3 | 9.17 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 2-Hexanone                  | 10.6   | U         | 70.5 | 10.6 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Iodomethane                 | 5.64   | U         | 35.3 | 5.64 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Isobutyl alcohol            | 480    | U         | 1760 | 480  | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Isooctane                   | 3.53   | U         | 35.3 | 3.53 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HMSM340**

**Lab Sample ID: 560-62041-4**

**Date Collected: 06/09/16 11:39**

**Matrix: Solid**

**Date Received: 06/10/16 08:00**

**Percent Solids: 68.2**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                               | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
| Isopropylbenzene                      | 3.53   | U         | 35.3 | 3.53 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 4-Isopropyltoluene                    | 2.79   | U         | 35.3 | 2.79 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Methacrylonitrile                     | 16.9   | U         | 353  | 16.9 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Methylene Chloride                    | 35.3   | U         | 176  | 35.3 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Methyl methacrylate                   | 7.76   | U         | 35.3 | 7.76 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 4-Methyl-2-pentanone (MIBK)           | 10.6   | U         | 70.5 | 10.6 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Methyl tert-butyl ether               | 4.30   | U         | 35.3 | 4.30 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| m-Xylene & p-Xylene                   | 3.53   | U         | 70.5 | 3.53 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Naphthalene                           | 8.46   | U         | 70.5 | 8.46 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| n-Butylbenzene                        | 1.90   | U         | 35.3 | 1.90 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| n-Heptane                             | 3.74   | U         | 35.3 | 3.74 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 2-Nitropropane                        | 3.67   | U         | 70.5 | 3.67 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| N-Propylbenzene                       | 2.12   | U         | 35.3 | 2.12 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1-Octene                              | 3.53   | U         | 35.3 | 3.53 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| o-Xylene                              | 2.82   | U         | 35.3 | 2.82 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Pentachloroethane                     | 9.88   | U         | 35.3 | 9.88 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Propionitrile                         | 34.6   | U         | 353  | 34.6 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| sec-Butylbenzene                      | 2.12   | U         | 35.3 | 2.12 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Styrene                               | 2.12   | U         | 35.3 | 2.12 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| tert-Butylbenzene                     | 1.76   | U         | 35.3 | 1.76 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,1,2,2-Tetrachloroethane             | 2.68   | U         | 35.3 | 2.68 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,1,1,2-Tetrachloroethane             | 1.90   | U         | 35.3 | 1.90 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Tetrachloroethene                     | 5.22   | U         | 35.3 | 5.22 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Toluene                               | 6.35   | U         | 35.3 | 6.35 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| trans-1,4-Dichloro-2-butene           | 6.21   | U         | 35.3 | 6.21 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| trans-1,2-Dichloroethene              | 3.53   | U         | 35.3 | 3.53 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| trans-1,3-Dichloropropene             | 3.67   | U         | 35.3 | 3.67 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,2,4-Trichlorobenzene                | 6.84   | U         | 35.3 | 6.84 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,2,3-Trichlorobenzene                | 3.10   | U         | 35.3 | 3.10 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,3,5-Trichlorobenzene                | 2.19   | U         | 35.3 | 2.19 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,1,1-Trichloroethane                 | 3.53   | U         | 35.3 | 3.53 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,1,2-Trichloroethane                 | 3.53   | U         | 35.3 | 3.53 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Trichloroethene                       | 1.98   | U         | 35.3 | 1.98 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Trichlorofluoromethane                | 3.53   | U         | 35.3 | 3.53 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,2,3-Trichloropropane                | 5.36   | U         | 35.3 | 5.36 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 4.73   | U         | 35.3 | 4.73 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,2,4-Trimethylbenzene                | 2.68   | U         | 35.3 | 2.68 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| 1,3,5-Trimethylbenzene                | 2.47   | U         | 35.3 | 2.47 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Vinyl acetate                         | 7.76   | U         | 35.3 | 7.76 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Vinyl chloride                        | 4.23   | U         | 35.3 | 4.23 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |
| Xylenes, Total                        | 3.53   | U         | 70.5 | 3.53 | ug/Kg | ☼ |          | 06/15/16 20:02 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr)  | 102       |           | 61 - 142 |          | 06/15/16 20:02 | 1       |
| Dibromofluoromethane (Surr)  | 105       |           | 50 - 136 |          | 06/15/16 20:02 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 108       |           | 65 - 152 |          | 06/15/16 20:02 | 1       |
| Toluene-d8 (Surr)            | 97        |           | 65 - 139 |          | 06/15/16 20:02 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM340**

**Date Collected: 06/09/16 11:39**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-4**

**Matrix: Solid**

**Percent Solids: 68.2**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

| Analyte                            | Result      | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------|-------------|-----------|------|------|-------|---|----------------|----------------|---------|
| Acenaphthene                       | 46.8        | U         | 468  | 46.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Acenaphthylene                     | 38.5        | U         | 468  | 38.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| <b>Anthracene</b>                  | <b>84.1</b> | <b>J</b>  | 468  | 52.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| <b>Benzo[a]anthracene</b>          | <b>295</b>  | <b>J</b>  | 468  | 57.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| <b>Benzo[a]pyrene</b>              | <b>307</b>  | <b>J</b>  | 468  | 46.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| <b>Benzo[b]fluoranthene</b>        | <b>547</b>  |           | 468  | 41.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| <b>Benzo[g,h,i]perylene</b>        | <b>105</b>  | <b>J</b>  | 468  | 41.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| <b>Benzo[k]fluoranthene</b>        | <b>210</b>  | <b>J</b>  | 468  | 35.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Benzyl alcohol                     | 99.1        | U         | 468  | 99.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Bis(2-chloroethoxy)methane         | 46.8        | U         | 468  | 46.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Bis(2-chloroethyl)ether            | 71.6        | U         | 468  | 71.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| <b>Bis(2-ethylhexyl) phthalate</b> | <b>211</b>  | <b>J</b>  | 468  | 71.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 4-Bromophenyl phenyl ether         | 60.6        | U         | 468  | 60.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| <b>Butyl benzyl phthalate</b>      | <b>55.4</b> | <b>J</b>  | 468  | 38.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 4-Chloroaniline                    | 82.6        | U         | 468  | 82.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 4-Chloro-3-methylphenol            | 66.1        | U         | 468  | 66.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2-Chloronaphthalene                | 46.8        | U         | 468  | 46.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2-Chlorophenol                     | 46.8        | U         | 468  | 46.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 4-Chlorophenyl phenyl ether        | 63.3        | U         | 468  | 63.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| <b>Chrysene</b>                    | <b>346</b>  | <b>J</b>  | 468  | 41.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| <b>Dibenz(a,h)anthracene</b>       | <b>98.6</b> | <b>J</b>  | 468  | 38.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Dibenzofuran                       | 52.3        | U         | 468  | 52.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 1,3-Dichlorobenzene                | 49.5        | U         | 468  | 49.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 1,4-Dichlorobenzene                | 60.6        | U         | 468  | 60.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 1,2-Dichlorobenzene                | 52.3        | U         | 468  | 52.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 3,3'-Dichlorobenzidine             | 440         | U         | 468  | 440  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2,4-Dichlorophenol                 | 46.8        | U         | 468  | 46.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Diethyl phthalate                  | 44.0        | U         | 468  | 44.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2,4-Dimethylphenol                 | 154         | U         | 468  | 154  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Dimethyl phthalate                 | 46.8        | U         | 468  | 46.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Di-n-butyl phthalate               | 99.1        | U         | 468  | 99.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 4,6-Dinitro-2-methylphenol         | 82.6        | U         | 1820 | 82.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2,4-Dinitrophenol                  | 82.6        | U         | 1820 | 82.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2,6-Dinitrotoluene                 | 60.6        | U         | 468  | 60.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2,4-Dinitrotoluene                 | 44.0        | U         | 468  | 44.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Di-n-octyl phthalate               | 35.8        | U         | 468  | 35.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| <b>Fluoranthene</b>                | <b>792</b>  |           | 468  | 46.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Fluorene                           | 52.3        | U         | 468  | 52.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Hexachlorobenzene                  | 55.1        | U         | 468  | 55.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Hexachlorobutadiene                | 77.1        | U         | 468  | 77.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Hexachlorocyclopentadiene          | 138         | U         | 468  | 138  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Hexachloroethane                   | 55.1        | U         | 468  | 55.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| <b>Indeno[1,2,3-cd]pyrene</b>      | <b>207</b>  | <b>J</b>  | 468  | 44.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Isophorone                         | 41.3        | U         | 468  | 41.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2-Methylnaphthalene                | 41.3        | U         | 468  | 41.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2-Methylphenol                     | 55.1        | U         | 468  | 55.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 3 & 4 Methylphenol                 | 77.1        | U         | 936  | 77.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Naphthalene                        | 44.0        | U         | 468  | 44.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2-Nitroaniline                     | 60.6        | U         | 468  | 60.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM340**

**Date Collected: 06/09/16 11:39**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-4**

**Matrix: Solid**

**Percent Solids: 68.2**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                   | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| 3-Nitroaniline            | 46.8   | U         | 468  | 46.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 4-Nitroaniline            | 77.1   | U         | 468  | 77.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Nitrobenzene              | 41.3   | U         | 468  | 41.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2-Nitrophenol             | 44.0   | U         | 468  | 44.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 4-Nitrophenol             | 82.6   | U         | 1820 | 82.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| N-Nitrosodi-n-propylamine | 68.8   | U         | 468  | 68.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| N-Nitrosodiphenylamine    | 60.6   | U         | 468  | 60.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Pentachlorophenol         | 908    | U         | 1820 | 908  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Phenanthrene              | 337    | J         | 468  | 57.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Phenol                    | 52.3   | U         | 468  | 52.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Pyrene                    | 589    |           | 468  | 46.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 1,2,4-Trichlorobenzene    | 44.0   | U         | 468  | 44.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2,4,6-Trichlorophenol     | 49.5   | U         | 468  | 49.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2,4,5-Trichlorophenol     | 85.3   | U         | 468  | 85.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:17 | 1       |

| Surrogate            | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2-Fluorophenol       | 50        |           | 24 - 101 | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Nitrobenzene-d5      | 34        |           | 17 - 112 | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2-Fluorobiphenyl     | 55        |           | 32 - 101 | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| 2,4,6-Tribromophenol | 90        |           | 21 - 130 | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Terphenyl-d14        | 87        |           | 62 - 129 | 06/21/16 07:56 | 06/22/16 13:17 | 1       |
| Phenol-d5 (Surr)     | 59        |           | 23 - 106 | 06/21/16 07:56 | 06/22/16 13:17 | 1       |

## Method: 8081B - Organochlorine Pesticides (GC)

| Analyte             | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Aldrin              | 1.90   | U *       | 2.47 | 1.90 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| alpha-BHC           | 1.45   | U *       | 2.47 | 1.45 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| alpha-Chlordane     | 7.54   | *         | 4.80 | 2.31 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| beta-BHC            | 1.48   | U *       | 2.47 | 1.48 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| 4,4'-DDD            | 13.3   | *         | 4.80 | 2.35 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| 4,4'-DDE            | 31.5   | *         | 4.80 | 2.11 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| 4,4'-DDT            | 2.69   | U *       | 4.80 | 2.69 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| delta-BHC           | 1.24   | U *       | 2.47 | 1.24 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| Dieldrin            | 2.02   | U *       | 4.80 | 2.02 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| Endosulfan I        | 1.45   | U *       | 2.47 | 1.45 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| Endosulfan II       | 2.20   | U *       | 2.47 | 2.20 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| Endosulfan sulfate  | 2.44   | U *       | 4.80 | 2.44 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| Endrin              | 2.22   | U *       | 4.80 | 2.22 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| Endrin aldehyde     | 2.27   | U *       | 4.80 | 2.27 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| Endrin ketone       | 2.24   | U *       | 4.80 | 2.24 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| gamma-BHC (Lindane) | 1.35   | U *       | 2.47 | 1.35 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| gamma-Chlordane     | 19.2   | *         | 4.80 | 1.82 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| Heptachlor          | 1.35   | U *       | 2.47 | 1.35 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| Heptachlor epoxide  | 1.70   | U *       | 2.47 | 1.70 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| Methoxychlor        | 11.7   | U *       | 24.7 | 11.7 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| Toxaphene           | 106    | U *       | 247  | 106  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 19:37 | 1       |

| Surrogate              | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 91        | *         | 50 - 143 | 06/16/16 09:25 | 06/23/16 19:37 | 1       |
| DCB Decachlorobiphenyl | 187       | X *       | 47 - 150 | 06/16/16 09:25 | 06/23/16 19:37 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM340**

**Date Collected: 06/09/16 11:39**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-4**

**Matrix: Solid**

**Percent Solids: 68.2**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte         | Result      | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------|-------------|-----------|------|------|-------|---|----------------|----------------|---------|
| PCB-1016        | 7.02        | U         | 45.4 | 7.02 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:50 | 1       |
| PCB-1221        | 7.02        | U         | 45.4 | 7.02 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:50 | 1       |
| PCB-1232        | 7.02        | U         | 45.4 | 7.02 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:50 | 1       |
| PCB-1242        | 7.02        | U         | 45.4 | 7.02 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:50 | 1       |
| PCB-1248        | 7.02        | U         | 45.4 | 7.02 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:50 | 1       |
| PCB-1254        | 7.02        | U         | 45.4 | 7.02 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:50 | 1       |
| <b>PCB-1260</b> | <b>26.3</b> | <b>J</b>  | 45.4 | 13.8 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:50 | 1       |
| Aroclor 1262    | 7.02        | U         | 45.4 | 7.02 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:50 | 1       |
| Aroclor 1268    | 7.02        | U         | 45.4 | 7.02 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 15:50 | 1       |

| Surrogate              | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 94        |           | 32 - 132 | 06/22/16 07:52 | 06/23/16 15:50 | 1       |
| DCB Decachlorobiphenyl | 90        |           | 57 - 138 | 06/22/16 07:52 | 06/23/16 15:50 | 1       |

## Method: 8141A - Organophosphorous Pesticides (GC)

| Analyte                       | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Azinophos methyl              | 494    | U         | 1830 | 494  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Bolstar                       | 598    | U         | 1830 | 598  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Chlorpyrifos                  | 911    | U         | 2820 | 911  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Coumaphos                     | 395    | U         | 1830 | 395  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Demeton-O                     | 746    | U         | 5500 | 746  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Demeton-S                     | 686    | U         | 2120 | 686  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Diazinon                      | 1030   | U         | 3100 | 1030 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Dichlorvos                    | 1040   | U         | 3240 | 1040 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Dimethoate                    | 999    | U         | 3100 | 999  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Disulfoton                    | 1090   | U         | 6770 | 1090 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| EPN                           | 519    | U         | 1830 | 519  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Ethoprop                      | 696    | U         | 2120 | 696  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Ethyl Parathion               | 746    | U         | 2540 | 746  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Famphur                       | 454    | U         | 1830 | 454  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Fensulfothion                 | 1150   | U         | 3530 | 1150 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Fenthion                      | 1230   | U         | 4660 | 1230 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Malathion                     | 655    | U         | 2120 | 655  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Merphos                       | 725    | U         | 4230 | 725  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Methyl parathion              | 899    | U         | 2820 | 899  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Mevinphos                     | 652    | U         | 2120 | 652  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Naled                         | 3190   | U         | 9880 | 3190 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Phorate                       | 804    | U         | 2820 | 804  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Ronnel                        | 2140   | U         | 6490 | 2140 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Sulfotepp                     | 883    | U         | 2820 | 883  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Tetrachlorvinphos (Stirophos) | 615    | U         | 2120 | 615  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Thionazin                     | 786    | U         | 2540 | 786  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Tokuthion                     | 552    | U         | 2820 | 552  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Trichloronate                 | 882    | U         | 2820 | 882  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 21:42 | 100     |

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------------|----------------|---------|
| Chlormefos         | 78        | D         | 42 - 132 | 06/22/16 12:40 | 07/06/16 21:42 | 100     |
| Triphenylphosphate | 92        | D         | 47 - 161 | 06/22/16 12:40 | 07/06/16 21:42 | 100     |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM340**

**Date Collected: 06/09/16 11:39**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-4**

**Matrix: Solid**

**Percent Solids: 68.2**

## Method: 8151A - Herbicides (GC)

| Analyte           | Result    | Qualifier | RL       | MDL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|-----------|-----------|----------|-------|-------|---|----------------|----------------|---------|
| 2,4-D             | 0.830     | U         | 9.77     | 0.830 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:03 | 1       |
| 2,4-DB            | 1.61      | U         | 9.77     | 1.61  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:03 | 1       |
| Dicamba           | 1.12      | U         | 9.77     | 1.12  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:03 | 1       |
| Dichlorprop       | 1.10      | U         | 9.77     | 1.10  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:03 | 1       |
| Dinoseb           | 0.781     | U         | 9.77     | 0.781 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:03 | 1       |
| MCPA              | 159       | U         | 97.7     | 159   | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:03 | 1       |
| Mecoprop          | 112       | U         | 97.7     | 112   | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:03 | 1       |
| Silvex (2,4,5-TP) | 1.05      | U         | 9.77     | 1.05  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:03 | 1       |
| 2,4,5-T           | 1.07      | U         | 9.77     | 1.07  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:03 | 1       |
| Surrogate         | %Recovery | Qualifier | Limits   |       |       |   | Prepared       | Analyzed       | Dil Fac |
| 2,4-DCAA          | 93        |           | 22 - 130 |       |       |   | 06/20/16 08:59 | 06/22/16 20:03 | 1       |

## Method: 8151A - Herbicides (GC)

| Analyte   | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Dalapon   | 4.21      | U         | 145      | 4.21 | ug/Kg | ☼ | 06/21/16 15:57 | 06/23/16 23:35 | 1       |
| Surrogate | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| 2,4-DCAA  | 68        |           | 35 - 137 |      |       |   | 06/21/16 15:57 | 06/23/16 23:35 | 1       |

## Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte      | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| Bromide      | 1.47   | U         | 5.87 | 1.47  | mg/Kg | ☼ |          | 06/23/16 04:14 | 1       |
| Nitrate as N | 0.368  | U H       | 2.93 | 0.368 | mg/Kg | ☼ |          | 06/23/16 04:14 | 1       |
| Chloride     | 11.3   |           | 5.87 | 0.784 | mg/Kg | ☼ |          | 06/23/16 04:14 | 1       |
| Fluoride     | 3.23   |           | 2.93 | 0.882 | mg/Kg | ☼ |          | 06/23/16 04:14 | 1       |
| Sulfate      | 144    |           | 7.34 | 1.40  | mg/Kg | ☼ |          | 06/23/16 04:14 | 1       |

## Method: 6010B - Metals (ICP)

| Analyte    | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Aluminum   | 4340   |           | 5.35  | 3.29   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Phosphorus | 415    |           | 53.5  | 1.78   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Antimony   | 0.861  | J         | 2.14  | 0.286  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Calcium    | 193000 |           | 535   | 155    | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 14:32 | 10      |
| Arsenic    | 3.47   |           | 2.14  | 0.155  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Magnesium  | 2820   |           | 21.4  | 1.69   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Barium     | 41.3   |           | 1.07  | 0.202  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Potassium  | 867    |           | 107   | 16.3   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Beryllium  | 0.437  | J         | 0.535 | 0.0289 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Silicon    | 2760   |           | 21.4  | 6.77   | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 14:28 | 1       |
| Cadmium    | 0.788  |           | 0.535 | 0.0386 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Sodium     | 101    | J         | 107   | 16.2   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Chromium   | 35.8   |           | 1.07  | 0.144  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Strontium  | 105    |           | 1.07  | 0.0835 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Copper     | 9.28   |           | 2.14  | 0.215  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Iron       | 5540   |           | 21.4  | 5.35   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Lead       | 260    |           | 0.535 | 0.163  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Manganese  | 156    |           | 2.68  | 0.498  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Nickel     | 7.14   |           | 2.14  | 0.133  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Selenium   | 1.15   |           | 1.07  | 0.212  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| Silver     | 0.118  | U         | 0.535 | 0.118  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HMSM340**

**Date Collected: 06/09/16 11:39**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-4**

**Matrix: Solid**

**Percent Solids: 68.2**

## Method: 6010B - Metals (ICP) (Continued)

| Analyte     | Result      | Qualifier | RL   | MDL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------|-------------|-----------|------|-------|-------|---|----------------|----------------|---------|
| Thallium    | 0.127       | U         | 1.07 | 0.127 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |
| <b>Zinc</b> | <b>52.7</b> |           | 2.68 | 0.610 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:39 | 1       |

## Method: 7471A - Mercury (CVAA)

| Analyte        | Result        | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|----------------|---------------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| <b>Mercury</b> | <b>0.0715</b> | <b>J</b>  | 0.152 | 0.0137 | mg/Kg | ☼ | 06/15/16 10:00 | 06/15/16 17:03 | 1       |

## General Chemistry

| Analyte    | Result      | Qualifier | RL    | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------|-------------|-----------|-------|--------|------|---|----------|----------------|---------|
| <b>pH</b>  | <b>7.84</b> |           | 0.100 | 0.100  | SU   |   |          | 06/15/16 14:26 | 1       |
| <b>TOC</b> | <b>2.07</b> |           | 0.100 | 0.0415 | %    |   |          | 06/24/16 09:00 | 1       |

## General Chemistry - Soluble

| Analyte                                | Result     | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|--|------------|-----------|------|------|-------|---|----------|----------------|---------|
| <b>Alkalinity</b>                      | <b>162</b> |           | 7.26 | 7.26 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| <b>Bicarbonate Alkalinity as CaCO3</b> | <b>162</b> |           | 7.26 | 7.26 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Carbonate Alkalinity as CaCO3          | 7.26       | U         | 7.26 | 7.26 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |

**Client Sample ID: HMSM350**

**Date Collected: 06/09/16 12:00**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-5**

**Matrix: Solid**

**Percent Solids: 53.3**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte                   | Result      | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------|-------------|-----------|------|------|-------|---|----------|----------------|---------|
| <b>Acetone</b>            | <b>225</b>  | <b>J</b>  | 446  | 64.3 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Acetonitrile              | 330         | U         | 446  | 330  | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Benzene                   | 5.63        | U         | 44.6 | 5.63 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Benzyl chloride           | 4.46        | U         | 44.6 | 4.46 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Bromobenzene              | 6.61        | U         | 44.6 | 6.61 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Bromochloromethane        | 8.04        | U         | 44.6 | 8.04 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Bromoform                 | 4.55        | U         | 44.6 | 4.55 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Bromomethane              | 9.82        | U         | 44.6 | 9.82 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,3-Butadiene             | 2.68        | U         | 44.6 | 2.68 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| <b>2-Butanone (MEK)</b>   | <b>35.2</b> | <b>J</b>  | 89.3 | 17.0 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Carbon disulfide          | 8.93        | U         | 44.6 | 8.93 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Carbon tetrachloride      | 4.55        | U         | 44.6 | 4.55 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Chlorobenzene             | 2.68        | U         | 44.6 | 2.68 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 2-Chloro-1,3-butadiene    | 6.16        | U         | 44.6 | 6.16 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Chlorodibromomethane      | 5.71        | U         | 44.6 | 5.71 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Chloroethane              | 2.32        | U         | 44.6 | 2.32 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Chloroform                | 7.77        | U         | 44.6 | 7.77 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1-Chlorohexane            | 4.91        | U         | 44.6 | 4.91 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Chloromethane             | 10.7        | U         | 44.6 | 10.7 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 2-Chlorotoluene           | 2.68        | U         | 44.6 | 2.68 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 4-Chlorotoluene           | 6.16        | U         | 44.6 | 6.16 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| cis-1,4-Dichloro-2-butene | 2.86        | U         | 44.6 | 2.86 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| cis-1,2-Dichloroethene    | 5.09        | U         | 44.6 | 5.09 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| cis-1,3-Dichloropropene   | 1.79        | U         | 44.6 | 1.79 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Cyclohexane               | 8.84        | U         | 89.3 | 8.84 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Cyclohexanone             | 89.3        | U         | 893  | 89.3 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM350**

**Date Collected: 06/09/16 12:00**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-5**

**Matrix: Solid**

**Percent Solids: 53.3**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                     | Result      | Qualifier  | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-------------|------------|------|------|-------|---|----------|----------------|---------|
| 1,2-Dibromo-3-Chloropropane | 2.95        | U          | 44.6 | 2.95 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Dibromomethane              | 6.34        | U          | 44.6 | 6.34 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,3-Dichlorobenzene         | 2.77        | U          | 44.6 | 2.77 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,2-Dichlorobenzene         | 2.23        | U          | 44.6 | 2.23 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,4-Dichlorobenzene         | 2.86        | U          | 44.6 | 2.86 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Dichlorobromomethane        | 1.79        | U          | 44.6 | 1.79 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Dichlorodifluoromethane     | 6.52        | U          | 44.6 | 6.52 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,2-Dichloroethane          | 4.64        | U          | 44.6 | 4.64 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,1-Dichloroethane          | 5.27        | U          | 44.6 | 5.27 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,1-Dichloroethene          | 4.46        | U          | 44.6 | 4.46 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,2-Dichloroethene, Total   | 4.46        | U          | 44.6 | 4.46 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,2-Dichloropropane         | 4.46        | U          | 44.6 | 4.46 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 2,2-Dichloropropane         | 7.50        | U          | 44.6 | 7.50 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,3-Dichloropropane         | 2.68        | U          | 44.6 | 2.68 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,1-Dichloropropene         | 4.64        | U          | 44.6 | 4.64 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,3-Dichloropropene, Total  | 4.64        | U          | 44.6 | 4.64 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,4-Dioxane                 | 170         | U          | 893  | 170  | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| EDB                         | 2.68        | U          | 44.6 | 2.68 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Ethyl acetate               | 25.1        | U          | 44.6 | 25.1 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Ethylbenzene                | 4.02        | U          | 44.6 | 4.02 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Ethylene oxide              | 268         | U          | 893  | 268  | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Ethyl ether                 | 4.46        | U          | 223  | 4.46 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Ethyl methacrylate          | 4.55        | U          | 44.6 | 4.55 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Hexachlorobutadiene         | 5.71        | U          | 44.6 | 5.71 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Hexane                      | 11.6        | U          | 44.6 | 11.6 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 2-Hexanone                  | 13.4        | U          | 89.3 | 13.4 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Iodomethane                 | 7.14        | U          | 44.6 | 7.14 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Isobutyl alcohol            | 607         | U          | 2230 | 607  | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Isooctane                   | 4.46        | U          | 44.6 | 4.46 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Isopropylbenzene            | 4.46        | U          | 44.6 | 4.46 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| <b>4-Isopropyltoluene</b>   | <b>15.7</b> | <b>J</b>   | 44.6 | 3.53 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Methacrylonitrile           | 21.4        | U          | 446  | 21.4 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| <b>Methylene Chloride</b>   | <b>56.6</b> | <b>J B</b> | 223  | 44.6 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Methyl methacrylate         | 9.82        | U          | 44.6 | 9.82 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 4-Methyl-2-pentanone (MIBK) | 13.4        | U          | 89.3 | 13.4 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Methyl tert-butyl ether     | 5.45        | U          | 44.6 | 5.45 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| m-Xylene & p-Xylene         | 4.46        | U          | 89.3 | 4.46 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Naphthalene                 | 10.7        | U          | 89.3 | 10.7 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| n-Butylbenzene              | 2.41        | U          | 44.6 | 2.41 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| n-Heptane                   | 4.73        | U          | 44.6 | 4.73 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 2-Nitropropane              | 4.64        | U          | 89.3 | 4.64 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| N-Propylbenzene             | 2.68        | U          | 44.6 | 2.68 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1-Octene                    | 4.46        | U          | 44.6 | 4.46 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| o-Xylene                    | 3.57        | U          | 44.6 | 3.57 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Pentachloroethane           | 12.5        | U          | 44.6 | 12.5 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Propionitrile               | 43.8        | U          | 446  | 43.8 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| sec-Butylbenzene            | 2.68        | U          | 44.6 | 2.68 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Styrene                     | 2.68        | U          | 44.6 | 2.68 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| tert-Butylbenzene           | 2.23        | U          | 44.6 | 2.23 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM350**

**Lab Sample ID: 560-62041-5**

**Date Collected: 06/09/16 12:00**

**Matrix: Solid**

**Date Received: 06/10/16 08:00**

**Percent Solids: 53.3**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                               | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
| 1,1,2,2-Tetrachloroethane             | 3.39   | U         | 44.6 | 3.39 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,1,1,2-Tetrachloroethane             | 2.41   | U         | 44.6 | 2.41 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Tetrachloroethene                     | 6.61   | U         | 44.6 | 6.61 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Toluene                               | 8.04   | U         | 44.6 | 8.04 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| trans-1,4-Dichloro-2-butene           | 7.86   | U         | 44.6 | 7.86 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| trans-1,2-Dichloroethene              | 4.46   | U         | 44.6 | 4.46 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| trans-1,3-Dichloropropene             | 4.64   | U         | 44.6 | 4.64 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,2,4-Trichlorobenzene                | 8.66   | U         | 44.6 | 8.66 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,2,3-Trichlorobenzene                | 3.93   | U         | 44.6 | 3.93 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,3,5-Trichlorobenzene                | 2.77   | U         | 44.6 | 2.77 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,1,1-Trichloroethane                 | 4.46   | U         | 44.6 | 4.46 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,1,2-Trichloroethane                 | 4.46   | U         | 44.6 | 4.46 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Trichloroethene                       | 2.50   | U         | 44.6 | 2.50 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Trichlorofluoromethane                | 4.46   | U         | 44.6 | 4.46 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,2,3-Trichloropropane                | 6.79   | U         | 44.6 | 6.79 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 5.98   | U         | 44.6 | 5.98 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,2,4-Trimethylbenzene                | 3.39   | U         | 44.6 | 3.39 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| 1,3,5-Trimethylbenzene                | 3.13   | U         | 44.6 | 3.13 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Vinyl acetate                         | 9.82   | U         | 44.6 | 9.82 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Vinyl chloride                        | 5.36   | U         | 44.6 | 5.36 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |
| Xylenes, Total                        | 4.46   | U         | 89.3 | 4.46 | ug/Kg | ☼ |          | 06/16/16 12:49 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr)  | 108       |           | 61 - 142 |          | 06/16/16 12:49 | 1       |
| Dibromofluoromethane (Surr)  | 102       |           | 50 - 136 |          | 06/16/16 12:49 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 104       |           | 65 - 152 |          | 06/16/16 12:49 | 1       |
| Toluene-d8 (Surr)            | 99        |           | 65 - 139 |          | 06/16/16 12:49 | 1       |

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

| Analyte                     | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Acenaphthene                | 120    | U         | 1200 | 120  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Acenaphthylene              | 98.9   | U         | 1200 | 98.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Anthracene                  | 134    | U         | 1200 | 134  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Benzo[a]anthracene          | 210    | J         | 1200 | 148  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Benzo[a]pyrene              | 246    | J         | 1200 | 120  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Benzo[b]fluoranthene        | 511    | J         | 1200 | 106  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Benzo[g,h,i]perylene        | 108    | J         | 1200 | 106  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Benzo[k]fluoranthene        | 172    | J         | 1200 | 91.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Benzyl alcohol              | 254    | U         | 1200 | 254  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Bis(2-chloroethoxy)methane  | 120    | U         | 1200 | 120  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Bis(2-chloroethyl)ether     | 184    | U         | 1200 | 184  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Bis(2-ethylhexyl) phthalate | 586    | J         | 1200 | 184  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 4-Bromophenyl phenyl ether  | 155    | U         | 1200 | 155  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Butyl benzyl phthalate      | 98.9   | U         | 1200 | 98.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 4-Chloroaniline             | 212    | U         | 1200 | 212  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 4-Chloro-3-methylphenol     | 170    | U         | 1200 | 170  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2-Chloronaphthalene         | 120    | U         | 1200 | 120  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2-Chlorophenol              | 120    | U         | 1200 | 120  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 4-Chlorophenyl phenyl ether | 162    | U         | 1200 | 162  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Chrysene                    | 281    | J         | 1200 | 106  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HMSM350**

**Date Collected: 06/09/16 12:00**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-5**

**Matrix: Solid**

**Percent Solids: 53.3**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                       | Result      | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-------------|-----------|------|------|-------|---|----------------|----------------|---------|
| Dibenz(a,h)anthracene         | 98.9        | U         | 1200 | 98.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Dibenzofuran                  | 134         | U         | 1200 | 134  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 1,3-Dichlorobenzene           | 127         | U         | 1200 | 127  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 1,4-Dichlorobenzene           | 155         | U         | 1200 | 155  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 1,2-Dichlorobenzene           | 134         | U         | 1200 | 134  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 3,3'-Dichlorobenzidine        | 1130        | U         | 1200 | 1130 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2,4-Dichlorophenol            | 120         | U         | 1200 | 120  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Diethyl phthalate             | 113         | U         | 1200 | 113  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2,4-Dimethylphenol            | 396         | U         | 1200 | 396  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Dimethyl phthalate            | 120         | U         | 1200 | 120  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Di-n-butyl phthalate          | 254         | U         | 1200 | 254  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 4,6-Dinitro-2-methylphenol    | 212         | U         | 4660 | 212  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2,4-Dinitrophenol             | 212         | U         | 4660 | 212  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2,6-Dinitrotoluene            | 155         | U         | 1200 | 155  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2,4-Dinitrotoluene            | 113         | U         | 1200 | 113  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Di-n-octyl phthalate          | 91.8        | U         | 1200 | 91.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| <b>Fluoranthene</b>           | <b>590</b>  | <b>J</b>  | 1200 | 120  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Fluorene                      | 134         | U         | 1200 | 134  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Hexachlorobenzene             | 141         | U         | 1200 | 141  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Hexachlorobutadiene           | 198         | U         | 1200 | 198  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Hexachlorocyclopentadiene     | 353         | U         | 1200 | 353  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Hexachloroethane              | 141         | U         | 1200 | 141  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| <b>Indeno[1,2,3-cd]pyrene</b> | <b>324</b>  | <b>J</b>  | 1200 | 113  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Isophorone                    | 106         | U         | 1200 | 106  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2-Methylnaphthalene           | 106         | U         | 1200 | 106  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2-Methylphenol                | 141         | U         | 1200 | 141  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| <b>3 &amp; 4 Methylphenol</b> | <b>4330</b> |           | 2400 | 198  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Naphthalene                   | 113         | U         | 1200 | 113  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2-Nitroaniline                | 155         | U         | 1200 | 155  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 3-Nitroaniline                | 120         | U         | 1200 | 120  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 4-Nitroaniline                | 198         | U         | 1200 | 198  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Nitrobenzene                  | 106         | U         | 1200 | 106  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2-Nitrophenol                 | 113         | U         | 1200 | 113  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 4-Nitrophenol                 | 212         | U         | 4660 | 212  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| N-Nitrosodi-n-propylamine     | 177         | U         | 1200 | 177  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| N-Nitrosodiphenylamine        | 155         | U         | 1200 | 155  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Pentachlorophenol             | 2330        | U         | 4660 | 2330 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| <b>Phenanthrene</b>           | <b>182</b>  | <b>J</b>  | 1200 | 148  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Phenol                        | 134         | U         | 1200 | 134  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| <b>Pyrene</b>                 | <b>352</b>  | <b>J</b>  | 1200 | 120  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 1,2,4-Trichlorobenzene        | 113         | U         | 1200 | 113  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2,4,6-Trichlorophenol         | 127         | U         | 1200 | 127  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2,4,5-Trichlorophenol         | 219         | U         | 1200 | 219  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 13:43 | 1       |

| Surrogate            | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2-Fluorophenol       | 75        |           | 24 - 101 | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Nitrobenzene-d5      | 56        |           | 17 - 112 | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2-Fluorobiphenyl     | 72        |           | 32 - 101 | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| 2,4,6-Tribromophenol | 93        |           | 21 - 130 | 06/21/16 07:56 | 06/22/16 13:43 | 1       |
| Terphenyl-d14        | 81        |           | 62 - 129 | 06/21/16 07:56 | 06/22/16 13:43 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM350**

**Date Collected: 06/09/16 12:00**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-5**

**Matrix: Solid**

**Percent Solids: 53.3**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Surrogate        | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| Phenol-d5 (Surr) | 73        |           | 23 - 106 | 06/21/16 07:56 | 06/22/16 13:43 | 1       |

## Method: 8081B - Organochlorine Pesticides (GC)

| Analyte             | Result      | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|-------------|-----------|------|------|-------|---|----------------|----------------|---------|
| Aldrin              | 2.45        | U *       | 3.18 | 2.45 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| alpha-BHC           | 1.87        | U *       | 3.18 | 1.87 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| alpha-Chlordane     | 2.98        | U *       | 6.18 | 2.98 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| beta-BHC            | 1.91        | U *       | 3.18 | 1.91 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| 4,4'-DDD            | 3.03        | U *       | 6.18 | 3.03 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| <b>4,4'-DDE</b>     | <b>9.72</b> | <b>*</b>  | 6.18 | 2.71 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| 4,4'-DDT            | 3.46        | U *       | 6.18 | 3.46 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| delta-BHC           | 1.59        | U *       | 3.18 | 1.59 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| Dieldrin            | 2.60        | U *       | 6.18 | 2.60 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| Endosulfan I        | 1.87        | U *       | 3.18 | 1.87 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| Endosulfan II       | 2.83        | U *       | 3.18 | 2.83 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| Endosulfan sulfate  | 3.14        | U *       | 6.18 | 3.14 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| Endrin              | 2.86        | U *       | 6.18 | 2.86 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| Endrin aldehyde     | 2.92        | U *       | 6.18 | 2.92 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| Endrin ketone       | 2.88        | U *       | 6.18 | 2.88 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| gamma-BHC (Lindane) | 1.74        | U *       | 3.18 | 1.74 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| gamma-Chlordane     | 2.34        | U *       | 6.18 | 2.34 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| Heptachlor          | 1.74        | U *       | 3.18 | 1.74 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| Heptachlor epoxide  | 2.19        | U *       | 3.18 | 2.19 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| Methoxychlor        | 15.1        | U *       | 31.8 | 15.1 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| Toxaphene           | 137         | U *       | 318  | 137  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:01 | 1       |

| Surrogate              | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 86        | *         | 50 - 143 | 06/16/16 09:25 | 06/23/16 20:01 | 1       |
| DCB Decachlorobiphenyl | 187       | X *       | 47 - 150 | 06/16/16 09:25 | 06/23/16 20:01 | 1       |

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte      | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| PCB-1016     | 9.15   | U         | 59.2 | 9.15 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:10 | 1       |
| PCB-1221     | 9.15   | U         | 59.2 | 9.15 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:10 | 1       |
| PCB-1232     | 9.15   | U         | 59.2 | 9.15 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:10 | 1       |
| PCB-1242     | 9.15   | U         | 59.2 | 9.15 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:10 | 1       |
| PCB-1248     | 9.15   | U         | 59.2 | 9.15 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:10 | 1       |
| PCB-1254     | 9.15   | U         | 59.2 | 9.15 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:10 | 1       |
| PCB-1260     | 17.9   | U         | 59.2 | 17.9 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:10 | 1       |
| Aroclor 1262 | 9.15   | U         | 59.2 | 9.15 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:10 | 1       |
| Aroclor 1268 | 9.15   | U         | 59.2 | 9.15 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:10 | 1       |

| Surrogate              | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 90        |           | 32 - 132 | 06/22/16 07:52 | 06/23/16 16:10 | 1       |
| DCB Decachlorobiphenyl | 82        |           | 57 - 138 | 06/22/16 07:52 | 06/23/16 16:10 | 1       |

## Method: 8141A - Organophosphorous Pesticides (GC)

| Analyte          | Result | Qualifier | RL   | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------|--------|-----------|------|-----|-------|---|----------------|----------------|---------|
| Azinophos methyl | 619    | U         | 2300 | 619 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Bolstar          | 750    | U         | 2300 | 750 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM350**

**Date Collected: 06/09/16 12:00**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-5**

**Matrix: Solid**

**Percent Solids: 53.3**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

| Analyte                       | Result | Qualifier | RL    | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|--------|-----------|-------|------|-------|---|----------------|----------------|---------|
| Chlorpyrifos                  | 1140   | U         | 3540  | 1140 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Coumaphos                     | 495    | U         | 2300  | 495  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Demeton-O                     | 936    | U         | 6900  | 936  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Demeton-S                     | 860    | U         | 2650  | 860  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Diazinon                      | 1290   | U         | 3890  | 1290 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Dichlorvos                    | 1310   | U         | 4070  | 1310 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Dimethoate                    | 1250   | U         | 3890  | 1250 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Disulfoton                    | 1370   | U         | 8490  | 1370 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| EPN                           | 651    | U         | 2300  | 651  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Ethoprop                      | 872    | U         | 2650  | 872  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Ethyl Parathion               | 936    | U         | 3180  | 936  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Famphur                       | 570    | U         | 2300  | 570  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Fensulfothion                 | 1440   | U         | 4420  | 1440 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Fenthion                      | 1550   | U         | 5840  | 1550 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Malathion                     | 821    | U         | 2650  | 821  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Merphos                       | 909    | U         | 5310  | 909  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Methyl parathion              | 1130   | U         | 3540  | 1130 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Mevinphos                     | 817    | U         | 2650  | 817  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Naled                         | 4000   | U         | 12400 | 4000 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Phorate                       | 1010   | U         | 3540  | 1010 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Ronnel                        | 2690   | U         | 8140  | 2690 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Sulfotepp                     | 1110   | U         | 3540  | 1110 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Tetrachlorvinphos (Stirophos) | 771    | U         | 2650  | 771  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Thionazin                     | 985    | U         | 3180  | 985  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Tokuthion                     | 692    | U         | 3540  | 692  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Trichloronate                 | 1110   | U         | 3540  | 1110 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:13 | 100     |

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------------|----------------|---------|
| Chlormefos         | 75        | D         | 42 - 132 | 06/22/16 12:40 | 07/06/16 22:13 | 100     |
| Triphenylphosphate | 91        | D         | 47 - 161 | 06/22/16 12:40 | 07/06/16 22:13 | 100     |

## Method: 8151A - Herbicides (GC)

| Analyte           | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| 2,4-D             | 1.06   | U         | 12.5 | 1.06 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:28 | 1       |
| 2,4-DB            | 2.06   | U         | 12.5 | 2.06 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:28 | 1       |
| Dicamba           | 1.44   | U         | 12.5 | 1.44 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:28 | 1       |
| Dichlorprop       | 1.41   | U         | 12.5 | 1.41 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:28 | 1       |
| Dinoseb           | 1.00   | U         | 12.5 | 1.00 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:28 | 1       |
| MCPA              | 203    | U         | 125  | 203  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:28 | 1       |
| Mecoprop          | 143    | U         | 125  | 143  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:28 | 1       |
| Silvex (2,4,5-TP) | 1.34   | U         | 12.5 | 1.34 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:28 | 1       |
| 2,4,5-T           | 1.37   | U         | 12.5 | 1.37 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:28 | 1       |

| Surrogate | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|----------------|----------------|---------|
| 2,4-DCAA  | 74        |           | 22 - 130 | 06/20/16 08:59 | 06/22/16 20:28 | 1       |

## Method: 8151A - Herbicides (GC)

| Analyte | Result | Qualifier | RL  | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Dalapon | 5.42   | U         | 187 | 5.42 | ug/Kg | ☼ | 06/21/16 15:57 | 06/23/16 19:59 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM350**

**Date Collected: 06/09/16 12:00**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-5**

**Matrix: Solid**

**Percent Solids: 53.3**

| Surrogate | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|----------------|----------------|---------|
| 2,4-DCAA  | 74        |           | 35 - 137 | 06/21/16 15:57 | 06/23/16 19:59 | 1       |

## Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte      | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| Bromide      | 1.89   | U         | 7.52 | 1.89  | mg/Kg | ☼ |          | 06/23/16 04:34 | 1       |
| Nitrate as N | 2.15   | J H       | 3.76 | 0.472 | mg/Kg | ☼ |          | 06/23/16 04:34 | 1       |
| Chloride     | 27.0   |           | 7.52 | 1.00  | mg/Kg | ☼ |          | 06/23/16 04:34 | 1       |
| Fluoride     | 3.21   | J         | 3.76 | 1.13  | mg/Kg | ☼ |          | 06/23/16 04:34 | 1       |
| Sulfate      | 212    |           | 9.39 | 1.80  | mg/Kg | ☼ |          | 06/23/16 04:34 | 1       |

## Method: 6010B - Metals (ICP)

| Analyte    | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Aluminum   | 3020   |           | 7.62  | 4.68   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Phosphorus | 1150   |           | 76.2  | 2.53   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Antimony   | 1.35   | J         | 3.05  | 0.407  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Calcium    | 274000 |           | 762   | 221    | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 14:39 | 10      |
| Arsenic    | 4.14   |           | 3.05  | 0.221  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Magnesium  | 2590   |           | 30.5  | 2.41   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Barium     | 38.3   |           | 1.52  | 0.288  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Potassium  | 626    |           | 152   | 23.2   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Beryllium  | 0.312  | J         | 0.762 | 0.0412 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Silicon    | 3730   |           | 30.5  | 9.64   | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 14:35 | 1       |
| Cadmium    | 1.11   |           | 0.762 | 0.0549 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Sodium     | 259    |           | 152   | 23.0   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Chromium   | 10.5   |           | 1.52  | 0.204  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Strontium  | 197    |           | 1.52  | 0.119  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Copper     | 10.1   |           | 3.05  | 0.306  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Iron       | 5880   |           | 30.5  | 7.62   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Lead       | 43.4   |           | 0.762 | 0.232  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Manganese  | 294    |           | 3.81  | 0.709  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Nickel     | 8.87   |           | 3.05  | 0.189  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Selenium   | 1.93   |           | 1.52  | 0.302  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Silver     | 0.168  | U         | 0.762 | 0.168  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Thallium   | 0.181  | U         | 1.52  | 0.181  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |
| Zinc       | 46.3   |           | 3.81  | 0.869  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:43 | 1       |

## Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Mercury | 0.0799 | J         | 0.199 | 0.0179 | mg/Kg | ☼ | 06/15/16 10:00 | 06/15/16 17:05 | 1       |

## General Chemistry

| Analyte | Result | Qualifier | RL    | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| pH      | 7.42   |           | 0.100 | 0.100  | SU   | — |          | 06/15/16 14:26 | 1       |
| TOC     | 3.47   |           | 0.100 | 0.0415 | %    |   |          | 06/24/16 09:00 | 1       |

## General Chemistry - Soluble

| Analyte                         | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
| Alkalinity                      | 362    |           | 9.16 | 9.16 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Bicarbonate Alkalinity as CaCO3 | 362    |           | 9.16 | 9.16 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Carbonate Alkalinity as CaCO3   | 9.16   | U         | 9.16 | 9.16 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM360**

**Lab Sample ID: 560-62041-6**

**Date Collected: 06/09/16 12:28**

**Matrix: Solid**

**Date Received: 06/10/16 08:00**

**Percent Solids: 72.1**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte                     | Result      | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-------------|-----------|------|-------|-------|---|----------|----------------|---------|
| <b>Acetone</b>              | <b>25.8</b> | <b>J</b>  | 63.8 | 9.19  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Acetonitrile                | 47.2        | U         | 63.8 | 47.2  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Benzene                     | 0.804       | U         | 6.38 | 0.804 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Benzyl chloride             | 0.638       | U         | 6.38 | 0.638 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Bromobenzene                | 0.945       | U         | 6.38 | 0.945 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Bromochloromethane          | 1.15        | U         | 6.38 | 1.15  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Bromoform                   | 0.651       | U         | 6.38 | 0.651 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Bromomethane                | 1.40        | U         | 6.38 | 1.40  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,3-Butadiene               | 0.383       | U         | 6.38 | 0.383 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| <b>2-Butanone (MEK)</b>     | <b>3.89</b> | <b>J</b>  | 12.8 | 2.43  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Carbon disulfide            | 1.28        | U         | 6.38 | 1.28  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Carbon tetrachloride        | 0.651       | U         | 6.38 | 0.651 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Chlorobenzene               | 0.383       | U         | 6.38 | 0.383 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 2-Chloro-1,3-butadiene      | 0.881       | U         | 6.38 | 0.881 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Chlorodibromomethane        | 0.817       | U         | 6.38 | 0.817 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Chloroethane                | 0.332       | U         | 6.38 | 0.332 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Chloroform                  | 1.11        | U         | 6.38 | 1.11  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1-Chlorohexane              | 0.702       | U         | 6.38 | 0.702 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Chloromethane               | 1.53        | U         | 6.38 | 1.53  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 2-Chlorotoluene             | 0.383       | U         | 6.38 | 0.383 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 4-Chlorotoluene             | 0.881       | U         | 6.38 | 0.881 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| cis-1,4-Dichloro-2-butene   | 0.409       | U         | 6.38 | 0.409 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| cis-1,2-Dichloroethene      | 0.728       | U         | 6.38 | 0.728 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| cis-1,3-Dichloropropene     | 0.255       | U         | 6.38 | 0.255 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Cyclohexane                 | 1.26        | U         | 12.8 | 1.26  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Cyclohexanone               | 12.8        | U         | 128  | 12.8  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,2-Dibromo-3-Chloropropane | 0.421       | U         | 6.38 | 0.421 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Dibromomethane              | 0.906       | U         | 6.38 | 0.906 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,3-Dichlorobenzene         | 0.396       | U         | 6.38 | 0.396 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,2-Dichlorobenzene         | 0.319       | U         | 6.38 | 0.319 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,4-Dichlorobenzene         | 0.409       | U         | 6.38 | 0.409 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Dichlorobromomethane        | 0.255       | U         | 6.38 | 0.255 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Dichlorodifluoromethane     | 0.932       | U         | 6.38 | 0.932 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,2-Dichloroethane          | 0.664       | U         | 6.38 | 0.664 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,1-Dichloroethane          | 0.753       | U         | 6.38 | 0.753 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,1-Dichloroethene          | 0.638       | U         | 6.38 | 0.638 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,2-Dichloroethene, Total   | 0.638       | U         | 6.38 | 0.638 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,2-Dichloropropane         | 0.638       | U         | 6.38 | 0.638 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 2,2-Dichloropropane         | 1.07        | U         | 6.38 | 1.07  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,3-Dichloropropane         | 0.383       | U         | 6.38 | 0.383 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,1-Dichloropropene         | 0.664       | U         | 6.38 | 0.664 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,3-Dichloropropene, Total  | 0.664       | U         | 6.38 | 0.664 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,4-Dioxane                 | 24.3        | U         | 128  | 24.3  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| EDB                         | 0.383       | U         | 6.38 | 0.383 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Ethyl acetate               | 3.59        | U         | 6.38 | 3.59  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Ethylbenzene                | 0.575       | U         | 6.38 | 0.575 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Ethylene oxide              | 38.3        | U         | 128  | 38.3  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Ethyl ether                 | 0.638       | U         | 31.9 | 0.638 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Ethyl methacrylate          | 0.651       | U         | 6.38 | 0.651 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM360**

**Date Collected: 06/09/16 12:28**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-6**

**Matrix: Solid**

**Percent Solids: 72.1**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                               | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| Hexachlorobutadiene                   | 0.817  | U         | 6.38 | 0.817 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Hexane                                | 1.66   | U         | 6.38 | 1.66  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 2-Hexanone                            | 1.92   | U         | 12.8 | 1.92  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Iodomethane                           | 1.02   | U         | 6.38 | 1.02  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Isobutyl alcohol                      | 86.8   | U         | 319  | 86.8  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Isooctane                             | 0.638  | U         | 6.38 | 0.638 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Isopropylbenzene                      | 0.638  | U         | 6.38 | 0.638 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 4-Isopropyltoluene                    | 0.504  | U         | 6.38 | 0.504 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Methacrylonitrile                     | 3.06   | U         | 63.8 | 3.06  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Methylene Chloride                    | 6.38   | U         | 31.9 | 6.38  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Methyl methacrylate                   | 1.40   | U         | 6.38 | 1.40  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 4-Methyl-2-pentanone (MIBK)           | 1.92   | U         | 12.8 | 1.92  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Methyl tert-butyl ether               | 0.779  | U         | 6.38 | 0.779 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| m-Xylene & p-Xylene                   | 0.638  | U         | 12.8 | 0.638 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Naphthalene                           | 1.53   | U         | 12.8 | 1.53  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| n-Butylbenzene                        | 0.345  | U         | 6.38 | 0.345 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| n-Heptane                             | 0.677  | U         | 6.38 | 0.677 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 2-Nitropropane                        | 0.664  | U         | 12.8 | 0.664 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| N-Propylbenzene                       | 0.383  | U         | 6.38 | 0.383 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1-Octene                              | 0.638  | U         | 6.38 | 0.638 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| o-Xylene                              | 0.511  | U         | 6.38 | 0.511 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Pentachloroethane                     | 1.79   | U         | 6.38 | 1.79  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Propionitrile                         | 6.26   | U         | 63.8 | 6.26  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| sec-Butylbenzene                      | 0.383  | U         | 6.38 | 0.383 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Styrene                               | 0.383  | U         | 6.38 | 0.383 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| tert-Butylbenzene                     | 0.319  | U         | 6.38 | 0.319 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,1,2,2-Tetrachloroethane             | 0.485  | U         | 6.38 | 0.485 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,1,1,2-Tetrachloroethane             | 0.345  | U         | 6.38 | 0.345 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Tetrachloroethene                     | 0.945  | U         | 6.38 | 0.945 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Toluene                               | 1.15   | U         | 6.38 | 1.15  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| trans-1,4-Dichloro-2-butene           | 1.12   | U         | 6.38 | 1.12  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| trans-1,2-Dichloroethene              | 0.638  | U         | 6.38 | 0.638 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| trans-1,3-Dichloropropene             | 0.664  | U         | 6.38 | 0.664 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,2,4-Trichlorobenzene                | 1.24   | U         | 6.38 | 1.24  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,2,3-Trichlorobenzene                | 0.562  | U         | 6.38 | 0.562 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,3,5-Trichlorobenzene                | 0.396  | U         | 6.38 | 0.396 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,1,1-Trichloroethane                 | 0.638  | U         | 6.38 | 0.638 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,1,2-Trichloroethane                 | 0.638  | U         | 6.38 | 0.638 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Trichloroethene                       | 0.357  | U         | 6.38 | 0.357 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Trichlorofluoromethane                | 0.638  | U         | 6.38 | 0.638 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,2,3-Trichloropropane                | 0.970  | U         | 6.38 | 0.970 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.855  | U         | 6.38 | 0.855 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,2,4-Trimethylbenzene                | 0.485  | U         | 6.38 | 0.485 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| 1,3,5-Trimethylbenzene                | 0.447  | U         | 6.38 | 0.447 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Vinyl acetate                         | 1.40   | U         | 6.38 | 1.40  | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Vinyl chloride                        | 0.766  | U         | 6.38 | 0.766 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |
| Xylenes, Total                        | 0.638  | U         | 12.8 | 0.638 | ug/Kg | ☼ |          | 06/15/16 16:40 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 107       |           | 61 - 142 |          | 06/15/16 16:40 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM360**

**Date Collected: 06/09/16 12:28**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-6**

**Matrix: Solid**

**Percent Solids: 72.1**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| Dibromofluoromethane (Surr)  | 101       |           | 50 - 136 |          | 06/15/16 16:40 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 106       |           | 65 - 152 |          | 06/15/16 16:40 | 1       |
| Toluene-d8 (Surr)            | 98        |           | 65 - 139 |          | 06/15/16 16:40 | 1       |

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

| Analyte                            | Result      | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------|-------------|-----------|------|------|-------|---|----------------|----------------|---------|
| Acenaphthene                       | 45.0        | U         | 450  | 45.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Acenaphthylene                     | 37.0        | U         | 450  | 37.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Anthracene                         | 50.2        | U         | 450  | 50.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Benzo[a]anthracene                 | 55.5        | U         | 450  | 55.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| <b>Benzo[a]pyrene</b>              | <b>57.8</b> | <b>J</b>  | 450  | 45.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| <b>Benzo[b]fluoranthene</b>        | <b>91.5</b> | <b>J</b>  | 450  | 39.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Benzo[g,h,i]perylene               | 39.7        | U         | 450  | 39.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| <b>Benzo[k]fluoranthene</b>        | <b>60.1</b> | <b>J</b>  | 450  | 34.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Benzyl alcohol                     | 95.2        | U         | 450  | 95.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Bis(2-chloroethoxy)methane         | 45.0        | U         | 450  | 45.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Bis(2-chloroethyl)ether            | 68.8        | U         | 450  | 68.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| <b>Bis(2-ethylhexyl) phthalate</b> | <b>156</b>  | <b>J</b>  | 450  | 68.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 4-Bromophenyl phenyl ether         | 58.2        | U         | 450  | 58.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Butyl benzyl phthalate             | 37.0        | U         | 450  | 37.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 4-Chloroaniline                    | 79.3        | U         | 450  | 79.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 4-Chloro-3-methylphenol            | 63.5        | U         | 450  | 63.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2-Chloronaphthalene                | 45.0        | U         | 450  | 45.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2-Chlorophenol                     | 45.0        | U         | 450  | 45.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 4-Chlorophenyl phenyl ether        | 60.8        | U         | 450  | 60.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| <b>Chrysene</b>                    | <b>77.4</b> | <b>J</b>  | 450  | 39.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Dibenz(a,h)anthracene              | 37.0        | U         | 450  | 37.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Dibenzofuran                       | 50.2        | U         | 450  | 50.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 1,3-Dichlorobenzene                | 47.6        | U         | 450  | 47.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 1,4-Dichlorobenzene                | 58.2        | U         | 450  | 58.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 1,2-Dichlorobenzene                | 50.2        | U         | 450  | 50.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 3,3'-Dichlorobenzidine             | 423         | U         | 450  | 423  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2,4-Dichlorophenol                 | 45.0        | U         | 450  | 45.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Diethyl phthalate                  | 42.3        | U         | 450  | 42.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2,4-Dimethylphenol                 | 148         | U         | 450  | 148  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Dimethyl phthalate                 | 45.0        | U         | 450  | 45.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Di-n-butyl phthalate               | 95.2        | U         | 450  | 95.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 4,6-Dinitro-2-methylphenol         | 79.3        | U         | 1750 | 79.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2,4-Dinitrophenol                  | 79.3        | U         | 1750 | 79.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2,6-Dinitrotoluene                 | 58.2        | U         | 450  | 58.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2,4-Dinitrotoluene                 | 42.3        | U         | 450  | 42.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Di-n-octyl phthalate               | 34.4        | U         | 450  | 34.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| <b>Fluoranthene</b>                | <b>130</b>  | <b>J</b>  | 450  | 45.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Fluorene                           | 50.2        | U         | 450  | 50.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Hexachlorobenzene                  | 52.9        | U         | 450  | 52.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Hexachlorobutadiene                | 74.0        | U         | 450  | 74.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Hexachlorocyclopentadiene          | 132         | U         | 450  | 132  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Hexachloroethane                   | 52.9        | U         | 450  | 52.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| <b>Indeno[1,2,3-cd]pyrene</b>      | <b>114</b>  | <b>J</b>  | 450  | 42.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM360**

**Date Collected: 06/09/16 12:28**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-6**

**Matrix: Solid**

**Percent Solids: 72.1**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                   | Result      | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------|-------------|-----------|------|------|-------|---|----------------|----------------|---------|
| Isophorone                | 39.7        | U         | 450  | 39.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2-Methylnaphthalene       | 39.7        | U         | 450  | 39.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2-Methylphenol            | 52.9        | U         | 450  | 52.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 3 & 4 Methylphenol        | 74.0        | U         | 899  | 74.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Naphthalene               | 42.3        | U         | 450  | 42.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2-Nitroaniline            | 58.2        | U         | 450  | 58.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 3-Nitroaniline            | 45.0        | U         | 450  | 45.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 4-Nitroaniline            | 74.0        | U         | 450  | 74.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Nitrobenzene              | 39.7        | U         | 450  | 39.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2-Nitrophenol             | 42.3        | U         | 450  | 42.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 4-Nitrophenol             | 79.3        | U         | 1750 | 79.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| N-Nitrosodi-n-propylamine | 66.1        | U         | 450  | 66.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| N-Nitrosodiphenylamine    | 58.2        | U         | 450  | 58.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Pentachlorophenol         | 873         | U         | 1750 | 873  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Phenanthrene              | 55.5        | U         | 450  | 55.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Phenol                    | 50.2        | U         | 450  | 50.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| <b>Pyrene</b>             | <b>73.0</b> | <b>J</b>  | 450  | 45.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 1,2,4-Trichlorobenzene    | 42.3        | U         | 450  | 42.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2,4,6-Trichlorophenol     | 47.6        | U         | 450  | 47.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2,4,5-Trichlorophenol     | 82.0        | U         | 450  | 82.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 12:42 | 1       |

| Surrogate            | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2-Fluorophenol       | 89        |           | 24 - 101 | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Nitrobenzene-d5      | 73        |           | 17 - 112 | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2-Fluorobiphenyl     | 88        |           | 32 - 101 | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| 2,4,6-Tribromophenol | 113       |           | 21 - 130 | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Terphenyl-d14        | 103       |           | 62 - 129 | 06/21/16 07:56 | 06/22/16 12:42 | 1       |
| Phenol-d5 (Surr)     | 92        |           | 23 - 106 | 06/21/16 07:56 | 06/22/16 12:42 | 1       |

## Method: 8081B - Organochlorine Pesticides (GC)

| Analyte             | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Aldrin              | 1.80   | U *       | 2.33 | 1.80 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| alpha-BHC           | 1.37   | U *       | 2.33 | 1.37 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| alpha-Chlordane     | 2.18   | U *       | 4.53 | 2.18 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| beta-BHC            | 1.40   | U *       | 2.33 | 1.40 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| 4,4'-DDD            | 2.22   | U *       | 4.53 | 2.22 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| 4,4'-DDE            | 1.99   | U *       | 4.53 | 1.99 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| 4,4'-DDT            | 2.54   | U *       | 4.53 | 2.54 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| delta-BHC           | 1.17   | U *       | 2.33 | 1.17 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| Dieldrin            | 1.91   | U *       | 4.53 | 1.91 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| Endosulfan I        | 1.37   | U *       | 2.33 | 1.37 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| Endosulfan II       | 2.07   | U *       | 2.33 | 2.07 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| Endosulfan sulfate  | 2.31   | U *       | 4.53 | 2.31 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| Endrin              | 2.10   | U *       | 4.53 | 2.10 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| Endrin aldehyde     | 2.14   | U *       | 4.53 | 2.14 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| Endrin ketone       | 2.11   | U *       | 4.53 | 2.11 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| gamma-BHC (Lindane) | 1.28   | U *       | 2.33 | 1.28 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| gamma-Chlordane     | 1.72   | U *       | 4.53 | 1.72 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| Heptachlor          | 1.28   | U *       | 2.33 | 1.28 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| Heptachlor epoxide  | 1.61   | U *       | 2.33 | 1.61 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM360**

**Date Collected: 06/09/16 12:28**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-6**

**Matrix: Solid**

**Percent Solids: 72.1**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

| Analyte                | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Methoxychlor           | 11.1      | U *       | 23.3     | 11.1 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| Toxaphene              | 100       | U *       | 233      | 100  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| Surrogate              | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| Tetrachloro-m-xylene   | 84        | *         | 50 - 143 |      |       |   | 06/16/16 09:25 | 06/23/16 20:26 | 1       |
| DCB Decachlorobiphenyl | 94        | *         | 47 - 150 |      |       |   | 06/16/16 09:25 | 06/23/16 20:26 | 1       |

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte                | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| PCB-1016               | 6.94      | U         | 44.9     | 6.94 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:30 | 1       |
| PCB-1221               | 6.94      | U         | 44.9     | 6.94 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:30 | 1       |
| PCB-1232               | 6.94      | U         | 44.9     | 6.94 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:30 | 1       |
| PCB-1242               | 6.94      | U         | 44.9     | 6.94 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:30 | 1       |
| PCB-1248               | 6.94      | U         | 44.9     | 6.94 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:30 | 1       |
| PCB-1254               | 6.94      | U         | 44.9     | 6.94 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:30 | 1       |
| PCB-1260               | 13.6      | U         | 44.9     | 13.6 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:30 | 1       |
| Aroclor 1262           | 6.94      | U         | 44.9     | 6.94 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:30 | 1       |
| Aroclor 1268           | 6.94      | U         | 44.9     | 6.94 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:30 | 1       |
| Surrogate              | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| Tetrachloro-m-xylene   | 90        |           | 32 - 132 |      |       |   | 06/22/16 07:52 | 06/23/16 16:30 | 1       |
| DCB Decachlorobiphenyl | 85        |           | 57 - 138 |      |       |   | 06/22/16 07:52 | 06/23/16 16:30 | 1       |

## Method: 8141A - Organophosphorous Pesticides (GC)

| Analyte                       | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Azinophos methyl              | 467    | U         | 1730 | 467  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Bolstar                       | 565    | U         | 1730 | 565  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Chlorpyrifos                  | 861    | U         | 2670 | 861  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Coumaphos                     | 373    | U         | 1730 | 373  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Demeton-O                     | 705    | U         | 5200 | 705  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Demeton-S                     | 648    | U         | 2000 | 648  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Diazinon                      | 969    | U         | 2930 | 969  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Dichlorvos                    | 987    | U         | 3070 | 987  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Dimethoate                    | 944    | U         | 2930 | 944  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Disulfoton                    | 1030   | U         | 6400 | 1030 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| EPN                           | 491    | U         | 1730 | 491  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Ethoprop                      | 657    | U         | 2000 | 657  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Ethyl Parathion               | 705    | U         | 2400 | 705  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Famphur                       | 429    | U         | 1730 | 429  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Fensulfothion                 | 1090   | U         | 3330 | 1090 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Fenthion                      | 1170   | U         | 4400 | 1170 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Malathion                     | 619    | U         | 2000 | 619  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Merphos                       | 685    | U         | 4000 | 685  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Methyl parathion              | 849    | U         | 2670 | 849  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Mevinphos                     | 616    | U         | 2000 | 616  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Naled                         | 3010   | U         | 9330 | 3010 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Phorate                       | 760    | U         | 2670 | 760  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Ronnel                        | 2030   | U         | 6130 | 2030 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Sulfotepp                     | 835    | U         | 2670 | 835  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Tetrachlorvinphos (Stirophos) | 581    | U         | 2000 | 581  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM360**

**Date Collected: 06/09/16 12:28**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-6**

**Matrix: Solid**

**Percent Solids: 72.1**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

| Analyte            | Result    | Qualifier | RL       | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|-----|-------|---|----------------|----------------|---------|
| Thionazin          | 743       | U         | 2400     | 743 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Tokuthion          | 521       | U         | 2670     | 521 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Trichloronate      | 833       | U         | 2670     | 833 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Surrogate          | %Recovery | Qualifier | Limits   |     |       |   | Prepared       | Analyzed       | Dil Fac |
| Chlormefos         | 42        | D         | 42 - 132 |     |       |   | 06/22/16 12:40 | 07/06/16 22:43 | 100     |
| Triphenylphosphate | 96        | D         | 47 - 161 |     |       |   | 06/22/16 12:40 | 07/06/16 22:43 | 100     |

## Method: 8151A - Herbicides (GC)

| Analyte           | Result    | Qualifier | RL       | MDL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|-----------|-----------|----------|-------|-------|---|----------------|----------------|---------|
| 2,4-D             | 0.785     | U         | 9.23     | 0.785 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:53 | 1       |
| 2,4-DB            | 1.52      | U         | 9.23     | 1.52  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:53 | 1       |
| Dicamba           | 1.06      | U         | 9.23     | 1.06  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:53 | 1       |
| Dichlorprop       | 1.04      | U         | 9.23     | 1.04  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:53 | 1       |
| Dinoseb           | 0.739     | U         | 9.23     | 0.739 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:53 | 1       |
| MCPA              | 150       | U         | 92.3     | 150   | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:53 | 1       |
| Mecoprop          | 106       | U         | 92.3     | 106   | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:53 | 1       |
| Silvex (2,4,5-TP) | 0.993     | U         | 9.23     | 0.993 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:53 | 1       |
| 2,4,5-T           | 1.02      | U         | 9.23     | 1.02  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 20:53 | 1       |
| Surrogate         | %Recovery | Qualifier | Limits   |       |       |   | Prepared       | Analyzed       | Dil Fac |
| 2,4-DCAA          | 81        |           | 22 - 130 |       |       |   | 06/20/16 08:59 | 06/22/16 20:53 | 1       |

## Method: 8151A - Herbicides (GC)

| Analyte   | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Dalapon   | 4.01      | U         | 138      | 4.01 | ug/Kg | ☼ | 06/21/16 15:57 | 06/23/16 20:19 | 1       |
| Surrogate | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| 2,4-DCAA  | 53        |           | 35 - 137 |      |       |   | 06/21/16 15:57 | 06/23/16 20:19 | 1       |

## Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte      | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| Bromide      | 1.39   | U         | 5.55 | 1.39  | mg/Kg | ☼ |          | 06/23/16 05:34 | 1       |
| Nitrate as N | 0.348  | U H       | 2.77 | 0.348 | mg/Kg | ☼ |          | 06/23/16 05:34 | 1       |
| Chloride     | 5.91   |           | 5.55 | 0.740 | mg/Kg | ☼ |          | 06/23/16 05:34 | 1       |
| Fluoride     | 3.10   |           | 2.77 | 0.834 | mg/Kg | ☼ |          | 06/23/16 05:34 | 1       |
| Sulfate      | 72.9   |           | 6.93 | 1.33  | mg/Kg | ☼ |          | 06/23/16 05:34 | 1       |

## Method: 6010B - Metals (ICP)

| Analyte    | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Aluminum   | 5050   |           | 5.55  | 3.41   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Phosphorus | 618    |           | 55.5  | 1.84   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Antimony   | 0.820  | J         | 2.22  | 0.296  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Calcium    | 163000 |           | 555   | 161    | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 14:47 | 10      |
| Arsenic    | 5.76   |           | 2.22  | 0.161  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Magnesium  | 2370   |           | 22.2  | 1.75   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Barium     | 38.1   |           | 1.11  | 0.210  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Potassium  | 1220   |           | 111   | 16.9   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Beryllium  | 0.474  | J         | 0.555 | 0.0299 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Silicon    | 2780   |           | 22.2  | 7.01   | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 14:43 | 1       |
| Cadmium    | 0.955  |           | 0.555 | 0.0399 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM360**

**Date Collected: 06/09/16 12:28**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-6**

**Matrix: Solid**

**Percent Solids: 72.1**

## Method: 6010B - Metals (ICP) (Continued)

| Analyte   | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Sodium    | 88.8   | J         | 111   | 16.7   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Chromium  | 16.9   |           | 1.11  | 0.149  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Strontium | 109    |           | 1.11  | 0.0865 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Copper    | 8.80   |           | 2.22  | 0.223  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Iron      | 7260   |           | 22.2  | 5.55   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Lead      | 116    |           | 0.555 | 0.169  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Manganese | 352    |           | 2.77  | 0.516  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Nickel    | 8.90   |           | 2.22  | 0.138  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Selenium  | 1.09   | J         | 1.11  | 0.220  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Silver    | 0.122  | U         | 0.555 | 0.122  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Thallium  | 0.132  | U         | 1.11  | 0.132  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:55 | 1       |
| Zinc      | 447    |           | 27.7  | 6.32   | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 14:47 | 10      |

## Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Mercury | 0.0201 | J         | 0.149 | 0.0134 | mg/Kg | ☼ | 06/15/16 10:00 | 06/15/16 17:07 | 1       |

## General Chemistry

| Analyte | Result | Qualifier | RL    | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| pH      | 7.72   |           | 0.100 | 0.100  | SU   |   |          | 06/15/16 14:26 | 1       |
| TOC     | 1.53   |           | 0.100 | 0.0415 | %    |   |          | 06/24/16 09:00 | 1       |

## General Chemistry - Soluble

| Analyte                         | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
| Alkalinity                      | 238    |           | 6.73 | 6.73 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Bicarbonate Alkalinity as CaCO3 | 238    |           | 6.73 | 6.73 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Carbonate Alkalinity as CaCO3   | 6.73   | U         | 6.73 | 6.73 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |

**Client Sample ID: HSM370**

**Date Collected: 06/09/16 12:57**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-7**

**Matrix: Solid**

**Percent Solids: 70.9**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte                | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| Acetone                | 13.1   | J         | 62.0 | 8.93  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Acetonitrile           | 45.9   | U         | 62.0 | 45.9  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Benzene                | 0.782  | U         | 6.20 | 0.782 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Benzyl chloride        | 0.620  | U         | 6.20 | 0.620 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Bromobenzene           | 0.918  | U         | 6.20 | 0.918 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Bromochloromethane     | 1.12   | U         | 6.20 | 1.12  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Bromoform              | 0.633  | U         | 6.20 | 0.633 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Bromomethane           | 1.36   | U         | 6.20 | 1.36  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,3-Butadiene          | 0.372  | U         | 6.20 | 0.372 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 2-Butanone (MEK)       | 2.36   | U         | 12.4 | 2.36  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Carbon disulfide       | 1.24   | U         | 6.20 | 1.24  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Carbon tetrachloride   | 0.633  | U         | 6.20 | 0.633 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Chlorobenzene          | 0.372  | U         | 6.20 | 0.372 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 2-Chloro-1,3-butadiene | 0.856  | U         | 6.20 | 0.856 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Chlorodibromomethane   | 0.794  | U         | 6.20 | 0.794 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Chloroethane           | 0.323  | U         | 6.20 | 0.323 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM370**

**Date Collected: 06/09/16 12:57**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-7**

**Matrix: Solid**

**Percent Solids: 70.9**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                     | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| Chloroform                  | 1.08   | U         | 6.20 | 1.08  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1-Chlorohexane              | 0.682  | U         | 6.20 | 0.682 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Chloromethane               | 1.49   | U         | 6.20 | 1.49  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 2-Chlorotoluene             | 0.372  | U         | 6.20 | 0.372 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 4-Chlorotoluene             | 0.856  | U         | 6.20 | 0.856 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| cis-1,4-Dichloro-2-butene   | 0.397  | U         | 6.20 | 0.397 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| cis-1,2-Dichloroethene      | 0.707  | U         | 6.20 | 0.707 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| cis-1,3-Dichloropropene     | 0.248  | U         | 6.20 | 0.248 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Cyclohexane                 | 1.23   | U         | 12.4 | 1.23  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Cyclohexanone               | 12.4   | U         | 124  | 12.4  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,2-Dibromo-3-Chloropropane | 0.409  | U         | 6.20 | 0.409 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Dibromomethane              | 0.881  | U         | 6.20 | 0.881 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,3-Dichlorobenzene         | 0.385  | U         | 6.20 | 0.385 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,2-Dichlorobenzene         | 0.310  | U         | 6.20 | 0.310 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,4-Dichlorobenzene         | 0.397  | U         | 6.20 | 0.397 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Dichlorobromomethane        | 0.248  | U         | 6.20 | 0.248 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Dichlorodifluoromethane     | 0.906  | U         | 6.20 | 0.906 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,2-Dichloroethane          | 0.645  | U         | 6.20 | 0.645 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,1-Dichloroethane          | 0.732  | U         | 6.20 | 0.732 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,1-Dichloroethene          | 0.620  | U         | 6.20 | 0.620 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,2-Dichloroethene, Total   | 0.620  | U         | 6.20 | 0.620 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,2-Dichloropropane         | 0.620  | U         | 6.20 | 0.620 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 2,2-Dichloropropane         | 1.04   | U         | 6.20 | 1.04  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,3-Dichloropropane         | 0.372  | U         | 6.20 | 0.372 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,1-Dichloropropene         | 0.645  | U         | 6.20 | 0.645 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,3-Dichloropropene, Total  | 0.645  | U         | 6.20 | 0.645 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,4-Dioxane                 | 23.6   | U         | 124  | 23.6  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| EDB                         | 0.372  | U         | 6.20 | 0.372 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Ethyl acetate               | 3.49   | U         | 6.20 | 3.49  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Ethylbenzene                | 0.558  | U         | 6.20 | 0.558 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Ethylene oxide              | 37.2   | U         | 124  | 37.2  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Ethyl ether                 | 0.620  | U         | 31.0 | 0.620 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Ethyl methacrylate          | 0.633  | U         | 6.20 | 0.633 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Hexachlorobutadiene         | 0.794  | U         | 6.20 | 0.794 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Hexane                      | 1.61   | U         | 6.20 | 1.61  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 2-Hexanone                  | 1.86   | U         | 12.4 | 1.86  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Iodomethane                 | 0.993  | U         | 6.20 | 0.993 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Isobutyl alcohol            | 84.4   | U         | 310  | 84.4  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Isooctane                   | 0.620  | U         | 6.20 | 0.620 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Isopropylbenzene            | 0.620  | U         | 6.20 | 0.620 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 4-Isopropyltoluene          | 0.490  | U         | 6.20 | 0.490 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Methacrylonitrile           | 2.98   | U         | 62.0 | 2.98  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Methylene Chloride          | 6.20   | U         | 31.0 | 6.20  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Methyl methacrylate         | 1.36   | U         | 6.20 | 1.36  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 4-Methyl-2-pentanone (MIBK) | 1.86   | U         | 12.4 | 1.86  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Methyl tert-butyl ether     | 0.757  | U         | 6.20 | 0.757 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| m-Xylene & p-Xylene         | 0.620  | U         | 12.4 | 0.620 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Naphthalene                 | 1.49   | U         | 12.4 | 1.49  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| n-Butylbenzene              | 0.335  | U         | 6.20 | 0.335 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM370**

**Date Collected: 06/09/16 12:57**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-7**

**Matrix: Solid**

**Percent Solids: 70.9**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                               | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| n-Heptane                             | 0.658  | U         | 6.20 | 0.658 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 2-Nitropropane                        | 0.645  | U         | 12.4 | 0.645 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| N-Propylbenzene                       | 0.372  | U         | 6.20 | 0.372 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1-Octene                              | 0.620  | U         | 6.20 | 0.620 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| o-Xylene                              | 0.496  | U         | 6.20 | 0.496 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Pentachloroethane                     | 1.74   | U         | 6.20 | 1.74  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Propionitrile                         | 6.08   | U         | 62.0 | 6.08  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| sec-Butylbenzene                      | 0.372  | U         | 6.20 | 0.372 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Styrene                               | 0.372  | U         | 6.20 | 0.372 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| tert-Butylbenzene                     | 0.310  | U         | 6.20 | 0.310 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,1,2,2-Tetrachloroethane             | 0.472  | U         | 6.20 | 0.472 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,1,1,2-Tetrachloroethane             | 0.335  | U         | 6.20 | 0.335 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Tetrachloroethene                     | 0.918  | U         | 6.20 | 0.918 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Toluene                               | 1.12   | U         | 6.20 | 1.12  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| trans-1,4-Dichloro-2-butene           | 1.09   | U         | 6.20 | 1.09  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| trans-1,2-Dichloroethene              | 0.620  | U         | 6.20 | 0.620 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| trans-1,3-Dichloropropene             | 0.645  | U         | 6.20 | 0.645 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,2,4-Trichlorobenzene                | 1.20   | U         | 6.20 | 1.20  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,2,3-Trichlorobenzene                | 0.546  | U         | 6.20 | 0.546 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,3,5-Trichlorobenzene                | 0.385  | U         | 6.20 | 0.385 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,1,1-Trichloroethane                 | 0.620  | U         | 6.20 | 0.620 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,1,2-Trichloroethane                 | 0.620  | U         | 6.20 | 0.620 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Trichloroethene                       | 0.347  | U         | 6.20 | 0.347 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Trichlorofluoromethane                | 0.620  | U         | 6.20 | 0.620 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,2,3-Trichloropropane                | 0.943  | U         | 6.20 | 0.943 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.831  | U         | 6.20 | 0.831 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,2,4-Trimethylbenzene                | 0.472  | U         | 6.20 | 0.472 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| 1,3,5-Trimethylbenzene                | 0.434  | U         | 6.20 | 0.434 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Vinyl acetate                         | 1.36   | U         | 6.20 | 1.36  | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Vinyl chloride                        | 0.745  | U         | 6.20 | 0.745 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |
| Xylenes, Total                        | 0.620  | U         | 12.4 | 0.620 | ug/Kg | ☼ |          | 06/15/16 17:05 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr)  | 109       |           | 61 - 142 |          | 06/15/16 17:05 | 1       |
| Dibromofluoromethane (Surr)  | 101       |           | 50 - 136 |          | 06/15/16 17:05 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 107       |           | 65 - 152 |          | 06/15/16 17:05 | 1       |
| Toluene-d8 (Surr)            | 99        |           | 65 - 139 |          | 06/15/16 17:05 | 1       |

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

| Analyte                    | Result | Qualifier | RL  | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Acenaphthene               | 23.3   | U         | 233 | 23.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Acenaphthylene             | 19.1   | U         | 233 | 19.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Anthracene                 | 26.0   | U         | 233 | 26.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Benzo[a]anthracene         | 28.7   | U         | 233 | 28.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Benzo[a]pyrene             | 24.4   | J         | 233 | 23.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Benzo[b]fluoranthene       | 49.8   | J         | 233 | 20.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Benzo[g,h,i]perylene       | 20.5   | U         | 233 | 20.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Benzo[k]fluoranthene       | 17.8   | U         | 233 | 17.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Benzyl alcohol             | 49.2   | U         | 233 | 49.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Bis(2-chloroethoxy)methane | 23.3   | U         | 233 | 23.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM370**

**Date Collected: 06/09/16 12:57**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-7**

**Matrix: Solid**

**Percent Solids: 70.9**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                            | Result      | Qualifier | RL  | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------|-------------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Bis(2-chloroethyl)ether            | 35.6        | U         | 233 | 35.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| <b>Bis(2-ethylhexyl) phthalate</b> | <b>67.1</b> | <b>J</b>  | 233 | 35.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 4-Bromophenyl phenyl ether         | 30.1        | U         | 233 | 30.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Butyl benzyl phthalate             | 19.1        | U         | 233 | 19.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 4-Chloroaniline                    | 41.0        | U         | 233 | 41.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 4-Chloro-3-methylphenol            | 32.8        | U         | 233 | 32.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2-Chloronaphthalene                | 23.3        | U         | 233 | 23.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2-Chlorophenol                     | 23.3        | U         | 233 | 23.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 4-Chlorophenyl phenyl ether        | 31.5        | U         | 233 | 31.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| <b>Chrysene</b>                    | <b>29.1</b> | <b>J</b>  | 233 | 20.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Dibenz(a,h)anthracene              | 19.1        | U         | 233 | 19.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Dibenzofuran                       | 26.0        | U         | 233 | 26.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 1,3-Dichlorobenzene                | 24.6        | U         | 233 | 24.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 1,4-Dichlorobenzene                | 30.1        | U         | 233 | 30.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 1,2-Dichlorobenzene                | 26.0        | U         | 233 | 26.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 3,3'-Dichlorobenzidine             | 219         | U         | 233 | 219  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2,4-Dichlorophenol                 | 23.3        | U         | 233 | 23.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Diethyl phthalate                  | 21.9        | U         | 233 | 21.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2,4-Dimethylphenol                 | 76.6        | U         | 233 | 76.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Dimethyl phthalate                 | 23.3        | U         | 233 | 23.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Di-n-butyl phthalate               | 49.2        | U         | 233 | 49.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 4,6-Dinitro-2-methylphenol         | 41.0        | U         | 903 | 41.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2,4-Dinitrophenol                  | 41.0        | U         | 903 | 41.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2,6-Dinitrotoluene                 | 30.1        | U         | 233 | 30.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2,4-Dinitrotoluene                 | 21.9        | U         | 233 | 21.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Di-n-octyl phthalate               | 17.8        | U         | 233 | 17.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| <b>Fluoranthene</b>                | <b>49.2</b> | <b>J</b>  | 233 | 23.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Fluorene                           | 26.0        | U         | 233 | 26.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Hexachlorobenzene                  | 27.4        | U         | 233 | 27.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Hexachlorobutadiene                | 38.3        | U         | 233 | 38.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Hexachlorocyclopentadiene          | 68.4        | U         | 233 | 68.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Hexachloroethane                   | 27.4        | U         | 233 | 27.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| <b>Indeno[1,2,3-cd]pyrene</b>      | <b>59.6</b> | <b>J</b>  | 233 | 21.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Isophorone                         | 20.5        | U         | 233 | 20.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2-Methylnaphthalene                | 20.5        | U         | 233 | 20.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2-Methylphenol                     | 27.4        | U         | 233 | 27.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 3 & 4 Methylphenol                 | 38.3        | U         | 465 | 38.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Naphthalene                        | 21.9        | U         | 233 | 21.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2-Nitroaniline                     | 30.1        | U         | 233 | 30.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 3-Nitroaniline                     | 23.3        | U         | 233 | 23.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 4-Nitroaniline                     | 38.3        | U         | 233 | 38.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Nitrobenzene                       | 20.5        | U         | 233 | 20.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2-Nitrophenol                      | 21.9        | U         | 233 | 21.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 4-Nitrophenol                      | 41.0        | U         | 903 | 41.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| N-Nitrosodi-n-propylamine          | 34.2        | U         | 233 | 34.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| N-Nitrosodiphenylamine             | 30.1        | U         | 233 | 30.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Pentachlorophenol                  | 451         | U         | 903 | 451  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Phenanthrene                       | 28.7        | U         | 233 | 28.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Phenol                             | 26.0        | U         | 233 | 26.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM370**

**Date Collected: 06/09/16 12:57**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-7**

**Matrix: Solid**

**Percent Solids: 70.9**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                | Result      | Qualifier | RL  | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------|-------------|-----------|-----|------|-------|---|----------------|----------------|---------|
| <b>Pyrene</b>          | <b>27.3</b> | <b>J</b>  | 233 | 23.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 1,2,4-Trichlorobenzene | 21.9        | U         | 233 | 21.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2,4,6-Trichlorophenol  | 24.6        | U         | 233 | 24.6 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2,4,5-Trichlorophenol  | 42.4        | U         | 233 | 42.4 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:24 | 1       |

| Surrogate            | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2-Fluorophenol       | 73        |           | 24 - 101 | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Nitrobenzene-d5      | 66        |           | 17 - 112 | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2-Fluorobiphenyl     | 71        |           | 32 - 101 | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| 2,4,6-Tribromophenol | 90        |           | 21 - 130 | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Terphenyl-d14        | 88        |           | 62 - 129 | 06/21/16 07:56 | 06/22/16 11:24 | 1       |
| Phenol-d5 (Surr)     | 73        |           | 23 - 106 | 06/21/16 07:56 | 06/22/16 11:24 | 1       |

## Method: 8081B - Organochlorine Pesticides (GC)

| Analyte             | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Aldrin              | 1.82   | U         | 2.37 | 1.82 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| alpha-BHC           | 1.39   | U         | 2.37 | 1.39 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| alpha-Chlordane     | 2.21   | U         | 4.60 | 2.21 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| beta-BHC            | 1.42   | U         | 2.37 | 1.42 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| 4,4'-DDD            | 2.26   | U         | 4.60 | 2.26 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| 4,4'-DDE            | 2.02   | U         | 4.60 | 2.02 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| 4,4'-DDT            | 2.58   | U         | 4.60 | 2.58 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| delta-BHC           | 1.18   | U         | 2.37 | 1.18 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| Dieldrin            | 1.94   | U         | 4.60 | 1.94 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| Endosulfan I        | 1.39   | U         | 2.37 | 1.39 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| Endosulfan II       | 2.10   | U         | 2.37 | 2.10 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| Endosulfan sulfate  | 2.34   | U         | 4.60 | 2.34 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| Endrin              | 2.13   | U         | 4.60 | 2.13 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| Endrin aldehyde     | 2.17   | U         | 4.60 | 2.17 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| Endrin ketone       | 2.15   | U         | 4.60 | 2.15 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| gamma-BHC (Lindane) | 1.30   | U         | 2.37 | 1.30 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| gamma-Chlordane     | 1.74   | U         | 4.60 | 1.74 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| Heptachlor          | 1.30   | U         | 2.37 | 1.30 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| Heptachlor epoxide  | 1.63   | U         | 2.37 | 1.63 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| Methoxychlor        | 11.2   | U *       | 23.7 | 11.2 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| Toxaphene           | 102    | U         | 237  | 102  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 20:51 | 1       |

| Surrogate              | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 58        |           | 50 - 143 | 06/16/16 09:25 | 06/23/16 20:51 | 1       |
| DCB Decachlorobiphenyl | 73        |           | 47 - 150 | 06/16/16 09:25 | 06/23/16 20:51 | 1       |

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte  | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|----------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| PCB-1016 | 6.75   | U         | 43.7 | 6.75 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:50 | 1       |
| PCB-1221 | 6.75   | U         | 43.7 | 6.75 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:50 | 1       |
| PCB-1232 | 6.75   | U         | 43.7 | 6.75 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:50 | 1       |
| PCB-1242 | 6.75   | U         | 43.7 | 6.75 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:50 | 1       |
| PCB-1248 | 6.75   | U         | 43.7 | 6.75 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:50 | 1       |
| PCB-1254 | 6.75   | U         | 43.7 | 6.75 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:50 | 1       |
| PCB-1260 | 13.2   | U         | 43.7 | 13.2 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:50 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM370**

**Date Collected: 06/09/16 12:57**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-7**

**Matrix: Solid**

**Percent Solids: 70.9**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

| Analyte                | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Aroclor 1262           | 6.75      | U         | 43.7     | 6.75 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:50 | 1       |
| Aroclor 1268           | 6.75      | U         | 43.7     | 6.75 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 16:50 | 1       |
| Surrogate              | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| Tetrachloro-m-xylene   | 84        |           | 32 - 132 |      |       |   | 06/22/16 07:52 | 06/23/16 16:50 | 1       |
| DCB Decachlorobiphenyl | 77        |           | 57 - 138 |      |       |   | 06/22/16 07:52 | 06/23/16 16:50 | 1       |

## Method: 8141A - Organophosphorous Pesticides (GC)

| Analyte                       | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Azinophos methyl              | 471       | U         | 1750     | 471  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Bolstar                       | 571       | U         | 1750     | 571  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Chlorpyrifos                  | 870       | U         | 2690     | 870  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Coumaphos                     | 377       | U         | 1750     | 377  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Demeton-O                     | 712       | U         | 5250     | 712  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Demeton-S                     | 655       | U         | 2020     | 655  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Diazinon                      | 979       | U         | 2960     | 979  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Dichlorvos                    | 997       | U         | 3100     | 997  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Dimethoate                    | 954       | U         | 2960     | 954  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Disulfoton                    | 1040      | U         | 6460     | 1040 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| EPN                           | 496       | U         | 1750     | 496  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Ethoprop                      | 664       | U         | 2020     | 664  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Ethyl Parathion               | 712       | U         | 2420     | 712  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Famphur                       | 434       | U         | 1750     | 434  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Fensulfothion                 | 1100      | U         | 3370     | 1100 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Fenthion                      | 1180      | U         | 4440     | 1180 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Malathion                     | 625       | U         | 2020     | 625  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Merphos                       | 692       | U         | 4040     | 692  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Methyl parathion              | 858       | U         | 2690     | 858  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Mevinphos                     | 622       | U         | 2020     | 622  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Naled                         | 3040      | U         | 9430     | 3040 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Phorate                       | 768       | U         | 2690     | 768  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Ronnel                        | 2050      | U         | 6200     | 2050 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Sulfotepp                     | 843       | U         | 2690     | 843  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Tetrachlorvinphos (Stirophos) | 587       | U         | 2020     | 587  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Thionazin                     | 750       | U         | 2420     | 750  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Tokuthion                     | 527       | U         | 2690     | 527  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Trichloronate                 | 842       | U         | 2690     | 842  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Surrogate                     | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| Chlormefos                    | 46        | D         | 42 - 132 |      |       |   | 06/22/16 12:40 | 07/06/16 23:14 | 100     |
| Triphenylphosphate            | 100       | D         | 47 - 161 |      |       |   | 06/22/16 12:40 | 07/06/16 23:14 | 100     |

## Method: 8151A - Herbicides (GC)

| Analyte     | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------|--------|-----------|------|-------|-------|---|----------------|----------------|---------|
| 2,4-D       | 0.797  | U         | 9.37 | 0.797 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 21:18 | 1       |
| 2,4-DB      | 1.55   | U         | 9.37 | 1.55  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 21:18 | 1       |
| Dicamba     | 1.08   | U         | 9.37 | 1.08  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 21:18 | 1       |
| Dichlorprop | 1.05   | U         | 9.37 | 1.05  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 21:18 | 1       |
| Dinoseb     | 0.750  | U         | 9.37 | 0.750 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 21:18 | 1       |
| MCPA        | 152    | U         | 93.7 | 152   | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 21:18 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: HSM370**

**Date Collected: 06/09/16 12:57**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-7**

**Matrix: Solid**

**Percent Solids: 70.9**

## Method: 8151A - Herbicides (GC) (Continued)

| Analyte           | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Mecoprop          | 108       | U         | 93.7     | 108  | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 21:18 | 1       |
| Silvex (2,4,5-TP) | 1.01      | U         | 9.37     | 1.01 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 21:18 | 1       |
| 2,4,5-T           | 1.03      | U         | 9.37     | 1.03 | ug/Kg | ☼ | 06/20/16 08:59 | 06/22/16 21:18 | 1       |
| Surrogate         | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| 2,4-DCAA          | 94        |           | 22 - 130 |      |       |   | 06/20/16 08:59 | 06/22/16 21:18 | 1       |

## Method: 8151A - Herbicides (GC)

| Analyte   | Result    | Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|------|-------|---|----------------|----------------|---------|
| Dalapon   | 4.09      | U         | 141      | 4.09 | ug/Kg | ☼ | 06/21/16 15:57 | 06/23/16 20:39 | 1       |
| Surrogate | %Recovery | Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| 2,4-DCAA  | 48        |           | 35 - 137 |      |       |   | 06/21/16 15:57 | 06/23/16 20:39 | 1       |

## Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte      | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| Bromide      | 1.43   | U         | 5.68 | 1.43  | mg/Kg | ☼ |          | 06/23/16 05:54 | 1       |
| Nitrate as N | 1.71   | J H       | 2.84 | 0.357 | mg/Kg | ☼ |          | 06/23/16 05:54 | 1       |
| Chloride     | 7.69   |           | 5.68 | 0.759 | mg/Kg | ☼ |          | 06/23/16 05:54 | 1       |
| Fluoride     | 2.34   | J         | 2.84 | 0.855 | mg/Kg | ☼ |          | 06/23/16 05:54 | 1       |
| Sulfate      | 157    |           | 7.10 | 1.36  | mg/Kg | ☼ |          | 06/23/16 05:54 | 1       |

## Method: 6010B - Metals (ICP)

| Analyte    | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Aluminum   | 3930   |           | 5.22  | 3.21   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Phosphorus | 450    |           | 52.2  | 1.73   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Antimony   | 1.05   | J         | 2.09  | 0.279  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Calcium    | 249000 |           | 522   | 151    | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 14:55 | 10      |
| Arsenic    | 3.16   |           | 2.09  | 0.151  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Magnesium  | 2060   |           | 20.9  | 1.65   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Barium     | 36.9   |           | 1.04  | 0.197  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Potassium  | 677    |           | 104   | 15.9   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Beryllium  | 0.512  | J         | 0.522 | 0.0282 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Silicon    | 2330   |           | 20.9  | 6.60   | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 14:51 | 1       |
| Cadmium    | 0.777  |           | 0.522 | 0.0376 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Sodium     | 129    |           | 104   | 15.8   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Chromium   | 7.97   |           | 1.04  | 0.140  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Strontium  | 142    |           | 1.04  | 0.0814 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Copper     | 5.03   |           | 2.09  | 0.210  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Iron       | 5970   |           | 20.9  | 5.22   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Lead       | 14.5   |           | 0.522 | 0.159  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Manganese  | 302    |           | 2.61  | 0.486  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Nickel     | 7.27   |           | 2.09  | 0.129  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Selenium   | 0.952  | J         | 1.04  | 0.207  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Silver     | 0.115  | U         | 0.522 | 0.115  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Thallium   | 0.124  | U         | 1.04  | 0.124  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |
| Zinc       | 28.7   |           | 2.61  | 0.595  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 11:59 | 1       |

## Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Mercury | 0.0234 | J         | 0.161 | 0.0145 | mg/Kg | ☼ | 06/15/16 10:00 | 06/15/16 17:09 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## General Chemistry

| Analyte | Result | Qualifier | RL    | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| pH      | 7.64   |           | 0.100 | 0.100  | SU   |   |          | 06/15/16 14:26 | 1       |
| TOC     | 0.529  |           | 0.100 | 0.0415 | %    |   |          | 06/24/16 09:00 | 1       |

## General Chemistry - Soluble

| Analyte                         | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
| Alkalinity                      | 174    |           | 6.86 | 6.86 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Bicarbonate Alkalinity as CaCO3 | 174    |           | 6.86 | 6.86 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Carbonate Alkalinity as CaCO3   | 6.86   | U         | 6.86 | 6.86 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |

Client Sample ID: FDHSM370

Lab Sample ID: 560-62041-8

Date Collected: 06/09/16 12:57

Matrix: Solid

Date Received: 06/10/16 08:00

Percent Solids: 68.1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte                     | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| Acetone                     | 10.4   | J         | 65.7 | 9.47  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Acetonitrile                | 48.6   | U         | 65.7 | 48.6  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Benzene                     | 0.828  | U         | 6.57 | 0.828 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Benzyl chloride             | 0.657  | U         | 6.57 | 0.657 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Bromobenzene                | 0.973  | U         | 6.57 | 0.973 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Bromochloromethane          | 1.18   | U         | 6.57 | 1.18  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Bromoform                   | 0.671  | U         | 6.57 | 0.671 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Bromomethane                | 1.45   | U         | 6.57 | 1.45  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,3-Butadiene               | 0.394  | U         | 6.57 | 0.394 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 2-Butanone (MEK)            | 2.50   | U         | 13.1 | 2.50  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Carbon disulfide            | 1.31   | U         | 6.57 | 1.31  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Carbon tetrachloride        | 0.671  | U         | 6.57 | 0.671 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Chlorobenzene               | 0.394  | U         | 6.57 | 0.394 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 2-Chloro-1,3-butadiene      | 0.907  | U         | 6.57 | 0.907 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Chlorodibromomethane        | 0.841  | U         | 6.57 | 0.841 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Chloroethane                | 0.342  | U         | 6.57 | 0.342 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Chloroform                  | 1.14   | U         | 6.57 | 1.14  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1-Chlorohexane              | 0.723  | U         | 6.57 | 0.723 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Chloromethane               | 1.58   | U         | 6.57 | 1.58  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 2-Chlorotoluene             | 0.394  | U         | 6.57 | 0.394 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 4-Chlorotoluene             | 0.907  | U         | 6.57 | 0.907 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| cis-1,4-Dichloro-2-butene   | 0.421  | U         | 6.57 | 0.421 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| cis-1,2-Dichloroethene      | 0.749  | U         | 6.57 | 0.749 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| cis-1,3-Dichloropropene     | 0.263  | U         | 6.57 | 0.263 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Cyclohexane                 | 1.30   | U         | 13.1 | 1.30  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Cyclohexanone               | 13.1   | U         | 13.1 | 13.1  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,2-Dibromo-3-Chloropropane | 0.434  | U         | 6.57 | 0.434 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Dibromomethane              | 0.934  | U         | 6.57 | 0.934 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,3-Dichlorobenzene         | 0.408  | U         | 6.57 | 0.408 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,2-Dichlorobenzene         | 0.329  | U         | 6.57 | 0.329 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,4-Dichlorobenzene         | 0.421  | U         | 6.57 | 0.421 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Dichlorobromomethane        | 0.263  | U         | 6.57 | 0.263 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Dichlorodifluoromethane     | 0.960  | U         | 6.57 | 0.960 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,2-Dichloroethane          | 0.684  | U         | 6.57 | 0.684 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,1-Dichloroethane          | 0.776  | U         | 6.57 | 0.776 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,1-Dichloroethene          | 0.657  | U         | 6.57 | 0.657 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,2-Dichloroethene, Total   | 0.657  | U         | 6.57 | 0.657 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,2-Dichloropropane         | 0.657  | U         | 6.57 | 0.657 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 2,2-Dichloropropane         | 1.10   | U         | 6.57 | 1.10  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: FDHSM370**

**Lab Sample ID: 560-62041-8**

**Date Collected: 06/09/16 12:57**

**Matrix: Solid**

**Date Received: 06/10/16 08:00**

**Percent Solids: 68.1**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                     | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| 1,3-Dichloropropane         | 0.394  | U         | 6.57 | 0.394 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,1-Dichloropropene         | 0.684  | U         | 6.57 | 0.684 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,3-Dichloropropene, Total  | 0.684  | U         | 6.57 | 0.684 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,4-Dioxane                 | 25.0   | U         | 131  | 25.0  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| EDB                         | 0.394  | U         | 6.57 | 0.394 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Ethyl acetate               | 3.69   | U         | 6.57 | 3.69  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Ethylbenzene                | 0.592  | U         | 6.57 | 0.592 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Ethylene oxide              | 39.4   | U         | 131  | 39.4  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Ethyl ether                 | 0.657  | U         | 32.9 | 0.657 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Ethyl methacrylate          | 0.671  | U         | 6.57 | 0.671 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Hexachlorobutadiene         | 0.841  | U         | 6.57 | 0.841 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Hexane                      | 1.71   | U         | 6.57 | 1.71  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 2-Hexanone                  | 1.97   | U         | 13.1 | 1.97  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Iodomethane                 | 1.05   | U         | 6.57 | 1.05  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Isobutyl alcohol            | 89.4   | U         | 329  | 89.4  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Isooctane                   | 0.657  | U         | 6.57 | 0.657 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Isopropylbenzene            | 0.657  | U         | 6.57 | 0.657 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 4-Isopropyltoluene          | 0.519  | U         | 6.57 | 0.519 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Methacrylonitrile           | 3.16   | U         | 65.7 | 3.16  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Methylene Chloride          | 6.57   | U         | 32.9 | 6.57  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Methyl methacrylate         | 1.45   | U         | 6.57 | 1.45  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 4-Methyl-2-pentanone (MIBK) | 1.97   | U         | 13.1 | 1.97  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Methyl tert-butyl ether     | 0.802  | U         | 6.57 | 0.802 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| m-Xylene & p-Xylene         | 0.657  | U         | 13.1 | 0.657 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Naphthalene                 | 1.58   | U         | 13.1 | 1.58  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| n-Butylbenzene              | 0.355  | U         | 6.57 | 0.355 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| n-Heptane                   | 0.697  | U         | 6.57 | 0.697 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 2-Nitropropane              | 0.684  | U         | 13.1 | 0.684 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| N-Propylbenzene             | 0.394  | U         | 6.57 | 0.394 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1-Octene                    | 0.657  | U         | 6.57 | 0.657 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| o-Xylene                    | 0.526  | U         | 6.57 | 0.526 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Pentachloroethane           | 1.84   | U         | 6.57 | 1.84  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Propionitrile               | 6.44   | U         | 65.7 | 6.44  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| sec-Butylbenzene            | 0.394  | U         | 6.57 | 0.394 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Styrene                     | 0.394  | U         | 6.57 | 0.394 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| tert-Butylbenzene           | 0.329  | U         | 6.57 | 0.329 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,1,2,2-Tetrachloroethane   | 0.500  | U         | 6.57 | 0.500 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,1,1,2-Tetrachloroethane   | 0.355  | U         | 6.57 | 0.355 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Tetrachloroethene           | 0.973  | U         | 6.57 | 0.973 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Toluene                     | 1.18   | U         | 6.57 | 1.18  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| trans-1,4-Dichloro-2-butene | 1.16   | U         | 6.57 | 1.16  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| trans-1,2-Dichloroethene    | 0.657  | U         | 6.57 | 0.657 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| trans-1,3-Dichloropropene   | 0.684  | U         | 6.57 | 0.684 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,2,4-Trichlorobenzene      | 1.28   | U         | 6.57 | 1.28  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,2,3-Trichlorobenzene      | 0.579  | U         | 6.57 | 0.579 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,3,5-Trichlorobenzene      | 0.408  | U         | 6.57 | 0.408 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,1,1-Trichloroethane       | 0.657  | U         | 6.57 | 0.657 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,1,2-Trichloroethane       | 0.657  | U         | 6.57 | 0.657 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Trichloroethene             | 0.368  | U         | 6.57 | 0.368 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: FDHSM370**

**Lab Sample ID: 560-62041-8**

**Date Collected: 06/09/16 12:57**

**Matrix: Solid**

**Date Received: 06/10/16 08:00**

**Percent Solids: 68.1**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                               | Result    | Qualifier | RL       | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|-----------|-----------|----------|-------|-------|---|----------|----------------|---------|
| Trichlorofluoromethane                | 0.657     | U         | 6.57     | 0.657 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,2,3-Trichloropropane                | 0.999     | U         | 6.57     | 0.999 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.881     | U         | 6.57     | 0.881 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,2,4-Trimethylbenzene                | 0.500     | U         | 6.57     | 0.500 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| 1,3,5-Trimethylbenzene                | 0.460     | U         | 6.57     | 0.460 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Vinyl acetate                         | 1.45      | U         | 6.57     | 1.45  | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Vinyl chloride                        | 0.789     | U         | 6.57     | 0.789 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Xylenes, Total                        | 0.657     | U         | 13.1     | 0.657 | ug/Kg | ☼ |          | 06/15/16 17:30 | 1       |
| Surrogate                             | %Recovery | Qualifier | Limits   |       |       |   | Prepared | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr)           | 105       |           | 61 - 142 |       |       |   |          | 06/15/16 17:30 | 1       |
| Dibromofluoromethane (Surr)           | 105       |           | 50 - 136 |       |       |   |          | 06/15/16 17:30 | 1       |
| 1,2-Dichloroethane-d4 (Surr)          | 104       |           | 65 - 152 |       |       |   |          | 06/15/16 17:30 | 1       |
| Toluene-d8 (Surr)                     | 97        |           | 65 - 139 |       |       |   |          | 06/15/16 17:30 | 1       |

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

| Analyte                            | Result      | Qualifier | RL  | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------------|-------------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Acenaphthene                       | 23.7        | U         | 237 | 23.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Acenaphthylene                     | 19.5        | U         | 237 | 19.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Anthracene                         | 26.5        | U         | 237 | 26.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Benzo[a]anthracene                 | 29.3        | U         | 237 | 29.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Benzo[a]pyrene                     | 23.7        | U         | 237 | 23.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Benzo[b]fluoranthene               | 20.9        | U         | 237 | 20.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Benzo[g,h,i]perylene               | 20.9        | U         | 237 | 20.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Benzo[k]fluoranthene               | 18.1        | U         | 237 | 18.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Benzyl alcohol                     | 50.2        | U         | 237 | 50.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Bis(2-chloroethoxy)methane         | 23.7        | U         | 237 | 23.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Bis(2-chloroethyl)ether            | 36.2        | U         | 237 | 36.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| <b>Bis(2-ethylhexyl) phthalate</b> | <b>81.6</b> | <b>J</b>  | 237 | 36.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 4-Bromophenyl phenyl ether         | 30.7        | U         | 237 | 30.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Butyl benzyl phthalate             | 19.5        | U         | 237 | 19.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 4-Chloroaniline                    | 41.8        | U         | 237 | 41.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 4-Chloro-3-methylphenol            | 33.5        | U         | 237 | 33.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 2-Chloronaphthalene                | 23.7        | U         | 237 | 23.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 2-Chlorophenol                     | 23.7        | U         | 237 | 23.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 4-Chlorophenyl phenyl ether        | 32.1        | U         | 237 | 32.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Chrysene                           | 20.9        | U         | 237 | 20.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Dibenz(a,h)anthracene              | 19.5        | U         | 237 | 19.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Dibenzofuran                       | 26.5        | U         | 237 | 26.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 1,3-Dichlorobenzene                | 25.1        | U         | 237 | 25.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 1,4-Dichlorobenzene                | 30.7        | U         | 237 | 30.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 1,2-Dichlorobenzene                | 26.5        | U         | 237 | 26.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 3,3'-Dichlorobenzidine             | 223         | U         | 237 | 223  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 2,4-Dichlorophenol                 | 23.7        | U         | 237 | 23.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Diethyl phthalate                  | 22.3        | U         | 237 | 22.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 2,4-Dimethylphenol                 | 78.1        | U         | 237 | 78.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Dimethyl phthalate                 | 23.7        | U         | 237 | 23.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Di-n-butyl phthalate               | 50.2        | U         | 237 | 50.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 4,6-Dinitro-2-methylphenol         | 41.8        | U         | 920 | 41.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 2,4-Dinitrophenol                  | 41.8        | U         | 920 | 41.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: FDHSM370**

**Lab Sample ID: 560-62041-8**

**Date Collected: 06/09/16 12:57**

**Matrix: Solid**

**Date Received: 06/10/16 08:00**

**Percent Solids: 68.1**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                       | Result      | Qualifier | RL  | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-------------|-----------|-----|------|-------|---|----------------|----------------|---------|
| 2,6-Dinitrotoluene            | 30.7        | U         | 237 | 30.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 2,4-Dinitrotoluene            | 22.3        | U         | 237 | 22.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Di-n-octyl phthalate          | 18.1        | U         | 237 | 18.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| <b>Fluoranthene</b>           | <b>36.1</b> | <b>J</b>  | 237 | 23.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Fluorene                      | 26.5        | U         | 237 | 26.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Hexachlorobenzene             | 27.9        | U         | 237 | 27.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Hexachlorobutadiene           | 39.0        | U         | 237 | 39.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Hexachlorocyclopentadiene     | 69.7        | U         | 237 | 69.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Hexachloroethane              | 27.9        | U         | 237 | 27.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| <b>Indeno[1,2,3-cd]pyrene</b> | <b>50.3</b> | <b>J</b>  | 237 | 22.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Isophorone                    | 20.9        | U         | 237 | 20.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 2-Methylnaphthalene           | 20.9        | U         | 237 | 20.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 2-Methylphenol                | 27.9        | U         | 237 | 27.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 3 & 4 Methylphenol            | 39.0        | U         | 474 | 39.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Naphthalene                   | 22.3        | U         | 237 | 22.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 2-Nitroaniline                | 30.7        | U         | 237 | 30.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 3-Nitroaniline                | 23.7        | U         | 237 | 23.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 4-Nitroaniline                | 39.0        | U         | 237 | 39.0 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Nitrobenzene                  | 20.9        | U         | 237 | 20.9 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 2-Nitrophenol                 | 22.3        | U         | 237 | 22.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 4-Nitrophenol                 | 41.8        | U         | 920 | 41.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| N-Nitrosodi-n-propylamine     | 34.8        | U         | 237 | 34.8 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| N-Nitrosodiphenylamine        | 30.7        | U         | 237 | 30.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Pentachlorophenol             | 460         | U         | 920 | 460  | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Phenanthrene                  | 29.3        | U         | 237 | 29.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Phenol                        | 26.5        | U         | 237 | 26.5 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Pyrene                        | 23.7        | U         | 237 | 23.7 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 1,2,4-Trichlorobenzene        | 22.3        | U         | 237 | 22.3 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 2,4,6-Trichlorophenol         | 25.1        | U         | 237 | 25.1 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 2,4,5-Trichlorophenol         | 43.2        | U         | 237 | 43.2 | ug/Kg | ☼ | 06/21/16 07:56 | 06/22/16 11:50 | 1       |

| Surrogate            | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2-Fluorophenol       | 38        |           | 24 - 101 | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Nitrobenzene-d5      | 35        |           | 17 - 112 | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 2-Fluorobiphenyl     | 39        |           | 32 - 101 | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| 2,4,6-Tribromophenol | 77        |           | 21 - 130 | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Terphenyl-d14        | 75        |           | 62 - 129 | 06/21/16 07:56 | 06/22/16 11:50 | 1       |
| Phenol-d5 (Surr)     | 39        |           | 23 - 106 | 06/21/16 07:56 | 06/22/16 11:50 | 1       |

## Method: 8081B - Organochlorine Pesticides (GC)

| Analyte         | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Aldrin          | 1.90   | U         | 2.46 | 1.90 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| alpha-BHC       | 1.45   | U         | 2.46 | 1.45 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| alpha-Chlordane | 2.30   | U         | 4.78 | 2.30 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| beta-BHC        | 1.48   | U         | 2.46 | 1.48 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| 4,4'-DDD        | 2.35   | U         | 4.78 | 2.35 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| 4,4'-DDE        | 2.10   | U         | 4.78 | 2.10 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| 4,4'-DDT        | 2.68   | U         | 4.78 | 2.68 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| delta-BHC       | 1.23   | U         | 2.46 | 1.23 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| Dieldrin        | 2.01   | U         | 4.78 | 2.01 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: FDHSM370**

**Lab Sample ID: 560-62041-8**

**Date Collected: 06/09/16 12:57**

**Matrix: Solid**

**Date Received: 06/10/16 08:00**

**Percent Solids: 68.1**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

| Analyte             | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Endosulfan I        | 1.45   | U         | 2.46 | 1.45 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| Endosulfan II       | 2.19   | U         | 2.46 | 2.19 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| Endosulfan sulfate  | 2.43   | U         | 4.78 | 2.43 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| Endrin              | 2.22   | U         | 4.78 | 2.22 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| Endrin aldehyde     | 2.26   | U         | 4.78 | 2.26 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| Endrin ketone       | 2.23   | U         | 4.78 | 2.23 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| gamma-BHC (Lindane) | 1.35   | U         | 2.46 | 1.35 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| gamma-Chlordane     | 1.81   | U         | 4.78 | 1.81 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| Heptachlor          | 1.35   | U         | 2.46 | 1.35 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| Heptachlor epoxide  | 1.70   | U         | 2.46 | 1.70 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| Methoxychlor        | 11.7   | U *       | 24.6 | 11.7 | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| Toxaphene           | 106    | U         | 246  | 106  | ug/Kg | ☼ | 06/16/16 09:25 | 06/23/16 21:16 | 1       |

| Surrogate              | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 95        |           | 50 - 143 | 06/16/16 09:25 | 06/23/16 21:16 | 1       |
| DCB Decachlorobiphenyl | 112       |           | 47 - 150 | 06/16/16 09:25 | 06/23/16 21:16 | 1       |

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte      | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| PCB-1016     | 7.08   | U         | 45.8 | 7.08 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 17:10 | 1       |
| PCB-1221     | 7.08   | U         | 45.8 | 7.08 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 17:10 | 1       |
| PCB-1232     | 7.08   | U         | 45.8 | 7.08 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 17:10 | 1       |
| PCB-1242     | 7.08   | U         | 45.8 | 7.08 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 17:10 | 1       |
| PCB-1248     | 7.08   | U         | 45.8 | 7.08 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 17:10 | 1       |
| PCB-1254     | 7.08   | U         | 45.8 | 7.08 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 17:10 | 1       |
| PCB-1260     | 13.9   | U         | 45.8 | 13.9 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 17:10 | 1       |
| Aroclor 1262 | 7.08   | U         | 45.8 | 7.08 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 17:10 | 1       |
| Aroclor 1268 | 7.08   | U         | 45.8 | 7.08 | ug/Kg | ☼ | 06/22/16 07:52 | 06/23/16 17:10 | 1       |

| Surrogate              | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 87        |           | 32 - 132 | 06/22/16 07:52 | 06/23/16 17:10 | 1       |
| DCB Decachlorobiphenyl | 86        |           | 57 - 138 | 06/22/16 07:52 | 06/23/16 17:10 | 1       |

## Method: 8141A - Organophosphorous Pesticides (GC)

| Analyte          | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Azinophos methyl | 500    | U         | 1860 | 500  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Bolstar          | 606    | U         | 1860 | 606  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Chlorpyrifos     | 923    | U         | 2860 | 923  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Coumaphos        | 400    | U         | 1860 | 400  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Demeton-O        | 756    | U         | 5570 | 756  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Demeton-S        | 695    | U         | 2140 | 695  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Diazinon         | 1040   | U         | 3140 | 1040 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Dichlorvos       | 1060   | U         | 3290 | 1060 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Dimethoate       | 1010   | U         | 3140 | 1010 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Disulfoton       | 1100   | U         | 6860 | 1100 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| EPN              | 526    | U         | 1860 | 526  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Ethoprop         | 705    | U         | 2140 | 705  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Ethyl Parathion  | 756    | U         | 2570 | 756  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Famphur          | 460    | U         | 1860 | 460  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Fensulfothion    | 1160   | U         | 3570 | 1160 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: FDHSM370**

**Date Collected: 06/09/16 12:57**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-8**

**Matrix: Solid**

**Percent Solids: 68.1**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

| Analyte                       | Result | Qualifier | RL    | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|--------|-----------|-------|------|-------|---|----------------|----------------|---------|
| Fenthion                      | 1250   | U         | 4720  | 1250 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Malathion                     | 663    | U         | 2140  | 663  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Merphos                       | 735    | U         | 4290  | 735  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Methyl parathion              | 910    | U         | 2860  | 910  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Mevinphos                     | 660    | U         | 2140  | 660  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Naled                         | 3230   | U         | 10000 | 3230 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Phorate                       | 815    | U         | 2860  | 815  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Ronnel                        | 2170   | U         | 6570  | 2170 | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Sulfotepp                     | 895    | U         | 2860  | 895  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Tetrachlorvinphos (Stirophos) | 623    | U         | 2140  | 623  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Thionazin                     | 796    | U         | 2570  | 796  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Tokuthion                     | 559    | U         | 2860  | 559  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Trichloronate                 | 893    | U         | 2860  | 893  | ug/Kg | ☼ | 06/22/16 12:40 | 07/06/16 23:45 | 100     |

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------------|----------------|---------|
| Chlormefos         | 65        | D         | 42 - 132 | 06/22/16 12:40 | 07/06/16 23:45 | 100     |
| Triphenylphosphate | 98        | D         | 47 - 161 | 06/22/16 12:40 | 07/06/16 23:45 | 100     |

## Method: 8151A - Herbicides (GC)

| Analyte           | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|--------|-----------|------|-------|-------|---|----------------|----------------|---------|
| 2,4-D             | 0.831  | U         | 9.78 | 0.831 | ug/Kg | ☼ | 06/20/16 08:59 | 06/23/16 11:23 | 1       |
| 2,4-DB            | 1.61   | U         | 9.78 | 1.61  | ug/Kg | ☼ | 06/20/16 08:59 | 06/23/16 11:23 | 1       |
| Dicamba           | 1.12   | U         | 9.78 | 1.12  | ug/Kg | ☼ | 06/20/16 08:59 | 06/23/16 11:23 | 1       |
| Dichlorprop       | 1.10   | U         | 9.78 | 1.10  | ug/Kg | ☼ | 06/20/16 08:59 | 06/23/16 11:23 | 1       |
| Dinoseb           | 0.782  | U         | 9.78 | 0.782 | ug/Kg | ☼ | 06/20/16 08:59 | 06/23/16 11:23 | 1       |
| MCPA              | 159    | U         | 97.8 | 159   | ug/Kg | ☼ | 06/20/16 08:59 | 06/23/16 11:23 | 1       |
| Mecoprop          | 112    | U         | 97.8 | 112   | ug/Kg | ☼ | 06/20/16 08:59 | 06/23/16 11:23 | 1       |
| Silvex (2,4,5-TP) | 1.05   | U         | 9.78 | 1.05  | ug/Kg | ☼ | 06/20/16 08:59 | 06/23/16 11:23 | 1       |
| 2,4,5-T           | 1.08   | U         | 9.78 | 1.08  | ug/Kg | ☼ | 06/20/16 08:59 | 06/23/16 11:23 | 1       |

| Surrogate | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|----------------|----------------|---------|
| 2,4-DCAA  | 73        |           | 22 - 130 | 06/20/16 08:59 | 06/23/16 11:23 | 1       |

## Method: 8151A - Herbicides (GC)

| Analyte | Result | Qualifier | RL  | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| Dalapon | 4.20   | U         | 145 | 4.20 | ug/Kg | ☼ | 06/21/16 15:57 | 06/23/16 20:58 | 1       |

| Surrogate | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|----------------|----------------|---------|
| 2,4-DCAA  | 61        |           | 35 - 137 | 06/21/16 15:57 | 06/23/16 20:58 | 1       |

## Method: 300.0 - Anions, Ion Chromatography - Soluble

| Analyte      | Result | Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|-------|-------|---|----------|----------------|---------|
| Bromide      | 1.48   | U         | 5.89 | 1.48  | mg/Kg | ☼ |          | 06/23/16 06:14 | 1       |
| Nitrate as N | 1.82   | J H       | 2.95 | 0.370 | mg/Kg | ☼ |          | 06/23/16 06:14 | 1       |
| Chloride     | 7.90   |           | 5.89 | 0.787 | mg/Kg | ☼ |          | 06/23/16 06:14 | 1       |
| Fluoride     | 2.47   | J         | 2.95 | 0.886 | mg/Kg | ☼ |          | 06/23/16 06:14 | 1       |
| Sulfate      | 128    |           | 7.37 | 1.41  | mg/Kg | ☼ |          | 06/23/16 06:14 | 1       |

## Method: 6010B - Metals (ICP)

| Analyte  | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|----------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Aluminum | 3380   |           | 5.43 | 3.34 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: FDHSM370**

**Date Collected: 06/09/16 12:57**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-8**

**Matrix: Solid**

**Percent Solids: 68.1**

## Method: 6010B - Metals (ICP) (Continued)

| Analyte    | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Phosphorus | 640    |           | 54.3  | 1.80   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Antimony   | 1.28   | J         | 2.17  | 0.290  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Calcium    | 225000 |           | 543   | 158    | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 15:10 | 10      |
| Arsenic    | 2.40   |           | 2.17  | 0.158  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Magnesium  | 2140   |           | 21.7  | 1.72   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Barium     | 37.1   |           | 1.09  | 0.205  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Potassium  | 611    |           | 109   | 16.5   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Beryllium  | 0.347  | J         | 0.543 | 0.0293 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Silicon    | 2790   |           | 21.7  | 6.87   | mg/Kg | ☼ | 06/21/16 08:00 | 06/23/16 14:59 | 1       |
| Cadmium    | 0.784  |           | 0.543 | 0.0391 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Sodium     | 154    |           | 109   | 16.4   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Chromium   | 9.16   |           | 1.09  | 0.146  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Strontium  | 171    |           | 1.09  | 0.0848 | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Copper     | 4.47   |           | 2.17  | 0.218  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Iron       | 4710   |           | 21.7  | 5.43   | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Lead       | 17.3   |           | 0.543 | 0.165  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Manganese  | 339    |           | 2.72  | 0.505  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Nickel     | 5.47   |           | 2.17  | 0.135  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Selenium   | 1.13   |           | 1.09  | 0.215  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Silver     | 0.120  | U         | 0.543 | 0.120  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Thallium   | 0.129  | U         | 1.09  | 0.129  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |
| Zinc       | 25.9   |           | 2.72  | 0.620  | mg/Kg | ☼ | 06/14/16 11:03 | 06/16/16 12:03 | 1       |

## Method: 7471A - Mercury (CVAA)

| Analyte | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Mercury | 0.0140 | U         | 0.156 | 0.0140 | mg/Kg | ☼ | 06/15/16 10:00 | 06/15/16 17:25 | 1       |

## General Chemistry

| Analyte | Result | Qualifier | RL    | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| pH      | 7.70   |           | 0.100 | 0.100  | SU   | — |          | 06/15/16 14:26 | 1       |
| TOC     | 0.472  |           | 0.100 | 0.0415 | %    |   |          | 06/24/16 09:00 | 1       |

## General Chemistry - Soluble

| Analyte                         | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------|--------|-----------|------|------|-------|---|----------|----------------|---------|
| Alkalinity                      | 183    |           | 7.25 | 7.25 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Bicarbonate Alkalinity as CaCO3 | 183    |           | 7.25 | 7.25 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |
| Carbonate Alkalinity as CaCO3   | 7.25   | U         | 7.25 | 7.25 | mg/Kg | ☼ |          | 06/17/16 15:00 | 1       |

**Client Sample ID: TB08**

**Date Collected: 06/09/16 00:00**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-9**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte            | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Acetone            | 5.00   | U         | 10.0 | 5.00  | ug/L | — |          | 06/17/16 14:28 | 1       |
| Acetonitrile       | 10.0   | U         | 50.0 | 10.0  | ug/L |   |          | 06/17/16 14:28 | 1       |
| Benzene            | 0.330  | U         | 1.00 | 0.330 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Benzyl chloride    | 0.278  | U         | 5.00 | 0.278 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Bromobenzene       | 0.128  | U         | 1.00 | 0.128 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Bromochloromethane | 0.228  | U         | 1.00 | 0.228 | ug/L |   |          | 06/17/16 14:28 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: TB08**  
**Date Collected: 06/09/16 00:00**  
**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-9**  
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                     | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Bromoform                   | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Bromomethane                | 0.392  | U         | 5.00 | 0.392 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,3-Butadiene               | 0.300  | U         | 2.00 | 0.300 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 2-Butanone (MEK)            | 1.00   | U         | 10.0 | 1.00  | ug/L |   |          | 06/17/16 14:28 | 1       |
| Carbon disulfide            | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Carbon tetrachloride        | 0.251  | U         | 1.00 | 0.251 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Chlorobenzene               | 0.136  | U         | 1.00 | 0.136 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 2-Chloro-1,3-butadiene      | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Chlorodibromomethane        | 0.223  | U         | 2.00 | 0.223 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Chloroethane                | 0.400  | U         | 5.00 | 0.400 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Chloroform                  | 0.173  | U         | 1.00 | 0.173 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1-Chlorohexane              | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Chloromethane               | 0.390  | U         | 5.00 | 0.390 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 2-Chlorotoluene             | 0.155  | U         | 1.00 | 0.155 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 4-Chlorotoluene             | 0.242  | U         | 1.00 | 0.242 | ug/L |   |          | 06/17/16 14:28 | 1       |
| cis-1,4-Dichloro-2-butene   | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:28 | 1       |
| cis-1,2-Dichloroethene      | 0.121  | U         | 1.00 | 0.121 | ug/L |   |          | 06/17/16 14:28 | 1       |
| cis-1,3-Dichloropropene     | 0.146  | U         | 1.00 | 0.146 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Cyclohexanone               | 5.00   | U         | 50.0 | 5.00  | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,2-Dibromo-3-Chloropropane | 0.349  | U         | 5.00 | 0.349 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Dibromomethane              | 0.165  | U         | 1.00 | 0.165 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,3-Dichlorobenzene         | 0.128  | U         | 1.00 | 0.128 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,2-Dichlorobenzene         | 0.170  | U         | 1.00 | 0.170 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,4-Dichlorobenzene         | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Dichlorobromomethane        | 0.175  | U         | 1.00 | 0.175 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Dichlorodifluoromethane     | 0.429  | U         | 5.00 | 0.429 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,2-Dichloroethane          | 0.172  | U         | 1.00 | 0.172 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,1-Dichloroethane          | 0.168  | U         | 1.00 | 0.168 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,1-Dichloroethene          | 0.300  | U         | 1.00 | 0.300 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,2-Dichloroethene, Total   | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,2-Dichloropropane         | 0.173  | U         | 1.00 | 0.173 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 2,2-Dichloropropane         | 0.335  | U         | 1.00 | 0.335 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,3-Dichloropropane         | 0.146  | U         | 1.00 | 0.146 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,1-Dichloropropene         | 0.185  | U         | 1.00 | 0.185 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,3-Dichloropropene, Total  | 0.300  | U         | 1.00 | 0.300 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,4-Dioxane                 | 15.9   | U         | 100  | 15.9  | ug/L |   |          | 06/17/16 14:28 | 1       |
| EDB                         | 0.175  | U         | 1.00 | 0.175 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Ethyl acetate               | 1.00   | U         | 5.00 | 1.00  | ug/L |   |          | 06/17/16 14:28 | 1       |
| Ethylbenzene                | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Ethylene oxide              | 30.0   | U *       | 50.0 | 30.0  | ug/L |   |          | 06/17/16 14:28 | 1       |
| Ethyl ether                 | 0.320  | U         | 5.00 | 0.320 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Ethyl methacrylate          | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Hexachlorobutadiene         | 0.860  | U         | 5.00 | 0.860 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Hexane                      | 2.00   | U         | 5.00 | 2.00  | ug/L |   |          | 06/17/16 14:28 | 1       |
| 2-Hexanone                  | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Iodomethane                 | 0.223  | U         | 2.00 | 0.223 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Isobutyl alcohol            | 5.00   | U         | 50.0 | 5.00  | ug/L |   |          | 06/17/16 14:28 | 1       |
| Isooctane                   | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Isopropylbenzene            | 0.200  | U         | 5.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: TB08**

**Date Collected: 06/09/16 00:00**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-9**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                               | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| 4-Isopropyltoluene                    | 0.150  | U         | 1.00 | 0.150 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Methacrylonitrile                     | 2.00   | U         | 5.00 | 2.00  | ug/L |   |          | 06/17/16 14:28 | 1       |
| Methylene Chloride                    | 2.00   | U         | 10.0 | 2.00  | ug/L |   |          | 06/17/16 14:28 | 1       |
| Methyl methacrylate                   | 0.200  | U         | 5.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 4-Methyl-2-pentanone (MIBK)           | 0.510  | U         | 5.00 | 0.510 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Methyl tert-butyl ether               | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| m-Xylene & p-Xylene                   | 0.260  | U         | 2.00 | 0.260 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Naphthalene                           | 0.200  | U         | 5.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| n-Butylbenzene                        | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| n-Heptane                             | 0.300  | U         | 5.00 | 0.300 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 2-Nitropropane                        | 1.00   | U         | 10.0 | 1.00  | ug/L |   |          | 06/17/16 14:28 | 1       |
| N-Propylbenzene                       | 0.106  | U         | 1.00 | 0.106 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1-Octene                              | 0.440  | U         | 5.00 | 0.440 | ug/L |   |          | 06/17/16 14:28 | 1       |
| o-Xylene                              | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Pentachloroethane                     | 0.302  | U         | 5.00 | 0.302 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Propionitrile                         | 2.69   | U         | 10.0 | 2.69  | ug/L |   |          | 06/17/16 14:28 | 1       |
| sec-Butylbenzene                      | 0.300  | U         | 2.00 | 0.300 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Styrene                               | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| tert-Butylbenzene                     | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,1,2,2-Tetrachloroethane             | 0.190  | U         | 1.00 | 0.190 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,1,1,2-Tetrachloroethane             | 0.209  | U         | 1.00 | 0.209 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Tetrachloroethene                     | 0.189  | U         | 1.00 | 0.189 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Toluene                               | 0.495  | U         | 1.00 | 0.495 | ug/L |   |          | 06/17/16 14:28 | 1       |
| trans-1,4-Dichloro-2-butene           | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:28 | 1       |
| trans-1,2-Dichloroethene              | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| trans-1,3-Dichloropropene             | 0.200  | U         | 5.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,2,4-Trichlorobenzene                | 0.168  | U         | 5.00 | 0.168 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,2,3-Trichlorobenzene                | 0.217  | U         | 5.00 | 0.217 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,3,5-Trichlorobenzene                | 0.203  | U         | 5.00 | 0.203 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,1,1-Trichloroethane                 | 0.300  | U         | 1.00 | 0.300 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,1,2-Trichloroethane                 | 0.173  | U         | 1.00 | 0.173 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Trichloroethene                       | 0.317  | U         | 1.00 | 0.317 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Trichlorofluoromethane                | 0.244  | U         | 1.00 | 0.244 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,2,3-Trichloropropane                | 0.191  | U         | 1.00 | 0.191 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.410  | U         | 1.00 | 0.410 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,2,4-Trimethylbenzene                | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| 1,3,5-Trimethylbenzene                | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Vinyl acetate                         | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Vinyl chloride                        | 0.300  | U         | 1.00 | 0.300 | ug/L |   |          | 06/17/16 14:28 | 1       |
| Xylenes, Total                        | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 14:28 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| Dibromofluoromethane (Surr)  | 99        |           | 69 - 130 |          | 06/17/16 14:28 | 1       |
| 4-Bromofluorobenzene (Surr)  | 111       |           | 70 - 130 |          | 06/17/16 14:28 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 104       |           | 70 - 140 |          | 06/17/16 14:28 | 1       |
| Toluene-d8 (Surr)            | 104       |           | 70 - 130 |          | 06/17/16 14:28 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: EB01**  
**Date Collected: 06/09/16 16:15**  
**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-10**  
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte                     | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Acetone                     | 5.00   | U         | 10.0 | 5.00  | ug/L |   |          | 06/17/16 14:53 | 1       |
| Acetonitrile                | 10.0   | U         | 50.0 | 10.0  | ug/L |   |          | 06/17/16 14:53 | 1       |
| Benzene                     | 0.330  | U         | 1.00 | 0.330 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Benzyl chloride             | 0.278  | U         | 5.00 | 0.278 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Bromobenzene                | 0.128  | U         | 1.00 | 0.128 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Bromochloromethane          | 0.228  | U         | 1.00 | 0.228 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Bromoform                   | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Bromomethane                | 0.392  | U         | 5.00 | 0.392 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,3-Butadiene               | 0.300  | U         | 2.00 | 0.300 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 2-Butanone (MEK)            | 1.00   | U         | 10.0 | 1.00  | ug/L |   |          | 06/17/16 14:53 | 1       |
| Carbon disulfide            | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Carbon tetrachloride        | 0.251  | U         | 1.00 | 0.251 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Chlorobenzene               | 0.136  | U         | 1.00 | 0.136 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 2-Chloro-1,3-butadiene      | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Chlorodibromomethane        | 0.223  | U         | 2.00 | 0.223 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Chloroethane                | 0.400  | U         | 5.00 | 0.400 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Chloroform                  | 0.173  | U         | 1.00 | 0.173 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1-Chlorohexane              | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Chloromethane               | 0.390  | U         | 5.00 | 0.390 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 2-Chlorotoluene             | 0.155  | U         | 1.00 | 0.155 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 4-Chlorotoluene             | 0.242  | U         | 1.00 | 0.242 | ug/L |   |          | 06/17/16 14:53 | 1       |
| cis-1,4-Dichloro-2-butene   | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:53 | 1       |
| cis-1,2-Dichloroethene      | 0.121  | U         | 1.00 | 0.121 | ug/L |   |          | 06/17/16 14:53 | 1       |
| cis-1,3-Dichloropropene     | 0.146  | U         | 1.00 | 0.146 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Cyclohexanone               | 5.00   | U         | 50.0 | 5.00  | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,2-Dibromo-3-Chloropropane | 0.349  | U         | 5.00 | 0.349 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Dibromomethane              | 0.165  | U         | 1.00 | 0.165 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,3-Dichlorobenzene         | 0.128  | U         | 1.00 | 0.128 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,2-Dichlorobenzene         | 0.170  | U         | 1.00 | 0.170 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,4-Dichlorobenzene         | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Dichlorobromomethane        | 0.175  | U         | 1.00 | 0.175 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Dichlorodifluoromethane     | 0.429  | U         | 5.00 | 0.429 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,2-Dichloroethane          | 0.172  | U         | 1.00 | 0.172 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,1-Dichloroethane          | 0.168  | U         | 1.00 | 0.168 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,1-Dichloroethene          | 0.300  | U         | 1.00 | 0.300 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,2-Dichloroethene, Total   | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,2-Dichloropropane         | 0.173  | U         | 1.00 | 0.173 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 2,2-Dichloropropane         | 0.335  | U         | 1.00 | 0.335 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,3-Dichloropropane         | 0.146  | U         | 1.00 | 0.146 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,1-Dichloropropene         | 0.185  | U         | 1.00 | 0.185 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,3-Dichloropropene, Total  | 0.300  | U         | 1.00 | 0.300 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,4-Dioxane                 | 15.9   | U         | 100  | 15.9  | ug/L |   |          | 06/17/16 14:53 | 1       |
| EDB                         | 0.175  | U         | 1.00 | 0.175 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Ethyl acetate               | 1.00   | U         | 5.00 | 1.00  | ug/L |   |          | 06/17/16 14:53 | 1       |
| Ethylbenzene                | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Ethylene oxide              | 30.0   | U *       | 50.0 | 30.0  | ug/L |   |          | 06/17/16 14:53 | 1       |
| Ethyl ether                 | 0.320  | U         | 5.00 | 0.320 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Ethyl methacrylate          | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Hexachlorobutadiene         | 0.860  | U         | 5.00 | 0.860 | ug/L |   |          | 06/17/16 14:53 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: EB01**  
**Date Collected: 06/09/16 16:15**  
**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-10**  
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                               | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Hexane                                | 2.00   | U         | 5.00 | 2.00  | ug/L |   |          | 06/17/16 14:53 | 1       |
| 2-Hexanone                            | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Iodomethane                           | 0.223  | U         | 2.00 | 0.223 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Isobutyl alcohol                      | 5.00   | U         | 50.0 | 5.00  | ug/L |   |          | 06/17/16 14:53 | 1       |
| Isooctane                             | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Isopropylbenzene                      | 0.200  | U         | 5.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 4-Isopropyltoluene                    | 0.150  | U         | 1.00 | 0.150 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Methacrylonitrile                     | 2.00   | U         | 5.00 | 2.00  | ug/L |   |          | 06/17/16 14:53 | 1       |
| Methylene Chloride                    | 2.00   | U         | 10.0 | 2.00  | ug/L |   |          | 06/17/16 14:53 | 1       |
| Methyl methacrylate                   | 0.200  | U         | 5.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 4-Methyl-2-pentanone (MIBK)           | 0.510  | U         | 5.00 | 0.510 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Methyl tert-butyl ether               | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| m-Xylene & p-Xylene                   | 0.260  | U         | 2.00 | 0.260 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Naphthalene                           | 0.200  | U         | 5.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| n-Butylbenzene                        | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| n-Heptane                             | 0.300  | U         | 5.00 | 0.300 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 2-Nitropropane                        | 1.00   | U         | 10.0 | 1.00  | ug/L |   |          | 06/17/16 14:53 | 1       |
| N-Propylbenzene                       | 0.106  | U         | 1.00 | 0.106 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1-Octene                              | 0.440  | U         | 5.00 | 0.440 | ug/L |   |          | 06/17/16 14:53 | 1       |
| o-Xylene                              | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Pentachloroethane                     | 0.302  | U         | 5.00 | 0.302 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Propionitrile                         | 2.69   | U         | 10.0 | 2.69  | ug/L |   |          | 06/17/16 14:53 | 1       |
| sec-Butylbenzene                      | 0.300  | U         | 2.00 | 0.300 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Styrene                               | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| tert-Butylbenzene                     | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,1,2,2-Tetrachloroethane             | 0.190  | U         | 1.00 | 0.190 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,1,1,2-Tetrachloroethane             | 0.209  | U         | 1.00 | 0.209 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Tetrachloroethene                     | 0.189  | U         | 1.00 | 0.189 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Toluene                               | 0.495  | U         | 1.00 | 0.495 | ug/L |   |          | 06/17/16 14:53 | 1       |
| trans-1,4-Dichloro-2-butene           | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:53 | 1       |
| trans-1,2-Dichloroethene              | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| trans-1,3-Dichloropropene             | 0.200  | U         | 5.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,2,4-Trichlorobenzene                | 0.168  | U         | 5.00 | 0.168 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,2,3-Trichlorobenzene                | 0.217  | U         | 5.00 | 0.217 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,3,5-Trichlorobenzene                | 0.203  | U         | 5.00 | 0.203 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,1,1-Trichloroethane                 | 0.300  | U         | 1.00 | 0.300 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,1,2-Trichloroethane                 | 0.173  | U         | 1.00 | 0.173 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Trichloroethene                       | 0.317  | U         | 1.00 | 0.317 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Trichlorofluoromethane                | 0.244  | U         | 1.00 | 0.244 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,2,3-Trichloropropane                | 0.191  | U         | 1.00 | 0.191 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.410  | U         | 1.00 | 0.410 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,2,4-Trimethylbenzene                | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| 1,3,5-Trimethylbenzene                | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Vinyl acetate                         | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Vinyl chloride                        | 0.300  | U         | 1.00 | 0.300 | ug/L |   |          | 06/17/16 14:53 | 1       |
| Xylenes, Total                        | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 14:53 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| Dibromofluoromethane (Surr) | 100       |           | 69 - 130 |          | 06/17/16 14:53 | 1       |
| 4-Bromofluorobenzene (Surr) | 110       |           | 70 - 130 |          | 06/17/16 14:53 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: EB01**  
**Date Collected: 06/09/16 16:15**  
**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-10**  
**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 106       |           | 70 - 140 |          | 06/17/16 14:53 | 1       |
| Toluene-d8 (Surr)            | 104       |           | 70 - 130 |          | 06/17/16 14:53 | 1       |

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

| Analyte                     | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| Acenaphthene                | 0.460  | U         | 10.0 | 0.460 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Acenaphthylene              | 0.452  | U         | 10.0 | 0.452 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Anthracene                  | 0.700  | U         | 10.0 | 0.700 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Benzo[a]anthracene          | 0.646  | U         | 10.0 | 0.646 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Benzo[a]pyrene              | 0.742  | U         | 10.0 | 0.742 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Benzo[b]fluoranthene        | 0.908  | U         | 10.0 | 0.908 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Benzo[g,h,i]perylene        | 1.10   | U         | 10.0 | 1.10  | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Benzo[k]fluoranthene        | 1.49   | U         | 10.0 | 1.49  | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Benzyl alcohol              | 0.827  | U         | 10.0 | 0.827 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Bis(2-chloroethoxy)methane  | 0.436  | U         | 10.0 | 0.436 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Bis(2-chloroethyl)ether     | 1.55   | U         | 10.0 | 1.55  | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Bis(2-ethylhexyl) phthalate | 5.00   | U         | 20.0 | 5.00  | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 4-Bromophenyl phenyl ether  | 0.811  | U         | 10.0 | 0.811 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Butyl benzyl phthalate      | 0.816  | U         | 10.0 | 0.816 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 4-Chloroaniline             | 0.549  | U         | 10.0 | 0.549 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 4-Chloro-3-methylphenol     | 0.586  | U         | 10.0 | 0.586 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 2-Chloronaphthalene         | 0.603  | U         | 10.0 | 0.603 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 2-Chlorophenol              | 0.729  | U         | 10.0 | 0.729 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 4-Chlorophenyl phenyl ether | 0.529  | U         | 10.0 | 0.529 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Chrysene                    | 0.494  | U         | 10.0 | 0.494 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Dibenz(a,h)anthracene       | 0.874  | U         | 10.0 | 0.874 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Dibenzofuran                | 0.485  | U         | 10.0 | 0.485 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 1,3-Dichlorobenzene         | 0.491  | U         | 10.0 | 0.491 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 1,4-Dichlorobenzene         | 0.815  | U         | 10.0 | 0.815 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 1,2-Dichlorobenzene         | 0.775  | U         | 10.0 | 0.775 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 3,3'-Dichlorobenzidine      | 0.787  | U         | 10.0 | 0.787 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 2,4-Dichlorophenol          | 0.704  | U         | 10.0 | 0.704 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Diethyl phthalate           | 0.666  | U         | 10.0 | 0.666 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 2,4-Dimethylphenol          | 0.593  | U         | 10.0 | 0.593 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Dimethyl phthalate          | 0.589  | U         | 10.0 | 0.589 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Di-n-butyl phthalate        | 0.709  | U         | 10.0 | 0.709 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 4,6-Dinitro-2-methylphenol  | 0.959  | U         | 10.0 | 0.959 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 2,4-Dinitrophenol           | 2.69   | U         | 20.0 | 2.69  | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 2,6-Dinitrotoluene          | 0.762  | U         | 10.0 | 0.762 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 2,4-Dinitrotoluene          | 0.509  | U         | 20.0 | 0.509 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Di-n-octyl phthalate        | 1.11   | U         | 10.0 | 1.11  | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Fluoranthene                | 0.496  | U         | 10.0 | 0.496 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Fluorene                    | 0.421  | U         | 10.0 | 0.421 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Hexachlorobenzene           | 0.602  | U         | 10.0 | 0.602 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Hexachlorobutadiene         | 0.716  | U         | 10.0 | 0.716 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Hexachlorocyclopentadiene   | 0.839  | U         | 10.0 | 0.839 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Hexachloroethane            | 0.589  | U         | 10.0 | 0.589 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Indeno[1,2,3-cd]pyrene      | 0.922  | U         | 10.0 | 0.922 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Isophorone                  | 0.549  | U         | 10.0 | 0.549 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: EB01**  
**Date Collected: 06/09/16 16:15**  
**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-10**  
**Matrix: Water**

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                   | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| 2-Methylnaphthalene       | 0.702  | U         | 10.0 | 0.702 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 2-Methylphenol            | 0.610  | U         | 10.0 | 0.610 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 3 & 4 Methylphenol        | 0.763  | U         | 20.0 | 0.763 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Naphthalene               | 0.787  | U         | 10.0 | 0.787 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 2-Nitroaniline            | 0.766  | U         | 10.0 | 0.766 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 3-Nitroaniline            | 0.512  | U         | 10.0 | 0.512 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 4-Nitroaniline            | 0.819  | U         | 10.0 | 0.819 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Nitrobenzene              | 0.587  | U         | 10.0 | 0.587 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 2-Nitrophenol             | 0.808  | U         | 10.0 | 0.808 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 4-Nitrophenol             | 1.73   | U         | 10.0 | 1.73  | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| N-Nitrosodi-n-propylamine | 0.620  | U         | 10.0 | 0.620 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| N-Nitrosodiphenylamine    | 1.03   | U         | 10.0 | 1.03  | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Pentachlorophenol         | 1.32   | U         | 20.0 | 1.32  | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Phenanthrene              | 0.591  | U         | 10.0 | 0.591 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Phenol                    | 0.768  | U         | 10.0 | 0.768 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Pyrene                    | 0.440  | U         | 10.0 | 0.440 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 1,2,4-Trichlorobenzene    | 0.647  | U         | 10.0 | 0.647 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 2,4,6-Trichlorophenol     | 0.658  | U         | 10.0 | 0.658 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 2,4,5-Trichlorophenol     | 0.861  | U         | 10.0 | 0.861 | ug/L |   | 06/15/16 15:07 | 06/16/16 21:54 | 1       |

| Surrogate            | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2-Fluorophenol       | 66        |           | 10 - 130 | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Nitrobenzene-d5      | 64        |           | 27 - 130 | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 2-Fluorobiphenyl     | 64        |           | 23 - 130 | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| 2,4,6-Tribromophenol | 78        |           | 18 - 130 | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Terphenyl-d14        | 70        |           | 10 - 141 | 06/15/16 15:07 | 06/16/16 21:54 | 1       |
| Phenol-d5 (Surr)     | 67        |           | 10 - 130 | 06/15/16 15:07 | 06/16/16 21:54 | 1       |

## Method: 8081B - Organochlorine Pesticides (GC)

| Analyte             | Result  | Qualifier | RL     | MDL     | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|---------|-----------|--------|---------|------|---|----------------|----------------|---------|
| Aldrin              | 0.00473 | U         | 0.0568 | 0.00473 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| alpha-BHC           | 0.00492 | U         | 0.0568 | 0.00492 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| alpha-Chlordane     | 0.00596 | U         | 0.0568 | 0.00596 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| beta-BHC            | 0.00473 | U         | 0.0568 | 0.00473 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| 4,4'-DDD            | 0.00473 | U         | 0.0568 | 0.00473 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| 4,4'-DDE            | 0.00473 | U         | 0.0568 | 0.00473 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| 4,4'-DDT            | 0.00766 | U         | 0.0568 | 0.00766 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| delta-BHC           | 0.00473 | U         | 0.0568 | 0.00473 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| Dieldrin            | 0.0123  | U         | 0.0568 | 0.0123  | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| Endosulfan I        | 0.00473 | U         | 0.0568 | 0.00473 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| Endosulfan II       | 0.00814 | U         | 0.0568 | 0.00814 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| Endosulfan sulfate  | 0.00832 | U         | 0.0568 | 0.00832 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| Endrin              | 0.00728 | U         | 0.0568 | 0.00728 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| Endrin aldehyde     | 0.00473 | U         | 0.0568 | 0.00473 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| Endrin ketone       | 0.00776 | U         | 0.0568 | 0.00776 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| gamma-BHC (Lindane) | 0.00426 | U         | 0.0568 | 0.00426 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| gamma-Chlordane     | 0.00634 | U         | 0.0568 | 0.00634 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| Heptachlor          | 0.00615 | U         | 0.0568 | 0.00615 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| Heptachlor epoxide  | 0.00492 | U         | 0.0568 | 0.00492 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| Methoxychlor        | 0.00946 | U         | 0.0568 | 0.00946 | ug/L |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: EB01**  
**Date Collected: 06/09/16 16:15**  
**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-10**  
**Matrix: Water**

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

| Analyte                | Result    | Qualifier | RL       | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|-------|------|---|----------------|----------------|---------|
| Toxaphene              | 0.643     | U         | 5.68     | 0.643 | ug/L | - | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| Surrogate              | %Recovery | Qualifier | Limits   |       |      |   | Prepared       | Analyzed       | Dil Fac |
| Tetrachloro-m-xylene   | 80        |           | 57 - 127 |       |      |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |
| DCB Decachlorobiphenyl | 65        |           | 10 - 152 |       |      |   | 06/16/16 11:03 | 06/20/16 16:03 | 1       |

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte                | Result    | Qualifier | RL       | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|-------|------|---|----------------|----------------|---------|
| PCB-1016               | 0.104     | U         | 0.568    | 0.104 | ug/L | - | 06/16/16 11:03 | 06/20/16 14:14 | 1       |
| PCB-1221               | 0.104     | U         | 0.568    | 0.104 | ug/L | - | 06/16/16 11:03 | 06/20/16 14:14 | 1       |
| PCB-1232               | 0.416     | U         | 0.757    | 0.416 | ug/L | - | 06/16/16 11:03 | 06/20/16 14:14 | 1       |
| PCB-1242               | 0.104     | U         | 0.568    | 0.104 | ug/L | - | 06/16/16 11:03 | 06/20/16 14:14 | 1       |
| PCB-1248               | 0.104     | U         | 0.568    | 0.104 | ug/L | - | 06/16/16 11:03 | 06/20/16 14:14 | 1       |
| PCB-1254               | 0.104     | U         | 0.568    | 0.104 | ug/L | - | 06/16/16 11:03 | 06/20/16 14:14 | 1       |
| PCB-1260               | 0.104     | U         | 0.568    | 0.104 | ug/L | - | 06/16/16 11:03 | 06/20/16 14:14 | 1       |
| Aroclor 1262           | 0.104     | U         | 0.568    | 0.104 | ug/L | - | 06/16/16 11:03 | 06/20/16 14:14 | 1       |
| Aroclor 1268           | 0.104     | U         | 0.568    | 0.104 | ug/L | - | 06/16/16 11:03 | 06/20/16 14:14 | 1       |
| Surrogate              | %Recovery | Qualifier | Limits   |       |      |   | Prepared       | Analyzed       | Dil Fac |
| Tetrachloro-m-xylene   | 109       |           | 10 - 150 |       |      |   | 06/16/16 11:03 | 06/20/16 14:14 | 1       |
| DCB Decachlorobiphenyl | 98        |           | 10 - 150 |       |      |   | 06/16/16 11:03 | 06/20/16 14:14 | 1       |

## Method: 8141A - Organophosphorous Pesticides (GC)

| Analyte                       | Result | Qualifier | RL    | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|--------|-----------|-------|--------|------|---|----------------|----------------|---------|
| Azinophos methyl              | 0.165  | U         | 2.45  | 0.165  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Bolstar                       | 0.308  | U         | 0.981 | 0.308  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Chlorpyrifos                  | 0.353  | U         | 1.47  | 0.353  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Coumaphos                     | 0.132  | U         | 0.981 | 0.132  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Demeton-O                     | 0.137  | U         | 0.981 | 0.137  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Demeton-S                     | 0.0677 | U         | 1.96  | 0.0677 | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Diazinon                      | 0.144  | U         | 0.490 | 0.144  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Dichlorvos                    | 0.159  | U         | 0.490 | 0.159  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Dimethoate                    | 0.440  | U         | 1.47  | 0.440  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Disulfoton                    | 0.316  | U         | 0.981 | 0.316  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| EPN                           | 0.146  | U         | 1.18  | 0.146  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Ethoprop                      | 0.174  | U         | 1.47  | 0.174  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Ethyl Parathion               | 0.141  | U         | 0.981 | 0.141  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Famphur                       | 0.176  | U         | 0.981 | 0.176  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Fensulfothion                 | 0.534  | U         | 2.45  | 0.534  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Fenthion                      | 0.151  | U         | 2.45  | 0.151  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Malathion                     | 0.130  | U         | 1.96  | 0.130  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Merphos                       | 0.171  | U         | 4.90  | 0.171  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Methyl parathion              | 0.138  | U         | 3.92  | 0.138  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Mevinphos                     | 0.451  | U         | 6.08  | 0.451  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Naled                         | 0.785  | U         | 1.96  | 0.785  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Phorate                       | 0.151  | U         | 1.18  | 0.151  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Ronnel                        | 0.114  | U         | 9.81  | 0.114  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Sulfotepp                     | 0.165  | U         | 1.47  | 0.165  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Tetrachlorvinphos (Stirophos) | 0.122  | U         | 3.43  | 0.122  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Thionazin                     | 0.306  | U         | 0.981 | 0.306  | ug/L | - | 06/16/16 12:35 | 06/24/16 03:14 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: EB01**

**Date Collected: 06/09/16 16:15**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-10**

**Matrix: Water**

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

| Analyte            | Result    | Qualifier | RL       | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|-------|------|---|----------------|----------------|---------|
| Tokuthion          | 0.121     | U         | 1.57     | 0.121 | ug/L |   | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Trichloronate      | 0.237     | U         | 1.47     | 0.237 | ug/L |   | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Surrogate          | %Recovery | Qualifier | Limits   |       |      |   | Prepared       | Analyzed       | Dil Fac |
| Chlormefos         | 86        |           | 49 - 171 |       |      |   | 06/16/16 12:35 | 06/24/16 03:14 | 1       |
| Triphenylphosphate | 94        |           | 60 - 154 |       |      |   | 06/16/16 12:35 | 06/24/16 03:14 | 1       |

## Method: 8151A - Herbicides (GC)

| Analyte           | Result    | Qualifier | RL             | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|-----------|-----------|----------------|--------|------|---|----------------|----------------|---------|
| 2,4-D             | 0.0400    | U         | 0.200          | 0.0400 | ug/L |   | 06/16/16 07:18 | 06/17/16 20:52 | 1       |
| 2,4-DB            | 0.0500    | U         | 0.200          | 0.0500 | ug/L |   | 06/16/16 07:18 | 06/17/16 20:52 | 1       |
| Dicamba           | 0.0100    | U         | 0.200          | 0.0100 | ug/L |   | 06/16/16 07:18 | 06/17/16 20:52 | 1       |
| Dichlorprop       | 0.0300    | U         | 0.200          | 0.0300 | ug/L |   | 06/16/16 07:18 | 06/17/16 20:52 | 1       |
| Dinoseb           | 0.0200    | U *       | 0.200          | 0.0200 | ug/L |   | 06/16/16 07:18 | 06/17/16 20:52 | 1       |
| MCPA              | 5.78      | U         | 20.0           | 5.78   | ug/L |   | 06/16/16 07:18 | 06/17/16 20:52 | 1       |
| Mecoprop          | 2.64      | U         | 20.0           | 2.64   | ug/L |   | 06/16/16 07:18 | 06/17/16 20:52 | 1       |
| Silvex (2,4,5-TP) | 0.0200    | U         | 0.200          | 0.0200 | ug/L |   | 06/16/16 07:18 | 06/17/16 20:52 | 1       |
| 2,4,5-T           | 0.0200    | U         | 0.200          | 0.0200 | ug/L |   | 06/16/16 07:18 | 06/17/16 20:52 | 1       |
| Surrogate         | %Recovery | Qualifier | Limits         |        |      |   | Prepared       | Analyzed       | Dil Fac |
| 2,4-DCAA          | 86        |           | 10 - 125.<br>2 |        |      |   | 06/16/16 07:18 | 06/17/16 20:52 | 1       |

## Method: 300.0 - Anions, Ion Chromatography

| Analyte      | Result | Qualifier | RL    | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| Bromide      | 0.101  | U         | 0.400 | 0.101  | mg/L |   |          | 06/15/16 16:24 | 1       |
| Nitrate as N | 0.115  | J H       | 0.200 | 0.0251 | mg/L |   |          | 06/15/16 16:24 | 1       |
| Chloride     | 6.74   |           | 0.400 | 0.0534 | mg/L |   |          | 06/15/16 16:24 | 1       |
| Sulfate      | 0.0957 | U         | 0.500 | 0.0957 | mg/L |   |          | 06/15/16 16:24 | 1       |

## General Chemistry

| Analyte                         | Result | Qualifier | RL    | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------------|--------|-----------|-------|--------|------|---|----------------|----------------|---------|
| Fluoride                        | 0.0200 | J         | 0.100 | 0.0200 | mg/L |   |                | 06/14/16 09:00 | 1       |
| Nitrogen, Kjeldahl              | 0.432  | U         | 1.00  | 0.432  | mg/L |   |                | 06/16/16 12:34 | 1       |
| Phosphorus                      | 0.0410 | U         | 0.100 | 0.0410 | mg/L |   | 06/21/16 08:56 | 06/22/16 12:11 | 1       |
| Total Organic Carbon            | 0.461  | J         | 1.00  | 0.437  | mg/L |   |                | 06/23/16 23:46 | 1       |
| pH                              | 7.96   | HF        | 0.100 | 0.100  | SU   |   |                | 06/16/16 15:50 | 1       |
| Alkalinity                      | 5.00   | U         | 5.00  | 5.00   | mg/L |   |                | 06/16/16 10:10 | 1       |
| Bicarbonate Alkalinity as CaCO3 | 5.00   | U         | 5.00  | 5.00   | mg/L |   |                | 06/16/16 10:10 | 1       |
| Carbonate Alkalinity as CaCO3   | 5.00   | U         | 5.00  | 5.00   | mg/L |   |                | 06/16/16 10:10 | 1       |

**Client Sample ID: EB02**

**Date Collected: 06/09/16 16:05**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-11**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte         | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Acetone         | 5.00   | U         | 10.0 | 5.00  | ug/L |   |          | 06/17/16 15:18 | 1       |
| Acetonitrile    | 10.0   | U         | 50.0 | 10.0  | ug/L |   |          | 06/17/16 15:18 | 1       |
| Benzene         | 0.330  | U         | 1.00 | 0.330 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Benzyl chloride | 0.278  | U         | 5.00 | 0.278 | ug/L |   |          | 06/17/16 15:18 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: EB02**

**Date Collected: 06/09/16 16:05**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-11**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                     | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Bromobenzene                | 0.128  | U         | 1.00 | 0.128 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Bromochloromethane          | 0.228  | U         | 1.00 | 0.228 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Bromoform                   | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Bromomethane                | 0.392  | U         | 5.00 | 0.392 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,3-Butadiene               | 0.300  | U         | 2.00 | 0.300 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 2-Butanone (MEK)            | 1.00   | U         | 10.0 | 1.00  | ug/L |   |          | 06/17/16 15:18 | 1       |
| Carbon disulfide            | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Carbon tetrachloride        | 0.251  | U         | 1.00 | 0.251 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Chlorobenzene               | 0.136  | U         | 1.00 | 0.136 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 2-Chloro-1,3-butadiene      | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Chlorodibromomethane        | 0.223  | U         | 2.00 | 0.223 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Chloroethane                | 0.400  | U         | 5.00 | 0.400 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Chloroform                  | 0.173  | U         | 1.00 | 0.173 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1-Chlorohexane              | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Chloromethane               | 0.390  | U         | 5.00 | 0.390 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 2-Chlorotoluene             | 0.155  | U         | 1.00 | 0.155 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 4-Chlorotoluene             | 0.242  | U         | 1.00 | 0.242 | ug/L |   |          | 06/17/16 15:18 | 1       |
| cis-1,4-Dichloro-2-butene   | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 15:18 | 1       |
| cis-1,2-Dichloroethene      | 0.121  | U         | 1.00 | 0.121 | ug/L |   |          | 06/17/16 15:18 | 1       |
| cis-1,3-Dichloropropene     | 0.146  | U         | 1.00 | 0.146 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Cyclohexanone               | 5.00   | U         | 50.0 | 5.00  | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,2-Dibromo-3-Chloropropane | 0.349  | U         | 5.00 | 0.349 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Dibromomethane              | 0.165  | U         | 1.00 | 0.165 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,3-Dichlorobenzene         | 0.128  | U         | 1.00 | 0.128 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,2-Dichlorobenzene         | 0.170  | U         | 1.00 | 0.170 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,4-Dichlorobenzene         | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Dichlorobromomethane        | 0.175  | U         | 1.00 | 0.175 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Dichlorodifluoromethane     | 0.429  | U         | 5.00 | 0.429 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,2-Dichloroethane          | 0.172  | U         | 1.00 | 0.172 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,1-Dichloroethane          | 0.168  | U         | 1.00 | 0.168 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,1-Dichloroethene          | 0.300  | U         | 1.00 | 0.300 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,2-Dichloroethene, Total   | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,2-Dichloropropane         | 0.173  | U         | 1.00 | 0.173 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 2,2-Dichloropropane         | 0.335  | U         | 1.00 | 0.335 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,3-Dichloropropane         | 0.146  | U         | 1.00 | 0.146 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,1-Dichloropropene         | 0.185  | U         | 1.00 | 0.185 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,3-Dichloropropene, Total  | 0.300  | U         | 1.00 | 0.300 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,4-Dioxane                 | 15.9   | U         | 100  | 15.9  | ug/L |   |          | 06/17/16 15:18 | 1       |
| EDB                         | 0.175  | U         | 1.00 | 0.175 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Ethyl acetate               | 1.00   | U         | 5.00 | 1.00  | ug/L |   |          | 06/17/16 15:18 | 1       |
| Ethylbenzene                | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Ethylene oxide              | 30.0   | U *       | 50.0 | 30.0  | ug/L |   |          | 06/17/16 15:18 | 1       |
| Ethyl ether                 | 0.320  | U         | 5.00 | 0.320 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Ethyl methacrylate          | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Hexachlorobutadiene         | 0.860  | U         | 5.00 | 0.860 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Hexane                      | 2.00   | U         | 5.00 | 2.00  | ug/L |   |          | 06/17/16 15:18 | 1       |
| 2-Hexanone                  | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Iodomethane                 | 0.223  | U         | 2.00 | 0.223 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Isobutyl alcohol            | 5.00   | U         | 50.0 | 5.00  | ug/L |   |          | 06/17/16 15:18 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: EB02**

**Date Collected: 06/09/16 16:05**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-11**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

| Analyte                               | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Isooctane                             | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Isopropylbenzene                      | 0.200  | U         | 5.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 4-Isopropyltoluene                    | 0.150  | U         | 1.00 | 0.150 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Methacrylonitrile                     | 2.00   | U         | 5.00 | 2.00  | ug/L |   |          | 06/17/16 15:18 | 1       |
| Methylene Chloride                    | 2.00   | U         | 10.0 | 2.00  | ug/L |   |          | 06/17/16 15:18 | 1       |
| Methyl methacrylate                   | 0.200  | U         | 5.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 4-Methyl-2-pentanone (MIBK)           | 0.510  | U         | 5.00 | 0.510 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Methyl tert-butyl ether               | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| m-Xylene & p-Xylene                   | 0.260  | U         | 2.00 | 0.260 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Naphthalene                           | 0.200  | U         | 5.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| n-Butylbenzene                        | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| n-Heptane                             | 0.300  | U         | 5.00 | 0.300 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 2-Nitropropane                        | 1.00   | U         | 10.0 | 1.00  | ug/L |   |          | 06/17/16 15:18 | 1       |
| N-Propylbenzene                       | 0.106  | U         | 1.00 | 0.106 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1-Octene                              | 0.440  | U         | 5.00 | 0.440 | ug/L |   |          | 06/17/16 15:18 | 1       |
| o-Xylene                              | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Pentachloroethane                     | 0.302  | U         | 5.00 | 0.302 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Propionitrile                         | 2.69   | U         | 10.0 | 2.69  | ug/L |   |          | 06/17/16 15:18 | 1       |
| sec-Butylbenzene                      | 0.300  | U         | 2.00 | 0.300 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Styrene                               | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| tert-Butylbenzene                     | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,1,2,2-Tetrachloroethane             | 0.190  | U         | 1.00 | 0.190 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,1,1,2-Tetrachloroethane             | 0.209  | U         | 1.00 | 0.209 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Tetrachloroethene                     | 0.189  | U         | 1.00 | 0.189 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Toluene                               | 0.495  | U         | 1.00 | 0.495 | ug/L |   |          | 06/17/16 15:18 | 1       |
| trans-1,4-Dichloro-2-butene           | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 15:18 | 1       |
| trans-1,2-Dichloroethene              | 0.200  | U         | 1.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| trans-1,3-Dichloropropene             | 0.200  | U         | 5.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,2,4-Trichlorobenzene                | 0.168  | U         | 5.00 | 0.168 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,2,3-Trichlorobenzene                | 0.217  | U         | 5.00 | 0.217 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,3,5-Trichlorobenzene                | 0.203  | U         | 5.00 | 0.203 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,1,1-Trichloroethane                 | 0.300  | U         | 1.00 | 0.300 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,1,2-Trichloroethane                 | 0.173  | U         | 1.00 | 0.173 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Trichloroethene                       | 0.317  | U         | 1.00 | 0.317 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Trichlorofluoromethane                | 0.244  | U         | 1.00 | 0.244 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,2,3-Trichloropropane                | 0.191  | U         | 1.00 | 0.191 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.410  | U         | 1.00 | 0.410 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,2,4-Trimethylbenzene                | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| 1,3,5-Trimethylbenzene                | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Vinyl acetate                         | 0.500  | U         | 5.00 | 0.500 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Vinyl chloride                        | 0.300  | U         | 1.00 | 0.300 | ug/L |   |          | 06/17/16 15:18 | 1       |
| Xylenes, Total                        | 0.200  | U         | 2.00 | 0.200 | ug/L |   |          | 06/17/16 15:18 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| Dibromofluoromethane (Surr)  | 100       |           | 69 - 130 |          | 06/17/16 15:18 | 1       |
| 4-Bromofluorobenzene (Surr)  | 110       |           | 70 - 130 |          | 06/17/16 15:18 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 106       |           | 70 - 140 |          | 06/17/16 15:18 | 1       |
| Toluene-d8 (Surr)            | 104       |           | 70 - 130 |          | 06/17/16 15:18 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

Client Sample ID: EB02

Date Collected: 06/09/16 16:05

Date Received: 06/10/16 08:00

Lab Sample ID: 560-62041-11

Matrix: Water

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

| Analyte                     | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| Acenaphthene                | 0.460  | U         | 10.0 | 0.460 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Acenaphthylene              | 0.452  | U         | 10.0 | 0.452 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Anthracene                  | 0.700  | U         | 10.0 | 0.700 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Benzo[a]anthracene          | 0.646  | U         | 10.0 | 0.646 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Benzo[a]pyrene              | 0.742  | U         | 10.0 | 0.742 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Benzo[b]fluoranthene        | 0.908  | U         | 10.0 | 0.908 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Benzo[g,h,i]perylene        | 1.10   | U         | 10.0 | 1.10  | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Benzo[k]fluoranthene        | 1.49   | U         | 10.0 | 1.49  | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Benzyl alcohol              | 0.827  | U         | 10.0 | 0.827 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Bis(2-chloroethoxy)methane  | 0.436  | U         | 10.0 | 0.436 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Bis(2-chloroethyl)ether     | 1.55   | U         | 10.0 | 1.55  | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Bis(2-ethylhexyl) phthalate | 19.4   | J         | 20.0 | 5.00  | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 4-Bromophenyl phenyl ether  | 0.811  | U         | 10.0 | 0.811 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Butyl benzyl phthalate      | 0.816  | U         | 10.0 | 0.816 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 4-Chloroaniline             | 0.549  | U         | 10.0 | 0.549 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 4-Chloro-3-methylphenol     | 0.586  | U         | 10.0 | 0.586 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2-Chloronaphthalene         | 0.603  | U         | 10.0 | 0.603 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2-Chlorophenol              | 0.729  | U         | 10.0 | 0.729 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 4-Chlorophenyl phenyl ether | 0.529  | U         | 10.0 | 0.529 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Chrysene                    | 0.494  | U         | 10.0 | 0.494 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Dibenz(a,h)anthracene       | 0.874  | U         | 10.0 | 0.874 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Dibenzofuran                | 0.485  | U         | 10.0 | 0.485 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 1,3-Dichlorobenzene         | 0.491  | U         | 10.0 | 0.491 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 1,4-Dichlorobenzene         | 0.815  | U         | 10.0 | 0.815 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 1,2-Dichlorobenzene         | 0.775  | U         | 10.0 | 0.775 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 3,3'-Dichlorobenzidine      | 0.787  | U         | 10.0 | 0.787 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2,4-Dichlorophenol          | 0.704  | U         | 10.0 | 0.704 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Diethyl phthalate           | 0.666  | U         | 10.0 | 0.666 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2,4-Dimethylphenol          | 0.593  | U         | 10.0 | 0.593 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Dimethyl phthalate          | 0.589  | U         | 10.0 | 0.589 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Di-n-butyl phthalate        | 0.709  | U         | 10.0 | 0.709 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 4,6-Dinitro-2-methylphenol  | 0.959  | U         | 10.0 | 0.959 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2,4-Dinitrophenol           | 2.69   | U         | 20.0 | 2.69  | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2,6-Dinitrotoluene          | 0.762  | U         | 10.0 | 0.762 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2,4-Dinitrotoluene          | 0.509  | U         | 20.0 | 0.509 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Di-n-octyl phthalate        | 1.11   | U         | 10.0 | 1.11  | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Fluoranthene                | 0.496  | U         | 10.0 | 0.496 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Fluorene                    | 0.421  | U         | 10.0 | 0.421 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Hexachlorobenzene           | 0.602  | U         | 10.0 | 0.602 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Hexachlorobutadiene         | 0.716  | U         | 10.0 | 0.716 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Hexachlorocyclopentadiene   | 0.839  | U         | 10.0 | 0.839 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Hexachloroethane            | 0.589  | U         | 10.0 | 0.589 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Indeno[1,2,3-cd]pyrene      | 0.922  | U         | 10.0 | 0.922 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Isophorone                  | 0.549  | U         | 10.0 | 0.549 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2-Methylnaphthalene         | 0.702  | U         | 10.0 | 0.702 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2-Methylphenol              | 0.610  | U         | 10.0 | 0.610 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 3 & 4 Methylphenol          | 0.763  | U         | 20.0 | 0.763 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Naphthalene                 | 0.787  | U         | 10.0 | 0.787 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2-Nitroaniline              | 0.766  | U         | 10.0 | 0.766 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

Client Sample ID: EB02

Date Collected: 06/09/16 16:05

Date Received: 06/10/16 08:00

Lab Sample ID: 560-62041-11

Matrix: Water

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                   | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| 3-Nitroaniline            | 0.512  | U         | 10.0 | 0.512 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 4-Nitroaniline            | 0.819  | U         | 10.0 | 0.819 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Nitrobenzene              | 0.587  | U         | 10.0 | 0.587 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2-Nitrophenol             | 0.808  | U         | 10.0 | 0.808 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 4-Nitrophenol             | 1.73   | U         | 10.0 | 1.73  | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| N-Nitrosodi-n-propylamine | 0.620  | U         | 10.0 | 0.620 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| N-Nitrosodiphenylamine    | 1.03   | U         | 10.0 | 1.03  | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Pentachlorophenol         | 1.32   | U         | 20.0 | 1.32  | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Phenanthrene              | 0.591  | U         | 10.0 | 0.591 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Phenol                    | 2.17   | J         | 10.0 | 0.768 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Pyrene                    | 0.440  | U         | 10.0 | 0.440 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 1,2,4-Trichlorobenzene    | 0.647  | U         | 10.0 | 0.647 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2,4,6-Trichlorophenol     | 0.658  | U         | 10.0 | 0.658 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2,4,5-Trichlorophenol     | 0.861  | U         | 10.0 | 0.861 | ug/L |   | 06/15/16 15:07 | 06/16/16 22:20 | 1       |

| Surrogate            | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2-Fluorophenol       | 71        |           | 10 - 130 | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Nitrobenzene-d5      | 69        |           | 27 - 130 | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2-Fluorobiphenyl     | 71        |           | 23 - 130 | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| 2,4,6-Tribromophenol | 79        |           | 18 - 130 | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Terphenyl-d14        | 78        |           | 10 - 141 | 06/15/16 15:07 | 06/16/16 22:20 | 1       |
| Phenol-d5 (Surr)     | 74        |           | 10 - 130 | 06/15/16 15:07 | 06/16/16 22:20 | 1       |

## Method: 8081B - Organochlorine Pesticides (GC)

| Analyte             | Result  | Qualifier | RL     | MDL     | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|---------|-----------|--------|---------|------|---|----------------|----------------|---------|
| Aldrin              | 0.00470 | U         | 0.0565 | 0.00470 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| alpha-BHC           | 0.00489 | U         | 0.0565 | 0.00489 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| alpha-Chlordane     | 0.00593 | U         | 0.0565 | 0.00593 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| beta-BHC            | 0.00470 | U         | 0.0565 | 0.00470 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| 4,4'-DDD            | 0.00470 | U         | 0.0565 | 0.00470 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| 4,4'-DDE            | 0.00470 | U         | 0.0565 | 0.00470 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| 4,4'-DDT            | 0.00762 | U         | 0.0565 | 0.00762 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| delta-BHC           | 0.00470 | U         | 0.0565 | 0.00470 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| Dieldrin            | 0.0122  | U         | 0.0565 | 0.0122  | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| Endosulfan I        | 0.00470 | U         | 0.0565 | 0.00470 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| Endosulfan II       | 0.00809 | U         | 0.0565 | 0.00809 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| Endosulfan sulfate  | 0.00828 | U         | 0.0565 | 0.00828 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| Endrin              | 0.00724 | U         | 0.0565 | 0.00724 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| Endrin aldehyde     | 0.00470 | U         | 0.0565 | 0.00470 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| Endrin ketone       | 0.00772 | U         | 0.0565 | 0.00772 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| gamma-BHC (Lindane) | 0.00423 | U         | 0.0565 | 0.00423 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| gamma-Chlordane     | 0.00630 | U         | 0.0565 | 0.00630 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| Heptachlor          | 0.00612 | U         | 0.0565 | 0.00612 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| Heptachlor epoxide  | 0.00489 | U         | 0.0565 | 0.00489 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| Methoxychlor        | 0.00941 | U         | 0.0565 | 0.00941 | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| Toxaphene           | 0.640   | U         | 5.65   | 0.640   | ug/L |   | 06/16/16 11:03 | 06/20/16 15:38 | 1       |

| Surrogate              | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 83        |           | 57 - 127 | 06/16/16 11:03 | 06/20/16 15:38 | 1       |
| DCB Decachlorobiphenyl | 65        |           | 10 - 152 | 06/16/16 11:03 | 06/20/16 15:38 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: EB02**

**Date Collected: 06/09/16 16:05**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-11**

**Matrix: Water**

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte      | Result | Qualifier | RL    | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| PCB-1016     | 0.103  | U         | 0.565 | 0.103 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:22 | 1       |
| PCB-1221     | 0.103  | U         | 0.565 | 0.103 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:22 | 1       |
| PCB-1232     | 0.414  | U         | 0.753 | 0.414 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:22 | 1       |
| PCB-1242     | 0.103  | U         | 0.565 | 0.103 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:22 | 1       |
| PCB-1248     | 0.103  | U         | 0.565 | 0.103 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:22 | 1       |
| PCB-1254     | 0.103  | U         | 0.565 | 0.103 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:22 | 1       |
| PCB-1260     | 0.103  | U         | 0.565 | 0.103 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:22 | 1       |
| Aroclor 1262 | 0.103  | U         | 0.565 | 0.103 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:22 | 1       |
| Aroclor 1268 | 0.103  | U         | 0.565 | 0.103 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:22 | 1       |

| Surrogate              | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 118       |           | 10 - 150 | 06/16/16 11:03 | 06/20/16 13:22 | 1       |
| DCB Decachlorobiphenyl | 101       |           | 10 - 150 | 06/16/16 11:03 | 06/20/16 13:22 | 1       |

## Method: 8141A - Organophosphorous Pesticides (GC)

| Analyte                       | Result | Qualifier | RL    | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|--------|-----------|-------|--------|------|---|----------------|----------------|---------|
| Azinophos methyl              | 0.174  | U         | 2.59  | 0.174  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Bolstar                       | 0.326  | U         | 1.04  | 0.326  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Chlorpyrifos                  | 0.373  | U         | 1.56  | 0.373  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Coumaphos                     | 0.140  | U         | 1.04  | 0.140  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Demeton-O                     | 0.145  | U         | 1.04  | 0.145  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Demeton-S                     | 0.0715 | U         | 2.07  | 0.0715 | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Diazinon                      | 0.152  | U         | 0.518 | 0.152  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Dichlorvos                    | 0.168  | U         | 0.518 | 0.168  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Dimethoate                    | 0.465  | U         | 1.56  | 0.465  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Disulfoton                    | 0.334  | U         | 1.04  | 0.334  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| EPN                           | 0.154  | U         | 1.24  | 0.154  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Ethoprop                      | 0.183  | U         | 1.56  | 0.183  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Ethyl Parathion               | 0.149  | U         | 1.04  | 0.149  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Famphur                       | 0.186  | U         | 1.04  | 0.186  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Fensulfothion                 | 0.564  | U         | 2.59  | 0.564  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Fenthion                      | 0.160  | U         | 2.59  | 0.160  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Malathion                     | 0.138  | U         | 2.07  | 0.138  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Merphos                       | 0.180  | U         | 5.18  | 0.180  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Methyl parathion              | 0.146  | U         | 4.15  | 0.146  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Mevinphos                     | 0.477  | U         | 6.43  | 0.477  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Naled                         | 0.829  | U         | 2.07  | 0.829  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Phorate                       | 0.160  | U         | 1.24  | 0.160  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Ronnel                        | 0.120  | U         | 10.4  | 0.120  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Sulfotepp                     | 0.174  | U         | 1.56  | 0.174  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Tetrachlorvinphos (Stirophos) | 0.129  | U         | 3.63  | 0.129  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Thionazin                     | 0.323  | U         | 1.04  | 0.323  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Tokuthion                     | 0.128  | U         | 1.66  | 0.128  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Trichloronate                 | 0.251  | U         | 1.56  | 0.251  | ug/L |   | 06/16/16 12:35 | 06/24/16 03:44 | 1       |

| Surrogate          | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------------|-----------|-----------|----------|----------------|----------------|---------|
| Chlormefos         | 79        |           | 49 - 171 | 06/16/16 12:35 | 06/24/16 03:44 | 1       |
| Triphenylphosphate | 99        |           | 60 - 154 | 06/16/16 12:35 | 06/24/16 03:44 | 1       |

TestAmerica Corpus Christi



# Client Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

**Client Sample ID: EB02**

**Date Collected: 06/09/16 16:05**

**Date Received: 06/10/16 08:00**

**Lab Sample ID: 560-62041-11**

**Matrix: Water**

## Method: 8151A - Herbicides (GC)

| Analyte           | Result    | Qualifier | RL             | MDL     | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|-----------|-----------|----------------|---------|------|---|----------------|----------------|---------|
| 2,4-D             | 0.0388    | U         | 0.194          | 0.0388  | ug/L |   | 06/16/16 07:18 | 06/17/16 21:17 | 1       |
| 2,4-DB            | 0.0485    | U         | 0.194          | 0.0485  | ug/L |   | 06/16/16 07:18 | 06/17/16 21:17 | 1       |
| Dicamba           | 0.00971   | U         | 0.194          | 0.00971 | ug/L |   | 06/16/16 07:18 | 06/17/16 21:17 | 1       |
| Dichlorprop       | 0.0291    | U         | 0.194          | 0.0291  | ug/L |   | 06/16/16 07:18 | 06/17/16 21:17 | 1       |
| Dinoseb           | 0.0194    | U *       | 0.194          | 0.0194  | ug/L |   | 06/16/16 07:18 | 06/17/16 21:17 | 1       |
| MCPA              | 5.61      | U         | 19.4           | 5.61    | ug/L |   | 06/16/16 07:18 | 06/17/16 21:17 | 1       |
| Mecoprop          | 2.56      | U         | 19.4           | 2.56    | ug/L |   | 06/16/16 07:18 | 06/17/16 21:17 | 1       |
| Silvex (2,4,5-TP) | 0.0194    | U         | 0.194          | 0.0194  | ug/L |   | 06/16/16 07:18 | 06/17/16 21:17 | 1       |
| 2,4,5-T           | 0.0194    | U         | 0.194          | 0.0194  | ug/L |   | 06/16/16 07:18 | 06/17/16 21:17 | 1       |
| Surrogate         | %Recovery | Qualifier | Limits         |         |      |   | Prepared       | Analyzed       | Dil Fac |
| 2,4-DCAA          | 95        |           | 10 - 125.<br>2 |         |      |   | 06/16/16 07:18 | 06/17/16 21:17 | 1       |

## Method: 300.0 - Anions, Ion Chromatography

| Analyte      | Result | Qualifier | RL    | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|-------|--------|------|---|----------|----------------|---------|
| Bromide      | 0.101  | U         | 0.400 | 0.101  | mg/L |   |          | 06/15/16 16:44 | 1       |
| Nitrate as N | 0.116  | J H       | 0.200 | 0.0251 | mg/L |   |          | 06/15/16 16:44 | 1       |
| Chloride     | 7.35   |           | 0.400 | 0.0534 | mg/L |   |          | 06/15/16 16:44 | 1       |
| Sulfate      | 0.0957 | U         | 0.500 | 0.0957 | mg/L |   |          | 06/15/16 16:44 | 1       |

## General Chemistry

| Analyte                         | Result | Qualifier | RL    | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------------|--------|-----------|-------|--------|------|---|----------------|----------------|---------|
| Fluoride                        | 0.0200 | U         | 0.100 | 0.0200 | mg/L |   |                | 06/14/16 09:00 | 1       |
| Nitrogen, Kjeldahl              | 0.432  | U         | 1.00  | 0.432  | mg/L |   |                | 06/16/16 12:35 | 1       |
| Phosphorus                      | 0.0410 | U         | 0.100 | 0.0410 | mg/L |   | 06/21/16 08:56 | 06/22/16 12:10 | 1       |
| Total Organic Carbon            | 0.473  | J         | 1.00  | 0.437  | mg/L |   |                | 06/24/16 01:47 | 1       |
| pH                              | 8.06   | HF        | 0.100 | 0.100  | SU   |   |                | 06/16/16 15:50 | 1       |
| Alkalinity                      | 5.00   | U         | 5.00  | 5.00   | mg/L |   |                | 06/16/16 10:10 | 1       |
| Bicarbonate Alkalinity as CaCO3 | 5.00   | U         | 5.00  | 5.00   | mg/L |   |                | 06/16/16 10:10 | 1       |
| Carbonate Alkalinity as CaCO3   | 5.00   | U         | 5.00  | 5.00   | mg/L |   |                | 06/16/16 10:10 | 1       |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-128952/8

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                     | MB Result | MB Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|--------------|------|-------|-------|---|----------|----------------|---------|
| Acetone                     | 7.20      | U            | 50.0 | 7.20  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Acetonitrile                | 37.0      | U            | 50.0 | 37.0  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Benzene                     | 0.630     | U            | 5.00 | 0.630 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Benzyl chloride             | 0.500     | U            | 5.00 | 0.500 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Bromobenzene                | 0.740     | U            | 5.00 | 0.740 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Bromochloromethane          | 0.900     | U            | 5.00 | 0.900 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Bromoform                   | 0.510     | U            | 5.00 | 0.510 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Bromomethane                | 1.10      | U            | 5.00 | 1.10  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,3-Butadiene               | 0.300     | U            | 5.00 | 0.300 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 2-Butanone (MEK)            | 1.90      | U            | 10.0 | 1.90  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Carbon disulfide            | 1.00      | U            | 5.00 | 1.00  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Carbon tetrachloride        | 0.510     | U            | 5.00 | 0.510 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Chlorobenzene               | 0.300     | U            | 5.00 | 0.300 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 2-Chloro-1,3-butadiene      | 0.690     | U            | 5.00 | 0.690 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Chlorodibromomethane        | 0.640     | U            | 5.00 | 0.640 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Chloroethane                | 0.260     | U            | 5.00 | 0.260 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Chloroform                  | 0.870     | U            | 5.00 | 0.870 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1-Chlorohexane              | 0.550     | U            | 5.00 | 0.550 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Chloromethane               | 1.20      | U            | 5.00 | 1.20  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 2-Chlorotoluene             | 0.300     | U            | 5.00 | 0.300 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 4-Chlorotoluene             | 0.690     | U            | 5.00 | 0.690 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| cis-1,4-Dichloro-2-butene   | 0.320     | U            | 5.00 | 0.320 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Cyclohexane                 | 0.990     | U            | 10.0 | 0.990 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| cis-1,2-Dichloroethene      | 0.570     | U            | 5.00 | 0.570 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| cis-1,3-Dichloropropene     | 0.200     | U            | 5.00 | 0.200 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Cyclohexanone               | 10.0      | U            | 100  | 10.0  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,2-Dibromo-3-Chloropropane | 0.330     | U            | 5.00 | 0.330 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Dibromomethane              | 0.710     | U            | 5.00 | 0.710 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,3-Dichlorobenzene         | 0.310     | U            | 5.00 | 0.310 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,2-Dichlorobenzene         | 0.250     | U            | 5.00 | 0.250 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,4-Dichlorobenzene         | 0.320     | U            | 5.00 | 0.320 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Dichlorobromomethane        | 0.200     | U            | 5.00 | 0.200 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Dichlorodifluoromethane     | 0.730     | U            | 5.00 | 0.730 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,2-Dichloroethane          | 0.520     | U            | 5.00 | 0.520 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,1-Dichloroethane          | 0.590     | U            | 5.00 | 0.590 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,1-Dichloroethene          | 0.500     | U            | 5.00 | 0.500 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,2-Dichloroethene, Total   | 0.500     | U            | 5.00 | 0.500 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,2-Dichloropropane         | 0.500     | U            | 5.00 | 0.500 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 2,2-Dichloropropane         | 0.840     | U            | 5.00 | 0.840 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,3-Dichloropropane         | 0.300     | U            | 5.00 | 0.300 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,1-Dichloropropene         | 0.520     | U            | 5.00 | 0.520 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,3-Dichloropropene, Total  | 0.520     | U            | 5.00 | 0.520 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,4-Dioxane                 | 19.0      | U            | 100  | 19.0  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| EDB                         | 0.300     | U            | 5.00 | 0.300 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Ethyl acetate               | 2.81      | U            | 5.00 | 2.81  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Ethylbenzene                | 0.450     | U            | 5.00 | 0.450 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Ethylene oxide              | 30.0      | U            | 100  | 30.0  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Ethyl ether                 | 0.500     | U            | 25.0 | 0.500 | ug/Kg |   |          | 06/15/16 11:35 | 1       |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-128952/8

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                               | MB Result | MB Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|-----------|--------------|------|-------|-------|---|----------|----------------|---------|
| Ethyl methacrylate                    | 0.510     | U            | 5.00 | 0.510 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Hexachlorobutadiene                   | 0.640     | U            | 5.00 | 0.640 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Hexane                                | 1.30      | U            | 5.00 | 1.30  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 2-Hexanone                            | 1.50      | U            | 10.0 | 1.50  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Iodomethane                           | 0.800     | U            | 5.00 | 0.800 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Isobutyl alcohol                      | 68.0      | U            | 250  | 68.0  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Isooctane                             | 0.500     | U            | 5.00 | 0.500 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Isopropylbenzene                      | 0.500     | U            | 5.00 | 0.500 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 4-Isopropyltoluene                    | 0.395     | U            | 5.00 | 0.395 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Methacrylonitrile                     | 2.40      | U            | 50.0 | 2.40  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Methylene Chloride                    | 5.488     | J            | 25.0 | 5.00  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Methyl methacrylate                   | 1.10      | U            | 5.00 | 1.10  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 4-Methyl-2-pentanone (MIBK)           | 1.50      | U            | 10.0 | 1.50  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Methyl tert-butyl ether               | 0.610     | U            | 5.00 | 0.610 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| m-Xylene & p-Xylene                   | 0.500     | U            | 10.0 | 0.500 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Naphthalene                           | 1.20      | U            | 10.0 | 1.20  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| n-Butylbenzene                        | 0.270     | U            | 5.00 | 0.270 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| n-Heptane                             | 0.530     | U            | 5.00 | 0.530 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 2-Nitropropane                        | 0.520     | U            | 10.0 | 0.520 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| N-Propylbenzene                       | 0.300     | U            | 5.00 | 0.300 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1-Octene                              | 0.500     | U            | 5.00 | 0.500 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| o-Xylene                              | 0.400     | U            | 5.00 | 0.400 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Pentachloroethane                     | 1.40      | U            | 5.00 | 1.40  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Propionitrile                         | 4.90      | U            | 50.0 | 4.90  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| sec-Butylbenzene                      | 0.300     | U            | 5.00 | 0.300 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Styrene                               | 0.300     | U            | 5.00 | 0.300 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| tert-Butylbenzene                     | 0.250     | U            | 5.00 | 0.250 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,1,2,2-Tetrachloroethane             | 0.380     | U            | 5.00 | 0.380 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,1,1,2-Tetrachloroethane             | 0.270     | U            | 5.00 | 0.270 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Tetrachloroethene                     | 0.740     | U            | 5.00 | 0.740 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Toluene                               | 0.900     | U            | 5.00 | 0.900 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| trans-1,4-Dichloro-2-butene           | 0.880     | U            | 5.00 | 0.880 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| trans-1,2-Dichloroethene              | 0.500     | U            | 5.00 | 0.500 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| trans-1,3-Dichloropropene             | 0.520     | U            | 5.00 | 0.520 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,2,4-Trichlorobenzene                | 0.970     | U            | 5.00 | 0.970 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,2,3-Trichlorobenzene                | 0.440     | U            | 5.00 | 0.440 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,3,5-Trichlorobenzene                | 0.310     | U            | 5.00 | 0.310 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,1,1-Trichloroethane                 | 0.500     | U            | 5.00 | 0.500 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,1,2-Trichloroethane                 | 0.500     | U            | 5.00 | 0.500 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Trichloroethene                       | 0.280     | U            | 5.00 | 0.280 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Trichlorofluoromethane                | 0.500     | U            | 5.00 | 0.500 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,2,3-Trichloropropane                | 0.760     | U            | 5.00 | 0.760 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.670     | U            | 5.00 | 0.670 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,2,4-Trimethylbenzene                | 0.380     | U            | 5.00 | 0.380 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| 1,3,5-Trimethylbenzene                | 0.350     | U            | 5.00 | 0.350 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Vinyl acetate                         | 1.10      | U            | 5.00 | 1.10  | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Vinyl chloride                        | 0.600     | U            | 5.00 | 0.600 | ug/Kg |   |          | 06/15/16 11:35 | 1       |
| Xylenes, Total                        | 0.500     | U            | 10.0 | 0.500 | ug/Kg |   |          | 06/15/16 11:35 | 1       |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-128952/8

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: Method Blank

Prep Type: Total/NA

| Surrogate                    | MB<br>%Recovery | MB<br>Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------------|-----------------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr)  | 99              |                 | 61 - 142 |          | 06/15/16 11:35 | 1       |
| Dibromofluoromethane (Surr)  | 99              |                 | 50 - 136 |          | 06/15/16 11:35 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 106             |                 | 65 - 152 |          | 06/15/16 11:35 | 1       |
| Toluene-d8 (Surr)            | 94              |                 | 65 - 139 |          | 06/15/16 11:35 | 1       |

Lab Sample ID: LCS 560-128952/3

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte                     | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit  | D | %Rec | %Rec.<br>Limits |
|-----------------------------|----------------|---------------|------------------|-------|---|------|-----------------|
| Acetone                     | 125            | 120.2         |                  | ug/Kg |   | 96   | 41 - 173        |
| Acetonitrile                | 250            | 285.4         |                  | ug/Kg |   | 114  | 28 - 183        |
| Benzene                     | 25.0           | 23.05         |                  | ug/Kg |   | 92   | 70 - 131        |
| Benzyl chloride             | 25.0           | 21.38         |                  | ug/Kg |   | 86   | 52 - 135        |
| Bromobenzene                | 25.0           | 21.82         |                  | ug/Kg |   | 87   | 70 - 130        |
| Bromochloromethane          | 25.0           | 23.15         |                  | ug/Kg |   | 93   | 70 - 130        |
| Bromoform                   | 25.0           | 20.19         |                  | ug/Kg |   | 81   | 59 - 128        |
| Bromomethane                | 25.0           | 25.93         |                  | ug/Kg |   | 104  | 57 - 155        |
| 1,3-Butadiene               | 25.0           | 23.41         |                  | ug/Kg |   | 94   | 52 - 141        |
| 2-Butanone (MEK)            | 125            | 117.6         |                  | ug/Kg |   | 94   | 48 - 146        |
| Carbon disulfide            | 25.0           | 23.82         |                  | ug/Kg |   | 95   | 70 - 138        |
| Carbon tetrachloride        | 25.0           | 24.13         |                  | ug/Kg |   | 97   | 70 - 136        |
| Chlorobenzene               | 25.0           | 22.33         |                  | ug/Kg |   | 89   | 70 - 130        |
| 2-Chloro-1,3-butadiene      | 25.0           | 23.88         |                  | ug/Kg |   | 96   | 70 - 139        |
| Chlorodibromomethane        | 25.0           | 21.41         |                  | ug/Kg |   | 86   | 70 - 130        |
| Chloroethane                | 25.0           | 22.73         |                  | ug/Kg |   | 91   | 62 - 146        |
| Chloroform                  | 25.0           | 23.88         |                  | ug/Kg |   | 96   | 70 - 130        |
| 1-Chlorohexane              | 25.0           | 23.95         |                  | ug/Kg |   | 96   | 70 - 130        |
| Chloromethane               | 25.0           | 25.08         |                  | ug/Kg |   | 100  | 61 - 137        |
| 2-Chlorotoluene             | 25.0           | 21.79         |                  | ug/Kg |   | 87   | 70 - 130        |
| 4-Chlorotoluene             | 25.0           | 22.70         |                  | ug/Kg |   | 91   | 70 - 130        |
| cis-1,4-Dichloro-2-butene   | 25.0           | 20.09         |                  | ug/Kg |   | 80   | 52 - 154        |
| Cyclohexane                 | 25.0           | 23.79         |                  | ug/Kg |   | 95   | 70 - 130        |
| cis-1,2-Dichloroethene      | 25.0           | 24.07         |                  | ug/Kg |   | 96   | 70 - 130        |
| cis-1,3-Dichloropropene     | 25.0           | 22.01         |                  | ug/Kg |   | 88   | 70 - 130        |
| Cyclohexanone               | 125            | 103.2         |                  | ug/Kg |   | 83   | 45 - 159        |
| 1,2-Dibromo-3-Chloropropane | 25.0           | 16.16         |                  | ug/Kg |   | 65   | 51 - 135        |
| Dibromomethane              | 25.0           | 22.61         |                  | ug/Kg |   | 90   | 70 - 130        |
| 1,3-Dichlorobenzene         | 25.0           | 21.81         |                  | ug/Kg |   | 87   | 70 - 130        |
| 1,2-Dichlorobenzene         | 25.0           | 22.51         |                  | ug/Kg |   | 90   | 70 - 130        |
| 1,4-Dichlorobenzene         | 25.0           | 22.34         |                  | ug/Kg |   | 89   | 70 - 130        |
| Dichlorobromomethane        | 25.0           | 23.18         |                  | ug/Kg |   | 93   | 70 - 130        |
| Dichlorodifluoromethane     | 25.0           | 24.75         |                  | ug/Kg |   | 99   | 62 - 146        |
| 1,2-Dichloroethane          | 25.0           | 23.70         |                  | ug/Kg |   | 95   | 70 - 130        |
| 1,1-Dichloroethane          | 25.0           | 22.70         |                  | ug/Kg |   | 91   | 70 - 130        |
| 1,1-Dichloroethene          | 25.0           | 23.86         |                  | ug/Kg |   | 95   | 70 - 130        |
| 1,2-Dichloroethene, Total   | 50.0           | 48.37         |                  | ug/Kg |   | 97   | 70 - 130        |
| 1,2-Dichloropropane         | 25.0           | 23.86         |                  | ug/Kg |   | 95   | 70 - 130        |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-128952/3

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte                     | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|-----------------------------|-------------|------------|---------------|-------|---|------|--------------|
| 2,2-Dichloropropane         | 25.0        | 25.90      |               | ug/Kg |   | 104  | 64 - 154     |
| 1,3-Dichloropropane         | 25.0        | 22.19      |               | ug/Kg |   | 89   | 70 - 130     |
| 1,1-Dichloropropene         | 25.0        | 22.82      |               | ug/Kg |   | 91   | 70 - 130     |
| 1,4-Dioxane                 | 500         | 501.9      |               | ug/Kg |   | 100  | 42 - 173     |
| EDB                         | 25.0        | 22.12      |               | ug/Kg |   | 88   | 70 - 130     |
| Ethyl acetate               | 50.0        | 47.41      |               | ug/Kg |   | 95   | 55 - 160     |
| Ethylbenzene                | 25.0        | 22.03      |               | ug/Kg |   | 88   | 70 - 130     |
| Ethylene oxide              | 250         | 229.4      |               | ug/Kg |   | 92   | 31 - 161     |
| Ethyl ether                 | 25.0        | 22.91      | J             | ug/Kg |   | 92   | 70 - 130     |
| Ethyl methacrylate          | 25.0        | 19.71      |               | ug/Kg |   | 79   | 51 - 138     |
| Hexachlorobutadiene         | 25.0        | 23.28      |               | ug/Kg |   | 93   | 68 - 138     |
| Hexane                      | 25.0        | 22.56      |               | ug/Kg |   | 90   | 70 - 137     |
| 2-Hexanone                  | 125         | 107.6      |               | ug/Kg |   | 86   | 53 - 135     |
| Iodomethane                 | 25.0        | 24.10      |               | ug/Kg |   | 96   | 70 - 136     |
| Isobutyl alcohol            | 625         | 520.2      |               | ug/Kg |   | 83   | 12 - 200     |
| Isooctane                   | 25.0        | 23.54      |               | ug/Kg |   | 94   | 65 - 140     |
| Isopropylbenzene            | 25.0        | 22.43      |               | ug/Kg |   | 90   | 70 - 134     |
| 4-Isopropyltoluene          | 25.0        | 22.09      |               | ug/Kg |   | 88   | 70 - 130     |
| Methacrylonitrile           | 250         | 230.1      |               | ug/Kg |   | 92   | 70 - 130     |
| Methylene Chloride          | 25.0        | 27.27      |               | ug/Kg |   | 109  | 61 - 150     |
| Methyl methacrylate         | 50.0        | 43.83      |               | ug/Kg |   | 88   | 62 - 130     |
| 4-Methyl-2-pentanone (MIBK) | 125         | 110.6      |               | ug/Kg |   | 88   | 57 - 133     |
| Methyl tert-butyl ether     | 25.0        | 22.68      |               | ug/Kg |   | 91   | 70 - 130     |
| m-Xylene & p-Xylene         | 25.0        | 21.16      |               | ug/Kg |   | 85   | 70 - 130     |
| Naphthalene                 | 25.0        | 19.83      |               | ug/Kg |   | 79   | 64 - 140     |
| n-Butylbenzene              | 25.0        | 22.32      |               | ug/Kg |   | 89   | 70 - 141     |
| n-Heptane                   | 25.0        | 23.77      |               | ug/Kg |   | 95   | 70 - 135     |
| 2-Nitropropane              | 50.0        | 38.16      |               | ug/Kg |   | 76   | 45 - 140     |
| N-Propylbenzene             | 25.0        | 22.61      |               | ug/Kg |   | 90   | 70 - 133     |
| 1-Octene                    | 25.0        | 22.71      |               | ug/Kg |   | 91   | 70 - 137     |
| o-Xylene                    | 25.0        | 21.44      |               | ug/Kg |   | 86   | 70 - 130     |
| Pentachloroethane           | 25.0        | 22.02      |               | ug/Kg |   | 88   | 70 - 132     |
| Propionitrile               | 250         | 233.2      |               | ug/Kg |   | 93   | 61 - 139     |
| sec-Butylbenzene            | 25.0        | 22.61      |               | ug/Kg |   | 90   | 70 - 130     |
| Styrene                     | 25.0        | 20.71      |               | ug/Kg |   | 83   | 70 - 130     |
| tert-Butylbenzene           | 25.0        | 23.20      |               | ug/Kg |   | 93   | 70 - 131     |
| 1,1,2,2-Tetrachloroethane   | 25.0        | 20.57      |               | ug/Kg |   | 82   | 61 - 130     |
| 1,1,1,2-Tetrachloroethane   | 25.0        | 22.09      |               | ug/Kg |   | 88   | 70 - 130     |
| Tetrachloroethene           | 25.0        | 22.12      |               | ug/Kg |   | 88   | 70 - 130     |
| Toluene                     | 25.0        | 22.09      |               | ug/Kg |   | 88   | 70 - 130     |
| trans-1,4-Dichloro-2-butene | 25.0        | 20.92      |               | ug/Kg |   | 84   | 56 - 132     |
| trans-1,2-Dichloroethene    | 25.0        | 24.30      |               | ug/Kg |   | 97   | 70 - 132     |
| trans-1,3-Dichloropropene   | 25.0        | 21.37      |               | ug/Kg |   | 85   | 70 - 131     |
| 1,2,4-Trichlorobenzene      | 25.0        | 22.37      |               | ug/Kg |   | 89   | 68 - 137     |
| 1,2,3-Trichlorobenzene      | 25.0        | 22.03      |               | ug/Kg |   | 88   | 66 - 135     |
| 1,3,5-Trichlorobenzene      | 25.0        | 23.38      |               | ug/Kg |   | 94   | 68 - 138     |
| 1,1,1-Trichloroethane       | 25.0        | 23.32      |               | ug/Kg |   | 93   | 70 - 132     |
| 1,1,2-Trichloroethane       | 25.0        | 21.43      |               | ug/Kg |   | 86   | 70 - 130     |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-128952/3

Matrix: Solid

Analysis Batch: 128952

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte                               | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|---------------------------------------|-------------|------------|---------------|-------|---|------|--------------|
| Trichloroethene                       | 25.0        | 23.01      |               | ug/Kg |   | 92   | 70 - 130     |
| Trichlorofluoromethane                | 25.0        | 26.42      |               | ug/Kg |   | 106  | 68 - 146     |
| 1,2,3-Trichloropropane                | 25.0        | 22.32      |               | ug/Kg |   | 89   | 64 - 130     |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.0        | 22.82      |               | ug/Kg |   | 91   | 70 - 134     |
| 1,2,4-Trimethylbenzene                | 25.0        | 21.83      |               | ug/Kg |   | 87   | 70 - 131     |
| 1,3,5-Trimethylbenzene                | 25.0        | 22.31      |               | ug/Kg |   | 89   | 70 - 131     |
| Vinyl acetate                         | 50.0        | 48.86      |               | ug/Kg |   | 98   | 56 - 147     |
| Vinyl chloride                        | 25.0        | 23.50      |               | ug/Kg |   | 94   | 65 - 139     |
| Xylenes, Total                        | 50.0        | 42.60      |               | ug/Kg |   | 85   | 70 - 130     |

| Surrogate                    | LCS %Recovery | LCS Qualifier | Limits   |
|------------------------------|---------------|---------------|----------|
| 4-Bromofluorobenzene (Surr)  | 100           |               | 61 - 142 |
| Dibromofluoromethane (Surr)  | 101           |               | 50 - 136 |
| 1,2-Dichloroethane-d4 (Surr) | 102           |               | 65 - 152 |
| Toluene-d8 (Surr)            | 96            |               | 65 - 139 |

Lab Sample ID: MB 560-129047/8

Matrix: Water

Analysis Batch: 129047

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                     | MB Result | MB Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|--------------|------|-------|------|---|----------|----------------|---------|
| Acetone                     | 5.00      | U            | 10.0 | 5.00  | ug/L |   |          | 06/17/16 12:47 | 1       |
| Acetonitrile                | 10.0      | U            | 50.0 | 10.0  | ug/L |   |          | 06/17/16 12:47 | 1       |
| Benzene                     | 0.330     | U            | 1.00 | 0.330 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Benzyl chloride             | 0.278     | U            | 5.00 | 0.278 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Bromobenzene                | 0.128     | U            | 1.00 | 0.128 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Bromochloromethane          | 0.228     | U            | 1.00 | 0.228 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Bromoform                   | 0.500     | U            | 5.00 | 0.500 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Bromomethane                | 0.392     | U            | 5.00 | 0.392 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,3-Butadiene               | 0.300     | U            | 2.00 | 0.300 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 2-Butanone (MEK)            | 1.00      | U            | 10.0 | 1.00  | ug/L |   |          | 06/17/16 12:47 | 1       |
| Carbon disulfide            | 0.500     | U            | 5.00 | 0.500 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Carbon tetrachloride        | 0.251     | U            | 1.00 | 0.251 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Chlorobenzene               | 0.136     | U            | 1.00 | 0.136 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 2-Chloro-1,3-butadiene      | 0.200     | U            | 1.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Chlorodibromomethane        | 0.223     | U            | 2.00 | 0.223 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Chloroethane                | 0.400     | U            | 5.00 | 0.400 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Chloroform                  | 0.173     | U            | 1.00 | 0.173 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1-Chlorohexane              | 0.500     | U            | 5.00 | 0.500 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Chloromethane               | 0.390     | U            | 5.00 | 0.390 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 2-Chlorotoluene             | 0.155     | U            | 1.00 | 0.155 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 4-Chlorotoluene             | 0.242     | U            | 1.00 | 0.242 | ug/L |   |          | 06/17/16 12:47 | 1       |
| cis-1,4-Dichloro-2-butene   | 0.500     | U            | 5.00 | 0.500 | ug/L |   |          | 06/17/16 12:47 | 1       |
| cis-1,2-Dichloroethene      | 0.121     | U            | 1.00 | 0.121 | ug/L |   |          | 06/17/16 12:47 | 1       |
| cis-1,3-Dichloropropene     | 0.146     | U            | 1.00 | 0.146 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Cyclohexanone               | 5.00      | U            | 50.0 | 5.00  | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,2-Dibromo-3-Chloropropane | 0.349     | U            | 5.00 | 0.349 | ug/L |   |          | 06/17/16 12:47 | 1       |

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-129047/8

Matrix: Water

Analysis Batch: 129047

Client Sample ID: Method Blank  
Prep Type: Total/NA

| Analyte                     | MB Result | MB Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|--------------|------|-------|------|---|----------|----------------|---------|
| Dibromomethane              | 0.165     | U            | 1.00 | 0.165 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,3-Dichlorobenzene         | 0.128     | U            | 1.00 | 0.128 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,2-Dichlorobenzene         | 0.170     | U            | 1.00 | 0.170 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,4-Dichlorobenzene         | 0.200     | U            | 1.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Dichlorobromomethane        | 0.175     | U            | 1.00 | 0.175 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Dichlorodifluoromethane     | 0.429     | U            | 5.00 | 0.429 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,2-Dichloroethane          | 0.172     | U            | 1.00 | 0.172 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,1-Dichloroethane          | 0.168     | U            | 1.00 | 0.168 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,1-Dichloroethene          | 0.300     | U            | 1.00 | 0.300 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,2-Dichloroethene, Total   | 0.200     | U            | 2.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,2-Dichloropropane         | 0.173     | U            | 1.00 | 0.173 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 2,2-Dichloropropane         | 0.335     | U            | 1.00 | 0.335 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,3-Dichloropropane         | 0.146     | U            | 1.00 | 0.146 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,1-Dichloropropene         | 0.185     | U            | 1.00 | 0.185 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,3-Dichloropropene, Total  | 0.300     | U            | 1.00 | 0.300 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,4-Dioxane                 | 15.9      | U            | 100  | 15.9  | ug/L |   |          | 06/17/16 12:47 | 1       |
| EDB                         | 0.175     | U            | 1.00 | 0.175 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Ethyl acetate               | 1.00      | U            | 5.00 | 1.00  | ug/L |   |          | 06/17/16 12:47 | 1       |
| Ethylbenzene                | 0.200     | U            | 1.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Ethylene oxide              | 30.0      | U            | 50.0 | 30.0  | ug/L |   |          | 06/17/16 12:47 | 1       |
| Ethyl ether                 | 0.320     | U            | 5.00 | 0.320 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Ethyl methacrylate          | 0.500     | U            | 5.00 | 0.500 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Hexachlorobutadiene         | 0.860     | U            | 5.00 | 0.860 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Hexane                      | 2.00      | U            | 5.00 | 2.00  | ug/L |   |          | 06/17/16 12:47 | 1       |
| 2-Hexanone                  | 0.500     | U            | 5.00 | 0.500 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Iodomethane                 | 0.223     | U            | 2.00 | 0.223 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Isobutyl alcohol            | 5.00      | U            | 50.0 | 5.00  | ug/L |   |          | 06/17/16 12:47 | 1       |
| Isooctane                   | 0.500     | U            | 5.00 | 0.500 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Isopropylbenzene            | 0.200     | U            | 5.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 4-Isopropyltoluene          | 0.150     | U            | 1.00 | 0.150 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Methacrylonitrile           | 2.00      | U            | 5.00 | 2.00  | ug/L |   |          | 06/17/16 12:47 | 1       |
| Methylene Chloride          | 2.00      | U            | 10.0 | 2.00  | ug/L |   |          | 06/17/16 12:47 | 1       |
| Methyl methacrylate         | 0.200     | U            | 5.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 4-Methyl-2-pentanone (MIBK) | 0.510     | U            | 5.00 | 0.510 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Methyl tert-butyl ether     | 0.200     | U            | 1.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| m-Xylene & p-Xylene         | 0.260     | U            | 2.00 | 0.260 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Naphthalene                 | 0.200     | U            | 5.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| n-Butylbenzene              | 0.200     | U            | 1.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| n-Heptane                   | 0.300     | U            | 5.00 | 0.300 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 2-Nitropropane              | 1.00      | U            | 10.0 | 1.00  | ug/L |   |          | 06/17/16 12:47 | 1       |
| N-Propylbenzene             | 0.106     | U            | 1.00 | 0.106 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1-Octene                    | 0.440     | U            | 5.00 | 0.440 | ug/L |   |          | 06/17/16 12:47 | 1       |
| o-Xylene                    | 0.200     | U            | 1.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Pentachloroethane           | 0.302     | U            | 5.00 | 0.302 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Propionitrile               | 2.69      | U            | 10.0 | 2.69  | ug/L |   |          | 06/17/16 12:47 | 1       |
| sec-Butylbenzene            | 0.300     | U            | 2.00 | 0.300 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Styrene                     | 0.200     | U            | 1.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| tert-Butylbenzene           | 0.200     | U            | 2.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-129047/8

Matrix: Water

Analysis Batch: 129047

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                               | MB Result | MB Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------------|-----------|--------------|------|-------|------|---|----------|----------------|---------|
| 1,1,2,2-Tetrachloroethane             | 0.190     | U            | 1.00 | 0.190 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,1,1,2-Tetrachloroethane             | 0.209     | U            | 1.00 | 0.209 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Tetrachloroethene                     | 0.189     | U            | 1.00 | 0.189 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Toluene                               | 0.495     | U            | 1.00 | 0.495 | ug/L |   |          | 06/17/16 12:47 | 1       |
| trans-1,4-Dichloro-2-butene           | 0.500     | U            | 5.00 | 0.500 | ug/L |   |          | 06/17/16 12:47 | 1       |
| trans-1,2-Dichloroethene              | 0.200     | U            | 1.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| trans-1,3-Dichloropropene             | 0.200     | U            | 5.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,2,4-Trichlorobenzene                | 0.168     | U            | 5.00 | 0.168 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,2,3-Trichlorobenzene                | 0.217     | U            | 5.00 | 0.217 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,3,5-Trichlorobenzene                | 0.203     | U            | 5.00 | 0.203 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,1,1-Trichloroethane                 | 0.300     | U            | 1.00 | 0.300 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,1,2-Trichloroethane                 | 0.173     | U            | 1.00 | 0.173 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Trichloroethene                       | 0.317     | U            | 1.00 | 0.317 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Trichlorofluoromethane                | 0.244     | U            | 1.00 | 0.244 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,2,3-Trichloropropane                | 0.191     | U            | 1.00 | 0.191 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.410     | U            | 1.00 | 0.410 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,2,4-Trimethylbenzene                | 0.200     | U            | 2.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| 1,3,5-Trimethylbenzene                | 0.200     | U            | 2.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Vinyl acetate                         | 0.500     | U            | 5.00 | 0.500 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Vinyl chloride                        | 0.300     | U            | 1.00 | 0.300 | ug/L |   |          | 06/17/16 12:47 | 1       |
| Xylenes, Total                        | 0.200     | U            | 2.00 | 0.200 | ug/L |   |          | 06/17/16 12:47 | 1       |

| Surrogate                    | MB %Recovery | MB Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------------|--------------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr)  | 107          |              | 70 - 130 |          | 06/17/16 12:47 | 1       |
| Dibromofluoromethane (Surr)  | 99           |              | 69 - 130 |          | 06/17/16 12:47 | 1       |
| 1,2-Dichloroethane-d4 (Surr) | 106          |              | 70 - 140 |          | 06/17/16 12:47 | 1       |
| Toluene-d8 (Surr)            | 106          |              | 70 - 130 |          | 06/17/16 12:47 | 1       |

Lab Sample ID: LCS 560-129047/3

Matrix: Water

Analysis Batch: 129047

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte                | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|------------------------|-------------|------------|---------------|------|---|------|--------------|
| Acetone                | 25.0        | 23.95      |               | ug/L |   | 96   | 60 - 150     |
| Acetonitrile           | 250         | 151.9      |               | ug/L |   | 61   | 52 - 160     |
| Benzene                | 25.0        | 26.15      |               | ug/L |   | 105  | 70 - 130     |
| Benzyl chloride        | 25.0        | 24.62      |               | ug/L |   | 98   | 66 - 153     |
| Bromobenzene           | 25.0        | 27.29      |               | ug/L |   | 109  | 70 - 130     |
| Bromochloromethane     | 25.0        | 24.89      |               | ug/L |   | 100  | 70 - 130     |
| Bromoform              | 25.0        | 26.55      |               | ug/L |   | 106  | 63 - 145     |
| Bromomethane           | 25.0        | 27.87      |               | ug/L |   | 111  | 50 - 146     |
| 1,3-Butadiene          | 25.0        | 29.71      |               | ug/L |   | 119  | 40 - 138     |
| 2-Butanone (MEK)       | 25.0        | 27.06      |               | ug/L |   | 108  | 68 - 144     |
| Carbon disulfide       | 25.0        | 24.67      |               | ug/L |   | 99   | 52 - 156     |
| Carbon tetrachloride   | 25.0        | 27.83      |               | ug/L |   | 111  | 70 - 138     |
| Chlorobenzene          | 25.0        | 26.15      |               | ug/L |   | 105  | 70 - 130     |
| 2-Chloro-1,3-butadiene | 25.0        | 25.02      |               | ug/L |   | 100  | 69 - 140     |
| Chlorodibromomethane   | 25.0        | 28.48      |               | ug/L |   | 114  | 70 - 137     |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-129047/3

Matrix: Water

Analysis Batch: 129047

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte                     | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|-----------------------------|-------------|------------|---------------|------|---|------|--------------|
| Chloroethane                | 25.0        | 28.12      |               | ug/L |   | 112  | 54 - 141     |
| Chloroform                  | 25.0        | 26.35      |               | ug/L |   | 105  | 70 - 130     |
| 1-Chlorohexane              | 25.0        | 28.35      |               | ug/L |   | 113  | 64 - 130     |
| Chloromethane               | 25.0        | 33.58      |               | ug/L |   | 134  | 46 - 142     |
| 2-Chlorotoluene             | 25.0        | 28.30      |               | ug/L |   | 113  | 70 - 130     |
| 4-Chlorotoluene             | 25.0        | 29.21      |               | ug/L |   | 117  | 70 - 130     |
| cis-1,4-Dichloro-2-butene   | 25.0        | 25.13      |               | ug/L |   | 101  | 10 - 184     |
| cis-1,2-Dichloroethene      | 25.0        | 27.33      |               | ug/L |   | 109  | 70 - 130     |
| cis-1,3-Dichloropropene     | 25.0        | 29.30      |               | ug/L |   | 117  | 70 - 138     |
| Cyclohexanone               | 125         | 192.8      |               | ug/L |   | 154  | 33 - 199     |
| 1,2-Dibromo-3-Chloropropane | 25.0        | 23.94      |               | ug/L |   | 96   | 70 - 149     |
| Dibromomethane              | 25.0        | 26.87      |               | ug/L |   | 107  | 70 - 130     |
| 1,3-Dichlorobenzene         | 25.0        | 27.89      |               | ug/L |   | 112  | 70 - 130     |
| 1,2-Dichlorobenzene         | 25.0        | 27.93      |               | ug/L |   | 112  | 70 - 130     |
| 1,4-Dichlorobenzene         | 25.0        | 27.38      |               | ug/L |   | 110  | 70 - 130     |
| Dichlorobromomethane        | 25.0        | 27.58      |               | ug/L |   | 110  | 70 - 130     |
| Dichlorodifluoromethane     | 25.0        | 39.82      |               | ug/L |   | 159  | 10 - 181     |
| 1,2-Dichloroethane          | 25.0        | 26.58      |               | ug/L |   | 106  | 70 - 131     |
| 1,1-Dichloroethane          | 25.0        | 26.38      |               | ug/L |   | 106  | 70 - 130     |
| 1,1-Dichloroethene          | 25.0        | 24.91      |               | ug/L |   | 100  | 70 - 139     |
| 1,2-Dichloroethene, Total   | 50.0        | 53.67      |               | ug/L |   | 107  | 70 - 131     |
| 1,2-Dichloropropane         | 25.0        | 28.17      |               | ug/L |   | 113  | 70 - 130     |
| 2,2-Dichloropropane         | 25.0        | 28.24      |               | ug/L |   | 113  | 65 - 143     |
| 1,3-Dichloropropane         | 25.0        | 27.57      |               | ug/L |   | 110  | 70 - 130     |
| 1,1-Dichloropropene         | 25.0        | 27.37      |               | ug/L |   | 109  | 70 - 130     |
| 1,4-Dioxane                 | 500         | 521.0      |               | ug/L |   | 104  | 66 - 150     |
| EDB                         | 25.0        | 25.87      |               | ug/L |   | 103  | 70 - 130     |
| Ethyl acetate               | 50.0        | 56.44      |               | ug/L |   | 113  | 59 - 200     |
| Ethylbenzene                | 25.0        | 28.14      |               | ug/L |   | 113  | 70 - 130     |
| Ethylene oxide              | 100         | 346.3 *    |               | ug/L |   | 346  | 10 - 200     |
| Ethyl ether                 | 25.0        | 26.34      |               | ug/L |   | 105  | 69 - 136     |
| Ethyl methacrylate          | 25.0        | 25.94      |               | ug/L |   | 104  | 70 - 130     |
| Hexachlorobutadiene         | 25.0        | 30.62      |               | ug/L |   | 122  | 68 - 165     |
| Hexane                      | 25.0        | 26.77      |               | ug/L |   | 107  | 10 - 185     |
| 2-Hexanone                  | 25.0        | 32.47      |               | ug/L |   | 130  | 70 - 138     |
| Iodomethane                 | 25.0        | 24.75      |               | ug/L |   | 99   | 64 - 146     |
| Isobutyl alcohol            | 625         | 695.5      |               | ug/L |   | 111  | 27 - 199     |
| Isooctane                   | 25.0        | 28.06      |               | ug/L |   | 112  | 10 - 181     |
| Isopropylbenzene            | 25.0        | 30.17      |               | ug/L |   | 121  | 70 - 131     |
| 4-Isopropyltoluene          | 25.0        | 29.28      |               | ug/L |   | 117  | 70 - 130     |
| Methacrylonitrile           | 250         | 261.1      |               | ug/L |   | 104  | 70 - 139     |
| Methylene Chloride          | 25.0        | 24.97      |               | ug/L |   | 100  | 70 - 130     |
| Methyl methacrylate         | 50.0        | 52.85      |               | ug/L |   | 106  | 70 - 137     |
| 4-Methyl-2-pentanone (MIBK) | 25.0        | 30.18      |               | ug/L |   | 121  | 70 - 138     |
| Methyl tert-butyl ether     | 25.0        | 26.68      |               | ug/L |   | 107  | 70 - 131     |
| m-Xylene & p-Xylene         | 25.0        | 28.20      |               | ug/L |   | 113  | 70 - 139     |
| Naphthalene                 | 25.0        | 26.86      |               | ug/L |   | 107  | 70 - 159     |
| n-Butylbenzene              | 25.0        | 29.26      |               | ug/L |   | 117  | 70 - 135     |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-129047/3

Matrix: Water

Analysis Batch: 129047

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte                               | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---------------------------------------|-------------|------------|---------------|------|---|------|--------------|
| n-Heptane                             | 25.0        | 29.07      |               | ug/L |   | 116  | 10 - 186     |
| 2-Nitropropane                        | 50.0        | 49.66      |               | ug/L |   | 99   | 22 - 173     |
| N-Propylbenzene                       | 25.0        | 30.59      |               | ug/L |   | 122  | 70 - 131     |
| 1-Octene                              | 25.0        | 30.55      |               | ug/L |   | 122  | 10 - 185     |
| o-Xylene                              | 25.0        | 27.66      |               | ug/L |   | 111  | 70 - 130     |
| Pentachloroethane                     | 25.0        | 29.72      |               | ug/L |   | 119  | 70 - 146     |
| Propionitrile                         | 250         | 267.9      |               | ug/L |   | 107  | 70 - 144     |
| sec-Butylbenzene                      | 25.0        | 30.55      |               | ug/L |   | 122  | 70 - 134     |
| Styrene                               | 25.0        | 26.43      |               | ug/L |   | 106  | 70 - 130     |
| tert-Butylbenzene                     | 25.0        | 30.39      |               | ug/L |   | 122  | 70 - 132     |
| 1,1,2,2-Tetrachloroethane             | 25.0        | 28.45      |               | ug/L |   | 114  | 70 - 130     |
| 1,1,1,2-Tetrachloroethane             | 25.0        | 25.44      |               | ug/L |   | 102  | 70 - 130     |
| Tetrachloroethene                     | 25.0        | 24.63      |               | ug/L |   | 99   | 70 - 135     |
| Toluene                               | 25.0        | 27.23      |               | ug/L |   | 109  | 70 - 130     |
| trans-1,4-Dichloro-2-butene           | 25.0        | 29.56      |               | ug/L |   | 118  | 37 - 174     |
| trans-1,2-Dichloroethene              | 25.0        | 26.34      |               | ug/L |   | 105  | 70 - 134     |
| trans-1,3-Dichloropropene             | 25.0        | 30.44      |               | ug/L |   | 122  | 70 - 143     |
| 1,2,4-Trichlorobenzene                | 25.0        | 27.33      |               | ug/L |   | 109  | 70 - 157     |
| 1,2,3-Trichlorobenzene                | 25.0        | 26.76      |               | ug/L |   | 107  | 70 - 158     |
| 1,3,5-Trichlorobenzene                | 25.0        | 27.18      |               | ug/L |   | 109  | 70 - 131     |
| 1,1,1-Trichloroethane                 | 25.0        | 27.47      |               | ug/L |   | 110  | 70 - 130     |
| 1,1,2-Trichloroethane                 | 25.0        | 27.73      |               | ug/L |   | 111  | 70 - 130     |
| Trichloroethene                       | 25.0        | 26.29      |               | ug/L |   | 105  | 70 - 130     |
| Trichlorofluoromethane                | 25.0        | 26.54      |               | ug/L |   | 106  | 39 - 146     |
| 1,2,3-Trichloropropane                | 25.0        | 27.91      |               | ug/L |   | 112  | 70 - 130     |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 25.0        | 25.48      |               | ug/L |   | 102  | 27 - 148     |
| 1,2,4-Trimethylbenzene                | 25.0        | 30.45      |               | ug/L |   | 122  | 70 - 130     |
| 1,3,5-Trimethylbenzene                | 25.0        | 29.94      |               | ug/L |   | 120  | 70 - 131     |
| Vinyl acetate                         | 50.0        | 51.99      |               | ug/L |   | 104  | 18 - 200     |
| Vinyl chloride                        | 25.0        | 30.48      |               | ug/L |   | 122  | 49 - 140     |
| Xylenes, Total                        | 50.0        | 55.87      |               | ug/L |   | 112  | 70 - 130     |

| Surrogate                    | LCS %Recovery | LCS Qualifier | Limits   |
|------------------------------|---------------|---------------|----------|
| 4-Bromofluorobenzene (Surr)  | 102           |               | 70 - 130 |
| Dibromofluoromethane (Surr)  | 101           |               | 69 - 130 |
| 1,2-Dichloroethane-d4 (Surr) | 104           |               | 70 - 140 |
| Toluene-d8 (Surr)            | 103           |               | 70 - 130 |

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 560-128987/1-A

Matrix: Water

Analysis Batch: 129026

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 128987

| Analyte        | MB Result | MB Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|--------------|------|-------|------|---|----------------|----------------|---------|
| Acenaphthene   | 0.460     | U            | 10.0 | 0.460 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Acenaphthylene | 0.452     | U            | 10.0 | 0.452 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-128987/1-A

Matrix: Water

Analysis Batch: 129026

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 128987

| Analyte                     | MB Result | MB Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|--------------|------|-------|------|---|----------------|----------------|---------|
| Anthracene                  | 0.700     | U            | 10.0 | 0.700 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Benzo[a]anthracene          | 0.646     | U            | 10.0 | 0.646 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Benzo[a]pyrene              | 0.742     | U            | 10.0 | 0.742 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Benzo[b]fluoranthene        | 0.908     | U            | 10.0 | 0.908 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Benzo[g,h,i]perylene        | 1.10      | U            | 10.0 | 1.10  | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Benzo[k]fluoranthene        | 1.49      | U            | 10.0 | 1.49  | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Benzyl alcohol              | 0.827     | U            | 10.0 | 0.827 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Bis(2-chloroethoxy)methane  | 0.436     | U            | 10.0 | 0.436 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Bis(2-chloroethyl)ether     | 1.55      | U            | 10.0 | 1.55  | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Bis(2-ethylhexyl) phthalate | 5.00      | U            | 20.0 | 5.00  | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 4-Bromophenyl phenyl ether  | 0.811     | U            | 10.0 | 0.811 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Butyl benzyl phthalate      | 0.816     | U            | 10.0 | 0.816 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 4-Chloroaniline             | 0.549     | U            | 10.0 | 0.549 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 4-Chloro-3-methylphenol     | 0.586     | U            | 10.0 | 0.586 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2-Chloronaphthalene         | 0.603     | U            | 10.0 | 0.603 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2-Chlorophenol              | 0.729     | U            | 10.0 | 0.729 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 4-Chlorophenyl phenyl ether | 0.529     | U            | 10.0 | 0.529 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Chrysene                    | 0.494     | U            | 10.0 | 0.494 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Dibenz(a,h)anthracene       | 0.874     | U            | 10.0 | 0.874 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Dibenzofuran                | 0.485     | U            | 10.0 | 0.485 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 1,3-Dichlorobenzene         | 0.491     | U            | 10.0 | 0.491 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 1,4-Dichlorobenzene         | 0.815     | U            | 10.0 | 0.815 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 1,2-Dichlorobenzene         | 0.775     | U            | 10.0 | 0.775 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 3,3'-Dichlorobenzidine      | 0.787     | U            | 10.0 | 0.787 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2,4-Dichlorophenol          | 0.704     | U            | 10.0 | 0.704 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Diethyl phthalate           | 0.666     | U            | 10.0 | 0.666 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2,4-Dimethylphenol          | 0.593     | U            | 10.0 | 0.593 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Dimethyl phthalate          | 0.589     | U            | 10.0 | 0.589 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Di-n-butyl phthalate        | 0.709     | U            | 10.0 | 0.709 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 4,6-Dinitro-2-methylphenol  | 0.959     | U            | 10.0 | 0.959 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2,4-Dinitrophenol           | 2.69      | U            | 20.0 | 2.69  | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2,6-Dinitrotoluene          | 0.762     | U            | 10.0 | 0.762 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2,4-Dinitrotoluene          | 0.509     | U            | 20.0 | 0.509 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Di-n-octyl phthalate        | 1.11      | U            | 10.0 | 1.11  | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Fluoranthene                | 0.496     | U            | 10.0 | 0.496 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Fluorene                    | 0.421     | U            | 10.0 | 0.421 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Hexachlorobenzene           | 0.602     | U            | 10.0 | 0.602 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Hexachlorobutadiene         | 0.716     | U            | 10.0 | 0.716 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Hexachlorocyclopentadiene   | 0.839     | U            | 10.0 | 0.839 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Hexachloroethane            | 0.589     | U            | 10.0 | 0.589 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Indeno[1,2,3-cd]pyrene      | 0.922     | U            | 10.0 | 0.922 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Isophorone                  | 0.549     | U            | 10.0 | 0.549 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2-Methylnaphthalene         | 0.702     | U            | 10.0 | 0.702 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2-Methylphenol              | 0.610     | U            | 10.0 | 0.610 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 3 & 4 Methylphenol          | 0.763     | U            | 20.0 | 0.763 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Naphthalene                 | 0.787     | U            | 10.0 | 0.787 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2-Nitroaniline              | 0.766     | U            | 10.0 | 0.766 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 3-Nitroaniline              | 0.512     | U            | 10.0 | 0.512 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-128987/1-A

Matrix: Water

Analysis Batch: 129026

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 128987

| Analyte                   | MB Result | MB Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------|-----------|--------------|------|-------|------|---|----------------|----------------|---------|
| 4-Nitroaniline            | 0.819     | U            | 10.0 | 0.819 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Nitrobenzene              | 0.587     | U            | 10.0 | 0.587 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2-Nitrophenol             | 0.808     | U            | 10.0 | 0.808 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 4-Nitrophenol             | 1.73      | U            | 10.0 | 1.73  | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| N-Nitrosodi-n-propylamine | 0.620     | U            | 10.0 | 0.620 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| N-Nitrosodiphenylamine    | 1.03      | U            | 10.0 | 1.03  | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Pentachlorophenol         | 1.32      | U            | 20.0 | 1.32  | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Phenanthrene              | 0.591     | U            | 10.0 | 0.591 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Phenol                    | 0.768     | U            | 10.0 | 0.768 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Pyrene                    | 0.440     | U            | 10.0 | 0.440 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 1,2,4-Trichlorobenzene    | 0.647     | U            | 10.0 | 0.647 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2,4,6-Trichlorophenol     | 0.658     | U            | 10.0 | 0.658 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2,4,5-Trichlorophenol     | 0.861     | U            | 10.0 | 0.861 | ug/L |   | 06/15/16 15:07 | 06/16/16 19:17 | 1       |

| Surrogate            | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------------|--------------|----------|----------------|----------------|---------|
| 2-Fluorophenol       | 62           |              | 10 - 130 | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Nitrobenzene-d5      | 61           |              | 27 - 130 | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2-Fluorobiphenyl     | 60           |              | 23 - 130 | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| 2,4,6-Tribromophenol | 69           |              | 18 - 130 | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Terphenyl-d14        | 75           |              | 10 - 141 | 06/15/16 15:07 | 06/16/16 19:17 | 1       |
| Phenol-d5 (Surr)     | 64           |              | 10 - 130 | 06/15/16 15:07 | 06/16/16 19:17 | 1       |

Lab Sample ID: LCS 560-128987/2-A

Matrix: Water

Analysis Batch: 129026

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 128987

| Analyte                     | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|-----------------------------|-------------|------------|---------------|------|---|------|----------|
| Acenaphthene                | 200         | 151.0      |               | ug/L |   | 76   | 54 - 130 |
| Acenaphthylene              | 200         | 137.4      |               | ug/L |   | 69   | 54 - 130 |
| Anthracene                  | 200         | 154.9      |               | ug/L |   | 77   | 67 - 130 |
| Benzo[a]anthracene          | 200         | 158.5      |               | ug/L |   | 79   | 70 - 130 |
| Benzo[a]pyrene              | 200         | 155.0      |               | ug/L |   | 77   | 70 - 130 |
| Benzo[b]fluoranthene        | 200         | 163.1      |               | ug/L |   | 82   | 69 - 130 |
| Benzo[g,h,i]perylene        | 200         | 175.6      |               | ug/L |   | 88   | 62 - 130 |
| Benzo[k]fluoranthene        | 200         | 165.1      |               | ug/L |   | 83   | 68 - 130 |
| Benzyl alcohol              | 200         | 148.6      |               | ug/L |   | 74   | 52 - 130 |
| Bis(2-chloroethoxy)methane  | 200         | 155.4      |               | ug/L |   | 78   | 55 - 130 |
| Bis(2-chloroethyl)ether     | 200         | 154.6      |               | ug/L |   | 77   | 52 - 130 |
| Bis(2-ethylhexyl) phthalate | 200         | 148.2      |               | ug/L |   | 74   | 68 - 130 |
| 4-Bromophenyl phenyl ether  | 200         | 157.6      |               | ug/L |   | 79   | 69 - 130 |
| Butyl benzyl phthalate      | 200         | 161.4      |               | ug/L |   | 81   | 68 - 130 |
| 4-Chloroaniline             | 200         | 102.4      |               | ug/L |   | 51   | 30 - 130 |
| 4-Chloro-3-methylphenol     | 200         | 153.2      |               | ug/L |   | 77   | 52 - 130 |
| 2-Chloronaphthalene         | 200         | 150.2      |               | ug/L |   | 75   | 51 - 130 |
| 2-Chlorophenol              | 200         | 158.3      |               | ug/L |   | 79   | 51 - 130 |
| 4-Chlorophenyl phenyl ether | 200         | 155.6      |               | ug/L |   | 78   | 59 - 130 |
| Chrysene                    | 200         | 162.7      |               | ug/L |   | 81   | 70 - 130 |
| Dibenz(a,h)anthracene       | 200         | 161.4      |               | ug/L |   | 81   | 65 - 130 |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-128987/2-A

Matrix: Water

Analysis Batch: 129026

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 128987

| Analyte                    | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------------------------|-------------|------------|---------------|------|---|------|--------------|
| Dibenzofuran               | 200         | 151.7      |               | ug/L |   | 76   | 53 - 130     |
| 1,3-Dichlorobenzene        | 200         | 131.7      |               | ug/L |   | 66   | 40 - 130     |
| 1,4-Dichlorobenzene        | 200         | 132.0      |               | ug/L |   | 66   | 42 - 130     |
| 1,2-Dichlorobenzene        | 200         | 137.9      |               | ug/L |   | 69   | 43 - 130     |
| 3,3'-Dichlorobenzidine     | 200         | 130.0      |               | ug/L |   | 65   | 61 - 130     |
| 2,4-Dichlorophenol         | 200         | 160.3      |               | ug/L |   | 80   | 51 - 130     |
| Diethyl phthalate          | 200         | 171.8      |               | ug/L |   | 86   | 59 - 130     |
| 2,4-Dimethylphenol         | 200         | 140.3      |               | ug/L |   | 70   | 51 - 130     |
| Dimethyl phthalate         | 200         | 165.2      |               | ug/L |   | 83   | 63 - 130     |
| Di-n-butyl phthalate       | 200         | 157.8      |               | ug/L |   | 79   | 67 - 130     |
| 4,6-Dinitro-2-methylphenol | 400         | 315.7      |               | ug/L |   | 79   | 63 - 130     |
| 2,4-Dinitrophenol          | 400         | 313.8      |               | ug/L |   | 78   | 47 - 130     |
| 2,6-Dinitrotoluene         | 200         | 159.2      |               | ug/L |   | 80   | 64 - 130     |
| 2,4-Dinitrotoluene         | 200         | 169.1      |               | ug/L |   | 85   | 67 - 130     |
| Di-n-octyl phthalate       | 200         | 150.6      |               | ug/L |   | 75   | 70 - 130     |
| Fluoranthene               | 200         | 156.2      |               | ug/L |   | 78   | 65 - 130     |
| Fluorene                   | 200         | 153.0      |               | ug/L |   | 77   | 59 - 130     |
| Hexachlorobenzene          | 200         | 154.9      |               | ug/L |   | 77   | 67 - 130     |
| Hexachlorobutadiene        | 200         | 132.2      |               | ug/L |   | 66   | 44 - 130     |
| Hexachlorocyclopentadiene  | 200         | 36.47      |               | ug/L |   | 18   | 10 - 130     |
| Hexachloroethane           | 200         | 128.3      |               | ug/L |   | 64   | 38 - 130     |
| Indeno[1,2,3-cd]pyrene     | 200         | 157.4      |               | ug/L |   | 79   | 66 - 130     |
| Isophorone                 | 200         | 145.3      |               | ug/L |   | 73   | 55 - 130     |
| 2-Methylnaphthalene        | 200         | 138.6      |               | ug/L |   | 69   | 54 - 130     |
| 2-Methylphenol             | 200         | 154.7      |               | ug/L |   | 77   | 47 - 130     |
| 3 & 4 Methylphenol         | 200         | 164.9      |               | ug/L |   | 82   | 41 - 130     |
| Naphthalene                | 200         | 139.0      |               | ug/L |   | 69   | 51 - 130     |
| 2-Nitroaniline             | 200         | 155.4      |               | ug/L |   | 78   | 60 - 130     |
| 3-Nitroaniline             | 200         | 155.5      |               | ug/L |   | 78   | 57 - 130     |
| 4-Nitroaniline             | 200         | 170.3      |               | ug/L |   | 85   | 55 - 130     |
| Nitrobenzene               | 200         | 152.2      |               | ug/L |   | 76   | 54 - 130     |
| 2-Nitrophenol              | 200         | 145.8      |               | ug/L |   | 73   | 54 - 130     |
| 4-Nitrophenol              | 400         | 324.8      |               | ug/L |   | 81   | 34 - 138     |
| N-Nitrosodi-n-propylamine  | 200         | 161.4      |               | ug/L |   | 81   | 45 - 130     |
| N-Nitrosodiphenylamine     | 200         | 140.8      |               | ug/L |   | 70   | 51 - 130     |
| Pentachlorophenol          | 400         | 294.7      |               | ug/L |   | 74   | 55 - 130     |
| Phenanthrene               | 200         | 152.5      |               | ug/L |   | 76   | 67 - 130     |
| Phenol                     | 200         | 151.3      |               | ug/L |   | 76   | 47 - 130     |
| Pyrene                     | 200         | 160.6      |               | ug/L |   | 80   | 66 - 130     |
| 1,2,4-Trichlorobenzene     | 200         | 139.6      |               | ug/L |   | 70   | 49 - 130     |
| 2,4,6-Trichlorophenol      | 200         | 154.5      |               | ug/L |   | 77   | 53 - 130     |
| 2,4,5-Trichlorophenol      | 200         | 148.1      |               | ug/L |   | 74   | 55 - 130     |

| Surrogate            | LCS %Recovery | LCS Qualifier | Limits   |
|----------------------|---------------|---------------|----------|
| 2-Fluorophenol       | 63            |               | 10 - 130 |
| Nitrobenzene-d5      | 65            |               | 27 - 130 |
| 2-Fluorobiphenyl     | 60            |               | 23 - 130 |
| 2,4,6-Tribromophenol | 76            |               | 18 - 130 |

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-128987/2-A

Matrix: Water

Analysis Batch: 129026

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 128987

| Surrogate        | LCS<br>%Recovery | LCS<br>Qualifier | Limits   |
|------------------|------------------|------------------|----------|
| Terphenyl-d14    | 68               |                  | 10 - 141 |
| Phenol-d5 (Surr) | 67               |                  | 10 - 130 |

Lab Sample ID: MB 560-129125/1-A

Matrix: Solid

Analysis Batch: 129140

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 129125

| Analyte                     | MB<br>Result | MB<br>Qualifier | RL  | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------------|-----------------|-----|------|-------|---|----------------|----------------|---------|
| Acenaphthene                | 17.0         | U               | 170 | 17.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Acenaphthylene              | 14.0         | U               | 170 | 14.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Anthracene                  | 19.0         | U               | 170 | 19.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Benzo[a]anthracene          | 21.0         | U               | 170 | 21.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Benzo[a]pyrene              | 17.0         | U               | 170 | 17.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Benzo[b]fluoranthene        | 15.0         | U               | 170 | 15.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Benzo[g,h,i]perylene        | 15.0         | U               | 170 | 15.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Benzo[k]fluoranthene        | 13.0         | U               | 170 | 13.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Benzyl alcohol              | 36.0         | U               | 170 | 36.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Bis(2-chloroethoxy)methane  | 17.0         | U               | 170 | 17.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Bis(2-chloroethyl)ether     | 26.0         | U               | 170 | 26.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Bis(2-ethylhexyl) phthalate | 26.0         | U               | 170 | 26.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 4-Bromophenyl phenyl ether  | 22.0         | U               | 170 | 22.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Butyl benzyl phthalate      | 14.0         | U               | 170 | 14.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 4-Chloroaniline             | 30.0         | U               | 170 | 30.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 4-Chloro-3-methylphenol     | 24.0         | U               | 170 | 24.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2-Chloronaphthalene         | 17.0         | U               | 170 | 17.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2-Chlorophenol              | 17.0         | U               | 170 | 17.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 4-Chlorophenyl phenyl ether | 23.0         | U               | 170 | 23.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Chrysene                    | 15.0         | U               | 170 | 15.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Dibenz(a,h)anthracene       | 14.0         | U               | 170 | 14.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Dibenzofuran                | 19.0         | U               | 170 | 19.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 1,3-Dichlorobenzene         | 18.0         | U               | 170 | 18.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 1,4-Dichlorobenzene         | 22.0         | U               | 170 | 22.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 1,2-Dichlorobenzene         | 19.0         | U               | 170 | 19.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 3,3'-Dichlorobenzidine      | 160          | U               | 170 | 160  | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2,4-Dichlorophenol          | 17.0         | U               | 170 | 17.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Diethyl phthalate           | 16.0         | U               | 170 | 16.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2,4-Dimethylphenol          | 56.0         | U               | 170 | 56.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Dimethyl phthalate          | 17.0         | U               | 170 | 17.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Di-n-butyl phthalate        | 36.0         | U               | 170 | 36.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 4,6-Dinitro-2-methylphenol  | 30.0         | U               | 660 | 30.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2,4-Dinitrophenol           | 30.0         | U               | 660 | 30.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2,6-Dinitrotoluene          | 22.0         | U               | 170 | 22.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2,4-Dinitrotoluene          | 16.0         | U               | 170 | 16.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Di-n-octyl phthalate        | 13.0         | U               | 170 | 13.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Fluoranthene                | 17.0         | U               | 170 | 17.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Fluorene                    | 19.0         | U               | 170 | 19.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Hexachlorobenzene           | 20.0         | U               | 170 | 20.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Hexachlorobutadiene         | 28.0         | U               | 170 | 28.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 560-129125/1-A

Matrix: Solid

Analysis Batch: 129140

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 129125

| Analyte                   | MB Result | MB Qualifier | RL  | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------|-----------|--------------|-----|------|-------|---|----------------|----------------|---------|
| Hexachlorocyclopentadiene | 50.0      | U            | 170 | 50.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Hexachloroethane          | 20.0      | U            | 170 | 20.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Indeno[1,2,3-cd]pyrene    | 16.0      | U            | 170 | 16.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Isophorone                | 15.0      | U            | 170 | 15.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2-Methylnaphthalene       | 15.0      | U            | 170 | 15.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2-Methylphenol            | 20.0      | U            | 170 | 20.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 3 & 4 Methylphenol        | 28.0      | U            | 340 | 28.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Naphthalene               | 16.0      | U            | 170 | 16.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2-Nitroaniline            | 22.0      | U            | 170 | 22.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 3-Nitroaniline            | 17.0      | U            | 170 | 17.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 4-Nitroaniline            | 28.0      | U            | 170 | 28.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Nitrobenzene              | 15.0      | U            | 170 | 15.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2-Nitrophenol             | 16.0      | U            | 170 | 16.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 4-Nitrophenol             | 30.0      | U            | 660 | 30.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| N-Nitrosodi-n-propylamine | 25.0      | U            | 170 | 25.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| N-Nitrosodiphenylamine    | 22.0      | U            | 170 | 22.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Pentachlorophenol         | 330       | U            | 660 | 330  | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Phenanthrene              | 21.0      | U            | 170 | 21.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Phenol                    | 19.0      | U            | 170 | 19.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Pyrene                    | 17.0      | U            | 170 | 17.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 1,2,4-Trichlorobenzene    | 16.0      | U            | 170 | 16.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2,4,6-Trichlorophenol     | 18.0      | U            | 170 | 18.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2,4,5-Trichlorophenol     | 31.0      | U            | 170 | 31.0 | ug/Kg |   | 06/21/16 07:56 | 06/21/16 12:07 | 1       |

| Surrogate            | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------------|--------------|----------|----------------|----------------|---------|
| 2-Fluorophenol       | 64           |              | 24 - 101 | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Nitrobenzene-d5      | 60           |              | 17 - 112 | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2-Fluorobiphenyl     | 64           |              | 32 - 101 | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| 2,4,6-Tribromophenol | 72           |              | 21 - 130 | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Terphenyl-d14        | 89           |              | 62 - 129 | 06/21/16 07:56 | 06/21/16 12:07 | 1       |
| Phenol-d5 (Surr)     | 64           |              | 23 - 106 | 06/21/16 07:56 | 06/21/16 12:07 | 1       |

Lab Sample ID: LCS 560-129125/2-A

Matrix: Solid

Analysis Batch: 129140

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 129125

| Analyte                    | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | Limits   |
|----------------------------|-------------|------------|---------------|-------|---|------|----------|
| Acenaphthene               | 3330        | 2603       |               | ug/Kg |   | 78   | 60 - 130 |
| Acenaphthylene             | 3330        | 2399       |               | ug/Kg |   | 72   | 57 - 130 |
| Anthracene                 | 3330        | 2939       |               | ug/Kg |   | 88   | 70 - 130 |
| Benzo[a]anthracene         | 3330        | 3231       |               | ug/Kg |   | 97   | 70 - 130 |
| Benzo[a]pyrene             | 3330        | 3345       |               | ug/Kg |   | 100  | 70 - 130 |
| Benzo[b]fluoranthene       | 3330        | 3390       |               | ug/Kg |   | 102  | 70 - 130 |
| Benzo[g,h,i]perylene       | 3330        | 3581       |               | ug/Kg |   | 107  | 63 - 130 |
| Benzo[k]fluoranthene       | 3330        | 3147       |               | ug/Kg |   | 94   | 70 - 130 |
| Benzyl alcohol             | 3330        | 2111       |               | ug/Kg |   | 63   | 50 - 130 |
| Bis(2-chloroethoxy)methane | 3330        | 2442       |               | ug/Kg |   | 73   | 60 - 130 |
| Bis(2-chloroethyl)ether    | 3330        | 2552       |               | ug/Kg |   | 77   | 55 - 130 |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-129125/2-A

Matrix: Solid

Analysis Batch: 129140

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 129125

| Analyte                     | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|-----------------------------|-------------|------------|---------------|-------|---|------|--------------|
| Bis(2-ethylhexyl) phthalate | 3330        | 2948       |               | ug/Kg |   | 88   | 70 - 130     |
| 4-Bromophenyl phenyl ether  | 3330        | 2966       |               | ug/Kg |   | 89   | 69 - 130     |
| Butyl benzyl phthalate      | 3330        | 3303       |               | ug/Kg |   | 99   | 70 - 130     |
| 4-Chloroaniline             | 3330        | 2109       |               | ug/Kg |   | 63   | 53 - 130     |
| 4-Chloro-3-methylphenol     | 3330        | 2620       |               | ug/Kg |   | 79   | 63 - 130     |
| 2-Chloronaphthalene         | 3330        | 2593       |               | ug/Kg |   | 78   | 56 - 130     |
| 2-Chlorophenol              | 3330        | 2439       |               | ug/Kg |   | 73   | 60 - 130     |
| 4-Chlorophenyl phenyl ether | 3330        | 2829       |               | ug/Kg |   | 85   | 59 - 130     |
| Chrysene                    | 3330        | 3265       |               | ug/Kg |   | 98   | 70 - 130     |
| Dibenz(a,h)anthracene       | 3330        | 3118       |               | ug/Kg |   | 94   | 70 - 130     |
| Dibenzofuran                | 3330        | 2582       |               | ug/Kg |   | 77   | 63 - 130     |
| 1,3-Dichlorobenzene         | 3330        | 2178       |               | ug/Kg |   | 65   | 55 - 130     |
| 1,4-Dichlorobenzene         | 3330        | 2207       |               | ug/Kg |   | 66   | 56 - 130     |
| 1,2-Dichlorobenzene         | 3330        | 2221       |               | ug/Kg |   | 67   | 57 - 130     |
| 3,3'-Dichlorobenzidine      | 3330        | 2604       |               | ug/Kg |   | 78   | 63 - 130     |
| 2,4-Dichlorophenol          | 3330        | 2531       |               | ug/Kg |   | 76   | 61 - 130     |
| Diethyl phthalate           | 3330        | 3109       |               | ug/Kg |   | 93   | 65 - 130     |
| 2,4-Dimethylphenol          | 3330        | 2452       |               | ug/Kg |   | 74   | 61 - 130     |
| Dimethyl phthalate          | 3330        | 2857       |               | ug/Kg |   | 86   | 61 - 130     |
| Di-n-butyl phthalate        | 3330        | 2956       |               | ug/Kg |   | 89   | 70 - 130     |
| 4,6-Dinitro-2-methylphenol  | 6670        | 4992       |               | ug/Kg |   | 75   | 53 - 130     |
| 2,4-Dinitrophenol           | 6670        | 4497       |               | ug/Kg |   | 67   | 40 - 130     |
| 2,6-Dinitrotoluene          | 3330        | 2847       |               | ug/Kg |   | 85   | 57 - 130     |
| 2,4-Dinitrotoluene          | 3330        | 3047       |               | ug/Kg |   | 91   | 61 - 130     |
| Di-n-octyl phthalate        | 3330        | 3034       |               | ug/Kg |   | 91   | 70 - 130     |
| Fluoranthene                | 3330        | 3008       |               | ug/Kg |   | 90   | 70 - 130     |
| Fluorene                    | 3330        | 2696       |               | ug/Kg |   | 81   | 61 - 130     |
| Hexachlorobenzene           | 3330        | 2932       |               | ug/Kg |   | 88   | 70 - 130     |
| Hexachlorobutadiene         | 3330        | 2358       |               | ug/Kg |   | 71   | 55 - 130     |
| Hexachlorocyclopentadiene   | 3330        | 2073       |               | ug/Kg |   | 62   | 30 - 130     |
| Hexachloroethane            | 3330        | 2121       |               | ug/Kg |   | 64   | 55 - 130     |
| Indeno[1,2,3-cd]pyrene      | 3330        | 3119       |               | ug/Kg |   | 94   | 68 - 130     |
| Isophorone                  | 3330        | 2445       |               | ug/Kg |   | 73   | 60 - 130     |
| 2-Methylnaphthalene         | 3330        | 2358       |               | ug/Kg |   | 71   | 61 - 130     |
| 2-Methylphenol              | 3330        | 2458       |               | ug/Kg |   | 74   | 61 - 130     |
| 3 & 4 Methylphenol          | 3330        | 2642       |               | ug/Kg |   | 79   | 59 - 130     |
| Naphthalene                 | 3330        | 2299       |               | ug/Kg |   | 69   | 61 - 130     |
| 2-Nitroaniline              | 3330        | 2722       |               | ug/Kg |   | 82   | 53 - 130     |
| 3-Nitroaniline              | 3330        | 2297       |               | ug/Kg |   | 69   | 40 - 130     |
| 4-Nitroaniline              | 3330        | 2981       |               | ug/Kg |   | 89   | 56 - 130     |
| Nitrobenzene                | 3330        | 2366       |               | ug/Kg |   | 71   | 60 - 130     |
| 2-Nitrophenol               | 3330        | 2275       |               | ug/Kg |   | 68   | 60 - 130     |
| 4-Nitrophenol               | 6670        | 5408       |               | ug/Kg |   | 81   | 56 - 130     |
| N-Nitrosodi-n-propylamine   | 3330        | 2523       |               | ug/Kg |   | 76   | 59 - 130     |
| N-Nitrosodiphenylamine      | 3330        | 2901       |               | ug/Kg |   | 87   | 69 - 130     |
| Pentachlorophenol           | 6670        | 5122       |               | ug/Kg |   | 77   | 66 - 130     |
| Phenanthrene                | 3330        | 2807       |               | ug/Kg |   | 84   | 70 - 130     |
| Phenol                      | 3330        | 2398       |               | ug/Kg |   | 72   | 60 - 130     |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 560-129125/2-A

Matrix: Solid

Analysis Batch: 129140

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 129125

| Analyte                | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|------------------------|-------------|------------|---------------|-------|---|------|--------------|
| Pyrene                 | 3330        | 3214       |               | ug/Kg |   | 96   | 77 - 130     |
| 1,2,4-Trichlorobenzene | 3330        | 2403       |               | ug/Kg |   | 72   | 59 - 130     |
| 2,4,6-Trichlorophenol  | 3330        | 2570       |               | ug/Kg |   | 77   | 54 - 130     |
| 2,4,5-Trichlorophenol  | 3330        | 2514       |               | ug/Kg |   | 75   | 55 - 130     |

| Surrogate            | LCS %Recovery | LCS Qualifier | Limits   |
|----------------------|---------------|---------------|----------|
| 2-Fluorophenol       | 61            |               | 24 - 101 |
| Nitrobenzene-d5      | 64            |               | 17 - 112 |
| 2-Fluorobiphenyl     | 64            |               | 32 - 101 |
| 2,4,6-Tribromophenol | 83            |               | 21 - 130 |
| Terphenyl-d14        | 88            |               | 62 - 129 |
| Phenol-d5 (Surr)     | 67            |               | 23 - 106 |

## Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 560-129018/1-A

Matrix: Water

Analysis Batch: 129093

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 129018

| Analyte             | MB Result | MB Qualifier | RL     | MDL     | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|-----------|--------------|--------|---------|------|---|----------------|----------------|---------|
| Aldrin              | 0.00472   | U            | 0.0566 | 0.00472 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| alpha-BHC           | 0.00491   | U            | 0.0566 | 0.00491 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| alpha-Chlordane     | 0.00594   | U            | 0.0566 | 0.00594 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| beta-BHC            | 0.00472   | U            | 0.0566 | 0.00472 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| 4,4'-DDD            | 0.00472   | U            | 0.0566 | 0.00472 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| 4,4'-DDE            | 0.00472   | U            | 0.0566 | 0.00472 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| 4,4'-DDT            | 0.00764   | U            | 0.0566 | 0.00764 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| delta-BHC           | 0.00472   | U            | 0.0566 | 0.00472 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| Dieldrin            | 0.0123    | U            | 0.0566 | 0.0123  | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| Endosulfan I        | 0.00472   | U            | 0.0566 | 0.00472 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| Endosulfan II       | 0.00811   | U            | 0.0566 | 0.00811 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| Endosulfan sulfate  | 0.00830   | U            | 0.0566 | 0.00830 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| Endrin              | 0.00726   | U            | 0.0566 | 0.00726 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| Endrin aldehyde     | 0.00472   | U            | 0.0566 | 0.00472 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| Endrin ketone       | 0.00774   | U            | 0.0566 | 0.00774 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| gamma-BHC (Lindane) | 0.00425   | U            | 0.0566 | 0.00425 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| gamma-Chlordane     | 0.00632   | U            | 0.0566 | 0.00632 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| Heptachlor          | 0.00613   | U            | 0.0566 | 0.00613 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| Heptachlor epoxide  | 0.00491   | U            | 0.0566 | 0.00491 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| Methoxychlor        | 0.00943   | U            | 0.0566 | 0.00943 | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| Toxaphene           | 0.642     | U            | 5.66   | 0.642   | ug/L |   | 06/16/16 11:03 | 06/20/16 13:57 | 1       |

| Surrogate              | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|--------------|--------------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 84           |              | 57 - 127 | 06/16/16 11:03 | 06/20/16 13:57 | 1       |
| DCB Decachlorobiphenyl | 65           |              | 10 - 152 | 06/16/16 11:03 | 06/20/16 13:57 | 1       |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 560-129018/3-A

Matrix: Water

Analysis Batch: 129093

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 129018

| Analyte             | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|---------------------|-------------|------------|---------------|------|---|------|----------|
| Aldrin              | 0.532       | 0.4650     |               | ug/L |   | 87   | 54 - 130 |
| alpha-BHC           | 0.532       | 0.4703     |               | ug/L |   | 88   | 59 - 130 |
| alpha-Chlordane     | 0.532       | 0.3652     |               | ug/L |   | 69   | 51 - 130 |
| beta-BHC            | 0.532       | 0.4487     |               | ug/L |   | 84   | 56 - 130 |
| 4,4'-DDD            | 0.532       | 0.4807     |               | ug/L |   | 90   | 56 - 130 |
| 4,4'-DDE            | 0.532       | 0.4750     |               | ug/L |   | 89   | 53 - 130 |
| 4,4'-DDT            | 0.532       | 0.4896     |               | ug/L |   | 92   | 50 - 130 |
| delta-BHC           | 0.532       | 0.4728     |               | ug/L |   | 89   | 56 - 130 |
| Dieldrin            | 0.532       | 0.4820     |               | ug/L |   | 91   | 58 - 130 |
| Endosulfan I        | 0.532       | 0.4817     |               | ug/L |   | 91   | 39 - 130 |
| Endosulfan II       | 0.532       | 0.4239     |               | ug/L |   | 80   | 44 - 130 |
| Endosulfan sulfate  | 0.532       | 0.4049     |               | ug/L |   | 76   | 52 - 130 |
| Endrin              | 0.532       | 0.4895     |               | ug/L |   | 92   | 62 - 130 |
| Endrin aldehyde     | 0.532       | 0.4345     |               | ug/L |   | 82   | 52 - 130 |
| Endrin ketone       | 0.532       | 0.4499     |               | ug/L |   | 85   | 48 - 130 |
| gamma-BHC (Lindane) | 0.532       | 0.4736     |               | ug/L |   | 89   | 56 - 130 |
| gamma-Chlordane     | 0.532       | 0.4719     |               | ug/L |   | 89   | 52 - 130 |
| Heptachlor          | 0.532       | 0.4760     |               | ug/L |   | 89   | 57 - 130 |
| Heptachlor epoxide  | 0.532       | 0.3998     |               | ug/L |   | 75   | 53 - 130 |
| Methoxychlor        | 0.532       | 0.4945     |               | ug/L |   | 93   | 57 - 130 |

| Surrogate              | LCS %Recovery | LCS Qualifier | Limits   |
|------------------------|---------------|---------------|----------|
| Tetrachloro-m-xylene   | 85            |               | 57 - 127 |
| DCB Decachlorobiphenyl | 67            |               | 10 - 152 |

Lab Sample ID: LCS 560-129018/5-A

Matrix: Water

Analysis Batch: 129093

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 129018

| Surrogate              | LCS %Recovery | LCS Qualifier | Limits   |
|------------------------|---------------|---------------|----------|
| Tetrachloro-m-xylene   | 81            |               | 57 - 127 |
| DCB Decachlorobiphenyl | 70            |               | 10 - 152 |

Lab Sample ID: MB 600-190731/1-A

Matrix: Solid

Analysis Batch: 191263

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 190731

| Analyte         | MB Result | MB Qualifier | RL   | MDL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------|-----------|--------------|------|-------|-------|---|----------------|----------------|---------|
| Aldrin          | 1.31      | U *          | 1.70 | 1.31  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| alpha-BHC       | 0.998     | U *          | 1.70 | 0.998 | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| alpha-Chlordane | 1.59      | U *          | 3.29 | 1.59  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| beta-BHC        | 1.02      | U *          | 1.70 | 1.02  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| 4,4'-DDD        | 1.62      | U *          | 3.29 | 1.62  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| 4,4'-DDE        | 1.45      | U *          | 3.29 | 1.45  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| 4,4'-DDT        | 1.85      | U *          | 3.29 | 1.85  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| delta-BHC       | 0.848     | U *          | 1.70 | 0.848 | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| Dieldrin        | 1.39      | U *          | 3.29 | 1.39  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 600-190731/1-A

Matrix: Solid

Analysis Batch: 191263

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 190731

| Analyte             | MB Result | MB Qualifier | RL   | MDL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|-----------|--------------|------|-------|-------|---|----------------|----------------|---------|
| Endosulfan I        | 0.998     | U *          | 1.70 | 0.998 | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| Endosulfan II       | 1.51      | U *          | 1.70 | 1.51  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| Endosulfan sulfate  | 1.68      | U *          | 3.29 | 1.68  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| Endrin              | 1.53      | U *          | 3.29 | 1.53  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| Endrin aldehyde     | 1.56      | U *          | 3.29 | 1.56  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| Endrin ketone       | 1.54      | U *          | 3.29 | 1.54  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| gamma-BHC (Lindane) | 0.928     | U *          | 1.70 | 0.928 | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| gamma-Chlordane     | 1.25      | U *          | 3.29 | 1.25  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| Heptachlor          | 0.928     | U *          | 1.70 | 0.928 | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| Heptachlor epoxide  | 1.17      | U *          | 1.70 | 1.17  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| Methoxychlor        | 8.05      | U *          | 17.0 | 8.05  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| Toxaphene           | 73.0      | U *          | 170  | 73.0  | ug/Kg |   | 06/16/16 09:25 | 06/23/16 13:48 | 1       |

| Surrogate              | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|--------------|--------------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 57           | *            | 50 - 143 | 06/16/16 09:25 | 06/23/16 13:48 | 1       |
| DCB Decachlorobiphenyl | 71           | *            | 47 - 150 | 06/16/16 09:25 | 06/23/16 13:48 | 1       |

Lab Sample ID: LCS 600-190731/2-A

Matrix: Solid

Analysis Batch: 191263

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 190731

| Analyte             | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | Limits   |
|---------------------|-------------|------------|---------------|-------|---|------|----------|
| Aldrin              | 16.7        | 17.81      | *             | ug/Kg |   | 107  | 42 - 150 |
| alpha-BHC           | 16.7        | 17.82      | *             | ug/Kg |   | 107  | 63 - 130 |
| alpha-Chlordane     | 16.7        | 17.51      | *             | ug/Kg |   | 105  | 40 - 150 |
| beta-BHC            | 16.7        | 16.73      | *             | ug/Kg |   | 100  | 32 - 150 |
| 4,4'-DDD            | 16.7        | 20.69      | *             | ug/Kg |   | 124  | 60 - 150 |
| 4,4'-DDE            | 16.7        | 18.09      | *             | ug/Kg |   | 109  | 46 - 150 |
| 4,4'-DDT            | 16.7        | 23.69      | *             | ug/Kg |   | 142  | 46 - 150 |
| delta-BHC           | 16.7        | 18.54      | *             | ug/Kg |   | 111  | 33 - 150 |
| Dieldrin            | 16.7        | 18.72      | *             | ug/Kg |   | 112  | 42 - 150 |
| Endosulfan I        | 16.7        | 17.79      | *             | ug/Kg |   | 107  | 37 - 150 |
| Endosulfan II       | 16.7        | 18.03      | *             | ug/Kg |   | 108  | 43 - 150 |
| Endosulfan sulfate  | 16.7        | 18.78      | *             | ug/Kg |   | 113  | 32 - 150 |
| Endrin              | 16.7        | 21.23      | *             | ug/Kg |   | 127  | 41 - 150 |
| Endrin aldehyde     | 16.7        | 18.12      | *             | ug/Kg |   | 109  | 42 - 150 |
| Endrin ketone       | 16.7        | 18.37      | *             | ug/Kg |   | 110  | 25 - 150 |
| gamma-BHC (Lindane) | 16.7        | 17.58      | *             | ug/Kg |   | 105  | 36 - 150 |
| gamma-Chlordane     | 16.7        | 17.45      | *             | ug/Kg |   | 105  | 41 - 150 |
| Heptachlor          | 16.7        | 22.62      | *             | ug/Kg |   | 136  | 35 - 150 |
| Heptachlor epoxide  | 16.7        | 17.65      | *             | ug/Kg |   | 106  | 42 - 150 |
| Methoxychlor        | 16.7        | 27.99      | *             | ug/Kg |   | 168  | 48 - 150 |

| Surrogate              | LCS %Recovery | LCS Qualifier | Limits   |
|------------------------|---------------|---------------|----------|
| Tetrachloro-m-xylene   | 62            | *             | 50 - 143 |
| DCB Decachlorobiphenyl | 65            | *             | 47 - 150 |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 560-129018/1-A

Matrix: Water

Analysis Batch: 129092

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 129018

| Analyte      | MB Result | MB Qualifier | RL    | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------|-----------|--------------|-------|-------|------|---|----------------|----------------|---------|
| PCB-1016     | 0.104     | U            | 0.566 | 0.104 | ug/L |   | 06/16/16 11:03 | 06/20/16 12:47 | 1       |
| PCB-1221     | 0.104     | U            | 0.566 | 0.104 | ug/L |   | 06/16/16 11:03 | 06/20/16 12:47 | 1       |
| PCB-1232     | 0.415     | U            | 0.755 | 0.415 | ug/L |   | 06/16/16 11:03 | 06/20/16 12:47 | 1       |
| PCB-1242     | 0.104     | U            | 0.566 | 0.104 | ug/L |   | 06/16/16 11:03 | 06/20/16 12:47 | 1       |
| PCB-1248     | 0.104     | U            | 0.566 | 0.104 | ug/L |   | 06/16/16 11:03 | 06/20/16 12:47 | 1       |
| PCB-1254     | 0.104     | U            | 0.566 | 0.104 | ug/L |   | 06/16/16 11:03 | 06/20/16 12:47 | 1       |
| PCB-1260     | 0.8102    |              | 0.566 | 0.104 | ug/L |   | 06/16/16 11:03 | 06/20/16 12:47 | 1       |
| Aroclor 1262 | 0.104     | U            | 0.566 | 0.104 | ug/L |   | 06/16/16 11:03 | 06/20/16 12:47 | 1       |
| Aroclor 1268 | 0.104     | U            | 0.566 | 0.104 | ug/L |   | 06/16/16 11:03 | 06/20/16 12:47 | 1       |

| Surrogate              | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|--------------|--------------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 107          |              | 10 - 150 | 06/16/16 11:03 | 06/20/16 12:47 | 1       |
| DCB Decachlorobiphenyl | 95           |              | 10 - 150 | 06/16/16 11:03 | 06/20/16 12:47 | 1       |

Lab Sample ID: LCS 560-129018/2-A

Matrix: Water

Analysis Batch: 129092

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 129018

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|----------|-------------|------------|---------------|------|---|------|----------|
| PCB-1016 | 10.8        | 11.72      |               | ug/L |   | 109  | 50 - 135 |
| PCB-1260 | 10.8        | 11.50      |               | ug/L |   | 107  | 50 - 135 |

| Surrogate              | LCS %Recovery | LCS Qualifier | Limits   |
|------------------------|---------------|---------------|----------|
| Tetrachloro-m-xylene   | 114           |               | 10 - 150 |
| DCB Decachlorobiphenyl | 108           |               | 10 - 150 |

Lab Sample ID: 560-62041-11 MS

Matrix: Water

Analysis Batch: 129092

Client Sample ID: EB02

Prep Type: Total/NA

Prep Batch: 129018

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | Limits   |
|----------|---------------|------------------|-------------|-----------|--------------|------|---|------|----------|
| PCB-1016 | 0.103         | U                | 10.6        | 11.72     |              | ug/L |   | 110  | 50 - 135 |
| PCB-1260 | 0.103         | U                | 10.6        | 11.56     |              | ug/L |   | 109  | 50 - 135 |

| Surrogate              | MS %Recovery | MS Qualifier | Limits   |
|------------------------|--------------|--------------|----------|
| Tetrachloro-m-xylene   | 116          |              | 10 - 150 |
| DCB Decachlorobiphenyl | 102          |              | 10 - 150 |

Lab Sample ID: 560-62041-11 MSD

Matrix: Water

Analysis Batch: 129092

Client Sample ID: EB02

Prep Type: Total/NA

Prep Batch: 129018

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
|----------|---------------|------------------|-------------|------------|---------------|------|---|------|----------|-----|-------|
| PCB-1016 | 0.103         | U                | 10.8        | 10.93      |               | ug/L |   | 101  | 50 - 135 | 7   | 30    |
| PCB-1260 | 0.103         | U                | 10.8        | 10.20      |               | ug/L |   | 94   | 50 - 135 | 13  | 30    |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 560-62041-11 MSD

Matrix: Water

Analysis Batch: 129092

Client Sample ID: EB02

Prep Type: Total/NA

Prep Batch: 129018

| Surrogate              | MSD<br>%Recovery | MSD<br>Qualifier | Limits   |
|------------------------|------------------|------------------|----------|
| Tetrachloro-m-xylene   | 94               |                  | 10 - 150 |
| DCB Decachlorobiphenyl | 90               |                  | 10 - 150 |

Lab Sample ID: MB 560-129173/1-A

Matrix: Solid

Analysis Batch: 129231

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 129173

| Analyte      | MB<br>Result | MB<br>Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------|--------------|-----------------|------|------|-------|---|----------------|----------------|---------|
| PCB-1016     | 5.10         | U               | 33.0 | 5.10 | ug/Kg |   | 06/22/16 07:52 | 06/23/16 10:28 | 1       |
| PCB-1221     | 5.10         | U               | 33.0 | 5.10 | ug/Kg |   | 06/22/16 07:52 | 06/23/16 10:28 | 1       |
| PCB-1232     | 5.10         | U               | 33.0 | 5.10 | ug/Kg |   | 06/22/16 07:52 | 06/23/16 10:28 | 1       |
| PCB-1242     | 5.10         | U               | 33.0 | 5.10 | ug/Kg |   | 06/22/16 07:52 | 06/23/16 10:28 | 1       |
| PCB-1248     | 5.10         | U               | 33.0 | 5.10 | ug/Kg |   | 06/22/16 07:52 | 06/23/16 10:28 | 1       |
| PCB-1254     | 5.10         | U               | 33.0 | 5.10 | ug/Kg |   | 06/22/16 07:52 | 06/23/16 10:28 | 1       |
| PCB-1260     | 10.0         | U               | 33.0 | 10.0 | ug/Kg |   | 06/22/16 07:52 | 06/23/16 10:28 | 1       |
| Aroclor 1262 | 5.10         | U               | 33.0 | 5.10 | ug/Kg |   | 06/22/16 07:52 | 06/23/16 10:28 | 1       |
| Aroclor 1268 | 5.10         | U               | 33.0 | 5.10 | ug/Kg |   | 06/22/16 07:52 | 06/23/16 10:28 | 1       |

| Surrogate              | MB<br>%Recovery | MB<br>Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------------|-----------------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene   | 116             |                 | 32 - 132 | 06/22/16 07:52 | 06/23/16 10:28 | 1       |
| DCB Decachlorobiphenyl | 115             |                 | 57 - 138 | 06/22/16 07:52 | 06/23/16 10:28 | 1       |

Lab Sample ID: LCS 560-129173/2-A

Matrix: Solid

Analysis Batch: 129231

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 129173

| Analyte  | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit  | D | %Rec | %Rec.<br>Limits |
|----------|----------------|---------------|------------------|-------|---|------|-----------------|
| PCB-1016 | 667            | 586.6         |                  | ug/Kg |   | 88   | 40 - 130        |
| PCB-1260 | 667            | 638.6         |                  | ug/Kg |   | 96   | 40 - 130        |

| Surrogate              | LCS<br>%Recovery | LCS<br>Qualifier | Limits   |
|------------------------|------------------|------------------|----------|
| Tetrachloro-m-xylene   | 112              |                  | 32 - 132 |
| DCB Decachlorobiphenyl | 99               |                  | 57 - 138 |

## Method: 8141A - Organophosphorous Pesticides (GC)

Lab Sample ID: MB 280-330102/1-A

Matrix: Water

Analysis Batch: 331214

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 330102

| Analyte          | MB<br>Result | MB<br>Qualifier | RL   | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------------|--------------|-----------------|------|--------|------|---|----------------|----------------|---------|
| Azinophos methyl | 0.168        | U               | 2.50 | 0.168  | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Bolstar          | 0.314        | U               | 1.00 | 0.314  | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Chlorpyrifos     | 0.360        | U               | 1.50 | 0.360  | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Coumaphos        | 0.135        | U               | 1.00 | 0.135  | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Demeton-O        | 0.140        | U               | 1.00 | 0.140  | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Demeton-S        | 0.0690       | U               | 2.00 | 0.0690 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: MB 280-330102/1-A

Matrix: Water

Analysis Batch: 331214

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 330102

| Analyte                       | MB Result | MB Qualifier | RL    | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------|--------------|-------|-------|------|---|----------------|----------------|---------|
| Diazinon                      | 0.147     | U            | 0.500 | 0.147 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Dichlorvos                    | 0.162     | U            | 0.500 | 0.162 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Dimethoate                    | 0.449     | U            | 1.50  | 0.449 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Disulfoton                    | 0.322     | U            | 1.00  | 0.322 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| EPN                           | 0.149     | U            | 1.20  | 0.149 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Ethoprop                      | 0.177     | U            | 1.50  | 0.177 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Ethyl Parathion               | 0.144     | U            | 1.00  | 0.144 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Famphur                       | 0.179     | U            | 1.00  | 0.179 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Fensulfothion                 | 0.544     | U            | 2.50  | 0.544 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Fenthion                      | 0.154     | U            | 2.50  | 0.154 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Malathion                     | 0.133     | U            | 2.00  | 0.133 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Merphos                       | 0.174     | U            | 5.00  | 0.174 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Methyl parathion              | 0.141     | U            | 4.00  | 0.141 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Mevinphos                     | 0.460     | U            | 6.20  | 0.460 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Naled                         | 0.800     | U            | 2.00  | 0.800 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Phorate                       | 0.154     | U            | 1.20  | 0.154 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Ronnel                        | 0.116     | U            | 10.0  | 0.116 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Sulfotepp                     | 0.168     | U            | 1.50  | 0.168 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Tetrachlorvinphos (Stirophos) | 0.124     | U            | 3.50  | 0.124 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Thionazin                     | 0.312     | U            | 1.00  | 0.312 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Tokuthion                     | 0.123     | U            | 1.60  | 0.123 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Trichloronate                 | 0.242     | U            | 1.50  | 0.242 | ug/L |   | 06/16/16 12:35 | 06/24/16 01:42 | 1       |

| Surrogate          | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------------|--------------|--------------|----------|----------------|----------------|---------|
| Chlormefos         | 82           |              | 49 - 171 | 06/16/16 12:35 | 06/24/16 01:42 | 1       |
| Triphenylphosphate | 102          |              | 60 - 154 | 06/16/16 12:35 | 06/24/16 01:42 | 1       |

Lab Sample ID: LCS 280-330102/2-A

Matrix: Water

Analysis Batch: 331214

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 330102

| Analyte          | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | Limits   |
|------------------|-------------|------------|---------------|------|---|------|----------|
| Azinophos methyl | 4.00        | 3.894      |               | ug/L |   | 97   | 35 - 130 |
| Chlorpyrifos     | 4.00        | 3.569      |               | ug/L |   | 89   | 39 - 120 |
| Coumaphos        | 4.00        | 4.281      |               | ug/L |   | 107  | 37 - 134 |
| Diazinon         | 4.00        | 3.542      |               | ug/L |   | 89   | 35 - 120 |
| Dichlorvos       | 4.00        | 3.782      |               | ug/L |   | 95   | 23 - 174 |
| Dimethoate       | 4.00        | 2.739      |               | ug/L |   | 68   | 29 - 116 |
| Disulfoton       | 4.00        | 3.464      |               | ug/L |   | 87   | 36 - 115 |
| EPN              | 4.00        | 4.031      |               | ug/L |   | 101  | 46 - 121 |
| Ethoprop         | 4.00        | 3.615      |               | ug/L |   | 90   | 39 - 129 |
| Ethyl Parathion  | 4.00        | 3.677      |               | ug/L |   | 92   | 40 - 122 |
| Famphur          | 4.00        | 3.875      |               | ug/L |   | 97   | 42 - 130 |
| Fensulfothion    | 4.00        | 3.303      |               | ug/L |   | 83   | 29 - 134 |
| Fenthion         | 4.00        | 3.618      |               | ug/L |   | 90   | 34 - 120 |
| Malathion        | 4.00        | 3.297      |               | ug/L |   | 82   | 39 - 117 |
| Merphos          | 4.00        | 2.266      | J             | ug/L |   | 57   | 32 - 115 |
| Methyl parathion | 4.00        | 3.908      | J             | ug/L |   | 98   | 42 - 130 |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCS 280-330102/2-A

Matrix: Water

Analysis Batch: 331214

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 330102

| Analyte                       | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|-------------------------------|-------------|------------|---------------|------|---|------|--------------|
| Mevinphos                     | 4.00        | 2.881      | J             | ug/L |   | 72   | 22 - 115     |
| Phorate                       | 4.00        | 3.037      |               | ug/L |   | 76   | 22 - 115     |
| Ronnel                        | 4.00        | 3.808      | J             | ug/L |   | 95   | 33 - 126     |
| Sulfotepp                     | 4.00        | 3.699      |               | ug/L |   | 92   | 33 - 117     |
| Tetrachlorvinphos (Stirophos) | 4.00        | 3.990      |               | ug/L |   | 100  | 39 - 120     |
| Thionazin                     | 4.00        | 3.559      |               | ug/L |   | 89   | 38 - 120     |
| Trichloronate                 | 4.00        | 3.514      |               | ug/L |   | 88   | 34 - 115     |

| Surrogate          | LCS %Recovery | LCS Qualifier | Limits   |
|--------------------|---------------|---------------|----------|
| Chlormefos         | 87            |               | 49 - 171 |
| Triphenylphosphate | 98            |               | 60 - 154 |

Lab Sample ID: LCSD 280-330102/3-A

Matrix: Water

Analysis Batch: 331214

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 330102

| Analyte                       | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|-------------------------------|-------------|-------------|----------------|------|---|------|--------------|-----|-----------|
| Azinophos methyl              | 4.00        | 4.096       |                | ug/L |   | 102  | 35 - 130     | 5   | 50        |
| Chlorpyrifos                  | 4.00        | 3.639       |                | ug/L |   | 91   | 39 - 120     | 2   | 27        |
| Coumaphos                     | 4.00        | 4.468       |                | ug/L |   | 112  | 37 - 134     | 4   | 50        |
| Diazinon                      | 4.00        | 3.639       |                | ug/L |   | 91   | 35 - 120     | 3   | 37        |
| Dichlorvos                    | 4.00        | 4.177       |                | ug/L |   | 104  | 23 - 174     | 10  | 37        |
| Dimethoate                    | 4.00        | 3.493       |                | ug/L |   | 87   | 29 - 116     | 24  | 49        |
| Disulfoton                    | 4.00        | 3.517       |                | ug/L |   | 88   | 36 - 115     | 2   | 50        |
| EPN                           | 4.00        | 4.093       |                | ug/L |   | 102  | 46 - 121     | 2   | 26        |
| Ethoprop                      | 4.00        | 3.972       |                | ug/L |   | 99   | 39 - 129     | 9   | 27        |
| Ethyl Parathion               | 4.00        | 3.755       |                | ug/L |   | 94   | 40 - 122     | 2   | 26        |
| Famphur                       | 4.00        | 4.110       |                | ug/L |   | 103  | 42 - 130     | 6   | 22        |
| Fensulfothion                 | 4.00        | 4.222       |                | ug/L |   | 106  | 29 - 134     | 24  | 47        |
| Fenthion                      | 4.00        | 3.703       |                | ug/L |   | 93   | 34 - 120     | 2   | 27        |
| Malathion                     | 4.00        | 3.348       |                | ug/L |   | 84   | 39 - 117     | 2   | 25        |
| Merphos                       | 4.00        | 2.284       | J              | ug/L |   | 57   | 32 - 115     | 1   | 27        |
| Methyl parathion              | 4.00        | 4.042       |                | ug/L |   | 101  | 42 - 130     | 3   | 30        |
| Mevinphos                     | 4.00        | 3.185       | J              | ug/L |   | 80   | 22 - 115     | 10  | 34        |
| Phorate                       | 4.00        | 3.097       |                | ug/L |   | 77   | 22 - 115     | 2   | 33        |
| Ronnel                        | 4.00        | 3.923       | J              | ug/L |   | 98   | 33 - 126     | 3   | 25        |
| Sulfotepp                     | 4.00        | 3.832       |                | ug/L |   | 96   | 33 - 117     | 4   | 32        |
| Tetrachlorvinphos (Stirophos) | 4.00        | 4.074       |                | ug/L |   | 102  | 39 - 120     | 2   | 28        |
| Thionazin                     | 4.00        | 3.782       |                | ug/L |   | 95   | 38 - 120     | 6   | 25        |
| Trichloronate                 | 4.00        | 3.585       |                | ug/L |   | 90   | 34 - 115     | 2   | 28        |

| Surrogate          | LCSD %Recovery | LCSD Qualifier | Limits   |
|--------------------|----------------|----------------|----------|
| Chlormefos         | 94             |                | 49 - 171 |
| Triphenylphosphate | 107            |                | 60 - 154 |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: MB 280-330856/1-A

Matrix: Solid

Analysis Batch: 332552

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 330856

| Analyte                       | MB Result | MB Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------|--------------|------|------|-------|---|----------------|----------------|---------|
| Azinophos methyl              | 3.50      | U            | 13.0 | 3.50 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Bolstar                       | 4.24      | U            | 13.0 | 4.24 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Chlorpyrifos                  | 6.46      | U            | 20.0 | 6.46 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Coumaphos                     | 2.80      | U            | 13.0 | 2.80 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Demeton-O                     | 5.29      | U            | 39.0 | 5.29 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Demeton-S                     | 4.86      | U            | 15.0 | 4.86 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Diazinon                      | 7.27      | U            | 22.0 | 7.27 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Dichlorvos                    | 7.40      | U            | 23.0 | 7.40 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Dimethoate                    | 7.08      | U            | 22.0 | 7.08 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Disulfoton                    | 7.73      | U            | 48.0 | 7.73 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| EPN                           | 3.68      | U            | 13.0 | 3.68 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Ethoprop                      | 4.93      | U            | 15.0 | 4.93 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Ethyl Parathion               | 5.29      | U            | 18.0 | 5.29 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Famphur                       | 3.22      | U            | 13.0 | 3.22 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Fensulfothion                 | 8.15      | U            | 25.0 | 8.15 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Fenthion                      | 8.74      | U            | 33.0 | 8.74 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Malathion                     | 4.64      | U            | 15.0 | 4.64 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Merphos                       | 5.14      | U            | 30.0 | 5.14 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Methyl parathion              | 6.37      | U            | 20.0 | 6.37 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Mevinphos                     | 4.62      | U            | 15.0 | 4.62 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Naled                         | 22.6      | U            | 70.0 | 22.6 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Phorate                       | 5.70      | U            | 20.0 | 5.70 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Ronnel                        | 15.2      | U            | 46.0 | 15.2 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Sulfotepp                     | 6.26      | U            | 20.0 | 6.26 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Tetrachlorvinphos (Stirophos) | 4.36      | U            | 15.0 | 4.36 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Thionazin                     | 5.57      | U            | 18.0 | 5.57 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Tokuthion                     | 3.91      | U            | 20.0 | 3.91 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Trichloronate                 | 6.25      | U            | 20.0 | 6.25 | ug/Kg |   | 06/22/16 12:40 | 07/06/16 19:09 | 1       |

| Surrogate          | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|--------------------|--------------|--------------|----------|----------------|----------------|---------|
| Chlormefos         | 67           |              | 42 - 132 | 06/22/16 12:40 | 07/06/16 19:09 | 1       |
| Triphenylphosphate | 99           |              | 47 - 161 | 06/22/16 12:40 | 07/06/16 19:09 | 1       |

Lab Sample ID: LCS 280-330856/2-A

Matrix: Solid

Analysis Batch: 332552

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 330856

| Analyte          | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|------------------|-------------|------------|---------------|-------|---|------|--------------|
| Azinophos methyl | 133         | 136.0      |               | ug/Kg |   | 102  | 51 - 122     |
| Chlorpyrifos     | 133         | 116.0      |               | ug/Kg |   | 87   | 38 - 130     |
| Coumaphos        | 133         | 139.8      |               | ug/Kg |   | 105  | 50 - 119     |
| Diazinon         | 133         | 110.4      |               | ug/Kg |   | 83   | 53 - 115     |
| Dichlorvos       | 133         | 147.8      |               | ug/Kg |   | 111  | 43 - 139     |
| Dimethoate       | 133         | 117.9      |               | ug/Kg |   | 88   | 25 - 138     |
| Disulfoton       | 133         | 99.32      |               | ug/Kg |   | 74   | 29 - 115     |
| EPN              | 133         | 136.3      |               | ug/Kg |   | 102  | 58 - 131     |
| Ethoprop         | 133         | 113.8      |               | ug/Kg |   | 85   | 53 - 115     |
| Ethyl Parathion  | 133         | 119.9      |               | ug/Kg |   | 90   | 24 - 163     |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8141A - Organophosphorous Pesticides (GC) (Continued)

Lab Sample ID: LCS 280-330856/2-A

Matrix: Solid

Analysis Batch: 332552

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 330856

| Analyte                       | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|-------------------------------|-------------|------------|---------------|-------|---|------|--------------|
| Famphur                       | 133         | 131.7      |               | ug/Kg |   | 99   | 49 - 140     |
| Fensulfothion                 | 133         | 129.7      |               | ug/Kg |   | 97   | 52 - 121     |
| Fenthion                      | 133         | 118.8      |               | ug/Kg |   | 89   | 45 - 115     |
| Malathion                     | 133         | 107.2      |               | ug/Kg |   | 80   | 50 - 122     |
| Merphos                       | 133         | 34.35      |               | ug/Kg |   | 26   | 19 - 115     |
| Methyl parathion              | 133         | 136.1      |               | ug/Kg |   | 102  | 46 - 119     |
| Mevinphos                     | 133         | 98.45      |               | ug/Kg |   | 74   | 10 - 226     |
| Phorate                       | 133         | 95.78      |               | ug/Kg |   | 72   | 40 - 115     |
| Ronnel                        | 133         | 123.6      |               | ug/Kg |   | 93   | 43 - 118     |
| Sulfotepp                     | 133         | 116.1      |               | ug/Kg |   | 87   | 55 - 115     |
| Tetrachlorvinphos (Stirophos) | 133         | 129.9      |               | ug/Kg |   | 97   | 44 - 118     |
| Thionazin                     | 133         | 111.9      |               | ug/Kg |   | 84   | 46 - 115     |
| Trichloronate                 | 133         | 113.0      |               | ug/Kg |   | 85   | 27 - 115     |

| Surrogate          | LCS %Recovery | LCS Qualifier | Limits   |
|--------------------|---------------|---------------|----------|
| Chlormefos         | 78            |               | 42 - 132 |
| Triphenylphosphate | 106           |               | 47 - 161 |

## Method: 8151A - Herbicidas (GC)

Lab Sample ID: LB 600-190598/1-D

Matrix: Water

Analysis Batch: 190893

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 190717

| Analyte           | LB Result | LB Qualifier | RL   | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|-----------|--------------|------|--------|------|---|----------------|----------------|---------|
| 2,4-D             | 0.200     | U            | 1.00 | 0.200  | ug/L |   | 06/16/16 07:02 | 06/17/16 19:36 | 1       |
| 2,4-DB            | 0.250     | U            | 1.00 | 0.250  | ug/L |   | 06/16/16 07:02 | 06/17/16 19:36 | 1       |
| Dicamba           | 0.0500    | U            | 1.00 | 0.0500 | ug/L |   | 06/16/16 07:02 | 06/17/16 19:36 | 1       |
| Dichlorprop       | 0.150     | U            | 1.00 | 0.150  | ug/L |   | 06/16/16 07:02 | 06/17/16 19:36 | 1       |
| Dinoseb           | 0.100     | U            | 1.00 | 0.100  | ug/L |   | 06/16/16 07:02 | 06/17/16 19:36 | 1       |
| MCPA              | 28.9      | U            | 100  | 28.9   | ug/L |   | 06/16/16 07:02 | 06/17/16 19:36 | 1       |
| Mecoprop          | 13.2      | U            | 100  | 13.2   | ug/L |   | 06/16/16 07:02 | 06/17/16 19:36 | 1       |
| Silvex (2,4,5-TP) | 0.100     | U            | 1.00 | 0.100  | ug/L |   | 06/16/16 07:02 | 06/17/16 19:36 | 1       |
| 2,4,5-T           | 0.100     | U            | 1.00 | 0.100  | ug/L |   | 06/16/16 07:02 | 06/17/16 19:36 | 1       |

| Surrogate | LB %Recovery | LB Qualifier | Limits         | Prepared       | Analyzed       | Dil Fac |
|-----------|--------------|--------------|----------------|----------------|----------------|---------|
| 2,4-DCAA  | 106          |              | 10 - 125.<br>2 | 06/16/16 07:02 | 06/17/16 19:36 | 1       |

Lab Sample ID: MB 600-190717/1-A

Matrix: Water

Analysis Batch: 190893

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 190717

| Analyte     | MB Result | MB Qualifier | RL    | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------|-----------|--------------|-------|--------|------|---|----------------|----------------|---------|
| 2,4-D       | 0.0400    | U            | 0.200 | 0.0400 | ug/L |   | 06/16/16 07:01 | 06/17/16 17:30 | 1       |
| 2,4-DB      | 0.0500    | U            | 0.200 | 0.0500 | ug/L |   | 06/16/16 07:01 | 06/17/16 17:30 | 1       |
| Dicamba     | 0.0100    | U            | 0.200 | 0.0100 | ug/L |   | 06/16/16 07:01 | 06/17/16 17:30 | 1       |
| Dichlorprop | 0.0300    | U            | 0.200 | 0.0300 | ug/L |   | 06/16/16 07:01 | 06/17/16 17:30 | 1       |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8151A - Herbicidas (GC) (Continued)

Lab Sample ID: MB 600-190717/1-A

Matrix: Water

Analysis Batch: 190893

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 190717

| Analyte           | MB Result | MB Qualifier | RL    | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|-----------|--------------|-------|--------|------|---|----------------|----------------|---------|
| Dinoseb           | 0.0200    | U            | 0.200 | 0.0200 | ug/L |   | 06/16/16 07:01 | 06/17/16 17:30 | 1       |
| MCPA              | 5.78      | U            | 20.0  | 5.78   | ug/L |   | 06/16/16 07:01 | 06/17/16 17:30 | 1       |
| Mecoprop          | 2.64      | U            | 20.0  | 2.64   | ug/L |   | 06/16/16 07:01 | 06/17/16 17:30 | 1       |
| Silvex (2,4,5-TP) | 0.0200    | U            | 0.200 | 0.0200 | ug/L |   | 06/16/16 07:01 | 06/17/16 17:30 | 1       |
| 2,4,5-T           | 0.0200    | U            | 0.200 | 0.0200 | ug/L |   | 06/16/16 07:01 | 06/17/16 17:30 | 1       |

| Surrogate | MB %Recovery | MB Qualifier | Limits         | Prepared       | Analyzed       | Dil Fac |
|-----------|--------------|--------------|----------------|----------------|----------------|---------|
| 2,4-DCAA  | 91           |              | 10 - 125.<br>2 | 06/16/16 07:01 | 06/17/16 17:30 | 1       |

Lab Sample ID: LCS 600-190717/2-A

Matrix: Water

Analysis Batch: 190893

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 190717

| Analyte           | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|-------------------|-------------|------------|---------------|------|---|------|--------------|
| 2,4-D             | 0.800       | 0.6731     |               | ug/L |   | 84   | 25 - 151     |
| 2,4-DB            | 0.800       | 0.8464     |               | ug/L |   | 106  | 24 - 164     |
| Dicamba           | 0.800       | 0.6550     |               | ug/L |   | 82   | 31 - 124     |
| Dichlorprop       | 0.800       | 0.6999     |               | ug/L |   | 87   | 42 - 127     |
| Dinoseb           | 0.800       | 0.0200     | U *           | ug/L |   | 0.5  | 11 - 130     |
| MCPA              | 80.0        | 57.96      |               | ug/L |   | 72   | 26 - 164     |
| Mecoprop          | 80.0        | 31.63      |               | ug/L |   | 40   | 10 - 176     |
| Silvex (2,4,5-TP) | 0.800       | 0.7700     |               | ug/L |   | 96   | 47 - 136     |
| 2,4,5-T           | 0.800       | 0.7372     |               | ug/L |   | 92   | 36 - 140     |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits         |
|-----------|---------------|---------------|----------------|
| 2,4-DCAA  | 97            |               | 10 - 125.<br>2 |

Lab Sample ID: MB 600-190936/1-A

Matrix: Solid

Analysis Batch: 191143

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 190936

| Analyte           | MB Result | MB Qualifier | RL   | MDL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|-----------|--------------|------|-------|-------|---|----------------|----------------|---------|
| 2,4-D             | 0.566     | U            | 6.66 | 0.566 | ug/Kg |   | 06/20/16 08:58 | 06/22/16 13:58 | 1       |
| 2,4-DB            | 1.10      | U            | 6.66 | 1.10  | ug/Kg |   | 06/20/16 08:58 | 06/22/16 13:58 | 1       |
| Dicamba           | 0.765     | U            | 6.66 | 0.765 | ug/Kg |   | 06/20/16 08:58 | 06/22/16 13:58 | 1       |
| Dichlorprop       | 0.749     | U            | 6.66 | 0.749 | ug/Kg |   | 06/20/16 08:58 | 06/22/16 13:58 | 1       |
| Dinoseb           | 0.532     | U            | 6.66 | 0.532 | ug/Kg |   | 06/20/16 08:58 | 06/22/16 13:58 | 1       |
| MCPA              | 108       | U            | 66.6 | 108   | ug/Kg |   | 06/20/16 08:58 | 06/22/16 13:58 | 1       |
| Mecoprop          | 76.3      | U            | 66.6 | 76.3  | ug/Kg |   | 06/20/16 08:58 | 06/22/16 13:58 | 1       |
| Silvex (2,4,5-TP) | 0.715     | U            | 6.66 | 0.715 | ug/Kg |   | 06/20/16 08:58 | 06/22/16 13:58 | 1       |
| 2,4,5-T           | 0.732     | U            | 6.66 | 0.732 | ug/Kg |   | 06/20/16 08:58 | 06/22/16 13:58 | 1       |

| Surrogate | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------|--------------|--------------|----------|----------------|----------------|---------|
| 2,4-DCAA  | 107          |              | 22 - 130 | 06/20/16 08:58 | 06/22/16 13:58 | 1       |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 600-190936/2-A

Matrix: Solid

Analysis Batch: 191143

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 190936

| Analyte           | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | Limits   |
|-------------------|-------------|------------|---------------|-------|---|------|----------|
| 2,4-D             | 26.7        | 24.25      |               | ug/Kg |   | 91   | 33 - 159 |
| 2,4-DB            | 26.7        | 36.31      | E             | ug/Kg |   | 136  | 39 - 157 |
| Dicamba           | 26.7        | 21.17      |               | ug/Kg |   | 79   | 22 - 146 |
| Dichlorprop       | 26.7        | 25.79      |               | ug/Kg |   | 97   | 22 - 179 |
| Dinoseb           | 26.7        | 11.70      |               | ug/Kg |   | 44   | 12 - 122 |
| MCPA              | 2670        | 1698       |               | ug/Kg |   | 64   | 12 - 158 |
| Mecoprop          | 2670        | 1144       |               | ug/Kg |   | 43   | 26 - 143 |
| Silvex (2,4,5-TP) | 26.7        | 26.17      |               | ug/Kg |   | 98   | 32 - 160 |
| 2,4,5-T           | 26.7        | 23.33      |               | ug/Kg |   | 88   | 24 - 165 |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits   |
|-----------|---------------|---------------|----------|
| 2,4-DCAA  | 102           |               | 22 - 130 |

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 680-438299/15-A

Matrix: Solid

Analysis Batch: 438679

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 438299

| Analyte   | MB Result    | MB Qualifier | RL       | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------|--------------|--------------|----------|------|-------|---|----------------|----------------|---------|
| Dalapon   | 2.88         | U            | 99.4     | 2.88 | ug/Kg | - | 06/21/16 15:57 | 06/23/16 17:21 | 1       |
| Surrogate | MB %Recovery | MB Qualifier | Limits   |      |       |   | Prepared       | Analyzed       | Dil Fac |
| 2,4-DCAA  | 67           |              | 35 - 137 |      |       |   | 06/21/16 15:57 | 06/23/16 17:21 | 1       |

Lab Sample ID: LCS 680-438299/16-A

Matrix: Solid

Analysis Batch: 438679

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 438299

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | Limits   |
|---------|-------------|------------|---------------|-------|---|------|----------|
| Dalapon | 65.6        | 55.35      | J             | ug/Kg |   | 84   | 19 - 130 |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits   |
|-----------|---------------|---------------|----------|
| 2,4-DCAA  | 79            |               | 35 - 137 |

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 600-190667/4

Matrix: Water

Analysis Batch: 190667

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL    | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|-------|--------|------|---|----------|----------------|---------|
| Bromide  | 0.101     | U            | 0.400 | 0.101  | mg/L |   |          | 06/15/16 15:44 | 1       |
| Chloride | 0.0534    | U            | 0.400 | 0.0534 | mg/L |   |          | 06/15/16 15:44 | 1       |
| Sulfate  | 0.0957    | U            | 0.500 | 0.0957 | mg/L |   |          | 06/15/16 15:44 | 1       |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 600-190667/5

Matrix: Water

Analysis Batch: 190667

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|------|---|------|--------------|
| Bromide  | 10.0        | 9.749      |               | mg/L |   | 97   | 90 - 110     |
| Chloride | 20.0        | 20.18      |               | mg/L |   | 101  | 90 - 110     |
| Sulfate  | 20.0        | 20.35      |               | mg/L |   | 102  | 90 - 110     |

Lab Sample ID: MB 600-190668/4

Matrix: Water

Analysis Batch: 190668

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte      | MB Result | MB Qualifier | RL    | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|-----------|--------------|-------|--------|------|---|----------|----------------|---------|
| Nitrate as N | 0.0251    | U            | 0.200 | 0.0251 | mg/L |   |          | 06/15/16 15:44 | 1       |

Lab Sample ID: LCS 600-190668/5

Matrix: Water

Analysis Batch: 190668

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte      | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|--------------|-------------|------------|---------------|------|---|------|--------------|
| Nitrate as N | 10.0        | 10.16      |               | mg/L |   | 102  | 90 - 110     |

Lab Sample ID: MB 600-191188/1-A

Matrix: Solid

Analysis Batch: 191189

Client Sample ID: Method Blank

Prep Type: Soluble

| Analyte  | MB Result | MB Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-------|-------|---|----------|----------------|---------|
| Bromide  | 1.01      | U            | 4.00 | 1.01  | mg/Kg |   |          | 06/23/16 01:34 | 1       |
| Chloride | 0.534     | U            | 4.00 | 0.534 | mg/Kg |   |          | 06/23/16 01:34 | 1       |
| Fluoride | 0.601     | U            | 2.00 | 0.601 | mg/Kg |   |          | 06/23/16 01:34 | 1       |
| Sulfate  | 0.957     | U            | 5.00 | 0.957 | mg/Kg |   |          | 06/23/16 01:34 | 1       |

Lab Sample ID: LCS 600-191188/2-A

Matrix: Solid

Analysis Batch: 191189

Client Sample ID: Lab Control Sample

Prep Type: Soluble

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|-------|---|------|--------------|
| Bromide  | 100         | 97.54      |               | mg/Kg |   | 98   | 90 - 110     |
| Chloride | 200         | 199.5      |               | mg/Kg |   | 100  | 90 - 110     |
| Fluoride | 100         | 102.7      |               | mg/Kg |   | 103  | 90 - 110     |
| Sulfate  | 200         | 189.6      |               | mg/Kg |   | 95   | 90 - 110     |

Lab Sample ID: MB 600-191188/1-A

Matrix: Solid

Analysis Batch: 191190

Client Sample ID: Method Blank

Prep Type: Soluble

| Analyte      | MB Result | MB Qualifier | RL   | MDL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|--------------|-----------|--------------|------|-------|-------|---|----------|----------------|---------|
| Nitrate as N | 0.251     | U            | 2.00 | 0.251 | mg/Kg |   |          | 06/23/16 01:34 | 1       |

TestAmerica Corpus Christi



# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 600-191188/2-A

Matrix: Solid

Analysis Batch: 191190

Client Sample ID: Lab Control Sample

Prep Type: Soluble

| Analyte      | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|--------------|-------------|------------|---------------|-------|---|------|--------------|
| Nitrate as N | 100         | 101.1      |               | mg/Kg |   | 101  | 90 - 110     |

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 560-128926/1-A

Matrix: Solid

Analysis Batch: 128998

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 128926

| Analyte   | MB Result | MB Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|--------------|-------|--------|-------|---|----------------|----------------|---------|
| Aluminum  | 3.07      | U            | 5.00  | 3.07   | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Antimony  | 0.267     | U            | 2.00  | 0.267  | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Arsenic   | 0.145     | U            | 2.00  | 0.145  | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Magnesium | 1.58      | U            | 20.0  | 1.58   | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Barium    | 0.189     | U            | 1.00  | 0.189  | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Potassium | 15.2      | U            | 100   | 15.2   | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Beryllium | 0.0270    | U            | 0.500 | 0.0270 | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Cadmium   | 0.0360    | U            | 0.500 | 0.0360 | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Sodium    | 15.1      | U            | 100   | 15.1   | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Chromium  | 0.134     | U            | 1.00  | 0.134  | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Strontium | 0.0780    | U            | 1.00  | 0.0780 | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Iron      | 5.00      | U            | 20.0  | 5.00   | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Lead      | 0.152     | U            | 0.500 | 0.152  | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Manganese | 0.465     | U            | 2.50  | 0.465  | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Nickel    | 0.124     | U            | 2.00  | 0.124  | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Silver    | 0.110     | U            | 0.500 | 0.110  | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |
| Zinc      | 0.570     | U            | 2.50  | 0.570  | mg/Kg |   | 06/14/16 11:03 | 06/15/16 11:38 | 1       |

Lab Sample ID: MB 560-128926/1-A

Matrix: Solid

Analysis Batch: 129037

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 128926

| Analyte  | MB Result | MB Qualifier | RL   | MDL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-------|-------|---|----------------|----------------|---------|
| Calcium  | 14.5      | U            | 50.0 | 14.5  | mg/Kg |   | 06/14/16 11:03 | 06/16/16 10:38 | 1       |
| Copper   | 0.201     | U            | 2.00 | 0.201 | mg/Kg |   | 06/14/16 11:03 | 06/16/16 10:38 | 1       |
| Selenium | 0.198     | U            | 1.00 | 0.198 | mg/Kg |   | 06/14/16 11:03 | 06/16/16 10:38 | 1       |
| Thallium | 0.119     | U            | 1.00 | 0.119 | mg/Kg |   | 06/14/16 11:03 | 06/16/16 10:38 | 1       |

Lab Sample ID: LCS 560-128926/2-A

Matrix: Solid

Analysis Batch: 128998

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 128926

| Analyte   | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|-----------|-------------|------------|---------------|-------|---|------|--------------|
| Aluminum  | 1250        | 1209       |               | mg/Kg |   | 97   | 80 - 120     |
| Antimony  | 12.5        | 12.40      |               | mg/Kg |   | 99   | 80 - 120     |
| Arsenic   | 12.5        | 12.51      |               | mg/Kg |   | 100  | 80 - 120     |
| Magnesium | 1250        | 1241       |               | mg/Kg |   | 99   | 80 - 120     |
| Barium    | 12.5        | 11.70      |               | mg/Kg |   | 94   | 80 - 120     |
| Potassium | 1250        | 1303       |               | mg/Kg |   | 104  | 80 - 120     |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 560-128926/2-A  
Matrix: Solid  
Analysis Batch: 128998

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 128926

| Analyte   | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|-----------|-------------|------------|---------------|-------|---|------|--------------|
| Beryllium | 12.5        | 12.28      |               | mg/Kg |   | 98   | 80 - 120     |
| Cadmium   | 12.5        | 13.45      |               | mg/Kg |   | 108  | 80 - 120     |
| Sodium    | 1250        | 1163       |               | mg/Kg |   | 93   | 80 - 120     |
| Chromium  | 12.5        | 12.17      |               | mg/Kg |   | 97   | 80 - 120     |
| Strontium | 12.5        | 11.95      |               | mg/Kg |   | 96   | 80 - 120     |
| Iron      | 1250        | 1200       |               | mg/Kg |   | 96   | 80 - 120     |
| Lead      | 12.5        | 12.34      |               | mg/Kg |   | 99   | 80 - 120     |
| Manganese | 125         | 135.3      |               | mg/Kg |   | 108  | 80 - 120     |
| Nickel    | 12.5        | 12.40      |               | mg/Kg |   | 99   | 80 - 120     |
| Silver    | 12.5        | 12.28      |               | mg/Kg |   | 98   | 80 - 120     |
| Zinc      | 12.5        | 13.10      |               | mg/Kg |   | 105  | 80 - 120     |

Lab Sample ID: LCS 560-128926/2-A  
Matrix: Solid  
Analysis Batch: 129037

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 128926

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|----------|-------------|------------|---------------|-------|---|------|--------------|
| Calcium  | 1250        | 1370       |               | mg/Kg |   | 110  | 80 - 120     |
| Copper   | 12.5        | 11.24      |               | mg/Kg |   | 90   | 80 - 120     |
| Selenium | 12.5        | 11.87      |               | mg/Kg |   | 95   | 80 - 120     |
| Thallium | 5.00        | 4.143      |               | mg/Kg |   | 83   | 80 - 120     |

Lab Sample ID: MB 560-129134/1-A  
Matrix: Solid  
Analysis Batch: 129167

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 129134

| Analyte | MB Result | MB Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|-----------|--------------|------|------|-------|---|----------------|----------------|---------|
| Silicon | 6.32      | U            | 20.0 | 6.32 | mg/Kg |   | 06/21/16 08:00 | 06/21/16 12:13 | 1       |

Lab Sample ID: LCS 560-129134/2-A  
Matrix: Solid  
Analysis Batch: 129167

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 129134

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|---------|-------------|------------|---------------|-------|---|------|--------------|
| Silicon | 500         | 498.9      |               | mg/Kg |   | 100  | 80 - 120     |

## Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 560-129000/28-A  
Matrix: Solid  
Analysis Batch: 128999

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 129000

| Analyte | MB Result | MB Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|-----------|--------------|-------|--------|-------|---|----------------|----------------|---------|
| Mercury | 0.0108    | U            | 0.120 | 0.0108 | mg/Kg |   | 06/15/16 10:00 | 06/15/16 17:11 | 1       |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: MB 560-129000/4-A

Matrix: Solid

Analysis Batch: 128999

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 129000

| Analyte | MB<br>Result | MB<br>Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------------|-----------------|-------|--------|-------|---|----------------|----------------|---------|
| Mercury | 0.0108       | U               | 0.120 | 0.0108 | mg/Kg | - | 06/15/16 10:00 | 06/15/16 16:14 | 1       |

Lab Sample ID: LCS 560-129000/29-A

Matrix: Solid

Analysis Batch: 128999

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 129000

| Analyte | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit  | D | %Rec | %Rec.<br>Limits |
|---------|----------------|---------------|------------------|-------|---|------|-----------------|
| Mercury | 0.250          | 0.2365        |                  | mg/Kg | - | 95   | 80 - 120        |

Lab Sample ID: LCS 560-129000/5-A

Matrix: Solid

Analysis Batch: 128999

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 129000

| Analyte | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit  | D | %Rec | %Rec.<br>Limits |
|---------|----------------|---------------|------------------|-------|---|------|-----------------|
| Mercury | 0.250          | 0.2575        |                  | mg/Kg | - | 103  | 80 - 120        |

## Method: 340.2 - Fluoride

Lab Sample ID: MB 560-128935/3

Matrix: Water

Analysis Batch: 128935

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB<br>Result | MB<br>Qualifier | RL    | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------------|-----------------|-------|--------|------|---|----------|----------------|---------|
| Fluoride | 0.0200       | U               | 0.100 | 0.0200 | mg/L | - |          | 06/14/16 09:00 | 1       |

Lab Sample ID: LCS 560-128935/4

Matrix: Water

Analysis Batch: 128935

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte  | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|----------|----------------|---------------|------------------|------|---|------|-----------------|
| Fluoride | 0.800          | 0.8080        |                  | mg/L | - | 101  | 85 - 115        |

## Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 600-190763/10

Matrix: Water

Analysis Batch: 190763

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte            | MB<br>Result | MB<br>Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------------|--------------|-----------------|------|-------|------|---|----------|----------------|---------|
| Nitrogen, Kjeldahl | 0.432        | U               | 1.00 | 0.432 | mg/L | - |          | 06/16/16 12:30 | 1       |

Lab Sample ID: LCS 600-190763/11

Matrix: Water

Analysis Batch: 190763

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte            | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|--------------------|----------------|---------------|------------------|------|---|------|-----------------|
| Nitrogen, Kjeldahl | 10.0           | 10.33         |                  | mg/L | - | 103  | 90 - 110        |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 365.4-1974 - Phosphorus, Total

Lab Sample ID: MB 680-438169/1-A

Matrix: Water

Analysis Batch: 438454

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 438169

| Analyte    | MB<br>Result | MB<br>Qualifier | RL    | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|------------|--------------|-----------------|-------|--------|------|---|----------------|----------------|---------|
| Phosphorus | 0.0410       | U               | 0.100 | 0.0410 | mg/L | - | 06/21/16 08:56 | 06/22/16 11:52 | 1       |

Lab Sample ID: LCS 680-438169/2-A

Matrix: Water

Analysis Batch: 438454

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 438169

| Analyte    | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|------------|----------------|---------------|------------------|------|---|------|-----------------|
| Phosphorus | 2.00           | 2.240         |                  | mg/L | - | 112  | 60 - 140        |

Lab Sample ID: LCSD 680-438169/3-A

Matrix: Water

Analysis Batch: 438454

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 438169

| Analyte    | Spike<br>Added | LCSD<br>Result | LCSD<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits | RPD | RPD<br>Limit |
|------------|----------------|----------------|-------------------|------|---|------|-----------------|-----|--------------|
| Phosphorus | 2.00           | 2.110          |                   | mg/L | - | 106  | 60 - 140        | 6   | 40           |

## Method: 5310 D-2000 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 600-191352/39

Matrix: Water

Analysis Batch: 191352

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte              | MB<br>Result | MB<br>Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------------------|--------------|-----------------|------|-------|------|---|----------|----------------|---------|
| Total Organic Carbon | 0.437        | U               | 1.00 | 0.437 | mg/L | - |          | 06/24/16 00:10 | 1       |

Lab Sample ID: MB 600-191352/9

Matrix: Water

Analysis Batch: 191352

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte              | MB<br>Result | MB<br>Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------------------|--------------|-----------------|------|-------|------|---|----------|----------------|---------|
| Total Organic Carbon | 0.437        | U               | 1.00 | 0.437 | mg/L | - |          | 06/23/16 18:06 | 1       |

Lab Sample ID: LCS 600-191352/10

Matrix: Water

Analysis Batch: 191352

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte              | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|----------------------|----------------|---------------|------------------|------|---|------|-----------------|
| Total Organic Carbon | 10.0           | 10.14         |                  | mg/L | - | 101  | 85 - 115        |

Lab Sample ID: LCS 600-191352/40

Matrix: Water

Analysis Batch: 191352

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte              | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|----------------------|----------------|---------------|------------------|------|---|------|-----------------|
| Total Organic Carbon | 10.0           | 10.03         |                  | mg/L | - | 100  | 85 - 115        |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: 9040C - pH

Lab Sample ID: LCS 560-129038/2  
Matrix: Water  
Analysis Batch: 129038

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---------|-------------|------------|---------------|------|---|------|--------------|
| pH      | 5.00        | 4.950      |               | SU   |   | 99   | 98 - 102     |

Lab Sample ID: 560-62041-10 DU  
Matrix: Water  
Analysis Batch: 129038

Client Sample ID: EB01  
Prep Type: Total/NA

| Analyte | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | RPD Limit |
|---------|---------------|------------------|-----------|--------------|------|---|-----|-----------|
| pH      | 7.96          | HF               | 7.980     |              | SU   |   | 0.3 | 20        |

## Method: 9045D - pH

Lab Sample ID: LCS 560-128989/2  
Matrix: Solid  
Analysis Batch: 128989

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---------|-------------|------------|---------------|------|---|------|--------------|
| pH      | 5.00        | 5.050      |               | SU   |   | 101  | 98 - 102     |

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 560-129019/1  
Matrix: Water  
Analysis Batch: 129019

Client Sample ID: Method Blank  
Prep Type: Total/NA

| Analyte                         | MB Result | MB Qualifier | RL   | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------|-----------|--------------|------|------|------|---|----------|----------------|---------|
| Alkalinity                      | 5.00      | U            | 5.00 | 5.00 | mg/L |   |          | 06/16/16 10:10 | 1       |
| Bicarbonate Alkalinity as CaCO3 | 5.00      | U            | 5.00 | 5.00 | mg/L |   |          | 06/16/16 10:10 | 1       |
| Carbonate Alkalinity as CaCO3   | 5.00      | U            | 5.00 | 5.00 | mg/L |   |          | 06/16/16 10:10 | 1       |

Lab Sample ID: LCS 560-129019/2  
Matrix: Water  
Analysis Batch: 129019

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

| Analyte    | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|------------|-------------|------------|---------------|------|---|------|--------------|
| Alkalinity | 100         | 91.51      |               | mg/L |   | 92   | 85 - 115     |

Lab Sample ID: MB 560-128961/17-A  
Matrix: Solid  
Analysis Batch: 129073

Client Sample ID: Method Blank  
Prep Type: Soluble

| Analyte                         | MB Result | MB Qualifier | RL   | MDL  | Unit  | D | Prepared | Analyzed       | Dil Fac |
|---------------------------------|-----------|--------------|------|------|-------|---|----------|----------------|---------|
| Alkalinity                      | 5.00      | U            | 5.00 | 5.00 | mg/Kg |   |          | 06/17/16 15:00 | 1       |
| Bicarbonate Alkalinity as CaCO3 | 5.00      | U            | 5.00 | 5.00 | mg/Kg |   |          | 06/17/16 15:00 | 1       |
| Carbonate Alkalinity as CaCO3   | 5.00      | U            | 5.00 | 5.00 | mg/Kg |   |          | 06/17/16 15:00 | 1       |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 560-128961/18-A  
Matrix: Solid  
Analysis Batch: 129073

Client Sample ID: Lab Control Sample  
Prep Type: Soluble

| Analyte    | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|------------|-------------|------------|---------------|-------|---|------|--------------|
| Alkalinity | 100         | 91.10      |               | mg/Kg |   | 91   | 85 - 115     |

## Method: WALKLEY BLACK - Total Organic Carbon (Walkley Black)

Lab Sample ID: MB 600-191393/1  
Matrix: Solid  
Analysis Batch: 191393

Client Sample ID: Method Blank  
Prep Type: Total/NA

| Analyte | MB Result | MB Qualifier | RL    | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------|-----------|--------------|-------|--------|------|---|----------|----------------|---------|
| TOC     | 0.0415    | U            | 0.100 | 0.0415 | %    |   |          | 06/24/16 09:00 | 1       |

Lab Sample ID: LCS 600-191393/2  
Matrix: Solid  
Analysis Batch: 191393

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---------|-------------|------------|---------------|------|---|------|--------------|
| TOC     | 2.34        | 2.383      |               | %    |   | 102  | 80 - 120     |

# Certification Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

| Authority | Program       | EPA Region | Certification ID | Expiration Date |
|-----------|---------------|------------|------------------|-----------------|
| Oklahoma  | State Program | 6          | 2015-119         | 08-31-16        |
| Texas     | NELAP         | 6          | T104704210-16-18 | 03-31-17        |
| USDA      | Federal       |            | P330-14-00328    | 09-30-17        |

## Laboratory: TestAmerica Denver

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

| Authority              | Program       | EPA Region | Certification ID | Expiration Date |
|------------------------|---------------|------------|------------------|-----------------|
| A2LA                   | DoD ELAP      |            | 2907.01          | 10-31-17        |
| A2LA                   | ISO/IEC 17025 |            | 2907.01          | 10-31-17        |
| Alabama                | State Program | 4          | 40730            | 09-30-12 *      |
| Alaska (UST)           | State Program | 10         | UST-30           | 04-05-17        |
| Arizona                | State Program | 9          | AZ0713           | 12-19-16        |
| Arkansas DEQ           | State Program | 6          | 88-0687          | 06-01-17        |
| California             | State Program | 9          | 2513             | 08-31-16        |
| Connecticut            | State Program | 1          | PH-0686          | 09-30-16        |
| Florida                | NELAP         | 4          | E87667           | 06-30-16 *      |
| Georgia                | State Program | 4          | N/A              | 01-09-17        |
| Illinois               | NELAP         | 5          | 200017           | 04-30-17        |
| Iowa                   | State Program | 7          | 370              | 11-30-16        |
| Kansas                 | NELAP         | 7          | E-10166          | 07-31-16        |
| Louisiana              | NELAP         | 6          | 02096            | 06-30-16 *      |
| Maine                  | State Program | 1          | CO0002           | 03-03-17        |
| Minnesota              | NELAP         | 5          | 8-999-405        | 12-31-16        |
| Nevada                 | State Program | 9          | CO0026           | 07-31-16        |
| New Hampshire          | NELAP         | 1          | 205310           | 04-28-17        |
| New Jersey             | NELAP         | 2          | CO004            | 06-30-17        |
| New York               | NELAP         | 2          | 11964            | 04-01-17        |
| North Carolina (WW/SW) | State Program | 4          | 358              | 12-31-16        |
| North Dakota           | State Program | 8          | R-034            | 01-09-17        |
| Oklahoma               | State Program | 6          | 8614             | 08-31-16        |
| Oregon                 | NELAP         | 10         | 4025             | 01-09-17        |
| Pennsylvania           | NELAP         | 3          | 68-00664         | 07-31-16        |
| South Carolina         | State Program | 4          | 72002001         | 01-09-17        |
| Texas                  | NELAP         | 6          | T104704183-15-11 | 09-30-16        |
| Utah                   | NELAP         | 8          | CO00026          | 07-31-16        |
| Virginia               | NELAP         | 3          | 460232           | 06-14-17        |
| Washington             | State Program | 10         | C583             | 08-03-16        |
| West Virginia DEP      | State Program | 3          | 354              | 11-30-16        |
| Wisconsin              | State Program | 5          | 999615430        | 08-31-16        |
| Wyoming (UST)          | A2LA          | 8          | 2907.01          | 10-31-17        |

## Laboratory: TestAmerica Houston

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|-----------|---------|------------|------------------|-----------------|
| Texas     | NELAP   | 6          | T104704223-16-19 | 10-31-16        |

The following analytes are included in this report, but certification is not offered by the governing authority:

| Analysis Method | Prep Method | Matrix | Analyte          |
|-----------------|-------------|--------|------------------|
| 2540B           |             | Solid  | Percent Moisture |

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi



# Certification Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Laboratory: TestAmerica Houston (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

| Authority  | Program     | EPA Region | Certification ID | Expiration Date |
|--|-------------|------------|------------------|-----------------|
| Texas  | NELAP       | 6          | T104704223-16-19 | 10-31-16        |
| The following analytes are included in this report, but certification is not offered by the governing authority: |             |            |                  |                 |
| Analysis Method  | Prep Method | Matrix     | Analyte          |                 |
| 2540B  |             | Solid      | Percent Solids   |                 |

## Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

| Authority               | Program       | EPA Region | Certification ID     | Expiration Date |
|-------------------------|---------------|------------|----------------------|-----------------|
|                         | AFCEE         |            | SAVLAB               |                 |
| A2LA                    | DoD ELAP      |            | 399.01               | 02-28-17        |
| A2LA                    | ISO/IEC 17025 |            | 399.01               | 02-28-17        |
| Alabama                 | State Program | 4          | 41450                | 06-30-17        |
| Alaska (UST)            | State Program | 10         | UST-104              | 11-05-16        |
| Arkansas DEQ            | State Program | 6          | 88-0692              | 01-31-17        |
| California              | State Program | 9          | 2939                 | 07-31-16 *      |
| Colorado                | State Program | 8          | N/A                  | 12-31-16        |
| Connecticut             | State Program | 1          | PH-0161              | 03-31-17        |
| Florida                 | NELAP         | 4          | E87052               | 06-30-17        |
| GA Dept. of Agriculture | State Program | 4          | N/A                  | 06-12-17        |
| Georgia                 | State Program | 4          | N/A                  | 06-30-17        |
| Georgia                 | State Program | 4          | 803                  | 06-30-17        |
| Guam                    | State Program | 9          | 15-005r              | 04-16-17        |
| Hawaii                  | State Program | 9          | N/A                  | 06-30-17        |
| Illinois                | NELAP         | 5          | 200022               | 11-30-16        |
| Indiana                 | State Program | 5          | N/A                  | 06-30-17        |
| Iowa                    | State Program | 7          | 353                  | 06-30-17        |
| Kentucky (DW)           | State Program | 4          | 90084                | 12-31-16        |
| Kentucky (UST)          | State Program | 4          | 18                   | 06-30-16 *      |
| Kentucky (WW)           | State Program | 4          | 90084                | 12-31-16        |
| Louisiana               | NELAP         | 6          | 30690                | 06-30-17        |
| Louisiana (DW)          | NELAP         | 6          | LA160019             | 12-31-16        |
| Maine                   | State Program | 1          | GA00006              | 09-24-16        |
| Maryland                | State Program | 3          | 250                  | 12-31-16        |
| Massachusetts           | State Program | 1          | M-GA006              | 06-30-17        |
| Michigan                | State Program | 5          | 9925                 | 06-30-16 *      |
| Mississippi             | State Program | 4          | N/A                  | 06-30-16 *      |
| Nebraska                | State Program | 7          | TestAmerica-Savannah | 06-30-16 *      |
| New Jersey              | NELAP         | 2          | GA769                | 06-30-17        |
| New Mexico              | State Program | 6          | N/A                  | 06-30-17        |
| New York                | NELAP         | 2          | 10842                | 03-31-17        |
| North Carolina (DW)     | State Program | 4          | 13701                | 07-31-16 *      |
| North Carolina (WW/SW)  | State Program | 4          | 269                  | 12-31-16        |
| Oklahoma                | State Program | 6          | 9984                 | 08-31-16        |
| Pennsylvania            | NELAP         | 3          | 68-00474             | 06-30-17        |
| Puerto Rico             | State Program | 2          | GA00006              | 12-31-16        |
| South Carolina          | State Program | 4          | 98001                | 06-30-16 *      |
| Tennessee               | State Program | 4          | TN02961              | 06-30-16 *      |
| Texas                   | NELAP         | 6          | T104704185-14-7      | 11-30-16        |
| USDA                    | Federal       |            | SAV 3-04             | 06-11-17        |

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Certification Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

## Laboratory: TestAmerica Savannah (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

| Authority          | Program       | EPA Region | Certification ID | Expiration Date |
|--------------------|---------------|------------|------------------|-----------------|
| Virginia           | NELAP         | 3          | 460161           | 06-14-17        |
| Washington         | State Program | 10         | C805             | 06-10-16 *      |
| West Virginia (DW) | State Program | 3          | 9950C            | 12-31-16        |
| West Virginia DEP  | State Program | 3          | 094              | 08-31-16        |
| Wisconsin          | State Program | 5          | 999819810        | 08-31-16        |
| Wyoming            | State Program | 8          | 8TMS-L           | 06-30-16 *      |

\* Certification renewal pending - certification considered valid.

TestAmerica Corpus Christi

# Method Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

| Method           | Method Description                                     | Protocol | Laboratory |
|------------------|--|----------|------------|
| 8260B            | Volatile Organic Compounds (GC/MS)                     | SW846    | TAL CC     |
| 8270C            | Semivolatile Organic Compounds (GC/MS)                 | SW846    | TAL CC     |
| 8081B            | Organochlorine Pesticides (GC)                         | SW846    | TAL CC     |
| 8081B            | Organochlorine Pesticides (GC)                         | SW846    | TAL HOU    |
| 8082A            | Polychlorinated Biphenyls (PCBs) by Gas Chromatography | SW846    | TAL CC     |
| 8141A            | Organophosphorous Pesticides (GC)                      | SW846    | TAL DEN    |
| 8151A            | Herbicides (GC)  | SW846    | TAL HOU    |
| 8151A            | Herbicides (GC)  | SW846    | TAL SAV    |
| 300.0            | Anions, Ion Chromatography                             | MCAWW    | TAL HOU    |
| 6010B            | Metals (ICP)   | SW846    | TAL CC     |
| 7471A            | Mercury (CVAA)   | SW846    | TAL CC     |
| 2540B            | Percent Moisture                                       | SM20     | TAL HOU    |
| 340.2            | Fluoride   | MCAWW    | TAL CC     |
| 351.2            | Nitrogen, Total Kjeldahl                               | MCAWW    | TAL HOU    |
| 365.4-1974       | Phosphorus, Total                                      | EPA      | TAL SAV    |
| 5310 D-2000      | Organic Carbon, Total (TOC)                            | SM       | TAL HOU    |
| 9040C            | pH   | SW846    | TAL CC     |
| 9045D            | pH   | SW846    | TAL CC     |
| SM 2320B         | Alkalinity   | SM       | TAL CC     |
| WALKLEY<br>BLACK | Total Organic Carbon (Walkley Black)                   | MSA      | TAL HOU    |

## Protocol References:

EPA = US Environmental Protection Agency  
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.  
MSA = "Methods Of Soil Analysis, Chemical And Microbiological Properties", Part 2, 2nd Ed., 1982 And Subsequent Revisions.  
SM = "Standard Methods For The Examination Of Water And Wastewater",  
SM20 = "Standard Methods For The Examination Of Water And Wastewater", 20th Edition."  
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673  
TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100  
TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444  
TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

# Sample Summary

Client: SWCA, Inc.  
Project/Site: Sediment Sampling

TestAmerica Job ID: 560-62041-1

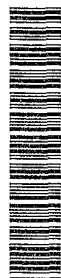
| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 560-62041-1   | HMSM310          | Solid  | 06/09/16 10:38 | 06/10/16 08:00 |
| 560-62041-2   | HMSM320          | Solid  | 06/09/16 11:02 | 06/10/16 08:00 |
| 560-62041-3   | HMSM330          | Solid  | 06/09/16 11:19 | 06/10/16 08:00 |
| 560-62041-4   | HMSM340          | Solid  | 06/09/16 11:39 | 06/10/16 08:00 |
| 560-62041-5   | HMSM350          | Solid  | 06/09/16 12:00 | 06/10/16 08:00 |
| 560-62041-6   | HMSM360          | Solid  | 06/09/16 12:28 | 06/10/16 08:00 |
| 560-62041-7   | HSM370           | Solid  | 06/09/16 12:57 | 06/10/16 08:00 |
| 560-62041-8   | FDHSM370         | Solid  | 06/09/16 12:57 | 06/10/16 08:00 |
| 560-62041-9   | TB08             | Water  | 06/09/16 00:00 | 06/10/16 08:00 |
| 560-62041-10  | EB01             | Water  | 06/09/16 16:15 | 06/10/16 08:00 |
| 560-62041-11  | EB02             | Water  | 06/09/16 16:05 | 06/10/16 08:00 |

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| <b>Client Information</b><br>Client Contact: Jennifer Moreland<br>Company: SWCA, Inc.   |  | Lab PM: Mainlot, Lindy<br>E-Mail: lindy.mainlot@testamerica.com  |  | COC No: 600-43444-13486<br>Page: Page 1 of 2<br>Job #: |  |
| <b>Analysis Requested</b>   |  |  |  |  |  |
| Due Date Requested:   |  | Preservation Codes:<br>A - HCL<br>B - NaOH<br>C - Zn Acetate<br>D - Nitric Acid<br>E - NaHSO4<br>F - MeOH<br>G - Amchlor<br>H - Ascorbic Acid<br>I - Ice<br>J - DI Water<br>K - EDTA<br>L - EDA<br>Other: Na3  |  |  |  |
| TAT Requested (days): <b>Standard</b>   |  | 300 ORG.FMS, 9040C, 340.2 FI<br>2320B, 2540C, Calcd, 2540D, 300, ORG.FM, 28D,  |  |  |  |
| PO #: 210-877-2847 (Tel)<br>Purchase Order Requested<br>WO #:   |  | 8161A - Herbicides<br>8260B - VOCs (Target Compound List)<br>9060 - Total Organic Carbon<br>351.2 NP, 355.4 P, E - TKN, Total Phosphorus ~   |  |  |  |
| Project #: 60006903<br>SSOW#:   |  | 6010B, 7471A - Metals Dissolved<br>8082A - PCBs<br>8081B - Organochlorine Pesticides (GC)<br>8270C - SVOCs (Target Compound List)<br>6020 - Metals Diss - (Custom List 16 - CORPUS Dissol)   |  |  |  |
| Matrix (W=water, S=solid, O=wastefoil, BT=tissue, A=air)  |  | 8141A - Organophosphorus Pesticides (DENVER)<br>8141A - Organophosphorus Pesticides (DENVER)   |  |  |  |
| Sample Date   |  | Sample Time (C=Comp, G=grab)   |  | Field Filtered Sample (Yes/No)                         |  |
| 6/9/16  |  | 1038   |  | N  |  |
| 6/9/16  |  | 1102   |  | N  |  |
| 6/9/16  |  | 1119   |  | N  |  |
| 6/9/16  |  | 1139   |  | N  |  |
| 6/9/16  |  | 1200   |  | N  |  |
| 6/9/16  |  | 1228   |  | N  |  |
| 6/9/16  |  | 1257   |  | N  |  |
| 6/9/16  |  | 1257   |  | N  |  |
| 6/9/16  |  | G  |  | N  |  |
| Sample Identification<br>HSM310<br>HSM320<br>HSM330<br>HSM340<br>HSM350<br>HSM360<br>HSM370<br>FDHSM370<br>TB08   |  | Please homogenize sample before analysis<br>Please homogenize sample before analysis<br>Please homogenize sample before analysis<br>Please homogenize sample before analysis<br>Please homogenize sample before analysis<br>Please homogenize sample before analysis<br>Please homogenize sample before analysis<br>Please homogenize sample before analysis |  |  |  |
| <b>Possible Hazard Identification</b><br><input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological |  |  |  |  |  |
| Deliverable Requested: I, II, III, IV, Other (specify)  |  |  |  |  |  |
| Empty Kit Relinquished by:  |  |  |  |  |  |
| Relinquished by:  |  | Date: 6/9/16   |  | Company: SWCA  |  |
| Relinquished by:  |  | Date: 6-5-16   |  | Company:   |  |
| Relinquished by:  |  | Date: 6-5-16   |  | Company:   |  |
| Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)<br><input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months                          |  |  |  |  |  |
| Special Instructions/QC Requirements:   |  |  |  |  |  |
| Received by: <i>[Signature]</i> Date/Time: 6-5-16 16:55 Company: SWCA<br>Received by: <i>[Signature]</i> Date/Time: 6-5-16 16:55 Company: SWCA<br>Received by: <i>[Signature]</i> Date/Time: 6-5-16 16:55 Company: SWCA   |  |  |  |  |  |
| Custody Seal No.:   |  | Cooler Temperature(s) °C and Other Remarks:  |  |  |  |

[illegible]

**TestAmerica Corpus Christi**  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record



**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

|   |        |                              |             |                               |  |                                   |  |  |  |
|---|--------|------------------------------|-------------|-------------------------------|--|-----------------------------------|--|--|--|
| <b>Client Information (Sub Contract Lab)</b>  |        | Sampler: _____               |             | Lab Pkt: _____                |  | Carrier Tracking No(s): _____     |  | COC No: 560-13726.1                              |  |
| Shipping/Receiving  |        | Phone: _____                 |             | E-Mail: _____                 |  | Page: _____                       |  | Page 1 of 1                                      |  |
| Company: TestAmerica Laboratories, Inc.   |        | Address: 4955 Yarrow Street, |             | City: Arvada                  |  | State, Zip: CO, 80002             |  | Phone: 303-736-0100(Tel) 303-431-7171(Fax)       |  |
| Email: _____  |        | PO #: _____                  |             | WO #: _____                   |  | Project #: 60006903               |  | SOW#: _____                                      |  |
| Project Name: 2016 Sampling Requirements  |        | Site: _____                  |             | Due Date Requested: 6/24/2016 |  | TAT Requested (days): _____       |  | Analysis Requested                               |  |
| Sample Identification - Client ID (Lab ID)  |        | Sample Date                  | Sample Time | Sample Type (C=Comp, G=grab)  | Matrix (W=water, S=solid, O=wastefl, BT=Tissue, A=Air) | Field Filtered Sample (Yes or No) | 814A/3610C Organophosphorous Pesticides (DENVER) | 814A/3610C Organophosphorous Pesticides (DENVER) | 814A/3610C Organophosphorous Pesticides (DENVER) |
| HMMSM310 (560-62041-1)  | 6/9/16 | 10:38 Central                | Solid       |                               |  | X                                 |  |  |  |
| HMMSM320 (560-62041-2)  | 6/9/16 | 11:02 Central                | Solid       |                               |  | X                                 |  |  |  |
| HMMSM330 (560-62041-3)  | 6/9/16 | 11:19 Central                | Solid       |                               |  | X                                 |  |  |  |
| HMMSM340 (560-62041-4)  | 6/9/16 | 11:39 Central                | Solid       |                               |  | X                                 |  |  |  |
| HMMSM350 (560-62041-5)  | 6/9/16 | 12:00 Central                | Solid       |                               |  | X                                 |  |  |  |
| HMMSM360 (560-62041-6)  | 6/9/16 | 12:28 Central                | Solid       |                               |  | X                                 |  |  |  |
| HMMSM370 (560-62041-7)  | 6/9/16 | 12:57 Central                | Solid       |                               |  | X                                 |  |  |  |
| FDHSM370 (560-62041-8)  | 6/9/16 | 12:57 Central                | Solid       |                               |  | X                                 |  |  |  |
| EB01 (560-62041-10)   | 6/9/16 | 16:15 Central                | Water       |                               |  | X                                 |  |  |  |
| EB02 (560-62041-11)   | 6/9/16 | 16:05 Central                | Water       |                               |  | X                                 |  |  |  |
| <b>Possible Hazard Identification</b><br>Unconfirmed<br>Deliverable Requested: I, II, III, IV, Other (specify) _____  |        |                              |             |                               |  |                                   |  |  |  |
| Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)<br><input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months |        |                              |             |                               |  |                                   |  |  |  |
| Special Instructions/QC Requirements:   |        |                              |             |                               |  |                                   |  |  |  |
| Empty Kit Relinquished by: _____ Date: _____  |        |                              |             |                               |  |                                   |  |  |  |
| Relinquished by: <i>Coy Ska</i> Date/Time: 6-14-16 1700 Company: TAP  |        |                              |             |                               |  |                                   |  |  |  |
| Relinquished by: _____ Date/Time: _____ Company: _____  |        |                              |             |                               |  |                                   |  |  |  |
| Relinquished by: _____ Date/Time: _____ Company: _____  |        |                              |             |                               |  |                                   |  |  |  |
| Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.: _____  |        |                              |             |                               |  |                                   |  |  |  |
| Cooler Temperature(s) °C and Other Remarks: 0.6 J2#5 too Transferred by BP 6-15-16  |        |                              |             |                               |  |                                   |  |  |  |



Login #: 560-62017 Date/Time Received: 06-15-2016 1000Company Name & Sampling Site: TA Corpus ChristiTime Zone: • EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER State: TX

Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly Report (CUR)

Temp 0.10 IR# 5  
CF +0.0 Initials CHN  
Date: 06/15/16560-62017 Login  
PM: Maingot, Lindy  
Company: SWCA, Inc.

N/A Yes No

Initials RP

- ☒ ☐ ☐ 1. Is radioactivity at or below background? BKG CPM: \_\_\_\_\_ CPM Reading: \_\_\_\_\_
- ☐ ☒ ☐ 2a. Is a custody seal present on the cooler?
- ☐ ☒ ☐ 2b. If yes, is the cooler's custody seal intact?
- ☐ ☒ ☐ 2c. Do cooler or samples appear to not have been compromised or tampered with?
- ☐ ☒ ☐ 3a. Were samples received on ice?
- ☐ ☒ ☐ 3b. Is cooler temperature acceptable?
- ☐ ☒ ☐ 3c. Has temperature been recorded?
- ☐ ☒ ☐ 4. Is COC present; filled out in ink and legible; and filled out with all pertinent information?
- ☒ ☐ ☐ 5. Is the Field Sampler's name present on the COC?
- ☐ ☒ ☐ 6a. Are there no discrepancies between the **sample IDs** and/or **collection date and time** on the containers and the COC?
- ☐ ☒ ☐ 6b. Are there no discrepancies between the container types and those listed on the COC?
- ☐ ☒ ☐ 7. Are samples received within Holding Time?
- ☐ ☒ ☐ 8. Do sample containers have legible labels?
- ☐ ☐ ☒ 9. Are all sample containers intact (not broken or leaking)?
- ☐ ☒ ☐ 10a. Are appropriate sample containers used?
- ☐ ☒ ☐ 10b. Are sample bottles completely filled? (Perchlorate bottles  $\geq 1/3$  head space)
- ☐ ☒ ☐ 10c. Is sufficient vol. for all requested analyses, incl. any requested MS/MSDs provided?
- ☐ ☒ ☐ 11. No splitting or compositing of samples required?
- ☒ ☐ ☐ 12. Do all VOA sample vials have no headspace or bubbles  $>6$  mm ( $1/4$ " in diameter)?
- ☒ ☐ ☐ 13. Were VOA vials labeled as preserved? ☐ HCl ☐ 0-6°C ☐ Sodium Thiosulfate ☐ Ascorbic Acid ☐ Other
- ☐ ☒ ☐ 14. Are all samples single phase? (i.e., no multiphasic samples are present.)

San Antonio



561

## Login Checks:

Initials RP

- ☐ ☐ ☐ 15. Was a Priority Form completed for any short holds or quick TATs?
- ☐ ☐ ☐ 16. Were any tests logged for subcontract?
- ☐ ☐ ☐ 17. Were special archiving instructions and login instructions indicated in the Project Notes?

Note Archive Requirements: \_\_\_\_\_

- ☐ ☐ ☐ 18. Were multiple Series logged for this job?

## Labeling and Storage Checks:

Initials \_\_\_\_\_

- DOE/DoD: ☐ Yes ☐ No Residual chlorine check required: ☐ Yes ☐ No Quarantined: ☐ Yes ☐ No
- ☐ ☐ ☐ 19. Was Sample Preservation verified and found to be correct? (excluding VOA, Oil & Grease, and TOC volumes)
- ☐ ☐ ☐ 20. Was Residual Chlorine checked and noted on the CUR if present?
- ☐ ☐ ☐ 21. If subcontract work was requested, was volume placed on sub shelf?
- ☐ ☐ ☐ 22. Were Terracore/Encores delivered to VOA lab? Verified by: \_\_\_\_\_
- ☐ ☐ ☐ 23. Did the sample ID on TA label match the client's sample ID on container?
- ☐ ☐ ☐ 24. Were stickers for special archiving instructions affixed to each box?

**TestAmerica Denver**  
**Condition Upon Receipt Anomaly Report (CUR)**

Login No: 560-62017 Date/Time: 06-15-2016 1000  
 Client: TA Corpus Christi Initiated by: RP

**CONDITION/ANOMALY/VARIANCE (CHECK ALL THAT APPLY):**

|   |  |   |  |
|---|--|---|--|
| <input type="checkbox"/> <b>COOLERS</b><br><input type="checkbox"/> Received, No Chain of Custody (COC)<br><input type="checkbox"/> Other: _____  |  | <input type="checkbox"/> <b>CHAIN OF CUSTODY (COCs)</b><br><input type="checkbox"/> Not relinquished by Client; No date/time Relinquished.<br><input type="checkbox"/> Incomplete Information <input type="checkbox"/> Other: _____   |  |
| <input type="checkbox"/> <b>CONTAINERS</b><br><input type="checkbox"/> Leaking <input type="checkbox"/> Broken<br><input type="checkbox"/> Without Labels <input type="checkbox"/> Extra<br><input type="checkbox"/> VOA Vials w/ Headspace or bubbles > 6 mm<br><input type="checkbox"/> Perchlorate without 1/3 headspace<br><input type="checkbox"/> Other: _____  |  | <input type="checkbox"/> <b>TEMPERATURE (greater than 6° C)</b><br><input type="checkbox"/> Cooler Temp<br><input type="checkbox"/> <b>CUSTODY SEALS (COOLER(S)/CONTAINER(S))</b><br><input type="checkbox"/> None <input type="checkbox"/> Not Intact<br><input type="checkbox"/> Other: _____ |  |
| <input type="checkbox"/> <b>CONTAINER LABELS</b><br><input type="checkbox"/> Not the same ID/info as in COC <input type="checkbox"/> ID COLLECTION <input type="checkbox"/> Time <input type="checkbox"/> Date <input type="checkbox"/> PRESERVATIVE<br><input type="checkbox"/> Incomplete <input type="checkbox"/> Markings/Info smeared or illegible <input type="checkbox"/> Torn<br><input type="checkbox"/> Other: _____  |  |   |  |
| <input type="checkbox"/> <b>SAMPLES</b><br><input type="checkbox"/> Samples NOT RECEIVED but listed on COC<br><input type="checkbox"/> Samples received but NOT LISTED on COC<br><input type="checkbox"/> Logged based on Label Information<br><input type="checkbox"/> Logged based on info from other samples on COC<br><input type="checkbox"/> Logged according to Work Plan<br><input type="checkbox"/> Logged on HOLD UNTIL FURTHER NOTICE<br><input type="checkbox"/> Other: _____ |  |   |  |

Comments: Water from cooler's got into containers 560-62017-E1, C-2, C-3, C-4, C-5 and C-6 samples might be contaminated.

Didn't Receive 560-62017 C-4 MSD volume only received  
2 Containers for sample COC has us receiving 3.

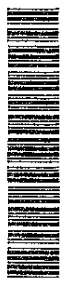
Sample Control Review: Reed RHP Date: 6-15-16

**Corrective Action:**

☐ Client Informed: verbally on: \_\_\_\_\_ By: \_\_\_\_\_ : In writing on: \_\_\_\_\_ By: \_\_\_\_\_  
☐ Sample(s) processed "as is". \_\_\_\_\_

Project Management Review: \_\_\_\_\_ Date: \_\_\_\_\_

## Chain of Custody Record



# STAY PUT

卷一百一十五

| Client Information (Sub Contract Lab)  |  | Lab PW:   |  | Camer Tracking No(s)                                |  | COC No.               |  |
|--|--|---|--|---|--|-----------------------|--|
| Client Contact:  |  | Maingot, Lindy  |  |   |  | 560-13727-1           |  |
| Shipping/Receiving   |  | E-Mail  |  |   |  | Page 1 of 1           |  |
| Company  |  | Lindy.maingot@tesiamerica.com   |  |   |  | Job #                 |  |
| TestAmerica Laboratories, Inc. <td colspan="2">Due Date Requested:<td colspan="2">Analysis Requested<td colspan="2">560-62041-1</td></td></td> |  | Due Date Requested: <td colspan="2">Analysis Requested<td colspan="2">560-62041-1</td></td> |  | Analysis Requested <td colspan="2">560-62041-1</td> |  | 560-62041-1           |  |
| Address:   |  | 6310 Routhway Street,   |  |   |  | Preservation Codes:   |  |
| City   |  | Houston   |  |   |  | M - Hexane            |  |
| State Zip  |  | TX, 77040   |  |   |  | N - None              |  |
| Phone  |  | 713-690-4444(Tel) 713-690-5646(Fax)   |  |   |  | O - AsNaO2            |  |
| Email  |  |   |  |   |  | P - Na2O4S            |  |
| Project Name   |  | 2016 Sampling Requirements  |  |   |  | Q - Na2SO3            |  |
| Site   |  | SSOW#   |  |   |  | R - NaHSO4            |  |
|  |  |   |  |   |  | S - H2SO4             |  |
|  |  |   |  |   |  | T - TSP Dodecahydrate |  |
|  |  |   |  |   |  | U - Acetone           |  |
|  |  |   |  |   |  | V - MCAA              |  |
|  |  |   |  |   |  | W - pH 4-5            |  |
|  |  |   |  |   |  | X - EDTA              |  |
|  |  |   |  |   |  | Y - EDA               |  |
|  |  |   |  |   |  | Z - other (specify)   |  |
|  |  |   |  |   |  | Other:                |  |
| Sample Identification - Client ID (Lab ID)   |  | Sample Date   |  | Sample Time   |  | Sample Matrix         |  |
| HMSM310 (560-62041-1)  |  | 6/9/16  |  | 10:38   |  | Solid                 |  |
| HMSM320 (560-62041-2)  |  | 6/9/16  |  | 11:02   |  | Solid                 |  |
| HMSM330 (560-62041-3)  |  | 6/9/16  |  | 11:19   |  | Solid                 |  |
| HMSM340 (560-62041-4)  |  | 6/9/16  |  | 11:39   |  | Solid                 |  |
| HMSM350 (560-62041-5)  |  | 6/9/16  |  | 12:00   |  | Solid                 |  |
| HMSM360 (560-62041-6)  |  | 6/9/16  |  | 12:28   |  | Solid                 |  |
| HSM370 (560-62041-7)   |  | 6/9/16  |  | 12:57   |  | Solid                 |  |
| FDHSM370 (560-62041-8)   |  | 6/9/16  |  | 12:57   |  | Solid                 |  |
| EB01 (560-62041-10)  |  | 6/9/16  |  | 16:15   |  | Water                 |  |
| EB02 (560-62041-11)  |  | 6/9/16  |  | 16:05   |  | Water                 |  |
| Possible Hazard Identification   |  |   |  |   |  |                       |  |
| Unconfirmed  |  |   |  |   |  |                       |  |
| Deliverable Requested: I, II, III, IV, Other (specify)   |  |   |  |   |  |                       |  |
| Empty Kit Relinquished by  |  |   |  |   |  |                       |  |
| Relinquished by  |  | Date/Time   |  | Date/Time   |  | Company               |  |
| Relinquished by  |  | 6-14-16 1700  |  |   |  | Company               |  |
| Relinquished by  |  |   |  |   |  | Company               |  |
| Relinquished by  |  |   |  |   |  | Company               |  |
| Custody Seals Intact   |  |   |  |   |  | Custody Seal No.      |  |
| A Yes A No   |  |   |  |   |  |                       |  |

Loc: 560

62041

## Sample Receipt Checklist

Date/Time Received: \_\_\_\_\_

JOB NUMBER: \_\_\_\_\_

CLIENT: TA Corpus

16 JUN 15 10:48

UNPACKED BY: \_\_\_\_\_

CARRIER/DRIVER: FE Stord CN

Custody Seal Present:

☒ YES☐ NONumber of Coolers Received: 2

| Cooler ID | Temp Blank   | Trip Blank   | Observed Temp (°C) | Therm ID   | Therm CF       | Corrected Temp (°C) |
|-----------|--------------|--------------|--------------------|------------|----------------|---------------------|
| <u>RW</u> | <u>Y / N</u> | <u>Y / N</u> | <u>0.8</u>         | <u>626</u> | <u>0.1</u>     | <u>0.9</u>          |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |            |                |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    | <u>62</u>  | <u>6-15-14</u> |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |            |                |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |            |                |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |            |                |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |            |                |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |            |                |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |            |                |                     |
|           | <u>Y / N</u> | <u>Y / N</u> |                    |            |                |                     |

CF = correction factor

Samples received on ice?

☒ YES☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED:

☐ NO☐ YES

Base samples are &gt;pH 12:

☐ YES☐ NO

Acid preserved are &lt;pH 2:

☐ YES☐ NO

pH paper Lot # \_\_\_\_\_

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

YES NO

Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?

COMMENTS:

~~6727~~ 6727 7877 7752

## Chain of Custody Record



# TestAmerica

SECRET

|  |  |  |  |   |  |   |  |
|--|--|--|--|---|--|---|--|
| Client Information (Sub Contract Lab)  |  | Lab PW:<br>Maingot, Lindy                    |  | Camer Tracking No(s)  |  | COC No:<br>560-13737 1  |  |
| Client Contact<br>Shipping/Receiving   |  | E-Mail<br>lindy.maingot@testamericalab.com   |  |   |  | Page 1 of 1   |  |
| Company<br>TestAmerica Laboratories, Inc   |  | Analysis Requested                           |  | Job #<br>560-62041-1  |  | Preservation Codes:<br>A - HCL<br>B - NaOH<br>C - Zn Acetate<br>D - Nitric Acid<br>E - H2SO4<br>F - MeOH<br>G - Amchlor<br>H - Ascorbic Acid<br>I - Ice<br>J - DI Water<br>K - EDTA<br>L - EDA<br>Other:<br>M - Hexane<br>N - None<br>O - AsNaO2<br>P - Na2OAS<br>Q - Na2SO3<br>R - Na2S2O3<br>S - H2SO4<br>T - TSP Dodecahydrate<br>U - Acetone<br>V - MCAA<br>W - pH 4.5<br>Z - other (specify) |  |
| Due Date Requested:<br>6/22/2016   |  | TAT Requested (days):                        |  | PO #  |  | Project #<br>60006903   |  |
| Address<br>5102 LaRoche Avenue,<br>City:<br>Savannah<br>State, Zip:<br>GA, 31404 |  | Phone<br>912-354-7858(Tel) 912-352-0165(Fax) |  | Email   |  | SSOW#:  |  |
| Project Name:<br>2016 Sampling Requirements                                      |  | Site:  |  | Sample Date   |  | Sample Time   |  |
| Sample Identification - Client ID (Lab ID)                                       |  | Sample Type<br>(C-comp, G-grab)              |  | Matrix<br>(W-water, S-solid, O-wastefill, BT-Tissue, A-air) |  | Preservation Code   |  |
| EB01 (560-62041-10)  |  | 6/9/16                                       |  | 16:15   |  | Central   |  |
| EB02 (560-62041-11)  |  | 6/9/16                                       |  | 16:05   |  | Central   |  |
| Possible Hazard Identification   |  | Unconfirmed                                  |  | Deliverable Requested: I, II, III, IV, Other (specify)      |  | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)<br><input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months   |  |
| Empty Kit Relinquished by:   |  | Date   |  | Time  |  | Special Instructions/QC Requirements:   |  |
| Relinquished by:   |  | Date   |  | Time  |  | Method of Shipment  |  |
| Relinquished by:   |  | Date   |  | Time  |  | Received by:  |  |
| Relinquished by:   |  | Date   |  | Time  |  | Received by:  |  |
| Relinquished by:   |  | Date   |  | Time  |  | Received by:  |  |
| Custody Seals Intact:<br>A Yes A No  |  | Custody Seal No.:                            |  | Cooler Temperature(s) °C and Other Remarks:                 |  | 33/31   |  |



TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Phone (361) 289-2673 Fax (361) 289-2471

## Chain of Custody Record

TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING



| Client Information (Sub Contract Lab)   |        | Lab PIR                             |             | Carrier Tracking No(s)       |                                    | COC No                            |   |                    |   |                            |  |
|---|--------|-------------------------------------|-------------|------------------------------|------------------------------------|-----------------------------------|---|--------------------|---|----------------------------|--|
| Client Contact  |        | Maincot, Lindy                      |             |                              |                                    | 560-13751.1                       |   |                    |   |                            |  |
| Shipping/Receiving  |        | E-Mail                              |             |                              |                                    | Page 1 of 1                       |   |                    |   |                            |  |
| Company   |        | Lindy, maincot@testamericainc.com   |             |                              |                                    | Job #                             |   |                    |   |                            |  |
| Address   |        | 5102 LaRoche Avenue,                |             |                              |                                    | 560-62041-1                       |   |                    |   |                            |  |
| City, State, Zip  |        | Savannah, GA, 31404                 |             |                              |                                    |                                   |   |                    |   |                            |  |
| Phone   |        | 912-354-7658(Tel) 912-352-0165(Fax) |             |                              |                                    |                                   |   |                    |   |                            |  |
| Email   |        |                                     |             |                              |                                    |                                   |   |                    |   |                            |  |
| Project Name  |        | Sediment Sampling                   |             |                              |                                    |                                   |   |                    |   |                            |  |
| Site  |        |                                     |             |                              |                                    |                                   |   |                    |   |                            |  |
| Sample Identification - Client ID (Lab ID)  |        | Sample Date                         | Sample Time | Sample Type (C=Comp, G=grab) | Matrix (W=water, S=solid, O=other) | Field Filtered Sample (Yes or No) | 8161A/8161A, SP (MOD) Routine Herbicides Dapion | Analysis Requested | Preservation Codes:   | Special Instructions/Note: |  |
| HMSM310 (560-62041-1)   | 6/9/16 | 10:38                               | Central     | Solid                        |                                    | X                                 |   |                    | A - HCL<br>B - NaOH<br>C - Zn Acetate<br>D - Nitric Acid<br>E - NaHSO4<br>F - MeOH<br>G - Amchlor<br>H - Ascorbic Acid<br>I - Ice<br>J - DI Water<br>K - EDTA<br>L - EDA<br>Other:    |                            |  |
| HMSM320 (560-62041-2)   | 6/9/16 | 11:02                               | Central     | Solid                        |                                    | X                                 |   |                    | M - Hexane<br>N - None<br>O - AsNaO2<br>P - Na2O4S<br>Q - Na2SO3<br>R - Na2SO3<br>S - H2SO4<br>T - TSP Dodecalhydrate<br>U - Acetone<br>V - MCAA<br>W - pH 4-5<br>Z - other (specify) |                            |  |
| HMSM330 (560-62041-3)   | 6/9/16 | 11:19                               | Central     | Solid                        |                                    | X                                 |   |                    |   |                            |  |
| HMSM340 (560-62041-4)   | 6/9/16 | 11:39                               | Central     | Solid                        |                                    | X                                 |   |                    |   |                            |  |
| HMSM350 (560-62041-5)   | 6/9/16 | 12:00                               | Central     | Solid                        |                                    | X                                 |   |                    |   |                            |  |
| HMSM360 (560-62041-6)   | 6/9/16 | 12:28                               | Central     | Solid                        |                                    | X                                 |   |                    |   |                            |  |
| HMSM370 (560-62041-7)   | 6/9/16 | 12:57                               | Central     | Solid                        |                                    | X                                 |   |                    |   |                            |  |
| FDHSM370 (560-62041-8)  | 6/8/16 | 12:57                               | Central     | Solid                        |                                    | X                                 |   |                    |   |                            |  |
| Possible Hazard Identification  |        |                                     |             |                              |                                    |                                   |   |                    |   |                            |  |
| Unconfirmed   |        |                                     |             |                              |                                    |                                   |   |                    |   |                            |  |
| Deliverable Requested I, II, III, IV, Other (specify)   |        |                                     |             |                              |                                    |                                   |   |                    |   |                            |  |
| Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)                         |        |                                     |             |                              |                                    |                                   |   |                    |   |                            |  |
| Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months |        |                                     |             |                              |                                    |                                   |   |                    |   |                            |  |
| Special Instructions/QC Requirements.   |        |                                     |             |                              |                                    |                                   |   |                    |   |                            |  |
| Empty Kit Relinquished by:  |        |                                     |             |                              |                                    |                                   |   |                    |   |                            |  |
| Relinquished by _____ Date: _____   |        |                                     |             |                              |                                    |                                   |   |                    |   |                            |  |
| Relinquished by _____ Date: _____   |        |                                     |             |                              |                                    |                                   |   |                    |   |                            |  |
| Relinquished by _____ Date: _____   |        |                                     |             |                              |                                    |                                   |   |                    |   |                            |  |
| Custody Seals Intact: _____   |        |                                     |             |                              |                                    |                                   |   |                    |   |                            |  |
| Custody Seal No. _____  |        |                                     |             |                              |                                    |                                   |   |                    |   |                            |  |

7/13/2016

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## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-62041-1

**Login Number: 62041**

**List Source: TestAmerica Corpus Christi**

**List Number: 1**

**Creator: Escalona-Garcia, Jose A**

| Question   | Answer | Comment                             |
|--|--------|-------------------------------------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |                                     |
| The cooler's custody seal, if present, is intact.  | True   |                                     |
| Sample custody seals, if present, are intact.  | True   |                                     |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |                                     |
| Samples were received on ice.  | True   |                                     |
| Cooler Temperature is acceptable.  | True   |                                     |
| Cooler Temperature is recorded.  | True   |                                     |
| COC is present.  | True   |                                     |
| COC is filled out in ink and legible.  | True   |                                     |
| COC is filled out with all pertinent information.  | True   |                                     |
| Is the Field Sampler's name present on COC?  | True   |                                     |
| There are no discrepancies between the containers received and the COC.                  | False  | Refer to Job Narrative for details. |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |                                     |
| Sample containers have legible labels.   | True   |                                     |
| Containers are not broken or leaking.  | True   |                                     |
| Sample collection date/times are provided.   | True   |                                     |
| Appropriate sample containers are used.  | True   |                                     |
| Sample bottles are completely filled.  | True   |                                     |
| Sample Preservation Verified.  | True   |                                     |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |                                     |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | N/A    |                                     |
| Multiphasic samples are not present.   | True   |                                     |
| Samples do not require splitting or compositing.   | True   |                                     |
| Residual Chlorine Checked.   | N/A    |                                     |



## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-62041-1

**Login Number: 62041**

**List Number: 3**

**Creator: Pottruff, Reed W**

**List Source: TestAmerica Denver**

**List Creation: 06/15/16 01:46 PM**

| Question   | Answer | Comment                                 |
|--|--------|---|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |   |
| The cooler's custody seal, if present, is intact.  | True   |   |
| Sample custody seals, if present, are intact.  | True   |   |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |   |
| Samples were received on ice.  | True   |   |
| Cooler Temperature is acceptable.  | True   |   |
| Cooler Temperature is recorded.  | True   |   |
| COC is present.  | True   |   |
| COC is filled out in ink and legible.  | True   |   |
| COC is filled out with all pertinent information.  | True   |   |
| Is the Field Sampler's name present on COC?  | N/A    | Received project as a subcontract.      |
| There are no discrepancies between the containers received and the COC.                  | True   |   |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |   |
| Sample containers have legible labels.   | True   |   |
| Containers are not broken or leaking.  | False  | sample containers might be contaminated |
| Sample collection date/times are provided.   | True   |   |
| Appropriate sample containers are used.  | True   |   |
| Sample bottles are completely filled.  | False  | 1 liter amber is only half way filled   |
| Sample Preservation Verified.  | True   |   |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |   |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | N/A    |   |
| Multiphasic samples are not present.   | True   |   |
| Samples do not require splitting or compositing.   | True   |   |
| Residual Chlorine Checked.   | N/A    |   |

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-62041-1

**Login Number: 62041**

**List Number: 2**

**Creator: Bolinger, Lindale M**

**List Source: TestAmerica Houston**

**List Creation: 06/15/16 01:50 PM**

| Question   | Answer | Comment                                     |
|--|--------|---|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    | Lab does not accept radioactive samples.    |
| The cooler's custody seal, if present, is intact.  | True   |   |
| Sample custody seals, if present, are intact.  | True   |   |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |   |
| Samples were received on ice.  | True   |   |
| Cooler Temperature is acceptable.  | True   |   |
| Cooler Temperature is recorded.  | True   | 0.9   |
| COC is present.  | True   |   |
| COC is filled out in ink and legible.  | True   |   |
| COC is filled out with all pertinent information.  | True   |   |
| Is the Field Sampler's name present on COC?  | True   |   |
| There are no discrepancies between the containers received and the COC.                  | True   |   |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |   |
| Sample containers have legible labels.   | True   |   |
| Containers are not broken or leaking.  | True   |   |
| Sample collection date/times are provided.   | True   |   |
| Appropriate sample containers are used.  | True   |   |
| Sample bottles are completely filled.  | True   |   |
| Sample Preservation Verified.  | True   |   |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |   |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |   |
| Multiphasic samples are not present.   | True   |   |
| Samples do not require splitting or compositing.   | True   |   |
| Residual Chlorine Checked.   | N/A    | Check done at department level as required. |

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-62041-1

**Login Number: 62041**

**List Number: 4**

**Creator: Jennings, Carly F**

**List Source: TestAmerica Savannah**

**List Creation: 06/17/16 11:37 AM**

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |         |
| The cooler's custody seal, if present, is intact.  | True   |         |
| Sample custody seals, if present, are intact.  | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.  | True   |         |
| Is the Field Sampler's name present on COC?  | N/A    |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.   | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | N/A    |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | N/A    |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.   | True   |         |
| Residual Chlorine Checked.   | N/A    |         |

## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-62041-1

Login Number: 62041

List Number: 5

Creator: Jennings, Carly F

List Source: TestAmerica Savannah

List Creation: 06/21/16 06:01 PM

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |         |
| The cooler's custody seal, if present, is intact.  | True   |         |
| Sample custody seals, if present, are intact.  | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.  | True   |         |
| Is the Field Sampler's name present on COC?  | N/A    |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.   | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | N/A    |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | N/A    |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.   | True   |         |
| Residual Chlorine Checked.   | N/A    |         |

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Corpus Christi  
1733 N. Padre Island Drive  
Corpus Christi, TX 78408  
Tel: (361)289-2673

TestAmerica Job ID: 560-62094-1

TestAmerica Sample Delivery Group: San Marcos Springs  
Client Project/Site: 2016 - Sediment Sampling

For:

SWCA, Inc.  
6200 UTSA Boulevard  
Suite 102  
San Antonio, Texas 78249

Attn: Jennifer Moreland



Authorized for release by:  
6/17/2016 4:20:49 PM

Lindy Maingot, Project Manager I  
(210)344-9751  
[lindy.maingot@testamericainc.com](mailto:lindy.maingot@testamericainc.com)

### LINKS

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*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

## Definitions/Glossary

Client: SWCA, Inc.  
Project/Site: 2016 - Sediment Sampling

TestAmerica Job ID: 560-62094-1  
SDG: San Marcos Springs

### Qualifiers

#### Metals

| Qualifier | Qualifier Description  |
|-----------|--|
| U         | Indicates the analyte was analyzed for but not detected.   |
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| α              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains no Free Liquid   |
| DER            | Duplicate error ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision level concentration  |
| MDA            | Minimum detectable activity   |
| EDL            | Estimated Detection Limit   |
| MDC            | Minimum detectable concentration  |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative error ratio  |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

## Case Narrative

Client: SWCA, Inc.  
Project/Site: 2016 - Sediment Sampling

TestAmerica Job ID: 560-62094-1  
SDG: San Marcos Springs

**Job ID: 560-62094-1**

**Laboratory: TestAmerica Corpus Christi**

### Narrative

**Job Narrative**  
**560-62094-1**

### Comments

No additional comments.

### Receipt

The samples were received on 6/15/2016 7:43 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.0° C.

### Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



## Detection Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Sediment Sampling

TestAmerica Job ID: 560-62094-1  
SDG: San Marcos Springs

### Client Sample ID: EB01

### Lab Sample ID: 560-62094-1

| Analyte            | Result | Qualifier | RL    | MDL    | Unit | Dil Fac | D | Method | Prep Type |
|--------------------|--------|-----------|-------|--------|------|---------|---|--------|-----------|
| Silicon, Dissolved | 0.217  | J         | 0.500 | 0.0707 | mg/L | 1       |   | 6010B  | Dissolved |
| Sodium, Dissolved  | 0.539  | J         | 1.00  | 0.310  | mg/L | 1       |   | 6010B  | Dissolved |

### Client Sample ID: EB02

### Lab Sample ID: 560-62094-2

| Analyte            | Result | Qualifier | RL    | MDL    | Unit | Dil Fac | D | Method | Prep Type |
|--------------------|--------|-----------|-------|--------|------|---------|---|--------|-----------|
| Calcium, Dissolved | 0.112  | J         | 0.200 | 0.101  | mg/L | 1       |   | 6010B  | Dissolved |
| Silicon, Dissolved | 0.299  | J         | 0.500 | 0.0707 | mg/L | 1       |   | 6010B  | Dissolved |
| Sodium, Dissolved  | 0.549  | J         | 1.00  | 0.310  | mg/L | 1       |   | 6010B  | Dissolved |

This Detection Summary does not include radiochemical test results.

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Sediment Sampling

TestAmerica Job ID: 560-62094-1  
SDG: San Marcos Springs

**Client Sample ID: EB01**

**Lab Sample ID: 560-62094-1**

**Date Collected: 06/13/16 17:10**

**Matrix: Water**

**Date Received: 06/15/16 07:43**

## Method: 6010B - Metals (ICP) - Dissolved

| Analyte               | Result   | Qualifier | RL      | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------|----------|-----------|---------|----------|------|---|----------------|----------------|---------|
| Calcium, Dissolved    | 0.101    | U         | 0.200   | 0.101    | mg/L |   | 06/15/16 11:23 | 06/15/16 15:56 | 1       |
| Magnesium, Dissolved  | 0.0257   | U         | 0.200   | 0.0257   | mg/L |   | 06/15/16 11:23 | 06/15/16 15:56 | 1       |
| Potassium, Dissolved  | 0.375    | U         | 0.500   | 0.375    | mg/L |   | 06/15/16 11:23 | 06/15/16 15:56 | 1       |
| Silicon, Dissolved    | 0.217    | J         | 0.500   | 0.0707   | mg/L |   | 06/15/16 11:23 | 06/15/16 15:56 | 1       |
| Sodium, Dissolved     | 0.539    | J         | 1.00    | 0.310    | mg/L |   | 06/15/16 11:23 | 06/15/16 15:56 | 1       |
| Strontium (Dissolved) | 0.000700 | U         | 0.00500 | 0.000700 | mg/L |   | 06/15/16 11:23 | 06/15/16 15:56 | 1       |

## Method: 6020 - Metals (ICP/MS) - Dissolved

| Analyte              | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| Aluminum, Dissolved  | 50.0   | U         | 100  | 50.0  | ug/L |   | 06/15/16 11:28 | 06/16/16 13:10 | 1       |
| Antimony, Dissolved  | 1.61   | U         | 5.00 | 1.61  | ug/L |   | 06/15/16 11:28 | 06/15/16 15:38 | 1       |
| Arsenic (Dissolved)  | 1.09   | U         | 5.00 | 1.09  | ug/L |   | 06/15/16 11:28 | 06/15/16 15:38 | 1       |
| Barium, Dissolved    | 0.810  | U         | 5.00 | 0.810 | ug/L |   | 06/15/16 11:28 | 06/15/16 15:38 | 1       |
| Beryllium, Dissolved | 1.24   | U         | 4.00 | 1.24  | ug/L |   | 06/15/16 11:28 | 06/15/16 15:38 | 1       |
| Cadmium, Dissolved   | 0.854  | U         | 2.00 | 0.854 | ug/L |   | 06/15/16 11:28 | 06/15/16 15:38 | 1       |
| Chromium, Dissolved  | 1.40   | U         | 5.00 | 1.40  | ug/L |   | 06/15/16 11:28 | 06/15/16 15:38 | 1       |
| Copper, Dissolved    | 2.00   | U         | 10.0 | 2.00  | ug/L |   | 06/15/16 11:28 | 06/16/16 13:10 | 1       |
| Iron, Dissolved      | 101    | U         | 250  | 101   | ug/L |   | 06/15/16 11:28 | 06/15/16 15:38 | 1       |
| Lead (Dissolved)     | 0.733  | U         | 5.00 | 0.733 | ug/L |   | 06/15/16 11:28 | 06/15/16 15:38 | 1       |
| Manganese, Dissolved | 11.6   | U         | 50.0 | 11.6  | ug/L |   | 06/15/16 11:28 | 06/15/16 15:38 | 1       |
| Nickel, Dissolved    | 2.17   | U         | 5.00 | 2.17  | ug/L |   | 06/15/16 11:28 | 06/15/16 15:38 | 1       |
| Selenium, Dissolved  | 1.08   | U         | 5.00 | 1.08  | ug/L |   | 06/15/16 11:28 | 06/15/16 15:38 | 1       |
| Silver, Dissolved    | 0.941  | U         | 5.00 | 0.941 | ug/L |   | 06/15/16 11:28 | 06/15/16 15:38 | 1       |
| Thallium (Dissolved) | 0.693  | U         | 2.00 | 0.693 | ug/L |   | 06/15/16 11:28 | 06/15/16 15:38 | 1       |
| Zinc, Dissolved      | 3.55   | U         | 25.0 | 3.55  | ug/L |   | 06/15/16 11:28 | 06/16/16 13:10 | 1       |

## Method: 7470A - Mercury (CVAA) - Dissolved

| Analyte            | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| Mercury, Dissolved | 0.130  | U         | 2.00 | 0.130 | ug/L |   | 06/16/16 10:00 | 06/16/16 15:03 | 1       |

**Client Sample ID: EB02**

**Lab Sample ID: 560-62094-2**

**Date Collected: 06/13/16 17:26**

**Matrix: Water**

**Date Received: 06/15/16 07:43**

## Method: 6010B - Metals (ICP) - Dissolved

| Analyte               | Result   | Qualifier | RL      | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------|----------|-----------|---------|----------|------|---|----------------|----------------|---------|
| Calcium, Dissolved    | 0.112    | J         | 0.200   | 0.101    | mg/L |   | 06/15/16 11:23 | 06/15/16 16:00 | 1       |
| Magnesium, Dissolved  | 0.0257   | U         | 0.200   | 0.0257   | mg/L |   | 06/15/16 11:23 | 06/15/16 16:00 | 1       |
| Potassium, Dissolved  | 0.375    | U         | 0.500   | 0.375    | mg/L |   | 06/15/16 11:23 | 06/15/16 16:00 | 1       |
| Silicon, Dissolved    | 0.299    | J         | 0.500   | 0.0707   | mg/L |   | 06/15/16 11:23 | 06/15/16 16:00 | 1       |
| Sodium, Dissolved     | 0.549    | J         | 1.00    | 0.310    | mg/L |   | 06/15/16 11:23 | 06/15/16 16:00 | 1       |
| Strontium (Dissolved) | 0.000700 | U         | 0.00500 | 0.000700 | mg/L |   | 06/15/16 11:23 | 06/15/16 16:00 | 1       |

## Method: 6020 - Metals (ICP/MS) - Dissolved

| Analyte              | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| Aluminum, Dissolved  | 50.0   | U         | 100  | 50.0  | ug/L |   | 06/15/16 11:28 | 06/16/16 13:41 | 1       |
| Antimony, Dissolved  | 1.61   | U         | 5.00 | 1.61  | ug/L |   | 06/15/16 11:28 | 06/15/16 15:43 | 1       |
| Arsenic (Dissolved)  | 1.09   | U         | 5.00 | 1.09  | ug/L |   | 06/15/16 11:28 | 06/15/16 15:43 | 1       |
| Barium, Dissolved    | 0.810  | U         | 5.00 | 0.810 | ug/L |   | 06/15/16 11:28 | 06/15/16 15:43 | 1       |
| Beryllium, Dissolved | 1.24   | U         | 4.00 | 1.24  | ug/L |   | 06/15/16 11:28 | 06/15/16 15:43 | 1       |

TestAmerica Corpus Christi

# Client Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Sediment Sampling

TestAmerica Job ID: 560-62094-1  
SDG: San Marcos Springs

**Client Sample ID: EB02**

**Lab Sample ID: 560-62094-2**

**Date Collected: 06/13/16 17:26**

**Matrix: Water**

**Date Received: 06/15/16 07:43**

## Method: 6020 - Metals (ICP/MS) - Dissolved (Continued)

| Analyte              | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| Cadmium, Dissolved   | 0.854  | U         | 2.00 | 0.854 | ug/L | — | 06/15/16 11:28 | 06/15/16 15:43 | 1       |
| Chromium, Dissolved  | 1.40   | U         | 5.00 | 1.40  | ug/L | — | 06/15/16 11:28 | 06/15/16 15:43 | 1       |
| Copper, Dissolved    | 2.00   | U         | 10.0 | 2.00  | ug/L | — | 06/15/16 11:28 | 06/16/16 13:41 | 1       |
| Iron, Dissolved      | 101    | U         | 250  | 101   | ug/L | — | 06/15/16 11:28 | 06/15/16 15:43 | 1       |
| Lead (Dissolved)     | 0.733  | U         | 5.00 | 0.733 | ug/L | — | 06/15/16 11:28 | 06/15/16 15:43 | 1       |
| Manganese, Dissolved | 11.6   | U         | 50.0 | 11.6  | ug/L | — | 06/15/16 11:28 | 06/15/16 15:43 | 1       |
| Nickel, Dissolved    | 2.17   | U         | 5.00 | 2.17  | ug/L | — | 06/15/16 11:28 | 06/15/16 15:43 | 1       |
| Selenium, Dissolved  | 1.08   | U         | 5.00 | 1.08  | ug/L | — | 06/15/16 11:28 | 06/15/16 15:43 | 1       |
| Silver, Dissolved    | 0.941  | U         | 5.00 | 0.941 | ug/L | — | 06/15/16 11:28 | 06/15/16 15:43 | 1       |
| Thallium (Dissolved) | 0.693  | U         | 2.00 | 0.693 | ug/L | — | 06/15/16 11:28 | 06/15/16 15:43 | 1       |
| Zinc, Dissolved      | 3.55   | U         | 25.0 | 3.55  | ug/L | — | 06/15/16 11:28 | 06/16/16 13:41 | 1       |

## Method: 7470A - Mercury (CVAA) - Dissolved

| Analyte            | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| Mercury, Dissolved | 0.130  | U         | 2.00 | 0.130 | ug/L | — | 06/16/16 10:00 | 06/16/16 15:05 | 1       |

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Sediment Sampling

TestAmerica Job ID: 560-62094-1  
SDG: San Marcos Springs

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 560-128973/1-A  
Matrix: Water  
Analysis Batch: 128998

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 128973

| Analyte               | MB Result | MB Qualifier | RL      | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------|-----------|--------------|---------|----------|------|---|----------------|----------------|---------|
| Calcium, Dissolved    | 0.101     | U            | 0.200   | 0.101    | mg/L |   | 06/15/16 09:41 | 06/15/16 14:37 | 1       |
| Magnesium, Dissolved  | 0.0257    | U            | 0.200   | 0.0257   | mg/L |   | 06/15/16 09:41 | 06/15/16 14:37 | 1       |
| Potassium, Dissolved  | 0.375     | U            | 0.500   | 0.375    | mg/L |   | 06/15/16 09:41 | 06/15/16 14:37 | 1       |
| Silicon, Dissolved    | 0.0707    | U            | 0.500   | 0.0707   | mg/L |   | 06/15/16 09:41 | 06/15/16 14:37 | 1       |
| Sodium, Dissolved     | 0.310     | U            | 1.00    | 0.310    | mg/L |   | 06/15/16 09:41 | 06/15/16 14:37 | 1       |
| Strontium (Dissolved) | 0.000700  | U            | 0.00500 | 0.000700 | mg/L |   | 06/15/16 09:41 | 06/15/16 14:37 | 1       |

Lab Sample ID: LCS 560-128973/2-A  
Matrix: Water  
Analysis Batch: 128998

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 128973

| Analyte               | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|-----------------------|-------------|------------|---------------|------|---|------|--------------|
| Calcium, Dissolved    | 25.0        | 24.21      |               | mg/L |   | 97   | 80 - 120     |
| Magnesium, Dissolved  | 25.0        | 24.52      |               | mg/L |   | 98   | 80 - 120     |
| Potassium, Dissolved  | 25.0        | 24.96      |               | mg/L |   | 100  | 80 - 120     |
| Silicon, Dissolved    | 10.0        | 9.681      |               | mg/L |   | 97   | 80 - 120     |
| Sodium, Dissolved     | 25.0        | 22.59      |               | mg/L |   | 90   | 80 - 120     |
| Strontium (Dissolved) | 0.250       | 0.2292     |               | mg/L |   | 92   | 80 - 120     |

## Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 560-128966/1-A  
Matrix: Water  
Analysis Batch: 129008

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 128966

| Analyte              | MB Result | MB Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|--------------|------|-------|------|---|----------------|----------------|---------|
| Antimony, Dissolved  | 1.61      | U            | 5.00 | 1.61  | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |
| Arsenic (Dissolved)  | 1.09      | U            | 5.00 | 1.09  | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |
| Barium, Dissolved    | 0.810     | U            | 5.00 | 0.810 | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |
| Beryllium, Dissolved | 1.24      | U            | 4.00 | 1.24  | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |
| Cadmium, Dissolved   | 0.854     | U            | 2.00 | 0.854 | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |
| Chromium, Dissolved  | 1.40      | U            | 5.00 | 1.40  | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |
| Copper, Dissolved    | 2.00      | U            | 10.0 | 2.00  | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |
| Iron, Dissolved      | 101       | U            | 250  | 101   | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |
| Lead (Dissolved)     | 0.733     | U            | 5.00 | 0.733 | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |
| Manganese, Dissolved | 11.6      | U            | 50.0 | 11.6  | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |
| Nickel, Dissolved    | 2.17      | U            | 5.00 | 2.17  | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |
| Selenium, Dissolved  | 1.08      | U            | 5.00 | 1.08  | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |
| Silver, Dissolved    | 0.941     | U            | 5.00 | 0.941 | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |
| Thallium (Dissolved) | 0.693     | U            | 2.00 | 0.693 | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |
| Zinc, Dissolved      | 3.55      | U            | 25.0 | 3.55  | ug/L |   | 06/15/16 08:30 | 06/15/16 14:23 | 1       |

Lab Sample ID: MB 560-128966/1-A  
Matrix: Water  
Analysis Batch: 129040

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 128966

| Analyte             | MB Result | MB Qualifier | RL  | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|-----------|--------------|-----|------|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | 50.0      | U            | 100 | 50.0 | ug/L |   | 06/15/16 08:30 | 06/16/16 12:24 | 1       |

TestAmerica Corpus Christi

# QC Sample Results

Client: SWCA, Inc.  
Project/Site: 2016 - Sediment Sampling

TestAmerica Job ID: 560-62094-1  
SDG: San Marcos Springs

## Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 560-128966/1-A

Matrix: Water

Analysis Batch: 129040

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 128966

| Analyte           | MB Result | MB Qualifier | RL   | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|-----------|--------------|------|------|------|---|----------------|----------------|---------|
| Copper, Dissolved | 2.00      | U            | 10.0 | 2.00 | ug/L |   | 06/15/16 08:30 | 06/16/16 12:24 | 1       |
| Zinc, Dissolved   | 3.55      | U            | 25.0 | 3.55 | ug/L |   | 06/15/16 08:30 | 06/16/16 12:24 | 1       |

Lab Sample ID: LCS 560-128966/2-A

Matrix: Water

Analysis Batch: 129008

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 128966

| Analyte              | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|----------------------|-------------|------------|---------------|------|---|------|--------------|
| Antimony, Dissolved  | 250         | 250.0      |               | ug/L |   | 100  | 80 - 120     |
| Arsenic (Dissolved)  | 250         | 249.9      |               | ug/L |   | 100  | 80 - 120     |
| Barium, Dissolved    | 250         | 267.3      |               | ug/L |   | 107  | 80 - 120     |
| Beryllium, Dissolved | 250         | 256.5      |               | ug/L |   | 103  | 80 - 120     |
| Cadmium, Dissolved   | 250         | 258.5      |               | ug/L |   | 103  | 80 - 120     |
| Chromium, Dissolved  | 250         | 246.7      |               | ug/L |   | 99   | 80 - 120     |
| Copper, Dissolved    | 250         | 235.6      |               | ug/L |   | 94   | 80 - 120     |
| Iron, Dissolved      | 25000       | 24630      |               | ug/L |   | 99   | 80 - 120     |
| Lead (Dissolved)     | 250         | 236.3      |               | ug/L |   | 95   | 80 - 120     |
| Manganese, Dissolved | 2500        | 2547       |               | ug/L |   | 102  | 80 - 120     |
| Nickel, Dissolved    | 250         | 245.8      |               | ug/L |   | 98   | 80 - 120     |
| Selenium, Dissolved  | 250         | 221.6      |               | ug/L |   | 89   | 80 - 120     |
| Silver, Dissolved    | 250         | 259.4      |               | ug/L |   | 104  | 80 - 120     |
| Thallium (Dissolved) | 100         | 95.55      |               | ug/L |   | 96   | 80 - 120     |
| Zinc, Dissolved      | 250         | 244.3      |               | ug/L |   | 98   | 80 - 120     |

Lab Sample ID: LCS 560-128966/2-A

Matrix: Water

Analysis Batch: 129040

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 128966

| Analyte             | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---------------------|-------------|------------|---------------|------|---|------|--------------|
| Aluminum, Dissolved | 25000       | 21800      |               | ug/L |   | 87   | 80 - 120     |
| Copper, Dissolved   | 250         | 256.3      |               | ug/L |   | 103  | 80 - 120     |
| Zinc, Dissolved     | 250         | 259.1      |               | ug/L |   | 104  | 80 - 120     |

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 560-129034/4-A

Matrix: Water

Analysis Batch: 129035

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 129034

| Analyte            | MB Result | MB Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|--------------------|-----------|--------------|------|-------|------|---|----------------|----------------|---------|
| Mercury, Dissolved | 0.130     | U            | 2.00 | 0.130 | ug/L |   | 06/16/16 10:00 | 06/16/16 14:41 | 1       |

Lab Sample ID: LCS 560-129034/5-A

Matrix: Water

Analysis Batch: 129035

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 129034

| Analyte            | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|--------------------|-------------|------------|---------------|------|---|------|--------------|
| Mercury, Dissolved | 5.00        | 4.920      |               | ug/L |   | 98   | 80 - 120     |

TestAmerica Corpus Christi

## Certification Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Sediment Sampling

TestAmerica Job ID: 560-62094-1  
SDG: San Marcos Springs

### Laboratory: TestAmerica Corpus Christi

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

| Authority | Program       | EPA Region | Certification ID | Expiration Date |
|-----------|---------------|------------|------------------|-----------------|
| Oklahoma  | State Program | 6          | 2015-119         | 08-31-16        |
| Texas     | NELAP         | 6          | T104704210-16-18 | 03-31-17        |
| USDA      | Federal       |            | P330-14-00328    | 09-30-17        |

### Laboratory: TestAmerica Houston

The certifications listed below are applicable to this report.

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|-----------|---------|------------|------------------|-----------------|
| Texas     | NELAP   | 6          | T104704223-16-19 | 10-31-16        |

## Method Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Sediment Sampling

TestAmerica Job ID: 560-62094-1  
SDG: San Marcos Springs

| Method | Method Description | Protocol | Laboratory |
|--------|--------------------|----------|------------|
| 6010B  | Metals (ICP)       | SW846    | TAL CC     |
| 6020   | Metals (ICP/MS)    | SW846    | TAL CC     |
| 7470A  | Mercury (CVAA)     | SW846    | TAL CC     |

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL CC = TestAmerica Corpus Christi, 1733 N. Padre Island Drive, Corpus Christi, TX 78408, TEL (361)289-2673



## Sample Summary

Client: SWCA, Inc.  
Project/Site: 2016 - Sediment Sampling

TestAmerica Job ID: 560-62094-1  
SDG: San Marcos Springs

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 560-62094-1   | EB01             | Water  | 06/13/16 17:10 | 06/15/16 07:43 |
| 560-62094-2   | EB02             | Water  | 06/13/16 17:26 | 06/15/16 07:43 |

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## Login Sample Receipt Checklist

Client: SWCA, Inc.

Job Number: 560-62094-1

SDG Number: San Marcos Springs

Login Number: 62094

List Number: 1

Creator: Gilmore, Matthew

List Source: TestAmerica Corpus Christi

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |         |
| The cooler's custody seal, if present, is intact.  | True   |         |
| Sample custody seals, if present, are intact.  | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.  | True   |         |
| Is the Field Sampler's name present on COC?  | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.   | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.   | True   |         |
| Residual Chlorine Checked.   | N/A    |         |



AMPLIFIED  
GEOCHEMICAL  
IMAGING, LLC

# Laboratory Report

Site: Comal and San Marcos Rivers

Prepared for:

SWCA Environmental  
10245 Little York Road  
Suite 600  
Houston, TX

Prepared on:  
March 02, 2016

## Project Summary and Objective

Amplified Geochemical Imaging, LLC. (AGI) provided the AGI Environmental Survey used at:

**Comal and San Marcos Rivers**

The service provided by AGI included delivery of the required quantity of AGI Universal Samplers, analysis by the method described below for the requested organic compounds, reporting of the data, and contour mapping (as needed).

This report includes results for only the samples noted under the Laboratory Sample Report section. If contour maps are part of the project deliverable, the maps will be prepared and issued under a separate report cover, upon receipt of a usable sitemap (electronic) and compound choices for contouring.

Written/submitted by:

**Kelly J Stringham**

Project Manager

Reviewed/approved by:

**Dayna M Cobb**

Project Manager

Analytical data approved by:

**Jasmine Smith**

Chemist

## Quality Assurance Statement

The AGI Laboratory, at Amplified Geochemical Imaging's facility in Newark, DE USA, operates under the guidelines of its ISO Standard 17025 DoD ELAP accreditation, and its Quality Assurance Manual, Operating Procedures, and Methods (SOP-QA-0462).

For this project, the analytical method, results, and observations reported do ☐ do not ☒ fall within the scope of AGI's ISO 17025 accreditation.

### Screening/Concentration Method

The AGI Universal Samplers are analyzed at AGI's fixed laboratory using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following modified U.S. EPA Method 8260 (SPG-WI-0292) which includes the following:

- ☐ **BFB Tuning Frequency:** A BFB tune is analyzed at the start of each analytical run and after every 30 samples.
- ☐ **Initial Calibration:** A minimum of a five point calibration curve is analyzed prior to the analysis of samples.
- ☐ **Initial Calibration Verification (ICV):** Following the calibration a second-source reference standard is analyzed to verify the accuracy of the calibration. Acceptance criteria for the ICV is +/- 30%.
- ☐ **Linearity of Target Compounds:** If the RSD of any target analyte is less than or equal to 25% then average response factor can be used for quantitation. If the RSD exceeds 25% for a target compound a regression equation can be used for quantitation.
- ☐ **Continuing Calibration Verification:** After every 10 samples, and at the end of each analytical batch, a mid-level second-source Reference Standard is analyzed. The acceptance criteria for all target analytes in the reference standards are +/- 50% of the true value.
- ☐ **Method Blank:** Analyzed prior to the analysis of field samples and every 30 samples.

**Note:** Analyte levels reported for the field-deployed AGI Universal Samplers that exceed trip and method blank levels, and/or the reporting limit, are more likely to have originated from on-site sources.

|                            |               |
|----------------------------|---------------|
| Media Sampled:             | WATER         |
| Chemist - sample analysis: | Fatima Niazi  |
| Chemist - data processor:  | Fatima Niazi  |
| Chemist - data review:     | Jasmine Smith |

Method Deviations: None

Please note that data file names ending with R are rerun samples using the second pair of sorbers, in which the original results were not reported. Data file names ending in D are duplicate analysis results for the second set of sorbers from the same sampler, and are reported.

## Additional Report Information

- Comments
- Laboratory Sample Report
- Chain of Custody
- Installation and Retrieval Log
- Analytical Results and Key
- Concentration Calculation Method Summary
- Total Ion Chromatograms

## Project Specific Comments

All filed samples were returned and analyzed, including trip blanks (00774156).

|                     |   |                      |
|---------------------|---|----------------------|
| Survey period       | Samplers were installed on February 2, 2016 and retrieved on February 16, 2016 for an exposure period of 14 days. |                      |
| Tamper seal intact: | Yes   |                      |
| Date received:      | 2/17/16 4:54 pm   | By: Darlene Yellowdy |
| COC returned:       | Yes   |                      |
| Comments:           | None  |                      |

1 - Installation start to end of retrieval, as reported. See installation and retrieval log for individual deployment and retrieval dates and times (i.e., sampler exposure time).



## General Comments

### Analytical QA/QC

Laboratory instrumentation consists of gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation involves cutting the tip off the bottom of the AGI Universal Sampler, and transferring one or more "sorbents" to a thermal desorption tube for analysis. The insertion/retrieval cord prevents soil, water and other interferences from coming in contact with the adsorbent. No further sample preparation is required. Any replicate sorbents not consumed in the initial analysis will be discarded fifteen (15) days from the date of the laboratory report.

Data are archived and stored in a secure manner as per AGI's Quality Assurance program (SOP-A-0462).

Total petroleum hydrocarbons (TPH), gasoline-range petroleum hydrocarbons (GRPH), and/or diesel range petroleum hydrocarbons (DRPH), when reported, are calculated using the area under the peaks observed in m/z 55 and 57 selected ion chromatograms. Quantitation of the mass values was performed using the response factor for a specific alkane (present in the calibration standards). TPH values include the entire chromatogram and provide estimates for aliphatic hydrocarbon ranges of C4 to C20. GRPH and DRPH include only the relevant regions of the chromatograms and provide estimates for C4 to C10 and C10 to C20 aliphatic hydrocarbons, respectively.

Trip blanks were provided to document potential exposures that were not part of the signal of interest (e.g., impact during sampler shipment, installation and/or retrieval, and storage). The trip blanks are identically manufactured and packaged AGI Universal Samplers to those samplers deployed in the field. The trip blanks remain unopened during all phases of the project. Levels reported on the trip blanks may indicate potential impact to the samplers other than the contaminant source of interest.

Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. UPEs may be indicative of complex fluid mixtures. UPEs observed early in the chromatograms are considered to indicate presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.

Total ion chromatograms (TICs) are included in the Attachments. The eight-digit serial number of each sampler is incorporated in the TIC identification (e.g., 12345678.D represents AGI Universal Sampler 12345678).

## General Comments

### Soil Gas Sampling

For soil gas sampling, the AGI Environmental Survey reports mass levels migrating through the open pore spaces of the soil and diffusing through the sampler membrane for sorption by the engineered, hydrophobic adsorbents, housed within the membrane tube. During the migration of the soil gas away from the source to the AGI Universal Sampler, the vapors are subject to a variety of attenuation factors. The soil gas masses reported on the samplers compare favorably with the concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels to other sampled locations on the site, the matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.

Soil gas concentrations ( $\mu\text{g}/\text{m}^3$ ) are calculated following the method described in the Additional Report Information section.

Soil gas signals reported by this method cannot be correlated specifically to soil adsorbed, groundwater, and /or free-phase contamination. The soil gas signal reported from each AGI Universal Sampler can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).

### Air Sampling

For indoor, outdoor, and crawlspace air sampling, the AGI Environmental Survey reports mass levels present in the air and diffusing through the sampler membrane for sorption by the engineered adsorbents housed within the membrane tube.

Air concentrations ( $\mu\text{g}/\text{m}^3$ ) are calculated following the method described in the Additional Report Information section.

### Groundwater and Sediment Porewater Sampling

For groundwater and sediment porewater sampling, the AGI Environmental Survey reports the mass levels of compounds present in the water which, when coming in contact with the sampler membrane, partitions out of solution, and diffuses through the sampler membrane for sorption by the engineered adsorbents.

Water concentrations ( $\mu\text{g}/\text{L}$ ) are calculated using the quantified mass, exposure period and the compound specific uptake rate. The rates were measured under controlled experimental conditions. The uptake rates are corrected for water pressure (depth of the AGI Universal Sampler below the water table), water temperature and the aquifer flow rate. For sediment porewater, the uptake rate is corrected for the reduced volume of water in the sediment, by multiplying the uptake rate by the pore water fraction.

## LABORATORY SAMPLE REPORT

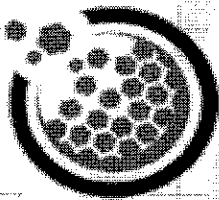
Project: ENV 01567

Site Name: Comal and San Marcos Rivers

Module Type: SPG0008

| Module ID                  | Sample Type              | Field ID            |                   |
|----------------------------|--------------------------|---------------------|-------------------|
| 00774142                   | FIELD □SAMPLE            | HCS410              |                   |
| 00774143                   | FIELD □SAMPLE            | HCS420              |                   |
| 00774144                   | FIELD □SAMPLE            | HCS430              |                   |
| 00774145                   | FIELD □SAMPLE            | HCS440              |                   |
| 00774146                   | FIELD □SAMPLE            | FDHCS440            |                   |
| 00774147                   | FIELD □SAMPLE            | HCS460              |                   |
| 00774148                   | FIELD □SAMPLE            | HSM410              |                   |
| 00774149                   | FIELD □SAMPLE            | HSM420              |                   |
| 00774150                   | FIELD □SAMPLE            | HSM430              |                   |
| 00774151                   | FIELD □SAMPLE            | FDHSM430            |                   |
| 00774152                   | FIELD □SAMPLE            | HSM440              |                   |
| 00774153                   | FIELD □SAMPLE            | HSM450              |                   |
| 00774154                   | FIELD □SAMPLE            | HSM460              |                   |
| 00774155                   | FIELD □SAMPLE            | HSM470              |                   |
| 00774156                   | TRIP □BLANK              | TB01                |                   |
| Total #<br>"FIELD SAMPLES" | Total #<br>"TRIP BLANKS" | Total #<br>"UNUSED" | Total #<br>"LOST" |
| 14                         | 1                        | 0                   | 0                 |

Duplicate samples: 0



# AMPLIFIED GEOCHEMICAL IMAGING, LLC

210 Executive Drive, Suite 1  
Newark, DE 19702-3335 USA  
ph: +1-302-266-2428  
www.agisurveys.net

## AGI Universal Passive Sampler Chain of Groundwater Sampling

Production Order #: 01567

Customer Name: SWCA Environmental  
Address: 10245 Little York Road  
Suite 600  
Houston, TX 77040  
USA

Site Name: Comal and San Marcos Rivers  
Site Address:  
Project Manager:

Serial # of Samplers Shipped  
00774142 - 00774156

|                                |       |                  |   |
|--------------------------------|-------|------------------|---|
| # of Samplers for Installation | 14.00 | # of Trip Blanks | 1 |
| Total Samplers Shipped         | 15.00 | Pieces           |   |
| Total Samplers Received        | 15    | Pieces           |   |
| Total Samplers Installed       | 14    | Pieces           |   |

Serial # of Trip Blanks (Client Decides)

|          |  |  |
|----------|--|--|
| 00774156 |  |  |
|----------|--|--|

|  |  |
|--|--|
| Prepared By: <u>[Signature]</u>  | Is Concurrent water sampling planned this monitoring period? YES <input type="radio"/> NO <input checked="" type="radio"/> |
| Verified By: <u>Darlene Yellowdy</u>   | Scheduled Sampling Date: _____   |
| Installation Performed By:<br>Name: <u>Phil Pearce Guy Rubio</u><br>Company: <u>SWCA</u>     | Retrieval Performed By:<br>Name: <u>Phil Pearce</u><br>Company: <u>SWCA</u>  |
| Installation Start Date / Time: <u>2/2/16 1049</u>   | Retrieval Start Date / Time: <u>2/16/16 1028</u>   |
| Installation Complete Date / Time: <u>2/16/16 2/2/16 1518</u>                                | Retrieval Complete Date / Time: <u>2/16/16 1416</u>  |
| Total Samplers Retrieved: <u>14 + TRIP BLANK</u>   |  |
| Total Samplers Lost In Field: <u>0</u>   |  |
| Total Unused Samplers Returned: <u>0</u>   |  |
| Relinquished By: <u>[Signature]</u> Date/Time: <u>1/28/16 2:30 PM</u><br>Company: <u>AGI</u> | Received By: <u>Phil Pearce</u> Date/Time: <u>2/1/16 17:00</u><br>Company: <u>SWCA</u>                                     |
| Relinquished By: <u>Phil Pearce</u> Date/Time: <u>2/16/16 17:42</u><br>Company: <u>SWCA</u>  | Received By: <u>Darlene Yellowdy</u> Date/Time: <u>2/17/16 4:54 PM</u><br>Company: <u>AGI</u>                              |



**AGI Project No.** ENV 01567  
**Site Name:** Comal and San Marcos Rivers  
**Site Location:**

**Company Name:** SWCA Environmental  
**Location:**  
**Samples collected by:** Phil Pearce, Guy Rubio, Marli Clayton

SWCA Environmental

SPG-FCD-8930 Water R4



**AGI Project No.** ENV 01567  
**Site Name:** Comal and San Marcos Rivers  
**Site Location:**

**Company Name:** SWCA Environmental  
**Location:**  
**Samples collected by:** Phil Pearce, Guy Rubio, Marli Clayton

[illegible]



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774142 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HCS410

Installation Date: 2/2/2016 11:07:00AM

Retrieval Date: 2/16/2016 10:28:00AM

Date Analyzed: 2/24/2016 12:52:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| <b>Chloroform</b>         | <b>67-66-3</b>    | <b>0.02</b> | <b>0.02</b> |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.08</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |





**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774142 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1 Field ID: HCS410

Installation Date: 2/2/2016 11:07:00AM

Retrieval Date: 2/16/2016 10:28:00AM

Date Analyzed: 2/24/2016 12:52:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774143 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1 Field ID: HCS420

Installation Date: 2/2/2016 11:25:00AM

Retrieval Date: 2/16/2016 10:44:00AM

Date Analyzed: 2/24/2016 1:51:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.22</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774143 FIELD\_SAMPLE**

**Matrix: WATER**

**Product: SPG0008**

**Dilution Factor: 1 Field ID: HCS420**

**Installation Date: 2/2/2016 11:25:00AM**

**Retrieval Date: 2/16/2016 10:44:00AM**

**Date Analyzed: 2/24/2016 1:51:00PM**

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



PROJECT NUMBER: ENV 01567

FOR: SWCA Environmental

SITE NAME: Comal and San Marcos Rivers

SITE ADDRESS:

Houston, TX 77040

USA

SAMPLER ID: 00774144 FIELD\_SAMPLE

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HCS430

Installation Date: 2/2/2016 10:49:00AM

Retrieval Date: 2/16/2016 10:03:00AM

Date Analyzed: 2/24/2016 1:21:00PM

Analyst: Fatima Niazi

Method: SPG-WI-0292

Batch: ENV-160223-1

Reviewer: Jasmine Smith

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.40</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774144 FIELD\_SAMPLE**

**Matrix: WATER**

**Product: SPG0008**

**Dilution Factor: 1 Field ID: HCS430**

**Installation Date: 2/2/2016 10:49:00AM**

**Retrieval Date: 2/16/2016 10:03:00AM**

**Date Analyzed: 2/24/2016 1:21:00PM**

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774145 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HCS440

Installation Date: 2/2/2016 11:39:00AM

Retrieval Date: 2/16/2016 10:55:00AM

Date Analyzed: 2/24/2016 4:46:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.40</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |





**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774145 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1 Field ID: HCS440

Installation Date: 2/2/2016 11:39:00AM

Retrieval Date: 2/16/2016 10:55:00AM

Date Analyzed: 2/24/2016 4:46:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |





**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774146 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: FDHCS440

Installation Date: 2/2/2016 11:39:00AM

Retrieval Date: 2/16/2016 10:55:00AM

Date Analyzed: 2/24/2016 2:49:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.33</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774146 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: FDHCS440

Installation Date: 2/2/2016 11:39:00AM

Retrieval Date: 2/16/2016 10:55:00AM

Date Analyzed: 2/24/2016 2:49:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774147 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HCS460

Installation Date: 2/2/2016 11:56:00AM

Retrieval Date: 2/16/2016 11:12:00AM

Date Analyzed: 2/24/2016 5:16:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.27</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774147 FIELD\_SAMPLE**

**Matrix: WATER**

**Product: SPG0008**

**Dilution Factor: 1**

**Field ID: HCS460**

**Installation Date: 2/2/2016 11:56:00AM**

**Retrieval Date: 2/16/2016 11:12:00AM**

**Date Analyzed: 2/24/2016 5:16:00PM**

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774148 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1 Field ID: HSM410

Installation Date: 2/2/2016 1:39:00PM

Retrieval Date: 2/16/2016 12:45:00PM

Date Analyzed: 2/24/2016 10:55:00AM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound                  | CAS #             | Result (ug) | RL (ug) |
|---------------------------|-------------------|-------------|---------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02    |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02    |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02    |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02    |
| Chloroform                | 67-66-3           | <0.02       | 0.02    |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02    |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02    |
| Benzene                   | 71-43-2           | <0.02       | 0.02    |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02    |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02    |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02    |
| Toluene                   | 108-88-3          | <0.02       | 0.02    |
| Octane                    | 111-65-9          | <0.02       | 0.02    |
| Tetrachloroethene         | 127-18-4          | <0.02       | 0.02    |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02    |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02    |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02    |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02    |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02    |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02    |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02    |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02    |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02    |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02    |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02    |
| Undecane                  | 1120-21-4         | <0.05       | 0.05    |
| Naphthalene               | 91-20-3           | <0.05       | 0.05    |
| Tridecane                 | 629-50-5          | <0.05       | 0.05    |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05    |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05    |
| Pentadecane               | 629-62-9          | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774148 FIELD\_SAMPLE**

**Matrix: WATER**

**Product: SPG0008**

**Dilution Factor: 1 Field ID: HSM410**

**Installation Date: 2/2/2016 1:39:00PM**

**Retrieval Date: 2/16/2016 12:45:00PM**

**Date Analyzed: 2/24/2016 10:55:00AM**

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |





**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774149 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HSM420

Installation Date: 2/2/2016 1:54:00PM

Retrieval Date: 2/16/2016 1:03:00PM

Date Analyzed: 2/24/2016 11:53:00AM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.09</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |





**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774149 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1 Field ID: HSM420

Installation Date: 2/2/2016 1:54:00PM

Retrieval Date: 2/16/2016 1:03:00PM

Date Analyzed: 2/24/2016 11:53:00AM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774150 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1 Field ID: HSM430

Installation Date: 2/2/2016 2:07:00PM

Retrieval Date: 2/16/2016 1:13:00PM

Date Analyzed: 2/24/2016 6:14:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.55</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774150 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1 Field ID: HSM430

Installation Date: 2/2/2016 2:07:00PM

Retrieval Date: 2/16/2016 1:13:00PM

Date Analyzed: 2/24/2016 6:14:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040  
USA**

**SAMPLER ID: 00774151 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: FDHSM430

Installation Date: 2/2/2016 2:07:00PM

Retrieval Date: 2/16/2016 1:13:00PM

Date Analyzed: 2/24/2016 12:23:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| <b>Toluene</b>            | <b>108-88-3</b>   | <b>0.02</b> | <b>0.02</b> |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.54</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774151 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: FDHSM430

Installation Date: 2/2/2016 2:07:00PM

Retrieval Date: 2/16/2016 1:13:00PM

Date Analyzed: 2/24/2016 12:23:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug)     |
|--------------------|------------|-------------|-------------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05        |
| Fluorene           | 86-73-7    | <0.05       | 0.05        |
| TPH                |            | <0.50       | 0.50        |
| <b>BTEX</b>        |            | <b>0.02</b> | <b>0.02</b> |
| Anthracene         | 120-12-7   | <0.05       | 0.05        |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05        |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05        |
| Pyrene             | 129-00-0   | <0.05       | 0.05        |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05        |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05        |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05        |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05        |
| beta-BHC           | 319-85-7   | <0.05       | 0.05        |
| delta-BHC          |            | <0.05       | 0.05        |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05        |
| Heptachlor         | 76-44-8    | <0.05       | 0.05        |
| Endrin             | 72-20-8    | <0.05       | 0.05        |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05        |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05        |
| Dieldrin           | 60-57-1    | <0.05       | 0.05        |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05        |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05        |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05        |
| Aldrin             | 309-00-2   | <0.05       | 0.05        |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05        |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774152 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1 Field ID: HSM440

Installation Date: 2/2/2016 2:18:00PM

Retrieval Date: 2/16/2016 1:27:00PM

Date Analyzed: 2/24/2016 10:26:00AM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.09</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |





**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774152 FIELD\_SAMPLE**

**Matrix: WATER**

**Product: SPG0008**

**Dilution Factor: 1 Field ID: HSM440**

**Installation Date: 2/2/2016 2:18:00PM**

**Retrieval Date: 2/16/2016 1:27:00PM**

**Date Analyzed: 2/24/2016 10:26:00AM**

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |





**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774153 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HSM450

Installation Date: 2/2/2016 2:43:00PM

Retrieval Date: 2/16/2016 1:48:00PM

Date Analyzed: 2/24/2016 5:45:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.05</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774153 FIELD\_SAMPLE**

**Matrix: WATER**

**Product: SPG0008**

**Dilution Factor: 1 Field ID: HSM450**

**Installation Date: 2/2/2016 2:43:00PM**

**Retrieval Date: 2/16/2016 1:48:00PM**

**Date Analyzed: 2/24/2016 5:45:00PM**

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774154 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1 Field ID: HSM460

Installation Date: 2/2/2016 3:02:00PM

Retrieval Date: 2/16/2016 2:06:00PM

Date Analyzed: 2/24/2016 11:24:00AM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.07</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774154 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1 Field ID: HSM460

Installation Date: 2/2/2016 3:02:00PM

Retrieval Date: 2/16/2016 2:06:00PM

Date Analyzed: 2/24/2016 11:24:00AM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774155 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1 Field ID: HSM470

Installation Date: 2/2/2016 3:18:00PM

Retrieval Date: 2/16/2016 2:16:00PM

Date Analyzed: 2/24/2016 2:20:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.05</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774155 FIELD\_SAMPLE**

**Matrix: WATER**

**Product: SPG0008**

**Dilution Factor: 1 Field ID: HSM470**

**Installation Date: 2/2/2016 3:18:00PM**

**Retrieval Date: 2/16/2016 2:16:00PM**

**Date Analyzed: 2/24/2016 2:20:00PM**

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |





**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774156 TRIP BLANK**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1 Field ID: TB01

Installation Date: 2/2/2016 10:49:00AM

Retrieval Date: 2/16/2016 2:16:00PM

Date Analyzed: 2/24/2016 4:17:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound                  | CAS #             | Result (ug) | RL (ug) |
|---------------------------|-------------------|-------------|---------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02    |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02    |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02    |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02    |
| Chloroform                | 67-66-3           | <0.02       | 0.02    |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02    |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02    |
| Benzene                   | 71-43-2           | <0.02       | 0.02    |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02    |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02    |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02    |
| Toluene                   | 108-88-3          | <0.02       | 0.02    |
| Octane                    | 111-65-9          | <0.02       | 0.02    |
| Tetrachloroethene         | 127-18-4          | <0.02       | 0.02    |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02    |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02    |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02    |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02    |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02    |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02    |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02    |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02    |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02    |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02    |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02    |
| Undecane                  | 1120-21-4         | <0.05       | 0.05    |
| Naphthalene               | 91-20-3           | <0.05       | 0.05    |
| Tridecane                 | 629-50-5          | <0.05       | 0.05    |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05    |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05    |
| Pentadecane               | 629-62-9          | <0.05       | 0.05    |





**PROJECT NUMBER: ENV 01567**

**FOR: SWCA Environmental**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**Houston, TX 77040**

**USA**

**SAMPLER ID: 00774156 TRIP BLANK**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1 Field ID: TB01

Installation Date: 2/2/2016 10:49:00AM

Retrieval Date: 2/16/2016 2:16:00PM

Date Analyzed: 2/24/2016 4:17:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160223-1**

**Reviewer: Jasmine Smith**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |

AGI SURVEYS ANALYTICAL RESULTS  
 210 EXECUTIVE DR., SUITE 1, NEWARK, DE 19702  
 SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
 AGI STANDARD CONCENTRATIONS COMPOUNDS  
 ESTIMATED WATER CONCENTRATIONS  
 COMAL & SAN MARCOS RIVERS  
 PRODUCTION ORDER # 01567

|              |          |            |            |            |    |            |    |    | estimated |            |              |
|--------------|----------|------------|------------|------------|----|------------|----|----|-----------|------------|--------------|
| DATAFILE     | FIELD    | DATE/ TIME | DATE/ TIME | DATE/ TIME |    | DATE/ TIME |    |    |           |            |              |
| NAME         | ID       | INSTALLED  | RETRIEVED  | RECEIVED   |    | ANALYZED   |    | DF | TPH, ug/L | MTBE, ug/L | t12DCE, ug/L |
| Average RL = |          |            |            |            |    |            |    |    | 0.06      | 0.01       | 0.01         |
| 00774142     | HCS410   | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.05     | <0.01      | <0.01        |
| 00774143     | HCS420   | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.05     | <0.01      | <0.01        |
| 00774144     | HCS430   | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.05     | <0.01      | <0.01        |
| 00774145     | HCS440   | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.05     | <0.01      | <0.01        |
| 00774146     | FDHCS440 | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.05     | <0.01      | <0.01        |
| 00774147     | HCS460   | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.05     | <0.01      | <0.01        |
| 00774148     | HSM410   | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.06     | <0.01      | <0.01        |
| 00774149     | HSM420   | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.06     | <0.01      | <0.01        |
| 00774150     | HSM430   | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.06     | <0.01      | <0.01        |
| 00774151     | FDHSM430 | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.06     | <0.01      | <0.01        |
| 00774152     | HSM440   | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.06     | <0.01      | <0.01        |
| 00774153     | HSM450   | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.06     | <0.01      | <0.01        |
| 00774154     | HSM460   | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.06     | <0.01      | <0.01        |
| 00774155     | HSM470   | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.06     | <0.01      | <0.01        |
| 00774156     | TB01     | 2/2/2016   | 2/16/2016  | 2/17/2016  | ET | 2/24/2016  | ET | 1  | <0.09     | <0.03      | <0.01        |

AGI SURVEYS ANALYTICAL RESULTS  
 210 EXECUTIVE DR., SUITE 1, NEWARK, DE 19702  
 SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
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 ESTIMATED WATER CONCENTRATIONS  
 COMAL & SAN MARCOS RIVERS  
 PRODUCTION ORDER # 01567

| DATAFILE     |             |              |             |              |             |            |            |           |              |
|--------------|-------------|--------------|-------------|--------------|-------------|------------|------------|-----------|--------------|
| NAME         | 11DCA, ug/L | c12DCE, ug/L | CHCl3, ug/L | 111TCA, ug/L | 12DCA, ug/L | BENZ, ug/L | CCl4, ug/L | TCE, ug/L | 112TCA, ug/L |
| Average RL = | 0.01        | 0.01         | 0.01        | 0.01         | 0.01        | 0.01       | 0.00       | 0.01      | 0.01         |
| 00774142     | <0.01       | <0.01        | 0.01        | <0.00        | <0.01       | <0.01      | <0.00      | <0.01     | <0.01        |
| 00774143     | <0.01       | <0.01        | <0.01       | <0.00        | <0.01       | <0.01      | <0.00      | <0.01     | <0.01        |
| 00774144     | <0.01       | <0.01        | <0.01       | <0.00        | <0.01       | <0.01      | <0.00      | <0.01     | <0.01        |
| 00774145     | <0.01       | <0.01        | <0.01       | <0.00        | <0.01       | <0.01      | <0.00      | <0.01     | <0.01        |
| 00774146     | <0.01       | <0.01        | <0.01       | <0.00        | <0.01       | <0.01      | <0.00      | <0.01     | <0.01        |
| 00774147     | <0.01       | <0.01        | <0.01       | <0.00        | <0.01       | <0.01      | <0.00      | <0.01     | <0.01        |
| 00774148     | <0.01       | <0.01        | <0.01       | <0.01        | <0.01       | <0.01      | <0.00      | <0.01     | <0.01        |
| 00774149     | <0.01       | <0.01        | <0.01       | <0.01        | <0.01       | <0.01      | <0.00      | <0.01     | <0.01        |
| 00774150     | <0.01       | <0.01        | <0.01       | <0.01        | <0.01       | <0.01      | <0.00      | <0.01     | <0.01        |
| 00774151     | <0.01       | <0.01        | <0.01       | <0.01        | <0.01       | <0.01      | <0.00      | <0.01     | <0.01        |
| 00774152     | <0.01       | <0.01        | <0.01       | <0.01        | <0.01       | <0.01      | <0.00      | <0.01     | <0.01        |
| 00774153     | <0.01       | <0.01        | <0.01       | <0.01        | <0.01       | <0.01      | <0.00      | <0.01     | <0.01        |
| 00774154     | <0.01       | <0.01        | <0.01       | <0.01        | <0.01       | <0.01      | <0.00      | <0.01     | <0.01        |
| 00774155     | <0.01       | <0.01        | <0.01       | <0.01        | <0.01       | <0.01      | <0.00      | <0.01     | <0.01        |
| 00774156     | <0.01       | <0.01        | <0.01       | <0.01        | <0.01       | <0.01      | <0.01      | <0.01     | <0.02        |

AGI SURVEYS ANALYTICAL RESULTS  
 210 EXECUTIVE DR., SUITE 1, NEWARK, DE 19702  
 SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
 AGI STANDARD CONCENTRATIONS COMPOUNDS  
 ESTIMATED WATER CONCENTRATIONS  
 COMAL & SAN MARCOS RIVERS  
 PRODUCTION ORDER # 01567

| DATAFILE     |           |           |           |              |                 |              |             |            |                 |
|--------------|-----------|-----------|-----------|--------------|-----------------|--------------|-------------|------------|-----------------|
| NAME         | TOL, ug/L | OCT, ug/L | PCE, ug/L | CIBENZ, ug/L | 1112TetCA, ug/L | ETBENZ, ug/L | mpXYL, ug/L | oXYL, ug/L | 1122TetCA, ug/L |
| Average RL = | 0.01      | 0.01      | 0.01      | 0.01         | 0.01            | 0.01         | 0.01        | 0.01       | 0.01            |
| 00774142     | <0.01     | <0.00     | 0.02      | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.01           |
| 00774143     | <0.01     | <0.00     | 0.04      | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.01           |
| 00774144     | <0.01     | <0.00     | 0.07      | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.01           |
| 00774145     | <0.01     | <0.00     | 0.07      | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.01           |
| 00774146     | <0.01     | <0.00     | 0.06      | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.01           |
| 00774147     | <0.01     | <0.00     | 0.05      | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.01           |
| 00774148     | <0.01     | <0.00     | <0.01     | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.01           |
| 00774149     | <0.01     | <0.00     | 0.02      | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.01           |
| 00774150     | <0.01     | <0.00     | 0.10      | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.01           |
| 00774151     | 0.01      | <0.00     | 0.10      | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.01           |
| 00774152     | <0.01     | <0.00     | 0.02      | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.01           |
| 00774153     | <0.01     | <0.00     | 0.01      | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.01           |
| 00774154     | <0.01     | <0.00     | 0.02      | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.01           |
| 00774155     | <0.01     | <0.00     | 0.01      | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.01           |
| 00774156     | <0.01     | <0.01     | <0.01     | <0.01        | <0.01           | <0.01        | <0.01       | <0.01      | <0.02           |

AGI SURVEYS ANALYTICAL RESULTS  
 210 EXECUTIVE DR., SUITE 1, NEWARK, DE 19702  
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 ESTIMATED WATER CONCENTRATIONS  
 COMAL & SAN MARCOS RIVERS  
 PRODUCTION ORDER # 01567

|              |              |              |             |             |             |             |            | estimated    |
|--------------|--------------|--------------|-------------|-------------|-------------|-------------|------------|--------------|
| DATAFILE     |              |              |             |             |             |             |            |              |
| NAME         | 135TMB, ug/L | 124TMB, ug/L | 13DCB, ug/L | 14DCB, ug/L | 12DCB, ug/L | UNDEC, ug/L | NAPH, ug/L | TRIDEC, ug/L |
| Average RL = | 0.01         | 0.01         | 0.01        | 0.01        | 0.01        | 0.02        | 0.02       | 0.02         |
| 00774142     | <0.00        | <0.01        | <0.01       | <0.01       | <0.01       | <0.02       | <0.02      | <0.02        |
| 00774143     | <0.00        | <0.01        | <0.01       | <0.01       | <0.01       | <0.02       | <0.02      | <0.02        |
| 00774144     | <0.00        | <0.01        | <0.01       | <0.01       | <0.01       | <0.02       | <0.02      | <0.02        |
| 00774145     | <0.00        | <0.01        | <0.01       | <0.01       | <0.01       | <0.02       | <0.02      | <0.02        |
| 00774146     | <0.00        | <0.01        | <0.01       | <0.01       | <0.01       | <0.02       | <0.02      | <0.02        |
| 00774147     | <0.00        | <0.01        | <0.01       | <0.01       | <0.01       | <0.02       | <0.02      | <0.02        |
| 00774148     | <0.00        | <0.01        | <0.01       | <0.01       | <0.01       | <0.02       | <0.02      | <0.02        |
| 00774149     | <0.00        | <0.01        | <0.01       | <0.01       | <0.01       | <0.02       | <0.02      | <0.02        |
| 00774150     | <0.00        | <0.01        | <0.01       | <0.01       | <0.01       | <0.02       | <0.02      | <0.02        |
| 00774151     | <0.00        | <0.01        | <0.01       | <0.01       | <0.01       | <0.02       | <0.02      | <0.02        |
| 00774152     | <0.00        | <0.01        | <0.01       | <0.01       | <0.01       | <0.02       | <0.02      | <0.02        |
| 00774153     | <0.00        | <0.01        | <0.01       | <0.01       | <0.01       | <0.02       | <0.02      | <0.02        |
| 00774154     | <0.00        | <0.01        | <0.01       | <0.01       | <0.01       | <0.02       | <0.02      | <0.02        |
| 00774155     | <0.00        | <0.01        | <0.01       | <0.01       | <0.01       | <0.02       | <0.02      | <0.02        |
| 00774156     | <0.01        | <0.01        | <0.01       | <0.01       | <0.01       | <0.03       | <0.03      | <0.03        |

AGI SURVEYS ANALYTICAL RESULTS  
 210 EXECUTIVE DR., SUITE 1, NEWARK, DE 19702  
 SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
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 ESTIMATED WATER CONCENTRATIONS  
 COMAL & SAN MARCOS RIVERS  
 PRODUCTION ORDER # 01567

|              |               | estimated            | estimated      | estimated          | estimated      |
|--------------|---------------|----------------------|----------------|--------------------|----------------|
| DATAFILE     |               |                      |                |                    |                |
| NAME         | 2MeNAPH, ug/L | Acenaphthylene, ug/L | PENTADEC, ug/L | Acenaphthene, ug/L | Fluorene, ug/L |
| Average RL = | 0.01          | 0.02                 | 0.02           | 0.02               | 0.02           |
| 00774142     | <0.01         | <0.01                | <0.02          | <0.01              | <0.01          |
| 00774143     | <0.01         | <0.01                | <0.02          | <0.01              | <0.01          |
| 00774144     | <0.01         | <0.01                | <0.02          | <0.01              | <0.01          |
| 00774145     | <0.01         | <0.01                | <0.02          | <0.01              | <0.01          |
| 00774146     | <0.01         | <0.01                | <0.02          | <0.01              | <0.01          |
| 00774147     | <0.01         | <0.01                | <0.02          | <0.01              | <0.01          |
| 00774148     | <0.01         | <0.01                | <0.02          | <0.01              | <0.01          |
| 00774149     | <0.01         | <0.01                | <0.02          | <0.01              | <0.01          |
| 00774150     | <0.01         | <0.01                | <0.02          | <0.01              | <0.01          |
| 00774151     | <0.01         | <0.01                | <0.02          | <0.01              | <0.01          |
| 00774152     | <0.01         | <0.01                | <0.02          | <0.01              | <0.01          |
| 00774153     | <0.01         | <0.01                | <0.02          | <0.01              | <0.01          |
| 00774154     | <0.01         | <0.01                | <0.02          | <0.01              | <0.01          |
| 00774155     | <0.01         | <0.02                | <0.02          | <0.02              | <0.02          |
| 00774156     | <0.03         | <0.03                | <0.03          | <0.03              | <0.03          |

## KEY TO DATA TABLE

### UNITS

|                   |  |
|-------------------|--|
| µg                | micrograms, relative mass value                              |
| µg/m <sup>3</sup> | micrograms per cubic meter; estimated soil gas concentration |
| µg/L              | micrograms per Liter; calculated water concentration         |

### DATA QUALIFIERS

|   |  |
|---|--|
| > | greater than; value exceeds calibration range, estimated value   |
| < | less than; compound value is below the LOD and RL                |
| J | mass value below LOQ or RL, but above LOD, estimated mass value  |
| E | mass value exceeds upper calibration level, estimated mass value |
| Q | one or more quality control parameters failed for the compound   |

### ABBREVIATIONS

|        |  |
|--------|--|
| AVG RL | average reporting limit; calculated based on individual field sample RLs |
| LOD    | limit of detection   |
| LOQ    | limit of quantification  |
| MDL    | method detection limit   |
| RL     | reporting limit  |

|             |   |          |  |
|-------------|---|----------|--|
| 1112TetCA   | 1,1,1,2-tetrachloroethane   | CIBENZ   | chlorobenzene  |
| 111TCA      | 1,1,1-trichloroethane   | ct12DCE  | cis- & trans-1,2-dichloroethene                                      |
| 1122TetCA   | 1,1,2,2-tetrachloroethane   | EtBENZ   | ethylbenzene   |
| 112TCA      | 1,1,2-trichloroethane   | mpXYL    | m-, p-xylene   |
| 11DCA       | 1,1-dichloroethane  | MTBE     | methyl t-butyl ether   |
| 11DCE       | 1,1-dichloroethene  | NAPH     | naphthalene  |
| 124TMB      | 1,2,4-trimethylbenzene  | OCT      | octane   |
| 12DCA       | 1,2-dichloroethane  | oXYL     | o-xylene   |
| 12DCB       | 1,2-dichlorobenzene   | PCE      | tetrachloroethene  |
| 135TMB      | 1,3,5-trimethylbenzene  | PENTADEC | pentadecane  |
| 13DCB       | 1,3-dichlorobenzene   | PHEN     | phenanthrene   |
| 14DCB       | 1,4-dichlorobenzene   | t12DCE   | trans-1,2-dichloroethene   |
| 2MeNAPH     | 2-methyl naphthalene  | TCE      | trichloroethene  |
| BENZ        | benzene   | TMBs     | combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene |
| BTEX        | combined masses of benzene, toluene, ethylbenzene, and total xylenes (Gasoline Range Aromatics) | TOL      | toluene  |
| C11,C13&C15 | combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)    | TPH      | total petroleum hydrocarbons   |
| c12DCE      | cis-1,2-dichloroethene  | TRIDEC   | tridecane  |
| CCl4        | carbon tetrachloride  | UNDEC    | undecane   |
| CHC13       | chloroform  | VC       | vinyl chloride   |



## SUMMARY OF SAMPLING RATE CALIBRATION FOR AGI UNIVERSAL SAMPLER IN AQUEOUS PHASES

### INTRODUCTION:

The Amplified Geochemical Imaging, LLC (AGI) passive vapor sampler is designed to be used for soil gas, water, sediment pore water, and air sampling. This document describes the process used to calibrate the sampler's compound specific sampling or uptake rates in aqueous phases.

Sampling rates are measured following AGI's "Standard Practice for Determining the Sampling Rate of Passive Diffusion Samplers in Various Environmental Media": SPG-SOP-0493. Rates are used to calculate dissolved phase concentrations of volatile and semi-volatile contaminants in water. The calibration process is summarized in three parts: Part 1: shallow water, Part 2: deep water, and Part 3: sediment.

### PURPOSE:

The purpose of this document is to:

1. Summarize the test protocol,
2. Summarize the methodology for analysis of data,
3. Present general results for generating concentration calibration of the AGI Universal Sampler

### Principle of Operation of the AGI Samper

The AGI Universal Sampler is designed with solid adsorbents enclosed inside a tubular microporous PTFE membrane. When placed in water, the pores and hydrophobic nature of the PTFE keep liquid water from entering the membrane until a water head of about 34 feet is reached. The membrane will not keep water vapor from entering but the adsorbents are very hydrophobic and through testing validated to be unaffected by this moisture vapor. In shallow water, <34', volatile and semi-volatile compounds will partition from the dissolved water into the air phase in the PTFE membrane according to Henry's Law. This partitioning is instantaneous and within seconds-minutes, the compound is adsorbed by the adsorbent inside the sealed tube. Because the diffusivity in air is about 10,000 times higher than the diffusivity in water, the sampling rate is controlled by the water contact area of the membrane that allows the Henry's Law effect to occur. This contact area is set by the membrane diameter and length of the sealed tube, which is fixed in AGI's manufacturing process.

Henry's law as well as diffusivity, which are fundamentally incorporated into the sampling rate, are affected by temperature,  $T$ , and follow an Arrhenius equation  $H_T = H_r \times \exp\left(\frac{-E_a/R}{1/T_r - 1/T}\right)$ . Because a 5°C temperature change can make a 15% change in sampling rate, the temperature of the sampled water should be known to get the most precise concentration.

The membrane pore size is also small enough that colloidal particles and microbes cannot pass through the membrane. This keeps the adsorbent from getting contaminated and eliminates any need to add preservative or chilling during storage or transportation.

When the water pressure exceeds the water entry pressure of the membrane, about 34 feet of water, the water becomes in contact with the solid adsorbent. Under this condition the compounds in the water will partition from the water into the solid. The partitioning coefficient,  $K_{AW}$ , can be approximated by the octanol-water coefficient,  $K_{OW}$ , but has been measured more precisely in the lab for AGI's specific solid adsorbent. The sampling rate is the product of the sampling rate at <34' of water and the  $K_{AW}$ .

In sediment, the sampler measures pore-water concentration, which is generally agreed to be the preferred measurement as it is more indicative of bioavailability. In sediment the volumetric

availability of water to the sampler is reduced by the volume fraction solids in the sediment, which typically varies from zero to 35%, but can be as high as 73% in well packed and broad particle size distribution sediments. As a result, sampling rates in sediment are multiplied by the fraction pore water in the sediment to determine concentration.

## **PART 1: Calibration in shallow water**

Part 1 summarizes the work in shallow water generating calibration data, evaluating the physical and chemical factors affecting the sampling rate, and measurement of the actual sampling rates or regression calibration equations needed to determine concentrations.

### **Sample Generation in water**

In this calibration work, solutions of analytes at known concentrations were formulated in clean 4 liter smoked glass jugs by injecting microliter measured amounts of environmental standards using a calibrated syringe into pure or deionized water and stirring for a minimum of 2 hours but generally overnight. Headspace in the jugs was minimized and generally less than 1% by volume during the tests. Jugs were temperature controlled by placing them in a water filled cooler, chilled via a copper tubing loop in the cooler. Temperature was measured with a certified digital temperature gauge and an average value used for each temperature experiment.

AGI samplers were weighted so they won't float and placed in the jugs at time zero. They were removed at various intervals to generate samples along with duplicates that showed mass increasing with exposure time. The sampler exposure time was selected to span minutes to hours and was generally reduced for high concentration tests to maintain uptake with time in roughly the linear dynamic range. Samplers were removed and dried with a paper towel and returned to their original container for analysis. They were analyzed by AGI's 8260C (SPG-WI-318 or SPG-WI-10028) method in duplicate, which is based on EPA SW846 Method 8260C.

Water samples were also taken and measured at an outside accredited lab using EPA SW846 Method 8260B. The concentrations agreed well with the calculated concentrations based on the standard certification, jug volume, and syringe injection. The variability of the outside lab 8260B values were found to be high, so for the sampling rate calculations we used the concentrations based on syringe dosing.

Calibrations were run at five concentrations, nominally at 6, 24, 118, 590, 1420 ug/L and five temperatures nominally at 5, 10, 15, 20, and 25 degrees centigrade. Samples were taken at 4 different exposure times. Samples were run in duplicate. A total of 176 data points were generated using 28 compounds from AGI's standard compounds list. Tridecane and pentadecane were not evaluated due to their very low solubility in water. In addition, another 23 compounds were tested using an 8260 liquid standard at nominal concentrations of 0.5, 1.0, 5.0, 15, 95, and 470 ug/L at a temperature typical of groundwater, 15°C. This is a living calibration and as additional data are generated, they may be qualified and added to this data set to improve the precision of the sampling rate calibration and broaden the compound list.

## Key Variable Effects

As expected from theory, at short to moderate exposure times, mass will increase roughly linearly proportional to exposure time, as well as proportional to concentration, and exponentially with temperature following Arrhenius law. Temperature affects the Henry's law as well as diffusivity in water. Sampling rate is generally independent of concentration and time at mass values significantly below saturation. In the following sections we have characterized the sampling rate for each compound as affected by temperature and also developed calibrations using regression which account for the minor impact of time, and mass.

## Concentration using Simple Sampling Rate Determination

A simple way to determine concentration is to measure mass on the AGI sampler, divide by exposure time, and divide by sampling rate, SR.

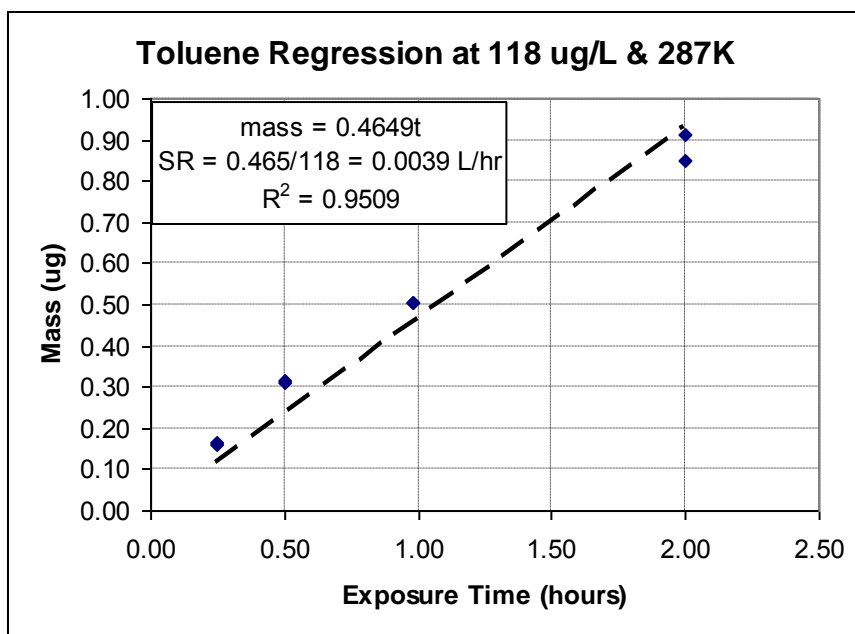
$$\text{Conc [ug/L]} = \text{mass/time/SR} \quad (1)$$

The sampling rate can be determined via measurements of mass versus time at a known concentration and temperature according to the following modification of equation (1).

$$\text{SR} = \text{mass/time/concentration} \quad (2)$$

Sampling rates in L/hr were determined by measuring the trend or regression mass uptake versus time and dividing by the concentration. A measurement like this will use 8 data points (4 times x 2 samples). Such a sampling rate can be measured at any concentration and temperature.

The chart to the right shows a plot of mass versus time for water at 118 ug/L and 287K (actual data from a single run). Slope of 0.465 ug/hr divided by the concentration of 118 ug/L yields a sampling rate, SR, of 0.0039 L/hr.



SR's typically range from about 0.004 to 0.007 L/hr at 15°C. Table A shows SR's measured for our standard compound list at 5 temperatures.

## Rigorous Concentration using Regression

A preferred method for determining concentration that will yield improved accuracy over a wide range of concentrations, exposure times, and temperatures is to use all data in a regression analysis, which allows adjustments for the minor non-linear influences of mass and time as well as the effects of temperature. This step is done by regressing equation (1) or a universal version of equation (1):

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRo} * \exp(-\text{Ea}/\text{R}/\text{T})] \quad (3)$$

The subtle non-linear effects of mass and time will be evident in the deviation of coefficients b and d from 1.0. This regression generates four constants b, d, SRo, and  $-\text{Ea}/\text{R}$  by regressing  $\ln(\text{conc})$  versus  $\ln(\text{mass})$ ,  $\ln(\text{time})$ ,  $1/\text{temp}$ . These four constants can be used to determine concentration via the equation:

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRo} \times \exp(-\text{Ea}/\text{R}(1/\text{T}))] \quad (4)$$

Where conc is in ug/L, mass is in ug, time in hours, T in degrees Kelvin.

Equation (4) can be also expressed at a reference temperature,  $\text{Tr}$ , such as 15°C by

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRr} \times \exp(-\text{Ea}/\text{R}(1/\text{Tr} - 1/\text{T}))] \quad (5)$$

This step allows sampling rates, SRr, at any reference temperature,  $\text{Tr}$ , and for any analyte to easily be compared. The values of SRr at 293.14K can be found in Table A.

When sampling times are between 0 and 4 hours, using the 4 constant equation (5) is preferred. For concentrations from about 5 to 1500 ug/L one hour exposure times generally give the lowest error, typically with average error of 6-20% and with total error range of 12%-32%. For low concentrations where sampling times are greater than 4 hours, it is preferred to use equation (1) to avoid unrealistic effects from the coefficient d or to set d to 1.0. In such a case SR in equation (1) can be substituted with  $[\text{SRr} \times \exp(-\text{Ea}/\text{R}(1/\text{Tr} - 1/\text{T}))]$  to use an SR representative of the well temperature, T.

The chart to the right is a plot of the calculated concentration from the 4 constant regression compared to the dosed concentration. Agreement is excellent for the 176 data points.

However, there does appear to be a slight high bias of 8.6% over the full range of this data, although it is well within acceptable limits of variability.

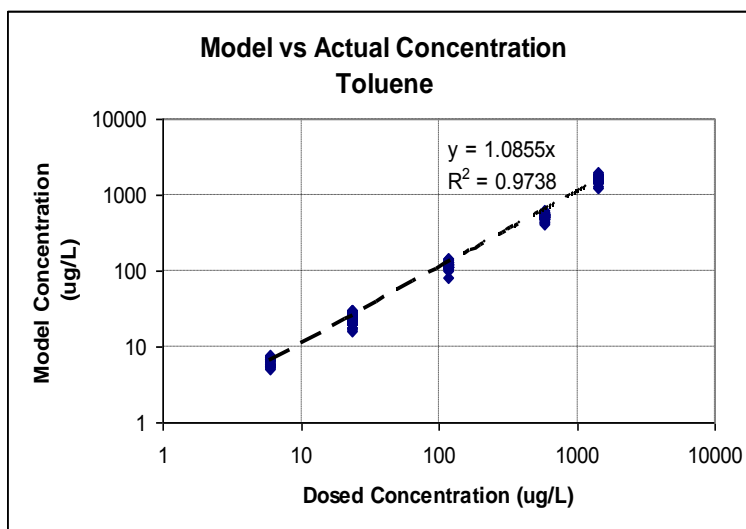


Table B shows the tabulated summary of the 4 constants regression with Rsq values and error estimates for the 4 constants for each analyte. Most regression Rsq values are 0.99 or greater for each analyte. In general,  $-E_a/R$  is about 2400 $\pm$ 400, b is about 0.9, d is about -0.75, and SR(15°C) ranges from .004 L/hr to 0.007 L/hr increasing with MW of the compound.

### Error Estimates

The error in the water concentration values will depend on both the error in mass from the analytical method as well as the error in the concentration calibration. Table C shows the error in the mass values from the 8260C low sensitivity method.

The standard error of the regression and standard errors of the constants can be found in table B. For each compound we have measured the error between the derived concentration and the actual concentration. The error tends to be lowest at our recommended exposure time of one hour as shown by the example for Toluene to the right.

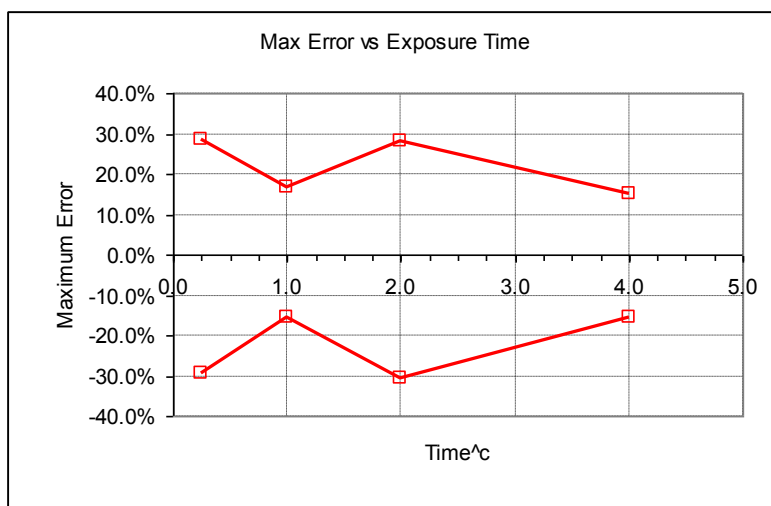
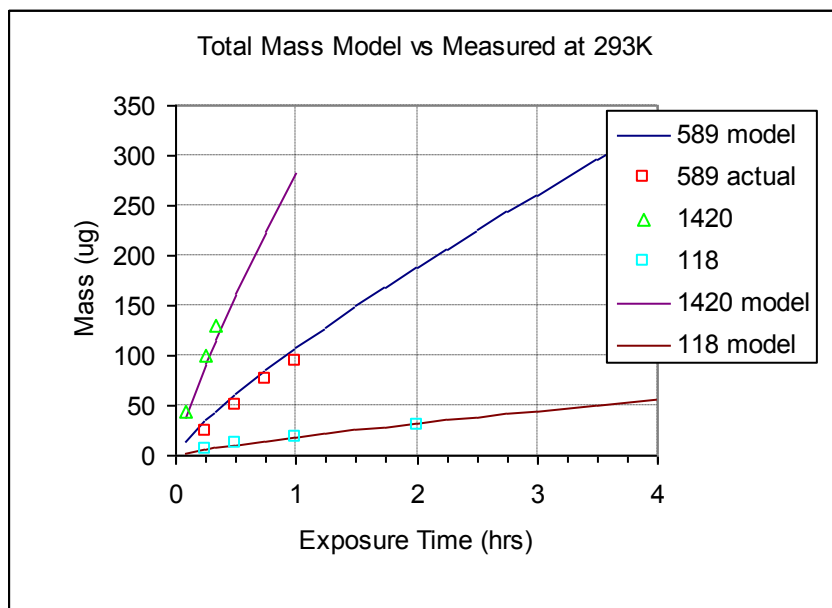


Table D shows the total average error in water concentration by compound as well as the low and high error. The average ranges from about 6% to 20%, which is similar to the analytical method errors. The low and high errors range from 12% to 32% and include contribution from measurement errors in both time and temperature.

### Sorbent Saturation

As mass increases on a solid sorbent and approaches saturation, reverse diffusion can occur causing the sampling rate to drop. Eventually the mass level will reach a maximum steady state value at any concentration. A rate of mass uptake with time that deviates significantly from linear, indicates that sorbent saturation could be an issue. When using equation (1), staying in the linear range to avoid the effects of adsorbent saturation is important. We recommend keeping the total mass on the sampler below 50 ug or flagging when this is exceeded.

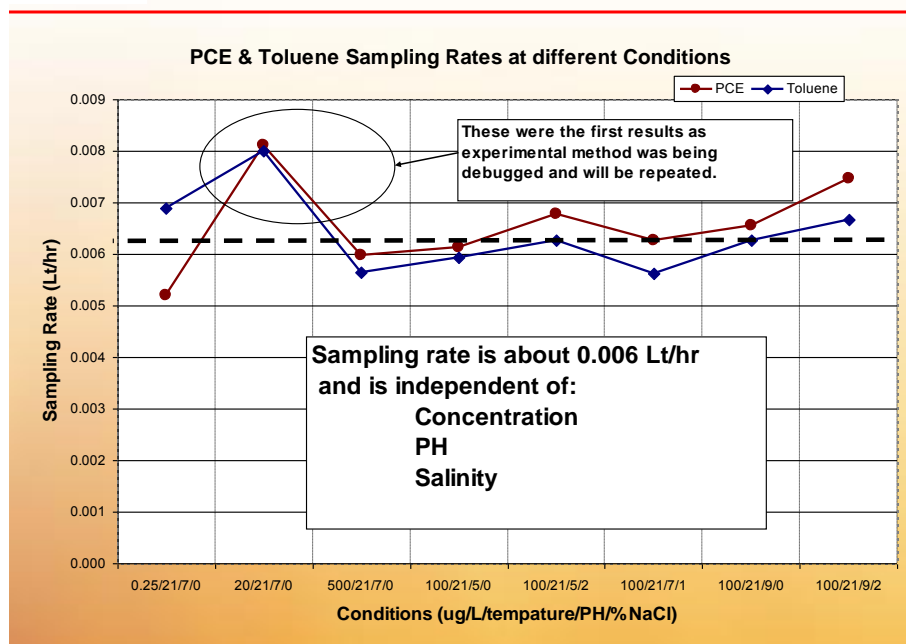
The 4 constant regression accounts for some of the non linearity allowing good accuracy at higher mass levels. From the experimental data we have found this safe range can be extended to 100 ug or higher as shown in the chart below. This chart compares total mass of all compounds (excluding heavy alkanes, which have solubility issues) versus time in comparison to that predicted from the 4-constant concentration equation.



### Effect of PH and Salinity

Because neither PH nor salinity is known to have a significant impact on Henry's law or diffusivity in water, we did not expect them to have a significant impact on sampling rate. To confirm this, experiments were run varying PH from 5 to 9 and NaCl content from 0 to 2%. The chart below shows no significant impact for combinations of PH and NaCl content over this range on the sampling rate of toluene in water at 21°C.

### Checked for Effects of PH & Salinity



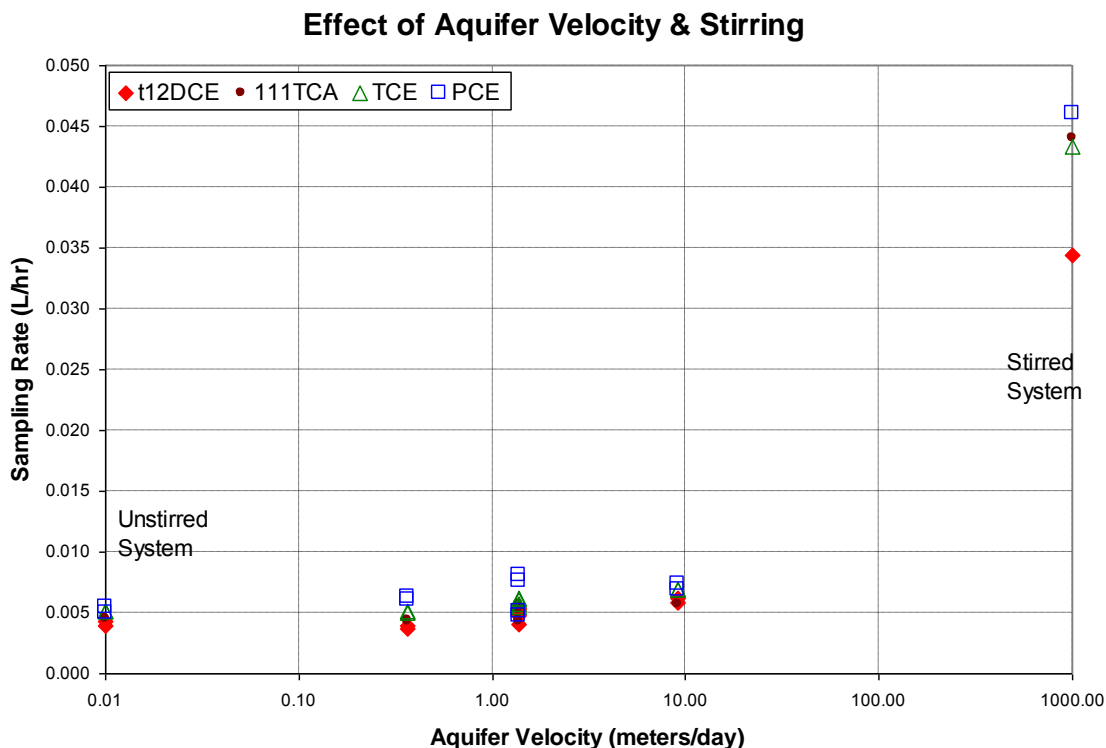


## Impact of Aquifer Velocity

The velocity in most aquifers is quite slow, typically a meter/day or less. Occasionally water flow could be much higher such as encountered in karst aquifers, streams or rivers. Mass transfer coefficients are higher in high flow conditions, which will lead to higher sampling rates. We validated that a highly stirred system had sampling rates about 10 times higher than those that were non-stirred. We decided to evaluate the effect of aquifer velocity.

A test apparatus was built comprising a 3" PVC pipe tee filled with clean sand in each of the horizontal straight legs and screened to leave the center open. A test solution was run through this system using a variable flow pump and AGI samplers were placed into the simulated well through the vertical leg of the tee. Tests were run to examine the effect of velocity by varying the pumping rate and hence water velocity.

The chart below shows no significant effect of aquifer velocity up to a speed of about 10 meters/day. At velocities significantly above this, similar to a stirred system, sampling rates are about 10 times higher.



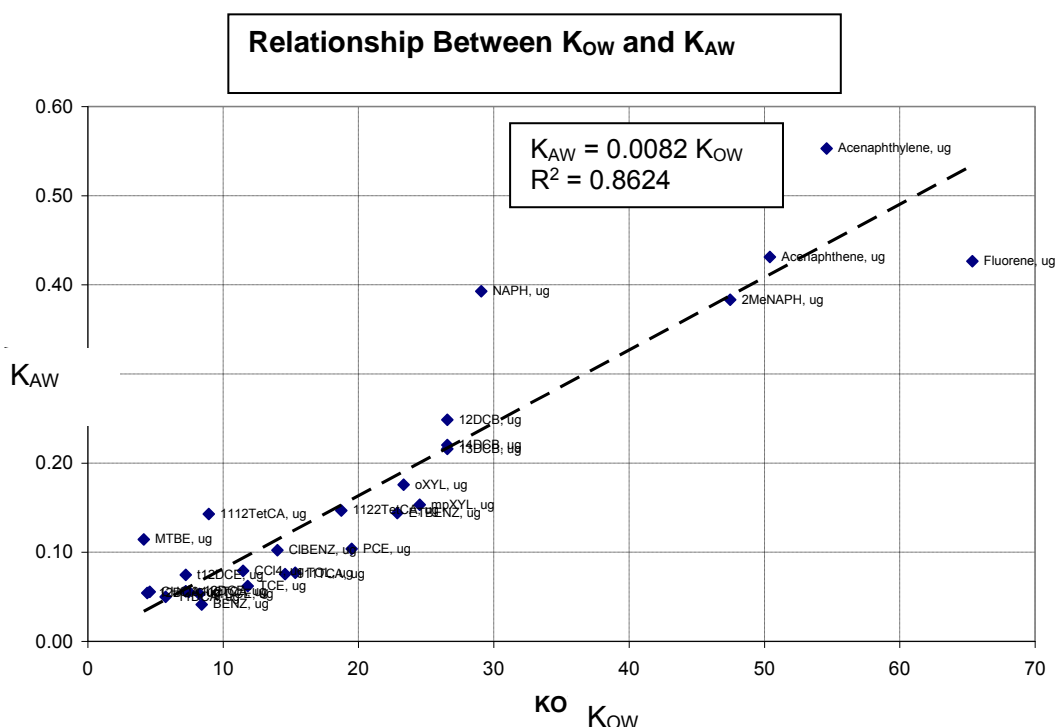


## Part 2: Calibration in Deep (>34') water

Part 2 describes the effect of deep water on the AGI sampler and summarizes the effects on sampling rate and concentration measurement.

When the water pressure exceeds the water entry pressure of the membrane, about 34 feet of water, the water becomes in direct contact with the solid adsorbent. Under this condition the compounds in the water will partition from the water into the solid. The partitioning coefficient is closely related to the octanol-water coefficient,  $K_{OW}$ , but has been measured more precisely in the lab for AGI's specific solid adsorbent,  $K_{AW}$ . The sampling rate for deep water is the product of the sampling rate at <34' of water and the  $K_{AW}$ .

Measurement of the  $K_{AW}$  was done in a one liter stainless steel vessel pressurized with nitrogen to simulate water heads above 34' of water. Pressures of up to 465 psig or 200' of water head were used. The sampling rate change was the same at all pressures above 34' of water. The  $K_{AW}$  was determined as the ratio between the mass or sampling rate above 34' of head to the rate at <34' of head and is shown in the chart below.



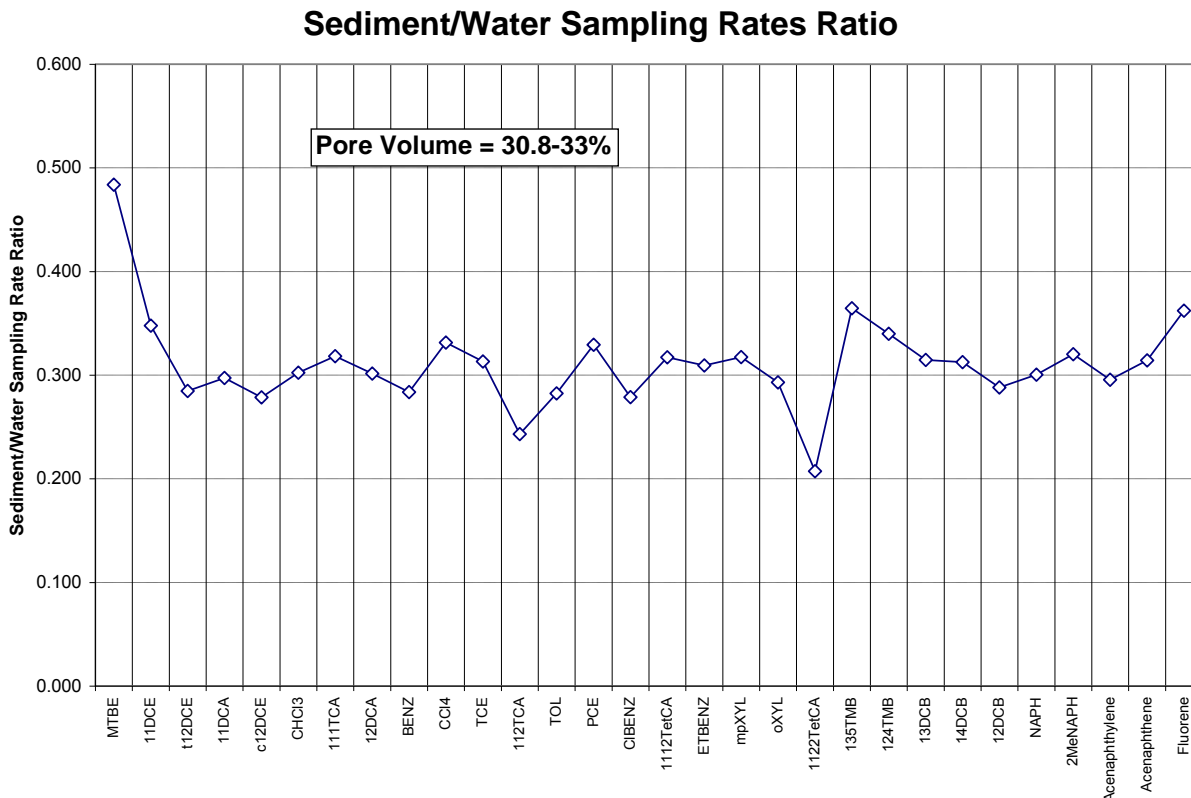
## Part 3: Calibration in Sediment

Part 3 describes the effect of sediment solids or sediment pore volume on the sampling rate and concentration measurement.

In sediment, the sampler measures pore water concentration, which is generally agreed to be the preferred measurement as it is more indicative of bioavailability. In sediment the volumetric availability of water to the sampler is reduced by the volume fraction solids in the sediment. As a result sampling rates in sediment are multiplied by the fraction pore water to determine

concentration. Pore water fraction can range from 1.0 for water without sediment to as low as 0.25. Typically most sediments have pore fractions of 0.9 to 0.65.

A sampling rate study was done with water and with water added into a well-packed sorted sand. Pore water fraction in this test was measured between 30.8% and 33% by volume. Below is a plot of the ratio of sampling rates measured in the sediment to open water. The average ratio is equal to the pore water fraction confirming that sampling rate in sediment is on average equal to the product of pore water fraction times the sampling rate in water.



## Summary

The AGI Sampler can be used to determine the concentration of volatile and semi-volatile compounds in a water phase. This requires knowing the exposure time and water temperature. It also requires knowing if the sample is above or below 34' of water head and if the water has a velocity above 10 meters/day. Regressions of large amounts of data were used to generate a four constant equation to generate concentration values in water. Potential error in the concentration values is excellent typically less than 25%.

**TABLE A**  
**WATER SAMPLING RATES STANDARD LIST**

|                   | <b>SRr</b><br>293.14 | <b>SR @</b><br>277.54 | <b>SR @</b><br>282.44 | <b>SR @</b><br>287.84 | <b>SR @</b><br>293.24 | <b>SR @</b><br>298.94 |
|-------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>MTBE</b>       | 0.0025               | 0.0014                | 0.0016                | 0.0018                | 0.0022                | 0.0029                |
| <b>t12DCE</b>     | 0.0043               | 0.0028                | 0.0028                | 0.0027                | 0.0037                | 0.0048                |
| <b>11DCA</b>      | 0.0047               | 0.0031                | 0.0033                | 0.0033                | 0.0039                | 0.0052                |
| <b>c12DCE</b>     | 0.0046               | 0.0030                | 0.0031                | 0.0031                | 0.0038                | 0.0051                |
| <b>CHCl3</b>      | 0.0046               | 0.0030                | 0.0031                | 0.0031                | 0.0038                | 0.0051                |
| <b>111TCA</b>     | 0.0066               | 0.0043                | 0.0047                | 0.0047                | 0.0056                | 0.0076                |
| <b>12DCA</b>      | 0.0045               | 0.0029                | 0.0029                | 0.0030                | 0.0036                | 0.0050                |
| <b>BENZ</b>       | 0.0050               | 0.0031                | 0.0034                | 0.0035                | 0.0042                | 0.0056                |
| <b>CCl4</b>       | 0.0068               | 0.0044                | 0.0048                | 0.0047                | 0.0058                | 0.0080                |
| <b>TCE</b>        | 0.0052               | 0.0030                | 0.0034                | 0.0034                | 0.0043                | 0.0058                |
| <b>112TCA</b>     | 0.0043               | 0.0027                | 0.0027                | 0.0028                | 0.0034                | 0.0048                |
| <b>TOL</b>        | 0.0056               | 0.0034                | 0.0039                | 0.0039                | 0.0047                | 0.0062                |
| <b>OCT</b>        | 0.0064               | 0.0046                | 0.0050                | 0.0040                | 0.0058                | 0.0089                |
| <b>PCE</b>        | 0.0061               | 0.0036                | 0.0043                | 0.0043                | 0.0051                | 0.0069                |
| <b>CIBENZ</b>     | 0.0054               | 0.0033                | 0.0039                | 0.0040                | 0.0045                | 0.0059                |
| <b>1112TetCA</b>  | 0.0061               | 0.0037                | 0.0042                | 0.0044                | 0.0050                | 0.0065                |
| <b>EtBENZ</b>     | 0.0060               | 0.0037                | 0.0045                | 0.0044                | 0.0052                | 0.0069                |
| <b>mpXYL</b>      | 0.0064               | 0.0039                | 0.0048                | 0.0046                | 0.0055                | 0.0072                |
| <b>oXYL</b>       | 0.0066               | 0.0041                | 0.0050                | 0.0048                | 0.0057                | 0.0074                |
| <b>1122TetCA</b>  | 0.0044               | 0.0027                | 0.0029                | 0.0031                | 0.0036                | 0.0046                |
| <b>135TMB</b>     | 0.0079               | 0.0046                | 0.0059                | 0.0056                | 0.0071                | 0.0093                |
| <b>124TMB</b>     | 0.0078               | 0.0046                | 0.0060                | 0.0055                | 0.0071                | 0.0092                |
| <b>13DCB</b>      | 0.0072               | 0.0041                | 0.0055                | 0.0053                | 0.0063                | 0.0080                |
| <b>14DCB</b>      | 0.0071               | 0.0040                | 0.0054                | 0.0052                | 0.0062                | 0.0079                |
| <b>12DCB</b>      | 0.0070               | 0.0040                | 0.0053                | 0.0051                | 0.0060                | 0.0076                |
| <b>UNDEC</b>      |                      | 0.0026                | 0.0024                | 0.0020                | 0.0031                | 0.0029                |
| <b>NAPH</b>       |                      | 0.0041                | 0.0056                | 0.0054                | 0.0064                | 0.0081                |
| <b>TRIDEC</b>     |                      |                       |                       |                       |                       |                       |
| <b>2MeNAPH</b>    |                      | 0.0043                | 0.0066                | 0.0066                | 0.0080                | 0.0108                |
| <b>PENTADEC</b>   |                      |                       |                       |                       |                       |                       |
| <b>Total mass</b> | 0.1177               | 0.0822                | 0.1339                | 0.1334                | 0.1773                | 0.1981                |

Notes:

Values in L/hr

Total mass does not include UNDEC, TRIDEC, PENTADEC (28 compounds)

**TABLE B**  
**4 CONSTANT REGRESSION OUTPUT**

|                   | <b>Adjusted<br/>Rsq</b> | <b>Standard<br/>Error</b> | <b>ln(SR0)</b> | <b>b</b> | <b>-Ea/R</b> | <b>d</b> | <b>Std<br/>Error<br/>ln(SR0)</b> | <b>Std<br/>Error<br/>b</b> | <b>Std<br/>Error<br/>-<br/>Ea/R</b> | <b>Std<br/>Error<br/>d</b> |
|-------------------|-------------------------|---------------------------|----------------|----------|--------------|----------|----------------------------------|----------------------------|-------------------------------------|----------------------------|
| <b>MTBE</b>       | 0.997                   | 0.0960                    | -3.217         | 0.981    | 2704         | -0.709   | 0.2881                           | 0.0062                     | 83                                  | 0.0082                     |
| <b>t12DCE</b>     | 0.992                   | 0.1659                    | -1.877         | 0.905    | 2147         | -0.760   | 0.4971                           | 0.0100                     | 144                                 | 0.0138                     |
| <b>11DCA</b>      | 0.995                   | 0.1272                    | -1.346         | 0.916    | 1965         | -0.746   | 0.3809                           | 0.0077                     | 110                                 | 0.0106                     |
| <b>c12DCE</b>     | 0.995                   | 0.1299                    | -1.905         | 0.911    | 2137         | -0.751   | 0.3892                           | 0.0078                     | 112                                 | 0.0109                     |
| <b>CHCl3</b>      | 0.996                   | 0.1260                    | -1.841         | 0.912    | 2118         | -0.748   | 0.3776                           | 0.0076                     | 109                                 | 0.0105                     |
| <b>111TCA</b>     | 0.995                   | 0.1279                    | -2.684         | 0.902    | 2259         | -0.761   | 0.3836                           | 0.0076                     | 111                                 | 0.0106                     |
| <b>12DCA</b>      | 0.995                   | 0.1263                    | -2.161         | 0.908    | 2218         | -0.746   | 0.3786                           | 0.0076                     | 109                                 | 0.0106                     |
| <b>BENZ</b>       | 0.995                   | 0.1323                    | -2.207         | 0.920    | 2198         | -0.754   | 0.3965                           | 0.0080                     | 114                                 | 0.0110                     |
| <b>CCl4</b>       | 0.994                   | 0.1405                    | -3.121         | 0.889    | 2379         | -0.776   | 0.4220                           | 0.0083                     | 122                                 | 0.0116                     |
| <b>TCE</b>        | 0.992                   | 0.1655                    | -3.338         | 0.900    | 2522         | -0.772   | 0.4969                           | 0.0099                     | 144                                 | 0.0137                     |
| <b>112TCA</b>     | 0.995                   | 0.1264                    | -2.412         | 0.896    | 2302         | -0.724   | 0.3790                           | 0.0075                     | 109                                 | 0.0107                     |
| <b>TOL</b>        | 0.994                   | 0.1426                    | -2.873         | 0.916    | 2364         | -0.756   | 0.4281                           | 0.0087                     | 124                                 | 0.0119                     |
| <b>OCT</b>        | 0.938                   | 0.4698                    | -5.984         | 0.822    | 3235         | -0.827   | 1.4231                           | 0.0277                     | 412                                 | 0.0388                     |
| <b>PCE</b>        | 0.991                   | 0.1773                    | -3.780         | 0.877    | 2601         | -0.775   | 0.5329                           | 0.0103                     | 154                                 | 0.0147                     |
| <b>CIBENZ</b>     | 0.994                   | 0.1457                    | -2.601         | 0.911    | 2292         | -0.747   | 0.4370                           | 0.0088                     | 126                                 | 0.0122                     |
| <b>1112TetCA</b>  | 0.996                   | 0.1235                    | -2.676         | 0.898    | 2281         | -0.725   | 0.3705                           | 0.0073                     | 107                                 | 0.0104                     |
| <b>EtBENZ</b>     | 0.993                   | 0.1597                    | -2.930         | 0.918    | 2357         | -0.752   | 0.4794                           | 0.0097                     | 138                                 | 0.0134                     |
| <b>mpXYL</b>      | 0.992                   | 0.1678                    | -3.036         | 0.909    | 2372         | -0.749   | 0.5037                           | 0.0101                     | 145                                 | 0.0140                     |
| <b>oXYL</b>       | 0.993                   | 0.1555                    | -2.862         | 0.911    | 2312         | -0.740   | 0.4667                           | 0.0094                     | 135                                 | 0.0131                     |
| <b>1122TetCA</b>  | 0.996                   | 0.1118                    | -1.971         | 0.913    | 2167         | -0.691   | 0.3351                           | 0.0067                     | 97                                  | 0.0096                     |
| <b>135TMB</b>     | 0.988                   | 0.2024                    | -4.435         | 0.897    | 2720         | -0.738   | 0.6093                           | 0.0121                     | 176                                 | 0.0170                     |
| <b>124TMB</b>     | 0.989                   | 0.1997                    | -4.126         | 0.890    | 2631         | -0.731   | 0.6009                           | 0.0118                     | 173                                 | 0.0169                     |
| <b>13DCB</b>      | 0.991                   | 0.1832                    | -3.422         | 0.888    | 2449         | -0.730   | 0.5503                           | 0.0108                     | 159                                 | 0.0155                     |
| <b>14DCB</b>      | 0.991                   | 0.1802                    | -3.263         | 0.892    | 2408         | -0.724   | 0.5413                           | 0.0107                     | 156                                 | 0.0153                     |
| <b>12DCB</b>      | 0.992                   | 0.1697                    | -2.970         | 0.894    | 2327         | -0.716   | 0.5092                           | 0.0101                     | 147                                 | 0.0144                     |
| <b>UNDEC</b>      | 0.694                   | 0.374                     | -1.406         | 0.426    | 1708         | -0.806   | 1.792                            | 0.028                      | 517                                 | 0.053                      |
| <b>NAPH</b>       | 0.992                   | 0.166                     | -3.374         | 0.915    | 2430         | -0.671   | 0.497                            | 0.010                      | 144                                 | 0.014                      |
| <b>TRIDEC</b>     |                         |                           |                |          |              |          |                                  |                            |                                     |                            |
| <b>2MeNAPH</b>    | 0.984                   | 0.238                     | -5.498         | 0.869    | 2990         | -0.689   | 0.72                             | 0.014                      | 208                                 | 0.021                      |
| <b>PENTADEC</b>   |                         |                           |                |          |              |          |                                  |                            |                                     |                            |
| <b>Total mass</b> | 0.993                   | 0.1543                    | -6.111         | 0.907    | 2419         | -0.732   | 0.4666                           | 0.0093                     | 134                                 | 0.0130                     |

**TABLE C**  
**8260C MASS UNCERTAINTY**

**AGI 8260C Method for Mass using SPG-0008  
Samplers**

|           | 99%<br>Uncertainty Range<br>+/- | 95%<br>Uncertainty Range<br>+/- |
|-----------|---------------------------------|---------------------------------|
| MTBE      | 20%                             | 14%                             |
| t12DCE    | 22%                             | 15%                             |
| 11DCA     | 18%                             | 12%                             |
| c12DCE    | 18%                             | 12%                             |
| CHCl3     | 16%                             | 11%                             |
| 111TCA    | 18%                             | 12%                             |
| 12DCA     | 20%                             | 13%                             |
| BENZ      | 16%                             | 10%                             |
| CCl4      | 19%                             | 12%                             |
| TCE       | 15%                             | 10%                             |
| 112TCA    | 18%                             | 12%                             |
| TOL       | 15%                             | 10%                             |
| OCT       | 20%                             | 13%                             |
| PCE       | 16%                             | 11%                             |
| CIBENZ    | 18%                             | 12%                             |
| 1112TetCA | 19%                             | 13%                             |
| EtBENZ    | 18%                             | 12%                             |
| mpXYL     | 18%                             | 12%                             |
| oXYL      | 18%                             | 12%                             |
| 1122TetCA | 23%                             | 15%                             |
| 135TMB    | 21%                             | 14%                             |
| 124TMB    | 20%                             | 14%                             |
| 13DCB     | 19%                             | 13%                             |
| 14DCB     | 19%                             | 13%                             |
| 12DCB     | 20%                             | 14%                             |
| NAPH      | 21%                             | 14%                             |
| 2MeNAPH   | 25%                             | 17%                             |

**TABLE D**  
**4 CONSTANT WATER CONCENTRATION UNCERTAINTY**  
**ERROR IN CONCENTRATION REPORTING (1)**

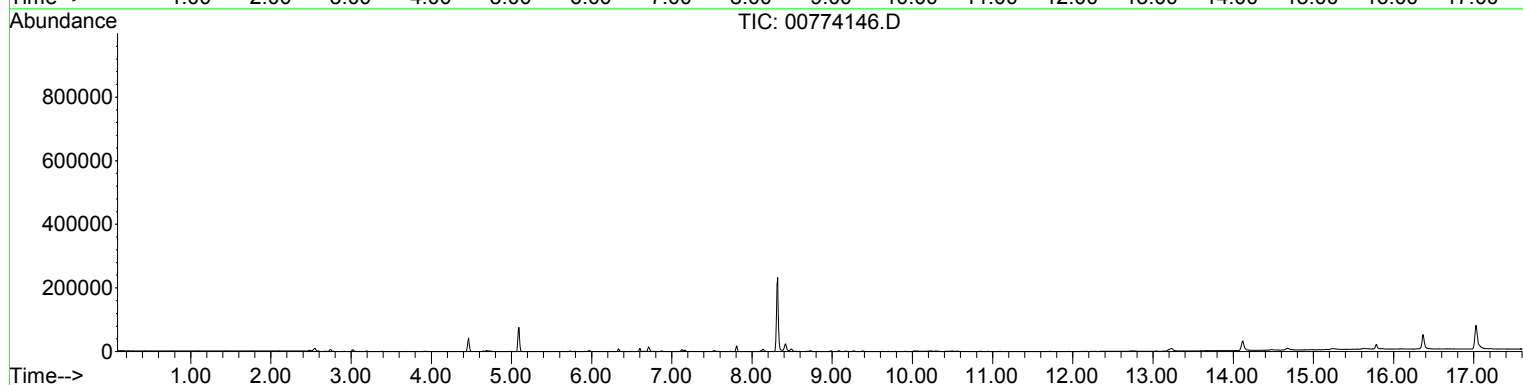
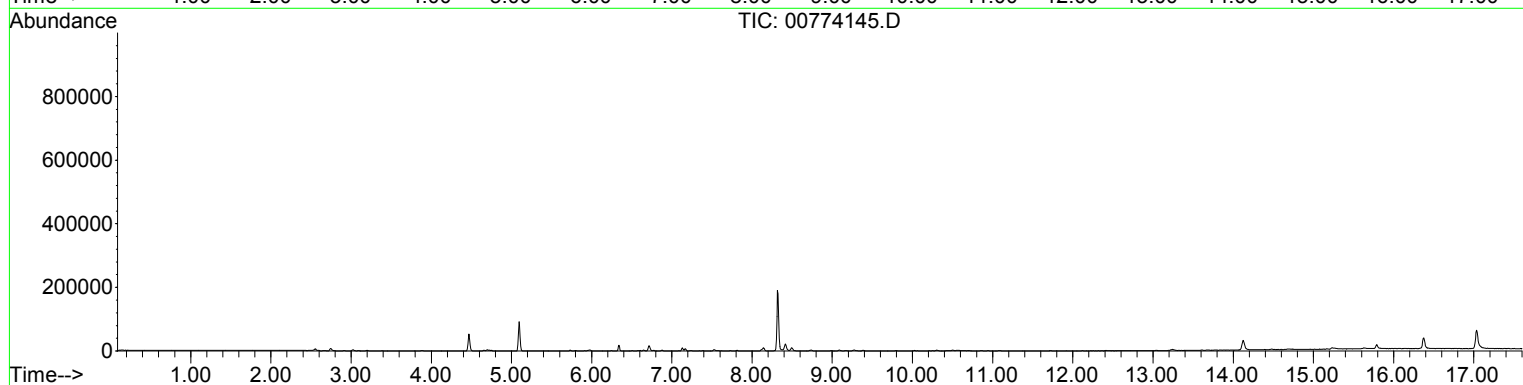
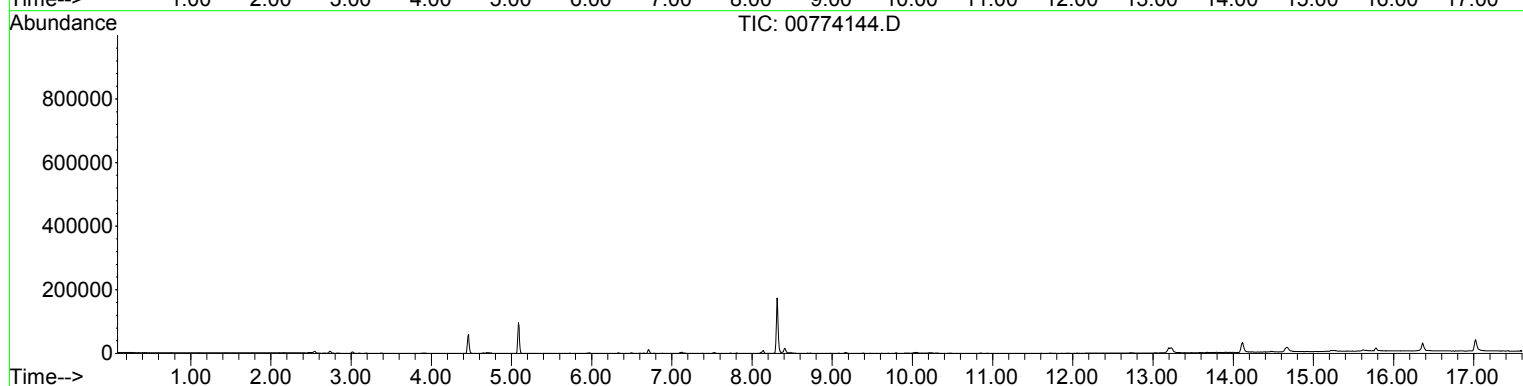
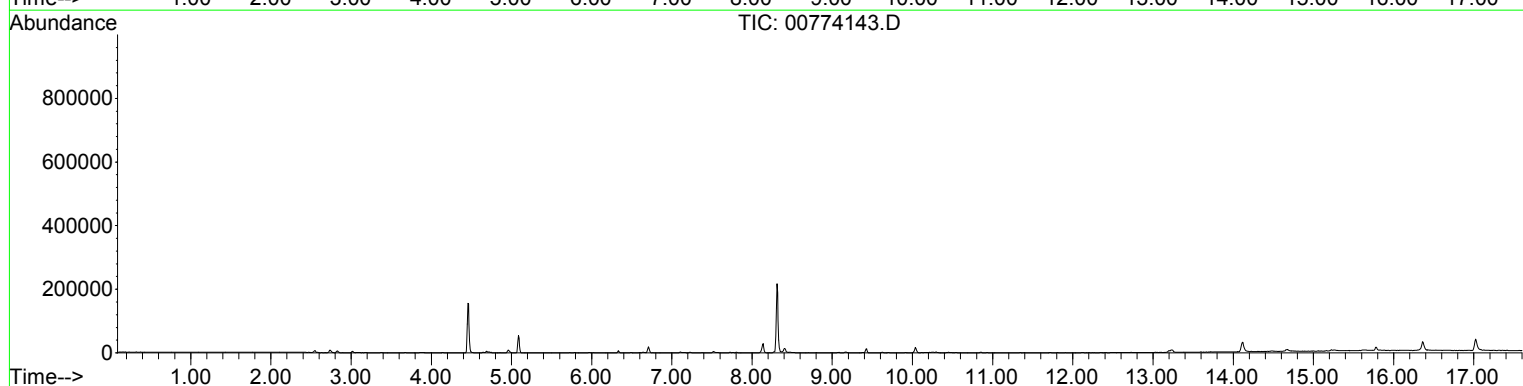
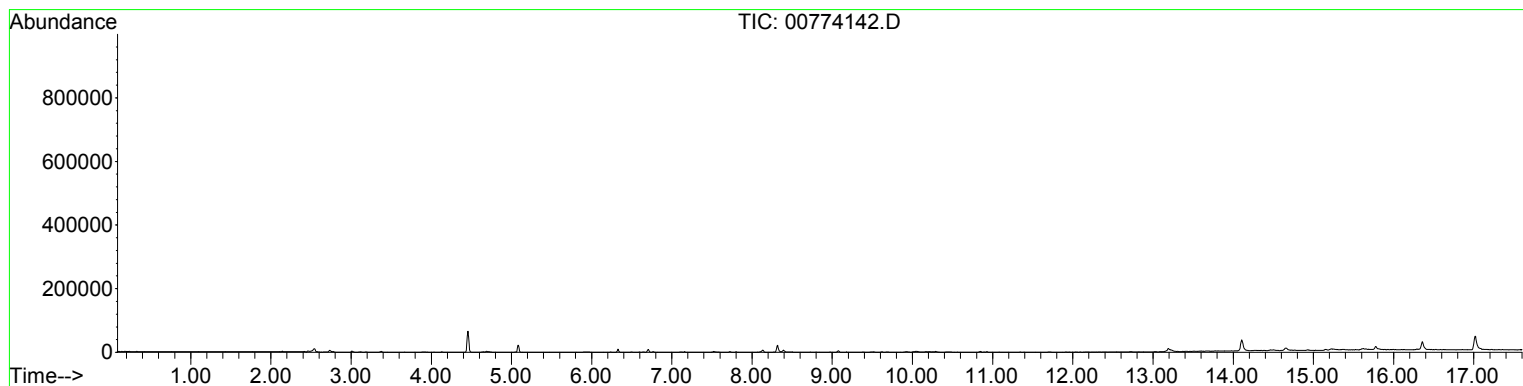
|           | <b>Average<br/>Error</b> | <b>Minimum<br/>Error</b> | <b>Maximum<br/>Error</b> |
|-----------|--------------------------|--------------------------|--------------------------|
| MTBE      | 6%                       | -12%                     | 12%                      |
| t12DCE    | 11%                      | -26%                     | 21%                      |
| 11DCA     | 8%                       | -19%                     | 13%                      |
| c12DCE    | 9%                       | -19%                     | 15%                      |
| CHCl3     | 9%                       | -20%                     | 14%                      |
| 111TCA    | 9%                       | -19%                     | 23%                      |
| 12DCA     | 10%                      | -19%                     | 17%                      |
| BENZ      | 8%                       | -18%                     | 13%                      |
| CCl4      | 10%                      | -23%                     | 22%                      |
| TCE       | 10%                      | -21%                     | 14%                      |
| 112TCA    | 11%                      | -21%                     | 21%                      |
| TOL       | 7%                       | -17%                     | 14%                      |
| OCT       | 20%                      | -41%                     | 42%                      |
| PCE       | 10%                      | -24%                     | 15%                      |
| CIBENZ    | 7%                       | -16%                     | 14%                      |
| 1112TetCA | 8%                       | -17%                     | 18%                      |
| EtBENZ    | 6%                       | -19%                     | 14%                      |
| mpXYL     | 7%                       | -22%                     | 13%                      |
| oXYL      | 7%                       | -19%                     | 13%                      |
| 1122TetCA | 8%                       | -16%                     | 17%                      |
| 135TMB    | 9%                       | -23%                     | 17%                      |
| 124TMB    | 10%                      | -28%                     | 19%                      |
| 13DCB     | 10%                      | -22%                     | 17%                      |
| 14DCB     | 10%                      | -22%                     | 17%                      |
| 12DCB     | 9%                       | -23%                     | 17%                      |
| NAPH      | 10%                      | -24%                     | 21%                      |
| 2MeNAPH   | 13%                      | -32%                     | 30%                      |

(1) For 1 hour exposure, includes error related to mass value from AGI analytical method 8260C

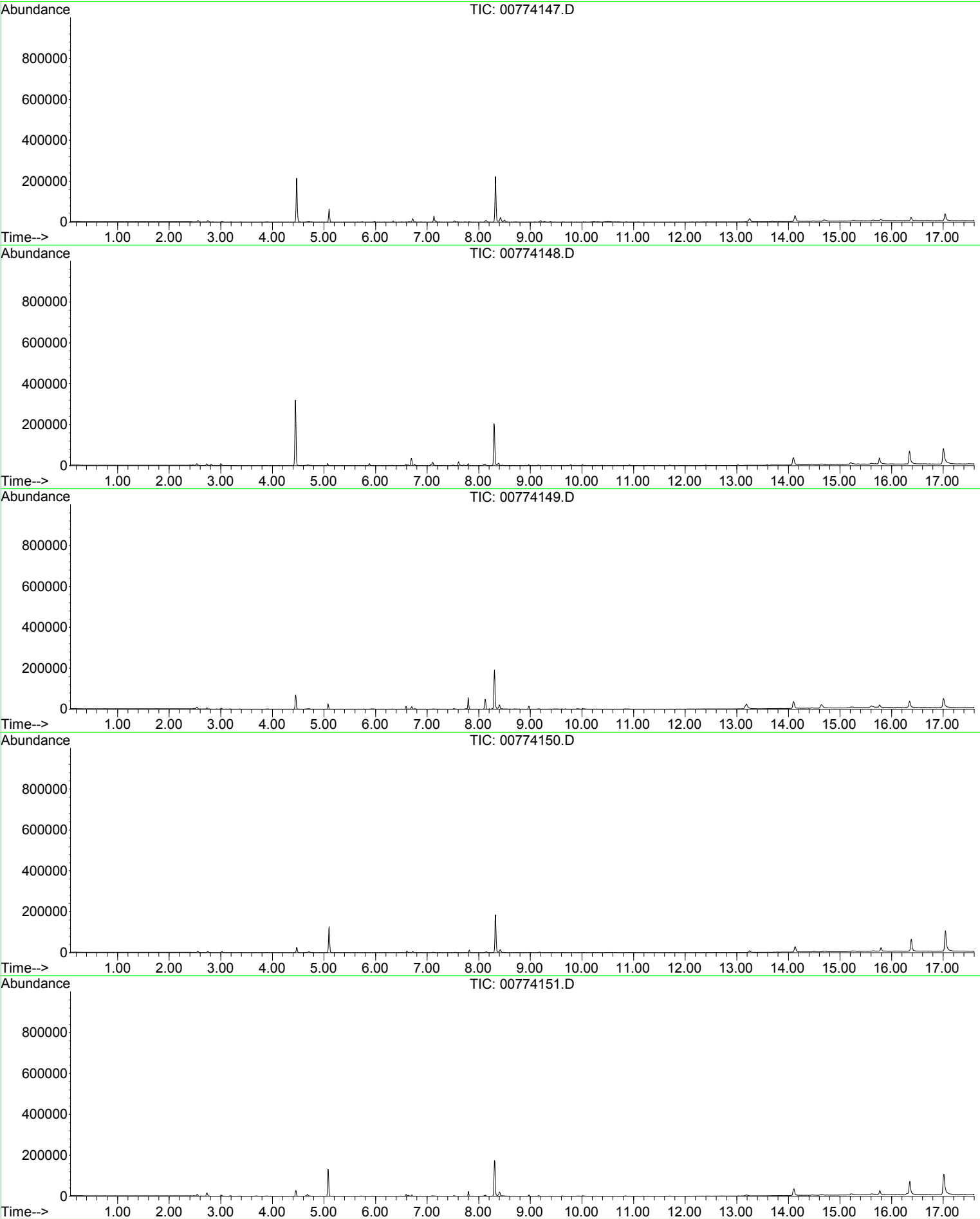
Amplified Geochemical Imaging, LLC  
210 Executive Drive, Suite 1  
Newark, DE 19702-3335  
Tel: +1-302-322-2428  
email: [info@agisurveys.net](mailto:info@agisurveys.net)

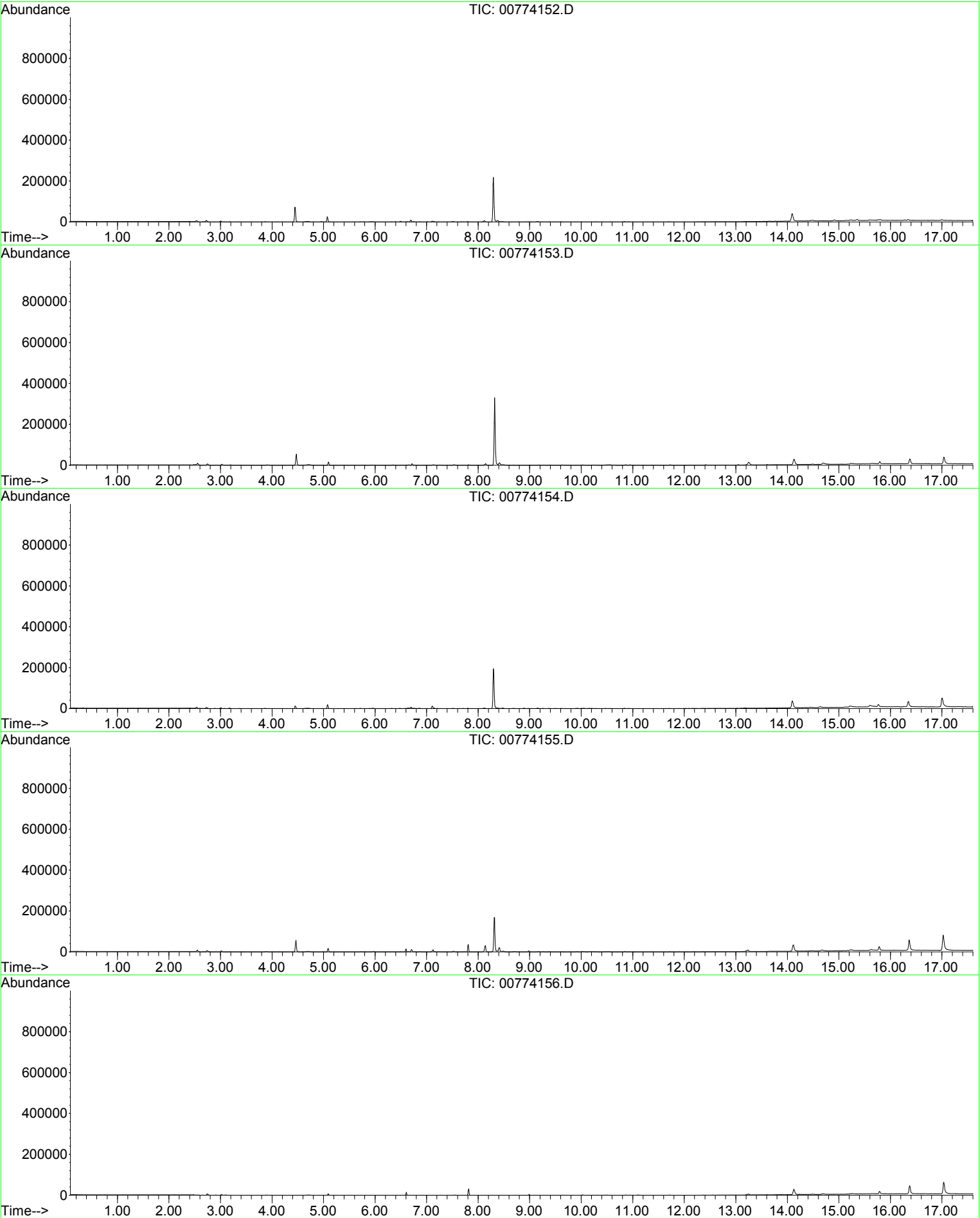
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AMPLIFIED  
GEOCHEMICAL  
IMAGING, LLC

# Laboratory Report

Site: Comal and San Marcos Rivers

Prepared for:

SWCA Environmental Consultants  
6200 UTSA Boulevard  
San Antonio, TX  
UNITED STATES

Prepared on:  
May 03, 2016

## Project Summary and Objective

Amplified Geochemical Imaging, LLC. (AGI) provided the AGI Environmental Survey used at:

### **Comal and San Marcos Rivers**

The service provided by AGI included delivery of the required quantity of AGI Universal Samplers, analysis by the method described below for the requested organic compounds, reporting of the data, and contour mapping (as needed).

This report includes results for only the samples noted under the Laboratory Sample Report section. If contour maps are part of the project deliverable, the maps will be prepared and issued under a separate report cover, upon receipt of a usable sitemap (electronic) and compound choices for contouring.

Written/submitted by:

**Dayna M Cobb**

Project Manager

Reviewed/approved by:

**Jasmine R. Smith**

Chemist

Analytical data approved by:

**Ian McMullen**

Chemist

## Quality Assurance Statement

The AGI Laboratory, at Amplified Geochemical Imaging's facility in Newark, DE USA, operates under the guidelines of its ISO Standard 17025 DoD ELAP accreditation, and its Quality Assurance Manual, Operating Procedures, and Methods (SOP-QA-0462).

For this project, the analytical method, results, and observations reported do [ ] do not [ ✓ ] fall within the scope of AGI's ISO 17025 accreditation.

**Screening/Concentration Method**

The AGI Universal Samplers are analyzed at AGI's fixed laboratory using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following modified U.S. EPA Method 8260 (SPG-WI-0292) which includes the following:

- **BFB Tuning Frequency:** A BFB tune is analyzed at the start of each analytical run and after every 30 samples.
- **Initial Calibration:** A minimum of a five point calibration curve is analyzed prior to the analysis of samples.
- **Initial Calibration Verification (ICV):** Following the calibration a second-source reference standard is analyzed to verify the accuracy of the calibration. Acceptance criteria for the ICV is +/- 30%.
- **Linearity of Target Compounds:** If the RSD of any target analyte is less than or equal to 25% then average response factor can be used for quantitation. If the RSD exceeds 25% for a target compound a regression equation can be used for quantitation.
- **Continuing Calibration Verification:** After every 10 samples, and at the end of each analytical batch, a mid-level second-source Reference Standard is analyzed. The acceptance criteria for all target analytes in the reference standards are +/- 50% of the true value.
- **Method Blank:** Analyzed prior to the analysis of field samples and every 30 samples.

**Note:** Analyte levels reported for the field-deployed AGI Universal Samplers that exceed trip and method blank levels, and/or the reporting limit, are more likely to have originated from on-site sources.

|                            |              |
|----------------------------|--------------|
| Media Sampled:             | WATER        |
| Chemist - sample analysis: | Fatima Niazi |
| Chemist - data processor:  | Fatima Niazi |
| Chemist - data review:     | Ian McMullen |

Method deviations: None.

Please note that data file names ending with R are rerun samples using the second pair of sorbers, in which the original results were not reported. Data file names ending in D are duplicate analysis results for the second set of sorbers from the same sampler, and are reported.

## Additional Report Information

- Comments
- Laboratory Sample Report
- Chain of Custody
- Installation and Retrieval Log
- Data Table(s) and Key
- Concentration Calculation Method Summary
- Total Ion Chromatograms

## Project Specific Comments

Customer requested that 774293, 774296, & 774297 not be analyzed due to sedimentation impacts.

|                            |  |                        |
|----------------------------|--|------------------------|
| Survey period <sup>1</sup> | The samplers were installed on April 4, 2016 and retrieved on April 16, 2016 for an exposure period of twelve (12) days. |                        |
| Tamper seal intact:        | Yes  |                        |
| Date received:             | 4/19/16 10:54 am   | By: Clarence W Whigham |
| COC returned:              | Yes  |                        |
| Comments:                  |  |                        |

1 - Installation start to end of retrieval, as reported. See installation and retrieval log for individual deployment and retrieval dates and times (i.e., sampler exposure time).



## General Comments

### Analytical QA/QC

Laboratory instrumentation consists of gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation involves cutting the tip off the bottom of the AGI Universal Sampler, and transferring one or more "sorbents" to a thermal desorption tube for analysis. The insertion/retrieval cord prevents soil, water and other interferences from coming in contact with the adsorbent. No further sample preparation is required. Any replicate sorbents not consumed in the initial analysis will be discarded fifteen (15) days from the date of the laboratory report.

Data are archived and stored in a secure manner as per AGI's Quality Assurance program (SOP-QA-0462).

Total petroleum hydrocarbons (TPH), gasoline-range petroleum hydrocarbons (GRPH), and/or diesel range petroleum hydrocarbons (DRPH), when reported, are calculated using the area under the peaks observed in m/z 55 and 57 selected ion chromatograms. Quantitation of the mass values was performed using the response factor for a specific alkane (present in the calibration standards). TPH values include the entire chromatogram and provide estimates for aliphatic hydrocarbon ranges of C4 to C20. GRPH and DRPH include only the relevant regions of the chromatograms and provide estimates for C4 to C10 and C10 to C20 aliphatic hydrocarbons, respectively.

Trip blanks were provided to document potential exposures that were not part of the signal of interest (e.g., impact during sampler shipment, installation and/or retrieval, and storage). The trip blanks are identically manufactured and packaged AGI Universal Samplers to those samplers deployed in the field. The trip blanks remain unopened during all phases of the project. Levels reported on the trip blanks may indicate potential impact to the samplers other than the contaminant source of interest.

Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. UPEs may be indicative of complex fluid mixtures. UPEs observed early in the chromatograms are considered to indicate presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.

Total ion chromatograms (TICs) are included in the Attachments. The eight-digit serial number of each sampler is incorporated in the TIC identification (e.g., 12345678.D represents AGI Universal Sampler 12345678).

## General Comments

### Soil Gas Sampling

For soil gas sampling, the AGI Environmental Survey reports mass levels migrating through the open pore spaces of the soil and diffusing through the sampler membrane for sorption by the engineered, hydrophobic adsorbents, housed within the membrane tube. During the migration of the soil gas away from the source to the AGI Universal Sampler, the vapors are subject to a variety of attenuation factors. The soil gas masses reported on the samplers compare favorably with the concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels to other sampled locations on the site, the matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.

Soil gas concentrations ( $\mu\text{g}/\text{m}^3$ ) are calculated following the method described in the Additional Report Information section.

Soil gas signals reported by this method cannot be correlated specifically to soil adsorbed, groundwater, and /or free-phase contamination. The soil gas signal reported from each AGI Universal Sampler can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).

### Air Sampling

For indoor, outdoor, and crawlspace air sampling, the AGI Environmental Survey reports mass levels present in the air and diffusing through the sampler membrane for sorption by the engineered adsorbents housed within the membrane tube.

Air concentrations ( $\mu\text{g}/\text{m}^3$ ) are calculated following the method described in the Additional Report Information section.

### Groundwater and Sediment Porewater Sampling

For groundwater and sediment porewater sampling, the AGI Environmental Survey reports the mass levels of compounds present in the water which, when coming in contact with the sampler membrane, partitions out of solution, and diffuses through the sampler membrane for sorption by the engineered adsorbents.

Water concentrations ( $\mu\text{g}/\text{L}$ ) are calculated using the quantified mass, exposure period and the compound specific uptake rate. The rates were measured under controlled experimental conditions. The uptake rates are corrected for water pressure (depth of the AGI Universal Sampler below the water table), water temperature and the aquifer flow rate. For sediment porewater, the uptake rate is corrected for the reduced volume of water in the sediment, by multiplying the uptake rate by the pore water fraction.

## LABORATORY SAMPLE REPORT

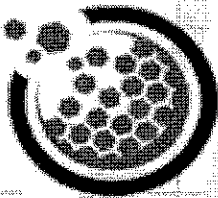
**Project:** ENV 01598

**Site Name:** Comal and San Marcos Rivers

**Module Type:** SPG0008

| Module ID                  | Sample Type              | Field ID            |                   |
|----------------------------|--------------------------|---------------------|-------------------|
| 00774288                   | FIELD_SAMPLE             | HCS410              |                   |
| 00774289                   | FIELD_SAMPLE             | HCS420              |                   |
| 00774290                   | FIELD_SAMPLE             | HCS430              |                   |
| 00774291                   | FIELD_SAMPLE             | HCS440              |                   |
| 00774292                   | FIELD_SAMPLE             | FDHCS440            |                   |
| 00774294                   | FIELD_SAMPLE             | HSM410              |                   |
| 00774295                   | FIELD_SAMPLE             | HSM420              |                   |
| 00774298                   | FIELD_SAMPLE             | HSM440              |                   |
| 00774299                   | FIELD_SAMPLE             | HSM450              |                   |
| 00774300                   | FIELD_SAMPLE             | HSM460              |                   |
| 00774301                   | FIELD_SAMPLE             | HSM470              |                   |
| 00774302                   | TRIP_BLANK               | TB05                |                   |
| Total #<br>"FIELD SAMPLES" | Total #<br>"TRIP BLANKS" | Total #<br>"UNUSED" | Total #<br>"LOST" |
| 11                         | 1                        | 0                   | 0                 |

**Duplicate samples:** 1



# AMPLIFIED GEOCHEMICAL IMAGING, LLC

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ph: +1-302-266-2428  
www.agisurveys.net

## AGI Universal Passive Sampler Chain of Groundwater Sampling

Production Order #: 01598

Customer Name: SWCA Environmental Consultants  
Address: 6200 UTSA Boulevard

Site Name: Comal and San Marcos Rivers Ap  
Site Address:

San Antonio, TX 78249  
USA

Project Manager:

Serial # of Samplers Shipped  
00774288 - 00774302

|                                |           |                  |   |
|--------------------------------|-----------|------------------|---|
| # of Samplers for Installation | 14.00     | # of Trip Blanks | 1 |
| Total Samplers Shipped         | 15.00     | Pieces           |   |
| Total Samplers Received        | <u>15</u> | Pieces           |   |
| Total Samplers Installed       | <u>15</u> | Pieces           |   |

Serial # of Trip Blanks (Client Decides)

|                 |  |  |
|-----------------|--|--|
| <u>00774302</u> |  |  |
|-----------------|--|--|

|   |  |
|---|--|
| Prepared By: <u>[Signature]</u>   | Is Concurrent water sampling planned this monitoring period? YES <input type="radio"/> NO <input checked="" type="radio"/> |
| Verified By: <u>Kelly J. Stinson</u>  | Scheduled Sampling Date: _____   |
| Installation Performed By:<br>Name: <u>Jennifer Moreland Cody Boazman</u><br>Company: <u>SWCA</u> | Retrieval Performed By:<br>Name: <u>Jennifer Moreland Jeff Fox</u><br>Company: <u>SWCA</u>                                 |
| Installation Start Date / Time: <u>4/4/16 1051</u>  | Retrieval Start Date / Time: <u>4/16/16 0847</u>   |
| Installation Complete Date / Time: <u>4/4/16 1431</u>   | Retrieval Complete Date / Time: <u>4/16/16 1120</u>  |
| Total Samplers Retrieved: <u>15</u>   |  |
| Total Samplers Lost In Field: <u>0</u>  |  |
| Total Unused Samplers Returned: <u>0</u>  |  |
| Relinquished By: <u>[Signature]</u> Date/Time: <u>3/22/16 10:30AM</u><br>Company: <u>AGI</u>      | Received By: <u>[Signature]</u> Date/Time: <u>3/29/16 13:00</u><br>Company: <u>SWCA</u>                                    |
| Relinquished By: <u>[Signature]</u> Date/Time: <u>4/18/16 1016</u><br>Company: <u>SWCA</u>        | Received By: <u>[Signature]</u> Date/Time: <u>4/19/16 10:30</u><br>Company: <u>AGI</u>                                     |



**AGI Project No.** ENV 01598  
**Site Name:** Comal and San Marcos Rivers Ap  
**Site Location:**

**Company Name:** SWCA Environmental Consultants  
**Location:**  
**Samples collected by:**

[illegible]



**AGI Project No.** ENV 01598  
**Site Name:** Comal and San Marcos Rivers Ap  
**Site Location:**

**Company Name:** SWCA Environmental Consultants  
**Location:**  
**Samples collected by:**

[illegible]



**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774288 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HCS410

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 11:17:00AM

Retrieval Date: 4/16/2016 9:21:00AM

Date Analyzed: 4/21/2016 8:14:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.09</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |





**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774288 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HCS410

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 11:17:00AM

Retrieval Date: 4/16/2016 9:21:00AM

Date Analyzed: 4/21/2016 8:14:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774289 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HCS420

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 11:29:00AM

Retrieval Date: 4/16/2016 9:12:00AM

Date Analyzed: 4/21/2016 6:16:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.16</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774289 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HCS420

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 11:29:00AM

Retrieval Date: 4/16/2016 9:12:00AM

Date Analyzed: 4/21/2016 6:16:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01598**  
**SITE NAME: Comal and San Marcos Rivers**  
**SITE ADDRESS:**

**FOR: SWCA Environmental  
Consultants  
San Antonio, TX 78249  
USA**

**SAMPLER ID: 00774290 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HCS430

Installation Date: 4/4/2016 10:51:00AM

Retrieval Date: 4/16/2016 8:47:00AM

Date Analyzed: 4/22/2016 1:08:00AM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.48</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774290 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HCS430

Installation Date: 4/4/2016 10:51:00AM

Retrieval Date: 4/16/2016 8:47:00AM

Date Analyzed: 4/22/2016 1:08:00AM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774291 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HCS440

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 11:39:00AM

Retrieval Date: 4/16/2016 9:02:00AM

Date Analyzed: 4/21/2016 11:40:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.32</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |





**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774291 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HCS440

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 11:39:00AM

Retrieval Date: 4/16/2016 9:02:00AM

Date Analyzed: 4/21/2016 11:40:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |





**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774292 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: FDHCS440

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 11:39:00AM

Retrieval Date: 4/16/2016 9:02:00AM

Date Analyzed: 4/21/2016 9:13:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.30</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



# AMPLIFIED GEOCHEMICAL IMAGING, LLC

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www.agisurveys.net

**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774292 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: FDHCS440

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 11:39:00AM

Retrieval Date: 4/16/2016 9:02:00AM

Date Analyzed: 4/21/2016 9:13:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774294R FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HSM410

Installation Date: 4/4/2016 1:09:00PM

Retrieval Date: 4/16/2016 10:35:00AM

Date Analyzed: 4/30/2016 5:41:00AM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160426-1**

**Reviewer: Ian McMullen**

| Compound                      | CAS #                    | Result (ug) | RL (ug)     |
|-------------------------------|--------------------------|-------------|-------------|
| Methyl tert-butyl ether       | 1634-04-4                | <0.02       | 0.02        |
| trans-1,2-Dichloroethene      | 156-60-5                 | <0.02       | 0.02        |
| 1,1-Dichloroethane            | 75-34-3                  | <0.02       | 0.02        |
| <b>cis-1,2-Dichloroethene</b> | <b>156-59-2</b>          | <b>0.14</b> | <b>0.02</b> |
| Chloroform                    | 67-66-3                  | <0.02       | 0.02        |
| 1,1,1-Trichloroethane         | 71-55-6                  | <0.02       | 0.02        |
| 1,2-Dichloroethane            | 107-06-2                 | <0.02       | 0.02        |
| <b>Benzene</b>                | <b>71-43-2</b>           | <b>0.28</b> | <b>0.02</b> |
| Carbon Tetrachloride          | 56-23-5                  | <0.02       | 0.02        |
| Trichloroethene               | 79-01-6                  | <0.02       | 0.02        |
| 1,1,2-Trichloroethane         | 79-00-5                  | <0.02       | 0.02        |
| <b>Toluene</b>                | <b>108-88-3</b>          | <b>0.07</b> | <b>0.02</b> |
| Octane                        | 111-65-9                 | <0.02       | 0.02        |
| Tetrachloroethene             | 127-18-4                 | <0.02       | 0.02        |
| Chlorobenzene                 | 108-90-7                 | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane     | 630-20-6                 | <0.02       | 0.02        |
| Ethylbenzene                  | 100-41-4                 | <0.02       | 0.02        |
| <b>m,p-Xylene</b>             | <b>108-38-3/106-42-3</b> | <b>0.02</b> | <b>0.02</b> |
| o-Xylene                      | 95-47-6                  | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane     | 79-34-5                  | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene        | 108-67-8                 | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene        | 95-63-6                  | <0.02       | 0.02        |
| 1,3-Dichlorobenzene           | 541-73-1                 | <0.02       | 0.02        |
| 1,4-Dichlorobenzene           | 106-46-7                 | <0.02       | 0.02        |
| 1,2-Dichlorobenzene           | 95-50-1                  | <0.02       | 0.02        |
| Undecane                      | 1120-21-4                | <0.05       | 0.05        |
| Naphthalene                   | 91-20-3                  | <0.05       | 0.05        |
| Tridecane                     | 629-50-5                 | <0.05       | 0.05        |
| 2-Methylnaphthalene           | 91-57-6                  | <0.05       | 0.05        |
| Acenaphthylene                | 208-96-8                 | <0.05       | 0.05        |
| Pentadecane                   | 629-62-9                 | <0.05       | 0.05        |



# AMPLIFIED GEOCHEMICAL IMAGING, LLC

210 Executive Drive, Suite 1  
Newark, DE 19702-3335 USA  
ph: +1-302-266-2428  
www.agisurveys.net

PROJECT NUMBER: ENV 01598

SITE NAME: Comal and San Marcos Rivers

SITE ADDRESS:

FOR: SWCA Environmental

Consultants

San Antonio, TX 78249

USA

SAMPLER ID: 00774294R FIELD\_SAMPLE

Dilution Factor: 1

Field ID: HSM410

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 1:09:00PM

Retrieval Date: 4/16/2016 10:35:00AM

Date Analyzed: 4/30/2016 5:41:00AM

Analyst: Fatima Niazi

Method: SPG-WI-0292

Batch: ENV-160426-1

Reviewer: Ian McMullen

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | 2.75        | 0.50    |
| BTEX               |            | 0.37        | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER:** ENV 01598  
**SITE NAME:** Comal and San Marcos Rivers  
**SITE ADDRESS:**

**FOR:** SWCA Environmental  
Consultants  
San Antonio, TX 78249  
USA

**SAMPLER ID:** 00774295 **FIELD\_SAMPLE**

**Matrix:** WATER

**Product:** SPG0008

**Dilution Factor:** 1

**Field ID:** HSM420

**Installation Date:** 4/4/2016 1:28:00PM

**Retrieval Date:** 4/16/2016 10:48:00AM

**Date Analyzed:** 4/21/2016 7:45:00PM

**Analyst:** Fatima Niazi

**Method:** SPG-WI-0292

**Batch:** ENV-160420-1

**Reviewer:** Ian McMullen

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.05</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774295 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HSM420

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 1:28:00PM

Retrieval Date: 4/16/2016 10:48:00AM

Date Analyzed: 4/21/2016 7:45:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |





**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774298 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HSM440

Installation Date: 4/4/2016 1:52:00PM

Retrieval Date: 4/16/2016 11:08:00AM

Date Analyzed: 4/21/2016 10:41:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.10</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |





**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774298 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HSM440

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 1:52:00PM

Retrieval Date: 4/16/2016 11:08:00AM

Date Analyzed: 4/21/2016 10:41:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774298D FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HSM440

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 1:52:00PM

Retrieval Date: 4/16/2016 11:08:00AM

Date Analyzed: 4/21/2016 6:46:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.09</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774298D FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HSM440

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 1:52:00PM

Retrieval Date: 4/16/2016 11:08:00AM

Date Analyzed: 4/21/2016 6:46:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01598**  
**SITE NAME: Comal and San Marcos Rivers**  
**SITE ADDRESS:**

**FOR: SWCA Environmental  
Consultants  
San Antonio, TX 78249  
USA**

**SAMPLER ID: 00774299 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HSM450

Installation Date: 4/4/2016 2:06:00PM

Retrieval Date: 4/16/2016 11:20:00AM

Date Analyzed: 4/21/2016 8:43:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.04</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774299 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HSM450

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 2:06:00PM

Retrieval Date: 4/16/2016 11:20:00AM

Date Analyzed: 4/21/2016 8:43:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01598**  
**SITE NAME: Comal and San Marcos Rivers**  
**SITE ADDRESS:**

**FOR: SWCA Environmental  
Consultants  
San Antonio, TX 78249  
USA**

**SAMPLER ID: 00774300 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HSM460

Installation Date: 4/4/2016 2:21:00PM

Retrieval Date: 4/16/2016 10:06:00AM

Date Analyzed: 4/21/2016 7:15:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound                  | CAS #                    | Result (ug) | RL (ug)     |
|---------------------------|--------------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4                | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5                 | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3                  | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2                 | <0.02       | 0.02        |
| Chloroform                | 67-66-3                  | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6                  | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2                 | <0.02       | 0.02        |
| Benzene                   | 71-43-2                  | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5                  | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6                  | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5                  | <0.02       | 0.02        |
| Toluene                   | 108-88-3                 | <0.02       | 0.02        |
| Octane                    | 111-65-9                 | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>          | <b>0.05</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7                 | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6                 | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4                 | <0.02       | 0.02        |
| <b>m,p-Xylene</b>         | <b>108-38-3/106-42-3</b> | <b>0.02</b> | <b>0.02</b> |
| o-Xylene                  | 95-47-6                  | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5                  | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8                 | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6                  | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1                 | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7                 | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1                  | <0.02       | 0.02        |
| Undecane                  | 1120-21-4                | <0.05       | 0.05        |
| Naphthalene               | 91-20-3                  | <0.05       | 0.05        |
| Tridecane                 | 629-50-5                 | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6                  | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8                 | <0.05       | 0.05        |
| Pentadecane               | 629-62-9                 | <0.05       | 0.05        |





# AMPLIFIED GEOCHEMICAL IMAGING, LLC

210 Executive Drive, Suite 1  
Newark, DE 19702-3335 USA  
ph: +1-302-266-2428  
www.agisurveys.net

PROJECT NUMBER: ENV 01598

SITE NAME: Comal and San Marcos Rivers

SITE ADDRESS:

FOR: SWCA Environmental

Consultants

San Antonio, TX 78249

USA

SAMPLER ID: 00774300 FIELD\_SAMPLE

Dilution Factor: 1

Field ID: HSM460

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 2:21:00PM

Retrieval Date: 4/16/2016 10:06:00AM

Date Analyzed: 4/21/2016 7:15:00PM

Analyst: Fatima Niazi

Method: SPG-WI-0292

Batch: ENV-160420-1

Reviewer: Ian McMullen

| Compound           | CAS #      | Result (ug) | RL (ug)     |
|--------------------|------------|-------------|-------------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05        |
| Fluorene           | 86-73-7    | <0.05       | 0.05        |
| TPH                |            | <0.50       | 0.50        |
| <b>BTEX</b>        |            | <b>0.02</b> | <b>0.02</b> |
| Anthracene         | 120-12-7   | <0.05       | 0.05        |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05        |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05        |
| Pyrene             | 129-00-0   | <0.05       | 0.05        |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05        |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05        |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05        |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05        |
| beta-BHC           | 319-85-7   | <0.05       | 0.05        |
| delta-BHC          |            | <0.05       | 0.05        |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05        |
| Heptachlor         | 76-44-8    | <0.05       | 0.05        |
| Endrin             | 72-20-8    | <0.05       | 0.05        |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05        |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05        |
| Dieldrin           | 60-57-1    | <0.05       | 0.05        |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05        |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05        |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05        |
| Aldrin             | 309-00-2   | <0.05       | 0.05        |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05        |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05        |





**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774301 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HSM470

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 2:31:00PM

Retrieval Date: 4/16/2016 10:16:00AM

Date Analyzed: 4/21/2016 11:11:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.04</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



# AMPLIFIED GEOCHEMICAL IMAGING, LLC

210 Executive Drive, Suite 1  
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**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774301 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HSM470

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 2:31:00PM

Retrieval Date: 4/16/2016 10:16:00AM

Date Analyzed: 4/21/2016 11:11:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774302 TRIP\_BLANK**

Dilution Factor: 1

Field ID: TB05

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 10:51:00AM

Retrieval Date: 4/16/2016 11:20:00AM

Date Analyzed: 4/21/2016 5:47:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound                  | CAS #             | Result (ug) | RL (ug) |
|---------------------------|-------------------|-------------|---------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02    |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02    |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02    |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02    |
| Chloroform                | 67-66-3           | <0.02       | 0.02    |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02    |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02    |
| Benzene                   | 71-43-2           | <0.02       | 0.02    |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02    |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02    |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02    |
| Toluene                   | 108-88-3          | <0.02       | 0.02    |
| Octane                    | 111-65-9          | <0.02       | 0.02    |
| Tetrachloroethene         | 127-18-4          | <0.02       | 0.02    |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02    |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02    |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02    |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02    |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02    |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02    |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02    |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02    |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02    |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02    |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02    |
| Undecane                  | 1120-21-4         | <0.05       | 0.05    |
| Naphthalene               | 91-20-3           | <0.05       | 0.05    |
| Tridecane                 | 629-50-5          | <0.05       | 0.05    |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05    |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05    |
| Pentadecane               | 629-62-9          | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01598**

**SITE NAME: Comal and San Marcos Rivers**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774302 TRIP\_BLANK**

Dilution Factor: 1

Field ID: TB05

Matrix: WATER

Product: SPG0008

Installation Date: 4/4/2016 10:51:00AM

Retrieval Date: 4/16/2016 11:20:00AM

Date Analyzed: 4/21/2016 5:47:00PM

**Analyst: Fatima Niazi**

**Method: SPG-WI-0292**

**Batch: ENV-160420-1**

**Reviewer: Ian McMullen**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |

AGI SURVEYS ANALYTICAL RESULTS  
 SWCA ENVIRONMENTAL CONSULTANTS  
 AGI STANDARD CONCENTRATIONS COMPOUNDS  
 ESTIMATED WATER CONCENTRATIONS  
 COMAL AND SAN MARCOS RIVERS  
 SAN ANTONIO, TX  
 PRODUCTION ORDER # 01598

|                |              |            |            |              |              |    | estimated |            |              |             |              |             |              |             |            |  |
|----------------|--------------|------------|------------|--------------|--------------|----|-----------|------------|--------------|-------------|--------------|-------------|--------------|-------------|------------|--|
| DATAFILE       | FIELD        | DATE/ TIME | DATE/ TIME | DATE/ TIME   | DATE/ TIME   |    |           |            |              |             |              |             |              |             |            |  |
| NAME           | ID           | INSTALLED  | RETRIEVED  | RECEIVED     | ANALYZED     | DF | TPH, ug/L | MTBE, ug/L | t12DCE, ug/L | 11DCA, ug/L | c12DCE, ug/L | CHCl3, ug/L | 111TCA, ug/L | 12DCA, ug/L | BENZ, ug/L |  |
| RL =           |              |            |            |              |              |    | 0.062     | 0.015      | 0.009        | 0.008       | 0.008        | 0.008       | 0.006        | 0.009       | 0.007      |  |
| 00774288       | HCS410       | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/21/2016:ET | 1  | <0.061    | <0.014     | <0.008       | <0.008      | <0.008       | <0.008      | <0.006       | <0.009      | <0.007     |  |
| 00774289       | HCS420       | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/21/2016:ET | 1  | <0.061    | <0.014     | <0.008       | <0.008      | <0.008       | <0.008      | <0.006       | <0.009      | <0.007     |  |
| 00774290       | HCS430       | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/22/2016:ET | 1  | <0.061    | <0.014     | <0.008       | <0.008      | <0.008       | <0.008      | <0.006       | <0.009      | <0.007     |  |
| 00774291       | HCS440       | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/21/2016:ET | 1  | <0.061    | <0.014     | <0.008       | <0.008      | <0.008       | <0.008      | <0.006       | <0.009      | <0.007     |  |
| 00774292       | FDHCS440     | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/21/2016:ET | 1  | <0.061    | <0.014     | <0.008       | <0.008      | <0.008       | <0.008      | <0.006       | <0.009      | <0.007     |  |
| 00774293       | HCS460       | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/22/2016:ET | 1  | <0.061    | <0.014     | <0.008       | <0.008      | <0.008       | <0.008      | <0.006       | <0.009      | <0.007     |  |
| 00774294R      | HSM410       | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/30/2016:ET | 1  | 0.129     | <0.015     | <0.009       | <0.008      | 0.051        | <0.009      | <0.006       | <0.009      | 0.081      |  |
| 00774295       | HSM420       | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/21/2016:ET | 1  | <0.063    | <0.015     | <0.009       | <0.008      | <0.008       | <0.009      | <0.006       | <0.009      | <0.007     |  |
| 00774296       | HSM430       | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/22/2016:ET | 1  | <0.063    | <0.015     | <0.009       | <0.008      | <0.008       | <0.009      | <0.006       | <0.009      | <0.007     |  |
| 00774297       | FDHSM430     | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/22/2016:ET | 1  | <0.063    | <0.015     | <0.009       | <0.008      | <0.008       | <0.009      | <0.006       | <0.009      | <0.007     |  |
| 00774298       | HSM440       | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/21/2016:ET | 1  | <0.063    | <0.015     | <0.009       | <0.008      | <0.008       | <0.009      | <0.006       | <0.009      | <0.007     |  |
| 00774298D      | HSM440       | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/21/2016:ET | 1  | <0.063    | <0.015     | <0.009       | <0.008      | <0.008       | <0.009      | <0.006       | <0.009      | <0.007     |  |
| 00774299       | HSM450       | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/21/2016:ET | 1  | <0.063    | <0.015     | <0.009       | <0.008      | <0.008       | <0.009      | <0.006       | <0.009      | <0.007     |  |
| 00774300       | HSM460       | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/21/2016:ET | 1  | <0.063    | <0.015     | <0.009       | <0.008      | <0.008       | <0.009      | <0.006       | <0.009      | <0.007     |  |
| 00774301       | HSM470       | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/21/2016:ET | 1  | <0.063    | <0.015     | <0.009       | <0.008      | <0.008       | <0.009      | <0.006       | <0.009      | <0.007     |  |
| 00774302       | TB05         | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/21/2016:ET | 1  | <0.061    | <0.015     | <0.009       | <0.008      | <0.008       | <0.008      | <0.006       | <0.009      | <0.007     |  |
| BLK ENV-282611 | Method Blank | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/21/2016:ET | 1  | <0.062    | <0.015     | <0.009       | <0.008      | <0.008       | <0.008      | <0.006       | <0.009      | <0.007     |  |
| BLK ENV-282903 | Method Blank | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/28/2016:ET | 1  | <0.062    | <0.015     | <0.009       | <0.008      | <0.008       | <0.008      | <0.006       | <0.009      | <0.007     |  |
| BLK ENV-282909 | Method Blank | 4/4/2016   | 4/16/2016  | 4/19/2016:ET | 4/29/2016:ET | 1  | <0.062    | <0.015     | <0.009       | <0.008      | <0.008       | <0.008      | <0.006       | <0.009      | <0.007     |  |

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 COMAL AND SAN MARCOS RIVERS  
 SAN ANTONIO, TX  
 PRODUCTION ORDER # 01598

| DATAFILE       |            |           |              |           |           |           |              |                 |              |             |            |                 |              |              |             |  |
|----------------|------------|-----------|--------------|-----------|-----------|-----------|--------------|-----------------|--------------|-------------|------------|-----------------|--------------|--------------|-------------|--|
| NAME           | CCl4, ug/L | TCE, ug/L | 112TCA, ug/L | TOL, ug/L | OCT, ug/L | PCE, ug/L | CIBENZ, ug/L | 1112TetCA, ug/L | ETBENZ, ug/L | mpXYL, ug/L | oXYL, ug/L | 1122TetCA, ug/L | 135TMB, ug/L | 124TMB, ug/L | 13DCB, ug/L |  |
| RL =           | 0.005      | 0.007     | 0.011        | 0.006     | 0.005     | 0.006     | 0.007        | 0.008           | 0.006        | 0.006       | 0.006      | 0.012           | 0.005        | 0.006        | 0.006       |  |
| 00774288       | <0.005     | <0.007    | <0.011       | <0.006    | <0.005    | 0.022     | <0.007       | <0.007          | <0.006       | <0.006      | <0.006     | <0.012          | <0.005       | <0.006       | <0.006      |  |
| 00774289       | <0.005     | <0.007    | <0.011       | <0.006    | <0.005    | 0.036     | <0.007       | <0.007          | <0.006       | <0.006      | <0.006     | <0.012          | <0.005       | <0.006       | <0.006      |  |
| 00774290       | <0.005     | <0.007    | <0.011       | <0.006    | <0.005    | 0.096     | <0.007       | <0.007          | <0.006       | <0.006      | <0.006     | <0.012          | <0.005       | <0.006       | <0.006      |  |
| 00774291       | <0.005     | <0.007    | <0.011       | <0.006    | <0.005    | 0.068     | <0.007       | <0.007          | <0.006       | <0.006      | <0.006     | <0.012          | <0.005       | <0.006       | <0.006      |  |
| 00774292       | <0.005     | <0.007    | <0.011       | <0.006    | <0.005    | 0.065     | <0.007       | <0.007          | <0.006       | <0.006      | <0.006     | <0.012          | <0.005       | <0.006       | <0.006      |  |
| 00774293       | <0.005     | <0.007    | <0.011       | <0.006    | <0.005    | 0.041     | <0.007       | <0.007          | <0.006       | <0.006      | <0.006     | <0.012          | <0.005       | <0.006       | <0.006      |  |
| 00774294R      | <0.005     | <0.007    | <0.011       | 0.020     | <0.005    | <0.006    | <0.007       | <0.008          | <0.006       | 0.007       | <0.006     | <0.012          | <0.006       | <0.006       | <0.006      |  |
| 00774295       | <0.005     | <0.007    | <0.011       | <0.007    | <0.005    | 0.014     | <0.007       | <0.008          | <0.006       | <0.006      | <0.006     | <0.012          | <0.006       | <0.006       | <0.006      |  |
| 00774296       | <0.005     | <0.007    | <0.011       | <0.007    | <0.005    | 0.103     | <0.007       | <0.008          | <0.006       | <0.006      | <0.006     | <0.012          | <0.006       | <0.006       | <0.006      |  |
| 00774297       | <0.005     | <0.007    | <0.011       | <0.007    | <0.005    | 0.108     | <0.007       | <0.008          | <0.006       | <0.006      | <0.006     | <0.012          | <0.006       | <0.006       | <0.006      |  |
| 00774298       | <0.005     | <0.007    | <0.011       | <0.007    | <0.005    | 0.026     | <0.007       | <0.008          | <0.006       | <0.006      | <0.006     | <0.012          | <0.006       | <0.006       | <0.006      |  |
| 00774298D      | <0.005     | <0.007    | <0.011       | <0.007    | <0.005    | 0.024     | <0.007       | <0.008          | <0.006       | <0.006      | <0.006     | <0.012          | <0.006       | <0.006       | <0.006      |  |
| 00774299       | <0.005     | <0.007    | <0.011       | <0.007    | <0.005    | 0.010     | <0.007       | <0.008          | <0.006       | <0.006      | <0.006     | <0.012          | <0.006       | <0.006       | <0.006      |  |
| 00774300       | <0.005     | <0.007    | <0.011       | <0.007    | <0.005    | 0.014     | <0.007       | <0.008          | <0.006       | 0.006       | <0.006     | <0.012          | <0.006       | <0.006       | <0.006      |  |
| 00774301       | <0.005     | <0.007    | <0.011       | <0.007    | <0.005    | 0.012     | <0.007       | <0.008          | <0.006       | <0.006      | <0.006     | <0.012          | <0.006       | <0.006       | <0.006      |  |
| 00774302       | <0.005     | <0.007    | <0.011       | <0.006    | <0.005    | <0.006    | <0.007       | <0.008          | <0.006       | <0.006      | <0.006     | <0.012          | <0.005       | <0.006       | <0.006      |  |
| BLK ENV-282611 | <0.005     | <0.007    | <0.011       | <0.006    | <0.005    | <0.006    | <0.007       | <0.008          | <0.006       | <0.006      | <0.006     | <0.012          | <0.005       | <0.006       | <0.006      |  |
| BLK ENV-282903 | <0.005     | <0.007    | <0.011       | <0.006    | <0.005    | <0.006    | <0.007       | <0.008          | <0.006       | <0.006      | <0.006     | <0.012          | <0.005       | <0.006       | <0.006      |  |
| BLK ENV-282909 | <0.005     | <0.007    | <0.011       | <0.006    | <0.005    | <0.006    | <0.007       | <0.008          | <0.006       | <0.006      | <0.006     | <0.012          | <0.005       | <0.006       | <0.006      |  |

AGI SURVEYS ANALYTICAL RESULTS  
 SWCA ENVIRONMENTAL CONSULTANTS  
 AGI STANDARD CONCENTRATIONS COMPOUNDS  
 ESTIMATED WATER CONCENTRATIONS  
 COMAL AND SAN MARCOS RIVERS  
 SAN ANTONIO, TX  
 PRODUCTION ORDER # 01598

| DATAFILE       |             |             |             |            | estimated    |               | estimated            | estimated      | estimated          | estimated      |
|----------------|-------------|-------------|-------------|------------|--------------|---------------|----------------------|----------------|--------------------|----------------|
| NAME           | 14DCB, ug/L | 12DCB, ug/L | UNDEC, ug/L | NAPH, ug/L | TRIDEC, ug/L | 2MeNAPH, ug/L | Acenaphthylene, ug/L | PENTADEC, ug/L | Acenaphthene, ug/L | Fluorene, ug/L |
| RL =           | 0.007       | 0.007       | 0.023       | 0.019      | 0.023        | 0.015         | 0.016                | 0.023          | 0.016              | 0.016          |
| 00774288       | <0.007      | <0.007      | <0.023      | <0.018     | <0.023       | <0.015        | <0.016               | <0.023         | <0.016             | <0.016         |
| 00774289       | <0.007      | <0.007      | <0.023      | <0.018     | <0.023       | <0.015        | <0.016               | <0.023         | <0.016             | <0.016         |
| 00774290       | <0.007      | <0.007      | <0.023      | <0.018     | <0.023       | <0.015        | <0.016               | <0.023         | <0.016             | <0.016         |
| 00774291       | <0.007      | <0.007      | <0.023      | <0.018     | <0.023       | <0.015        | <0.016               | <0.023         | <0.016             | <0.016         |
| 00774292       | <0.007      | <0.007      | <0.023      | <0.018     | <0.023       | <0.015        | <0.016               | <0.023         | <0.016             | <0.016         |
| 00774293       | <0.007      | <0.007      | <0.023      | <0.018     | <0.023       | <0.015        | <0.016               | <0.023         | <0.016             | <0.016         |
| 00774294R      | <0.007      | <0.007      | <0.023      | <0.019     | <0.023       | <0.016        | <0.016               | <0.023         | <0.016             | <0.016         |
| 00774295       | <0.007      | <0.007      | <0.023      | <0.019     | <0.023       | <0.016        | <0.016               | <0.023         | <0.016             | <0.016         |
| 00774296       | <0.007      | <0.007      | <0.023      | <0.019     | <0.023       | <0.016        | <0.016               | <0.023         | <0.016             | <0.016         |
| 00774297       | <0.007      | <0.007      | <0.023      | <0.019     | <0.023       | <0.016        | <0.016               | <0.023         | <0.016             | <0.016         |
| 00774298       | <0.007      | <0.007      | <0.023      | <0.019     | <0.023       | <0.016        | <0.016               | <0.023         | <0.016             | <0.016         |
| 00774298D      | <0.007      | <0.007      | <0.023      | <0.019     | <0.023       | <0.016        | <0.016               | <0.023         | <0.016             | <0.016         |
| 00774299       | <0.007      | <0.007      | <0.023      | <0.019     | <0.023       | <0.016        | <0.016               | <0.023         | <0.016             | <0.016         |
| 00774300       | <0.007      | <0.007      | <0.024      | <0.019     | <0.024       | <0.016        | <0.017               | <0.024         | <0.017             | <0.017         |
| 00774301       | <0.007      | <0.007      | <0.024      | <0.019     | <0.024       | <0.016        | <0.017               | <0.024         | <0.017             | <0.017         |
| 00774302       | <0.007      | <0.007      | <0.023      | <0.018     | <0.023       | <0.015        | <0.016               | <0.023         | <0.016             | <0.016         |
| BLK ENV-282611 | <0.007      | <0.007      | <0.023      | <0.019     | <0.023       | <0.015        | <0.016               | <0.023         | <0.016             | <0.016         |
| BLK ENV-282903 | <0.007      | <0.007      | <0.023      | <0.019     | <0.023       | <0.015        | <0.016               | <0.023         | <0.016             | <0.016         |
| BLK ENV-282909 | <0.007      | <0.007      | <0.023      | <0.019     | <0.023       | <0.015        | <0.016               | <0.023         | <0.016             | <0.016         |



## KEY TO DATA TABLE

### UNITS

|                   |  |
|-------------------|--|
| µg                | micrograms, relative mass value                              |
| µg/m <sup>3</sup> | micrograms per cubic meter; estimated soil gas concentration |
| µg/L              | micrograms per Liter; calculated water concentration         |

### DATA QUALIFIERS

|   |  |
|---|--|
| > | greater than; value exceeds calibration range, estimated value   |
| < | less than; compound value is below the LOD and RL                |
| J | mass value below LOQ or RL, but above LOD, estimated mass value  |
| E | mass value exceeds upper calibration level, estimated mass value |
| Q | one or more quality control parameters failed for the compound   |

### ABBREVIATIONS

|        |  |
|--------|--|
| AVG RL | average reporting limit; calculated based on individual field sample RLs |
| LOD    | limit of detection   |
| LOQ    | limit of quantification  |
| MDL    | method detection limit   |
| RL     | reporting limit  |

|             |   |          |  |
|-------------|---|----------|--|
| 1112TetCA   | 1,1,1,2-tetrachloroethane   | CIBENZ   | chlorobenzene  |
| 111TCA      | 1,1,1-trichloroethane   | ct12DCE  | cis- & trans-1,2-dichloroethene                                      |
| 1122TetCA   | 1,1,2,2-tetrachloroethane   | EtBENZ   | ethylbenzene   |
| 112TCA      | 1,1,2-trichloroethane   | mpXYL    | m-, p-xylene   |
| 11DCA       | 1,1-dichloroethane  | MTBE     | methyl t-butyl ether   |
| 11DCE       | 1,1-dichloroethene  | NAPH     | naphthalene  |
| 124TMB      | 1,2,4-trimethylbenzene  | OCT      | octane   |
| 12DCA       | 1,2-dichloroethane  | oXYL     | o-xylene   |
| 12DCB       | 1,2-dichlorobenzene   | PCE      | tetrachloroethene  |
| 135TMB      | 1,3,5-trimethylbenzene  | PENTADEC | pentadecane  |
| 13DCB       | 1,3-dichlorobenzene   | PHEN     | phenanthrene   |
| 14DCB       | 1,4-dichlorobenzene   | t12DCE   | trans-1,2-dichloroethene   |
| 2MeNAPH     | 2-methyl naphthalene  | TCE      | trichloroethene  |
| BENZ        | benzene   | TMBs     | combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene |
| BTEX        | combined masses of benzene, toluene, ethylbenzene, and total xylenes (Gasoline Range Aromatics) | TOL      | toluene  |
| C11,C13&C15 | combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)    | TPH      | total petroleum hydrocarbons   |
| c12DCE      | cis-1,2-dichloroethene  | TRIDEC   | tridecane  |
| CCl4        | carbon tetrachloride  | UNDEC    | undecane   |
| CHC13       | chloroform  | VC       | vinyl chloride   |

## SUMMARY OF SAMPLING RATE CALIBRATION FOR AGI UNIVERSAL SAMPLER IN AQUEOUS PHASES

### INTRODUCTION:

The Amplified Geochemical Imaging, LLC (AGI) passive vapor sampler is designed to be used for soil gas, water, sediment pore water, and air sampling. This document describes the process used to calibrate the sampler's compound specific sampling or uptake rates in aqueous phases.

Sampling rates are measured following AGI's "Standard Practice for Determining the Sampling Rate of Passive Diffusion Samplers in Various Environmental Media": SPG-SOP-0493. Rates are used to calculate dissolved phase concentrations of volatile and semi-volatile contaminants in water. The calibration process is summarized in three parts: Part 1: shallow water, Part 2: deep water, and Part 3: sediment.

### PURPOSE:

The purpose of this document is to:

1. Summarize the test protocol,
2. Summarize the methodology for analysis of data,
3. Present general results for generating concentration calibration of the AGI Universal Sampler

### Principle of Operation of the AGI Sampler

The AGI Universal Sampler is designed with solid adsorbents enclosed inside a tubular microporous PTFE membrane. When placed in water, the pores and hydrophobic nature of the PTFE keep liquid water from entering the membrane until a water head of about 34 feet is reached. The membrane will not keep water vapor from entering but the adsorbents are very hydrophobic and through testing validated to be unaffected by this moisture vapor. In shallow water, <34', volatile and semi-volatile compounds will partition from the dissolved water into the air phase in the PTFE membrane according to Henry's Law. This partitioning is instantaneous and within seconds-minutes, the compound is adsorbed by the adsorbent inside the sealed tube. Because the diffusivity in air is about 10,000 times higher than the diffusivity in water, the sampling rate is controlled by the water contact area of the membrane that allows the Henry's Law effect to occur. This contact area is set by the membrane diameter and length of the sealed tube, which is fixed in AGI's manufacturing process.

Henry's law as well as diffusivity, which are fundamentally incorporated into the sampling rate, are affected by temperature,  $T$ , and follow an Arrhenius equation  $H_T = H_r \times \exp\left(\frac{-E_a/R}{1/T_r - 1/T}\right)$ . Because a 5°C temperature change can make a 15% change in sampling rate, the temperature of the sampled water should be known to get the most precise concentration.

The membrane pore size is also small enough that colloidal particles and microbes cannot pass through the membrane. This keeps the adsorbent from getting contaminated and eliminates any need to add preservative or chilling during storage or transportation.

When the water pressure exceeds the water entry pressure of the membrane, about 34 feet of water, the water becomes in contact with the solid adsorbent. Under this condition the compounds in the water will partition from the water into the solid. The partitioning coefficient,  $K_{AW}$ , can be approximated by the octanol-water coefficient,  $K_{OW}$ , but has been measured more precisely in the lab for AGI's specific solid adsorbent. The sampling rate is the product of the sampling rate at <34' of water and the  $K_{AW}$ .

In sediment, the sampler measures pore-water concentration, which is generally agreed to be the preferred measurement as it is more indicative of bioavailability. In sediment the volumetric

availability of water to the sampler is reduced by the volume fraction solids in the sediment, which typically varies from zero to 35%, but can be as high as 73% in well packed and broad particle size distribution sediments. As a result, sampling rates in sediment are multiplied by the fraction pore water in the sediment to determine concentration.

## **PART 1: Calibration in shallow water**

Part 1 summarizes the work in shallow water generating calibration data, evaluating the physical and chemical factors affecting the sampling rate, and measurement of the actual sampling rates or regression calibration equations needed to determine concentrations.

### **Sample Generation in water**

In this calibration work, solutions of analytes at known concentrations were formulated in clean 4 liter smoked glass jugs by injecting microliter measured amounts of environmental standards using a calibrated syringe into pure or deionized water and stirring for a minimum of 2 hours but generally overnight. Headspace in the jugs was minimized and generally less than 1% by volume during the tests. Jugs were temperature controlled by placing them in a water filled cooler, chilled via a copper tubing loop in the cooler. Temperature was measured with a certified digital temperature gauge and an average value used for each temperature experiment.

AGI samplers were weighted so they won't float and placed in the jugs at time zero. They were removed at various intervals to generate samples along with duplicates that showed mass increasing with exposure time. The sampler exposure time was selected to span minutes to hours and was generally reduced for high concentration tests to maintain uptake with time in roughly the linear dynamic range. Samplers were removed and dried with a paper towel and returned to their original container for analysis. They were analyzed by AGI's 8260C (SPG-WI-318 or SPG-WI-10028) method in duplicate, which is based on EPA SW846 Method 8260C.

Water samples were also taken and measured at an outside accredited lab using EPA SW846 Method 8260B. The concentrations agreed well with the calculated concentrations based on the standard certification, jug volume, and syringe injection. The variability of the outside lab 8260B values were found to be high, so for the sampling rate calculations we used the concentrations based on syringe dosing.

Calibrations were run at five concentrations, nominally at 6, 24, 118, 590, 1420 ug/L and five temperatures nominally at 5, 10, 15, 20, and 25 degrees centigrade. Samples were taken at 4 different exposure times. Samples were run in duplicate. A total of 176 data points were generated using 28 compounds from AGI's standard compounds list. Tridecane and pentadecane were not evaluated due to their very low solubility in water. In addition, another 23 compounds were tested using an 8260 liquid standard at nominal concentrations of 0.5, 1.0, 5.0, 15, 95, and 470 ug/L at a temperature typical of groundwater, 15°C. This is a living calibration and as additional data are generated, they may be qualified and added to this data set to improve the precision of the sampling rate calibration and broaden the compound list.

## Key Variable Effects

As expected from theory, at short to moderate exposure times, mass will increase roughly linearly proportional to exposure time, as well as proportional to concentration, and exponentially with temperature following Arrhenius law. Temperature affects the Henry's law as well as diffusivity in water. Sampling rate is generally independent of concentration and time at mass values significantly below saturation. In the following sections we have characterized the sampling rate for each compound as affected by temperature and also developed calibrations using regression which account for the minor impact of time, and mass.

## Concentration using Simple Sampling Rate Determination

A simple way to determine concentration is to measure mass on the AGI sampler, divide by exposure time, and divide by sampling rate, SR.

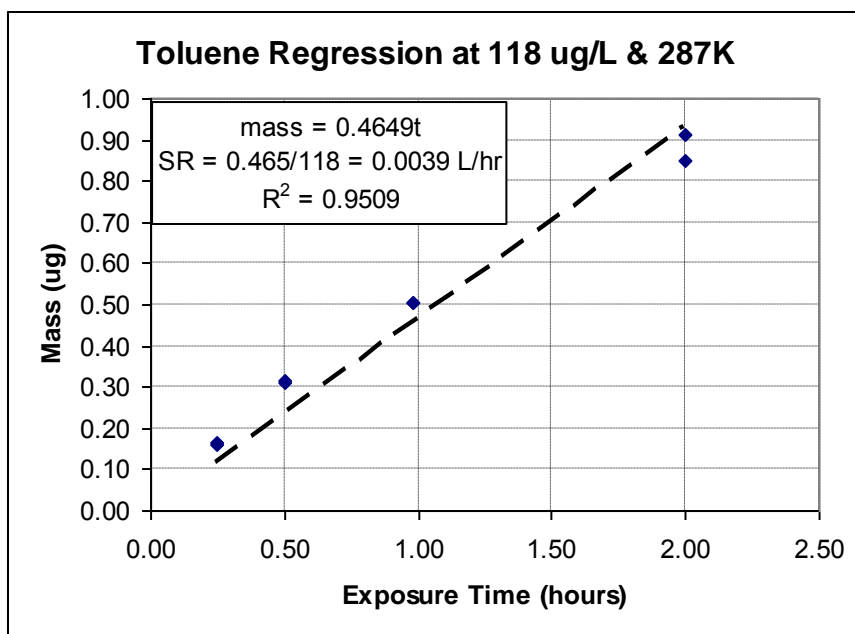
$$\text{Conc [ug/L]} = \text{mass/time/SR} \quad (1)$$

The sampling rate can be determined via measurements of mass versus time at a known concentration and temperature according to the following modification of equation (1).

$$\text{SR} = \text{mass/time/concentration} \quad (2)$$

Sampling rates in L/hr were determined by measuring the trend or regression mass uptake versus time and dividing by the concentration. A measurement like this will use 8 data points (4 times x 2 samples). Such a sampling rate can be measured at any concentration and temperature.

The chart to the right shows a plot of mass versus time for water at 118 ug/L and 287K (actual data from a single run). Slope of 0.465 ug/hr divided by the concentration of 118 ug/L yields a sampling rate, SR, of 0.0039 L/hr.



SR's typically range from about 0.004 to 0.007 L/hr at 15°C. Table A shows SR's measured for our standard compound list at 5 temperatures.

## Rigorous Concentration using Regression

A preferred method for determining concentration that will yield improved accuracy over a wide range of concentrations, exposure times, and temperatures is to use all data in a regression analysis, which allows adjustments for the minor non-linear influences of mass and time as well as the effects of temperature. This step is done by regressing equation (1) or a universal version of equation (1):

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRo} * \exp(-\text{Ea}/\text{R}/\text{T})] \quad (3)$$

The subtle non-linear effects of mass and time will be evident in the deviation of coefficients b and d from 1.0. This regression generates four constants b, d, SRo, and  $-\text{Ea}/\text{R}$  by regressing  $\ln(\text{conc})$  versus  $\ln(\text{mass})$ ,  $\ln(\text{time})$ ,  $1/\text{temp}$ . These four constants can be used to determine concentration via the equation:

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRo} * \exp(-\text{Ea}/\text{R}(1/\text{T}))] \quad (4)$$

Where conc is in ug/L, mass is in ug, time in hours, T in degrees Kelvin.

Equation (4) can be also expressed at a reference temperature,  $\text{Tr}$ , such as 15°C by

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRr} * \exp(-\text{Ea}/\text{R}(1/\text{Tr} - 1/\text{T}))] \quad (5)$$

This step allows sampling rates, SRr, at any reference temperature,  $\text{Tr}$ , and for any analyte to easily be compared. The values of SRr at 293.14K can be found in Table A.

When sampling times are between 0 and 4 hours, using the 4 constant equation (5) is preferred. For concentrations from about 5 to 1500 ug/L one hour exposure times generally give the lowest error, typically with average error of 6-20% and with total error range of 12%-32%. For low concentrations where sampling times are greater than 4 hours, it is preferred to use equation (1) to avoid unrealistic effects from the coefficient d or to set d to 1.0. In such a case SR in equation (1) can be substituted with  $[\text{SRr} * \exp(-\text{Ea}/\text{R}(1/\text{Tr} - 1/\text{T}))]$  to use an SR representative of the well temperature, T.

The chart to the right is a plot of the calculated concentration from the 4 constant regression compared to the dosed concentration. Agreement is excellent for the 176 data points.

However, there does appear to be a slight high bias of 8.6% over the full range of this data, although it is well within acceptable limits of variability.

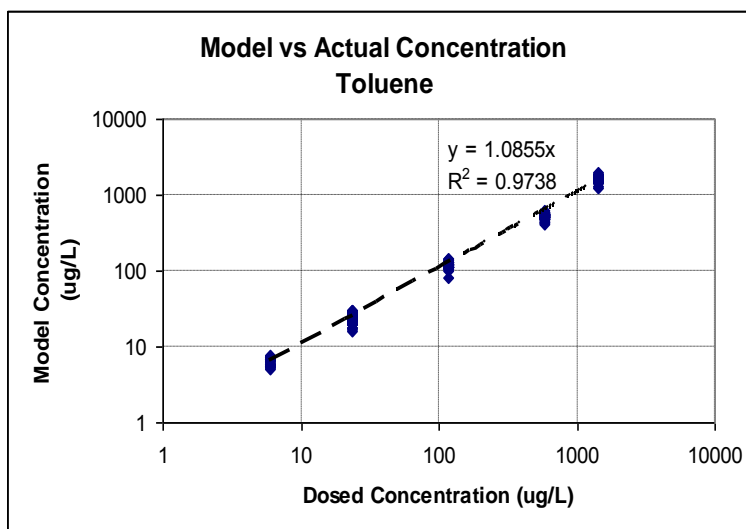


Table B shows the tabulated summary of the 4 constants regression with Rsq values and error estimates for the 4 constants for each analyte. Most regression Rsq values are 0.99 or greater for each analyte. In general,  $-E_a/R$  is about 2400 $\pm$ 400, b is about 0.9, d is about -0.75, and SR(15°C) ranges from .004 L/hr to 0.007 L/hr increasing with MW of the compound.

### Error Estimates

The error in the water concentration values will depend on both the error in mass from the analytical method as well as the error in the concentration calibration. Table C shows the error in the mass values from the 8260C low sensitivity method.

The standard error of the regression and standard errors of the constants can be found in table B. For each compound we have measured the error between the derived concentration and the actual concentration. The error tends to be lowest at our recommended exposure time of one hour as shown by the example for Toluene to the right.

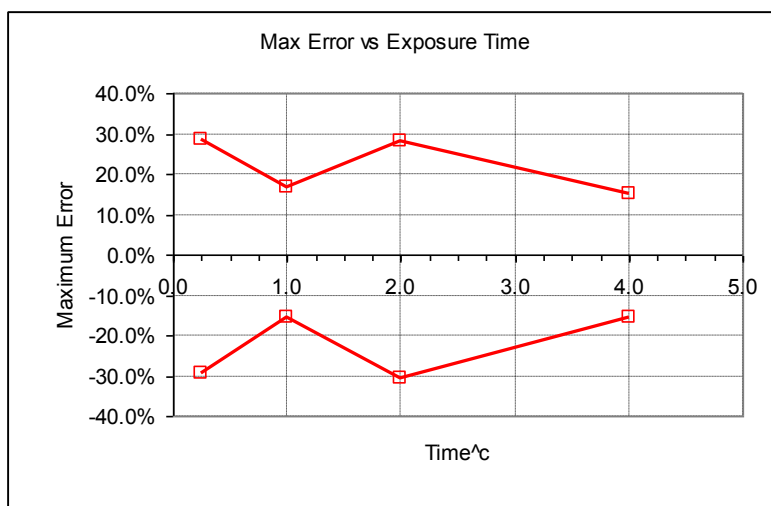
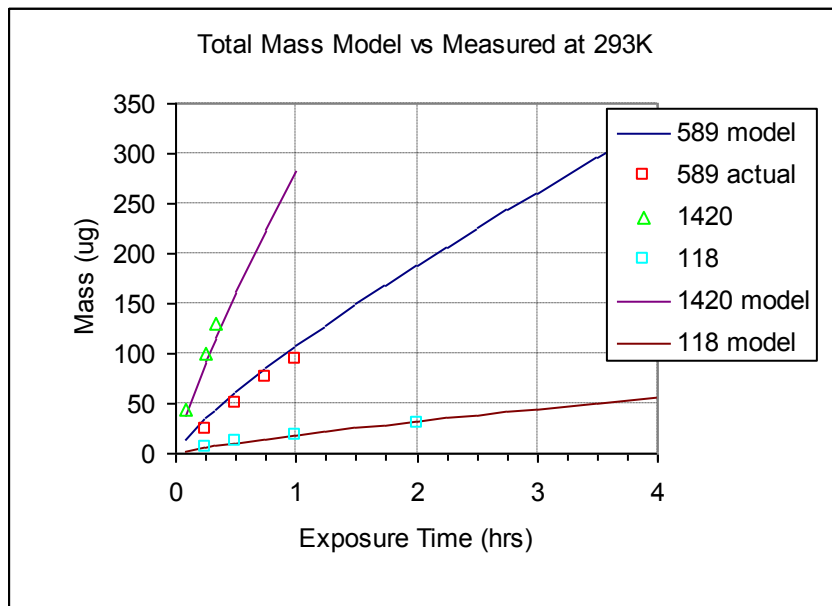


Table D shows the total average error in water concentration by compound as well as the low and high error. The average ranges from about 6% to 20%, which is similar to the analytical method errors. The low and high errors range from 12% to 32% and include contribution from measurement errors in both time and temperature.

### Sorbent Saturation

As mass increases on a solid sorbent and approaches saturation, reverse diffusion can occur causing the sampling rate to drop. Eventually the mass level will reach a maximum steady state value at any concentration. A rate of mass uptake with time that deviates significantly from linear, indicates that sorbent saturation could be an issue. When using equation (1), staying in the linear range to avoid the effects of adsorbent saturation is important. We recommend keeping the total mass on the sampler below 50 ug or flagging when this is exceeded.

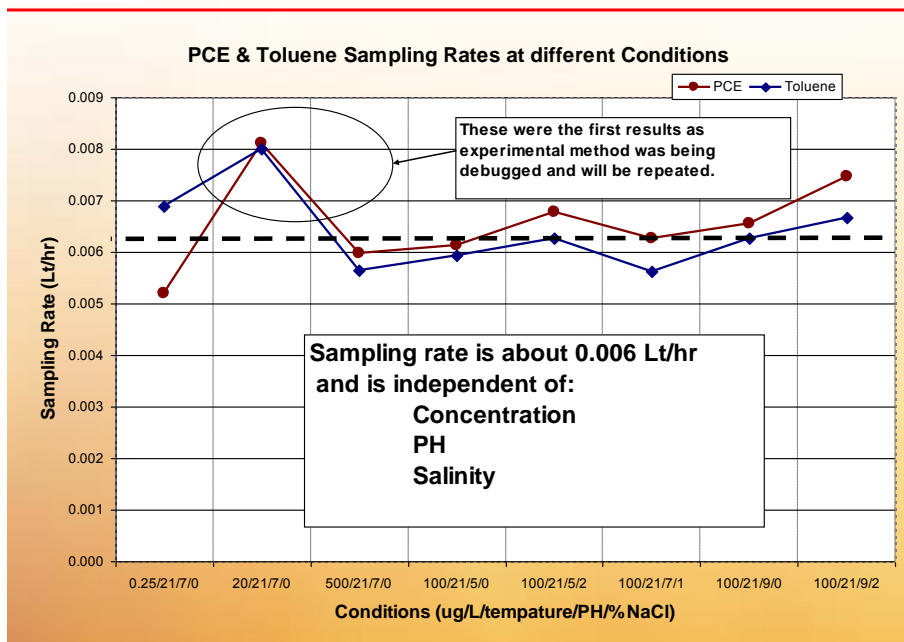
The 4 constant regression accounts for some of the non linearity allowing good accuracy at higher mass levels. From the experimental data we have found this safe range can be extended to 100 ug or higher as shown in the chart below. This chart compares total mass of all compounds (excluding heavy alkanes, which have solubility issues) versus time in comparison to that predicted from the 4-constant concentration equation.



### Effect of PH and Salinity

Because neither PH nor salinity is known to have a significant impact on Henry's law or diffusivity in water, we did not expect them to have a significant impact on sampling rate. To confirm this, experiments were run varying PH from 5 to 9 and NaCl content from 0 to 2%. The chart below shows no significant impact for combinations of PH and NaCl content over this range on the sampling rate of toluene in water at 21°C.

### Checked for Effects of PH & Salinity



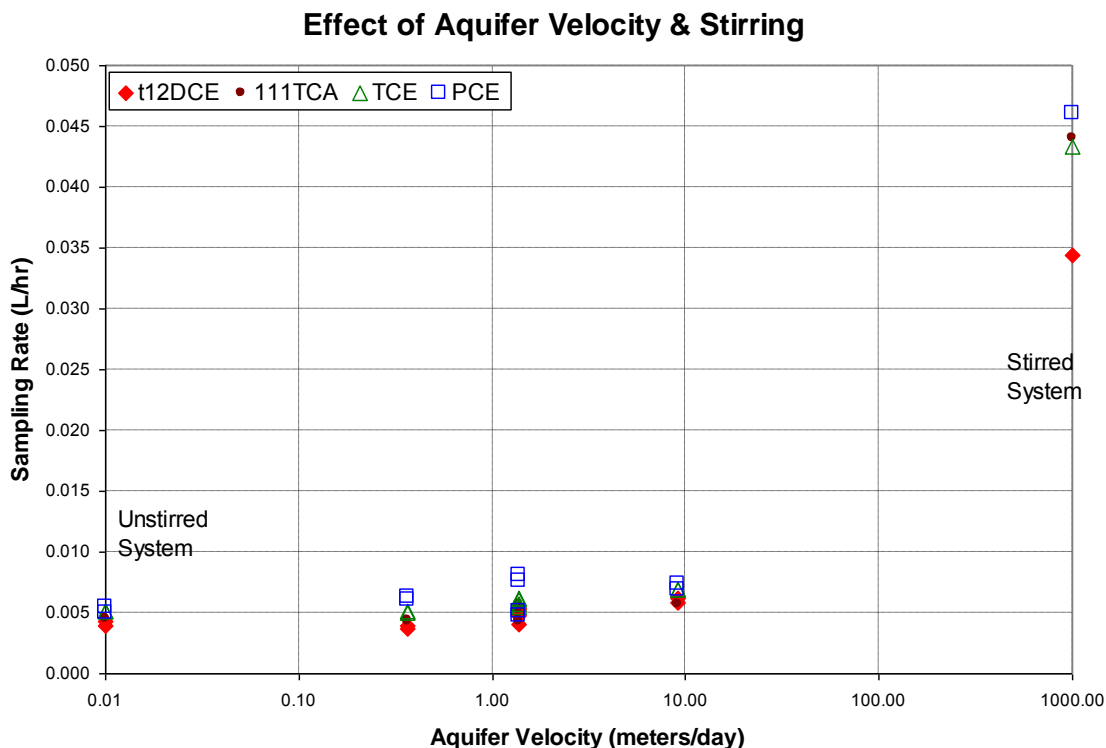


## Impact of Aquifer Velocity

The velocity in most aquifers is quite slow, typically a meter/day or less. Occasionally water flow could be much higher such as encountered in karst aquifers, streams or rivers. Mass transfer coefficients are higher in high flow conditions, which will lead to higher sampling rates. We validated that a highly stirred system had sampling rates about 10 times higher than those that were non-stirred. We decided to evaluate the effect of aquifer velocity.

A test apparatus was built comprising a 3" PVC pipe tee filled with clean sand in each of the horizontal straight legs and screened to leave the center open. A test solution was run through this system using a variable flow pump and AGI samplers were placed into the simulated well through the vertical leg of the tee. Tests were run to examine the effect of velocity by varying the pumping rate and hence water velocity.

The chart below shows no significant effect of aquifer velocity up to a speed of about 10 meters/day. At velocities significantly above this, similar to a stirred system, sampling rates are about 10 times higher.

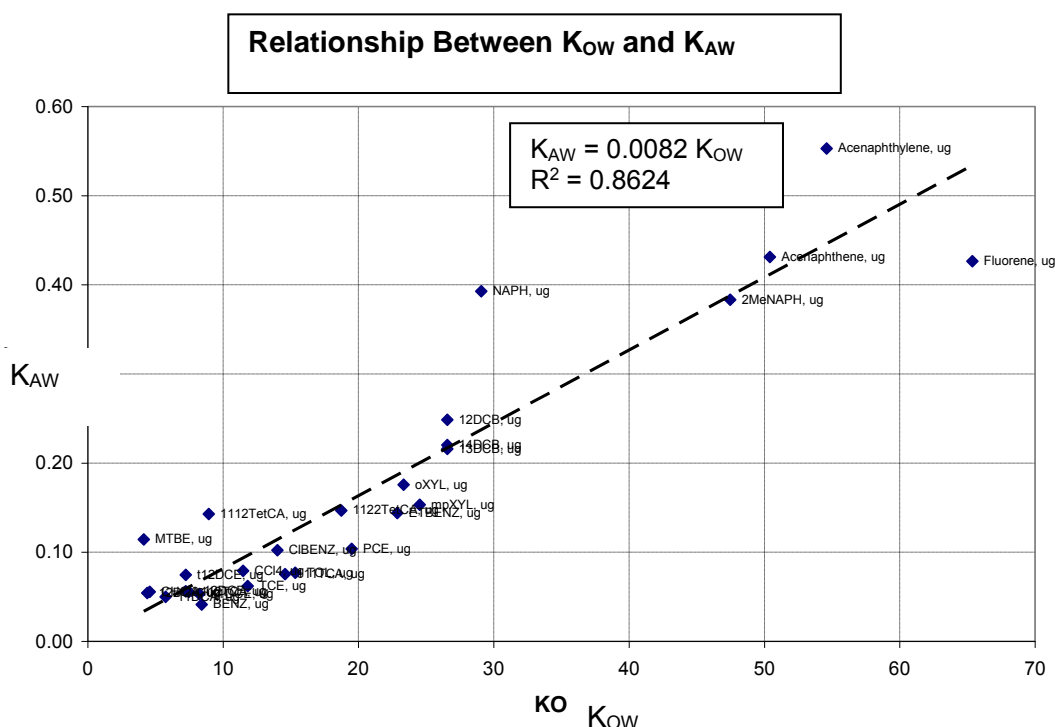


## Part 2: Calibration in Deep (>34') water

Part 2 describes the effect of deep water on the AGI sampler and summarizes the effects on sampling rate and concentration measurement.

When the water pressure exceeds the water entry pressure of the membrane, about 34 feet of water, the water becomes in direct contact with the solid adsorbent. Under this condition the compounds in the water will partition from the water into the solid. The partitioning coefficient is closely related to the octanol-water coefficient,  $K_{OW}$ , but has been measured more precisely in the lab for AGI's specific solid adsorbent,  $K_{AW}$ . The sampling rate for deep water is the product of the sampling rate at <34' of water and the  $K_{AW}$ .

Measurement of the  $K_{AW}$  was done in a one liter stainless steel vessel pressurized with nitrogen to simulate water heads above 34' of water. Pressures of up to 465 psig or 200' of water head were used. The sampling rate change was the same at all pressures above 34' of water. The  $K_{AW}$  was determined as the ratio between the mass or sampling rate above 34' of head to the rate at <34' of head and is shown in the chart below.



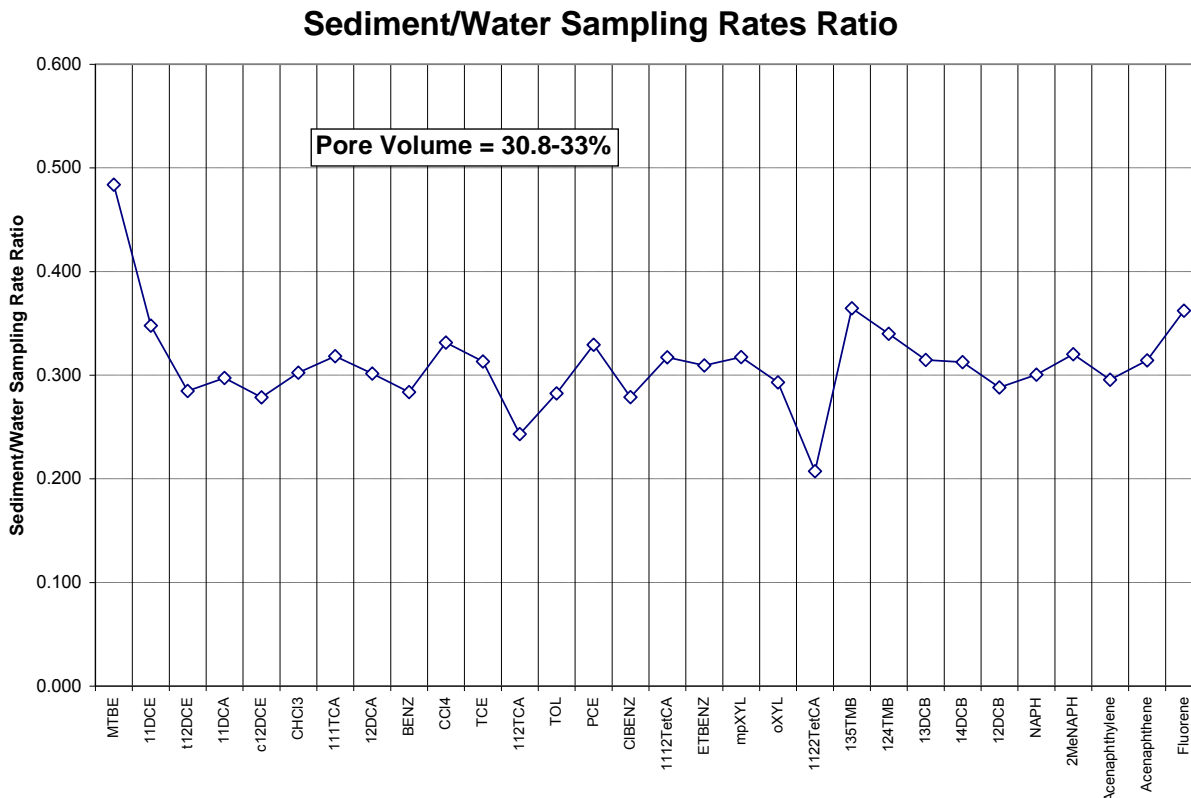
## Part 3: Calibration in Sediment

Part 3 describes the effect of sediment solids or sediment pore volume on the sampling rate and concentration measurement.

In sediment, the sampler measures pore water concentration, which is generally agreed to be the preferred measurement as it is more indicative of bioavailability. In sediment the volumetric availability of water to the sampler is reduced by the volume fraction solids in the sediment. As a result sampling rates in sediment are multiplied by the fraction pore water to determine

concentration. Pore water fraction can range from 1.0 for water without sediment to as low as 0.25. Typically most sediments have pore fractions of 0.9 to 0.65.

A sampling rate study was done with water and with water added into a well-packed sorted sand. Pore water fraction in this test was measured between 30.8% and 33% by volume. Below is a plot of the ratio of sampling rates measured in the sediment to open water. The average ratio is equal to the pore water fraction confirming that sampling rate in sediment is on average equal to the product of pore water fraction times the sampling rate in water.



## Summary

The AGI Sampler can be used to determine the concentration of volatile and semi-volatile compounds in a water phase. This requires knowing the exposure time and water temperature. It also requires knowing if the sample is above or below 34' of water head and if the water has a velocity above 10 meters/day. Regressions of large amounts of data were used to generate a four constant equation to generate concentration values in water. Potential error in the concentration values is excellent typically less than 25%.

**TABLE A**  
**WATER SAMPLING RATES STANDARD LIST**

|                   | <b>SRr</b><br>293.14 | <b>SR @</b><br>277.54 | <b>SR @</b><br>282.44 | <b>SR @</b><br>287.84 | <b>SR @</b><br>293.24 | <b>SR @</b><br>298.94 |
|-------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>MTBE</b>       | 0.0025               | 0.0014                | 0.0016                | 0.0018                | 0.0022                | 0.0029                |
| <b>t12DCE</b>     | 0.0043               | 0.0028                | 0.0028                | 0.0027                | 0.0037                | 0.0048                |
| <b>11DCA</b>      | 0.0047               | 0.0031                | 0.0033                | 0.0033                | 0.0039                | 0.0052                |
| <b>c12DCE</b>     | 0.0046               | 0.0030                | 0.0031                | 0.0031                | 0.0038                | 0.0051                |
| <b>CHCl3</b>      | 0.0046               | 0.0030                | 0.0031                | 0.0031                | 0.0038                | 0.0051                |
| <b>111TCA</b>     | 0.0066               | 0.0043                | 0.0047                | 0.0047                | 0.0056                | 0.0076                |
| <b>12DCA</b>      | 0.0045               | 0.0029                | 0.0029                | 0.0030                | 0.0036                | 0.0050                |
| <b>BENZ</b>       | 0.0050               | 0.0031                | 0.0034                | 0.0035                | 0.0042                | 0.0056                |
| <b>CCl4</b>       | 0.0068               | 0.0044                | 0.0048                | 0.0047                | 0.0058                | 0.0080                |
| <b>TCE</b>        | 0.0052               | 0.0030                | 0.0034                | 0.0034                | 0.0043                | 0.0058                |
| <b>112TCA</b>     | 0.0043               | 0.0027                | 0.0027                | 0.0028                | 0.0034                | 0.0048                |
| <b>TOL</b>        | 0.0056               | 0.0034                | 0.0039                | 0.0039                | 0.0047                | 0.0062                |
| <b>OCT</b>        | 0.0064               | 0.0046                | 0.0050                | 0.0040                | 0.0058                | 0.0089                |
| <b>PCE</b>        | 0.0061               | 0.0036                | 0.0043                | 0.0043                | 0.0051                | 0.0069                |
| <b>CIBENZ</b>     | 0.0054               | 0.0033                | 0.0039                | 0.0040                | 0.0045                | 0.0059                |
| <b>1112TetCA</b>  | 0.0061               | 0.0037                | 0.0042                | 0.0044                | 0.0050                | 0.0065                |
| <b>EtBENZ</b>     | 0.0060               | 0.0037                | 0.0045                | 0.0044                | 0.0052                | 0.0069                |
| <b>mpXYL</b>      | 0.0064               | 0.0039                | 0.0048                | 0.0046                | 0.0055                | 0.0072                |
| <b>oXYL</b>       | 0.0066               | 0.0041                | 0.0050                | 0.0048                | 0.0057                | 0.0074                |
| <b>1122TetCA</b>  | 0.0044               | 0.0027                | 0.0029                | 0.0031                | 0.0036                | 0.0046                |
| <b>135TMB</b>     | 0.0079               | 0.0046                | 0.0059                | 0.0056                | 0.0071                | 0.0093                |
| <b>124TMB</b>     | 0.0078               | 0.0046                | 0.0060                | 0.0055                | 0.0071                | 0.0092                |
| <b>13DCB</b>      | 0.0072               | 0.0041                | 0.0055                | 0.0053                | 0.0063                | 0.0080                |
| <b>14DCB</b>      | 0.0071               | 0.0040                | 0.0054                | 0.0052                | 0.0062                | 0.0079                |
| <b>12DCB</b>      | 0.0070               | 0.0040                | 0.0053                | 0.0051                | 0.0060                | 0.0076                |
| <b>UNDEC</b>      |                      | 0.0026                | 0.0024                | 0.0020                | 0.0031                | 0.0029                |
| <b>NAPH</b>       |                      | 0.0041                | 0.0056                | 0.0054                | 0.0064                | 0.0081                |
| <b>TRIDEC</b>     |                      |                       |                       |                       |                       |                       |
| <b>2MeNAPH</b>    |                      | 0.0043                | 0.0066                | 0.0066                | 0.0080                | 0.0108                |
| <b>PENTADEC</b>   |                      |                       |                       |                       |                       |                       |
| <b>Total mass</b> | 0.1177               | 0.0822                | 0.1339                | 0.1334                | 0.1773                | 0.1981                |

Notes:

Values in L/hr

Total mass does not include UNDEC, TRIDEC, PENTADEC (28 compounds)

**TABLE B**  
**4 CONSTANT REGRESSION OUTPUT**

|            | <b>Adjusted<br/>Rs<sub>q</sub></b> | <b>Standard<br/>Error</b> | <b>ln(SR0)</b> | <b>b</b> | <b>-Ea/R</b> | <b>d</b> | <b>Std<br/>Error<br/>ln(SR0)</b> | <b>Std<br/>Error<br/>b</b> | <b>Std<br/>Error<br/>-<br/>Ea/R</b> | <b>Std<br/>Error<br/>d</b> |
|------------|------------------------------------|---------------------------|----------------|----------|--------------|----------|----------------------------------|----------------------------|-------------------------------------|----------------------------|
| MTBE       | 0.997                              | 0.0960                    | -3.217         | 0.981    | 2704         | -0.709   | 0.2881                           | 0.0062                     | 83                                  | 0.0082                     |
| t12DCE     | 0.992                              | 0.1659                    | -1.877         | 0.905    | 2147         | -0.760   | 0.4971                           | 0.0100                     | 144                                 | 0.0138                     |
| 11DCA      | 0.995                              | 0.1272                    | -1.346         | 0.916    | 1965         | -0.746   | 0.3809                           | 0.0077                     | 110                                 | 0.0106                     |
| c12DCE     | 0.995                              | 0.1299                    | -1.905         | 0.911    | 2137         | -0.751   | 0.3892                           | 0.0078                     | 112                                 | 0.0109                     |
| CHCl3      | 0.996                              | 0.1260                    | -1.841         | 0.912    | 2118         | -0.748   | 0.3776                           | 0.0076                     | 109                                 | 0.0105                     |
| 111TCA     | 0.995                              | 0.1279                    | -2.684         | 0.902    | 2259         | -0.761   | 0.3836                           | 0.0076                     | 111                                 | 0.0106                     |
| 12DCA      | 0.995                              | 0.1263                    | -2.161         | 0.908    | 2218         | -0.746   | 0.3786                           | 0.0076                     | 109                                 | 0.0106                     |
| BENZ       | 0.995                              | 0.1323                    | -2.207         | 0.920    | 2198         | -0.754   | 0.3965                           | 0.0080                     | 114                                 | 0.0110                     |
| CCl4       | 0.994                              | 0.1405                    | -3.121         | 0.889    | 2379         | -0.776   | 0.4220                           | 0.0083                     | 122                                 | 0.0116                     |
| TCE        | 0.992                              | 0.1655                    | -3.338         | 0.900    | 2522         | -0.772   | 0.4969                           | 0.0099                     | 144                                 | 0.0137                     |
| 112TCA     | 0.995                              | 0.1264                    | -2.412         | 0.896    | 2302         | -0.724   | 0.3790                           | 0.0075                     | 109                                 | 0.0107                     |
| TOL        | 0.994                              | 0.1426                    | -2.873         | 0.916    | 2364         | -0.756   | 0.4281                           | 0.0087                     | 124                                 | 0.0119                     |
| OCT        | 0.938                              | 0.4698                    | -5.984         | 0.822    | 3235         | -0.827   | 1.4231                           | 0.0277                     | 412                                 | 0.0388                     |
| PCE        | 0.991                              | 0.1773                    | -3.780         | 0.877    | 2601         | -0.775   | 0.5329                           | 0.0103                     | 154                                 | 0.0147                     |
| CIBENZ     | 0.994                              | 0.1457                    | -2.601         | 0.911    | 2292         | -0.747   | 0.4370                           | 0.0088                     | 126                                 | 0.0122                     |
| 1112TetCA  | 0.996                              | 0.1235                    | -2.676         | 0.898    | 2281         | -0.725   | 0.3705                           | 0.0073                     | 107                                 | 0.0104                     |
| EtBENZ     | 0.993                              | 0.1597                    | -2.930         | 0.918    | 2357         | -0.752   | 0.4794                           | 0.0097                     | 138                                 | 0.0134                     |
| mpXYL      | 0.992                              | 0.1678                    | -3.036         | 0.909    | 2372         | -0.749   | 0.5037                           | 0.0101                     | 145                                 | 0.0140                     |
| oXYL       | 0.993                              | 0.1555                    | -2.862         | 0.911    | 2312         | -0.740   | 0.4667                           | 0.0094                     | 135                                 | 0.0131                     |
| 1122TetCA  | 0.996                              | 0.1118                    | -1.971         | 0.913    | 2167         | -0.691   | 0.3351                           | 0.0067                     | 97                                  | 0.0096                     |
| 135TMB     | 0.988                              | 0.2024                    | -4.435         | 0.897    | 2720         | -0.738   | 0.6093                           | 0.0121                     | 176                                 | 0.0170                     |
| 124TMB     | 0.989                              | 0.1997                    | -4.126         | 0.890    | 2631         | -0.731   | 0.6009                           | 0.0118                     | 173                                 | 0.0169                     |
| 13DCB      | 0.991                              | 0.1832                    | -3.422         | 0.888    | 2449         | -0.730   | 0.5503                           | 0.0108                     | 159                                 | 0.0155                     |
| 14DCB      | 0.991                              | 0.1802                    | -3.263         | 0.892    | 2408         | -0.724   | 0.5413                           | 0.0107                     | 156                                 | 0.0153                     |
| 12DCB      | 0.992                              | 0.1697                    | -2.970         | 0.894    | 2327         | -0.716   | 0.5092                           | 0.0101                     | 147                                 | 0.0144                     |
| UNDEC      | 0.694                              | 0.374                     | -1.406         | 0.426    | 1708         | -0.806   | 1.792                            | 0.028                      | 517                                 | 0.053                      |
| NAPH       | 0.992                              | 0.166                     | -3.374         | 0.915    | 2430         | -0.671   | 0.497                            | 0.010                      | 144                                 | 0.014                      |
| TRIDEC     |                                    |                           |                |          |              |          |                                  |                            |                                     |                            |
| 2MeNAPH    | 0.984                              | 0.238                     | -5.498         | 0.869    | 2990         | -0.689   | 0.72                             | 0.014                      | 208                                 | 0.021                      |
| PENTADEC   |                                    |                           |                |          |              |          |                                  |                            |                                     |                            |
| Total mass | 0.993                              | 0.1543                    | -6.111         | 0.907    | 2419         | -0.732   | 0.4666                           | 0.0093                     | 134                                 | 0.0130                     |

**TABLE C**  
**8260C MASS UNCERTAINTY**

**AGI 8260C Method for Mass using SPG-0008  
Samplers**

|           | 99%<br>Uncertainty Range<br>+/- | 95%<br>Uncertainty Range<br>+/- |
|-----------|---------------------------------|---------------------------------|
| MTBE      | 20%                             | 14%                             |
| t12DCE    | 22%                             | 15%                             |
| 11DCA     | 18%                             | 12%                             |
| c12DCE    | 18%                             | 12%                             |
| CHCl3     | 16%                             | 11%                             |
| 111TCA    | 18%                             | 12%                             |
| 12DCA     | 20%                             | 13%                             |
| BENZ      | 16%                             | 10%                             |
| CCl4      | 19%                             | 12%                             |
| TCE       | 15%                             | 10%                             |
| 112TCA    | 18%                             | 12%                             |
| TOL       | 15%                             | 10%                             |
| OCT       | 20%                             | 13%                             |
| PCE       | 16%                             | 11%                             |
| CIBENZ    | 18%                             | 12%                             |
| 1112TetCA | 19%                             | 13%                             |
| EtBENZ    | 18%                             | 12%                             |
| mpXYL     | 18%                             | 12%                             |
| oXYL      | 18%                             | 12%                             |
| 1122TetCA | 23%                             | 15%                             |
| 135TMB    | 21%                             | 14%                             |
| 124TMB    | 20%                             | 14%                             |
| 13DCB     | 19%                             | 13%                             |
| 14DCB     | 19%                             | 13%                             |
| 12DCB     | 20%                             | 14%                             |
| NAPH      | 21%                             | 14%                             |
| 2MeNAPH   | 25%                             | 17%                             |

**TABLE D**  
**4 CONSTANT WATER CONCENTRATION UNCERTAINTY**  
**ERROR IN CONCENTRATION REPORTING (1)**

|           | <b>Average<br/>Error</b> | <b>Minimum<br/>Error</b> | <b>Maximum<br/>Error</b> |
|-----------|--------------------------|--------------------------|--------------------------|
| MTBE      | 6%                       | -12%                     | 12%                      |
| t12DCE    | 11%                      | -26%                     | 21%                      |
| 11DCA     | 8%                       | -19%                     | 13%                      |
| c12DCE    | 9%                       | -19%                     | 15%                      |
| CHCl3     | 9%                       | -20%                     | 14%                      |
| 111TCA    | 9%                       | -19%                     | 23%                      |
| 12DCA     | 10%                      | -19%                     | 17%                      |
| BENZ      | 8%                       | -18%                     | 13%                      |
| CCl4      | 10%                      | -23%                     | 22%                      |
| TCE       | 10%                      | -21%                     | 14%                      |
| 112TCA    | 11%                      | -21%                     | 21%                      |
| TOL       | 7%                       | -17%                     | 14%                      |
| OCT       | 20%                      | -41%                     | 42%                      |
| PCE       | 10%                      | -24%                     | 15%                      |
| CIBENZ    | 7%                       | -16%                     | 14%                      |
| 1112TetCA | 8%                       | -17%                     | 18%                      |
| EtBENZ    | 6%                       | -19%                     | 14%                      |
| mpXYL     | 7%                       | -22%                     | 13%                      |
| oXYL      | 7%                       | -19%                     | 13%                      |
| 1122TetCA | 8%                       | -16%                     | 17%                      |
| 135TMB    | 9%                       | -23%                     | 17%                      |
| 124TMB    | 10%                      | -28%                     | 19%                      |
| 13DCB     | 10%                      | -22%                     | 17%                      |
| 14DCB     | 10%                      | -22%                     | 17%                      |
| 12DCB     | 9%                       | -23%                     | 17%                      |
| NAPH      | 10%                      | -24%                     | 21%                      |
| 2MeNAPH   | 13%                      | -32%                     | 30%                      |

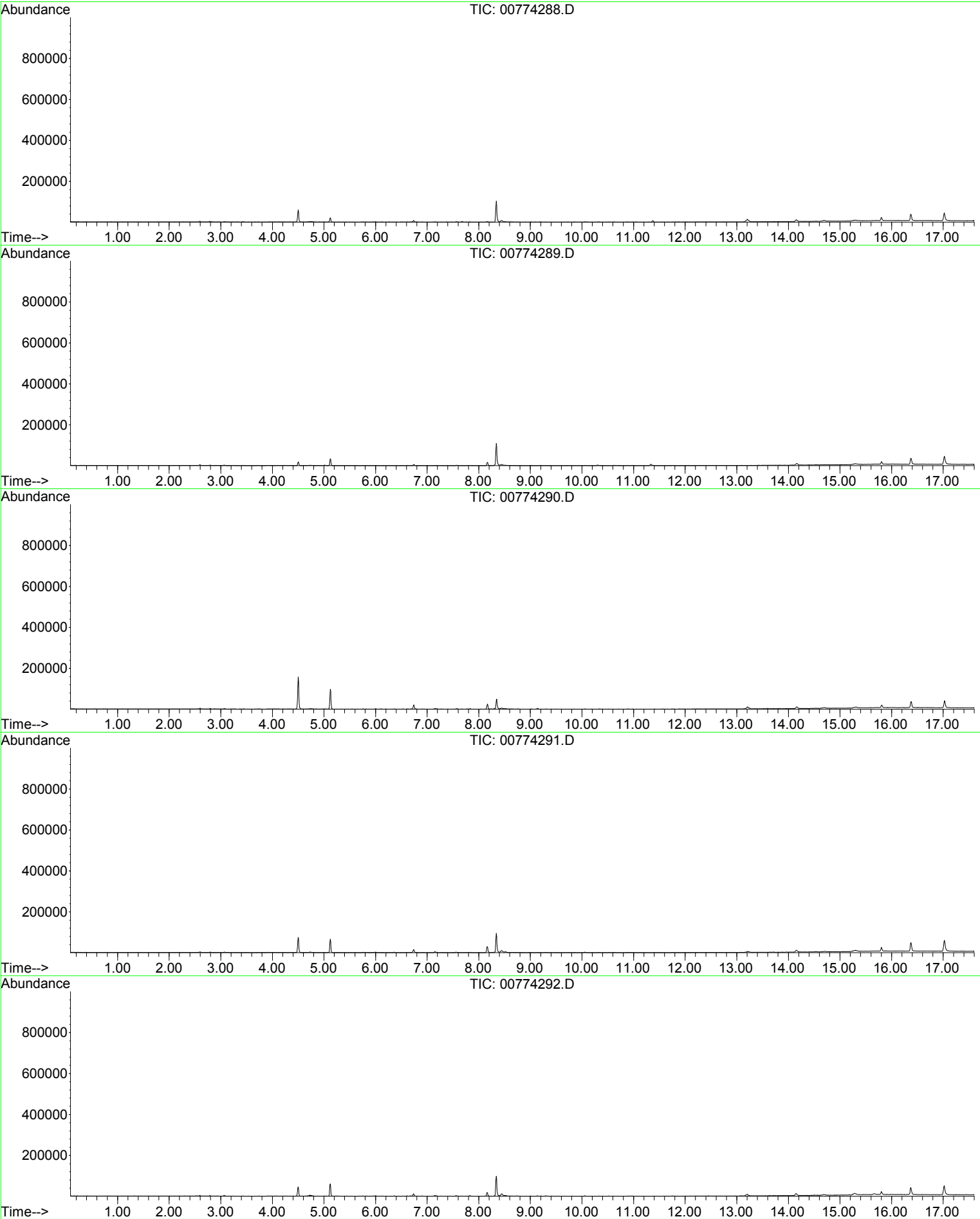
(1) For 1 hour exposure, includes error related to mass value from AGI analytical method 8260C

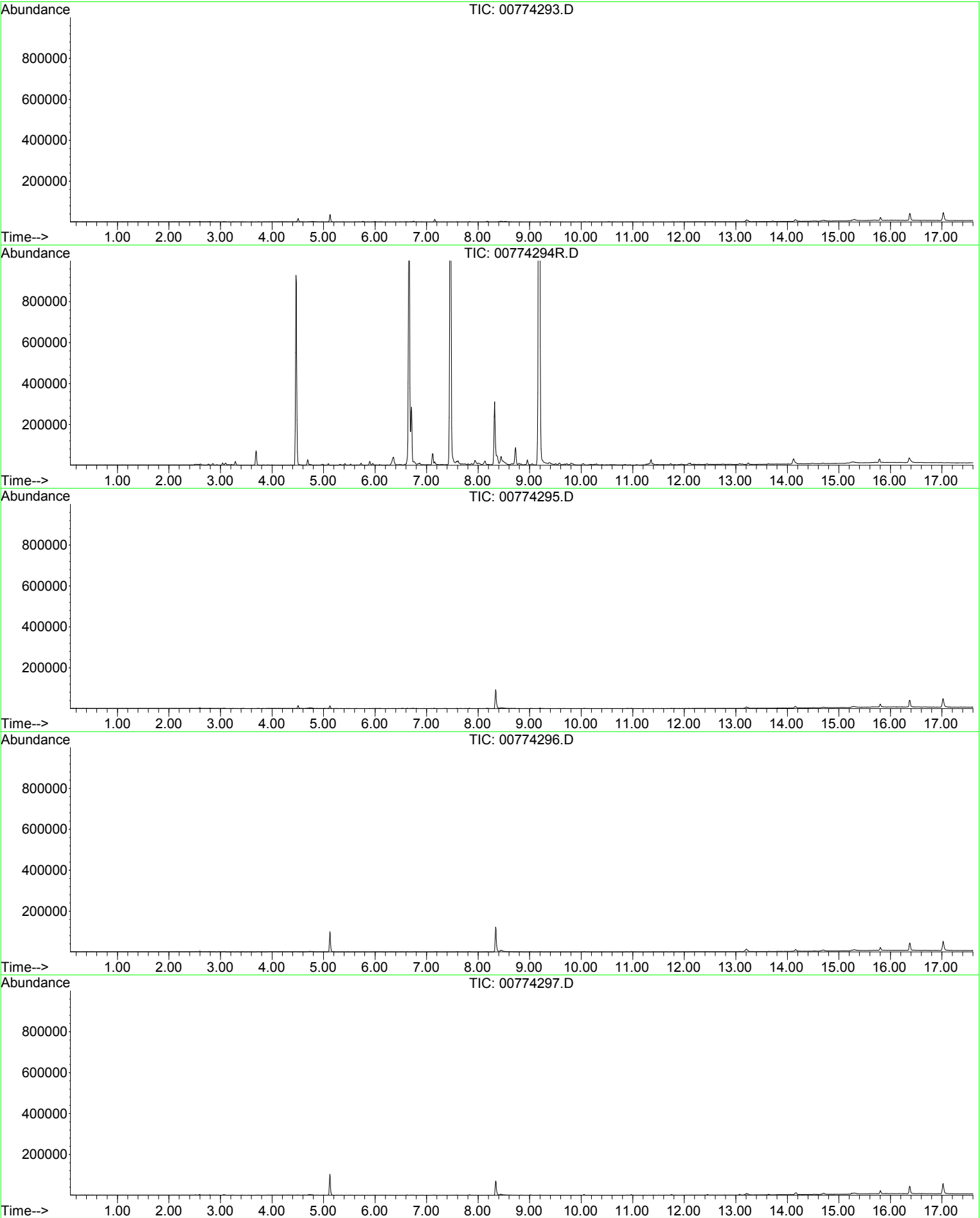
Amplified Geochemical Imaging, LLC  
210 Executive Drive, Suite 1  
Newark, DE 19702-3335  
Tel: +1-302-322-2428  
email: [info@agisurveys.net](mailto:info@agisurveys.net)

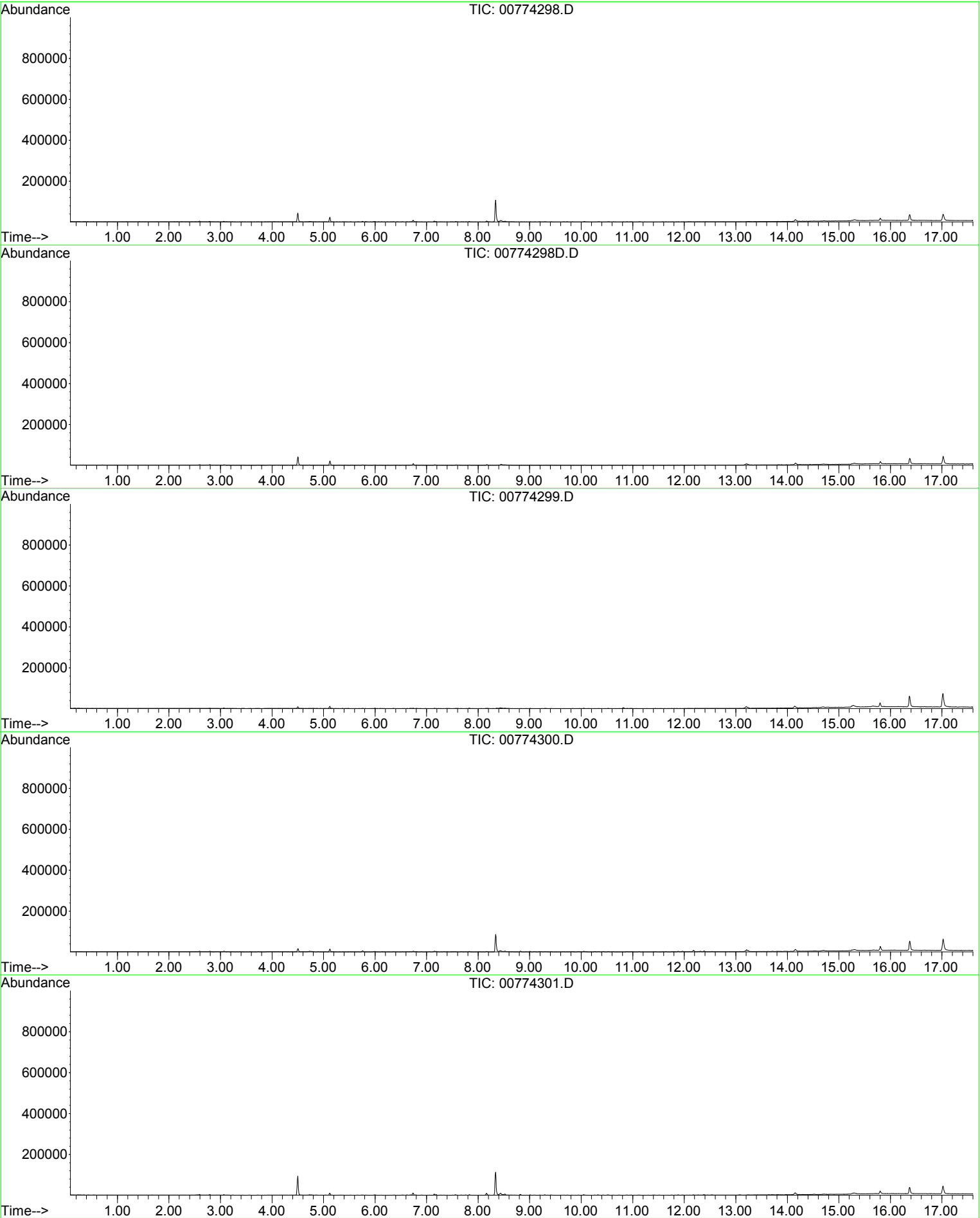
[www.agisurveys.net](http://www.agisurveys.net)

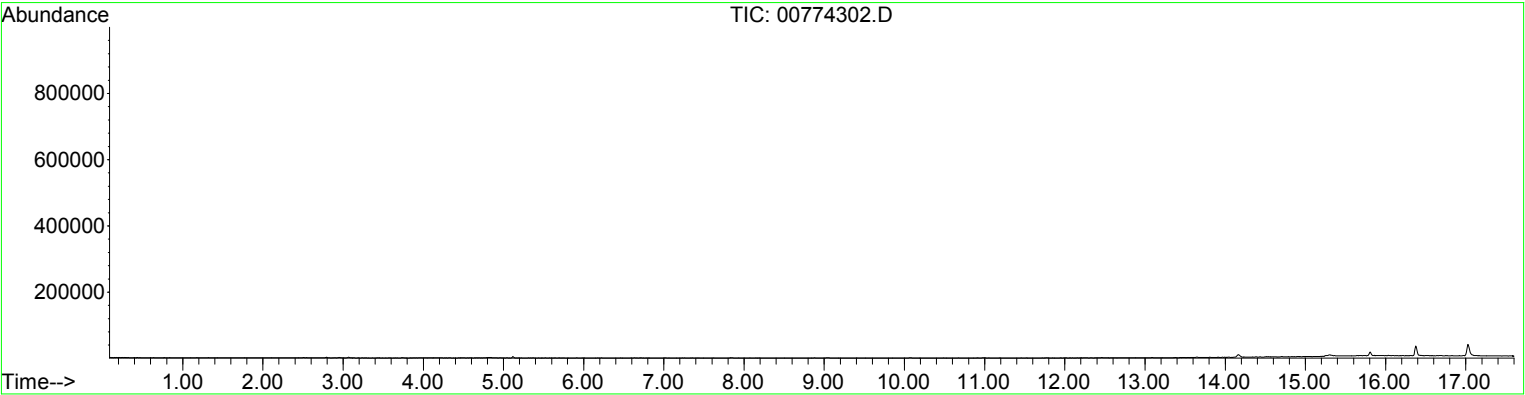
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AMPLIFIED  
GEOCHEMICAL  
IMAGING, LLC

# Laboratory Report

Site: Comal & San Marcos Rivers June 2016

Prepared for:

SWCA Environmental Consultants  
6200 UTSA Boulevard  
Suite 102  
San Antonio, TX  
UNITED STATES

Prepared on:  
July 13, 2016

## Project Summary and Objective

Amplified Geochemical Imaging, LLC. (AGI) provided the AGI Environmental Survey used at:

**Comal & San Marcos Rivers June 2016**

The service provided by AGI included delivery of the required quantity of AGI Universal Samplers, analysis by the method described below for the requested organic compounds, reporting of the data, and contour mapping (as needed).

This report includes results for only the samples noted under the Laboratory Sample Report section. If contour maps are part of the project deliverable, the maps will be prepared and issued under a separate report cover, upon receipt of a usable sitemap (electronic) and compound choices for contouring.

Written/submitted by:

**Kelly J Stringham**

Project Manager

Reviewed/approved by:

**Dayna M Cobb**

Project Manager

Analytical data approved by:

**Fatima Niazi**

Chemist



## Quality Assurance Statement

The AGI Laboratory, at Amplified Geochemical Imaging's facility in Newark, DE USA, operates under the guidelines of its ISO Standard 17025 DoD ELAP accreditation, and its Quality Assurance Manual, Operating Procedures, and Methods (SOP-QA-0462).

For this project, the analytical method, results, and observations reported do [ ] do not [ ☒ ] fall within the scope of AGI's ISO 17025 accreditation.

**Screening/Concentration Method**

The AGI Universal Samplers are analyzed at AGI's fixed laboratory using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following modified U.S. EPA Method 8260 (SPG-WI-0292) which includes the following:

- **BFB Tuning Frequency:** A BFB tune is analyzed at the start of each analytical run and after every 30 samples.
- **Initial Calibration:** A minimum of a five point calibration curve is analyzed prior to the analysis of samples.
- **Initial Calibration Verification (ICV):** Following the calibration a second-source reference standard is analyzed to verify the accuracy of the calibration. Acceptance criteria for the ICV is +/- 30%.
- **Linearity of Target Compounds:** If the RSD of any target analyte is less than or equal to 25% then average response factor can be used for quantitation. If the RSD exceeds 25% for a target compound a regression equation can be used for quantitation.
- **Continuing Calibration Verification:** After every 10 samples, and at the end of each analytical batch, a mid-level second-source Reference Standard is analyzed. The acceptance criteria for all target analytes in the reference standards are +/- 50% of the true value.
- **Method Blank:** Analyzed prior to the analysis of field samples and every 30 samples.

**Note:** Analyte levels reported for the field-deployed AGI Universal Samplers that exceed trip and method blank levels, and/or the reporting limit, are more likely to have originated from on-site sources.

|                            |               |
|----------------------------|---------------|
| Media Sampled:             | WATER         |
| Chemist - sample analysis: | Jasmine Smith |
| Chemist - data processor:  | Jasmine Smith |
| Chemist - data review:     | Fatima Niazi  |

Method deviations: None

Please note that data file names ending with R are rerun samples using the second pair of sorbers, in which the original results were not reported. Data file names ending in D are duplicate analysis results for the second set of sorbers from the same sampler, and are reported.

## Additional Report Information

- Comments
- Laboratory Sample Report
- Chain of Custody
- Installation and Retrieval Log
- Data Table(s) and Key
- Concentration Calculation Method Summary
- Total Ion Chromatograms

## Project Specific Comments

Sampler 00774455 was analyzed as a trip blank. Samplers 00774451 and 00774452 were not analyzed upon request by SWCA Environmental Consultants.

|                            |  |                  |
|----------------------------|--|------------------|
| Survey period <sup>1</sup> | Samplers were installed on June 13, 2016 and retrieved on June 27, 2016 for an exposure period of 14 days. |                  |
| Tamper seal intact:        | Yes  |                  |
| Date received:             | 6/28/16 10:50 am   | By: Scott Kirlin |
| COC returned:              | Yes  |                  |
| Comments:                  | None   |                  |

1 - Installation start to end of retrieval, as reported. See installation and retrieval log for individual deployment and retrieval dates and times (i.e., sampler exposure time).

## General Comments

### Analytical QA/QC

Laboratory instrumentation consists of gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation involves cutting the tip off the bottom of the AGI Universal Sampler, and transferring one or more "sorbents" to a thermal desorption tube for analysis. The insertion/retrieval cord prevents soil, water and other interferences from coming in contact with the adsorbent. No further sample preparation is required. Any replicate sorbents not consumed in the initial analysis will be discarded fifteen (15) days from the date of the laboratory report.

Data are archived and stored in a secure manner as per AGI's Quality Assurance program (SOP-QA-0462).

Total petroleum hydrocarbons (TPH), gasoline-range petroleum hydrocarbons (GRPH), and/or diesel range petroleum hydrocarbons (DRPH), when reported, are calculated using the area under the peaks observed in m/z 55 and 57 selected ion chromatograms. Quantitation of the mass values was performed using the response factor for a specific alkane (present in the calibration standards). TPH values include the entire chromatogram and provide estimates for aliphatic hydrocarbon ranges of C4 to C20. GRPH and DRPH include only the relevant regions of the chromatograms and provide estimates for C4 to C10 and C10 to C20 aliphatic hydrocarbons, respectively.

Trip blanks were provided to document potential exposures that were not part of the signal of interest (e.g., impact during sampler shipment, installation and/or retrieval, and storage). The trip blanks are identically manufactured and packaged AGI Universal Samplers to those samplers deployed in the field. The trip blanks remain unopened during all phases of the project. Levels reported on the trip blanks may indicate potential impact to the samplers other than the contaminant source of interest.

Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. UPEs may be indicative of complex fluid mixtures. UPEs observed early in the chromatograms are considered to indicate presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.

Total ion chromatograms (TICs) are included in the Attachments. The eight-digit serial number of each sampler is incorporated in the TIC identification (e.g., 12345678.D represents AGI Universal Sampler 12345678).

## General Comments

### Soil Gas Sampling

For soil gas sampling, the AGI Environmental Survey reports mass levels migrating through the open pore spaces of the soil and diffusing through the sampler membrane for sorption by the engineered, hydrophobic adsorbents, housed within the membrane tube. During the migration of the soil gas away from the source to the AGI Universal Sampler, the vapors are subject to a variety of attenuation factors. The soil gas masses reported on the samplers compare favorably with the concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels to other sampled locations on the site, the matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.

Soil gas concentrations ( $\mu\text{g}/\text{m}^3$ ) are calculated following the method described in the Additional Report Information section.

Soil gas signals reported by this method cannot be correlated specifically to soil adsorbed, groundwater, and /or free-phase contamination. The soil gas signal reported from each AGI Universal Sampler can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).

### Air Sampling

For indoor, outdoor, and crawlspace air sampling, the AGI Environmental Survey reports mass levels present in the air and diffusing through the sampler membrane for sorption by the engineered adsorbents housed within the membrane tube.

Air concentrations ( $\mu\text{g}/\text{m}^3$ ) are calculated following the method described in the Additional Report Information section.

### Groundwater and Sediment Porewater Sampling

For groundwater and sediment porewater sampling, the AGI Environmental Survey reports the mass levels of compounds present in the water which, when coming in contact with the sampler membrane, partitions out of solution, and diffuses through the sampler membrane for sorption by the engineered adsorbents.

Water concentrations ( $\mu\text{g}/\text{L}$ ) are calculated using the quantified mass, exposure period and the compound specific uptake rate. The rates were measured under controlled experimental conditions. The uptake rates are corrected for water pressure (depth of the AGI Universal Sampler below the water table), water temperature and the aquifer flow rate. For sediment porewater, the uptake rate is corrected for the reduced volume of water in the sediment, by multiplying the uptake rate by the pore water fraction.

## LABORATORY SAMPLE REPORT

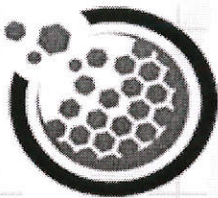
**Project:** ENV 01638

**Site Name:** Comal & San Marcos Rivers 6-16

**Module Type:** SPG0008

| Module ID                  | Sample Type              | Field ID            |                   |
|----------------------------|--------------------------|---------------------|-------------------|
| 00774441                   | FIELD_SAMPLE             | HCS410              |                   |
| 00774442                   | FIELD_SAMPLE             | HCS420              |                   |
| 00774443                   | FIELD_SAMPLE             | HCS430              |                   |
| 00774444                   | FIELD_SAMPLE             | HCS440              |                   |
| 00774445                   | FIELD_SAMPLE             | FDHCS440            |                   |
| 00774446                   | FIELD_SAMPLE             | HCS460              |                   |
| 00774447                   | FIELD_SAMPLE             | HSM410              |                   |
| 00774448                   | FIELD_SAMPLE             | HSM420              |                   |
| 00774449                   | FIELD_SAMPLE             | HSM430              |                   |
| 00774450                   | FIELD_SAMPLE             | FDHSM430            |                   |
| 00774453                   | FIELD_SAMPLE             | HSM460              |                   |
| 00774454                   | FIELD_SAMPLE             | HSM470              |                   |
| 00774455                   | TRIP_BLANK               | TB09                |                   |
| Total #<br>"FIELD SAMPLES" | Total #<br>"TRIP BLANKS" | Total #<br>"UNUSED" | Total #<br>"LOST" |
| 12                         | 1                        | 0                   | 2                 |

**Duplicate samples:** 0



# AMPLIFIED GEOCHEMICAL IMAGING, LLC

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## AGI Universal Passive Sampler Chain of Groundwater Sampling

Production Order #: **01638**

Customer Name: SWCA Environmental Consultants  
Address: 6200 UTSA Boulevard  
Suite 102

Site Name: Comal & San Marcos Rivers '16  
Site Address:

San Antonio, TX 78249  
USA

Project Manager:

Serial # of Samplers Shipped  
00774441 - 00774455

|                                |       |                  |   |
|--------------------------------|-------|------------------|---|
| # of Samplers for Installation | 14.00 | # of Trip Blanks | 1 |
| Total Samplers Shipped         | 15.00 | Pieces           |   |
| Total Samplers Received        | 15    | Pieces           |   |
| Total Samplers Installed       | 14    | Pieces           |   |

Serial # of Trip Blanks (Client Decides)

|          |  |  |
|----------|--|--|
| 00774455 |  |  |
|----------|--|--|

|   |  |
|---|--|
| Prepared By: <u>[Signature]</u>   | Is Concurrent water sampling planned this monitoring period? YES <input type="radio"/> NO <input checked="" type="radio"/> |
| Verified By: <u>[Signature]</u>   | Scheduled Sampling Date: _____   |
| Installation Performed By:<br>Name: <u>Ken Moreland</u><br>Company: <u>SWCA</u> | Retrieval Performed By:<br>Name: <u>Ken Moreland</u><br>Company: <u>SWCA</u>   |
| Installation Start Date / Time: <u>6/13/16 1012</u>                             | Retrieval Start Date / Time: <u>6/27/16 0935</u>   |
| Installation Complete Date / Time: <u>6/13/16 1358</u>                          | Retrieval Complete Date / Time: <u>6/27/16 1300</u>  |
| Total Samplers Retrieved: <u>14</u>   |  |
| Total Samplers Lost In Field: <u>0</u>  |  |
| Total Unused Samplers Returned: <u>0</u>  |  |
| Relinquished By: <u>[Signature]</u> Date/Time: <u>5/19/16 10:30AM</u>           | Received By: <u>[Signature]</u> Date/Time: <u>5/24/16 16:00</u>  |
| Company: <u>AGI</u>   | Company: <u>SWCA</u>   |
| Relinquished By: <u>[Signature]</u> Date/Time: <u>6/27/16 16:30</u>             | Received By: <u>[Signature]</u> Date/Time: <u>6/28/16 10:50AM</u>  |
| Company: <u>SWCA</u>  | Company: <u>AGI</u>  |



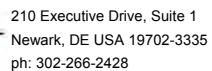
ENV 01638  
Comal & San Marcos Rivers '16

Company Name: SWCA Environmental Consultants  
Location:  
Samples collected by:

**Samples collected by:**

[illegible]





AGI Project No. ENV 01638  
Site Name: Comal & San Marcos Rivers '16  
Site Location:

Company Name: SWCA Environmental Consultants  
Location:  
Samples collected by:

ENV 01638  
Comal & San Marcos Rivers '16  
  
SWCA Environmental Consultants

SPG-FCD-8930 Water R4



**PROJECT NUMBER:** ENV 01638  
**SITE NAME:** Comal & San Marcos Rivers 6-16  
**SITE ADDRESS:**

**FOR:** SWCA Environmental  
Consultants  
San Antonio, TX 78249  
USA

**SAMPLER ID:** 00774441 **FIELD\_SAMPLE**

**Matrix:** WATER

**Product:** SPG0008

**Dilution Factor:** 1

**Field ID:** HCS410

**Installation Date:** 6/13/2016 10:33:00AM

**Retrieval Date:** 6/27/2016 12:47:00PM

**Date Analyzed:** 7/6/2016 9:12:00PM

**Analyst:** Jasmine Smith

**Method:** SPG-WI-0292

**Batch:** ENV-160701-1

**Reviewer:** Fatima Niazi

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| <b>Chloroform</b>         | <b>67-66-3</b>    | <b>0.02</b> | <b>0.02</b> |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.23</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| <b>Acenaphthylene</b>     | <b>208-96-8</b>   | <b>0.09</b> | <b>0.05</b> |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774441 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HCS410

Installation Date: 6/13/2016 10:33:00AM

Retrieval Date: 6/27/2016 12:47:00PM

Date Analyzed: 7/6/2016 9:12:00PM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | 0.37        | 0.05    |
| Fluorene           | 86-73-7    | 0.72        | 0.05    |
| TPH                |            | 6.33        | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | 0.11        | 0.05    |
| Fluoranthene       | 206-44-0   | 0.16        | 0.05    |
| Phenanthrene       | 85-01-8    | 0.56        | 0.05    |
| Pyrene             | 129-00-0   | 0.14        | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774442 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HCS420

Installation Date: 6/13/2016 10:45:00AM

Retrieval Date: 6/27/2016 1:00:00PM

Date Analyzed: 7/7/2016 2:39:00AM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.18</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



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**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774442 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HCS420

Matrix: WATER

Product: SPG0008

Installation Date: 6/13/2016 10:45:00AM

Retrieval Date: 6/27/2016 1:00:00PM

Date Analyzed: 7/7/2016 2:39:00AM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound           | CAS #      | Result (ug) | RL (ug)     |
|--------------------|------------|-------------|-------------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05        |
| Fluorene           | 86-73-7    | <0.05       | 0.05        |
| <b>TPH</b>         |            | <b>0.72</b> | <b>0.50</b> |
| BTEX               |            | <0.02       | 0.02        |
| Anthracene         | 120-12-7   | <0.05       | 0.05        |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05        |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05        |
| Pyrene             | 129-00-0   | <0.05       | 0.05        |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05        |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05        |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05        |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05        |
| beta-BHC           | 319-85-7   | <0.05       | 0.05        |
| delta-BHC          |            | <0.05       | 0.05        |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05        |
| Heptachlor         | 76-44-8    | <0.05       | 0.05        |
| Endrin             | 72-20-8    | <0.05       | 0.05        |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05        |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05        |
| Dieldrin           | 60-57-1    | <0.05       | 0.05        |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05        |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05        |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05        |
| Aldrin             | 309-00-2   | <0.05       | 0.05        |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05        |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774443 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HCS430

Installation Date: 6/13/2016 10:12:00AM

Retrieval Date: 6/27/2016 12:06:00PM

Date Analyzed: 7/6/2016 10:41:00PM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.55</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



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210 Executive Drive, Suite 1  
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ph: +1-302-266-2428  
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**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774443 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HCS430

Installation Date: 6/13/2016 10:12:00AM

Retrieval Date: 6/27/2016 12:06:00PM

Date Analyzed: 7/6/2016 10:41:00PM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | 0.09        | 0.05    |
| Fluorene           | 86-73-7    | 0.25        | 0.05    |
| TPH                |            | 1.75        | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | 0.20        | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |





**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774444 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HCS440

Installation Date: 6/13/2016 10:58:00AM

Retrieval Date: 6/27/2016 12:36:00PM

Date Analyzed: 7/7/2016 12:10:00AM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.35</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



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PROJECT NUMBER: ENV 01638

SITE NAME: Comal & San Marcos Rivers 6-16

SITE ADDRESS:

FOR: SWCA Environmental

Consultants

San Antonio, TX 78249

USA

SAMPLER ID: 00774444 FIELD\_SAMPLE

Dilution Factor: 1

Field ID: HCS440

Matrix: WATER

Product: SPG0008

Installation Date: 6/13/2016 10:58:00AM

Retrieval Date: 6/27/2016 12:36:00PM

Date Analyzed: 7/7/2016 12:10:00AM

Analyst: Jasmine Smith

Method: SPG-WI-0292

Batch: ENV-160701-1

Reviewer: Fatima Niazi

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | 0.12        | 0.05    |
| TPH                |            | 1.68        | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | 0.10        | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774445 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: FDHCS440

Matrix: WATER

Product: SPG0008

Installation Date: 6/13/2016 10:58:00AM

Retrieval Date: 6/27/2016 12:36:00PM

Date Analyzed: 7/7/2016 1:38:00AM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.35</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



# AMPLIFIED GEOCHEMICAL IMAGING, LLC

210 Executive Drive, Suite 1  
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ph: +1-302-266-2428  
www.agisurveys.net

PROJECT NUMBER: ENV 01638

SITE NAME: Comal & San Marcos Rivers 6-16

SITE ADDRESS:

FOR: SWCA Environmental

Consultants

San Antonio, TX 78249

USA

SAMPLER ID: 00774445 FIELD\_SAMPLE

Dilution Factor: 1

Field ID: FDHCS440

Matrix: WATER

Product: SPG0008

Installation Date: 6/13/2016 10:58:00AM

Retrieval Date: 6/27/2016 12:36:00PM

Date Analyzed: 7/7/2016 1:38:00AM

Analyst: Jasmine Smith

Method: SPG-WI-0292

Batch: ENV-160701-1

Reviewer: Fatima Niazi

| Compound            | CAS #      | Result (ug) | RL (ug)     |
|---------------------|------------|-------------|-------------|
| Acenaphthene        | 83-32-9    | <0.05       | 0.05        |
| Fluorene            | 86-73-7    | <0.05       | 0.05        |
| <b>TPH</b>          |            | <b>1.40</b> | <b>0.50</b> |
| BTEX                |            | <0.02       | 0.02        |
| Anthracene          | 120-12-7   | <0.05       | 0.05        |
| Fluoranthene        | 206-44-0   | <0.05       | 0.05        |
| <b>Phenanthrene</b> | 85-01-8    | <b>0.05</b> | <b>0.05</b> |
| Pyrene              | 129-00-0   | <0.05       | 0.05        |
| 4,4-DDD             | 72-54-8    | <0.05       | 0.05        |
| 4,4-DDE             | 72-55-9    | <0.05       | 0.05        |
| 4,4-DDT             | 50-29-3    | <0.05       | 0.05        |
| alpha-BHC           | 319-84-6   | <0.05       | 0.05        |
| beta-BHC            | 319-85-7   | <0.05       | 0.05        |
| delta-BHC           |            | <0.05       | 0.05        |
| gamma-BHC           | 58-89-9    | <0.05       | 0.05        |
| Heptachlor          | 76-44-8    | <0.05       | 0.05        |
| Endrin              | 72-20-8    | <0.05       | 0.05        |
| Heptachlor Epoxide  | 1024-57-3  | <0.05       | 0.05        |
| Endosulfan I        | 959-98-8   | <0.05       | 0.05        |
| Dieldrin            | 60-57-1    | <0.05       | 0.05        |
| Endosulfan Sulfate  | 1031-07-8  | <0.05       | 0.05        |
| Endosulfan II       | 33213-65-9 | <0.05       | 0.05        |
| Endrin Aldehyde     | 7421-93-4  | <0.05       | 0.05        |
| Aldrin              | 309-00-2   | <0.05       | 0.05        |
| Endrin Ketone       | 53494-70-5 | <0.05       | 0.05        |
| Methoxychlor        | 72-43-5    | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774446 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HCS460

Installation Date: 6/13/2016 11:15:00AM

Retrieval Date: 6/27/2016 12:23:00PM

Date Analyzed: 7/6/2016 10:11:00PM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound                  | CAS #                    | Result (ug) | RL (ug)     |
|---------------------------|--------------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4                | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5                 | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3                  | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2                 | <0.02       | 0.02        |
| Chloroform                | 67-66-3                  | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6                  | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2                 | <0.02       | 0.02        |
| Benzene                   | 71-43-2                  | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5                  | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6                  | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5                  | <0.02       | 0.02        |
| Toluene                   | 108-88-3                 | <0.02       | 0.02        |
| Octane                    | 111-65-9                 | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>          | <b>0.30</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7                 | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6                 | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4                 | <0.02       | 0.02        |
| <b>m,p-Xylene</b>         | <b>108-38-3/106-42-3</b> | <b>0.04</b> | <b>0.02</b> |
| o-Xylene                  | 95-47-6                  | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5                  | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8                 | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6                  | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1                 | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7                 | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1                  | <0.02       | 0.02        |
| Undecane                  | 1120-21-4                | <0.05       | 0.05        |
| Naphthalene               | 91-20-3                  | <0.05       | 0.05        |
| Tridecane                 | 629-50-5                 | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6                  | <0.05       | 0.05        |
| <b>Acenaphthylene</b>     | <b>208-96-8</b>          | <b>0.05</b> | <b>0.05</b> |
| Pentadecane               | 629-62-9                 | <0.05       | 0.05        |



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**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774446 FIELD\_SAMPLE**

Dilution Factor: 1

Field ID: HCS460

Matrix: WATER

Product: SPG0008

Installation Date: 6/13/2016 11:15:00AM

Retrieval Date: 6/27/2016 12:23:00PM

Date Analyzed: 7/6/2016 10:11:00PM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | 0.25        | 0.05    |
| Fluorene           | 86-73-7    | 0.76        | 0.05    |
| TPH                |            | 4.99        | 0.50    |
| BTEX               |            | 0.04        | 0.02    |
| Anthracene         | 120-12-7   | 0.08        | 0.05    |
| Fluoranthene       | 206-44-0   | 0.08        | 0.05    |
| Phenanthrene       | 85-01-8    | 0.46        | 0.05    |
| Pyrene             | 129-00-0   | 0.06        | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |





**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774447 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HSM410

Installation Date: 6/13/2016 12:36:00PM

Retrieval Date: 6/27/2016 9:35:00AM

Date Analyzed: 7/6/2016 8:13:00PM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| Tetrachloroethene         | 127-18-4          | <0.02       | 0.02        |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| <b>Acenaphthylene</b>     | <b>208-96-8</b>   | <b>0.72</b> | <b>0.05</b> |
| <b>Pentadecane</b>        | <b>629-62-9</b>   | <b>0.22</b> | <b>0.05</b> |





**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774447 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HSM410

Installation Date: 6/13/2016 12:36:00PM

Retrieval Date: 6/27/2016 9:35:00AM

Date Analyzed: 7/6/2016 8:13:00PM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | 4.26        | 0.05    |
| Fluorene           | 86-73-7    | 9.44        | 0.05    |
| TPH                |            | 103.02      | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | 1.42        | 0.05    |
| Fluoranthene       | 206-44-0   | 1.90        | 0.05    |
| Phenanthrene       | 85-01-8    | 6.85        | 0.05    |
| Pyrene             | 129-00-0   | 1.62        | 0.05    |
| 4,4-DDD            | 72-54-8    | 0.37        | 0.05    |
| 4,4-DDE            | 72-55-9    | 0.40        | 0.05    |
| 4,4-DDT            | 50-29-3    | 0.26        | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | 0.30        | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | 0.30        | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | 0.55        | 0.05    |
| Methoxychlor       | 72-43-5    | 0.23        | 0.05    |



**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774448 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HSM420

Installation Date: 6/13/2016 12:49:00PM

Retrieval Date: 6/27/2016 9:45:00AM

Date Analyzed: 7/6/2016 9:42:00PM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.14</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| <b>Acenaphthylene</b>     | <b>208-96-8</b>   | <b>0.08</b> | <b>0.05</b> |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774448 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HSM420

Installation Date: 6/13/2016 12:49:00PM

Retrieval Date: 6/27/2016 9:45:00AM

Date Analyzed: 7/6/2016 9:42:00PM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | 0.46        | 0.05    |
| Fluorene           | 86-73-7    | 1.29        | 0.05    |
| TPH                |            | 6.63        | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | 0.14        | 0.05    |
| Fluoranthene       | 206-44-0   | 0.11        | 0.05    |
| Phenanthrene       | 85-01-8    | 0.74        | 0.05    |
| Pyrene             | 129-00-0   | 0.09        | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774449 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HSM430

Installation Date: 6/13/2016 1:00:00PM

Retrieval Date: 6/27/2016 9:56:00AM

Date Analyzed: 7/6/2016 8:43:00PM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| <b>Chloroform</b>         | <b>67-66-3</b>    | <b>0.03</b> | <b>0.02</b> |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>1.87</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| <b>Acenaphthylene</b>     | <b>208-96-8</b>   | <b>0.15</b> | <b>0.05</b> |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



# AMPLIFIED GEOCHEMICAL IMAGING, LLC

210 Executive Drive, Suite 1  
Newark, DE 19702-3335 USA  
ph: +1-302-266-2428  
www.agisurveys.net

PROJECT NUMBER: ENV 01638

SITE NAME: Comal & San Marcos Rivers 6-16

SITE ADDRESS:

FOR: SWCA Environmental

Consultants

San Antonio, TX 78249

USA

SAMPLER ID: 00774449 FIELD\_SAMPLE

Dilution Factor: 1

Field ID: HSM430

Matrix: WATER

Product: SPG0008

Installation Date: 6/13/2016 1:00:00PM

Retrieval Date: 6/27/2016 9:56:00AM

Date Analyzed: 7/6/2016 8:43:00PM

Analyst: Jasmine Smith

Method: SPG-WI-0292

Batch: ENV-160701-1

Reviewer: Fatima Niazi

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | 0.75        | 0.05    |
| Fluorene           | 86-73-7    | 1.70        | 0.05    |
| TPH                |            | 16.56       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | 0.28        | 0.05    |
| Fluoranthene       | 206-44-0   | 0.30        | 0.05    |
| Phenanthrene       | 85-01-8    | 1.37        | 0.05    |
| Pyrene             | 129-00-0   | 0.28        | 0.05    |
| 4,4-DDD            | 72-54-8    | 0.09        | 0.05    |
| 4,4-DDE            | 72-55-9    | 0.07        | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | 0.08        | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | 0.21        | 0.05    |
| Methoxychlor       | 72-43-5    | 0.10        | 0.05    |



**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774450 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: FDHSM430

Installation Date: 6/13/2016 1:00:00PM

Retrieval Date: 6/27/2016 9:56:00AM

Date Analyzed: 7/7/2016 1:09:00AM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| <b>Chloroform</b>         | <b>67-66-3</b>    | <b>0.03</b> | <b>0.02</b> |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>1.82</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |





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PROJECT NUMBER: ENV 01638

SITE NAME: Comal & San Marcos Rivers 6-16

SITE ADDRESS:

FOR: SWCA Environmental

Consultants

San Antonio, TX 78249

USA

SAMPLER ID: 00774450 FIELD\_SAMPLE

Dilution Factor: 1

Field ID: FDHSM430

Matrix: WATER

Product: SPG0008

Installation Date: 6/13/2016 1:00:00PM

Retrieval Date: 6/27/2016 9:56:00AM

Date Analyzed: 7/7/2016 1:09:00AM

Analyst: Jasmine Smith

Method: SPG-WI-0292

Batch: ENV-160701-1

Reviewer: Fatima Niazi

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | 0.07        | 0.05    |
| TPH                |            | 0.84        | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | 0.06        | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |





**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774453 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HSM460

Installation Date: 6/13/2016 1:46:00PM

Retrieval Date: 6/27/2016 10:51:00AM

Date Analyzed: 7/7/2016 12:39:00AM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.13</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



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PROJECT NUMBER: ENV 01638

SITE NAME: Comal & San Marcos Rivers 6-16

SITE ADDRESS:

FOR: SWCA Environmental

Consultants

San Antonio, TX 78249

USA

SAMPLER ID: 00774453 FIELD\_SAMPLE

Dilution Factor: 1

Field ID: HSM460

Matrix: WATER

Product: SPG0008

Installation Date: 6/13/2016 1:46:00PM

Retrieval Date: 6/27/2016 10:51:00AM

Date Analyzed: 7/7/2016 12:39:00AM

Analyst: Jasmine Smith

Method: SPG-WI-0292

Batch: ENV-160701-1

Reviewer: Fatima Niazi

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | 0.08        | 0.05    |
| TPH                |            | 1.04        | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | 0.08        | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774454 FIELD\_SAMPLE**

Matrix: WATER

Product: SPG0008

Dilution Factor: 1

Field ID: HSM470

Installation Date: 6/13/2016 1:58:00PM

Retrieval Date: 6/27/2016 11:02:00AM

Date Analyzed: 7/7/2016 3:09:00AM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound                  | CAS #             | Result (ug) | RL (ug)     |
|---------------------------|-------------------|-------------|-------------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02        |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02        |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02        |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02        |
| Chloroform                | 67-66-3           | <0.02       | 0.02        |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02        |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02        |
| Benzene                   | 71-43-2           | <0.02       | 0.02        |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02        |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02        |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02        |
| Toluene                   | 108-88-3          | <0.02       | 0.02        |
| Octane                    | 111-65-9          | <0.02       | 0.02        |
| <b>Tetrachloroethene</b>  | <b>127-18-4</b>   | <b>0.15</b> | <b>0.02</b> |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02        |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02        |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02        |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02        |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02        |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02        |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02        |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02        |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02        |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02        |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02        |
| Undecane                  | 1120-21-4         | <0.05       | 0.05        |
| Naphthalene               | 91-20-3           | <0.05       | 0.05        |
| Tridecane                 | 629-50-5          | <0.05       | 0.05        |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05        |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05        |
| Pentadecane               | 629-62-9          | <0.05       | 0.05        |



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PROJECT NUMBER: ENV 01638

SITE NAME: Comal & San Marcos Rivers 6-16

SITE ADDRESS:

FOR: SWCA Environmental

Consultants

San Antonio, TX 78249

USA

SAMPLER ID: 00774454 FIELD\_SAMPLE

Dilution Factor: 1

Field ID: HSM470

Matrix: WATER

Product: SPG0008

Installation Date: 6/13/2016 1:58:00PM

Retrieval Date: 6/27/2016 11:02:00AM

Date Analyzed: 7/7/2016 3:09:00AM

Analyst: Jasmine Smith

Method: SPG-WI-0292

Batch: ENV-160701-1

Reviewer: Fatima Niazi

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | 1.40        | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |



**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774455 TRIP\_BLANK**

Dilution Factor: 1

Field ID: TB09

Matrix: WATER

Product: SPG0008

Installation Date: 6/13/2016 10:12:00AM

Retrieval Date: 6/27/2016 1:00:00PM

Date Analyzed: 7/7/2016 2:09:00AM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound                  | CAS #             | Result (ug) | RL (ug) |
|---------------------------|-------------------|-------------|---------|
| Methyl tert-butyl ether   | 1634-04-4         | <0.02       | 0.02    |
| trans-1,2-Dichloroethene  | 156-60-5          | <0.02       | 0.02    |
| 1,1-Dichloroethane        | 75-34-3           | <0.02       | 0.02    |
| cis-1,2-Dichloroethene    | 156-59-2          | <0.02       | 0.02    |
| Chloroform                | 67-66-3           | <0.02       | 0.02    |
| 1,1,1-Trichloroethane     | 71-55-6           | <0.02       | 0.02    |
| 1,2-Dichloroethane        | 107-06-2          | <0.02       | 0.02    |
| Benzene                   | 71-43-2           | <0.02       | 0.02    |
| Carbon Tetrachloride      | 56-23-5           | <0.02       | 0.02    |
| Trichloroethene           | 79-01-6           | <0.02       | 0.02    |
| 1,1,2-Trichloroethane     | 79-00-5           | <0.02       | 0.02    |
| Toluene                   | 108-88-3          | <0.02       | 0.02    |
| Octane                    | 111-65-9          | <0.02       | 0.02    |
| Tetrachloroethene         | 127-18-4          | <0.02       | 0.02    |
| Chlorobenzene             | 108-90-7          | <0.02       | 0.02    |
| 1,1,1,2-Tetrachloroethane | 630-20-6          | <0.02       | 0.02    |
| Ethylbenzene              | 100-41-4          | <0.02       | 0.02    |
| m,p-Xylene                | 108-38-3/106-42-3 | <0.02       | 0.02    |
| o-Xylene                  | 95-47-6           | <0.02       | 0.02    |
| 1,1,2,2-Tetrachloroethane | 79-34-5           | <0.02       | 0.02    |
| 1,3,5-Trimethylbenzene    | 108-67-8          | <0.02       | 0.02    |
| 1,2,4-Trimethylbenzene    | 95-63-6           | <0.02       | 0.02    |
| 1,3-Dichlorobenzene       | 541-73-1          | <0.02       | 0.02    |
| 1,4-Dichlorobenzene       | 106-46-7          | <0.02       | 0.02    |
| 1,2-Dichlorobenzene       | 95-50-1           | <0.02       | 0.02    |
| Undecane                  | 1120-21-4         | <0.05       | 0.05    |
| Naphthalene               | 91-20-3           | <0.05       | 0.05    |
| Tridecane                 | 629-50-5          | <0.05       | 0.05    |
| 2-Methylnaphthalene       | 91-57-6           | <0.05       | 0.05    |
| Acenaphthylene            | 208-96-8          | <0.05       | 0.05    |
| Pentadecane               | 629-62-9          | <0.05       | 0.05    |



# AMPLIFIED GEOCHEMICAL IMAGING, LLC

210 Executive Drive, Suite 1  
Newark, DE 19702-3335 USA  
ph: +1-302-266-2428  
www.agisurveys.net

**PROJECT NUMBER: ENV 01638**

**SITE NAME: Comal & San Marcos Rivers 6-16**

**SITE ADDRESS:**

**FOR: SWCA Environmental**

**Consultants**

**San Antonio, TX 78249**

**USA**

**SAMPLER ID: 00774455 TRIP\_BLANK**

Dilution Factor: 1

Field ID: TB09

Matrix: WATER

Product: SPG0008

Installation Date: 6/13/2016 10:12:00AM

Retrieval Date: 6/27/2016 1:00:00PM

Date Analyzed: 7/7/2016 2:09:00AM

**Analyst: Jasmine Smith**

**Method: SPG-WI-0292**

**Batch: ENV-160701-1**

**Reviewer: Fatima Niazi**

| Compound           | CAS #      | Result (ug) | RL (ug) |
|--------------------|------------|-------------|---------|
| Acenaphthene       | 83-32-9    | <0.05       | 0.05    |
| Fluorene           | 86-73-7    | <0.05       | 0.05    |
| TPH                |            | <0.50       | 0.50    |
| BTEX               |            | <0.02       | 0.02    |
| Anthracene         | 120-12-7   | <0.05       | 0.05    |
| Fluoranthene       | 206-44-0   | <0.05       | 0.05    |
| Phenanthrene       | 85-01-8    | <0.05       | 0.05    |
| Pyrene             | 129-00-0   | <0.05       | 0.05    |
| 4,4-DDD            | 72-54-8    | <0.05       | 0.05    |
| 4,4-DDE            | 72-55-9    | <0.05       | 0.05    |
| 4,4-DDT            | 50-29-3    | <0.05       | 0.05    |
| alpha-BHC          | 319-84-6   | <0.05       | 0.05    |
| beta-BHC           | 319-85-7   | <0.05       | 0.05    |
| delta-BHC          |            | <0.05       | 0.05    |
| gamma-BHC          | 58-89-9    | <0.05       | 0.05    |
| Heptachlor         | 76-44-8    | <0.05       | 0.05    |
| Endrin             | 72-20-8    | <0.05       | 0.05    |
| Heptachlor Epoxide | 1024-57-3  | <0.05       | 0.05    |
| Endosulfan I       | 959-98-8   | <0.05       | 0.05    |
| Dieldrin           | 60-57-1    | <0.05       | 0.05    |
| Endosulfan Sulfate | 1031-07-8  | <0.05       | 0.05    |
| Endosulfan II      | 33213-65-9 | <0.05       | 0.05    |
| Endrin Aldehyde    | 7421-93-4  | <0.05       | 0.05    |
| Aldrin             | 309-00-2   | <0.05       | 0.05    |
| Endrin Ketone      | 53494-70-5 | <0.05       | 0.05    |
| Methoxychlor       | 72-43-5    | <0.05       | 0.05    |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS  
 ESTIMATED WATER CONCENTRATIONS  
 COMAL & SAN MARCOS RIVERS JUNE 2016  
 ORDER #01638

| DATAFILE       | FIELD        | DATE/ TIME |     | DATE/ TIME |     | DATE/ TIME |     | DATE/ TIME |     |    | estimated |            |              |             |
|----------------|--------------|------------|-----|------------|-----|------------|-----|------------|-----|----|-----------|------------|--------------|-------------|
| NAME           | ID           | INSTALLED  |     | RETRIEVED  |     | RECEIVED   |     | ANALYZED   |     | DF | TPH, ug/L | MTBE, ug/L | t12DCE, ug/L | 11DCA, ug/L |
| 00774441       | HCS410       | 6/13/2016  | CDT | 6/27/2016  | CDT | 6/28/2016  | EST | 7/6/2016   | EST | 1  | 0.154     | <0.012     | <0.007       | <0.007      |
| 00774442       | HCS420       | 6/13/2016  | CDT | 6/27/2016  | CDT | 6/28/2016  | EST | 7/7/2016   | EST | 1  | 0.061     | <0.012     | <0.007       | <0.007      |
| 00774443       | HCS430       | 6/13/2016  | CDT | 6/27/2016  | CDT | 6/28/2016  | EST | 7/6/2016   | EST | 1  | 0.089     | <0.012     | <0.007       | <0.007      |
| 00774444       | HCS440       | 6/13/2016  | CDT | 6/27/2016  | CDT | 6/28/2016  | EST | 7/7/2016   | EST | 1  | 0.088     | <0.012     | <0.007       | <0.007      |
| 00774445       | FDHCS440     | 6/13/2016  | CDT | 6/27/2016  | CDT | 6/28/2016  | EST | 7/7/2016   | EST | 1  | 0.081     | <0.012     | <0.007       | <0.007      |
| 00774446       | HCS460       | 6/13/2016  | CDT | 6/27/2016  | CDT | 6/28/2016  | EST | 7/6/2016   | EST | 1  | 0.140     | <0.012     | <0.007       | <0.007      |
| 00774447       | HSM410       | 6/13/2016  | CDT | 6/27/2016  | CDT | 6/28/2016  | EST | 7/6/2016   | EST | 1  | 0.533 E   | <0.013     | <0.008       | <0.007      |
| 00774448       | HSM420       | 6/13/2016  | CDT | 6/27/2016  | CDT | 6/28/2016  | EST | 7/6/2016   | EST | 1  | 0.166     | <0.013     | <0.008       | <0.007      |
| 00774449       | HSM430       | 6/13/2016  | CDT | 6/27/2016  | CDT | 6/28/2016  | EST | 7/6/2016   | EST | 1  | 0.245     | <0.013     | <0.008       | <0.007      |
| 00774450       | FDHSM430     | 6/13/2016  | CDT | 6/27/2016  | CDT | 6/28/2016  | EST | 7/7/2016   | EST | 1  | 0.069     | <0.013     | <0.008       | <0.007      |
| 00774453       | HSM460       | 6/13/2016  | CDT | 6/27/2016  | CDT | 6/28/2016  | EST | 7/7/2016   | EST | 1  | 0.075     | <0.013     | <0.008       | <0.007      |
| 00774454       | HSM470       | 6/13/2016  | CDT | 6/27/2016  | CDT | 6/28/2016  | EST | 7/7/2016   | EST | 1  | 0.085     | <0.013     | <0.008       | <0.007      |
| 00774455       | TB09         | 6/13/2016  | CDT | 6/27/2016  | CDT | 6/28/2016  | EST | 7/7/2016   | EST | 1  | <0.054    | <0.013     | <0.008       | <0.007      |
| BLK_ENV-287374 | Method Blank | 6/13/2016  | CDT | 6/27/2016  | CDT | 6/28/2016  | EST | 7/6/2016   | EST | 1  | <0.054    | <0.013     | <0.008       | <0.007      |



AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS  
 ESTIMATED WATER CONCENTRATIONS  
 COMAL & SAN MARCOS RIVERS JUNE 2016  
 ORDER #01638

| DATAFILE       |              |             |              |             |            |            |           |              |           |           |           |              |
|----------------|--------------|-------------|--------------|-------------|------------|------------|-----------|--------------|-----------|-----------|-----------|--------------|
| NAME           | c12DCE, ug/L | CHCl3, ug/L | 111TCA, ug/L | 12DCA, ug/L | BENZ, ug/L | CCl4, ug/L | TCE, ug/L | 112TCA, ug/L | TOL, ug/L | OCT, ug/L | PCE, ug/L | CIBENZ, ug/L |
| 00774441       | <0.007       | 0.008       | <0.005       | <0.008      | <0.006     | <0.004     | <0.006    | <0.009       | <0.005    | <0.004    | 0.044     | <0.006       |
| 00774442       | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     | <0.004     | <0.006    | <0.009       | <0.005    | <0.004    | 0.035     | <0.006       |
| 00774443       | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     | <0.004     | <0.006    | <0.009       | <0.005    | <0.004    | 0.094     | <0.006       |
| 00774444       | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     | <0.004     | <0.006    | <0.009       | <0.005    | <0.004    | 0.064     | <0.006       |
| 00774445       | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     | <0.004     | <0.006    | <0.009       | <0.005    | <0.004    | 0.062     | <0.006       |
| 00774446       | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     | <0.004     | <0.006    | <0.009       | <0.005    | <0.004    | 0.055     | <0.006       |
| 00774447       | <0.008       | <0.008      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | <0.006    | <0.006       |
| 00774448       | <0.008       | <0.008      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.030     | <0.006       |
| 00774449       | <0.008       | 0.010       | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.295     | <0.006       |
| 00774450       | <0.008       | 0.010       | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.288     | <0.006       |
| 00774453       | <0.008       | <0.008      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.028     | <0.006       |
| 00774454       | <0.008       | <0.008      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.032     | <0.006       |
| 00774455       | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | <0.005    | <0.006       |
| BLK_ENV-287374 | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | <0.005    | <0.006       |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS  
 ESTIMATED WATER CONCENTRATIONS  
 COMAL & SAN MARCOS RIVERS JUNE 2016  
 ORDER #01638

| DATAFILE       |                 |              |             |            |                 |              |              |             |             |             |
|----------------|-----------------|--------------|-------------|------------|-----------------|--------------|--------------|-------------|-------------|-------------|
| NAME           | 1112TetCA, ug/L | ETBENZ, ug/L | mpXYL, ug/L | oXYL, ug/L | 1122TetCA, ug/L | 135TMB, ug/L | 124TMB, ug/L | 13DCB, ug/L | 14DCB, ug/L | 12DCB, ug/L |
| 00774441       | <0.006          | <0.005       | <0.005      | <0.005     | <0.010          | <0.005       | <0.005       | <0.005      | <0.006      | <0.006      |
| 00774442       | <0.006          | <0.005       | <0.005      | <0.005     | <0.010          | <0.005       | <0.005       | <0.005      | <0.006      | <0.006      |
| 00774443       | <0.006          | <0.005       | <0.005      | <0.005     | <0.010          | <0.005       | <0.005       | <0.005      | <0.006      | <0.006      |
| 00774444       | <0.006          | <0.005       | <0.005      | <0.005     | <0.010          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      |
| 00774445       | <0.006          | <0.005       | <0.005      | <0.005     | <0.010          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      |
| 00774446       | <0.006          | <0.005       | 0.009       | <0.005     | <0.010          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      |
| 00774447       | <0.007          | <0.005       | <0.005      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      |
| 00774448       | <0.007          | <0.005       | <0.005      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      |
| 00774449       | <0.007          | <0.005       | <0.005      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      |
| 00774450       | <0.007          | <0.005       | <0.005      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      |
| 00774453       | <0.007          | <0.005       | <0.005      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      |
| 00774454       | <0.007          | <0.005       | <0.005      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      |
| 00774455       | <0.007          | <0.005       | <0.005      | <0.005     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      |
| BLK_ENV-287374 | <0.007          | <0.005       | <0.005      | <0.005     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS  
 ESTIMATED WATER CONCENTRATIONS  
 COMAL & SAN MARCOS RIVERS JUNE 2016  
 ORDER #01638

| DATAFILE       |             |            | estimated    |               | estimated            | estimated      | estimated          | estimated      |
|----------------|-------------|------------|--------------|---------------|----------------------|----------------|--------------------|----------------|
| NAME           | UNDEC, ug/L | NAPH, ug/L | TRIDEC, ug/L | 2MeNAPH, ug/L | Acenaphthylene, ug/L | PENTADEC, ug/L | Acenaphthene, ug/L | Fluorene, ug/L |
| 00774441       | <0.020      | <0.016     | <0.020       | <0.013        | 0.022                | <0.020         | 0.078              | 0.140          |
| 00774442       | <0.020      | <0.016     | <0.020       | <0.013        | <0.014               | <0.020         | <0.014             | <0.014         |
| 00774443       | <0.020      | <0.016     | <0.020       | <0.013        | <0.014               | <0.020         | 0.024              | 0.056          |
| 00774444       | <0.020      | <0.016     | <0.020       | <0.013        | <0.014               | <0.020         | <0.014             | 0.030          |
| 00774445       | <0.020      | <0.016     | <0.020       | <0.013        | <0.014               | <0.020         | <0.014             | <0.014         |
| 00774446       | <0.020      | <0.016     | <0.020       | <0.013        | 0.014                | <0.020         | 0.056              | 0.148          |
| 00774447       | <0.021      | <0.017     | <0.021       | <0.014        | 0.150                | 0.039          | 0.703              | 1.40           |
| 00774448       | <0.021      | <0.017     | <0.021       | <0.014        | 0.022                | <0.021         | 0.102              | 0.249          |
| 00774449       | <0.021      | <0.017     | <0.021       | <0.014        | 0.038                | <0.021         | 0.155              | 0.316          |
| 00774450       | <0.021      | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | 0.020          |
| 00774453       | <0.021      | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | 0.022          |
| 00774454       | <0.021      | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         |
| 00774455       | <0.020      | <0.016     | <0.020       | <0.013        | <0.014               | <0.020         | <0.014             | <0.014         |
| BLK_ENV-287374 | <0.020      | <0.016     | <0.020       | <0.013        | <0.014               | <0.020         | <0.014             | <0.014         |

## KEY TO DATA TABLE

### UNITS

|                   |  |
|-------------------|--|
| µg                | micrograms, relative mass value                              |
| µg/m <sup>3</sup> | micrograms per cubic meter; estimated soil gas concentration |
| µg/L              | micrograms per Liter; calculated water concentration         |

### DATA QUALIFIERS

|   |  |
|---|--|
| > | greater than; value exceeds calibration range, estimated value   |
| < | less than; compound value is below the LOD and RL                |
| J | mass value below LOQ or RL, but above LOD, estimated mass value  |
| E | mass value exceeds upper calibration level, estimated mass value |
| Q | one or more quality control parameters failed for the compound   |

### ABBREVIATIONS

|        |  |
|--------|--|
| AVG RL | average reporting limit; calculated based on individual field sample RLs |
| LOD    | limit of detection   |
| LOQ    | limit of quantification  |
| MDL    | method detection limit   |
| RL     | reporting limit  |

|             |   |          |  |
|-------------|---|----------|--|
| 1112TetCA   | 1,1,1,2-tetrachloroethane   | CIBENZ   | chlorobenzene  |
| 111TCA      | 1,1,1-trichloroethane   | ct12DCE  | cis- & trans-1,2-dichloroethene                                      |
| 1122TetCA   | 1,1,2,2-tetrachloroethane   | EtBENZ   | ethylbenzene   |
| 112TCA      | 1,1,2-trichloroethane   | mpXYL    | m-, p-xylene   |
| 11DCA       | 1,1-dichloroethane  | MTBE     | methyl t-butyl ether   |
| 11DCE       | 1,1-dichloroethene  | NAPH     | naphthalene  |
| 124TMB      | 1,2,4-trimethylbenzene  | OCT      | octane   |
| 12DCA       | 1,2-dichloroethane  | oXYL     | o-xylene   |
| 12DCB       | 1,2-dichlorobenzene   | PCE      | tetrachloroethene  |
| 135TMB      | 1,3,5-trimethylbenzene  | PENTADEC | pentadecane  |
| 13DCB       | 1,3-dichlorobenzene   | PHEN     | phenanthrene   |
| 14DCB       | 1,4-dichlorobenzene   | t12DCE   | trans-1,2-dichloroethene   |
| 2MeNAPH     | 2-methyl naphthalene  | TCE      | trichloroethene  |
| BENZ        | benzene   | TMBs     | combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene |
| BTEX        | combined masses of benzene, toluene, ethylbenzene, and total xylenes (Gasoline Range Aromatics) | TOL      | toluene  |
| C11,C13&C15 | combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)    | TPH      | total petroleum hydrocarbons   |
| c12DCE      | cis-1,2-dichloroethene  | TRIDEC   | tridecane  |
| CCl4        | carbon tetrachloride  | UNDEC    | undecane   |
| CHC13       | chloroform  | VC       | vinyl chloride   |

## SUMMARY OF SAMPLING RATE CALIBRATION FOR AGI UNIVERSAL SAMPLER IN AQUEOUS PHASES

### INTRODUCTION:

The Amplified Geochemical Imaging, LLC (AGI) passive vapor sampler is designed to be used for soil gas, water, sediment pore water, and air sampling. This document describes the process used to calibrate the sampler's compound specific sampling or uptake rates in aqueous phases.

Sampling rates are measured following AGI's "Standard Practice for Determining the Sampling Rate of Passive Diffusion Samplers in Various Environmental Media": SPG-SOP-0493. Rates are used to calculate dissolved phase concentrations of volatile and semi-volatile contaminants in water. The calibration process is summarized in three parts: Part 1: shallow water, Part 2: deep water, and Part 3: sediment.

### PURPOSE:

The purpose of this document is to:

1. Summarize the test protocol,
2. Summarize the methodology for analysis of data,
3. Present general results for generating concentration calibration of the AGI Universal Sampler

### Principle of Operation of the AGI Sampler

The AGI Universal Sampler is designed with solid adsorbents enclosed inside a tubular microporous PTFE membrane. When placed in water, the pores and hydrophobic nature of the PTFE keep liquid water from entering the membrane until a water head of about 34 feet is reached. The membrane will not keep water vapor from entering but the adsorbents are very hydrophobic and through testing validated to be unaffected by this moisture vapor. In shallow water, <34', volatile and semi-volatile compounds will partition from the dissolved water into the air phase in the PTFE membrane according to Henry's Law. This partitioning is instantaneous and within seconds-minutes, the compound is adsorbed by the adsorbent inside the sealed tube. Because the diffusivity in air is about 10,000 times higher than the diffusivity in water, the sampling rate is controlled by the water contact area of the membrane that allows the Henry's Law effect to occur. This contact area is set by the membrane diameter and length of the sealed tube, which is fixed in AGI's manufacturing process.

Henry's law as well as diffusivity, which are fundamentally incorporated into the sampling rate, are affected by temperature,  $T$ , and follow an Arrhenius equation  $H_T = H_r \times \exp\left(\frac{-E_a/R}{1/T_r - 1/T}\right)$ . Because a 5°C temperature change can make a 15% change in sampling rate, the temperature of the sampled water should be known to get the most precise concentration.

The membrane pore size is also small enough that colloidal particles and microbes cannot pass through the membrane. This keeps the adsorbent from getting contaminated and eliminates any need to add preservative or chilling during storage or transportation.

When the water pressure exceeds the water entry pressure of the membrane, about 34 feet of water, the water becomes in contact with the solid adsorbent. Under this condition the compounds in the water will partition from the water into the solid. The partitioning coefficient,  $K_{AW}$ , can be approximated by the octanol-water coefficient,  $K_{OW}$ , but has been measured more precisely in the lab for AGI's specific solid adsorbent. The sampling rate is the product of the sampling rate at <34' of water and the  $K_{AW}$ .

In sediment, the sampler measures pore-water concentration, which is generally agreed to be the preferred measurement as it is more indicative of bioavailability. In sediment the volumetric

availability of water to the sampler is reduced by the volume fraction solids in the sediment, which typically varies from zero to 35%, but can be as high as 73% in well packed and broad particle size distribution sediments. As a result, sampling rates in sediment are multiplied by the fraction pore water in the sediment to determine concentration.

## **PART 1: Calibration in shallow water**

Part 1 summarizes the work in shallow water generating calibration data, evaluating the physical and chemical factors affecting the sampling rate, and measurement of the actual sampling rates or regression calibration equations needed to determine concentrations.

### **Sample Generation in water**

In this calibration work, solutions of analytes at known concentrations were formulated in clean 4 liter smoked glass jugs by injecting microliter measured amounts of environmental standards using a calibrated syringe into pure or deionized water and stirring for a minimum of 2 hours but generally overnight. Headspace in the jugs was minimized and generally less than 1% by volume during the tests. Jugs were temperature controlled by placing them in a water filled cooler, chilled via a copper tubing loop in the cooler. Temperature was measured with a certified digital temperature gauge and an average value used for each temperature experiment.

AGI samplers were weighted so they won't float and placed in the jugs at time zero. They were removed at various intervals to generate samples along with duplicates that showed mass increasing with exposure time. The sampler exposure time was selected to span minutes to hours and was generally reduced for high concentration tests to maintain uptake with time in roughly the linear dynamic range. Samplers were removed and dried with a paper towel and returned to their original container for analysis. They were analyzed by AGI's 8260C (SPG-WI-318 or SPG-WI-10028) method in duplicate, which is based on EPA SW846 Method 8260C.

Water samples were also taken and measured at an outside accredited lab using EPA SW846 Method 8260B. The concentrations agreed well with the calculated concentrations based on the standard certification, jug volume, and syringe injection. The variability of the outside lab 8260B values were found to be high, so for the sampling rate calculations we used the concentrations based on syringe dosing.

Calibrations were run at five concentrations, nominally at 6, 24, 118, 590, 1420 ug/L and five temperatures nominally at 5, 10, 15, 20, and 25 degrees centigrade. Samples were taken at 4 different exposure times. Samples were run in duplicate. A total of 176 data points were generated using 28 compounds from AGI's standard compounds list. Tridecane and pentadecane were not evaluated due to their very low solubility in water. In addition, another 23 compounds were tested using an 8260 liquid standard at nominal concentrations of 0.5, 1.0, 5.0, 15, 95, and 470 ug/L at a temperature typical of groundwater, 15°C. This is a living calibration and as additional data are generated, they may be qualified and added to this data set to improve the precision of the sampling rate calibration and broaden the compound list.

## Key Variable Effects

As expected from theory, at short to moderate exposure times, mass will increase roughly linearly proportional to exposure time, as well as proportional to concentration, and exponentially with temperature following Arrhenius law. Temperature affects the Henry's law as well as diffusivity in water. Sampling rate is generally independent of concentration and time at mass values significantly below saturation. In the following sections we have characterized the sampling rate for each compound as affected by temperature and also developed calibrations using regression which account for the minor impact of time, and mass.

## Concentration using Simple Sampling Rate Determination

A simple way to determine concentration is to measure mass on the AGI sampler, divide by exposure time, and divide by sampling rate, SR.

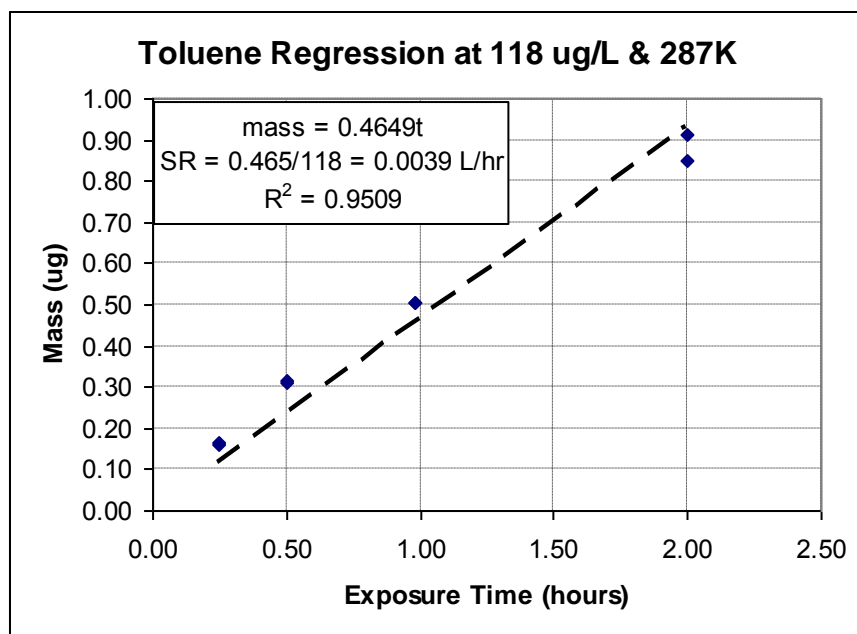
$$\text{Conc [ug/L]} = \text{mass/time/SR} \quad (1)$$

The sampling rate can be determined via measurements of mass versus time at a known concentration and temperature according to the following modification of equation (1).

$$\text{SR} = \text{mass/time/concentration} \quad (2)$$

Sampling rates in L/hr were determined by measuring the trend or regression mass uptake versus time and dividing by the concentration. A measurement like this will use 8 data points (4 times x 2 samples). Such a sampling rate can be measured at any concentration and temperature.

The chart to the right shows a plot of mass versus time for water at 118 ug/L and 287K (actual data from a single run). Slope of 0.465 ug/hr divided by the concentration of 118 ug/L yields a sampling rate, SR, of 0.0039 L/hr.



SR's typically range from about 0.004 to 0.007 L/hr at 15°C. Table A shows SR's measured for our standard compound list at 5 temperatures.



## Rigorous Concentration using Regression

A preferred method for determining concentration that will yield improved accuracy over a wide range of concentrations, exposure times, and temperatures is to use all data in a regression analysis, which allows adjustments for the minor non-linear influences of mass and time as well as the effects of temperature. This step is done by regressing equation (1) or a universal version of equation (1):

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRo} * \exp(-\text{Ea}/\text{R}/\text{T})] \quad (3)$$

The subtle non-linear effects of mass and time will be evident in the deviation of coefficients b and d from 1.0. This regression generates four constants b, d, SRo, and  $-\text{Ea}/\text{R}$  by regressing  $\ln(\text{conc})$  versus  $\ln(\text{mass})$ ,  $\ln(\text{time})$ ,  $1/\text{temp}$ . These four constants can be used to determine concentration via the equation:

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRo} \times \exp(-\text{Ea}/\text{R}(1/\text{T}))] \quad (4)$$

Where conc is in ug/L, mass is in ug, time in hours, T in degrees Kelvin.

Equation (4) can be also expressed at a reference temperature,  $\text{Tr}$ , such as 15°C by

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRr} \times \exp(-\text{Ea}/\text{R}(1/\text{Tr}-1/\text{T}))] \quad (5)$$

This step allows sampling rates, SRr, at any reference temperature,  $\text{Tr}$ , and for any analyte to easily be compared. The values of SRr at 293.14K can be found in Table A.

When sampling times are between 0 and 4 hours, using the 4 constant equation (5) is preferred. For concentrations from about 5 to 1500 ug/L one hour exposure times generally give the lowest error, typically with average error of 6-20% and with total error range of 12%-32%. For low concentrations where sampling times are greater than 4 hours, it is preferred to use equation (1) to avoid unrealistic effects from the coefficient d or to set d to 1.0. In such a case SR in equation (1) can be substituted with  $[\text{SRr} \times \exp(-\text{Ea}/\text{R}(1/\text{Tr}-1/\text{T}))]$  to use an SR representative of the well temperature, T.

The chart to the right is a plot of the calculated concentration from the 4 constant regression compared to the dosed concentration. Agreement is excellent for the 176 data points.

However, there does appear to be a slight high bias of 8.6% over the full range of this data, although it is well within acceptable limits of variability.

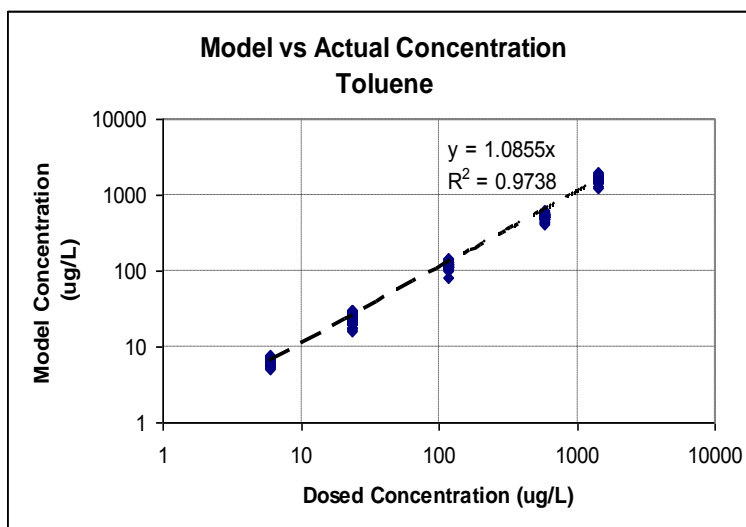


Table B shows the tabulated summary of the 4 constants regression with Rsq values and error estimates for the 4 constants for each analyte. Most regression Rsq values are 0.99 or greater for each analyte. In general,  $-E_a/R$  is about 2400 $\pm$ 400, b is about 0.9, d is about -0.75, and SR(15°C) ranges from .004 L/hr to 0.007 L/hr increasing with MW of the compound.

### Error Estimates

The error in the water concentration values will depend on both the error in mass from the analytical method as well as the error in the concentration calibration. Table C shows the error in the mass values from the 8260C low sensitivity method.

The standard error of the regression and standard errors of the constants can be found in table B. For each compound we have measured the error between the derived concentration and the actual concentration. The error tends to be lowest at our recommended exposure time of one hour as shown by the example for Toluene to the right.

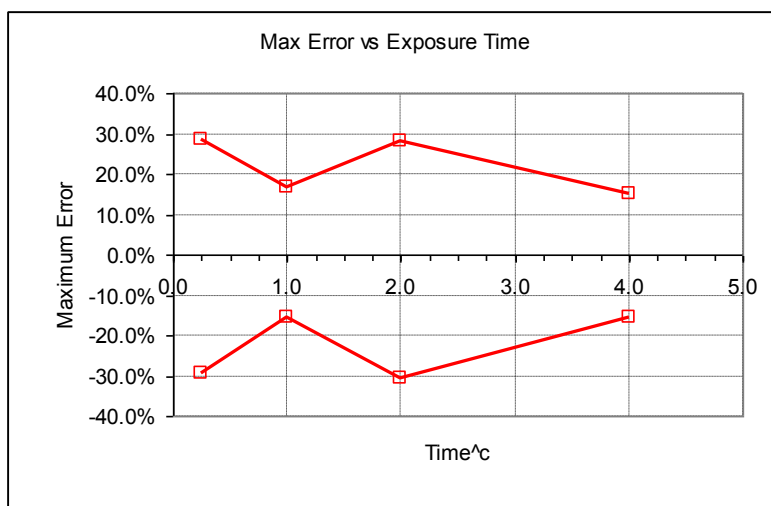
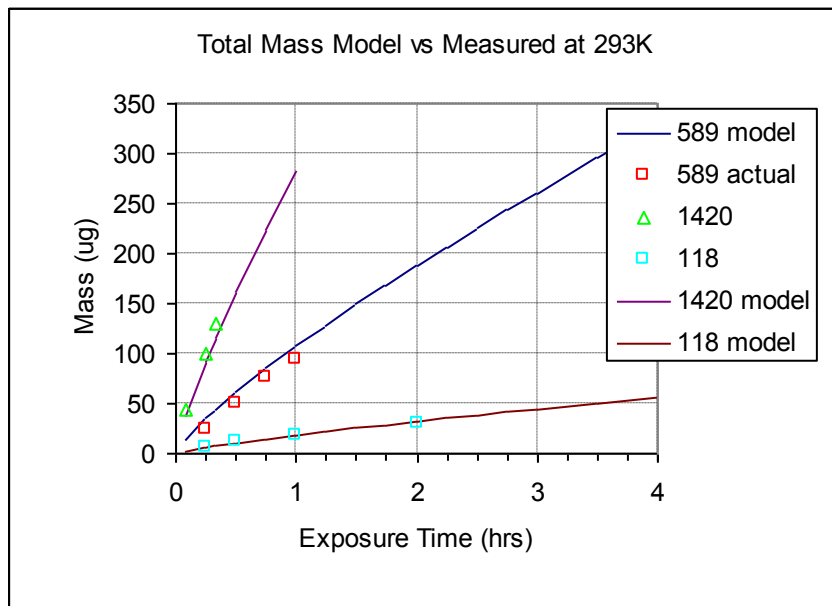


Table D shows the total average error in water concentration by compound as well as the low and high error. The average ranges from about 6% to 20%, which is similar to the analytical method errors. The low and high errors range from 12% to 32% and include contribution from measurement errors in both time and temperature.

### Sorbent Saturation

As mass increases on a solid sorbent and approaches saturation, reverse diffusion can occur causing the sampling rate to drop. Eventually the mass level will reach a maximum steady state value at any concentration. A rate of mass uptake with time that deviates significantly from linear, indicates that sorbent saturation could be an issue. When using equation (1), staying in the linear range to avoid the effects of adsorbent saturation is important. We recommend keeping the total mass on the sampler below 50 ug or flagging when this is exceeded.

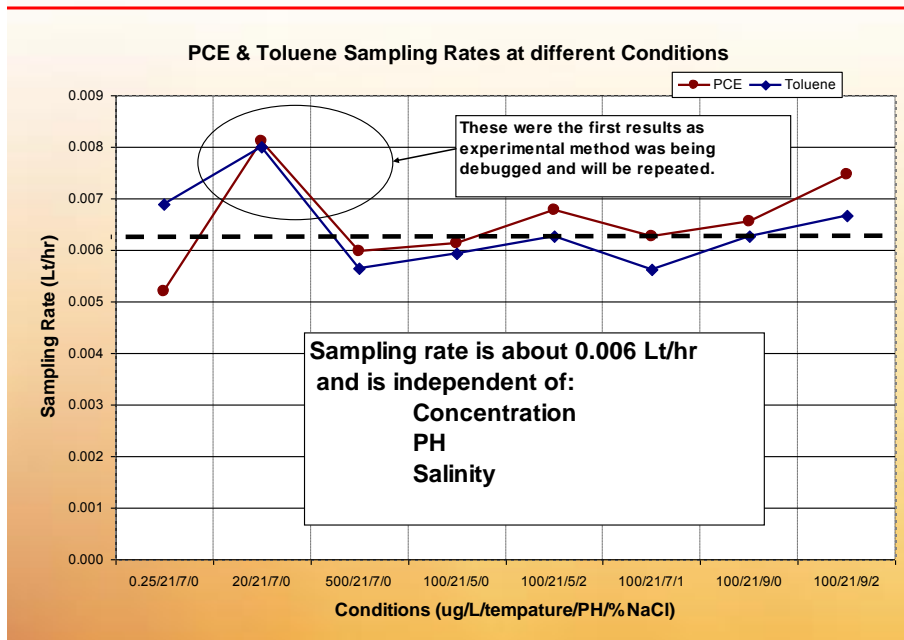
The 4 constant regression accounts for some of the non linearity allowing good accuracy at higher mass levels. From the experimental data we have found this safe range can be extended to 100 ug or higher as shown in the chart below. This chart compares total mass of all compounds (excluding heavy alkanes, which have solubility issues) versus time in comparison to that predicted from the 4-constant concentration equation.



### Effect of PH and Salinity

Because neither PH nor salinity is known to have a significant impact on Henry's law or diffusivity in water, we did not expect them to have a significant impact on sampling rate. To confirm this, experiments were run varying PH from 5 to 9 and NaCl content from 0 to 2%. The chart below shows no significant impact for combinations of PH and NaCl content over this range on the sampling rate of toluene in water at 21°C.

### Checked for Effects of PH & Salinity

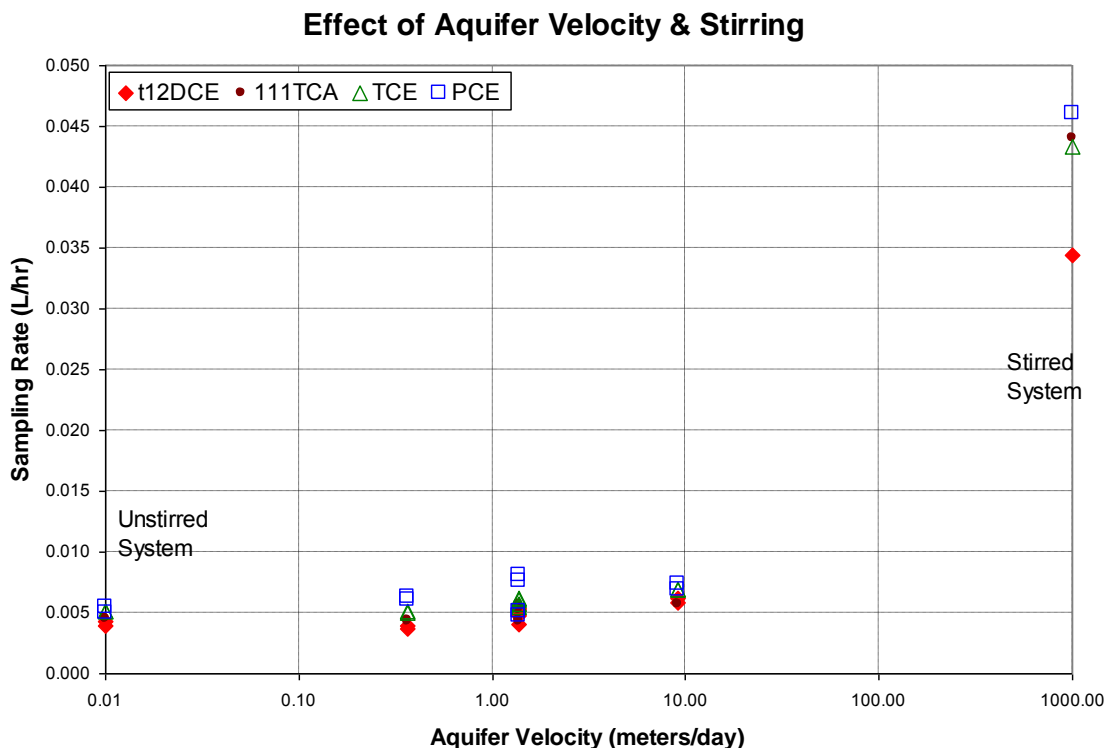


## Impact of Aquifer Velocity

The velocity in most aquifers is quite slow, typically a meter/day or less. Occasionally water flow could be much higher such as encountered in karst aquifers, streams or rivers. Mass transfer coefficients are higher in high flow conditions, which will lead to higher sampling rates. We validated that a highly stirred system had sampling rates about 10 times higher than those that were non-stirred. We decided to evaluate the effect of aquifer velocity.

A test apparatus was built comprising a 3" PVC pipe tee filled with clean sand in each of the horizontal straight legs and screened to leave the center open. A test solution was run through this system using a variable flow pump and AGI samplers were placed into the simulated well through the vertical leg of the tee. Tests were run to examine the effect of velocity by varying the pumping rate and hence water velocity.

The chart below shows no significant effect of aquifer velocity up to a speed of about 10 meters/day. At velocities significantly above this, similar to a stirred system, sampling rates are about 10 times higher.

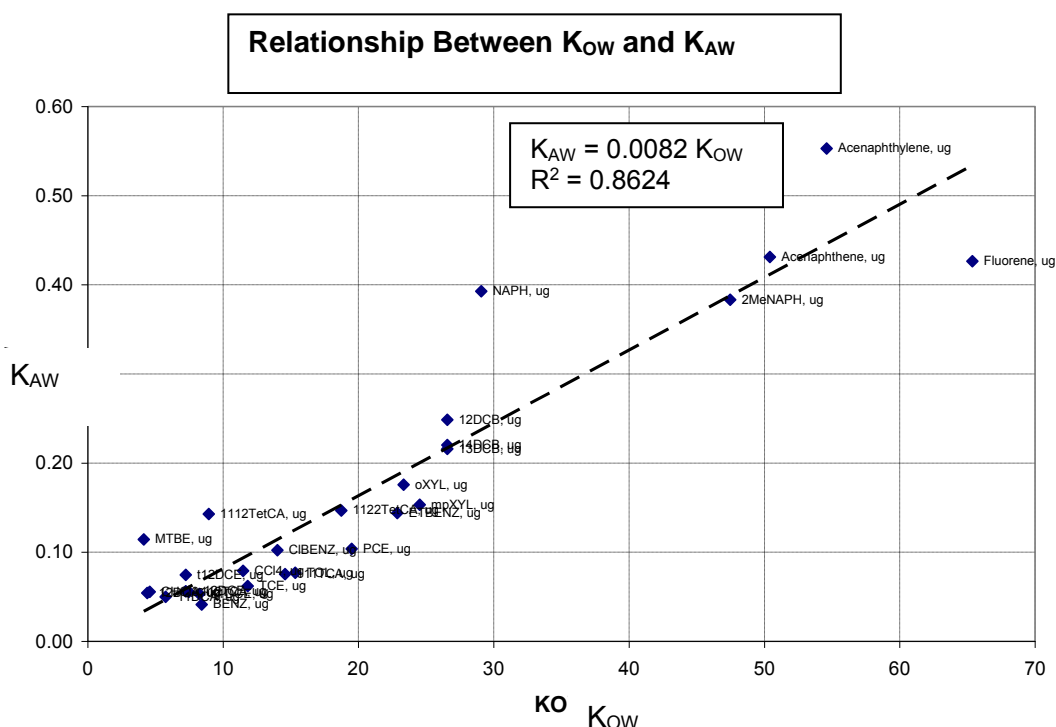


## Part 2: Calibration in Deep (>34') water

Part 2 describes the effect of deep water on the AGI sampler and summarizes the effects on sampling rate and concentration measurement.

When the water pressure exceeds the water entry pressure of the membrane, about 34 feet of water, the water becomes in direct contact with the solid adsorbent. Under this condition the compounds in the water will partition from the water into the solid. The partitioning coefficient is closely related to the octanol-water coefficient,  $K_{OW}$ , but has been measured more precisely in the lab for AGI's specific solid adsorbent,  $K_{AW}$ . The sampling rate for deep water is the product of the sampling rate at <34' of water and the  $K_{AW}$ .

Measurement of the  $K_{AW}$  was done in a one liter stainless steel vessel pressurized with nitrogen to simulate water heads above 34' of water. Pressures of up to 465 psig or 200' of water head were used. The sampling rate change was the same at all pressures above 34' of water. The  $K_{AW}$  was determined as the ratio between the mass or sampling rate above 34' of head to the rate at <34' of head and is shown in the chart below.



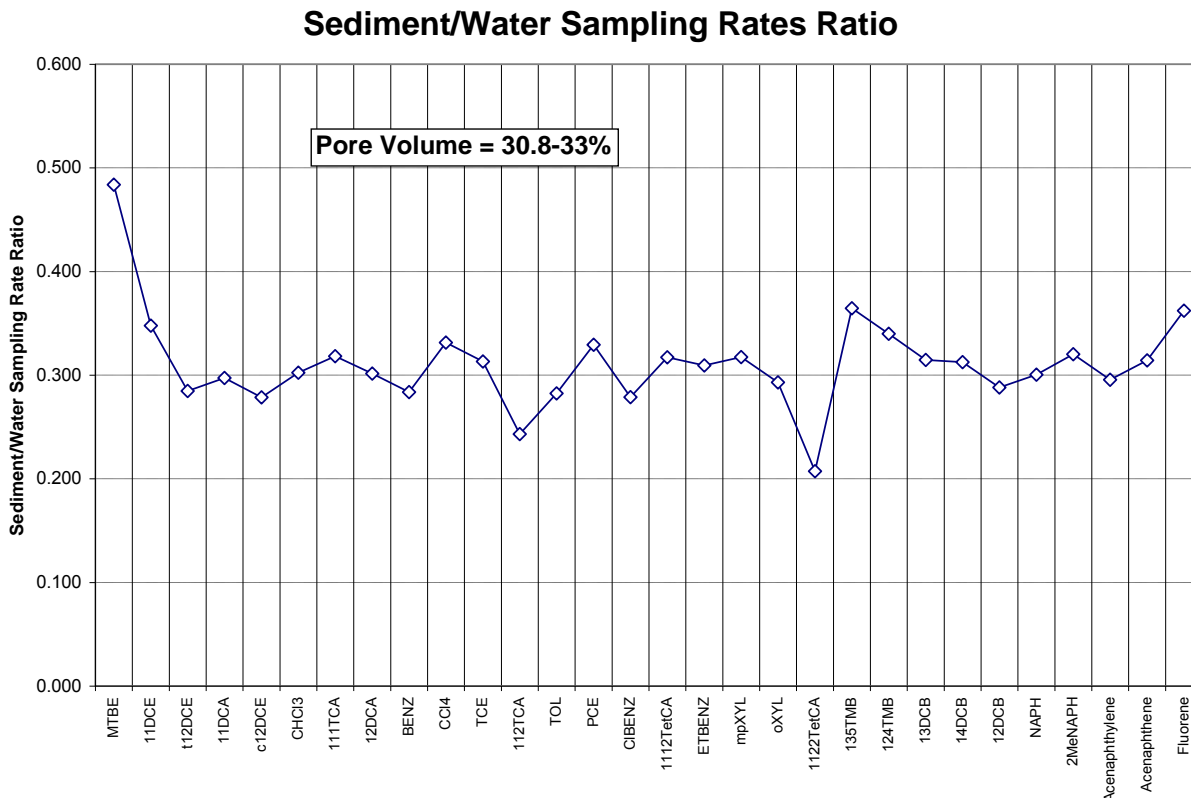
## Part 3: Calibration in Sediment

Part 3 describes the effect of sediment solids or sediment pore volume on the sampling rate and concentration measurement.

In sediment, the sampler measures pore water concentration, which is generally agreed to be the preferred measurement as it is more indicative of bioavailability. In sediment the volumetric availability of water to the sampler is reduced by the volume fraction solids in the sediment. As a result sampling rates in sediment are multiplied by the fraction pore water to determine

concentration. Pore water fraction can range from 1.0 for water without sediment to as low as 0.25. Typically most sediments have pore fractions of 0.9 to 0.65.

A sampling rate study was done with water and with water added into a well-packed sorted sand. Pore water fraction in this test was measured between 30.8% and 33% by volume. Below is a plot of the ratio of sampling rates measured in the sediment to open water. The average ratio is equal to the pore water fraction confirming that sampling rate in sediment is on average equal to the product of pore water fraction times the sampling rate in water.



## Summary

The AGI Sampler can be used to determine the concentration of volatile and semi-volatile compounds in a water phase. This requires knowing the exposure time and water temperature. It also requires knowing if the sample is above or below 34' of water head and if the water has a velocity above 10 meters/day. Regressions of large amounts of data were used to generate a four constant equation to generate concentration values in water. Potential error in the concentration values is excellent typically less than 25%.

**TABLE A**  
**WATER SAMPLING RATES STANDARD LIST**

|                   | <b>SRr</b><br>293.14 | <b>SR @</b><br>277.54 | <b>SR @</b><br>282.44 | <b>SR @</b><br>287.84 | <b>SR @</b><br>293.24 | <b>SR @</b><br>298.94 |
|-------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>MTBE</b>       | 0.0025               | 0.0014                | 0.0016                | 0.0018                | 0.0022                | 0.0029                |
| <b>t12DCE</b>     | 0.0043               | 0.0028                | 0.0028                | 0.0027                | 0.0037                | 0.0048                |
| <b>11DCA</b>      | 0.0047               | 0.0031                | 0.0033                | 0.0033                | 0.0039                | 0.0052                |
| <b>c12DCE</b>     | 0.0046               | 0.0030                | 0.0031                | 0.0031                | 0.0038                | 0.0051                |
| <b>CHCl3</b>      | 0.0046               | 0.0030                | 0.0031                | 0.0031                | 0.0038                | 0.0051                |
| <b>111TCA</b>     | 0.0066               | 0.0043                | 0.0047                | 0.0047                | 0.0056                | 0.0076                |
| <b>12DCA</b>      | 0.0045               | 0.0029                | 0.0029                | 0.0030                | 0.0036                | 0.0050                |
| <b>BENZ</b>       | 0.0050               | 0.0031                | 0.0034                | 0.0035                | 0.0042                | 0.0056                |
| <b>CCl4</b>       | 0.0068               | 0.0044                | 0.0048                | 0.0047                | 0.0058                | 0.0080                |
| <b>TCE</b>        | 0.0052               | 0.0030                | 0.0034                | 0.0034                | 0.0043                | 0.0058                |
| <b>112TCA</b>     | 0.0043               | 0.0027                | 0.0027                | 0.0028                | 0.0034                | 0.0048                |
| <b>TOL</b>        | 0.0056               | 0.0034                | 0.0039                | 0.0039                | 0.0047                | 0.0062                |
| <b>OCT</b>        | 0.0064               | 0.0046                | 0.0050                | 0.0040                | 0.0058                | 0.0089                |
| <b>PCE</b>        | 0.0061               | 0.0036                | 0.0043                | 0.0043                | 0.0051                | 0.0069                |
| <b>CIBENZ</b>     | 0.0054               | 0.0033                | 0.0039                | 0.0040                | 0.0045                | 0.0059                |
| <b>1112TetCA</b>  | 0.0061               | 0.0037                | 0.0042                | 0.0044                | 0.0050                | 0.0065                |
| <b>EtBENZ</b>     | 0.0060               | 0.0037                | 0.0045                | 0.0044                | 0.0052                | 0.0069                |
| <b>mpXYL</b>      | 0.0064               | 0.0039                | 0.0048                | 0.0046                | 0.0055                | 0.0072                |
| <b>oXYL</b>       | 0.0066               | 0.0041                | 0.0050                | 0.0048                | 0.0057                | 0.0074                |
| <b>1122TetCA</b>  | 0.0044               | 0.0027                | 0.0029                | 0.0031                | 0.0036                | 0.0046                |
| <b>135TMB</b>     | 0.0079               | 0.0046                | 0.0059                | 0.0056                | 0.0071                | 0.0093                |
| <b>124TMB</b>     | 0.0078               | 0.0046                | 0.0060                | 0.0055                | 0.0071                | 0.0092                |
| <b>13DCB</b>      | 0.0072               | 0.0041                | 0.0055                | 0.0053                | 0.0063                | 0.0080                |
| <b>14DCB</b>      | 0.0071               | 0.0040                | 0.0054                | 0.0052                | 0.0062                | 0.0079                |
| <b>12DCB</b>      | 0.0070               | 0.0040                | 0.0053                | 0.0051                | 0.0060                | 0.0076                |
| <b>UNDEC</b>      |                      | 0.0026                | 0.0024                | 0.0020                | 0.0031                | 0.0029                |
| <b>NAPH</b>       |                      | 0.0041                | 0.0056                | 0.0054                | 0.0064                | 0.0081                |
| <b>TRIDEC</b>     |                      |                       |                       |                       |                       |                       |
| <b>2MeNAPH</b>    |                      | 0.0043                | 0.0066                | 0.0066                | 0.0080                | 0.0108                |
| <b>PENTADEC</b>   |                      |                       |                       |                       |                       |                       |
| <b>Total mass</b> | 0.1177               | 0.0822                | 0.1339                | 0.1334                | 0.1773                | 0.1981                |

Notes:

Values in L/hr

Total mass does not include UNDEC, TRIDEC, PENTADEC (28 compounds)



**TABLE B**  
**4 CONSTANT REGRESSION OUTPUT**

|                   | <b>Adjusted<br/>Rs<sub>q</sub></b> | <b>Standard<br/>Error</b> | <b>ln(SR0)</b> | <b>b</b> | <b>-Ea/R</b> | <b>d</b> | <b>Std<br/>Error<br/>ln(SR0)</b> | <b>Std<br/>Error<br/>b</b> | <b>Std<br/>Error<br/>-<br/>Ea/R</b> | <b>Std<br/>Error<br/>d</b> |
|-------------------|------------------------------------|---------------------------|----------------|----------|--------------|----------|----------------------------------|----------------------------|-------------------------------------|----------------------------|
| <b>MTBE</b>       | 0.997                              | 0.0960                    | -3.217         | 0.981    | 2704         | -0.709   | 0.2881                           | 0.0062                     | 83                                  | 0.0082                     |
| <b>t12DCE</b>     | 0.992                              | 0.1659                    | -1.877         | 0.905    | 2147         | -0.760   | 0.4971                           | 0.0100                     | 144                                 | 0.0138                     |
| <b>11DCA</b>      | 0.995                              | 0.1272                    | -1.346         | 0.916    | 1965         | -0.746   | 0.3809                           | 0.0077                     | 110                                 | 0.0106                     |
| <b>c12DCE</b>     | 0.995                              | 0.1299                    | -1.905         | 0.911    | 2137         | -0.751   | 0.3892                           | 0.0078                     | 112                                 | 0.0109                     |
| <b>CHCl3</b>      | 0.996                              | 0.1260                    | -1.841         | 0.912    | 2118         | -0.748   | 0.3776                           | 0.0076                     | 109                                 | 0.0105                     |
| <b>111TCA</b>     | 0.995                              | 0.1279                    | -2.684         | 0.902    | 2259         | -0.761   | 0.3836                           | 0.0076                     | 111                                 | 0.0106                     |
| <b>12DCA</b>      | 0.995                              | 0.1263                    | -2.161         | 0.908    | 2218         | -0.746   | 0.3786                           | 0.0076                     | 109                                 | 0.0106                     |
| <b>BENZ</b>       | 0.995                              | 0.1323                    | -2.207         | 0.920    | 2198         | -0.754   | 0.3965                           | 0.0080                     | 114                                 | 0.0110                     |
| <b>CCl4</b>       | 0.994                              | 0.1405                    | -3.121         | 0.889    | 2379         | -0.776   | 0.4220                           | 0.0083                     | 122                                 | 0.0116                     |
| <b>TCE</b>        | 0.992                              | 0.1655                    | -3.338         | 0.900    | 2522         | -0.772   | 0.4969                           | 0.0099                     | 144                                 | 0.0137                     |
| <b>112TCA</b>     | 0.995                              | 0.1264                    | -2.412         | 0.896    | 2302         | -0.724   | 0.3790                           | 0.0075                     | 109                                 | 0.0107                     |
| <b>TOL</b>        | 0.994                              | 0.1426                    | -2.873         | 0.916    | 2364         | -0.756   | 0.4281                           | 0.0087                     | 124                                 | 0.0119                     |
| <b>OCT</b>        | 0.938                              | 0.4698                    | -5.984         | 0.822    | 3235         | -0.827   | 1.4231                           | 0.0277                     | 412                                 | 0.0388                     |
| <b>PCE</b>        | 0.991                              | 0.1773                    | -3.780         | 0.877    | 2601         | -0.775   | 0.5329                           | 0.0103                     | 154                                 | 0.0147                     |
| <b>CIBENZ</b>     | 0.994                              | 0.1457                    | -2.601         | 0.911    | 2292         | -0.747   | 0.4370                           | 0.0088                     | 126                                 | 0.0122                     |
| <b>1112TetCA</b>  | 0.996                              | 0.1235                    | -2.676         | 0.898    | 2281         | -0.725   | 0.3705                           | 0.0073                     | 107                                 | 0.0104                     |
| <b>EtBENZ</b>     | 0.993                              | 0.1597                    | -2.930         | 0.918    | 2357         | -0.752   | 0.4794                           | 0.0097                     | 138                                 | 0.0134                     |
| <b>mpXYL</b>      | 0.992                              | 0.1678                    | -3.036         | 0.909    | 2372         | -0.749   | 0.5037                           | 0.0101                     | 145                                 | 0.0140                     |
| <b>oXYL</b>       | 0.993                              | 0.1555                    | -2.862         | 0.911    | 2312         | -0.740   | 0.4667                           | 0.0094                     | 135                                 | 0.0131                     |
| <b>1122TetCA</b>  | 0.996                              | 0.1118                    | -1.971         | 0.913    | 2167         | -0.691   | 0.3351                           | 0.0067                     | 97                                  | 0.0096                     |
| <b>135TMB</b>     | 0.988                              | 0.2024                    | -4.435         | 0.897    | 2720         | -0.738   | 0.6093                           | 0.0121                     | 176                                 | 0.0170                     |
| <b>124TMB</b>     | 0.989                              | 0.1997                    | -4.126         | 0.890    | 2631         | -0.731   | 0.6009                           | 0.0118                     | 173                                 | 0.0169                     |
| <b>13DCB</b>      | 0.991                              | 0.1832                    | -3.422         | 0.888    | 2449         | -0.730   | 0.5503                           | 0.0108                     | 159                                 | 0.0155                     |
| <b>14DCB</b>      | 0.991                              | 0.1802                    | -3.263         | 0.892    | 2408         | -0.724   | 0.5413                           | 0.0107                     | 156                                 | 0.0153                     |
| <b>12DCB</b>      | 0.992                              | 0.1697                    | -2.970         | 0.894    | 2327         | -0.716   | 0.5092                           | 0.0101                     | 147                                 | 0.0144                     |
| <b>UNDEC</b>      | 0.694                              | 0.374                     | -1.406         | 0.426    | 1708         | -0.806   | 1.792                            | 0.028                      | 517                                 | 0.053                      |
| <b>NAPH</b>       | 0.992                              | 0.166                     | -3.374         | 0.915    | 2430         | -0.671   | 0.497                            | 0.010                      | 144                                 | 0.014                      |
| <b>TRIDEC</b>     |                                    |                           |                |          |              |          |                                  |                            |                                     |                            |
| <b>2MeNAPH</b>    | 0.984                              | 0.238                     | -5.498         | 0.869    | 2990         | -0.689   | 0.72                             | 0.014                      | 208                                 | 0.021                      |
| <b>PENTADEC</b>   |                                    |                           |                |          |              |          |                                  |                            |                                     |                            |
| <b>Total mass</b> | 0.993                              | 0.1543                    | -6.111         | 0.907    | 2419         | -0.732   | 0.4666                           | 0.0093                     | 134                                 | 0.0130                     |

**TABLE C**  
**8260C MASS UNCERTAINTY**

**AGI 8260C Method for Mass using SPG-0008  
Samplers**

|           | 99%<br>Uncertainty Range<br>+/- | 95%<br>Uncertainty Range<br>+/- |
|-----------|---------------------------------|---------------------------------|
| MTBE      | 20%                             | 14%                             |
| t12DCE    | 22%                             | 15%                             |
| 11DCA     | 18%                             | 12%                             |
| c12DCE    | 18%                             | 12%                             |
| CHCl3     | 16%                             | 11%                             |
| 111TCA    | 18%                             | 12%                             |
| 12DCA     | 20%                             | 13%                             |
| BENZ      | 16%                             | 10%                             |
| CCl4      | 19%                             | 12%                             |
| TCE       | 15%                             | 10%                             |
| 112TCA    | 18%                             | 12%                             |
| TOL       | 15%                             | 10%                             |
| OCT       | 20%                             | 13%                             |
| PCE       | 16%                             | 11%                             |
| CIBENZ    | 18%                             | 12%                             |
| 1112TetCA | 19%                             | 13%                             |
| EtBENZ    | 18%                             | 12%                             |
| mpXYL     | 18%                             | 12%                             |
| oXYL      | 18%                             | 12%                             |
| 1122TetCA | 23%                             | 15%                             |
| 135TMB    | 21%                             | 14%                             |
| 124TMB    | 20%                             | 14%                             |
| 13DCB     | 19%                             | 13%                             |
| 14DCB     | 19%                             | 13%                             |
| 12DCB     | 20%                             | 14%                             |
| NAPH      | 21%                             | 14%                             |
| 2MeNAPH   | 25%                             | 17%                             |

**TABLE D**  
**4 CONSTANT WATER CONCENTRATION UNCERTAINTY**  
**ERROR IN CONCENTRATION REPORTING (1)**

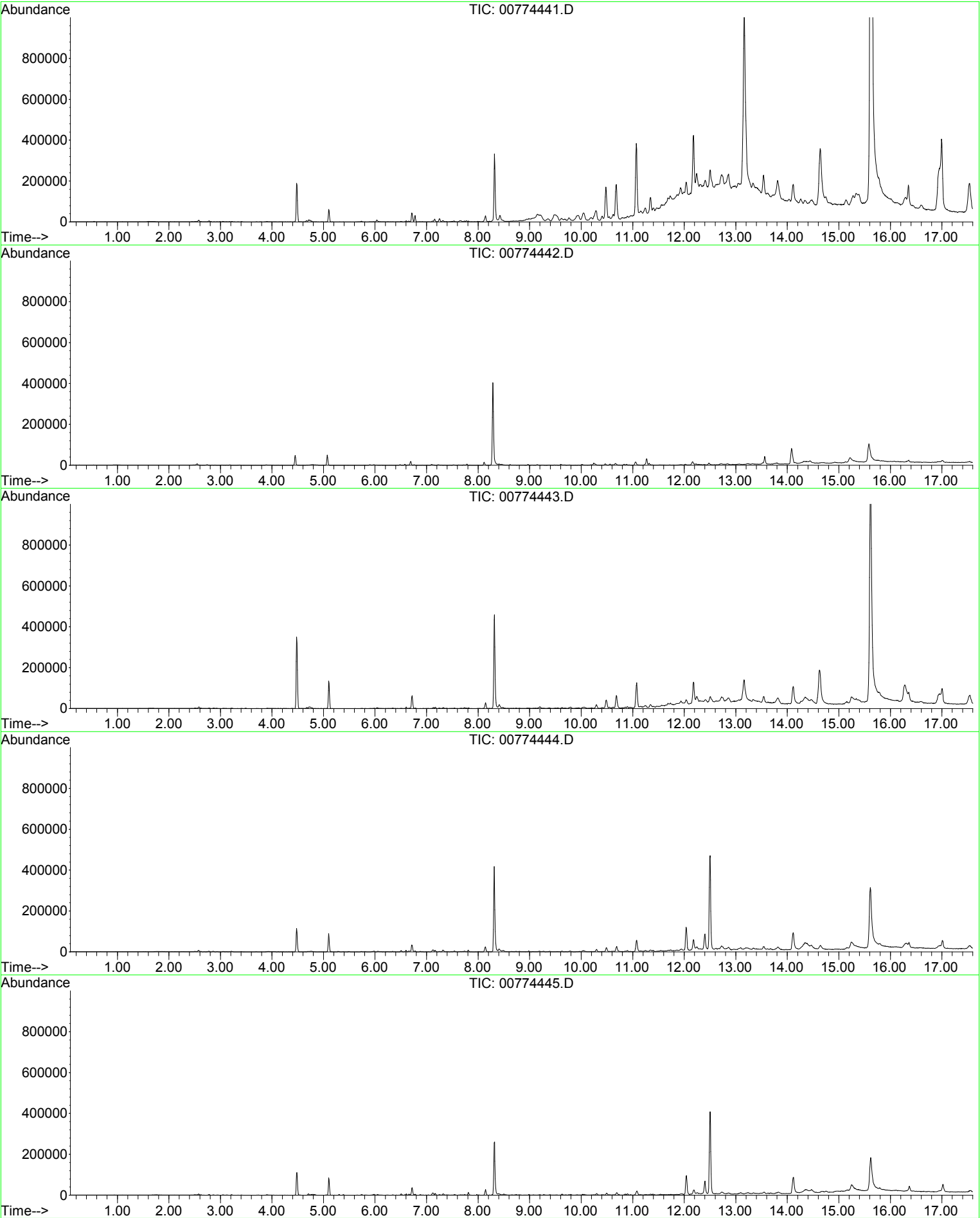
|           | <b>Average<br/>Error</b> | <b>Minimum<br/>Error</b> | <b>Maximum<br/>Error</b> |
|-----------|--------------------------|--------------------------|--------------------------|
| MTBE      | 6%                       | -12%                     | 12%                      |
| t12DCE    | 11%                      | -26%                     | 21%                      |
| 11DCA     | 8%                       | -19%                     | 13%                      |
| c12DCE    | 9%                       | -19%                     | 15%                      |
| CHCl3     | 9%                       | -20%                     | 14%                      |
| 111TCA    | 9%                       | -19%                     | 23%                      |
| 12DCA     | 10%                      | -19%                     | 17%                      |
| BENZ      | 8%                       | -18%                     | 13%                      |
| CCl4      | 10%                      | -23%                     | 22%                      |
| TCE       | 10%                      | -21%                     | 14%                      |
| 112TCA    | 11%                      | -21%                     | 21%                      |
| TOL       | 7%                       | -17%                     | 14%                      |
| OCT       | 20%                      | -41%                     | 42%                      |
| PCE       | 10%                      | -24%                     | 15%                      |
| CIBENZ    | 7%                       | -16%                     | 14%                      |
| 1112TetCA | 8%                       | -17%                     | 18%                      |
| EtBENZ    | 6%                       | -19%                     | 14%                      |
| mpXYL     | 7%                       | -22%                     | 13%                      |
| oXYL      | 7%                       | -19%                     | 13%                      |
| 1122TetCA | 8%                       | -16%                     | 17%                      |
| 135TMB    | 9%                       | -23%                     | 17%                      |
| 124TMB    | 10%                      | -28%                     | 19%                      |
| 13DCB     | 10%                      | -22%                     | 17%                      |
| 14DCB     | 10%                      | -22%                     | 17%                      |
| 12DCB     | 9%                       | -23%                     | 17%                      |
| NAPH      | 10%                      | -24%                     | 21%                      |
| 2MeNAPH   | 13%                      | -32%                     | 30%                      |

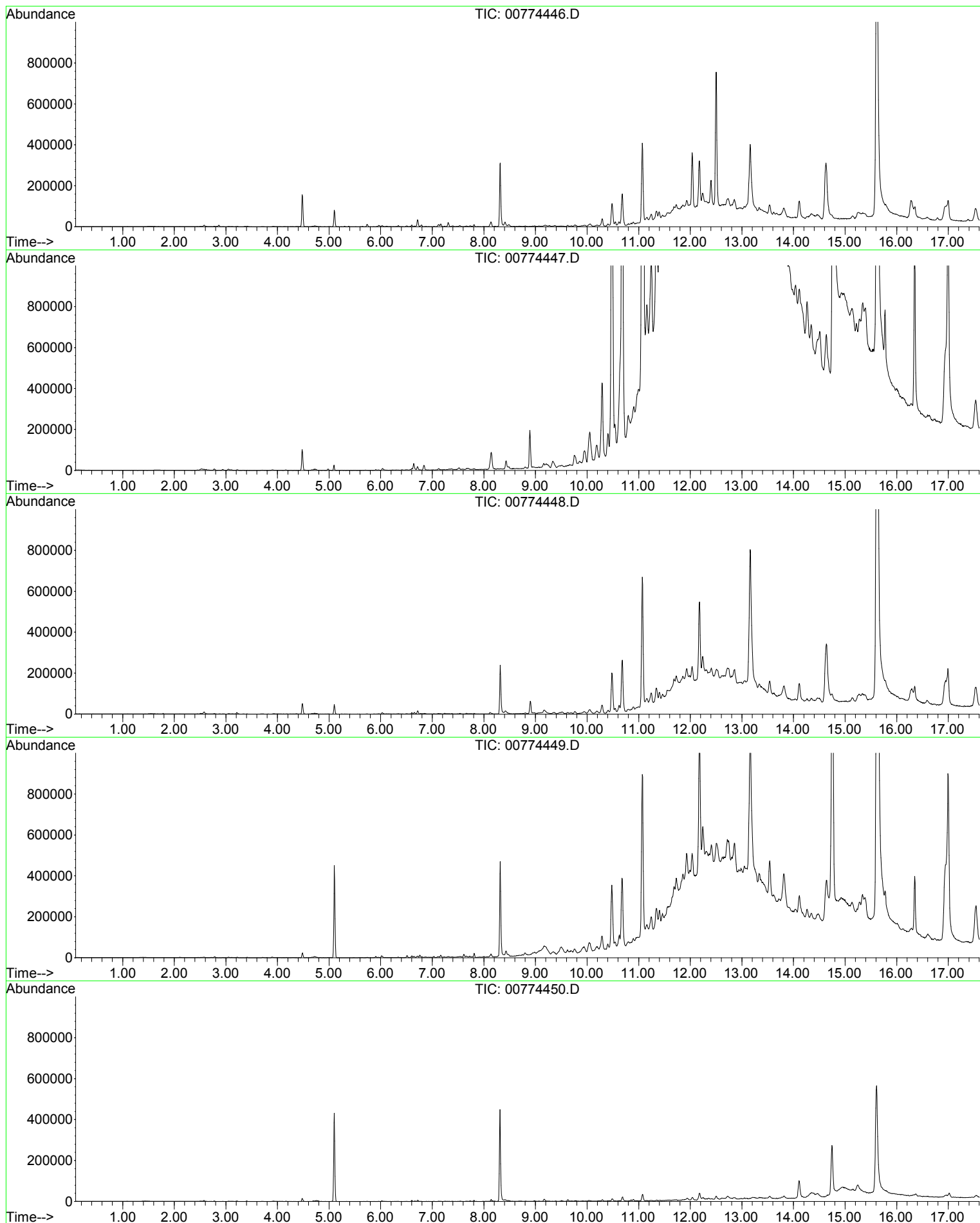
(1) For 1 hour exposure, includes error related to mass value from AGI analytical method 8260C

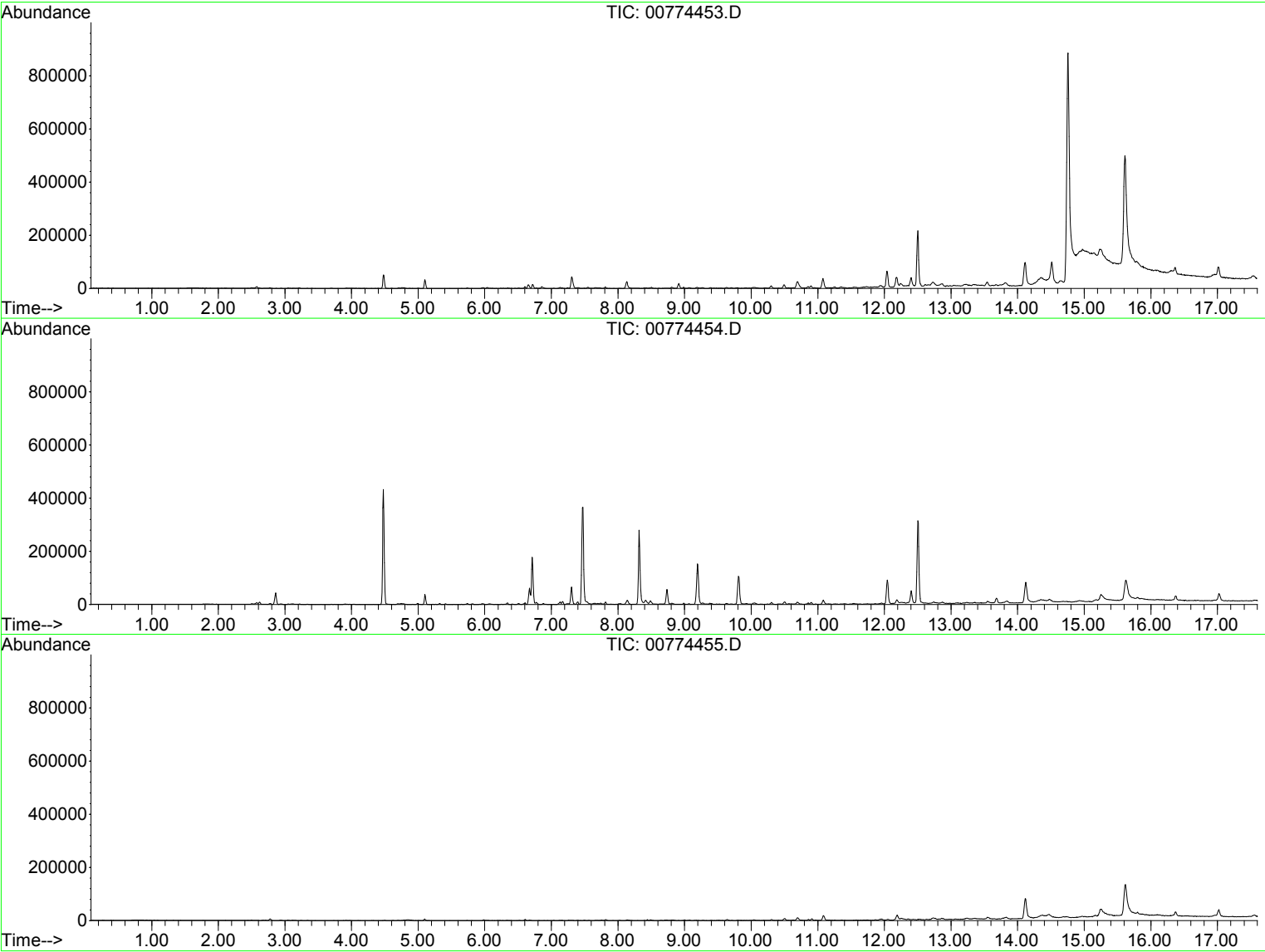
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email: [info@agisurveys.net](mailto:info@agisurveys.net)

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AMPLIFIED  
GEOCHEMICAL  
IMAGING, LLC

# Laboratory Report

Site: Comal & San Marcos Rivers Project #27122

Prepared for:

SWCA Environmental Consultants  
6200 UTSA Boulevard  
Suite 102  
San Antonio, TX  
UNITED STATES

Prepared on:  
September 7, 2016

## Project Summary and Objective

Amplified Geochemical Imaging, LLC. (AGI) provided the AGI Environmental Survey used at:

### **Comal & San Marcos Rivers Project #27122**

The service provided by AGI included delivery of the required quantity of AGI Universal Samplers, analysis by the method described below for the requested organic compounds, reporting of the data, and contour mapping (as needed).

This report includes results for only the samples noted under the Laboratory Sample Report section. If contour maps are part of the project deliverable, the maps will be prepared and issued under a separate report cover, upon receipt of a usable sitemap (electronic) and compound choices for contouring.

Written/submitted by:

**Dayna M Cobb**

Manager of Manufacturing and Laboratory Operations

Reviewed/approved by:

**Ian McMullen**

Chemist

Analytical data approved by:

**Ian McMullen**

Chemist

## Quality Assurance Statement

The AGI Laboratory, at Amplified Geochemical Imaging's facility in Newark, DE USA, operates under the guidelines of its ISO Standard 17025 DoD ELAP accreditation, and its Quality Assurance Manual, Operating Procedures, and Methods (SOP-QA-0462).

For this project, the analytical method, results, and observations reported do [ ] do not [ ✓ ] fall within the scope of AGI's ISO 17025 accreditation.

**Screening/Concentration Method**

The AGI Universal Samplers are analyzed at AGI's fixed laboratory using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following modified U.S. EPA Method 8260 (SPG-WI-0292) which includes the following:

- **BFB Tuning Frequency:** A BFB tune is analyzed at the start of each analytical run and after every 30 samples.
- **Initial Calibration:** A minimum of a five point calibration curve is analyzed prior to the analysis of samples.
- **Initial Calibration Verification (ICV):** Following the calibration a second-source reference standard is analyzed to verify the accuracy of the calibration. Acceptance criteria for the ICV is +/- 30%.
- **Linearity of Target Compounds:** If the RSD of any target analyte is less than or equal to 25% then average response factor can be used for quantitation. If the RSD exceeds 25% for a target compound a regression equation can be used for quantitation.
- **Continuing Calibration Verification:** After every 10 samples, and at the end of each analytical batch, a mid-level second-source Reference Standard is analyzed. The acceptance criteria for all target analytes in the reference standards are +/- 50% of the true value.
- **Method Blank:** Analyzed prior to the analysis of field samples and every 30 samples.

**Note:** Analyte levels reported for the field-deployed AGI Universal Samplers that exceed trip and method blank levels, and/or the reporting limit, are more likely to have originated from on-site sources.

|                            |               |
|----------------------------|---------------|
| Media Sampled:             | WATER         |
| Chemist - sample analysis: | Jasmine Smith |
| Chemist - data processor:  | Jasmine Smith |
| Chemist - data review:     | Ian McMullen  |

Method deviations: None

Please note that data file names ending with R are rerun samples using the second pair of sorbers, in which the original results were not reported. Data file names ending in D are duplicate analysis results for the second set of sorbers from the same sampler, and are reported.

## Additional Report Information

- Comments
- Laboratory Sample Report
- Chain of Custody
- Installation and Retrieval Log
- Data Table(s) and Key
- Concentration Calculation Method Summary
- Total Ion Chromatograms

## Project Specific Comments

Sampler 00776701 was analyzed as a trip blank.

Survey period <sup>1</sup>

Samplers were installed on August 9, 2016 and retrieved on August 23, 2016 for an exposure period of 14 days.

Tamper seal intact:

Yes

Date received:

8/25/16 10:30 am

By: Darlene Yellowdy

COC returned:

Yes

Comments:

None

<sup>1</sup> - Installation start to end of retrieval, as reported. See installation and retrieval log for individual deployment and retrieval dates and times (i.e., sampler exposure time).

## General Comments

### Analytical QA/QC

Laboratory instrumentation consists of gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation involves cutting the tip off the bottom of the AGI Universal Sampler, and transferring one or more "sorbents" to a thermal desorption tube for analysis. The insertion/retrieval cord prevents soil, water and other interferences from coming in contact with the adsorbent. No further sample preparation is required. Any replicate sorbents not consumed in the initial analysis will be discarded fifteen (15) days from the date of the laboratory report.

Data are archived and stored in a secure manner as per AGI's Quality Assurance program (SOP-QA-0462).

Total petroleum hydrocarbons (TPH), gasoline-range petroleum hydrocarbons (GRPH), and/or diesel range petroleum hydrocarbons (DRPH), when reported, are calculated using the area under the peaks observed in m/z 55 and 57 selected ion chromatograms. Quantitation of the mass values was performed using the response factor for a specific alkane (present in the calibration standards). TPH values include the entire chromatogram and provide estimates for aliphatic hydrocarbon ranges of C4 to C20. GRPH and DRPH include only the relevant regions of the chromatograms and provide estimates for C4 to C10 and C10 to C20 aliphatic hydrocarbons, respectively.

Trip blanks were provided to document potential exposures that were not part of the signal of interest (e.g., impact during sampler shipment, installation and/or retrieval, and storage). The trip blanks are identically manufactured and packaged AGI Universal Samplers to those samplers deployed in the field. The trip blanks remain unopened during all phases of the project. Levels reported on the trip blanks may indicate potential impact to the samplers other than the contaminant source of interest.

Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. UPEs may be indicative of complex fluid mixtures. UPEs observed early in the chromatograms are considered to indicate presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.

Total ion chromatograms (TICs) are included in the Attachments. The eight-digit serial number of each sampler is incorporated in the TIC identification (e.g., 12345678.D represents AGI Universal Sampler 12345678).

## General Comments

### Soil Gas Sampling

For soil gas sampling, the AGI Environmental Survey reports mass levels migrating through the open pore spaces of the soil and diffusing through the sampler membrane for sorption by the engineered, hydrophobic adsorbents, housed within the membrane tube. During the migration of the soil gas away from the source to the AGI Universal Sampler, the vapors are subject to a variety of attenuation factors. The soil gas masses reported on the samplers compare favorably with the concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels to other sampled locations on the site, the matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.

Soil gas concentrations ( $\mu\text{g}/\text{m}^3$ ) are calculated following the method described in the Additional Report Information section.

Soil gas signals reported by this method cannot be correlated specifically to soil adsorbed, groundwater, and /or free-phase contamination. The soil gas signal reported from each AGI Universal Sampler can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).

### Air Sampling

For indoor, outdoor, and crawlspace air sampling, the AGI Environmental Survey reports mass levels present in the air and diffusing through the sampler membrane for sorption by the engineered adsorbents housed within the membrane tube.

Air concentrations ( $\mu\text{g}/\text{m}^3$ ) are calculated following the method described in the Additional Report Information section.

### Groundwater and Sediment Porewater Sampling

For groundwater and sediment porewater sampling, the AGI Environmental Survey reports the mass levels of compounds present in the water which, when coming in contact with the sampler membrane, partitions out of solution, and diffuses through the sampler membrane for sorption by the engineered adsorbents.

Water concentrations ( $\mu\text{g}/\text{L}$ ) are calculated using the quantified mass, exposure period and the compound specific uptake rate. The rates were measured under controlled experimental conditions. The uptake rates are corrected for water pressure (depth of the AGI Universal Sampler below the water table), water temperature and the aquifer flow rate. For sediment porewater, the uptake rate is corrected for the reduced volume of water in the sediment, by multiplying the uptake rate by the pore water fraction.

## Laboratory Sample Report

| <u>AGI Sample ID</u> | <u>Field ID</u> | <u>Sample Type</u> |
|----------------------|-----------------|--------------------|
| 00776682             | HCS410          | FIELD_SAMPLE       |
| 00776683             | HCS420          | FIELD_SAMPLE       |
| 00776684             | HCS430          | FIELD_SAMPLE       |
| 00776685             | HCS440          | FIELD_SAMPLE       |
| 00776686             | FDHCS440        | FIELD_SAMPLE       |
| 00776687             | HCS460          | FIELD_SAMPLE       |
| 00776688             | HSM410          | FIELD_SAMPLE       |
| 00776689             | HSM420          | FIELD_SAMPLE       |
| 00776690             | HSM430          | FIELD_SAMPLE       |
| 00776691             | FDHSM430        | FIELD_SAMPLE       |
| 00776697             | HSM440          | FIELD_SAMPLE       |
| 00776698             | HSM450          | FIELD_SAMPLE       |
| 00776699             | HSM460          | FIELD_SAMPLE       |
| 00776700             | HSM470          | FIELD_SAMPLE       |
| 00776701             | TB10            | TRIP_BLANK         |
| 00776702             | NA - Not Used   |                    |





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**AGI Universal Passive Sampler Chain of Custody**  
**Soil gas and/or Air Sampling**

Production Order #: 01688

Customer Name: SWCA Environmental

Site Name: SWCA Project #27122 San Marcos & Comal Springs

Address: 6200 UTSA Blvd.  
Suite 102  
San Antonio, TX 78249  
USA

Site Address:

Project Manager: Philip Pearce

Serial # of Samplers Shipped

00776682 - 00776691  
00776697 - 00776702  
-

# of Samplers for Installation 14

Total Samplers Shipped 16  
Total Samplers Received 16  
Total Samplers Installed 14

# of Trip Blanks 2

Pieces  
Pieces  
Pieces

Serial # of Trip Blanks (Client Decides)

Insertion Rods

# Tips Shipped: 0

# Rod Bodies Shipped 0

00776701

Prepared By: [Signature]

Verified By: Marlene Galloway

Installation Method: (Circle those that apply)

Slide Hammer Hammer Drill Auger

Other Enclosed in deployment device in river

Installation Performed By:

Name: JENNIFER MORELAND

Company: SWCA

Retrieval Performed By:

Name: Philip Pearce

Company: SWCA

Installation Start Date / Time: 8/9/16 / 10:29 AM

Installation Complete Date / Time: 8/9/16 / 13:54

Retrieval Start Date / Time: 8/23/16 10:39

Retrieval Complete Date / Time: 8/23/16 14:37

Total Samplers Retrieved: 14 + 1 TRIP BLANK

Total Samplers Lost In Field: 0

Total Unused Samplers Returned: 1

Insertion Rod Sections Returned: NA

Relinquished By: [Signature]

Date/Time  
8/11/2016

Company: AGT

11:34 AM

Received By: [Signature]

Date/Time  
8/4/16

Company: SWCA

12:35

Relinquished By: Philip Pearce

Date/Time  
8/24/16

Company: SWCA

09:15

Received By: Marlene Galloway

Date/Time  
8/25/16

Company: AGT

10:30



**AMPLIFIED  
GEOCHEMICAL  
IMAGING, LLC**

210 Executive Drive, Suite 1  
Newark, DE USA 19702-3335  
ph: 302-266-2428

**AGI Project No.**

ENV 01688

**Site Name:**

Comal & San Marcos Rivers '16

**Site Location:**

**AGI Soil Gas Sampling**

**Installation & Retrieval Log**

**Company Name:**

SWCA Environmental Consultants

**Location:**

**Samples collected by:**

\* Optional or as needed

| SAMPLER SERIAL NO. | WELL ID       | SAMPLE TYPE (Field Sample, Trip Blank, Field Blank, etc.) | INSTALLATION DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/30/2000 13:00 | RETRIEVAL DATE & TIME MM/DD/YYYY HH:MM (24 Hour) ex. 12/30/2000 15:00 | WATER QUALITY M                              |  |   |
|--------------------|---------------|---|--|---|--|--|---|
|                    |               |   |  |   | INSTALLATION DEPTH FROM TOP OF CASING (feet) | DEPTH TO WATER FROM TOP OF CASING (feet) | SCREENED INTERVAL FROM TOP OF CASING (feet) |
| 00776682           | HCS410        | FIELD_SAMPLE  | 8/9/2016 10:45   | 8/23/2016 10:39   | 1.4  |  |   |
| 00776683           | HCS420        | FIELD_SAMPLE  | 8/9/2016 11:00   | 8/23/2016 10:52   | 2.1  |  |   |
| 00776684           | HCS430        | FIELD_SAMPLE  | 8/9/2016 10:29   | 8/23/2016 11:07   | 3.2  |  |   |
| 00776685           | HCS440        | FIELD_SAMPLE  | 8/9/2016 11:09   | 8/23/2016 11:28   | 1.7  |  |   |
| 00776686           | FDHCS440      | FIELD_SAMPLE  | 8/9/2016 11:09   | 8/23/2016 11:28   | 1.7  |  |   |
| 00776687           | HCS460        | FIELD_SAMPLE  | 8/9/2016 11:25   | 8/23/2016 11:59   | 2.6  |  |   |
| 00776688           | HSM410        | FIELD_SAMPLE  | 8/9/2016 12:38   | 8/23/2016 13:14   | 1.5  |  |   |
| 00776689           | HSM420        | FIELD_SAMPLE  | 8/9/2016 15:50   | 8/23/2016 13:34   | 3.1  |  |   |
| 00776690           | HSM430        | FIELD_SAMPLE  | 8/9/2016 12:59   | 8/23/2016 13:43   | 2.5  |  |   |
| 00776691           | FDHSM430      | FIELD_SAMPLE  | 8/9/2016 12:59   | 8/23/2016 13:43   | 2.5  |  |   |
| 00776697           | HSM440        | FIELD_SAMPLE  | 8/9/2016 13:11   | 8/23/2016 13:58   | 3.0  |  |   |
| 00776698           | HSM450        | FIELD_SAMPLE  | 8/9/2016 13:24   | 8/23/2016 14:10   | 3.3  |  |   |
| 00776699           | HSM460        | FIELD_SAMPLE  | 8/9/2016 13:37   | 8/23/2016 14:23   | 2.1  |  |   |
| 00776700           | HSM470        | FIELD_SAMPLE  | 8/9/2016 13:54   | 8/23/2016 14:37   | 1.8  |  |   |
| 00776701           | TB10          | TRIP_BLANK  | 8/9/2016 10:29   | 8/23/2016 14:37   | NA   |  |   |
| 00776702           | NA - Not Used |   |  |   |  |  |   |



AGI Soil Gas Sampling  
Installation & Retrieval L

\* Optional or as needed

| SAMPLER SERIAL NO. | MONITORING   |  | OBSERVATIONS/COMMENTS* (e.g.,<br>observations, location description, missing,<br>pulled from well, etc. - as needed) | YES / NO   |        |
|--------------------|--|--|--|--|--------|
|                    | WATER<br>TEMPERATURE AT<br>MODULE DEPTH (deg<br>C) | FLOW RATE THROUGH<br>SCREEN: HIGH OR LOW<br>(HIGH = flow > than 10<br>m/day; LOW = flow < 10<br>m/day) |  | EVIDENCE OF<br>LIQUID PETROLEUM<br>HYDROCARBONS? | ODOR ? |
| 00776682           | 24.26  | HIGH   | depths are surface of  | No   | No     |
| 00776683           | 24.26  | HIGH   | water to top of samplers   | No   | No     |
| 00776684           | 24.26  | HIGH   |  | No   | No     |
| 00776685           | 24.26  | HIGH   |  | No   | No     |
| 00776686           | 24.26  | HIGH   |  | No   | No     |
| 00776687           | 24.26  | HIGH   |  | No   | No     |
| 00776688           | 22.45  | HIGH   |  | No   | No     |
| 00776689           | 22.45  | HIGH   |  | No   | No     |
| 00776690           | 22.45  | HIGH   |  | No   | No     |
| 00776691           | 22.45  | HIGH   |  | No   | No     |
| 00776697           | 22.45  | HIGH   |  | No   | No     |
| 00776698           | 22.45  | HIGH   |  | No   | No     |
| 00776699           | 22.45  | HIGH   |  | No   | No     |
| 00776700           | 22.45  | HIGH   |  | No   | No     |
| 00776701           | NA   | NA   |  | NA   | NA     |
| 00776702           |  |  |  |  |        |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
AGI TARGET COMPOUNDS  
SWCA PROJECT #27122  
ORDER #01688

| DATAFILE    | FIELD    | DATE/ TIME |    |         |          |            |           |            |           |            |           |          |          |         |            |         |         |         |            |               |
|-------------|----------|------------|----|---------|----------|------------|-----------|------------|-----------|------------|-----------|----------|----------|---------|------------|---------|---------|---------|------------|---------------|
| NAME        | ID       | ANALYZED   | DF | TPH, ug | MTBE, ug | t12DCE, ug | 11DCA, ug | c12DCE, ug | CHCl3, ug | 111TCA, ug | 12DCA, ug | BENZ, ug | CCl4, ug | TCE, ug | 112TCA, ug | TOL, ug | OCT, ug | PCE, ug | CIBENZ, ug | 1112TetCA, ug |
| Average RL= |          |            |    | 0.50    | 0.02     | 0.02       | 0.02      | 0.02       | 0.02      | 0.02       | 0.02      | 0.02     | 0.02     | 0.02    | 0.02       | 0.02    | 0.02    | 0.02    | 0.02       | 0.02          |
| 00776682    | HCS410   | 8/30/2016  | 1  | 0.51    | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.09    | <0.02      | <0.02         |
| 00776683    | HCS420   | 8/30/2016  | 1  | 0.54    | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.19    | <0.02      | <0.02         |
| 00776684    | HCS430   | 8/30/2016  | 1  | 0.55    | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.56    | <0.02      | <0.02         |
| 00776685    | HCS440   | 8/30/2016  | 1  | 0.75    | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.39    | <0.02      | <0.02         |
| 00776686    | FDHCS440 | 8/30/2016  | 1  | 0.77    | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.39    | <0.02      | <0.02         |
| 00776687    | HCS460   | 8/30/2016  | 1  | 0.60    | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.19    | <0.02      | <0.02         |
| 00776688    | HSM410   | 8/30/2016  | 1  | 0.60    | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | <0.02   | <0.02      | <0.02         |
| 00776689    | HSM420   | 8/30/2016  | 1  | 0.53    | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.09    | <0.02      | <0.02         |
| 00776690    | HSM430   | 8/30/2016  | 1  | 0.56    | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.80    | <0.02      | <0.02         |
| 00776691    | FDHSM430 | 8/30/2016  | 1  | 0.72    | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.87    | <0.02      | <0.02         |
| 00776697    | HSM440   | 8/30/2016  | 1  | 0.55    | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.11    | <0.02      | <0.02         |
| 00776698    | HSM450   | 8/30/2016  | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.05    | <0.02      | <0.02         |
| 00776699    | HSM460   | 8/30/2016  | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.06    | <0.02      | <0.02         |
| 00776700    | HSM470   | 8/30/2016  | 1  | 0.70    | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.07    | <0.02      | <0.02         |
| 00776701    | TB10     | 8/30/2016  | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | <0.02   | <0.02      | <0.02         |
| BLK_ENV-1   |          | 8/30/2016  | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | <0.02   | <0.02      | <0.02         |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS  
 SWCA PROJECT #27122  
 ORDER #01688

| DATAFILE    |            |           |          |               |            |            |           |           |           |           |          |            |             |                    |              |                  |  |
|-------------|------------|-----------|----------|---------------|------------|------------|-----------|-----------|-----------|-----------|----------|------------|-------------|--------------------|--------------|------------------|--|
| NAME        | ETBENZ, ug | mpXYL, ug | oXYL, ug | 1122TetCA, ug | 135TMB, ug | 124TMB, ug | 13DCB, ug | 14DCB, ug | 12DCB, ug | UNDEC, ug | NAPH, ug | TRIDEC, ug | 2MeNAPH, ug | Acenaphthylene, ug | PENTADEC, ug | Acenaphthene, ug |  |
| Average RL= | 0.02       | 0.02      | 0.02     | 0.02          | 0.02       | 0.02       | 0.02      | 0.02      | 0.02      | 0.05      | 0.05     | 0.05       | 0.05        | 0.05               | 0.05         | 0.05             |  |
| 00776682    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| 00776683    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| 00776684    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| 00776685    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| 00776686    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| 00776687    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| 00776688    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| 00776689    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| 00776690    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| 00776691    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| 00776697    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| 00776698    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| 00776699    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| 00776700    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| 00776701    | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |
| BLK ENV-1   | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |  |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
AGI TARGET COMPOUNDS  
SWCA PROJECT #27122  
ORDER #01688

| DATAFILE    |              |                  |                |                  |            |               |              |               |               |                |            |                        |                  |              |       |       |
|-------------|--------------|------------------|----------------|------------------|------------|---------------|--------------|---------------|---------------|----------------|------------|------------------------|------------------|--------------|-------|-------|
| NAME        | Fluorene, ug | Phenanthrene, ug | Anthracene, ug | Fluoranthene, ug | Pyrene, ug | alpha-BHC, ug | beta-BHC, ug | gamma-BHC, ug | delta-BHC, ug | Heptachlor, ug | Aldrin, ug | Heptachlor Epoxide, ug | Endosulfan I, ug | 4,4'-DDE, ug |       |       |
| Average RL= | 0.05         | 0.50             | 0.50           | 0.50             | 0.50       | 0.50          | 0.50         | 0.50          | 0.50          | 0.50           | 0.50       | 0.50                   | 0.50             | 0.50         | 0.50  | 0.50  |
| 00776682    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00776683    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00776684    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00776685    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00776686    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00776687    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00776688    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00776689    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00776690    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00776691    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00776697    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00776698    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00776699    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00776700    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00776701    | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| BLK_ENV-1   | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
AGI TARGET COMPOUNDS  
SWCA PROJECT #27122  
ORDER #01688

| DATAFILE    |              |            |              |                   |                     |              |                        |                   |                  |  |
|-------------|--------------|------------|--------------|-------------------|---------------------|--------------|------------------------|-------------------|------------------|--|
| NAME        | Dieldrin, ug | Endrin, ug | 4,4'-DDD, ug | Endosulfan II, ug | Endrin Aldehyde, ug | 4,4'-DDT, ug | Endosulfan Sulfate, ug | Endrin ketone, ug | Methoxychlor, ug |  |
| Average RL= | 0.50         | 0.50       | 0.50         | 0.50              | 0.50                | 0.50         | 0.50                   | 0.50              | 0.50             |  |
| 00776682    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| 00776683    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| 00776684    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| 00776685    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| 00776686    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| 00776687    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| 00776688    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| 00776689    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| 00776690    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| 00776691    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| 00776697    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| 00776698    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| 00776699    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| 00776700    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| 00776701    | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |
| BLK_ENV-1   | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            |  |



AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
AGI TARGET COMPOUNDS  
ESTIMATED WATER CONCENTRATIONS  
SWCA PROJECT #27122  
ORDER #01688

| DATAFILE    | FIELD    | DATE/ TIME |     | DATE/ TIME |     | DATE/ TIME |     | DATE/ TIME |     | estimated |            |              |             |              |             |              |             |            |
|-------------|----------|------------|-----|------------|-----|------------|-----|------------|-----|-----------|------------|--------------|-------------|--------------|-------------|--------------|-------------|------------|
| NAME        | ID       | INSTALLED  |     | RETRIEVED  |     | RECEIVED   |     | ANALYZED   | DF  | TPH, ug/L | MTBE, ug/L | t12DCE, ug/L | 11DCA, ug/L | c12DCE, ug/L | CHCl3, ug/L | 111TCA, ug/L | 12DCA, ug/L | BENZ, ug/L |
| Average RL= |          |            |     |            |     |            |     |            |     | 0.053     | 0.013      | 0.007        | 0.007       | 0.007        | 0.007       | 0.005        | 0.008       | 0.006      |
| 00776682    | HCS410   | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | 0.053      | <0.012       | <0.007      | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     |
| 00776683    | HCS420   | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | 0.054      | <0.012       | <0.007      | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     |
| 00776684    | HCS430   | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | 0.055      | <0.012       | <0.007      | <0.007       | <0.007      | <0.005       | <0.007      | <0.006     |
| 00776685    | HCS440   | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | 0.062      | <0.012       | <0.007      | <0.007       | <0.007      | <0.005       | <0.007      | <0.006     |
| 00776686    | FDHCS440 | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | 0.063      | <0.012       | <0.007      | <0.007       | <0.007      | <0.005       | <0.007      | <0.006     |
| 00776687    | HCS460   | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | 0.056      | <0.012       | <0.007      | <0.007       | <0.007      | <0.005       | <0.007      | <0.006     |
| 00776688    | HSM410   | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | 0.059      | <0.013       | <0.008      | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     |
| 00776689    | HSM420   | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | 0.056      | <0.013       | <0.008      | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     |
| 00776690    | HSM430   | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | 0.057      | <0.013       | <0.008      | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     |
| 00776691    | FDHSM430 | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | 0.063      | <0.013       | <0.008      | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     |
| 00776697    | HSM440   | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | 0.056      | <0.013       | <0.008      | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     |
| 00776698    | HSM450   | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | <0.054     | <0.013       | <0.008      | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     |
| 00776699    | HSM460   | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | <0.054     | <0.013       | <0.008      | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     |
| 00776700    | HSM470   | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | 0.063      | <0.013       | <0.008      | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     |
| 00776701    | TB10     | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | <0.053     | <0.013       | <0.007      | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     |
| BLK_ENV-1   |          | 8/9/2016   | CDT | 8/23/2016  | CDT | 8/25/2016  | EDT | 8/30/2016  | EDT | 1         | <0.053     | <0.013       | <0.007      | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
AGI TARGET COMPOUNDS  
ESTIMATED WATER CONCENTRATIONS  
SWCA PROJECT #27122  
ORDER #01688

| DATAFILE    |            |           |              |           |           |           |              |                  |              |             |            |                  |              |              |             |             |
|-------------|------------|-----------|--------------|-----------|-----------|-----------|--------------|------------------|--------------|-------------|------------|------------------|--------------|--------------|-------------|-------------|
| NAME        | CCl4, ug/L | TCE, ug/L | 112TCA, ug/L | TOL, ug/L | OCT, ug/L | PCE, ug/L | CIBENZ, ug/L | 1112TetC A, ug/L | ETBENZ, ug/L | mpXYL, ug/L | oXYL, ug/L | 1122TetC A, ug/L | 135TMB, ug/L | 124TMB, ug/L | 13DCB, ug/L | 14DCB, ug/L |
| Average RL= | 0.005      | 0.006     | 0.009        | 0.006     | 0.005     | 0.005     | 0.006        | 0.007            | 0.005        | 0.005       | 0.005      | 0.011            | 0.005        | 0.005        | 0.006       | 0.006       |
| 00776682    | <0.004     | <0.006    | <0.009       | <0.005    | <0.004    | 0.019     | <0.006       | <0.006           | <0.005       | <0.005      | <0.005     | <0.010           | <0.005       | <0.005       | <0.005      | <0.006      |
| 00776683    | <0.004     | <0.006    | <0.009       | <0.005    | <0.004    | 0.037     | <0.006       | <0.006           | <0.005       | <0.005      | <0.005     | <0.010           | <0.005       | <0.005       | <0.005      | <0.006      |
| 00776684    | <0.004     | <0.006    | <0.009       | <0.005    | <0.004    | 0.095     | <0.006       | <0.006           | <0.005       | <0.005      | <0.005     | <0.010           | <0.005       | <0.005       | <0.005      | <0.006      |
| 00776685    | <0.004     | <0.006    | <0.009       | <0.005    | <0.004    | 0.069     | <0.006       | <0.006           | <0.005       | <0.005      | <0.005     | <0.010           | <0.005       | <0.005       | <0.005      | <0.006      |
| 00776686    | <0.004     | <0.006    | <0.009       | <0.005    | <0.004    | 0.069     | <0.006       | <0.006           | <0.005       | <0.005      | <0.005     | <0.010           | <0.005       | <0.005       | <0.005      | <0.006      |
| 00776687    | <0.004     | <0.006    | <0.009       | <0.005    | <0.004    | 0.037     | <0.006       | <0.006           | <0.005       | <0.005      | <0.005     | <0.010           | <0.005       | <0.005       | <0.005      | <0.006      |
| 00776688    | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | <0.005    | <0.006       | <0.007           | <0.005       | <0.005      | <0.005     | <0.011           | <0.005       | <0.005       | <0.006      | <0.006      |
| 00776689    | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.020     | <0.006       | <0.007           | <0.005       | <0.005      | <0.005     | <0.011           | <0.005       | <0.005       | <0.006      | <0.006      |
| 00776690    | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.137     | <0.006       | <0.007           | <0.005       | <0.005      | <0.005     | <0.011           | <0.005       | <0.005       | <0.006      | <0.006      |
| 00776691    | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.147     | <0.006       | <0.007           | <0.005       | <0.005      | <0.005     | <0.011           | <0.005       | <0.005       | <0.006      | <0.006      |
| 00776697    | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.024     | <0.006       | <0.007           | <0.005       | <0.005      | <0.005     | <0.011           | <0.005       | <0.005       | <0.006      | <0.006      |
| 00776698    | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.012     | <0.006       | <0.007           | <0.005       | <0.005      | <0.005     | <0.011           | <0.005       | <0.005       | <0.006      | <0.006      |
| 00776699    | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.015     | <0.006       | <0.007           | <0.005       | <0.005      | <0.005     | <0.011           | <0.005       | <0.005       | <0.006      | <0.006      |
| 00776700    | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.015     | <0.006       | <0.007           | <0.005       | <0.005      | <0.005     | <0.011           | <0.005       | <0.005       | <0.006      | <0.006      |
| 00776701    | <0.005     | <0.006    | <0.009       | <0.006    | <0.004    | <0.005    | <0.006       | <0.007           | <0.005       | <0.005      | <0.005     | <0.010           | <0.005       | <0.005       | <0.006      | <0.006      |
| BLK_ENV-1   | <0.005     | <0.006    | <0.009       | <0.006    | <0.005    | <0.005    | <0.006       | <0.007           | <0.005       | <0.005      | <0.005     | <0.011           | <0.005       | <0.005       | <0.006      | <0.006      |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA ENVIRONMENTAL, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS  
 ESTIMATED WATER CONCENTRATIONS  
 SWCA PROJECT #27122  
 ORDER #01688

| DATAFILE    |             |               |            | estimated    |               | estimated                | estimated      | estimated          | estimated      |
|-------------|-------------|---------------|------------|--------------|---------------|--------------------------|----------------|--------------------|----------------|
| NAME        | 12DCB, ug/L | UNDEC<br>ug/L | NAPH, ug/L | TRIDEC, ug/L | 2MeNAPH, ug/L | Acenaphth<br>ylene, ug/L | PENTADEC, ug/L | Acenaphthene, ug/L | Fluorene, ug/L |
| Average RL= | 0.006       | 0.020         | 0.016      | 0.020        | 0.013         | 0.014                    | 0.020          | 0.014              | 0.014          |
| 00776682    | <0.006      | <0.020        | <0.016     | <0.020       | <0.013        | <0.014                   | <0.020         | <0.014             | <0.014         |
| 00776683    | <0.006      | <0.020        | <0.016     | <0.020       | <0.013        | <0.014                   | <0.020         | <0.014             | <0.014         |
| 00776684    | <0.006      | <0.020        | <0.016     | <0.020       | <0.013        | <0.014                   | <0.020         | <0.014             | <0.014         |
| 00776685    | <0.006      | <0.020        | <0.016     | <0.020       | <0.013        | <0.014                   | <0.020         | <0.014             | <0.014         |
| 00776686    | <0.006      | <0.020        | <0.016     | <0.020       | <0.013        | <0.014                   | <0.020         | <0.014             | <0.014         |
| 00776687    | <0.006      | <0.020        | <0.016     | <0.020       | <0.013        | <0.014                   | <0.020         | <0.014             | <0.014         |
| 00776688    | <0.006      | <0.020        | <0.017     | <0.020       | <0.014        | <0.014                   | <0.020         | <0.014             | <0.014         |
| 00776689    | <0.006      | <0.020        | <0.017     | <0.020       | <0.014        | <0.015                   | <0.020         | <0.015             | <0.015         |
| 00776690    | <0.006      | <0.020        | <0.017     | <0.020       | <0.014        | <0.014                   | <0.020         | <0.014             | <0.014         |
| 00776691    | <0.006      | <0.020        | <0.017     | <0.020       | <0.014        | <0.014                   | <0.020         | <0.014             | <0.014         |
| 00776697    | <0.006      | <0.020        | <0.017     | <0.020       | <0.014        | <0.014                   | <0.020         | <0.014             | <0.014         |
| 00776698    | <0.006      | <0.020        | <0.017     | <0.020       | <0.014        | <0.014                   | <0.020         | <0.014             | <0.014         |
| 00776699    | <0.006      | <0.020        | <0.017     | <0.020       | <0.014        | <0.014                   | <0.020         | <0.014             | <0.014         |
| 00776700    | <0.006      | <0.020        | <0.017     | <0.020       | <0.014        | <0.014                   | <0.020         | <0.014             | <0.014         |
| 00776701    | <0.006      | <0.020        | <0.016     | <0.020       | <0.013        | <0.014                   | <0.020         | <0.014             | <0.014         |
| BLK_ENV-1   | <0.006      | <0.020        | <0.016     | <0.020       | <0.013        | <0.014                   | <0.020         | <0.014             | <0.014         |

## KEY TO DATA TABLE

### UNITS

|                   |  |
|-------------------|--|
| µg                | micrograms, relative mass value                              |
| µg/m <sup>3</sup> | micrograms per cubic meter; estimated soil gas concentration |
| µg/L              | micrograms per Liter; calculated water concentration         |

### DATA QUALIFIERS

|   |  |
|---|--|
| > | greater than; value exceeds calibration range, estimated value   |
| < | less than; compound value is below the LOD and RL                |
| J | mass value below LOQ or RL, but above LOD, estimated mass value  |
| E | mass value exceeds upper calibration level, estimated mass value |
| Q | one or more quality control parameters failed for the compound   |

### ABBREVIATIONS

|        |  |
|--------|--|
| AVG RL | average reporting limit; calculated based on individual field sample RLs |
| LOD    | limit of detection   |
| LOQ    | limit of quantification  |
| MDL    | method detection limit   |
| RL     | reporting limit  |

|             |   |          |  |
|-------------|---|----------|--|
| 1112TetCA   | 1,1,1,2-tetrachloroethane   | CIBENZ   | chlorobenzene  |
| 111TCA      | 1,1,1-trichloroethane   | ct12DCE  | cis- & trans-1,2-dichloroethene                                      |
| 1122TetCA   | 1,1,2,2-tetrachloroethane   | EtBENZ   | ethylbenzene   |
| 112TCA      | 1,1,2-trichloroethane   | mpXYL    | m-, p-xylene   |
| 11DCA       | 1,1-dichloroethane  | MTBE     | methyl t-butyl ether   |
| 11DCE       | 1,1-dichloroethene  | NAPH     | naphthalene  |
| 124TMB      | 1,2,4-trimethylbenzene  | OCT      | octane   |
| 12DCA       | 1,2-dichloroethane  | oXYL     | o-xylene   |
| 12DCB       | 1,2-dichlorobenzene   | PCE      | tetrachloroethene  |
| 135TMB      | 1,3,5-trimethylbenzene  | PENTADEC | pentadecane  |
| 13DCB       | 1,3-dichlorobenzene   | PHEN     | phenanthrene   |
| 14DCB       | 1,4-dichlorobenzene   | t12DCE   | trans-1,2-dichloroethene   |
| 2MeNAPH     | 2-methyl naphthalene  | TCE      | trichloroethene  |
| BENZ        | benzene   | TMBs     | combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene |
| BTEX        | combined masses of benzene, toluene, ethylbenzene, and total xylenes (Gasoline Range Aromatics) | TOL      | toluene  |
| C11,C13&C15 | combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)    | TPH      | total petroleum hydrocarbons   |
| c12DCE      | cis-1,2-dichloroethene  | TRIDEC   | tridecane  |
| CCl4        | carbon tetrachloride  | UNDEC    | undecane   |
| CHC13       | chloroform  | VC       | vinyl chloride   |

## SUMMARY OF SAMPLING RATE CALIBRATION FOR AGI UNIVERSAL SAMPLER IN AQUEOUS PHASES

### INTRODUCTION:

The Amplified Geochemical Imaging, LLC (AGI) passive vapor sampler is designed to be used for soil gas, water, sediment pore water, and air sampling. This document describes the process used to calibrate the sampler's compound specific sampling or uptake rates in aqueous phases.

Sampling rates are measured following AGI's "Standard Practice for Determining the Sampling Rate of Passive Diffusion Samplers in Various Environmental Media": SPG-SOP-0493. Rates are used to calculate dissolved phase concentrations of volatile and semi-volatile contaminants in water. The calibration process is summarized in three parts: Part 1: shallow water, Part 2: deep water, and Part 3: sediment.

### PURPOSE:

The purpose of this document is to:

1. Summarize the test protocol,
2. Summarize the methodology for analysis of data,
3. Present general results for generating concentration calibration of the AGI Universal Sampler

### Principle of Operation of the AGI Sampler

The AGI Universal Sampler is designed with solid adsorbents enclosed inside a tubular microporous PTFE membrane. When placed in water, the pores and hydrophobic nature of the PTFE keep liquid water from entering the membrane until a water head of about 34 feet is reached. The membrane will not keep water vapor from entering but the adsorbents are very hydrophobic and through testing validated to be unaffected by this moisture vapor. In shallow water, <34', volatile and semi-volatile compounds will partition from the dissolved water into the air phase in the PTFE membrane according to Henry's Law. This partitioning is instantaneous and within seconds-minutes, the compound is adsorbed by the adsorbent inside the sealed tube. Because the diffusivity in air is about 10,000 times higher than the diffusivity in water, the sampling rate is controlled by the water contact area of the membrane that allows the Henry's Law effect to occur. This contact area is set by the membrane diameter and length of the sealed tube, which is fixed in AGI's manufacturing process.

Henry's law as well as diffusivity, which are fundamentally incorporated into the sampling rate, are affected by temperature,  $T$ , and follow an Arrhenius equation  $H_T = H_r \times \exp\left(\frac{-E_a/R}{1/T_r - 1/T}\right)$ . Because a 5°C temperature change can make a 15% change in sampling rate, the temperature of the sampled water should be known to get the most precise concentration.

The membrane pore size is also small enough that colloidal particles and microbes cannot pass through the membrane. This keeps the adsorbent from getting contaminated and eliminates any need to add preservative or chilling during storage or transportation.

When the water pressure exceeds the water entry pressure of the membrane, about 34 feet of water, the water becomes in contact with the solid adsorbent. Under this condition the compounds in the water will partition from the water into the solid. The partitioning coefficient,  $K_{AW}$ , can be approximated by the octanol-water coefficient,  $K_{OW}$ , but has been measured more precisely in the lab for AGI's specific solid adsorbent. The sampling rate is the product of the sampling rate at <34' of water and the  $K_{AW}$ .

In sediment, the sampler measures pore-water concentration, which is generally agreed to be the preferred measurement as it is more indicative of bioavailability. In sediment the volumetric

availability of water to the sampler is reduced by the volume fraction solids in the sediment, which typically varies from zero to 35%, but can be as high as 73% in well packed and broad particle size distribution sediments. As a result, sampling rates in sediment are multiplied by the fraction pore water in the sediment to determine concentration.

## **PART 1: Calibration in shallow water**

Part 1 summarizes the work in shallow water generating calibration data, evaluating the physical and chemical factors affecting the sampling rate, and measurement of the actual sampling rates or regression calibration equations needed to determine concentrations.

### **Sample Generation in water**

In this calibration work, solutions of analytes at known concentrations were formulated in clean 4 liter smoked glass jugs by injecting microliter measured amounts of environmental standards using a calibrated syringe into pure or deionized water and stirring for a minimum of 2 hours but generally overnight. Headspace in the jugs was minimized and generally less than 1% by volume during the tests. Jugs were temperature controlled by placing them in a water filled cooler, chilled via a copper tubing loop in the cooler. Temperature was measured with a certified digital temperature gauge and an average value used for each temperature experiment.

AGI samplers were weighted so they won't float and placed in the jugs at time zero. They were removed at various intervals to generate samples along with duplicates that showed mass increasing with exposure time. The sampler exposure time was selected to span minutes to hours and was generally reduced for high concentration tests to maintain uptake with time in roughly the linear dynamic range. Samplers were removed and dried with a paper towel and returned to their original container for analysis. They were analyzed by AGI's 8260C (SPG-WI-318 or SPG-WI-10028) method in duplicate, which is based on EPA SW846 Method 8260C.

Water samples were also taken and measured at an outside accredited lab using EPA SW846 Method 8260B. The concentrations agreed well with the calculated concentrations based on the standard certification, jug volume, and syringe injection. The variability of the outside lab 8260B values were found to be high, so for the sampling rate calculations we used the concentrations based on syringe dosing.

Calibrations were run at five concentrations, nominally at 6, 24, 118, 590, 1420 ug/L and five temperatures nominally at 5, 10, 15, 20, and 25 degrees centigrade. Samples were taken at 4 different exposure times. Samples were run in duplicate. A total of 176 data points were generated using 28 compounds from AGI's standard compounds list. Tridecane and pentadecane were not evaluated due to their very low solubility in water. In addition, another 23 compounds were tested using an 8260 liquid standard at nominal concentrations of 0.5, 1.0, 5.0, 15, 95, and 470 ug/L at a temperature typical of groundwater, 15°C. This is a living calibration and as additional data are generated, they may be qualified and added to this data set to improve the precision of the sampling rate calibration and broaden the compound list.

## Key Variable Effects

As expected from theory, at short to moderate exposure times, mass will increase roughly linearly proportional to exposure time, as well as proportional to concentration, and exponentially with temperature following Arrhenius law. Temperature affects the Henry's law as well as diffusivity in water. Sampling rate is generally independent of concentration and time at mass values significantly below saturation. In the following sections we have characterized the sampling rate for each compound as affected by temperature and also developed calibrations using regression which account for the minor impact of time, and mass.

## Concentration using Simple Sampling Rate Determination

A simple way to determine concentration is to measure mass on the AGI sampler, divide by exposure time, and divide by sampling rate, SR.

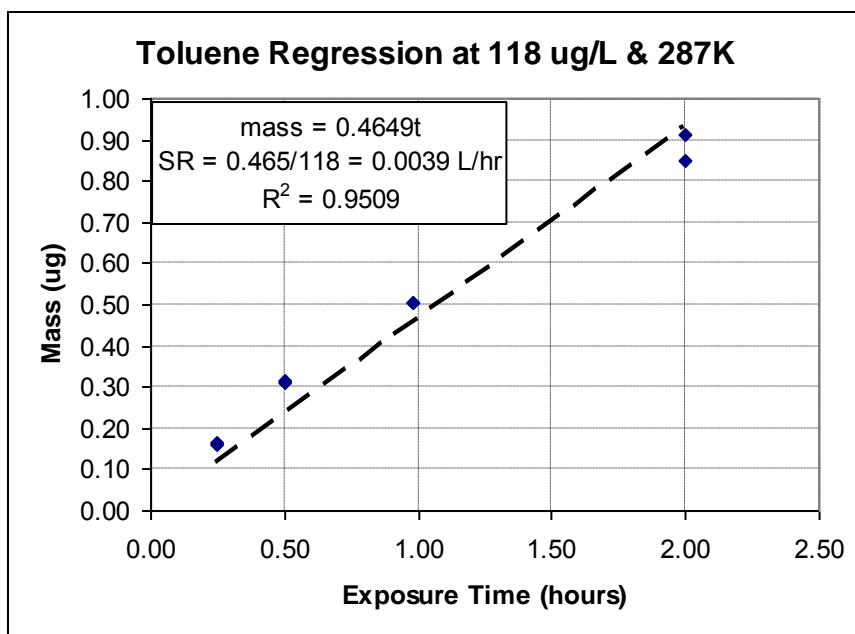
$$\text{Conc [ug/L]} = \text{mass/time/SR} \quad (1)$$

The sampling rate can be determined via measurements of mass versus time at a known concentration and temperature according to the following modification of equation (1).

$$\text{SR} = \text{mass/time/concentration} \quad (2)$$

Sampling rates in L/hr were determined by measuring the trend or regression mass uptake versus time and dividing by the concentration. A measurement like this will use 8 data points (4 times x 2 samples). Such a sampling rate can be measured at any concentration and temperature.

The chart to the right shows a plot of mass versus time for water at 118 ug/L and 287K (actual data from a single run). Slope of 0.465 ug/hr divided by the concentration of 118 ug/L yields a sampling rate, SR, of 0.0039 L/hr.



SR's typically range from about 0.004 to 0.007 L/hr at 15°C. Table A shows SR's measured for our standard compound list at 5 temperatures.



## Rigorous Concentration using Regression

A preferred method for determining concentration that will yield improved accuracy over a wide range of concentrations, exposure times, and temperatures is to use all data in a regression analysis, which allows adjustments for the minor non-linear influences of mass and time as well as the effects of temperature. This step is done by regressing equation (1) or a universal version of equation (1):

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRo} * \exp(-\text{Ea}/\text{R}/\text{T})] \quad (3)$$

The subtle non-linear effects of mass and time will be evident in the deviation of coefficients b and d from 1.0. This regression generates four constants b, d, SRo, and  $-\text{Ea}/\text{R}$  by regressing  $\ln(\text{conc})$  versus  $\ln(\text{mass})$ ,  $\ln(\text{time})$ ,  $1/\text{temp}$ . These four constants can be used to determine concentration via the equation:

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRo} * \exp(-\text{Ea}/\text{R}(1/\text{T}))] \quad (4)$$

Where conc is in ug/L, mass is in ug, time in hours, T in degrees Kelvin.

Equation (4) can be also expressed at a reference temperature,  $\text{Tr}$ , such as 15°C by

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRr} * \exp(-\text{Ea}/\text{R}(1/\text{Tr} - 1/\text{T}))] \quad (5)$$

This step allows sampling rates, SRr, at any reference temperature,  $\text{Tr}$ , and for any analyte to easily be compared. The values of SRr at 293.14K can be found in Table A.

When sampling times are between 0 and 4 hours, using the 4 constant equation (5) is preferred. For concentrations from about 5 to 1500 ug/L one hour exposure times generally give the lowest error, typically with average error of 6-20% and with total error range of 12%-32%. For low concentrations where sampling times are greater than 4 hours, it is preferred to use equation (1) to avoid unrealistic effects from the coefficient d or to set d to 1.0. In such a case SR in equation (1) can be substituted with  $[\text{SRr} * \exp(-\text{Ea}/\text{R}(1/\text{Tr} - 1/\text{T}))]$  to use an SR representative of the well temperature, T.

The chart to the right is a plot of the calculated concentration from the 4 constant regression compared to the dosed concentration. Agreement is excellent for the 176 data points.

However, there does appear to be a slight high bias of 8.6% over the full range of this data, although it is well within acceptable limits of variability.

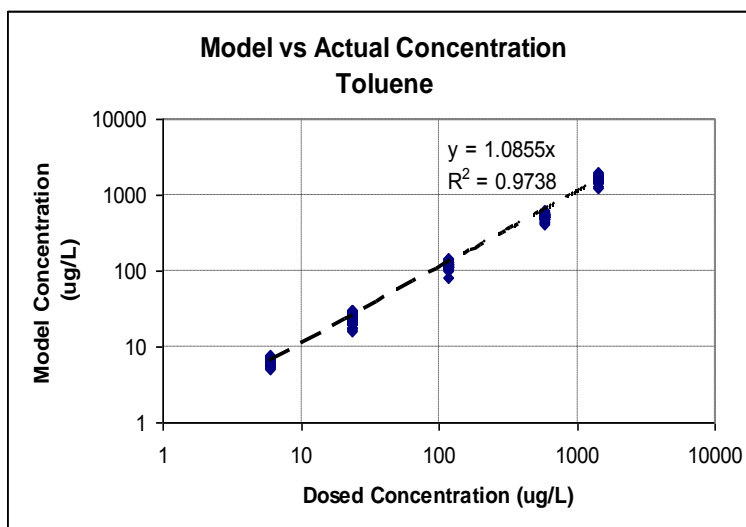


Table B shows the tabulated summary of the 4 constants regression with Rsq values and error estimates for the 4 constants for each analyte. Most regression Rsq values are 0.99 or greater for each analyte. In general,  $-E_a/R$  is about 2400 $\pm$ 400, b is about 0.9, d is about -0.75, and SR(15°C) ranges from .004 L/hr to 0.007 L/hr increasing with MW of the compound.

### Error Estimates

The error in the water concentration values will depend on both the error in mass from the analytical method as well as the error in the concentration calibration. Table C shows the error in the mass values from the 8260C low sensitivity method.

The standard error of the regression and standard errors of the constants can be found in table B. For each compound we have measured the error between the derived concentration and the actual concentration. The error tends to be lowest at our recommended exposure time of one hour as shown by the example for Toluene to the right.

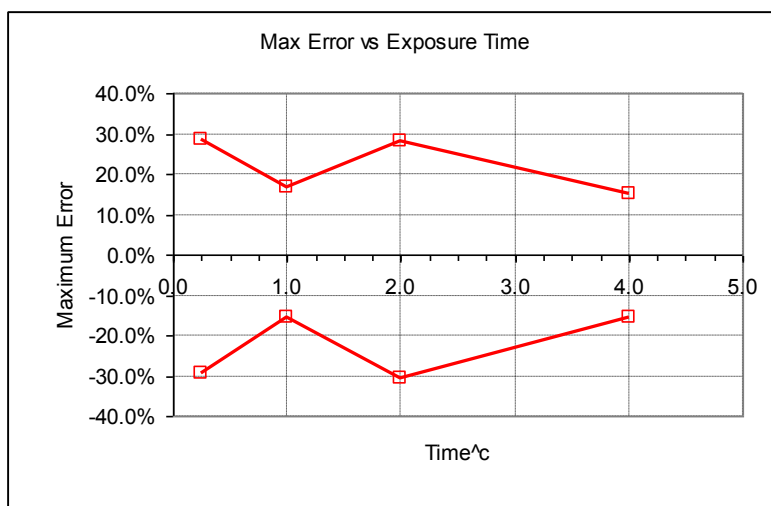
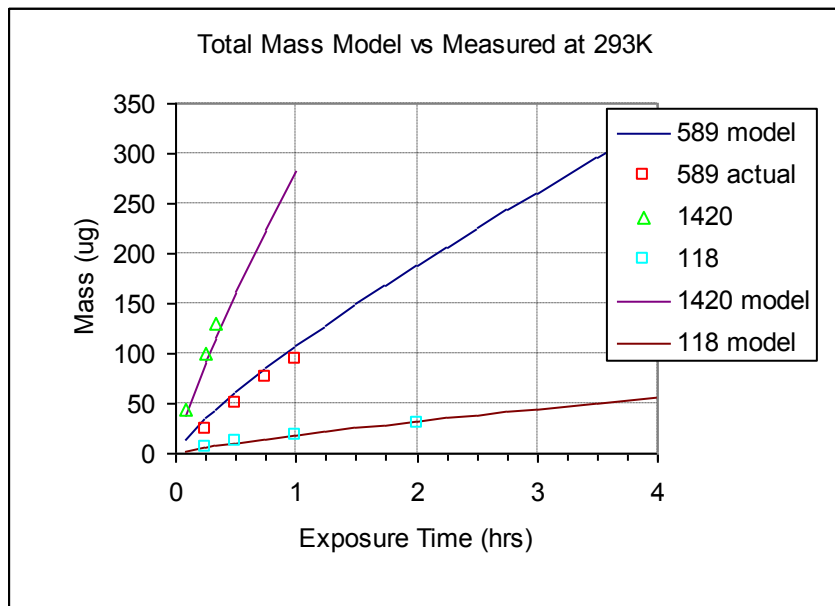


Table D shows the total average error in water concentration by compound as well as the low and high error. The average ranges from about 6% to 20%, which is similar to the analytical method errors. The low and high errors range from 12% to 32% and include contribution from measurement errors in both time and temperature.

### Sorbent Saturation

As mass increases on a solid sorbent and approaches saturation, reverse diffusion can occur causing the sampling rate to drop. Eventually the mass level will reach a maximum steady state value at any concentration. A rate of mass uptake with time that deviates significantly from linear, indicates that sorbent saturation could be an issue. When using equation (1), staying in the linear range to avoid the effects of adsorbent saturation is important. We recommend keeping the total mass on the sampler below 50 ug or flagging when this is exceeded.

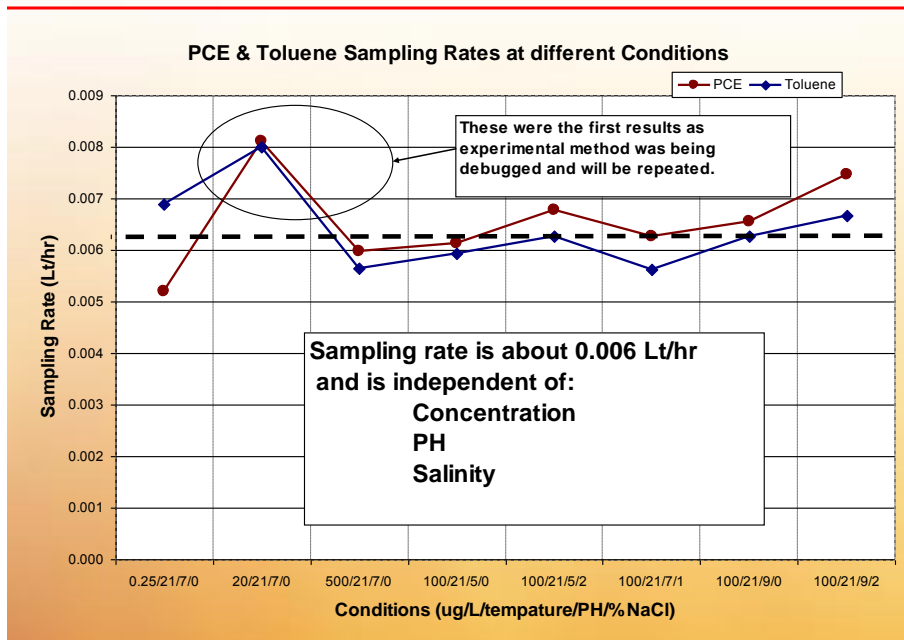
The 4 constant regression accounts for some of the non linearity allowing good accuracy at higher mass levels. From the experimental data we have found this safe range can be extended to 100 ug or higher as shown in the chart below. This chart compares total mass of all compounds (excluding heavy alkanes, which have solubility issues) versus time in comparison to that predicted from the 4-constant concentration equation.



### Effect of PH and Salinity

Because neither PH nor salinity is known to have a significant impact on Henry's law or diffusivity in water, we did not expect them to have a significant impact on sampling rate. To confirm this, experiments were run varying PH from 5 to 9 and NaCl content from 0 to 2%. The chart below shows no significant impact for combinations of PH and NaCl content over this range on the sampling rate of toluene in water at 21°C.

### Checked for Effects of PH & Salinity

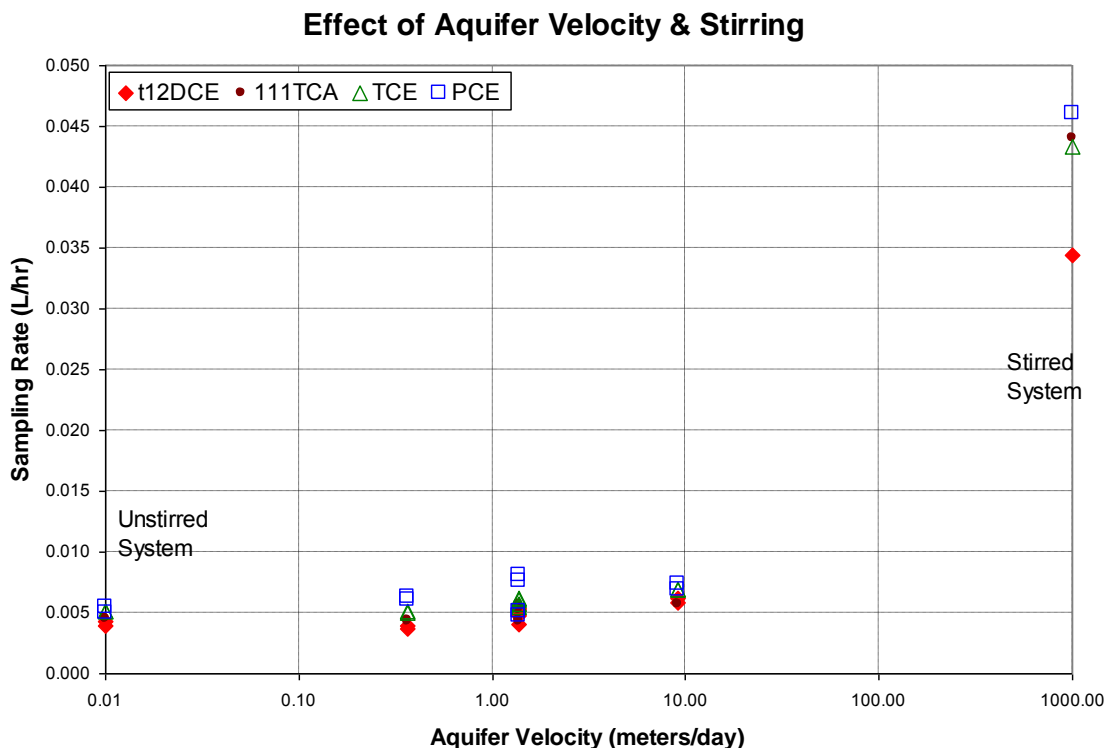


## Impact of Aquifer Velocity

The velocity in most aquifers is quite slow, typically a meter/day or less. Occasionally water flow could be much higher such as encountered in karst aquifers, streams or rivers. Mass transfer coefficients are higher in high flow conditions, which will lead to higher sampling rates. We validated that a highly stirred system had sampling rates about 10 times higher than those that were non-stirred. We decided to evaluate the effect of aquifer velocity.

A test apparatus was built comprising a 3" PVC pipe tee filled with clean sand in each of the horizontal straight legs and screened to leave the center open. A test solution was run through this system using a variable flow pump and AGI samplers were placed into the simulated well through the vertical leg of the tee. Tests were run to examine the effect of velocity by varying the pumping rate and hence water velocity.

The chart below shows no significant effect of aquifer velocity up to a speed of about 10 meters/day. At velocities significantly above this, similar to a stirred system, sampling rates are about 10 times higher.

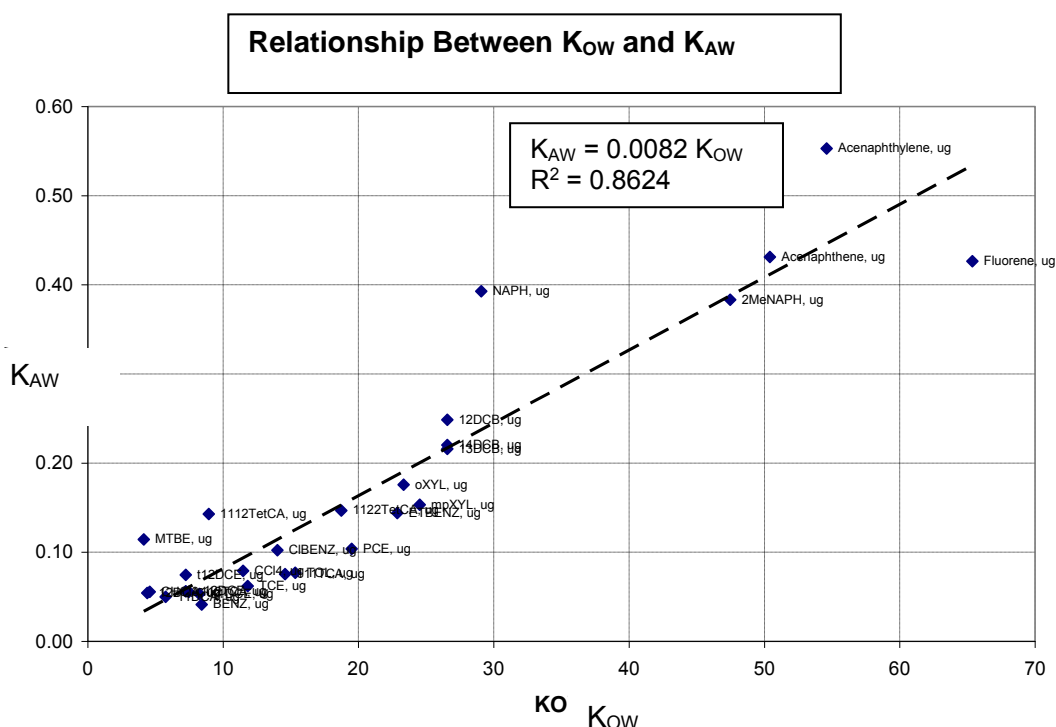


## Part 2: Calibration in Deep (>34') water

Part 2 describes the effect of deep water on the AGI sampler and summarizes the effects on sampling rate and concentration measurement.

When the water pressure exceeds the water entry pressure of the membrane, about 34 feet of water, the water becomes in direct contact with the solid adsorbent. Under this condition the compounds in the water will partition from the water into the solid. The partitioning coefficient is closely related to the octanol-water coefficient,  $K_{OW}$ , but has been measured more precisely in the lab for AGI's specific solid adsorbent,  $K_{AW}$ . The sampling rate for deep water is the product of the sampling rate at <34' of water and the  $K_{AW}$ .

Measurement of the  $K_{AW}$  was done in a one liter stainless steel vessel pressurized with nitrogen to simulate water heads above 34' of water. Pressures of up to 465 psig or 200' of water head were used. The sampling rate change was the same at all pressures above 34' of water. The  $K_{AW}$  was determined as the ratio between the mass or sampling rate above 34' of head to the rate at <34' of head and is shown in the chart below.



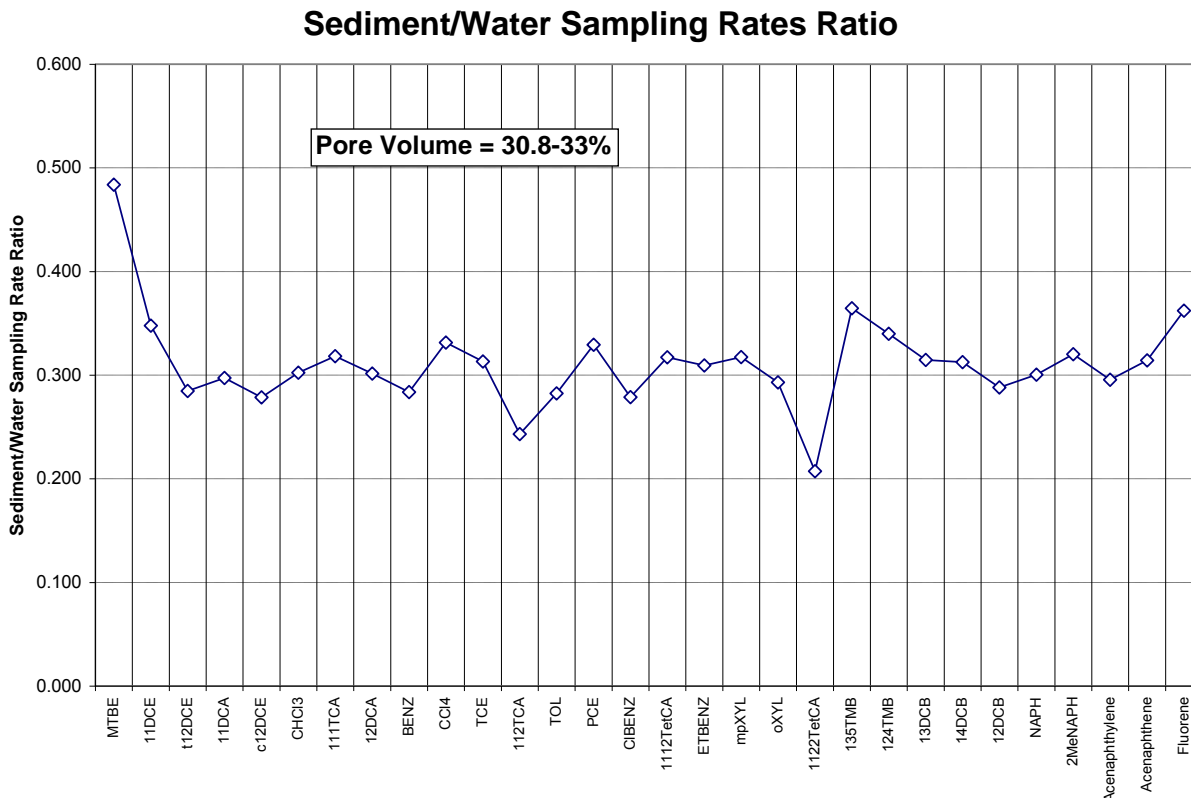
## Part 3: Calibration in Sediment

Part 3 describes the effect of sediment solids or sediment pore volume on the sampling rate and concentration measurement.

In sediment, the sampler measures pore water concentration, which is generally agreed to be the preferred measurement as it is more indicative of bioavailability. In sediment the volumetric availability of water to the sampler is reduced by the volume fraction solids in the sediment. As a result sampling rates in sediment are multiplied by the fraction pore water to determine

concentration. Pore water fraction can range from 1.0 for water without sediment to as low as 0.25. Typically most sediments have pore fractions of 0.9 to 0.65.

A sampling rate study was done with water and with water added into a well-packed sorted sand. Pore water fraction in this test was measured between 30.8% and 33% by volume. Below is a plot of the ratio of sampling rates measured in the sediment to open water. The average ratio is equal to the pore water fraction confirming that sampling rate in sediment is on average equal to the product of pore water fraction times the sampling rate in water.



## Summary

The AGI Sampler can be used to determine the concentration of volatile and semi-volatile compounds in a water phase. This requires knowing the exposure time and water temperature. It also requires knowing if the sample is above or below 34' of water head and if the water has a velocity above 10 meters/day. Regressions of large amounts of data were used to generate a four constant equation to generate concentration values in water. Potential error in the concentration values is excellent typically less than 25%.

**TABLE A**  
**WATER SAMPLING RATES STANDARD LIST**

|                   | <b>SRr</b><br>293.14 | <b>SR @</b><br>277.54 | <b>SR @</b><br>282.44 | <b>SR @</b><br>287.84 | <b>SR @</b><br>293.24 | <b>SR @</b><br>298.94 |
|-------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>MTBE</b>       | 0.0025               | 0.0014                | 0.0016                | 0.0018                | 0.0022                | 0.0029                |
| <b>t12DCE</b>     | 0.0043               | 0.0028                | 0.0028                | 0.0027                | 0.0037                | 0.0048                |
| <b>11DCA</b>      | 0.0047               | 0.0031                | 0.0033                | 0.0033                | 0.0039                | 0.0052                |
| <b>c12DCE</b>     | 0.0046               | 0.0030                | 0.0031                | 0.0031                | 0.0038                | 0.0051                |
| <b>CHCl3</b>      | 0.0046               | 0.0030                | 0.0031                | 0.0031                | 0.0038                | 0.0051                |
| <b>111TCA</b>     | 0.0066               | 0.0043                | 0.0047                | 0.0047                | 0.0056                | 0.0076                |
| <b>12DCA</b>      | 0.0045               | 0.0029                | 0.0029                | 0.0030                | 0.0036                | 0.0050                |
| <b>BENZ</b>       | 0.0050               | 0.0031                | 0.0034                | 0.0035                | 0.0042                | 0.0056                |
| <b>CCl4</b>       | 0.0068               | 0.0044                | 0.0048                | 0.0047                | 0.0058                | 0.0080                |
| <b>TCE</b>        | 0.0052               | 0.0030                | 0.0034                | 0.0034                | 0.0043                | 0.0058                |
| <b>112TCA</b>     | 0.0043               | 0.0027                | 0.0027                | 0.0028                | 0.0034                | 0.0048                |
| <b>TOL</b>        | 0.0056               | 0.0034                | 0.0039                | 0.0039                | 0.0047                | 0.0062                |
| <b>OCT</b>        | 0.0064               | 0.0046                | 0.0050                | 0.0040                | 0.0058                | 0.0089                |
| <b>PCE</b>        | 0.0061               | 0.0036                | 0.0043                | 0.0043                | 0.0051                | 0.0069                |
| <b>CIBENZ</b>     | 0.0054               | 0.0033                | 0.0039                | 0.0040                | 0.0045                | 0.0059                |
| <b>1112TetCA</b>  | 0.0061               | 0.0037                | 0.0042                | 0.0044                | 0.0050                | 0.0065                |
| <b>EtBENZ</b>     | 0.0060               | 0.0037                | 0.0045                | 0.0044                | 0.0052                | 0.0069                |
| <b>mpXYL</b>      | 0.0064               | 0.0039                | 0.0048                | 0.0046                | 0.0055                | 0.0072                |
| <b>oXYL</b>       | 0.0066               | 0.0041                | 0.0050                | 0.0048                | 0.0057                | 0.0074                |
| <b>1122TetCA</b>  | 0.0044               | 0.0027                | 0.0029                | 0.0031                | 0.0036                | 0.0046                |
| <b>135TMB</b>     | 0.0079               | 0.0046                | 0.0059                | 0.0056                | 0.0071                | 0.0093                |
| <b>124TMB</b>     | 0.0078               | 0.0046                | 0.0060                | 0.0055                | 0.0071                | 0.0092                |
| <b>13DCB</b>      | 0.0072               | 0.0041                | 0.0055                | 0.0053                | 0.0063                | 0.0080                |
| <b>14DCB</b>      | 0.0071               | 0.0040                | 0.0054                | 0.0052                | 0.0062                | 0.0079                |
| <b>12DCB</b>      | 0.0070               | 0.0040                | 0.0053                | 0.0051                | 0.0060                | 0.0076                |
| <b>UNDEC</b>      |                      | 0.0026                | 0.0024                | 0.0020                | 0.0031                | 0.0029                |
| <b>NAPH</b>       |                      | 0.0041                | 0.0056                | 0.0054                | 0.0064                | 0.0081                |
| <b>TRIDEC</b>     |                      |                       |                       |                       |                       |                       |
| <b>2MeNAPH</b>    |                      | 0.0043                | 0.0066                | 0.0066                | 0.0080                | 0.0108                |
| <b>PENTADEC</b>   |                      |                       |                       |                       |                       |                       |
| <b>Total mass</b> | 0.1177               | 0.0822                | 0.1339                | 0.1334                | 0.1773                | 0.1981                |

Notes:

Values in L/hr

Total mass does not include UNDEC, TRIDEC, PENTADEC (28 compounds)



**TABLE B**  
**4 CONSTANT REGRESSION OUTPUT**

|                   | <b>Adjusted<br/>Rsq</b> | <b>Standard<br/>Error</b> | <b>ln(SR0)</b> | <b>b</b> | <b>-Ea/R</b> | <b>d</b> | <b>Std<br/>Error<br/>ln(SR0)</b> | <b>Std<br/>Error<br/>b</b> | <b>Std<br/>Error<br/>-<br/>Ea/R</b> | <b>Std<br/>Error<br/>d</b> |
|-------------------|-------------------------|---------------------------|----------------|----------|--------------|----------|----------------------------------|----------------------------|-------------------------------------|----------------------------|
| <b>MTBE</b>       | 0.997                   | 0.0960                    | -3.217         | 0.981    | 2704         | -0.709   | 0.2881                           | 0.0062                     | 83                                  | 0.0082                     |
| <b>t12DCE</b>     | 0.992                   | 0.1659                    | -1.877         | 0.905    | 2147         | -0.760   | 0.4971                           | 0.0100                     | 144                                 | 0.0138                     |
| <b>11DCA</b>      | 0.995                   | 0.1272                    | -1.346         | 0.916    | 1965         | -0.746   | 0.3809                           | 0.0077                     | 110                                 | 0.0106                     |
| <b>c12DCE</b>     | 0.995                   | 0.1299                    | -1.905         | 0.911    | 2137         | -0.751   | 0.3892                           | 0.0078                     | 112                                 | 0.0109                     |
| <b>CHCl3</b>      | 0.996                   | 0.1260                    | -1.841         | 0.912    | 2118         | -0.748   | 0.3776                           | 0.0076                     | 109                                 | 0.0105                     |
| <b>111TCA</b>     | 0.995                   | 0.1279                    | -2.684         | 0.902    | 2259         | -0.761   | 0.3836                           | 0.0076                     | 111                                 | 0.0106                     |
| <b>12DCA</b>      | 0.995                   | 0.1263                    | -2.161         | 0.908    | 2218         | -0.746   | 0.3786                           | 0.0076                     | 109                                 | 0.0106                     |
| <b>BENZ</b>       | 0.995                   | 0.1323                    | -2.207         | 0.920    | 2198         | -0.754   | 0.3965                           | 0.0080                     | 114                                 | 0.0110                     |
| <b>CCl4</b>       | 0.994                   | 0.1405                    | -3.121         | 0.889    | 2379         | -0.776   | 0.4220                           | 0.0083                     | 122                                 | 0.0116                     |
| <b>TCE</b>        | 0.992                   | 0.1655                    | -3.338         | 0.900    | 2522         | -0.772   | 0.4969                           | 0.0099                     | 144                                 | 0.0137                     |
| <b>112TCA</b>     | 0.995                   | 0.1264                    | -2.412         | 0.896    | 2302         | -0.724   | 0.3790                           | 0.0075                     | 109                                 | 0.0107                     |
| <b>TOL</b>        | 0.994                   | 0.1426                    | -2.873         | 0.916    | 2364         | -0.756   | 0.4281                           | 0.0087                     | 124                                 | 0.0119                     |
| <b>OCT</b>        | 0.938                   | 0.4698                    | -5.984         | 0.822    | 3235         | -0.827   | 1.4231                           | 0.0277                     | 412                                 | 0.0388                     |
| <b>PCE</b>        | 0.991                   | 0.1773                    | -3.780         | 0.877    | 2601         | -0.775   | 0.5329                           | 0.0103                     | 154                                 | 0.0147                     |
| <b>CIBENZ</b>     | 0.994                   | 0.1457                    | -2.601         | 0.911    | 2292         | -0.747   | 0.4370                           | 0.0088                     | 126                                 | 0.0122                     |
| <b>1112TetCA</b>  | 0.996                   | 0.1235                    | -2.676         | 0.898    | 2281         | -0.725   | 0.3705                           | 0.0073                     | 107                                 | 0.0104                     |
| <b>EtBENZ</b>     | 0.993                   | 0.1597                    | -2.930         | 0.918    | 2357         | -0.752   | 0.4794                           | 0.0097                     | 138                                 | 0.0134                     |
| <b>mpXYL</b>      | 0.992                   | 0.1678                    | -3.036         | 0.909    | 2372         | -0.749   | 0.5037                           | 0.0101                     | 145                                 | 0.0140                     |
| <b>oXYL</b>       | 0.993                   | 0.1555                    | -2.862         | 0.911    | 2312         | -0.740   | 0.4667                           | 0.0094                     | 135                                 | 0.0131                     |
| <b>1122TetCA</b>  | 0.996                   | 0.1118                    | -1.971         | 0.913    | 2167         | -0.691   | 0.3351                           | 0.0067                     | 97                                  | 0.0096                     |
| <b>135TMB</b>     | 0.988                   | 0.2024                    | -4.435         | 0.897    | 2720         | -0.738   | 0.6093                           | 0.0121                     | 176                                 | 0.0170                     |
| <b>124TMB</b>     | 0.989                   | 0.1997                    | -4.126         | 0.890    | 2631         | -0.731   | 0.6009                           | 0.0118                     | 173                                 | 0.0169                     |
| <b>13DCB</b>      | 0.991                   | 0.1832                    | -3.422         | 0.888    | 2449         | -0.730   | 0.5503                           | 0.0108                     | 159                                 | 0.0155                     |
| <b>14DCB</b>      | 0.991                   | 0.1802                    | -3.263         | 0.892    | 2408         | -0.724   | 0.5413                           | 0.0107                     | 156                                 | 0.0153                     |
| <b>12DCB</b>      | 0.992                   | 0.1697                    | -2.970         | 0.894    | 2327         | -0.716   | 0.5092                           | 0.0101                     | 147                                 | 0.0144                     |
| <b>UNDEC</b>      | 0.694                   | 0.374                     | -1.406         | 0.426    | 1708         | -0.806   | 1.792                            | 0.028                      | 517                                 | 0.053                      |
| <b>NAPH</b>       | 0.992                   | 0.166                     | -3.374         | 0.915    | 2430         | -0.671   | 0.497                            | 0.010                      | 144                                 | 0.014                      |
| <b>TRIDEC</b>     |                         |                           |                |          |              |          |                                  |                            |                                     |                            |
| <b>2MeNAPH</b>    | 0.984                   | 0.238                     | -5.498         | 0.869    | 2990         | -0.689   | 0.72                             | 0.014                      | 208                                 | 0.021                      |
| <b>PENTADEC</b>   |                         |                           |                |          |              |          |                                  |                            |                                     |                            |
| <b>Total mass</b> | 0.993                   | 0.1543                    | -6.111         | 0.907    | 2419         | -0.732   | 0.4666                           | 0.0093                     | 134                                 | 0.0130                     |

**TABLE C**  
**8260C MASS UNCERTAINTY**

**AGI 8260C Method for Mass using SPG-0008  
Samplers**

|           | 99%<br>Uncertainty Range<br>+/- | 95%<br>Uncertainty Range<br>+/- |
|-----------|---------------------------------|---------------------------------|
| MTBE      | 20%                             | 14%                             |
| t12DCE    | 22%                             | 15%                             |
| 11DCA     | 18%                             | 12%                             |
| c12DCE    | 18%                             | 12%                             |
| CHCl3     | 16%                             | 11%                             |
| 111TCA    | 18%                             | 12%                             |
| 12DCA     | 20%                             | 13%                             |
| BENZ      | 16%                             | 10%                             |
| CCl4      | 19%                             | 12%                             |
| TCE       | 15%                             | 10%                             |
| 112TCA    | 18%                             | 12%                             |
| TOL       | 15%                             | 10%                             |
| OCT       | 20%                             | 13%                             |
| PCE       | 16%                             | 11%                             |
| CIBENZ    | 18%                             | 12%                             |
| 1112TetCA | 19%                             | 13%                             |
| EtBENZ    | 18%                             | 12%                             |
| mpXYL     | 18%                             | 12%                             |
| oXYL      | 18%                             | 12%                             |
| 1122TetCA | 23%                             | 15%                             |
| 135TMB    | 21%                             | 14%                             |
| 124TMB    | 20%                             | 14%                             |
| 13DCB     | 19%                             | 13%                             |
| 14DCB     | 19%                             | 13%                             |
| 12DCB     | 20%                             | 14%                             |
| NAPH      | 21%                             | 14%                             |
| 2MeNAPH   | 25%                             | 17%                             |

**TABLE D**  
**4 CONSTANT WATER CONCENTRATION UNCERTAINTY**  
**ERROR IN CONCENTRATION REPORTING (1)**

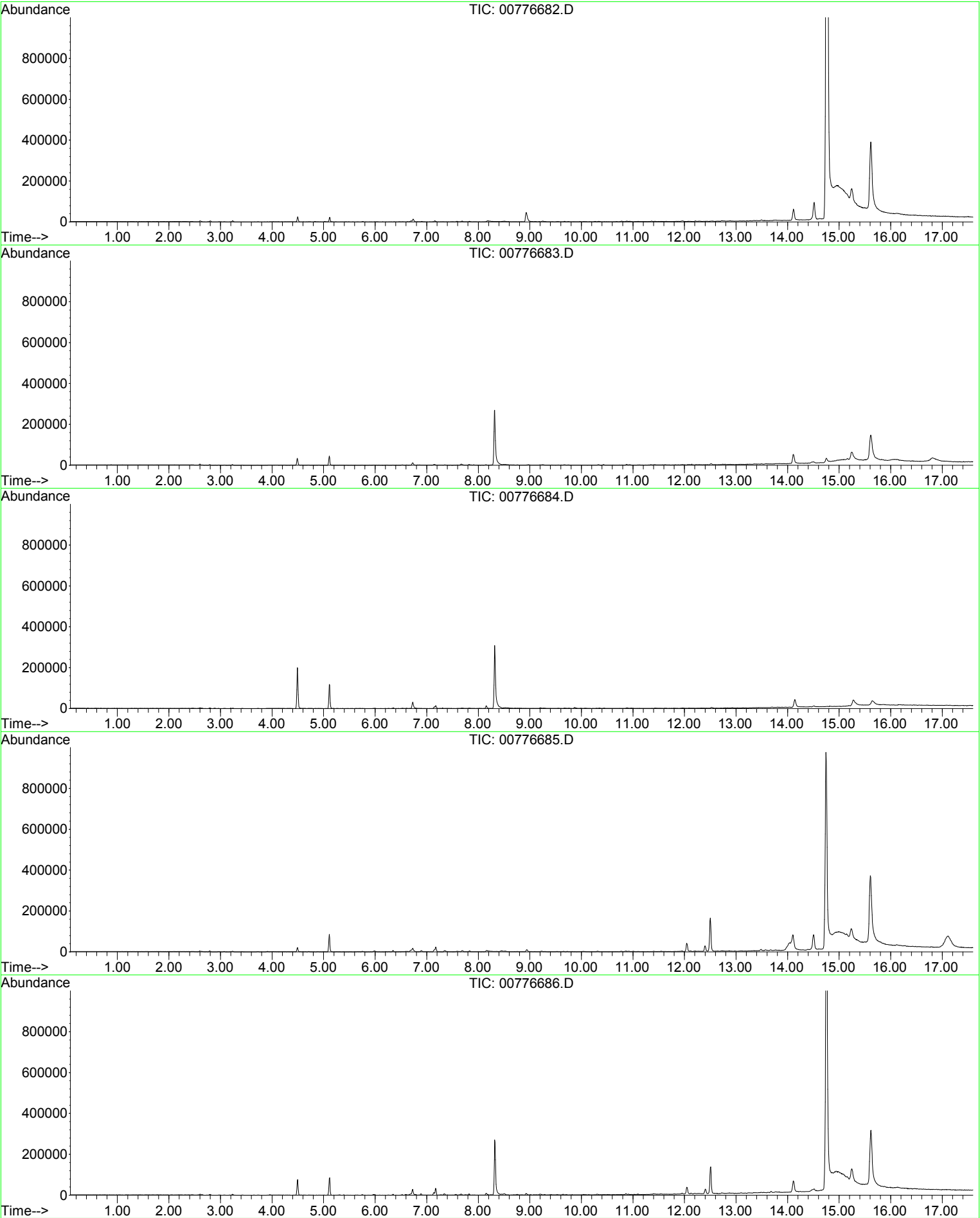
|           | <b>Average<br/>Error</b> | <b>Minimum<br/>Error</b> | <b>Maximum<br/>Error</b> |
|-----------|--------------------------|--------------------------|--------------------------|
| MTBE      | 6%                       | -12%                     | 12%                      |
| t12DCE    | 11%                      | -26%                     | 21%                      |
| 11DCA     | 8%                       | -19%                     | 13%                      |
| c12DCE    | 9%                       | -19%                     | 15%                      |
| CHCl3     | 9%                       | -20%                     | 14%                      |
| 111TCA    | 9%                       | -19%                     | 23%                      |
| 12DCA     | 10%                      | -19%                     | 17%                      |
| BENZ      | 8%                       | -18%                     | 13%                      |
| CCl4      | 10%                      | -23%                     | 22%                      |
| TCE       | 10%                      | -21%                     | 14%                      |
| 112TCA    | 11%                      | -21%                     | 21%                      |
| TOL       | 7%                       | -17%                     | 14%                      |
| OCT       | 20%                      | -41%                     | 42%                      |
| PCE       | 10%                      | -24%                     | 15%                      |
| CIBENZ    | 7%                       | -16%                     | 14%                      |
| 1112TetCA | 8%                       | -17%                     | 18%                      |
| EtBENZ    | 6%                       | -19%                     | 14%                      |
| mpXYL     | 7%                       | -22%                     | 13%                      |
| oXYL      | 7%                       | -19%                     | 13%                      |
| 1122TetCA | 8%                       | -16%                     | 17%                      |
| 135TMB    | 9%                       | -23%                     | 17%                      |
| 124TMB    | 10%                      | -28%                     | 19%                      |
| 13DCB     | 10%                      | -22%                     | 17%                      |
| 14DCB     | 10%                      | -22%                     | 17%                      |
| 12DCB     | 9%                       | -23%                     | 17%                      |
| NAPH      | 10%                      | -24%                     | 21%                      |
| 2MeNAPH   | 13%                      | -32%                     | 30%                      |

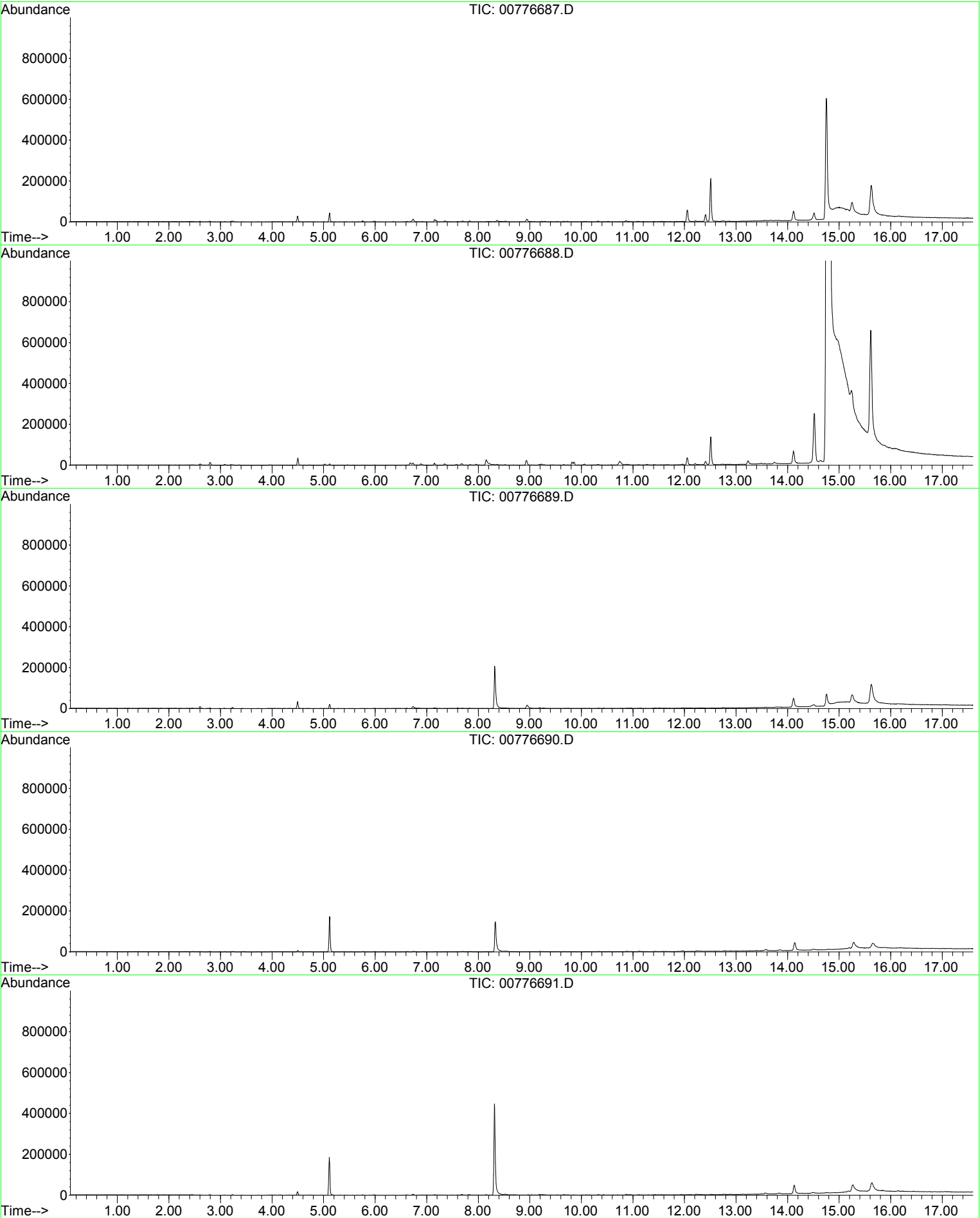
(1) For 1 hour exposure, includes error related to mass value from AGI analytical method 8260C

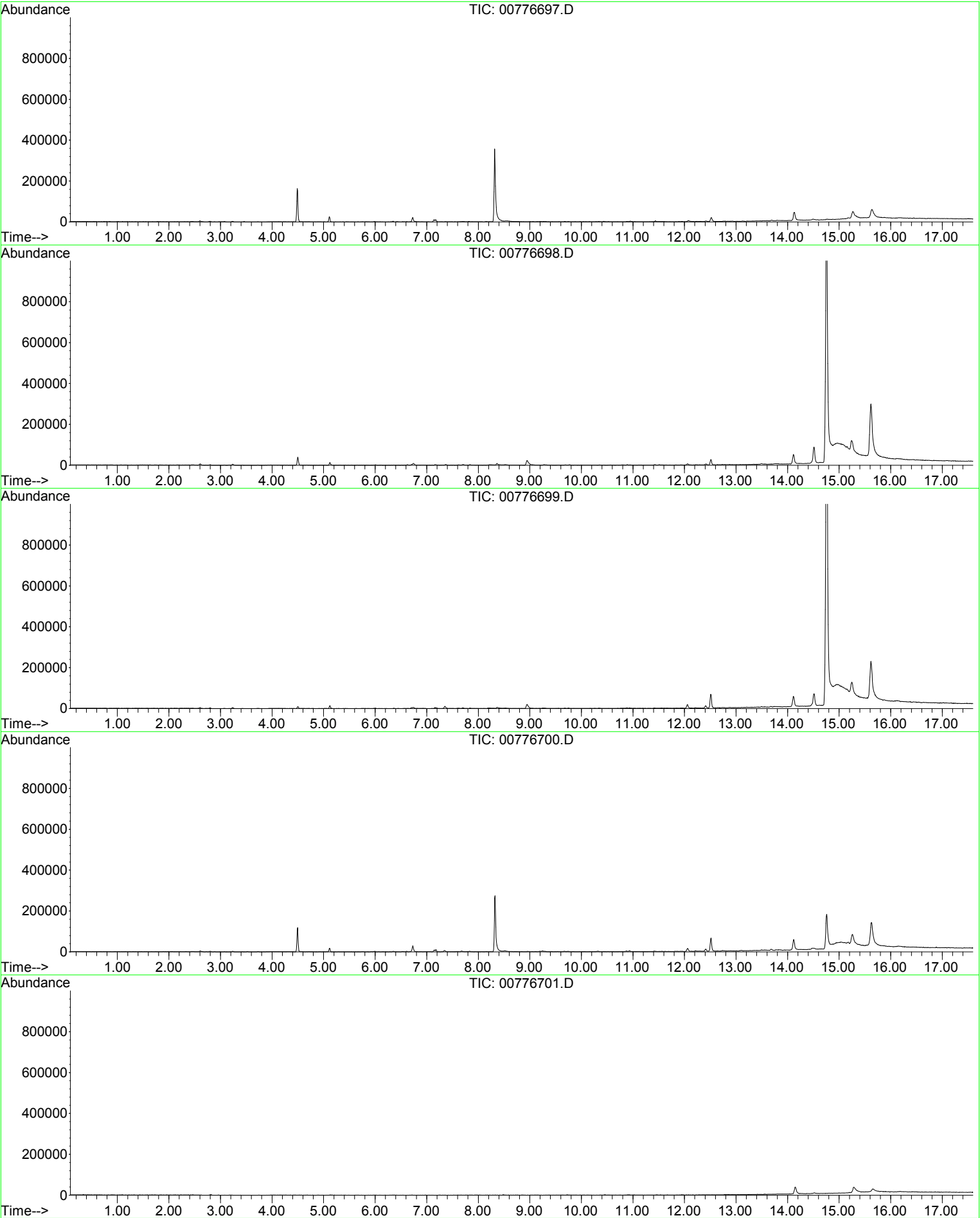
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GEOCHEMICAL  
IMAGING, LLC

# Laboratory Report

Site: Comal & San Marcos Rivers October 2016

Prepared for:

SWCA Environmental Consultants  
6200 UTSA Boulevard  
Suite 102  
San Antonio, TX  
UNITED STATES

Prepared on:  
November 4, 2016

## Project Summary and Objective

Amplified Geochemical Imaging, LLC. (AGI) provided the AGI Environmental Survey used at:

**Comal & San Marcos Rivers October 2016**

The service provided by AGI included delivery of the required quantity of AGI Universal Samplers, analysis by the method described below for the requested organic compounds, reporting of the data, and contour mapping (as needed).

This report includes results for only the samples noted under the Laboratory Sample Report section. If contour maps are part of the project deliverable, the maps will be prepared and issued under a separate report cover, upon receipt of a usable sitemap (electronic) and compound choices for contouring.

Written/submitted by:

**Kelly Stringham**

Project Manager

Reviewed/approved by:

**Ian McMullen**

Chemist

Analytical data approved by:

**Ian McMullen**

Chemist

## Quality Assurance Statement

The AGI Laboratory, at Amplified Geochemical Imaging's facility in Newark, DE USA, operates under the guidelines of its ISO Standard 17025 DoD ELAP accreditation, and its Quality Assurance Manual, Operating Procedures, and Methods (SOP-QA-0462).

For this project, the analytical method, results, and observations reported do [ ] do not [ ☒ ] fall within the scope of AGI's ISO 17025 accreditation.

**Screening/Concentration Method**

The AGI Universal Samplers are analyzed at AGI's fixed laboratory using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following modified U.S. EPA Method 8260 (SPG-WI-0292) which includes the following:

- **BFB Tuning Frequency:** A BFB tune is analyzed at the start of each analytical run and after every 30 samples.
- **Initial Calibration:** A minimum of a five point calibration curve is analyzed prior to the analysis of samples.
- **Initial Calibration Verification (ICV):** Following the calibration a second-source reference standard is analyzed to verify the accuracy of the calibration. Acceptance criteria for the ICV is +/- 30%.
- **Linearity of Target Compounds:** If the RSD of any target analyte is less than or equal to 25% then average response factor can be used for quantitation. If the RSD exceeds 25% for a target compound a regression equation can be used for quantitation.
- **Continuing Calibration Verification:** After every 10 samples, and at the end of each analytical batch, a mid-level second-source Reference Standard is analyzed. The acceptance criteria for all target analytes in the reference standards are +/- 50% of the true value.
- **Method Blank:** Analyzed prior to the analysis of field samples and every 30 samples.

**Note:** Analyte levels reported for the field-deployed AGI Universal Samplers that exceed trip and method blank levels, and/or the reporting limit, are more likely to have originated from on-site sources.

|                            |               |
|----------------------------|---------------|
| Media Sampled:             | WATER         |
| Chemist - sample analysis: | Jasmine Smith |
| Chemist - data processor:  | Jasmine Smith |
| Chemist - data review:     | Ian McMullen  |

Method deviations: A four point calibration curve was used for acenaphthylene to maintain linearity.

Please note that data file names ending with R are rerun samples using the second pair of sorbers, in which the original results were not reported. Data file names ending in D are duplicate analysis results for the second set of sorbers from the same sampler, and are reported.

## Additional Report Information

- Comments
- Laboratory Sample Report
- Chain of Custody
- Installation and Retrieval Log
- Data Table(s) and Key
- Concentration Calculation Method Summary
- Total Ion Chromatograms

## Project Specific Comments

Samplers 00778802 and 00778803 were analyzed as trip blanks. Sampler 00778801 was returned but was not analyzed at the request of SWCA Environmental Consultants, who noted that it had been tampered with in the field.

|                            |  |                      |
|----------------------------|--|----------------------|
| Survey period <sup>1</sup> | Samplers were installed on October 10, 2016 and retrieved on October 24, 2016 for an exposure period of 14 days. |                      |
| Tamper seal intact:        | Yes  |                      |
| Date received:             | 10/26/16 11:00 am  | By: Clarence Whigham |
| COC returned:              | Yes  |                      |
| Comments:                  | None   |                      |

1 - Installation start to end of retrieval, as reported. See installation and retrieval log for individual deployment and retrieval dates and times (i.e., sampler exposure time).

## General Comments

### Analytical QA/QC

Laboratory instrumentation consists of gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation involves cutting the tip off the bottom of the AGI Universal Sampler, and transferring one or more "sorbents" to a thermal desorption tube for analysis. The insertion/retrieval cord prevents soil, water and other interferences from coming in contact with the adsorbent. No further sample preparation is required. Any replicate sorbents not consumed in the initial analysis will be discarded fifteen (15) days from the date of the laboratory report.

Data are archived and stored in a secure manner as per AGI's Quality Assurance program (SOP-QA-0462).

Total petroleum hydrocarbons (TPH), gasoline-range petroleum hydrocarbons (GRPH), and/or diesel range petroleum hydrocarbons (DRPH), when reported, are calculated using the area under the peaks observed in m/z 55 and 57 selected ion chromatograms. Quantitation of the mass values was performed using the response factor for a specific alkane (present in the calibration standards). TPH values include the entire chromatogram and provide estimates for aliphatic hydrocarbon ranges of C4 to C20. GRPH and DRPH include only the relevant regions of the chromatograms and provide estimates for C4 to C10 and C10 to C20 aliphatic hydrocarbons, respectively.

Trip blanks were provided to document potential exposures that were not part of the signal of interest (e.g., impact during sampler shipment, installation and/or retrieval, and storage). The trip blanks are identically manufactured and packaged AGI Universal Samplers to those samplers deployed in the field. The trip blanks remain unopened during all phases of the project. Levels reported on the trip blanks may indicate potential impact to the samplers other than the contaminant source of interest.

Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. UPEs may be indicative of complex fluid mixtures. UPEs observed early in the chromatograms are considered to indicate presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.

Total ion chromatograms (TICs) are included in the Attachments. The eight-digit serial number of each sampler is incorporated in the TIC identification (e.g., 12345678.D represents AGI Universal Sampler 12345678).

## General Comments

### Soil Gas Sampling

For soil gas sampling, the AGI Environmental Survey reports mass levels migrating through the open pore spaces of the soil and diffusing through the sampler membrane for sorption by the engineered, hydrophobic adsorbents, housed within the membrane tube. During the migration of the soil gas away from the source to the AGI Universal Sampler, the vapors are subject to a variety of attenuation factors. The soil gas masses reported on the samplers compare favorably with the concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels to other sampled locations on the site, the matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.

Soil gas concentrations ( $\mu\text{g}/\text{m}^3$ ) are calculated following the method described in the Additional Report Information section.

Soil gas signals reported by this method cannot be correlated specifically to soil adsorbed, groundwater, and /or free-phase contamination. The soil gas signal reported from each AGI Universal Sampler can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).

### Air Sampling

For indoor, outdoor, and crawlspace air sampling, the AGI Environmental Survey reports mass levels present in the air and diffusing through the sampler membrane for sorption by the engineered adsorbents housed within the membrane tube.

Air concentrations ( $\mu\text{g}/\text{m}^3$ ) are calculated following the method described in the Additional Report Information section.

### Groundwater and Sediment Porewater Sampling

For groundwater and sediment porewater sampling, the AGI Environmental Survey reports the mass levels of compounds present in the water which, when coming in contact with the sampler membrane, partitions out of solution, and diffuses through the sampler membrane for sorption by the engineered adsorbents.

Water concentrations ( $\mu\text{g}/\text{L}$ ) are calculated using the quantified mass, exposure period and the compound specific uptake rate. The rates were measured under controlled experimental conditions. The uptake rates are corrected for water pressure (depth of the AGI Universal Sampler below the water table), water temperature and the aquifer flow rate. For sediment porewater, the uptake rate is corrected for the reduced volume of water in the sediment, by multiplying the uptake rate by the pore water fraction.

## Laboratory Sample Report

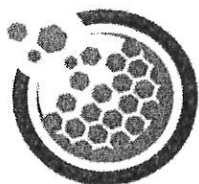
| <u>AGI Sample ID</u> | <u>Field ID</u> | <u>Sample Type</u>    |
|----------------------|-----------------|-----------------------|
| 00778788             | HCS410          | FIELD SAMPLE          |
| 00778789             | HCS420          | FIELD SAMPLE          |
| 00778790             | HCS430          | FIELD SAMPLE          |
| 00778791             | HCS440          | FIELD SAMPLE          |
| 00778792             | FDHCS440        | FIELD SAMPLE          |
| 00778793             | HCS460          | FIELD SAMPLE          |
| 00778794             | HSM410          | FIELD SAMPLE          |
| 00778795             | HSM420          | FIELD SAMPLE          |
| 00778796             | HSM430          | FIELD SAMPLE          |
| 00778797             | FDHSM430        | FIELD SAMPLE          |
| 00778798             | HSM440          | FIELD SAMPLE          |
| 00778799             | HSM450          | FIELD SAMPLE          |
| 00778800             | HSM460          | FIELD SAMPLE          |
| 00778801             | HSM470          | DAMAGED, NOT ANALYZED |
| 00778802             | TB16            | TRIP BLANK            |
| 00778803             | NOT USED        | TRIP BLANK            |

Total # Field Samples: 13

Total # Trip Blanks: 2

Total # Damaged/Not analyzed: 1





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**AGI Universal Passive Sampler Chain of Custody**  
**Soil gas and/or Air Sampling**

Production Order #: **01713**

Customer Name: SWCA Environmental Consultants

Site Name: Comal and San Marco River October 2016

Address: 6200 UTSA Boulevard

Site Address:

Suite 102

Project Manager:

San Antonio, TX 78249 United State

Serial # of Samplers Shipped

# of Samplers for Installation

14

# of Trip Blanks

2

00778788 - 00778803

Total Samplers Shipped

Pieces

Total Samplers Received

Pieces

Total Samplers Installed

Pieces

Serial # of Trip Blanks (Client Decides)

**Insertion Rods**

# Tips Shipped: \_\_\_\_\_

# Rod Bodies Shipped \_\_\_\_\_

00778802

Prepared By:

*Marlene L. Elford*

Verified By:

*Cheryl Whitman*

Installation Method: (Circle those that apply)

Slide Hammer

Hammer Drill

Auger

Other

Installation Performed By:

Name: *Jennifer Moreland Jeff Fox*

Company:

*SWCA*

Retrieval Performed By:

Name: *Jennifer Moreland Jeff Fox*

Company:

*SWCA*

Installation Start Date / Time:

*10/24 10/10/16 1053*

Installation Complete Date / Time:

*10/10/16 1456*

Retrieval Start Date / Time:

*10/24/16 0944*

Retrieval Complete Date / Time:

*10/24/16 1353*

Total Samplers Retrieved:

*14*

Total Samplers Lost In Field:

*0*

Total Unused Samplers Returned:

*1*

Insertion Rod Sections Returned:

Relinquished By:

*Marlene L. Elford*

Date/Time

*9/21/16*

Company:

*AGI*

11:30 AM

Received By:

*J*

Date/Time

*9/23/16*

Company:

*SWCA*

17:00

Relinquished By:

*J*

Date/Time

*10/25/16*

Company:

*SWCA*

0600

Received By:

*Cheryl Whitman*

Date/Time

*10/26/16*

Company:

*AGI*

11:00 AM



210 Executive Drive, Suite 1  
Newark, DE USA 19702-3335  
ph: 302-266-2428

AGI Project No.

ENV 01713

Site Name:

Comal and San Marcos Rivers October 2016

Site Location:

New Braunfels and San Marcos, TX

AGI Soil Gas Sampling

Installation & Retrieval Log

Company Name:

SWCA ENVIRONMENTAL CONSULTANTS

Location:

San Antonio, TX

Samples collected by:

Jennifer Moreland, Jeff Fox

\* Optional or as needed

| SAMPLER SERIAL NO. | FIELD ID* (e.g., arbitrary, US EPA) | SAMPLE TYPE (Field Sample, Trip Blank, Field Blank, etc.) | INSTALLATION DATE & TIME<br>MM/DD/YYYY HH:MM (24 Hour) ex. 12/27/2000 13:00 | RETRIEVAL DATE & TIME MM/DD/YYYY<br>HH:MM (24 Hour) ex. 12/30/2000 13:00 | OBSERVATIONS/COMMENTS* (e.g., sample depth, location description, missing, pulled from hole, etc. - as needed) |
|--------------------|-------------------------------------|---|---|--|--|
| 00778788           | HCS410                              | FIELD_SAMPLE  | 10/10/16 11:15  | 10/24/16 10:13   | 23.603°C, Depth 1.4'   |
| 00778789           | HCS420                              | FIELD_SAMPLE  | 10/10/16 11:27  | 10/24/16 10:27   | 23.603°C, Depth 2.1'   |
| 00778790           | HCS430                              | FIELD_SAMPLE  | 10/10/16 10:58  | 10/24/16 9:44  | 23.603°C, Depth 3.2'   |
| 00778791           | HCS440                              | FIELD_SAMPLE  | 10/10/16 11:38  | 10/24/16 10:43   | 23.603°C, Depth 1.7'   |
| 00778792           | FDHCS440                            | FIELD_SAMPLE  | 10/10/16 11:38  | 10/24/16 10:43   | 23.603°C, Depth 1.7'   |
| 00778793           | HCS460                              | FIELD_SAMPLE  | 10/10/16 11:50  | 10/24/16 10:59   | 23.603°C, Depth 2.6'   |
| 00778794           | HSM410                              | FIELD_SAMPLE  | 10/10/16 13:15  | 10/24/16 12:16   | 22.098°C, Depth 1.5'   |
| 00778795           | HSM420                              | FIELD_SAMPLE  | 10/10/16 13:29  | 10/24/16 12:34   | 22.098°C, Depth 3.1'   |
| 00778796           | HSM430                              | FIELD_SAMPLE  | 10/10/16 13:50  | 10/24/16 12:45   | 22.098°C, Depth 2.5'   |
| 00778797           | FDHSM430                            | FIELD_SAMPLE  | 10/10/16 13:50  | 10/24/16 12:45   | 22.098°C, Depth 2.5'   |
| 00778798           | HSM440                              | FIELD_SAMPLE  | 10/10/16 14:04  | 10/24/16 13:02   | 22.098°C, Depth 3.0'   |
| 00778799           | HSM450                              | FIELD_SAMPLE  | 10/10/16 14:18  | 10/24/16 13:17   | 22.098°C, Depth 3.3'   |
| 00778800           | HSM460                              | FIELD_SAMPLE  | 10/10/16 14:29  | 10/24/16 13:36   | 22.098°C, Depth 2.1'   |
| 00778801           | HSM470                              | FIELD_SAMPLE  | 10/10/16 14:56  | 10/24/16 13:53   | HOLD - Do not analyze, tampered with in field  |
| 00778802           | TB16                                | TRIP_BLANK  | 10/10/16 10:58  | 10/24/16 13:53   |  |
| 00778803           | NOT USED                            | TRIP_BLANK  |   |  |  |



AGI Soil Gas Sampling  
Installation & Retrieval Log

\* Optional or as needed

| SAMPLER SERIAL NO. | SAMPLE ENVIRONMENT* (e.g., grass, bare soil, through slab) | YES / NO   |        |                                   | AT MINIMUM PROVIDE SOIL TYPE                         |   |   | PROJECTED COORDINATES X<br>(EASTING) |
|--------------------|--|--|--------|-----------------------------------|--|---|---|--------------------------------------|
|                    |  | EVIDENCE OF LIQUID<br>PETROLEUM<br>HYDROCARBONS? | ODOR ? | WATER IN<br>INSTALLATION<br>HOLE? | SOIL TYPE AT MODULE DEPTH (clay,<br>loamy sand etc.) | TOTAL SOIL POROSITY AT MODULE<br>DEPTH* (total volume of pores/total<br>volume) | WATER FILLED SOIL POROSITY AT<br>MODULE DEPTH* (volume of<br>water/volume of pores) |                                      |
| 00778788           | Surface Water  |  |        |                                   |  |   |   |                                      |
| 00778789           | Surface Water  |  |        |                                   |  |   |   |                                      |
| 00778790           | Surface Water  |  |        |                                   |  |   |   |                                      |
| 00778791           | Surface Water  |  |        |                                   |  |   |   |                                      |
| 00778792           | Surface Water  |  |        |                                   |  |   |   |                                      |
| 00778793           | Surface Water  |  |        |                                   |  |   |   |                                      |
| 00778794           | Surface Water  |  |        |                                   |  |   |   |                                      |
| 00778795           | Surface Water  |  |        |                                   |  |   |   |                                      |
| 00778796           | Surface Water  |  |        |                                   |  |   |   |                                      |
| 00778797           | Surface Water  |  |        |                                   |  |   |   |                                      |
| 00778798           | Surface Water  |  |        |                                   |  |   |   |                                      |
| 00778799           | Surface Water  |  |        |                                   |  |   |   |                                      |
| 00778800           | Surface Water  |  |        |                                   |  |   |   |                                      |
| 00778801           | Surface Water  |  |        |                                   |  |   |   |                                      |
| 00778802           |  |  |        |                                   |  |   |   |                                      |
| 00778803           |  |  |        |                                   |  |   |   |                                      |



**AGI Soil Gas Sampling  
Installation & Retrieval Log**

\* Optional or as needed

| SAMPLER SERIAL NO. | PROJECTED COORDINATES Y<br>(NORTHING) | COORDINATE SYSTEM* (e.g.,<br>UTM Zone, Stateplane, etc.) | COORDINATE DATUM* (e.g., WGS 84) |
|--------------------|---------------------------------------|--|----------------------------------|
| 00778788           |                                       |  |                                  |
| 00778789           |                                       |  |                                  |
| 00778790           |                                       |  |                                  |
| 00778791           |                                       |  |                                  |
| 00778792           |                                       |  |                                  |
| 00778793           |                                       |  |                                  |
| 00778794           |                                       |  |                                  |
| 00778795           |                                       |  |                                  |
| 00778796           |                                       |  |                                  |
| 00778797           |                                       |  |                                  |
| 00778798           |                                       |  |                                  |
| 00778799           |                                       |  |                                  |
| 00778800           |                                       |  |                                  |
| 00778801           |                                       |  |                                  |
| 00778802           |                                       |  |                                  |
| 00778803           |                                       |  |                                  |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
SWCA ENVIRONMENTAL CONSULTANT, SAN ANTONIO, TX  
AGI TARGET COMPOUNDS & PAHS & PESTICIDES  
COMAL & SAN MARCOS RIVERS OCTOBER 2016  
ORDER #01713

| DATAFILE  | FIELD        | DATE/ TIME     |    |         |          |           |           |            |           |            |           |          |          |         |            |         |         |         |            |               |
|-----------|--------------|----------------|----|---------|----------|-----------|-----------|------------|-----------|------------|-----------|----------|----------|---------|------------|---------|---------|---------|------------|---------------|
| NAME      | ID           | ANALYZED       | DF | TPH, ug | MTBE, ug | 12DCE, ug | 11DCA, ug | c12DCE, ug | CHCl3, ug | 111TCA, ug | 12DCA, ug | BENZ, ug | CCl4, ug | TCE, ug | 112TCA, ug | TOL, ug | OCT, ug | PCE, ug | CIBENZ, ug | 1112TetCA, ug |
| RL=       |              |                |    | 0.50    | 0.02     | 0.02      | 0.02      | 0.02       | 0.02      | 0.02       | 0.02      | 0.02     | 0.02     | 0.02    | 0.02       | 0.02    | 0.02    | 0.02    | 0.02       | 0.02          |
| 00778788  | HCS410       | 10/27/16 12:48 | 1  | <0.50   | <0.02    | <0.02     | <0.02     | <0.02      | 0.02      | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.16    | <0.02      | <0.02         |
| 00778789  | HCS420       | 10/27/16 16:38 | 1  | <0.50   | <0.02    | <0.02     | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.23    | <0.02      | <0.02         |
| 00778790  | HCS430       | 10/27/16 10:52 | 1  | <0.50   | <0.02    | <0.02     | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.58    | <0.02      | <0.02         |
| 00778791  | HCS440       | 10/27/16 12:19 | 1  | <0.50   | <0.02    | <0.02     | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.32    | <0.02      | <0.02         |
| 00778792  | FDHCS440     | 10/27/16 13:45 | 1  | <0.50   | <0.02    | <0.02     | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.34    | <0.02      | <0.02         |
| 00778793  | HCS460       | 10/27/16 11:21 | 1  | <0.50   | <0.02    | <0.02     | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.33    | <0.02      | <0.02         |
| 00778794  | HSM410       | 10/27/16 11:50 | 1  | <0.50   | <0.02    | <0.02     | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | <0.02   | <0.02      | <0.02         |
| 00778795  | HSM420       | 10/27/16 18:33 | 1  | <0.50   | <0.02    | <0.02     | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.17    | <0.02      | <0.02         |
| 00778796  | HSM430       | 10/27/16 15:11 | 1  | 0.93    | <0.02    | <0.02     | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 1.03    | <0.02      | <0.02         |
| 00778797  | FDHSM430     | 10/27/16 18:04 | 1  | 1.18    | <0.02    | <0.02     | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.96    | <0.02      | <0.02         |
| 00778798  | HSM440       | 10/27/16 14:13 | 1  | <0.50   | <0.02    | <0.02     | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.11    | <0.02      | <0.02         |
| 00778799  | HSM450       | 10/27/16 13:16 | 1  | <0.50   | <0.02    | <0.02     | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.06    | <0.02      | <0.02         |
| 00778800  | HSM460       | 10/27/16 17:06 | 1  | <0.50   | <0.02    | <0.02     | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | 0.08    | <0.02      | <0.02         |
| 00778802  | TB16         | 10/27/16 14:42 | 1  | <0.50   | <0.02    | <0.02     | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | <0.02   | <0.02      | <0.02         |
| BLK ENV-1 | Method Blank | 10/27/16 10:23 | 1  | <0.50   | <0.02    | <0.02     | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02   | <0.02   | <0.02      | <0.02         |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA ENVIRONMENTAL CONSULTANT, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS & PAHS & PESTICIDES  
 COMAL & SAN MARCOS RIVERS OCTOBER 2016  
 ORDER #01713

| DATAFILE  | NAME  | ETBENZ, ug | mpXYL, ug | oXYL, ug | 1122TetCA, ug | 135TMB, ug | 124TMB, ug | 13DCB, ug | 14DCB, ug | 12DCB, ug | UNDEC, ug | NAPH, ug | TRIDEC, ug | 2MeNAPH, ug | Acenaphthylene, ug | PENTADEC, ug | Acenaphthene, ug |
|-----------|-------|------------|-----------|----------|---------------|------------|------------|-----------|-----------|-----------|-----------|----------|------------|-------------|--------------------|--------------|------------------|
| RL=       | 0.02  | 0.02       | 0.02      | 0.02     | 0.02          | 0.02       | 0.02       | 0.02      | 0.02      | 0.02      | 0.05      | 0.05     | 0.05       | 0.05        | 0.05               | 0.05         | 0.05             |
| 00778788  | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |
| 00778789  | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |
| 00778790  | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |
| 00778791  | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |
| 00778792  | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |
| 00778793  | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |
| 00778794  | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |
| 00778795  | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |
| 00778796  | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |
| 00778797  | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |
| 00778798  | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |
| 00778799  | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |
| 00778800  | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |
| 00778802  | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |
| BLK ENV-1 | <0.02 | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
SWCA ENVIRONMENTAL CONSULTANT, SAN ANTONIO, TX  
AGI TARGET COMPOUNDS & PAHS & PESTICIDES  
COMAL & SAN MARCOS RIVERS OCTOBER 2016  
ORDER #01713

| DATAFILE  |              |                  |                |                  |            |               |              |               |               |                |            |                        |                  |              |       |       |
|-----------|--------------|------------------|----------------|------------------|------------|---------------|--------------|---------------|---------------|----------------|------------|------------------------|------------------|--------------|-------|-------|
| NAME      | Fluorene, ug | Phenanthrene, ug | Anthracene, ug | Fluoranthene, ug | Pyrene, ug | alpha-BHC, ug | beta-BHC, ug | gamma-BHC, ug | delta-BHC, ug | Heptachlor, ug | Aldrin, ug | Heptachlor Epoxide, ug | Endosulfan I, ug | 4,4'-DDE, ug |       |       |
| RL=       | 0.05         | 0.50             | 0.50           | 0.50             | 0.50       | 0.50          | 0.50         | 0.50          | 0.50          | 0.50           | 0.50       | 0.50                   | 0.50             | 0.50         | 0.50  | 0.50  |
| 00778788  | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00778789  | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00778790  | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00778791  | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00778792  | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00778793  | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00778794  | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00778795  | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00778796  | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00778797  | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00778798  | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00778799  | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00778800  | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| 00778802  | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |
| BLK ENV-1 | <0.05        | <0.50            | <0.50          | <0.50            | <0.50      | <0.50         | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50 | <0.50 |



AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
SWCA ENVIRONMENTAL CONSULTANT, SAN ANTONIO, TX  
AGI TARGET COMPOUNDS & PAHS & PESTICIDES  
COMAL & SAN MARCOS RIVERS OCTOBER 2016  
ORDER #01713

| DATAFILE  |              |            |              |                   |                     |              |                        |                   |                  |          |  |
|-----------|--------------|------------|--------------|-------------------|---------------------|--------------|------------------------|-------------------|------------------|----------|--|
| NAME      | Dieldrin, ug | Endrin, ug | 4,4'-DDD, ug | Endosulfan II, ug | Endrin Aldehyde, ug | 4,4'-DDT, ug | Endosulfan Sulfate, ug | Endrin ketone, ug | Methoxychlor, ug | BTEX, ug |  |
| RL=       | 0.50         | 0.50       | 0.50         | 0.50              | 0.50                | 0.50         | 0.50                   | 0.50              | 0.50             | 0.02     |  |
| 00778788  | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |
| 00778789  | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |
| 00778790  | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |
| 00778791  | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |
| 00778792  | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |
| 00778793  | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |
| 00778794  | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |
| 00778795  | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |
| 00778796  | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |
| 00778797  | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |
| 00778798  | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |
| 00778799  | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |
| 00778800  | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |
| 00778802  | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |
| BLK ENV-1 | <0.50        | <0.50      | <0.50        | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.02    |  |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
SWCA ENVIRONMENTAL CONSULTANT, SAN ANTONIO, TX  
AGI TARGET COMPOUNDS  
ESTIMATED WATER CONCENTRATIONS  
COMAL & SAN MARCOS RIVERS  
ORDER #01713

| DATAFILE<br>NAME | FIELD<br>ID  | DATE/ TIME<br>INSTALLED |     | DATE/ TIME<br>RETRIEVED |     | DATE/ TIME<br>RECEIVED |     | DATE/ TIME<br>ANALYZED |     | DF | estimated<br>TPH, ug/L | MTBE, ug/L | t12DCE, ug/L | 11DCA, ug/L |
|------------------|--------------|-------------------------|-----|-------------------------|-----|------------------------|-----|------------------------|-----|----|------------------------|------------|--------------|-------------|
| Average RL=      |              |                         |     |                         |     |                        |     |                        |     |    | 0.054                  | 0.013      | 0.008        | 0.007       |
| 00778788         | HCS410       | 10/10/16 11:15          | CDT | 10/24/16 10:13          | CDT | 10/26/16 11:00         | EDT | 10/27/16 12:48         | EST | 1  | <0.053                 | <0.013     | <0.007       | <0.007      |
| 00778789         | HCS420       | 10/10/16 11:27          | CDT | 10/24/16 10:27          | CDT | 10/26/16 11:00         | EDT | 10/27/16 16:38         | EST | 1  | <0.053                 | <0.013     | <0.007       | <0.007      |
| 00778790         | HCS430       | 10/10/16 10:58          | CDT | 10/24/16 9:44           | CDT | 10/26/16 11:00         | EDT | 10/27/16 10:52         | EST | 1  | <0.053                 | <0.013     | <0.007       | <0.007      |
| 00778791         | HCS440       | 10/10/16 11:38          | CDT | 10/24/16 10:43          | CDT | 10/26/16 11:00         | EDT | 10/27/16 12:19         | EST | 1  | <0.053                 | <0.013     | <0.007       | <0.007      |
| 00778792         | FDHCS440     | 10/10/16 11:38          | CDT | 10/24/16 10:43          | CDT | 10/26/16 11:00         | EDT | 10/27/16 13:45         | EST | 1  | <0.053                 | <0.013     | <0.007       | <0.007      |
| 00778793         | HCS460       | 10/10/16 11:50          | CDT | 10/24/16 10:59          | CDT | 10/26/16 11:00         | EDT | 10/27/16 11:21         | EST | 1  | <0.053                 | <0.013     | <0.007       | <0.007      |
| 00778794         | HSM410       | 10/10/16 13:15          | CDT | 10/24/16 12:16          | CDT | 10/26/16 11:00         | EDT | 10/27/16 11:50         | EST | 1  | <0.055                 | <0.013     | <0.008       | <0.007      |
| 00778795         | HSM420       | 10/10/16 13:29          | CDT | 10/24/16 12:34          | CDT | 10/26/16 11:00         | EDT | 10/27/16 18:33         | EST | 1  | <0.055                 | <0.013     | <0.008       | <0.007      |
| 00778796         | HSM430       | 10/10/16 13:50          | CDT | 10/24/16 12:45          | CDT | 10/26/16 11:00         | EDT | 10/27/16 15:11         | EST | 1  | 0.071                  | <0.013     | <0.008       | <0.007      |
| 00778797         | FDHSM430     | 10/10/16 13:50          | CDT | 10/24/16 12:45          | CDT | 10/26/16 11:00         | EDT | 10/27/16 18:04         | EST | 1  | 0.079                  | <0.013     | <0.008       | <0.007      |
| 00778798         | HSM440       | 10/10/16 14:04          | CDT | 10/24/16 13:02          | CDT | 10/26/16 11:00         | EDT | 10/27/16 14:13         | EST | 1  | <0.055                 | <0.013     | <0.008       | <0.007      |
| 00778799         | HSM450       | 10/10/16 14:18          | CDT | 10/24/16 13:17          | CDT | 10/26/16 11:00         | EDT | 10/27/16 13:16         | EST | 1  | <0.055                 | <0.013     | <0.008       | <0.007      |
| 00778800         | HSM460       | 10/10/16 14:29          | CDT | 10/24/16 13:36          | CDT | 10/26/16 11:00         | EDT | 10/27/16 17:06         | EST | 1  | <0.055                 | <0.013     | <0.008       | <0.007      |
| 00778802         | TB16         | 10/10/16 10:58          | CDT | 10/24/16 13:53          | CDT | 10/26/16 11:00         | EDT | 10/27/16 14:42         | EST | 1  | <0.054                 | <0.013     | <0.008       | <0.007      |
| BLK_ENV-1        | Method Blank | 10/10/16 12:38          | CDT | 10/24/16 11:55          | CDT | 10/26/16 11:00         | EDT | 10/27/16 10:23         | EST | 1  | <0.054                 | <0.013     | <0.008       | <0.007      |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA ENVIRONMENTAL CONSULTANT, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS  
 ESTIMATED WATER CONCENTRATIONS  
 COMAL & SAN MARCOS RIVERS  
 ORDER #01713

| DATAFILE    |              |             |              |             |            |            |           |              |           |           |           |              |
|-------------|--------------|-------------|--------------|-------------|------------|------------|-----------|--------------|-----------|-----------|-----------|--------------|
| NAME        | c12DCE, ug/L | CHCl3, ug/L | 111TCA, ug/L | 12DCA, ug/L | BENZ, ug/L | CCl4, ug/L | TCE, ug/L | 112TCA, ug/L | TOL, ug/L | OCT, ug/L | PCE, ug/L | CIBENZ, ug/L |
| Average RL= | 0.007        | 0.007       | 0.005        | 0.008       | 0.006      | 0.005      | 0.006     | 0.010        | 0.006     | 0.005     | 0.005     | 0.006        |
| 00778788    | <0.007       | 0.008       | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.009       | <0.006    | <0.004    | 0.032     | <0.006       |
| 00778789    | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.009       | <0.006    | <0.004    | 0.045     | <0.006       |
| 00778790    | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.009       | <0.006    | <0.004    | 0.101     | <0.006       |
| 00778791    | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.009       | <0.006    | <0.004    | 0.059     | <0.006       |
| 00778792    | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.009       | <0.006    | <0.004    | 0.062     | <0.006       |
| 00778793    | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.009       | <0.006    | <0.004    | 0.061     | <0.006       |
| 00778794    | <0.007       | <0.008      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | <0.005    | <0.006       |
| 00778795    | <0.007       | <0.008      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.035     | <0.006       |
| 00778796    | <0.007       | <0.008      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.173     | <0.006       |
| 00778797    | <0.007       | <0.008      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.162     | <0.006       |
| 00778798    | <0.007       | <0.008      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.023     | <0.006       |
| 00778799    | <0.007       | <0.008      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.014     | <0.006       |
| 00778800    | <0.007       | <0.008      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.019     | <0.006       |
| 00778802    | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.009       | <0.006    | <0.005    | <0.005    | <0.006       |
| BLK_ENV-1   | <0.007       | <0.007      | <0.005       | <0.008      | <0.006     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | <0.005    | <0.006       |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA ENVIRONMENTAL CONSULTANT, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS  
 ESTIMATED WATER CONCENTRATIONS  
 COMAL & SAN MARCOS RIVERS  
 ORDER #01713

| DATAFILE    |                 |              |             |            |                 |              |              |             |             |             |             |
|-------------|-----------------|--------------|-------------|------------|-----------------|--------------|--------------|-------------|-------------|-------------|-------------|
| NAME        | 1112TetCA, ug/L | ETBENZ, ug/L | mpXYL, ug/L | oXYL, ug/L | 1122TetCA, ug/L | 135TMB, ug/L | 124TMB, ug/L | 13DCB, ug/L | 14DCB, ug/L | 12DCB, ug/L | UNDEC, ug/L |
| Average RL= | 0.007           | 0.005        | 0.005       | 0.005      | 0.011           | 0.005        | 0.005        | 0.006       | 0.006       | 0.006       | 0.020       |
| 00778788    | <0.007          | <0.005       | <0.005      | <0.005     | <0.010          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.020      |
| 00778789    | <0.007          | <0.005       | <0.005      | <0.005     | <0.010          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.020      |
| 00778790    | <0.007          | <0.005       | <0.005      | <0.005     | <0.010          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.020      |
| 00778791    | <0.007          | <0.005       | <0.005      | <0.005     | <0.010          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.020      |
| 00778792    | <0.007          | <0.005       | <0.005      | <0.005     | <0.010          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.020      |
| 00778793    | <0.007          | <0.005       | <0.005      | <0.005     | <0.010          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.020      |
| 00778794    | <0.007          | <0.005       | <0.005      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.021      |
| 00778795    | <0.007          | <0.005       | <0.005      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.021      |
| 00778796    | <0.007          | <0.005       | <0.005      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.021      |
| 00778797    | <0.007          | <0.005       | <0.005      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.021      |
| 00778798    | <0.007          | <0.005       | <0.005      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.021      |
| 00778799    | <0.007          | <0.005       | <0.005      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.021      |
| 00778800    | <0.007          | <0.005       | <0.005      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.021      |
| 00778802    | <0.007          | <0.005       | <0.005      | <0.005     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.020      |
| BLK_ENV-1   | <0.007          | <0.005       | <0.005      | <0.005     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.006      | <0.020      |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
SWCA ENVIRONMENTAL CONSULTANT, SAN ANTONIO, TX  
AGI TARGET COMPOUNDS  
ESTIMATED WATER CONCENTRATIONS  
COMAL & SAN MARCOS RIVERS  
ORDER #01713

| DATAFILE    | estimated  |              | estimated     |                      | estimated      | estimated          | estimated      |
|-------------|------------|--------------|---------------|----------------------|----------------|--------------------|----------------|
| NAME        | NAPH, ug/L | TRIDEC, ug/L | 2MeNAPH, ug/L | Acenaphthylene, ug/L | PENTADEC, ug/L | Acenaphthene, ug/L | Fluorene, ug/L |
| Average RL= | 0.016      | 0.020        | 0.014         | 0.014                | 0.020          | 0.014              | 0.014          |
| 00778788    | <0.016     | <0.020       | <0.013        | <0.014               | <0.020         | <0.014             | <0.014         |
| 00778789    | <0.016     | <0.020       | <0.013        | <0.014               | <0.020         | <0.014             | <0.014         |
| 00778790    | <0.016     | <0.020       | <0.013        | <0.014               | <0.020         | <0.014             | <0.014         |
| 00778791    | <0.016     | <0.020       | <0.013        | <0.014               | <0.020         | <0.014             | <0.014         |
| 00778792    | <0.016     | <0.020       | <0.013        | <0.014               | <0.020         | <0.014             | <0.014         |
| 00778793    | <0.016     | <0.020       | <0.013        | <0.014               | <0.020         | <0.014             | <0.014         |
| 00778794    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         |
| 00778795    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         |
| 00778796    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         |
| 00778797    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         |
| 00778798    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         |
| 00778799    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         |
| 00778800    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         |
| 00778802    | <0.016     | <0.020       | <0.013        | <0.014               | <0.020         | <0.014             | <0.014         |
| BLK_ENV-1   | <0.016     | <0.020       | <0.014        | <0.014               | <0.020         | <0.014             | <0.014         |

## KEY TO DATA TABLE

### UNITS

|                   |  |
|-------------------|--|
| µg                | micrograms, relative mass value                              |
| µg/m <sup>3</sup> | micrograms per cubic meter; estimated soil gas concentration |
| µg/L              | micrograms per Liter; calculated water concentration         |

### DATA QUALIFIERS

|   |  |
|---|--|
| > | greater than; value exceeds calibration range, estimated value   |
| < | less than; compound value is below the LOD and RL                |
| J | mass value below LOQ or RL, but above LOD, estimated mass value  |
| E | mass value exceeds upper calibration level, estimated mass value |
| Q | one or more quality control parameters failed for the compound   |

### ABBREVIATIONS

|        |  |
|--------|--|
| AVG RL | average reporting limit; calculated based on individual field sample RLs |
| LOD    | limit of detection   |
| LOQ    | limit of quantification  |
| MDL    | method detection limit   |
| RL     | reporting limit  |

|             |   |          |  |
|-------------|---|----------|--|
| 1112TetCA   | 1,1,1,2-tetrachloroethane   | CIBENZ   | chlorobenzene  |
| 111TCA      | 1,1,1-trichloroethane   | ct12DCE  | cis- & trans-1,2-dichloroethene                                      |
| 1122TetCA   | 1,1,2,2-tetrachloroethane   | EtBENZ   | ethylbenzene   |
| 112TCA      | 1,1,2-trichloroethane   | mpXYL    | m-, p-xylene   |
| 11DCA       | 1,1-dichloroethane  | MTBE     | methyl t-butyl ether   |
| 11DCE       | 1,1-dichloroethene  | NAPH     | naphthalene  |
| 124TMB      | 1,2,4-trimethylbenzene  | OCT      | octane   |
| 12DCA       | 1,2-dichloroethane  | oXYL     | o-xylene   |
| 12DCB       | 1,2-dichlorobenzene   | PCE      | tetrachloroethene  |
| 135TMB      | 1,3,5-trimethylbenzene  | PENTADEC | pentadecane  |
| 13DCB       | 1,3-dichlorobenzene   | PHEN     | phenanthrene   |
| 14DCB       | 1,4-dichlorobenzene   | t12DCE   | trans-1,2-dichloroethene   |
| 2MeNAPH     | 2-methyl naphthalene  | TCE      | trichloroethene  |
| BENZ        | benzene   | TMBs     | combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene |
| BTEX        | combined masses of benzene, toluene, ethylbenzene, and total xylenes (Gasoline Range Aromatics) | TOL      | toluene  |
| C11,C13&C15 | combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)    | TPH      | total petroleum hydrocarbons   |
| c12DCE      | cis-1,2-dichloroethene  | TRIDEC   | tridecane  |
| CCl4        | carbon tetrachloride  | UNDEC    | undecane   |
| CHC13       | chloroform  | VC       | vinyl chloride   |

## SUMMARY OF SAMPLING RATE CALIBRATION FOR AGI UNIVERSAL SAMPLER IN AQUEOUS PHASES

### INTRODUCTION:

The Amplified Geochemical Imaging, LLC (AGI) passive vapor sampler is designed to be used for soil gas, water, sediment pore water, and air sampling. This document describes the process used to calibrate the sampler's compound specific sampling or uptake rates in aqueous phases.

Sampling rates are measured following AGI's "Standard Practice for Determining the Sampling Rate of Passive Diffusion Samplers in Various Environmental Media": SPG-SOP-0493. Rates are used to calculate dissolved phase concentrations of volatile and semi-volatile contaminants in water. The calibration process is summarized in three parts: Part 1: shallow water, Part 2: deep water, and Part 3: sediment.

### PURPOSE:

The purpose of this document is to:

1. Summarize the test protocol,
2. Summarize the methodology for analysis of data,
3. Present general results for generating concentration calibration of the AGI Universal Sampler

### Principle of Operation of the AGI Sampler

The AGI Universal Sampler is designed with solid adsorbents enclosed inside a tubular microporous PTFE membrane. When placed in water, the pores and hydrophobic nature of the PTFE keep liquid water from entering the membrane until a water head of about 34 feet is reached. The membrane will not keep water vapor from entering but the adsorbents are very hydrophobic and through testing validated to be unaffected by this moisture vapor. In shallow water, <34', volatile and semi-volatile compounds will partition from the dissolved water into the air phase in the PTFE membrane according to Henry's Law. This partitioning is instantaneous and within seconds-minutes, the compound is adsorbed by the adsorbent inside the sealed tube. Because the diffusivity in air is about 10,000 times higher than the diffusivity in water, the sampling rate is controlled by the water contact area of the membrane that allows the Henry's Law effect to occur. This contact area is set by the membrane diameter and length of the sealed tube, which is fixed in AGI's manufacturing process.

Henry's law as well as diffusivity, which are fundamentally incorporated into the sampling rate, are affected by temperature,  $T$ , and follow an Arrhenius equation  $H_T = H_r \times \exp\left(\frac{-E_a/R}{1/T_r - 1/T}\right)$ . Because a 5°C temperature change can make a 15% change in sampling rate, the temperature of the sampled water should be known to get the most precise concentration.

The membrane pore size is also small enough that colloidal particles and microbes cannot pass through the membrane. This keeps the adsorbent from getting contaminated and eliminates any need to add preservative or chilling during storage or transportation.

When the water pressure exceeds the water entry pressure of the membrane, about 34 feet of water, the water becomes in contact with the solid adsorbent. Under this condition the compounds in the water will partition from the water into the solid. The partitioning coefficient,  $K_{AW}$ , can be approximated by the octanol-water coefficient,  $K_{OW}$ , but has been measured more precisely in the lab for AGI's specific solid adsorbent. The sampling rate is the product of the sampling rate at <34' of water and the  $K_{AW}$ .

In sediment, the sampler measures pore-water concentration, which is generally agreed to be the preferred measurement as it is more indicative of bioavailability. In sediment the volumetric



availability of water to the sampler is reduced by the volume fraction solids in the sediment, which typically varies from zero to 35%, but can be as high as 73% in well packed and broad particle size distribution sediments. As a result, sampling rates in sediment are multiplied by the fraction pore water in the sediment to determine concentration.

## **PART 1: Calibration in shallow water**

Part 1 summarizes the work in shallow water generating calibration data, evaluating the physical and chemical factors affecting the sampling rate, and measurement of the actual sampling rates or regression calibration equations needed to determine concentrations.

### **Sample Generation in water**

In this calibration work, solutions of analytes at known concentrations were formulated in clean 4 liter smoked glass jugs by injecting microliter measured amounts of environmental standards using a calibrated syringe into pure or deionized water and stirring for a minimum of 2 hours but generally overnight. Headspace in the jugs was minimized and generally less than 1% by volume during the tests. Jugs were temperature controlled by placing them in a water filled cooler, chilled via a copper tubing loop in the cooler. Temperature was measured with a certified digital temperature gauge and an average value used for each temperature experiment.

AGI samplers were weighted so they won't float and placed in the jugs at time zero. They were removed at various intervals to generate samples along with duplicates that showed mass increasing with exposure time. The sampler exposure time was selected to span minutes to hours and was generally reduced for high concentration tests to maintain uptake with time in roughly the linear dynamic range. Samplers were removed and dried with a paper towel and returned to their original container for analysis. They were analyzed by AGI's 8260C (SPG-WI-318 or SPG-WI-10028) method in duplicate, which is based on EPA SW846 Method 8260C.

Water samples were also taken and measured at an outside accredited lab using EPA SW846 Method 8260B. The concentrations agreed well with the calculated concentrations based on the standard certification, jug volume, and syringe injection. The variability of the outside lab 8260B values were found to be high, so for the sampling rate calculations we used the concentrations based on syringe dosing.

Calibrations were run at five concentrations, nominally at 6, 24, 118, 590, 1420 ug/L and five temperatures nominally at 5, 10, 15, 20, and 25 degrees centigrade. Samples were taken at 4 different exposure times. Samples were run in duplicate. A total of 176 data points were generated using 28 compounds from AGI's standard compounds list. Tridecane and pentadecane were not evaluated due to their very low solubility in water. In addition, another 23 compounds were tested using an 8260 liquid standard at nominal concentrations of 0.5, 1.0, 5.0, 15, 95, and 470 ug/L at a temperature typical of groundwater, 15°C. This is a living calibration and as additional data are generated, they may be qualified and added to this data set to improve the precision of the sampling rate calibration and broaden the compound list.

## Key Variable Effects

As expected from theory, at short to moderate exposure times, mass will increase roughly linearly proportional to exposure time, as well as proportional to concentration, and exponentially with temperature following Arrhenius law. Temperature affects the Henry's law as well as diffusivity in water. Sampling rate is generally independent of concentration and time at mass values significantly below saturation. In the following sections we have characterized the sampling rate for each compound as affected by temperature and also developed calibrations using regression which account for the minor impact of time, and mass.

## Concentration using Simple Sampling Rate Determination

A simple way to determine concentration is to measure mass on the AGI sampler, divide by exposure time, and divide by sampling rate, SR.

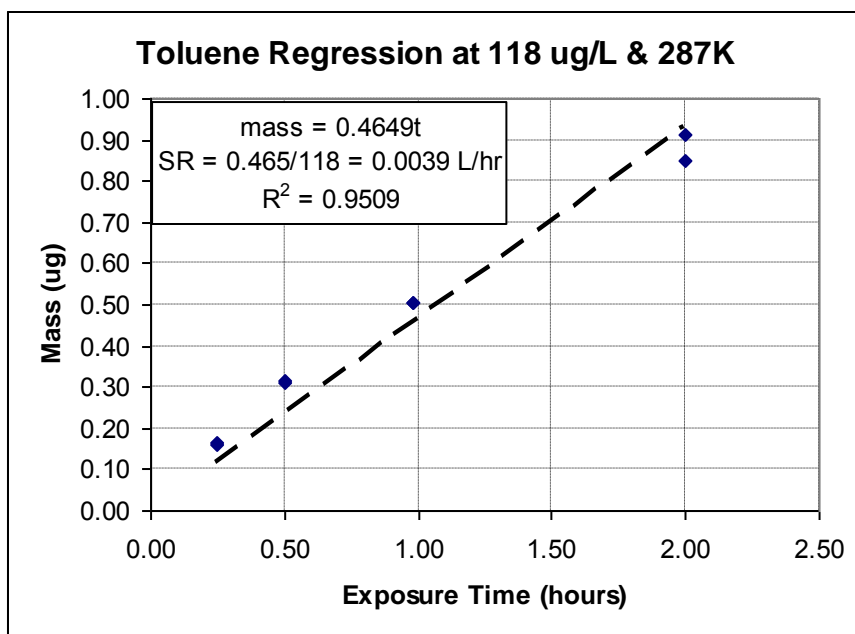
$$\text{Conc [ug/L]} = \text{mass/time/SR} \quad (1)$$

The sampling rate can be determined via measurements of mass versus time at a known concentration and temperature according to the following modification of equation (1).

$$\text{SR} = \text{mass/time/concentration} \quad (2)$$

Sampling rates in L/hr were determined by measuring the trend or regression mass uptake versus time and dividing by the concentration. A measurement like this will use 8 data points (4 times x 2 samples). Such a sampling rate can be measured at any concentration and temperature.

The chart to the right shows a plot of mass versus time for water at 118 ug/L and 287K (actual data from a single run). Slope of 0.465 ug/hr divided by the concentration of 118 ug/L yields a sampling rate, SR, of 0.0039 L/hr.



SR's typically range from about 0.004 to 0.007 L/hr at 15°C. Table A shows SR's measured for our standard compound list at 5 temperatures.

## Rigorous Concentration using Regression

A preferred method for determining concentration that will yield improved accuracy over a wide range of concentrations, exposure times, and temperatures is to use all data in a regression analysis, which allows adjustments for the minor non-linear influences of mass and time as well as the effects of temperature. This step is done by regressing equation (1) or a universal version of equation (1):

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRo} * \exp(-\text{Ea}/\text{R}/\text{T})] \quad (3)$$

The subtle non-linear effects of mass and time will be evident in the deviation of coefficients b and d from 1.0. This regression generates four constants b, d, SRo, and  $-\text{Ea}/\text{R}$  by regressing  $\ln(\text{conc})$  versus  $\ln(\text{mass})$ ,  $\ln(\text{time})$ ,  $1/\text{temp}$ . These four constants can be used to determine concentration via the equation:

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRo} * \exp(-\text{Ea}/\text{R}(1/\text{T}))] \quad (4)$$

Where conc is in ug/L, mass is in ug, time in hours, T in degrees Kelvin.

Equation (4) can be also expressed at a reference temperature,  $\text{Tr}$ , such as 15°C by

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRr} * \exp(-\text{Ea}/\text{R}(1/\text{Tr}-1/\text{T}))] \quad (5)$$

This step allows sampling rates, SRr, at any reference temperature,  $\text{Tr}$ , and for any analyte to easily be compared. The values of SRr at 293.14K can be found in Table A.

When sampling times are between 0 and 4 hours, using the 4 constant equation (5) is preferred. For concentrations from about 5 to 1500 ug/L one hour exposure times generally give the lowest error, typically with average error of 6-20% and with total error range of 12%-32%. For low concentrations where sampling times are greater than 4 hours, it is preferred to use equation (1) to avoid unrealistic effects from the coefficient d or to set d to 1.0. In such a case SR in equation (1) can be substituted with  $[\text{SRr} * \exp(-\text{Ea}/\text{R}(1/\text{Tr}-1/\text{T}))]$  to use an SR representative of the well temperature, T.

The chart to the right is a plot of the calculated concentration from the 4 constant regression compared to the dosed concentration. Agreement is excellent for the 176 data points.

However, there does appear to be a slight high bias of 8.6% over the full range of this data, although it is well within acceptable limits of variability.

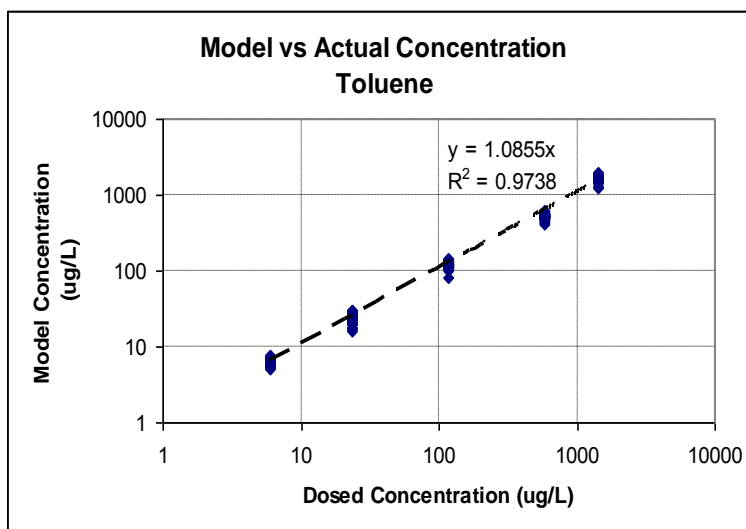


Table B shows the tabulated summary of the 4 constants regression with Rsq values and error estimates for the 4 constants for each analyte. Most regression Rsq values are 0.99 or greater for each analyte. In general,  $-E_a/R$  is about 2400 $\pm$ 400, b is about 0.9, d is about -0.75, and SR(15°C) ranges from .004 L/hr to 0.007 L/hr increasing with MW of the compound.

### Error Estimates

The error in the water concentration values will depend on both the error in mass from the analytical method as well as the error in the concentration calibration. Table C shows the error in the mass values from the 8260C low sensitivity method.

The standard error of the regression and standard errors of the constants can be found in table B. For each compound we have measured the error between the derived concentration and the actual concentration. The error tends to be lowest at our recommended exposure time of one hour as shown by the example for Toluene to the right.

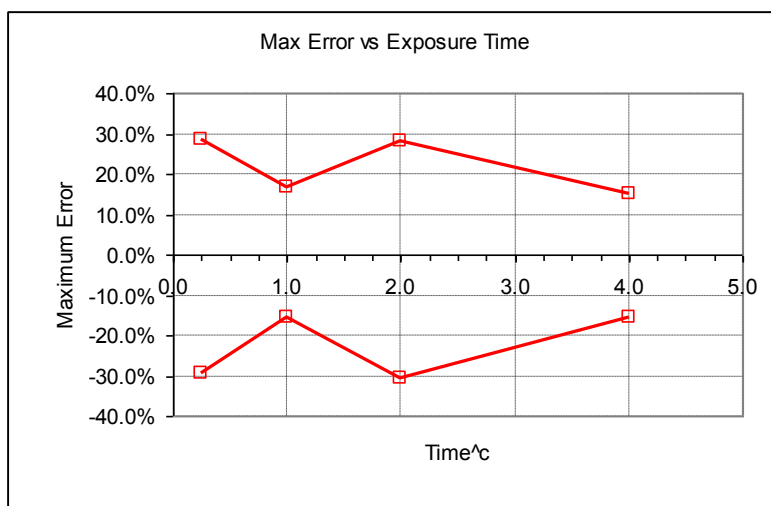
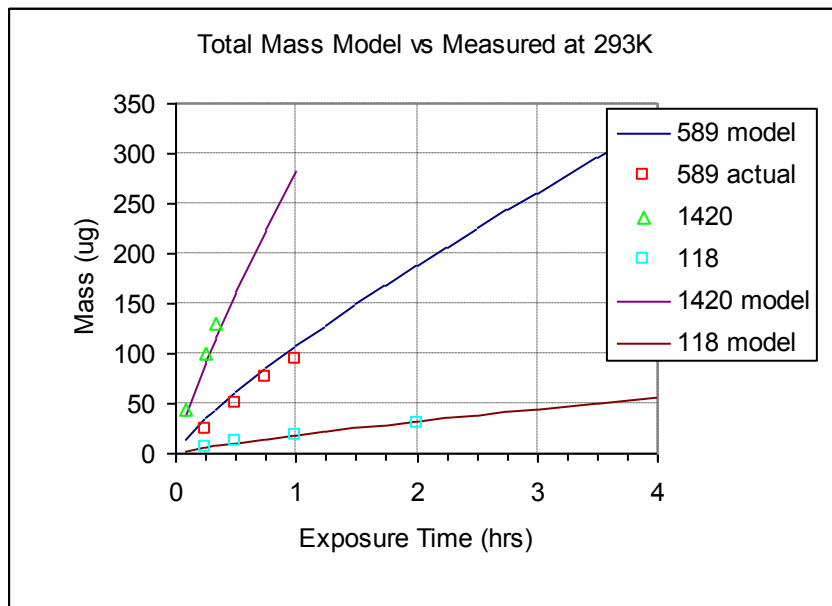


Table D shows the total average error in water concentration by compound as well as the low and high error. The average ranges from about 6% to 20%, which is similar to the analytical method errors. The low and high errors range from 12% to 32% and include contribution from measurement errors in both time and temperature.

### Sorbent Saturation

As mass increases on a solid sorbent and approaches saturation, reverse diffusion can occur causing the sampling rate to drop. Eventually the mass level will reach a maximum steady state value at any concentration. A rate of mass uptake with time that deviates significantly from linear, indicates that sorbent saturation could be an issue. When using equation (1), staying in the linear range to avoid the effects of adsorbent saturation is important. We recommend keeping the total mass on the sampler below 50 ug or flagging when this is exceeded.

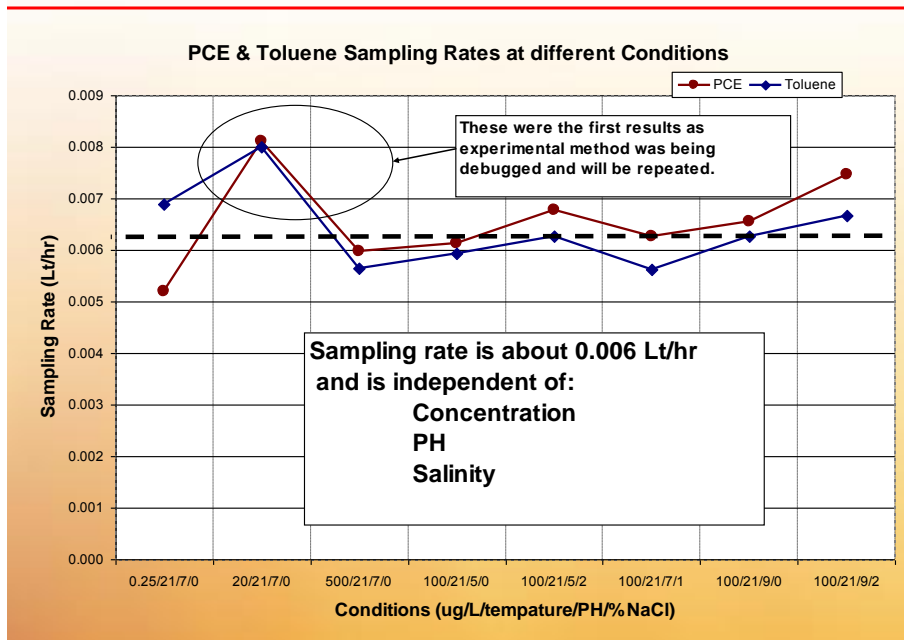
The 4 constant regression accounts for some of the non linearity allowing good accuracy at higher mass levels. From the experimental data we have found this safe range can be extended to 100 ug or higher as shown in the chart below. This chart compares total mass of all compounds (excluding heavy alkanes, which have solubility issues) versus time in comparison to that predicted from the 4-constant concentration equation.



### Effect of PH and Salinity

Because neither PH nor salinity is known to have a significant impact on Henry's law or diffusivity in water, we did not expect them to have a significant impact on sampling rate. To confirm this, experiments were run varying PH from 5 to 9 and NaCl content from 0 to 2%. The chart below shows no significant impact for combinations of PH and NaCl content over this range on the sampling rate of toluene in water at 21°C.

### Checked for Effects of PH & Salinity

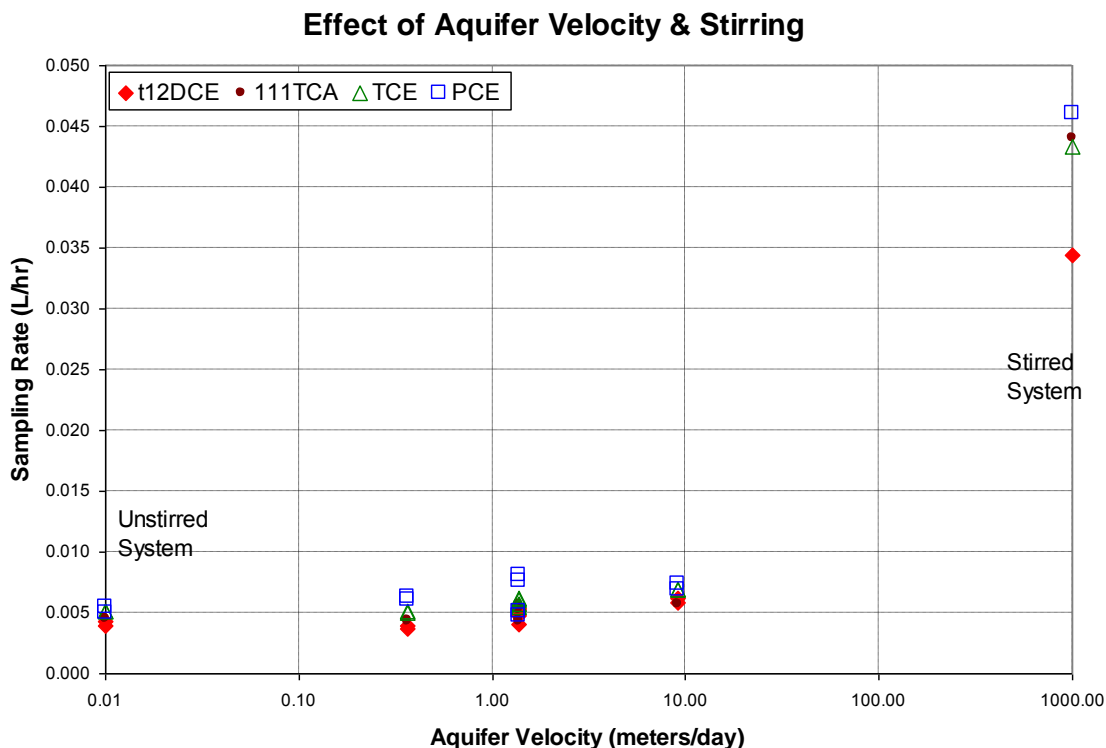


## Impact of Aquifer Velocity

The velocity in most aquifers is quite slow, typically a meter/day or less. Occasionally water flow could be much higher such as encountered in karst aquifers, streams or rivers. Mass transfer coefficients are higher in high flow conditions, which will lead to higher sampling rates. We validated that a highly stirred system had sampling rates about 10 times higher than those that were non-stirred. We decided to evaluate the effect of aquifer velocity.

A test apparatus was built comprising a 3" PVC pipe tee filled with clean sand in each of the horizontal straight legs and screened to leave the center open. A test solution was run through this system using a variable flow pump and AGI samplers were placed into the simulated well through the vertical leg of the tee. Tests were run to examine the effect of velocity by varying the pumping rate and hence water velocity.

The chart below shows no significant effect of aquifer velocity up to a speed of about 10 meters/day. At velocities significantly above this, similar to a stirred system, sampling rates are about 10 times higher.

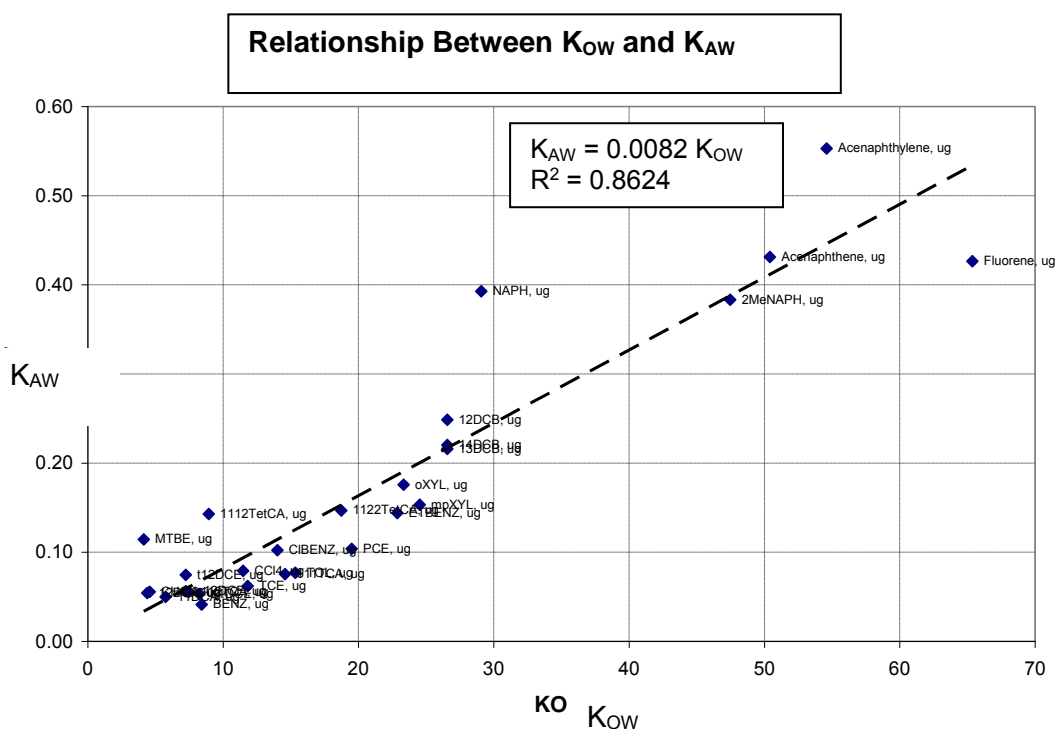


## Part 2: Calibration in Deep (>34') water

Part 2 describes the effect of deep water on the AGI sampler and summarizes the effects on sampling rate and concentration measurement.

When the water pressure exceeds the water entry pressure of the membrane, about 34 feet of water, the water becomes in direct contact with the solid adsorbent. Under this condition the compounds in the water will partition from the water into the solid. The partitioning coefficient is closely related to the octanol-water coefficient,  $K_{OW}$ , but has been measured more precisely in the lab for AGI's specific solid adsorbent,  $K_{AW}$ . The sampling rate for deep water is the product of the sampling rate at <34' of water and the  $K_{AW}$ .

Measurement of the  $K_{AW}$  was done in a one liter stainless steel vessel pressurized with nitrogen to simulate water heads above 34' of water. Pressures of up to 465 psig or 200' of water head were used. The sampling rate change was the same at all pressures above 34' of water. The  $K_{AW}$  was determined as the ratio between the mass or sampling rate above 34' of head to the rate at <34' of head and is shown in the chart below.



## Part 3: Calibration in Sediment

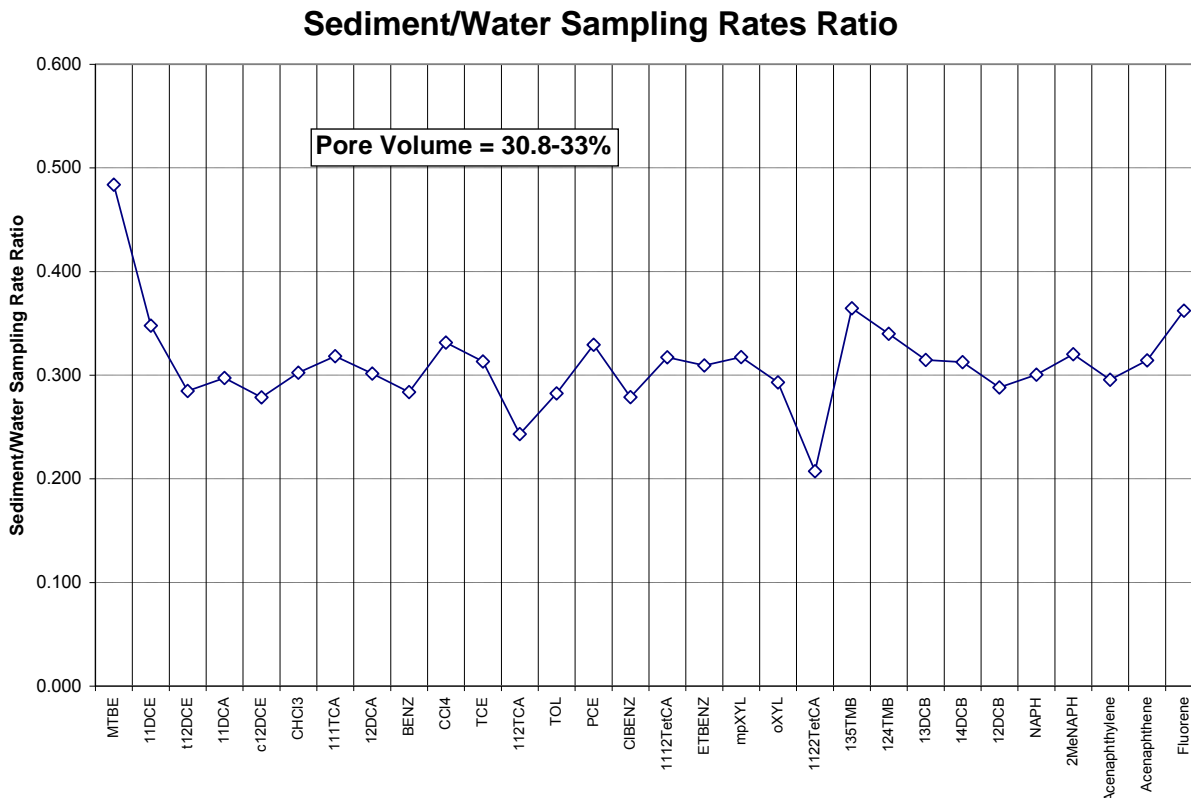
Part 3 describes the effect of sediment solids or sediment pore volume on the sampling rate and concentration measurement.

In sediment, the sampler measures pore water concentration, which is generally agreed to be the preferred measurement as it is more indicative of bioavailability. In sediment the volumetric availability of water to the sampler is reduced by the volume fraction solids in the sediment. As a result sampling rates in sediment are multiplied by the fraction pore water to determine



concentration. Pore water fraction can range from 1.0 for water without sediment to as low as 0.25. Typically most sediments have pore fractions of 0.9 to 0.65.

A sampling rate study was done with water and with water added into a well-packed sorted sand. Pore water fraction in this test was measured between 30.8% and 33% by volume. Below is a plot of the ratio of sampling rates measured in the sediment to open water. The average ratio is equal to the pore water fraction confirming that sampling rate in sediment is on average equal to the product of pore water fraction times the sampling rate in water.



## Summary

The AGI Sampler can be used to determine the concentration of volatile and semi-volatile compounds in a water phase. This requires knowing the exposure time and water temperature. It also requires knowing if the sample is above or below 34' of water head and if the water has a velocity above 10 meters/day. Regressions of large amounts of data were used to generate a four constant equation to generate concentration values in water. Potential error in the concentration values is excellent typically less than 25%.

**TABLE A**  
**WATER SAMPLING RATES STANDARD LIST**

|                   | <b>SRr</b><br>293.14 | <b>SR @</b><br>277.54 | <b>SR @</b><br>282.44 | <b>SR @</b><br>287.84 | <b>SR @</b><br>293.24 | <b>SR @</b><br>298.94 |
|-------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>MTBE</b>       | 0.0025               | 0.0014                | 0.0016                | 0.0018                | 0.0022                | 0.0029                |
| <b>t12DCE</b>     | 0.0043               | 0.0028                | 0.0028                | 0.0027                | 0.0037                | 0.0048                |
| <b>11DCA</b>      | 0.0047               | 0.0031                | 0.0033                | 0.0033                | 0.0039                | 0.0052                |
| <b>c12DCE</b>     | 0.0046               | 0.0030                | 0.0031                | 0.0031                | 0.0038                | 0.0051                |
| <b>CHCl3</b>      | 0.0046               | 0.0030                | 0.0031                | 0.0031                | 0.0038                | 0.0051                |
| <b>111TCA</b>     | 0.0066               | 0.0043                | 0.0047                | 0.0047                | 0.0056                | 0.0076                |
| <b>12DCA</b>      | 0.0045               | 0.0029                | 0.0029                | 0.0030                | 0.0036                | 0.0050                |
| <b>BENZ</b>       | 0.0050               | 0.0031                | 0.0034                | 0.0035                | 0.0042                | 0.0056                |
| <b>CCl4</b>       | 0.0068               | 0.0044                | 0.0048                | 0.0047                | 0.0058                | 0.0080                |
| <b>TCE</b>        | 0.0052               | 0.0030                | 0.0034                | 0.0034                | 0.0043                | 0.0058                |
| <b>112TCA</b>     | 0.0043               | 0.0027                | 0.0027                | 0.0028                | 0.0034                | 0.0048                |
| <b>TOL</b>        | 0.0056               | 0.0034                | 0.0039                | 0.0039                | 0.0047                | 0.0062                |
| <b>OCT</b>        | 0.0064               | 0.0046                | 0.0050                | 0.0040                | 0.0058                | 0.0089                |
| <b>PCE</b>        | 0.0061               | 0.0036                | 0.0043                | 0.0043                | 0.0051                | 0.0069                |
| <b>CIBENZ</b>     | 0.0054               | 0.0033                | 0.0039                | 0.0040                | 0.0045                | 0.0059                |
| <b>1112TetCA</b>  | 0.0061               | 0.0037                | 0.0042                | 0.0044                | 0.0050                | 0.0065                |
| <b>EtBENZ</b>     | 0.0060               | 0.0037                | 0.0045                | 0.0044                | 0.0052                | 0.0069                |
| <b>mpXYL</b>      | 0.0064               | 0.0039                | 0.0048                | 0.0046                | 0.0055                | 0.0072                |
| <b>oXYL</b>       | 0.0066               | 0.0041                | 0.0050                | 0.0048                | 0.0057                | 0.0074                |
| <b>1122TetCA</b>  | 0.0044               | 0.0027                | 0.0029                | 0.0031                | 0.0036                | 0.0046                |
| <b>135TMB</b>     | 0.0079               | 0.0046                | 0.0059                | 0.0056                | 0.0071                | 0.0093                |
| <b>124TMB</b>     | 0.0078               | 0.0046                | 0.0060                | 0.0055                | 0.0071                | 0.0092                |
| <b>13DCB</b>      | 0.0072               | 0.0041                | 0.0055                | 0.0053                | 0.0063                | 0.0080                |
| <b>14DCB</b>      | 0.0071               | 0.0040                | 0.0054                | 0.0052                | 0.0062                | 0.0079                |
| <b>12DCB</b>      | 0.0070               | 0.0040                | 0.0053                | 0.0051                | 0.0060                | 0.0076                |
| <b>UNDEC</b>      |                      | 0.0026                | 0.0024                | 0.0020                | 0.0031                | 0.0029                |
| <b>NAPH</b>       |                      | 0.0041                | 0.0056                | 0.0054                | 0.0064                | 0.0081                |
| <b>TRIDEC</b>     |                      |                       |                       |                       |                       |                       |
| <b>2MeNAPH</b>    |                      | 0.0043                | 0.0066                | 0.0066                | 0.0080                | 0.0108                |
| <b>PENTADEC</b>   |                      |                       |                       |                       |                       |                       |
| <b>Total mass</b> | 0.1177               | 0.0822                | 0.1339                | 0.1334                | 0.1773                | 0.1981                |

Notes:

Values in L/hr

Total mass does not include UNDEC, TRIDEC, PENTADEC (28 compounds)

**TABLE B**  
**4 CONSTANT REGRESSION OUTPUT**

|                   | <b>Adjusted<br/>Rsqr</b> | <b>Standard<br/>Error</b> | <b>ln(SR0)</b> | <b>b</b> | <b>-Ea/R</b> | <b>d</b> | <b>Std<br/>Error<br/>ln(SR0)</b> | <b>Std<br/>Error<br/>b</b> | <b>Std<br/>Error<br/>-<br/>Ea/R</b> | <b>Std<br/>Error<br/>d</b> |
|-------------------|--------------------------|---------------------------|----------------|----------|--------------|----------|----------------------------------|----------------------------|-------------------------------------|----------------------------|
| <b>MTBE</b>       | 0.997                    | 0.0960                    | -3.217         | 0.981    | 2704         | -0.709   | 0.2881                           | 0.0062                     | 83                                  | 0.0082                     |
| <b>t12DCE</b>     | 0.992                    | 0.1659                    | -1.877         | 0.905    | 2147         | -0.760   | 0.4971                           | 0.0100                     | 144                                 | 0.0138                     |
| <b>11DCA</b>      | 0.995                    | 0.1272                    | -1.346         | 0.916    | 1965         | -0.746   | 0.3809                           | 0.0077                     | 110                                 | 0.0106                     |
| <b>c12DCE</b>     | 0.995                    | 0.1299                    | -1.905         | 0.911    | 2137         | -0.751   | 0.3892                           | 0.0078                     | 112                                 | 0.0109                     |
| <b>CHCl3</b>      | 0.996                    | 0.1260                    | -1.841         | 0.912    | 2118         | -0.748   | 0.3776                           | 0.0076                     | 109                                 | 0.0105                     |
| <b>111TCA</b>     | 0.995                    | 0.1279                    | -2.684         | 0.902    | 2259         | -0.761   | 0.3836                           | 0.0076                     | 111                                 | 0.0106                     |
| <b>12DCA</b>      | 0.995                    | 0.1263                    | -2.161         | 0.908    | 2218         | -0.746   | 0.3786                           | 0.0076                     | 109                                 | 0.0106                     |
| <b>BENZ</b>       | 0.995                    | 0.1323                    | -2.207         | 0.920    | 2198         | -0.754   | 0.3965                           | 0.0080                     | 114                                 | 0.0110                     |
| <b>CCl4</b>       | 0.994                    | 0.1405                    | -3.121         | 0.889    | 2379         | -0.776   | 0.4220                           | 0.0083                     | 122                                 | 0.0116                     |
| <b>TCE</b>        | 0.992                    | 0.1655                    | -3.338         | 0.900    | 2522         | -0.772   | 0.4969                           | 0.0099                     | 144                                 | 0.0137                     |
| <b>112TCA</b>     | 0.995                    | 0.1264                    | -2.412         | 0.896    | 2302         | -0.724   | 0.3790                           | 0.0075                     | 109                                 | 0.0107                     |
| <b>TOL</b>        | 0.994                    | 0.1426                    | -2.873         | 0.916    | 2364         | -0.756   | 0.4281                           | 0.0087                     | 124                                 | 0.0119                     |
| <b>OCT</b>        | 0.938                    | 0.4698                    | -5.984         | 0.822    | 3235         | -0.827   | 1.4231                           | 0.0277                     | 412                                 | 0.0388                     |
| <b>PCE</b>        | 0.991                    | 0.1773                    | -3.780         | 0.877    | 2601         | -0.775   | 0.5329                           | 0.0103                     | 154                                 | 0.0147                     |
| <b>CIBENZ</b>     | 0.994                    | 0.1457                    | -2.601         | 0.911    | 2292         | -0.747   | 0.4370                           | 0.0088                     | 126                                 | 0.0122                     |
| <b>1112TetCA</b>  | 0.996                    | 0.1235                    | -2.676         | 0.898    | 2281         | -0.725   | 0.3705                           | 0.0073                     | 107                                 | 0.0104                     |
| <b>EtBENZ</b>     | 0.993                    | 0.1597                    | -2.930         | 0.918    | 2357         | -0.752   | 0.4794                           | 0.0097                     | 138                                 | 0.0134                     |
| <b>mpXYL</b>      | 0.992                    | 0.1678                    | -3.036         | 0.909    | 2372         | -0.749   | 0.5037                           | 0.0101                     | 145                                 | 0.0140                     |
| <b>oXYL</b>       | 0.993                    | 0.1555                    | -2.862         | 0.911    | 2312         | -0.740   | 0.4667                           | 0.0094                     | 135                                 | 0.0131                     |
| <b>1122TetCA</b>  | 0.996                    | 0.1118                    | -1.971         | 0.913    | 2167         | -0.691   | 0.3351                           | 0.0067                     | 97                                  | 0.0096                     |
| <b>135TMB</b>     | 0.988                    | 0.2024                    | -4.435         | 0.897    | 2720         | -0.738   | 0.6093                           | 0.0121                     | 176                                 | 0.0170                     |
| <b>124TMB</b>     | 0.989                    | 0.1997                    | -4.126         | 0.890    | 2631         | -0.731   | 0.6009                           | 0.0118                     | 173                                 | 0.0169                     |
| <b>13DCB</b>      | 0.991                    | 0.1832                    | -3.422         | 0.888    | 2449         | -0.730   | 0.5503                           | 0.0108                     | 159                                 | 0.0155                     |
| <b>14DCB</b>      | 0.991                    | 0.1802                    | -3.263         | 0.892    | 2408         | -0.724   | 0.5413                           | 0.0107                     | 156                                 | 0.0153                     |
| <b>12DCB</b>      | 0.992                    | 0.1697                    | -2.970         | 0.894    | 2327         | -0.716   | 0.5092                           | 0.0101                     | 147                                 | 0.0144                     |
| <b>UNDEC</b>      | 0.694                    | 0.374                     | -1.406         | 0.426    | 1708         | -0.806   | 1.792                            | 0.028                      | 517                                 | 0.053                      |
| <b>NAPH</b>       | 0.992                    | 0.166                     | -3.374         | 0.915    | 2430         | -0.671   | 0.497                            | 0.010                      | 144                                 | 0.014                      |
| <b>TRIDEC</b>     |                          |                           |                |          |              |          |                                  |                            |                                     |                            |
| <b>2MeNAPH</b>    | 0.984                    | 0.238                     | -5.498         | 0.869    | 2990         | -0.689   | 0.72                             | 0.014                      | 208                                 | 0.021                      |
| <b>PENTADEC</b>   |                          |                           |                |          |              |          |                                  |                            |                                     |                            |
| <b>Total mass</b> | 0.993                    | 0.1543                    | -6.111         | 0.907    | 2419         | -0.732   | 0.4666                           | 0.0093                     | 134                                 | 0.0130                     |

**TABLE C**  
**8260C MASS UNCERTAINTY**

**AGI 8260C Method for Mass using SPG-0008  
Samplers**

|           | 99%<br>Uncertainty Range<br>+/- | 95%<br>Uncertainty Range<br>+/- |
|-----------|---------------------------------|---------------------------------|
| MTBE      | 20%                             | 14%                             |
| t12DCE    | 22%                             | 15%                             |
| 11DCA     | 18%                             | 12%                             |
| c12DCE    | 18%                             | 12%                             |
| CHCl3     | 16%                             | 11%                             |
| 111TCA    | 18%                             | 12%                             |
| 12DCA     | 20%                             | 13%                             |
| BENZ      | 16%                             | 10%                             |
| CCl4      | 19%                             | 12%                             |
| TCE       | 15%                             | 10%                             |
| 112TCA    | 18%                             | 12%                             |
| TOL       | 15%                             | 10%                             |
| OCT       | 20%                             | 13%                             |
| PCE       | 16%                             | 11%                             |
| CIBENZ    | 18%                             | 12%                             |
| 1112TetCA | 19%                             | 13%                             |
| EtBENZ    | 18%                             | 12%                             |
| mpXYL     | 18%                             | 12%                             |
| oXYL      | 18%                             | 12%                             |
| 1122TetCA | 23%                             | 15%                             |
| 135TMB    | 21%                             | 14%                             |
| 124TMB    | 20%                             | 14%                             |
| 13DCB     | 19%                             | 13%                             |
| 14DCB     | 19%                             | 13%                             |
| 12DCB     | 20%                             | 14%                             |
| NAPH      | 21%                             | 14%                             |
| 2MeNAPH   | 25%                             | 17%                             |

**TABLE D**  
**4 CONSTANT WATER CONCENTRATION UNCERTAINTY**  
**ERROR IN CONCENTRATION REPORTING (1)**

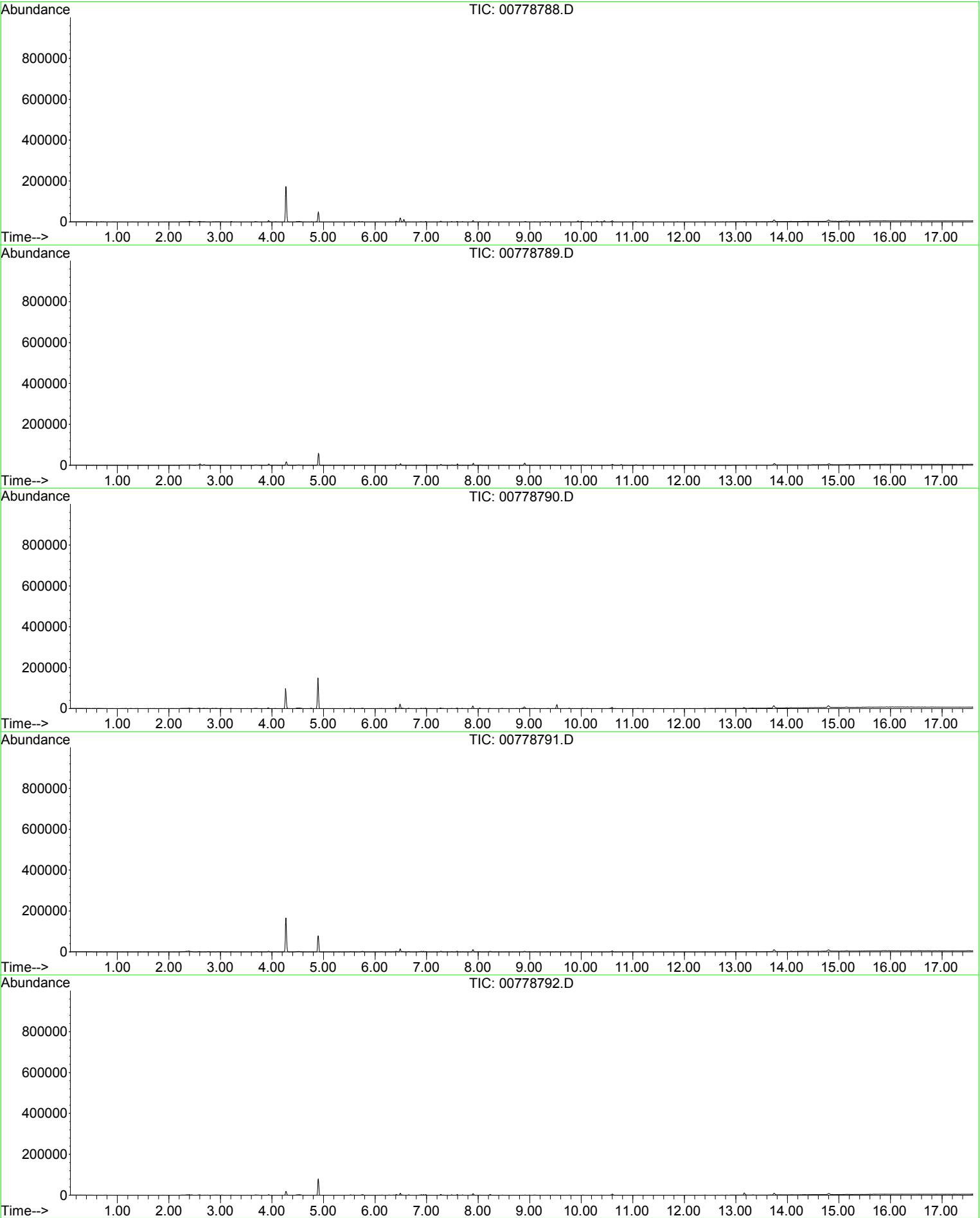
|           | <b>Average<br/>Error</b> | <b>Minimum<br/>Error</b> | <b>Maximum<br/>Error</b> |
|-----------|--------------------------|--------------------------|--------------------------|
| MTBE      | 6%                       | -12%                     | 12%                      |
| t12DCE    | 11%                      | -26%                     | 21%                      |
| 11DCA     | 8%                       | -19%                     | 13%                      |
| c12DCE    | 9%                       | -19%                     | 15%                      |
| CHCl3     | 9%                       | -20%                     | 14%                      |
| 111TCA    | 9%                       | -19%                     | 23%                      |
| 12DCA     | 10%                      | -19%                     | 17%                      |
| BENZ      | 8%                       | -18%                     | 13%                      |
| CCl4      | 10%                      | -23%                     | 22%                      |
| TCE       | 10%                      | -21%                     | 14%                      |
| 112TCA    | 11%                      | -21%                     | 21%                      |
| TOL       | 7%                       | -17%                     | 14%                      |
| OCT       | 20%                      | -41%                     | 42%                      |
| PCE       | 10%                      | -24%                     | 15%                      |
| CIBENZ    | 7%                       | -16%                     | 14%                      |
| 1112TetCA | 8%                       | -17%                     | 18%                      |
| EtBENZ    | 6%                       | -19%                     | 14%                      |
| mpXYL     | 7%                       | -22%                     | 13%                      |
| oXYL      | 7%                       | -19%                     | 13%                      |
| 1122TetCA | 8%                       | -16%                     | 17%                      |
| 135TMB    | 9%                       | -23%                     | 17%                      |
| 124TMB    | 10%                      | -28%                     | 19%                      |
| 13DCB     | 10%                      | -22%                     | 17%                      |
| 14DCB     | 10%                      | -22%                     | 17%                      |
| 12DCB     | 9%                       | -23%                     | 17%                      |
| NAPH      | 10%                      | -24%                     | 21%                      |
| 2MeNAPH   | 13%                      | -32%                     | 30%                      |

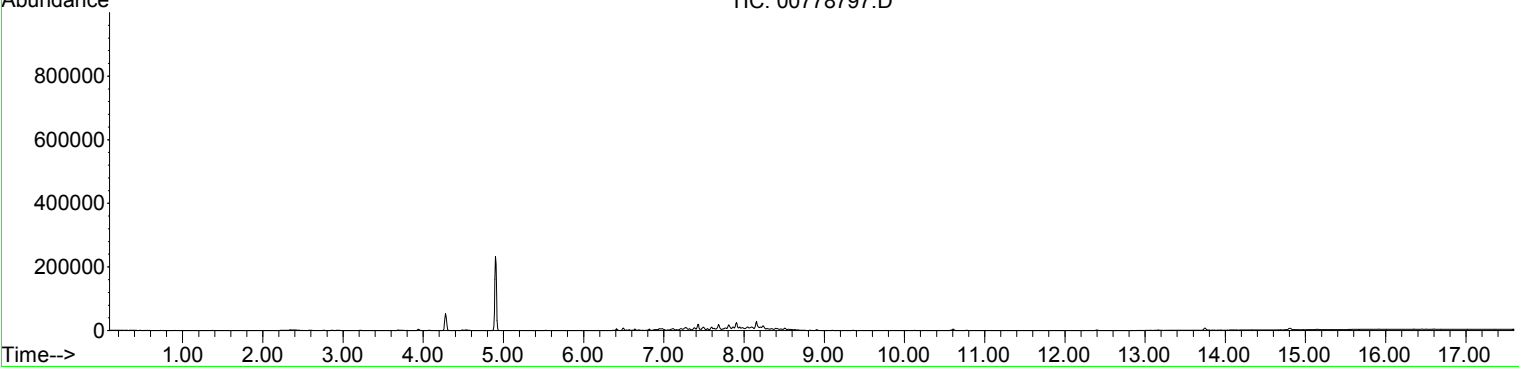
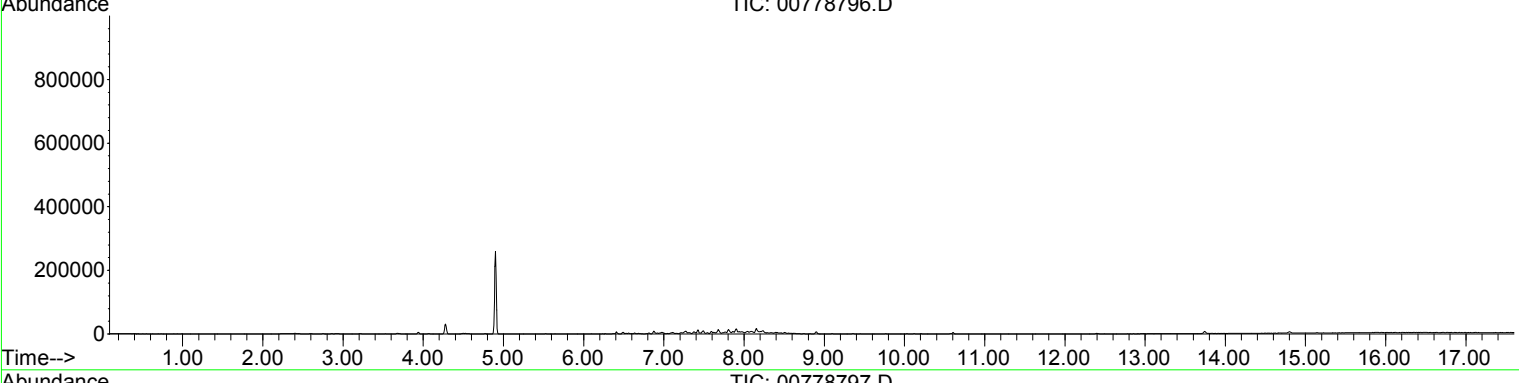
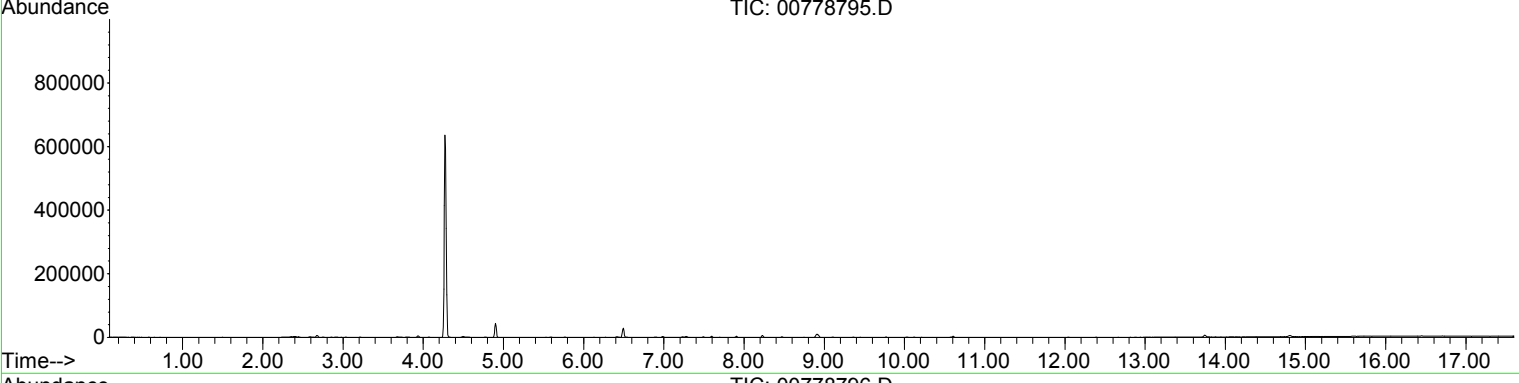
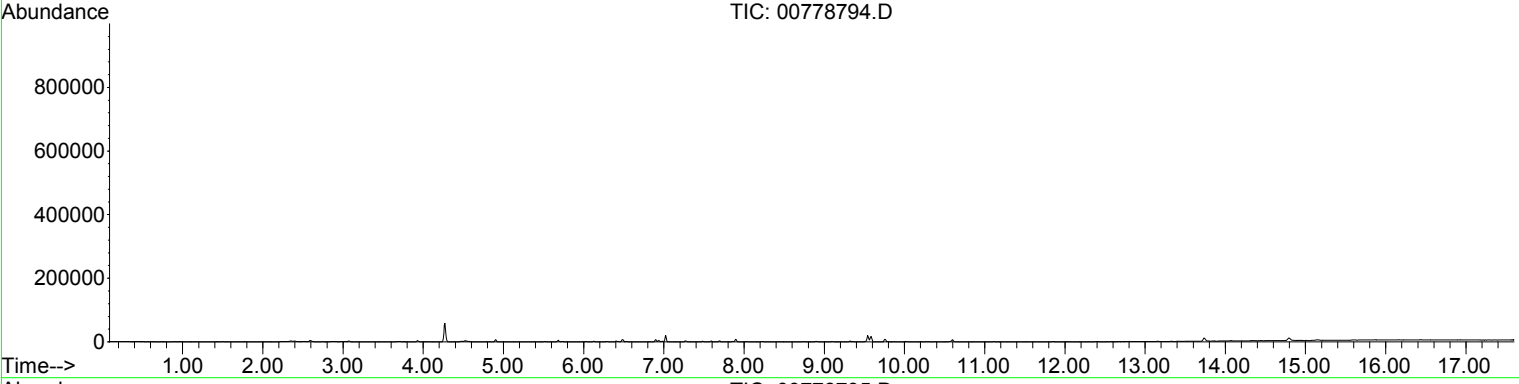
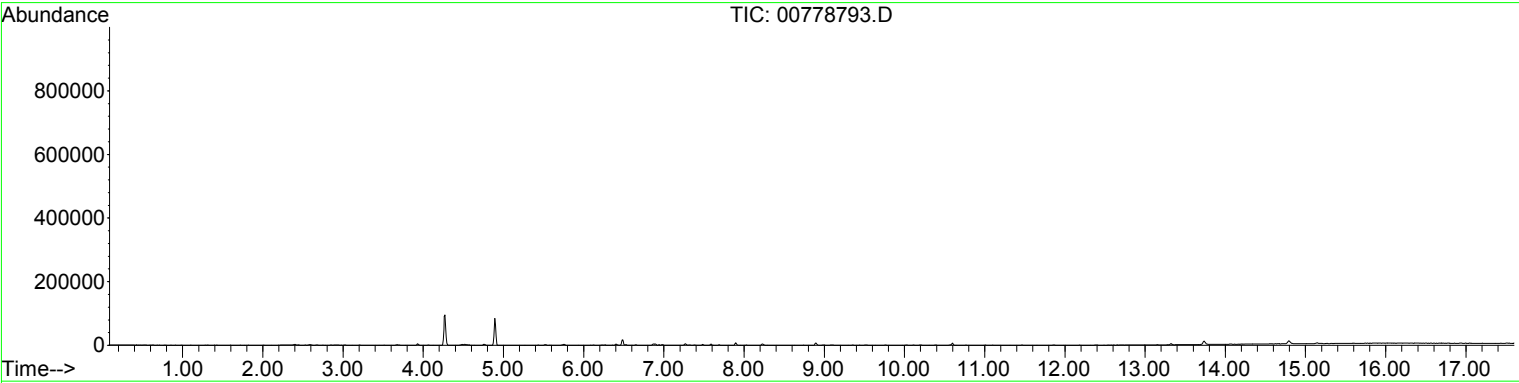
(1) For 1 hour exposure, includes error related to mass value from AGI analytical method 8260C

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Newark, DE 19702-3335  
Tel: +1-302-322-2428  
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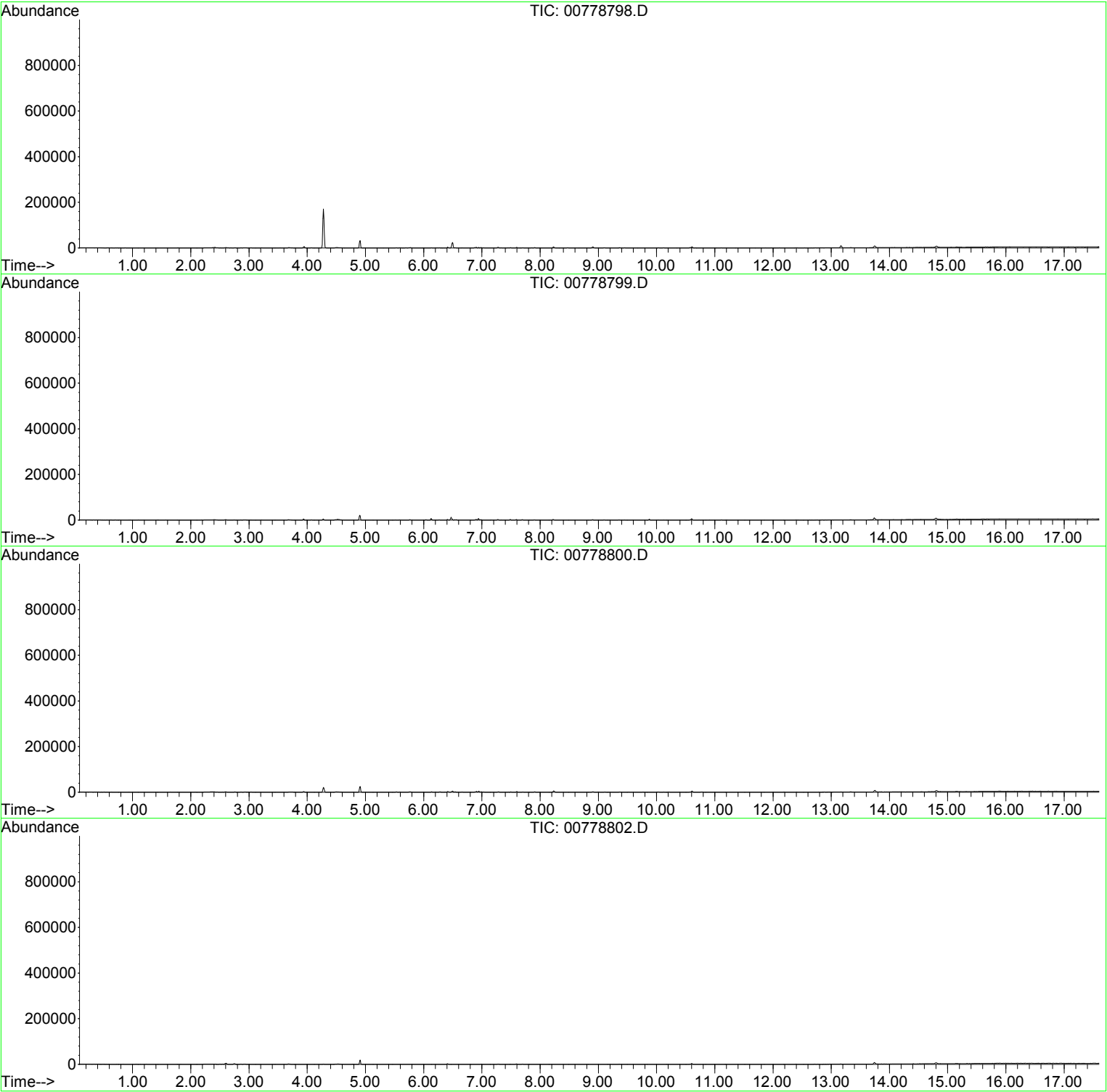
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AMPLIFIED  
GEOCHEMICAL  
IMAGING, LLC

# Laboratory Report

Site: Comal & San Marcos Rivers December 2016

Prepared for:

SWCA Environmental Consultants  
6200 UTSA Boulevard  
Suite 102  
San Antonio, TX  
UNITED STATES

Prepared on:  
December 21, 2016

## Project Summary and Objective

Amplified Geochemical Imaging, LLC. (AGI) provided the AGI Environmental Survey used at:

**Comal & San Marcos Rivers December 2016**

The service provided by AGI included delivery of the required quantity of AGI Universal Samplers, analysis by the method described below for the requested organic compounds, reporting of the data, and contour mapping (as needed).

This report includes results for only the samples noted under the Laboratory Sample Report section. If contour maps are part of the project deliverable, the maps will be prepared and issued under a separate report cover, upon receipt of a usable sitemap (electronic) and compound choices for contouring.

Written/submitted by:

**Kelly J Stringham**

Project Manager

Reviewed/approved by:

**Fatima Niazi**

Chemist

Analytical data approved by:

**Fatima Niazi**

Chemist

## Quality Assurance Statement

The AGI Laboratory, at Amplified Geochemical Imaging's facility in Newark, DE USA, operates under the guidelines of its ISO Standard 17025 DoD ELAP accreditation, and its Quality Assurance Manual, Operating Procedures, and Methods (SOP-QA-0462).

For this project, the analytical method, results, and observations reported do [ ] do not [ ✓ ] fall within the scope of AGI's ISO 17025 accreditation.

**Screening/Concentration Method**

The AGI Universal Samplers are analyzed at AGI's fixed laboratory using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following modified U.S. EPA Method 8260 (SPG-WI-0292) which includes the following:

- **BFB Tuning Frequency:** A BFB tune is analyzed at the start of each analytical run and after every 30 samples.
- **Initial Calibration:** A minimum of a five point calibration curve is analyzed prior to the analysis of samples.
- **Initial Calibration Verification (ICV):** Following the calibration a second-source reference standard is analyzed to verify the accuracy of the calibration. Acceptance criteria for the ICV is +/- 30%.
- **Linearity of Target Compounds:** If the RSD of any target analyte is less than or equal to 25% then average response factor can be used for quantitation. If the RSD exceeds 25% for a target compound a regression equation can be used for quantitation.
- **Continuing Calibration Verification:** After every 10 samples, and at the end of each analytical batch, a mid-level second-source Reference Standard is analyzed. The acceptance criteria for all target analytes in the reference standards are +/- 50% of the true value.
- **Method Blank:** Analyzed prior to the analysis of field samples and every 30 samples.

**Note:** Analyte levels reported for the field-deployed AGI Universal Samplers that exceed trip and method blank levels, and/or the reporting limit, are more likely to have originated from on-site sources.

|                            |               |
|----------------------------|---------------|
| Media Sampled:             | WATER         |
| Chemist - sample analysis: | Jasmine Smith |
| Chemist - data processor:  | Jasmine Smith |
| Chemist - data review:     | Fatima Niazi  |

Method deviations: A four point calibration curve was used for toluene to maintain linearity.

Please note that data file names ending with R are rerun samples using the second pair of sorbers, in which the original results were not reported. Data file names ending in D are duplicate analysis results for the second set of sorbers from the same sampler, and are reported.

## Additional Report Information

- Comments
- Laboratory Sample Report
- Chain of Custody
- Installation and Retrieval Log
- Data Table(s) and Key
- Concentration Calculation Method Summary
- Total Ion Chromatograms

## Project Specific Comments

Samplers 00778958 and 00778959 were analyzed as trip blanks. Samplers 00778952 and 00778953 were returned but were not analyzed at the request of SWCA Environmental Consultants. Sample 00778954 was analyzed in duplicate at the request of SWCA Environmental Consultants.

|                            |   |                  |
|----------------------------|---|------------------|
| Survey period <sup>1</sup> | Samplers were installed on December 1, 2016 and retrieved on December 15, 2016 for an exposure period of 14 days. |                  |
| Tamper seal intact:        | Yes   |                  |
| Date received:             | 12/16/16 11:30 am   | By: Scott Kirlin |
| COC returned:              | Yes   |                  |
| Comments:                  | None  |                  |

1 - Installation start to end of retrieval, as reported. See installation and retrieval log for individual deployment and retrieval dates and times (i.e., sampler exposure time).

## General Comments

### Analytical QA/QC

Laboratory instrumentation consists of gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation involves cutting the tip off the bottom of the AGI Universal Sampler, and transferring one or more "sorbents" to a thermal desorption tube for analysis. The insertion/retrieval cord prevents soil, water and other interferences from coming in contact with the adsorbent. No further sample preparation is required. Any replicate sorbents not consumed in the initial analysis will be discarded fifteen (15) days from the date of the laboratory report.

Data are archived and stored in a secure manner as per AGI's Quality Assurance program (SOP-QA-0462).

Total petroleum hydrocarbons (TPH), gasoline-range petroleum hydrocarbons (GRPH), and/or diesel range petroleum hydrocarbons (DRPH), when reported, are calculated using the area under the peaks observed in m/z 55 and 57 selected ion chromatograms. Quantitation of the mass values was performed using the response factor for a specific alkane (present in the calibration standards). TPH values include the entire chromatogram and provide estimates for aliphatic hydrocarbon ranges of C4 to C20. GRPH and DRPH include only the relevant regions of the chromatograms and provide estimates for C4 to C10 and C10 to C20 aliphatic hydrocarbons, respectively.

Trip blanks were provided to document potential exposures that were not part of the signal of interest (e.g., impact during sampler shipment, installation and/or retrieval, and storage). The trip blanks are identically manufactured and packaged AGI Universal Samplers to those samplers deployed in the field. The trip blanks remain unopened during all phases of the project. Levels reported on the trip blanks may indicate potential impact to the samplers other than the contaminant source of interest.

Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. UPEs may be indicative of complex fluid mixtures. UPEs observed early in the chromatograms are considered to indicate presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.

Total ion chromatograms (TICs) are included in the Attachments. The eight-digit serial number of each sampler is incorporated in the TIC identification (e.g., 12345678.D represents AGI Universal Sampler 12345678).



## General Comments

### Soil Gas Sampling

For soil gas sampling, the AGI Environmental Survey reports mass levels migrating through the open pore spaces of the soil and diffusing through the sampler membrane for sorption by the engineered, hydrophobic adsorbents, housed within the membrane tube. During the migration of the soil gas away from the source to the AGI Universal Sampler, the vapors are subject to a variety of attenuation factors. The soil gas masses reported on the samplers compare favorably with the concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels to other sampled locations on the site, the matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.

Soil gas concentrations ( $\mu\text{g}/\text{m}^3$ ) are calculated following the method described in the Additional Report Information section.

Soil gas signals reported by this method cannot be correlated specifically to soil adsorbed, groundwater, and /or free-phase contamination. The soil gas signal reported from each AGI Universal Sampler can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).

### Air Sampling

For indoor, outdoor, and crawlspace air sampling, the AGI Environmental Survey reports mass levels present in the air and diffusing through the sampler membrane for sorption by the engineered adsorbents housed within the membrane tube.

Air concentrations ( $\mu\text{g}/\text{m}^3$ ) are calculated following the method described in the Additional Report Information section.

### Groundwater and Sediment Porewater Sampling

For groundwater and sediment porewater sampling, the AGI Environmental Survey reports the mass levels of compounds present in the water which, when coming in contact with the sampler membrane, partitions out of solution, and diffuses through the sampler membrane for sorption by the engineered adsorbents.

Water concentrations ( $\mu\text{g}/\text{L}$ ) are calculated using the quantified mass, exposure period and the compound specific uptake rate. The rates were measured under controlled experimental conditions. The uptake rates are corrected for water pressure (depth of the AGI Universal Sampler below the water table), water temperature and the aquifer flow rate. For sediment porewater, the uptake rate is corrected for the reduced volume of water in the sediment, by multiplying the uptake rate by the pore water fraction.

## Laboratory Sample Report

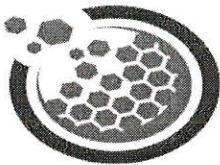
| <u>AGI Sample ID</u> | <u>Field ID</u> | <u>Sample Type</u> |
|----------------------|-----------------|--------------------|
| 00778944             | HCS410          | FIELD SAMPLE       |
| 00778945             | HCS420          | FIELD SAMPLE       |
| 00778946             | HCS430          | FIELD SAMPLE       |
| 00778947             | HCS440          | FIELD SAMPLE       |
| 00778948             | FDHCS440        | FIELD SAMPLE       |
| 00778949             | HCS460          | FIELD SAMPLE       |
| 00778950             | HSM410          | FIELD SAMPLE       |
| 00778951             | HSM420          | FIELD SAMPLE       |
| 00778952             | HSM430          | NOT ANALYZED       |
| 00778953             | FDHSM430        | NOT ANALYZED       |
| 00778954             | HSM440          | FIELD SAMPLE       |
| 00778955             | HSM450          | FIELD SAMPLE       |
| 00778956             | HSM460          | FIELD SAMPLE       |
| 00778957             | HSM470          | FIELD SAMPLE       |
| 00778958             | TB17            | TRIP BLANK         |
| 00778959             |                 | TRIP BLANK         |

Total # Field Samples: 12

Total # Trip Blanks: 2

Total # Not Analyzed: 2

Laboratory Duplicate: 00778954



**AGI Universal Passive Sampler Chain of Custody  
Groundwater Sampling**

Production Order #: 1737

Customer Name: SWCA Environmental Consultants  
Address: 6200 UTSA Boulevard  
Suite 102  
San Antonio, TX 78249

Site Name: Comal and San Marcos Rivers - December 2016  
Site Address:  
Project

|                              |                                |           |                  |   |
|------------------------------|--------------------------------|-----------|------------------|---|
| Serial # of Samplers Shipped | # of Samplers for Installation | 14        | # of Trip Blanks | 2 |
| 00778944 - 00778959          | Total Samplers Shipped         | 16        | Pieces           |   |
|                              | Total Samplers Received        | <u>16</u> | Pieces           |   |
|                              | Total Samplers Installed       | <u>14</u> | Pieces           |   |

Serial # of Trip Blanks (Client Decides)

|                 |  |  |
|-----------------|--|--|
| <u>00778950</u> |  |  |
|-----------------|--|--|

|   |  |
|---|--|
| Prepared By: <u>Clarence W. [Signature]</u>   | Is Concurrent water sampling planned this monitoring period? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> |
| Verified By: <u>[Signature]</u>   | Scheduled Sampling Date: _____   |
| Installation Performed By:<br>Name: <u>Phil Pearce Jeff Fox</u><br>Company: <u>SWCA</u>                                   | Retrieval Performed By:<br>Name: <u>Jennifer Moreland Ben Dilly</u><br>Company: <u>SWCA</u>                                      |
| Installation Start Date / Time: <u>12/11/16 0945</u>  | Retrieval Start Date / Time: <u>12/15/16 0952</u>  |
| Installation Complete Date / Time: <u>12/11/16 1359</u>   | Retrieval Complete Date / Time: <u>12/15/16 1233</u>   |
| Total Samplers Retrieved: <u>14</u><br>Total Samplers Lost In Field: <u>0</u><br>Total Unused Samplers Returned: <u>1</u> |  |
| Relinquished By: <u>Clarence W. [Signature]</u> Date/Time: <u>11/18/16 11:00</u>  | Received By: <u>[Signature]</u> Date/Time: <u>11/23/16 08:00</u>   |
| Company: <u>AGI</u>   | Company: <u>AGI SWCA</u>   |
| Relinquished By: <u>[Signature]</u> Date/Time: <u>12/15/16 14:00</u>  | Received By: _____ Date/Time: _____  |
| Company: <u>SWCA</u>  | Company: _____   |
| Relinquished By: _____ Date/Time: _____   | Received By: <u>[Signature]</u> Date/Time: <u>12/16/16 11:30am</u>   |
| Company: _____  | Company: <u>AGI</u>  |



ENV 01737

Comal &amp; San Marcos Rivers - December 2016

**Location:**

**Samples collected by:**

\* Optional or as needed

SPG-FCD-8930 Water R4



AGI Project No. ENV 01737  
Site Name: Comal & San Marcos Rivers - December 2016  
Site Location:

Company Name: SWCA Environmental Consultants  
Location:  
Samples collected by:

\* Optional or as needed

[illegible]



**AGI Soil Gas Sampling  
Installation & Retrieval Log**

\* Optional or as needed

| SAMPLER SERIAL NO. | PROJECTED COORDINATES Y<br>(NORTHING) | COORDINATE SYSTEM* (e.g.,<br>UTM Zone, Stateplane, etc.) | COORDINATE DATUM* (e.g., WGS 84) |
|--------------------|---------------------------------------|--|----------------------------------|
| 00778788           |                                       |  |                                  |
| 00778789           |                                       |  |                                  |
| 00778790           |                                       |  |                                  |
| 00778791           |                                       |  |                                  |
| 00778792           |                                       |  |                                  |
| 00778793           |                                       |  |                                  |
| 00778794           |                                       |  |                                  |
| 00778795           |                                       |  |                                  |
| 00778796           |                                       |  |                                  |
| 00778797           |                                       |  |                                  |
| 00778798           |                                       |  |                                  |
| 00778799           |                                       |  |                                  |
| 00778800           |                                       |  |                                  |
| 00778801           |                                       |  |                                  |
| 00778802           |                                       |  |                                  |
| 00778803           |                                       |  |                                  |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS & PAHS & PESTICIDES  
 COMAL & SAN MARCOS RIVERS - DECEMBER 2016  
 ORDER #01737

| DATAFILE    | FIELD        | DATE/ TIME     |    |         |          |            |           |            |           |            |           |          |          |         |            |         |       |
|-------------|--------------|----------------|----|---------|----------|------------|-----------|------------|-----------|------------|-----------|----------|----------|---------|------------|---------|-------|
| NAME        | ID           | ANALYZED       | DF | TPH, ug | MTBE, ug | t12DCE, ug | 11DCA, ug | c12DCE, ug | CHCl3, ug | 111TCA, ug | 12DCA, ug | BENZ, ug | CCl4, ug | TCE, ug | 112TCA, ug | TOL, ug |       |
| Average RL= |              |                |    | 0.50    | 0.02     | 0.02       | 0.02      | 0.02       | 0.02      | 0.02       | 0.02      | 0.02     | 0.02     | 0.02    | 0.02       | 0.02    | 0.02  |
| 00778944    | HCS410       | 12/19/16 18:33 | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| 00778945    | HCS420       | 12/19/16 20:41 | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| 00778946    | HCS430       | 12/19/16 22:20 | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| 00778947    | HCS440       | 12/20/16 2:19  | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| 00778948    | FDHCS440     | 12/19/16 22:54 | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| 00778949    | HCS460       | 12/19/16 21:13 | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| 00778950    | HSM410       | 12/20/16 3:29  | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| 00778951    | HSM420       | 12/19/16 19:36 | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| 00778954    | HSM440       | 12/20/16 4:04  | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| 00778954D   | HSM440       | 12/20/16 4:39  | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| 00778955    | HSM450       | 12/20/16 1:45  | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| 00778956    | HSM460       | 12/19/16 23:29 | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| 00778957    | HSM470       | 12/19/16 19:05 | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| 00778958    | TB17         | 12/20/16 1:11  | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| 00778959    | Trip Blank   | 12/19/16 20:07 | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |
| BLK_ENV-1   | Method Blank | 12/19/16 18:01 | 1  | <0.50   | <0.02    | <0.02      | <0.02     | <0.02      | <0.02     | <0.02      | <0.02     | <0.02    | <0.02    | <0.02   | <0.02      | <0.02   | <0.02 |



AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS & PAHS & PESTICIDES  
 COMAL & SAN MARCOS RIVERS - DECEMBER 2016  
 ORDER #01737

| DATAFILE    |         |         |            |               |            |           |          |               |            |            |           |           |           |           |          |  |
|-------------|---------|---------|------------|---------------|------------|-----------|----------|---------------|------------|------------|-----------|-----------|-----------|-----------|----------|--|
| NAME        | OCT, ug | PCE, ug | CIBENZ, ug | 1112TetCA, ug | ETBENZ, ug | mpXYL, ug | oXYL, ug | 1122TetCA, ug | 135TMB, ug | 124TMB, ug | 13DCB, ug | 14DCB, ug | 12DCB, ug | UNDEC, ug | NAPH, ug |  |
| Average RL= | 0.02    | 0.02    | 0.02       | 0.02          | 0.02       | 0.02      | 0.02     | 0.02          | 0.02       | 0.02       | 0.02      | 0.02      | 0.02      | 0.05      | 0.05     |  |
| 00778944    | <0.02   | 0.10    | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| 00778945    | <0.02   | 0.32    | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| 00778946    | <0.02   | 0.59    | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| 00778947    | <0.02   | 0.33    | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| 00778948    | <0.02   | 0.34    | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| 00778949    | <0.02   | 0.27    | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| 00778950    | <0.02   | <0.02   | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| 00778951    | <0.02   | 0.22    | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| 00778954    | <0.02   | 0.08    | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| 00778954D   | <0.02   | 0.07    | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| 00778955    | <0.02   | 0.07    | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| 00778956    | <0.02   | 0.09    | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| 00778957    | <0.02   | 0.11    | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | 0.03       | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| 00778958    | <0.02   | <0.02   | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| 00778959    | <0.02   | <0.02   | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |
| BLK_ENV-1   | <0.02   | <0.02   | <0.02      | <0.02         | <0.02      | <0.02     | <0.02    | <0.02         | <0.02      | <0.02      | <0.02     | <0.02     | <0.02     | <0.05     | <0.05    |  |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS & PAHS & PESTICIDES  
 COMAL & SAN MARCOS RIVERS - DECEMBER 2016  
 ORDER #01737

| DATAFILE    |            |             |                    |              |                  |              |                  |                |                  |            |               |       |
|-------------|------------|-------------|--------------------|--------------|------------------|--------------|------------------|----------------|------------------|------------|---------------|-------|
| NAME        | TRIDEC, ug | 2MeNAPH, ug | Acenaphthylene, ug | PENTADEC, ug | Acenaphthene, ug | Fluorene, ug | Phenanthrene, ug | Anthracene, ug | Fluoranthene, ug | Pyrene, ug | alpha-BHC, ug |       |
| Average RL= | 0.05       | 0.05        | 0.05               | 0.05         | 0.05             | 0.05         | 0.05             | 0.05           | 0.05             | 0.05       | 0.50          |       |
| 00778944    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| 00778945    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| 00778946    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| 00778947    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| 00778948    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| 00778949    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| 00778950    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| 00778951    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| 00778954    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| 00778954D   | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| 00778955    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| 00778956    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| 00778957    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| 00778958    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| 00778959    | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |
| BLK_ENV-1   | <0.05      | <0.05       | <0.05              | <0.05        | <0.05            | <0.05        | <0.05            | <0.05          | <0.05            | <0.05      | <0.05         | <0.50 |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
SWCA, SAN ANTONIO, TX  
AGI TARGET COMPOUNDS & PAHS & PESTICIDES  
COMAL & SAN MARCOS RIVERS - DECEMBER 2016  
ORDER #01737

| DATAFILE    |              |               |               |                |            |                        |                  |              |              |            |              |       |
|-------------|--------------|---------------|---------------|----------------|------------|------------------------|------------------|--------------|--------------|------------|--------------|-------|
| NAME        | beta-BHC, ug | gamma-BHC, ug | delta-BHC, ug | Heptachlor, ug | Aldrin, ug | Heptachlor Epoxide, ug | Endosulfan I, ug | 4,4'-DDE, ug | Dieldrin, ug | Endrin, ug | 4,4'-DDD, ug |       |
| Average RL= | 0.50         | 0.50          | 0.50          | 0.50           | 0.50       | 0.50                   | 0.50             | 0.50         | 0.50         | 0.50       | 0.50         |       |
| 00778944    | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| 00778945    | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| 00778946    | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| 00778947    | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| 00778948    | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| 00778949    | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| 00778950    | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| 00778951    | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| 00778954    | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| 00778954D   | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| 00778955    | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| 00778956    | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| 00778957    | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| 00778958    | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| 00778959    | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |
| BLK_ENV-1   | <0.50        | <0.50         | <0.50         | <0.50          | <0.50      | <0.50                  | <0.50            | <0.50        | <0.50        | <0.50      | <0.50        | <0.50 |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS & PAHS & PESTICIDES  
 COMAL & SAN MARCOS RIVERS - DECEMBER 2016  
 ORDER #01737

| DATAFILE    |                   |                     |              |                        |                   |                  |          |       |
|-------------|-------------------|---------------------|--------------|------------------------|-------------------|------------------|----------|-------|
| NAME        | Endosulfan II, ug | Endrin Aldehyde, ug | 4,4'-DDT, ug | Endosulfan Sulfate, ug | Endrin ketone, ug | Methoxychlor, ug | BTEX, ug |       |
| Average RL= | 0.50              | 0.50                | 0.50         | 0.50                   | 0.50              | 0.50             | 0.02     |       |
| 00778944    | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| 00778945    | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| 00778946    | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| 00778947    | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| 00778948    | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| 00778949    | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| 00778950    | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| 00778951    | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| 00778954    | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| 00778954D   | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| 00778955    | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| 00778956    | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| 00778957    | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| 00778958    | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| 00778959    | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |
| BLK_ENV-1   | <0.50             | <0.50               | <0.50        | <0.50                  | <0.50             | <0.50            | <0.50    | <0.02 |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
SWCA, SAN ANTONIO, TX  
AGI TARGET COMPOUNDS  
ESTIMATED WATER CONCENTRATIONS  
COMAL & SAN MARCOS RIVERS - DECEMBER 2016  
ORDER #01737

| DATAFILE<br>NAME | FIELD<br>ID  | DATE/ TIME<br>INSTALLED |     | DATE/ TIME<br>RETRIEVED |     | DATE/ TIME<br>RECEIVED |     | DATE/ TIME<br>ANALYZED |     |   | estimated<br>TPH, ug/L | MTBE, ug/L | t12DCE, ug/L | 11DCA, ug/L |
|------------------|--------------|-------------------------|-----|-------------------------|-----|------------------------|-----|------------------------|-----|---|------------------------|------------|--------------|-------------|
| Average RL=      |              |                         |     |                         |     |                        |     |                        |     |   | 0.056                  | 0.014      | 0.008        | 0.008       |
| 00778944         | HCS410       | 12/1/16 10:16           | CST | 12/15/16 10:10          | CST | 12/16/16 11:30         | EST | 12/19/16 18:33         | EST | 1 | <0.055                 | <0.014     | <0.008       | <0.007      |
| 00778945         | HCS420       | 12/1/16 10:30           | CST | 12/15/16 10:21          | CST | 12/16/16 11:30         | EST | 12/19/16 20:41         | EST | 1 | <0.055                 | <0.014     | <0.008       | <0.007      |
| 00778946         | HCS430       | 12/1/16 9:45            | CST | 12/15/16 9:52           | CST | 12/16/16 11:30         | EST | 12/19/16 22:20         | EST | 1 | <0.055                 | <0.014     | <0.008       | <0.007      |
| 00778947         | HCS440       | 12/1/16 10:44           | CST | 12/15/16 10:30          | CST | 12/16/16 11:30         | EST | 12/20/16 2:19          | EST | 1 | <0.055                 | <0.014     | <0.008       | <0.007      |
| 00778948         | FDHCS440     | 12/1/16 10:44           | CST | 12/15/16 10:30          | CST | 12/16/16 11:30         | EST | 12/19/16 22:54         | EST | 1 | <0.055                 | <0.014     | <0.008       | <0.007      |
| 00778949         | HCS460       | 12/1/16 11:00           | CST | 12/15/16 10:41          | CST | 12/16/16 11:30         | EST | 12/19/16 21:13         | EST | 1 | <0.055                 | <0.014     | <0.008       | <0.007      |
| 00778950         | HSM410       | 12/1/16 12:16           | CST | 12/15/16 11:17          | CST | 12/16/16 11:30         | EST | 12/20/16 3:29          | EST | 1 | <0.056                 | <0.014     | <0.008       | <0.008      |
| 00778951         | HSM420       | 12/1/16 12:29           | CST | 12/15/16 11:31          | CST | 12/16/16 11:30         | EST | 12/19/16 19:36         | EST | 1 | <0.056                 | <0.014     | <0.008       | <0.008      |
| 00778954         | HSM440       | 12/1/16 13:11           | CST | 12/15/16 11:56          | CST | 12/16/16 11:30         | EST | 12/20/16 4:04          | EST | 1 | <0.056                 | <0.014     | <0.008       | <0.008      |
| 00778954D        | HSM440       | 12/1/16 13:11           | CST | 12/15/16 11:56          | CST | 12/16/16 11:30         | EST | 12/20/16 4:39          | EST | 1 | <0.056                 | <0.014     | <0.008       | <0.008      |
| 00778955         | HSM450       | 12/1/16 13:28           | CST | 12/15/16 12:07          | CST | 12/16/16 11:30         | EST | 12/20/16 1:45          | EST | 1 | <0.056                 | <0.014     | <0.008       | <0.008      |
| 00778956         | HSM460       | 12/1/16 13:43           | CST | 12/15/16 12:22          | CST | 12/16/16 11:30         | EST | 12/19/16 23:29         | EST | 1 | <0.056                 | <0.014     | <0.008       | <0.008      |
| 00778957         | HSM470       | 12/1/16 13:59           | CST | 12/15/16 12:33          | CST | 12/16/16 11:30         | EST | 12/19/16 19:05         | EST | 1 | <0.056                 | <0.014     | <0.008       | <0.008      |
| 00778958         | TB17         | 12/1/16 9:45            | CST | 12/15/16 12:33          | CST | 12/16/16 11:30         | EST | 12/20/16 1:11          | EST | 1 | <0.055                 | <0.014     | <0.008       | <0.007      |
| 00778959         | Trip Blank   | 12/1/16 11:47           | CST | 12/15/16 11:18          | CST | 12/16/16 11:30         | EST | 12/19/16 20:07         | EST | 1 | <0.056                 | <0.014     | <0.008       | <0.008      |
| BLK_ENV-1        | Method Blank | 12/1/16 11:47           | CST | 12/15/16 11:18          | CST | 12/16/16 11:30         | EST | 12/19/16 18:01         | EST | 1 | <0.056                 | <0.014     | <0.008       | <0.008      |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS  
 ESTIMATED WATER CONCENTRATIONS  
 COMAL & SAN MARCOS RIVERS - DECEMBER 2016  
 ORDER #01737

| DATAFILE    |              |             |              |             |            |            |           |              |           |           |           |              |
|-------------|--------------|-------------|--------------|-------------|------------|------------|-----------|--------------|-----------|-----------|-----------|--------------|
| NAME        | c12DCE, ug/L | CHCl3, ug/L | 111TCA, ug/L | 12DCA, ug/L | BENZ, ug/L | CCl4, ug/L | TCE, ug/L | 112TCA, ug/L | TOL, ug/L | OCT, ug/L | PCE, ug/L | ClBENZ, ug/L |
| Average RL= | 0.008        | 0.008       | 0.005        | 0.008       | 0.007      | 0.005      | 0.006     | 0.010        | 0.006     | 0.005     | 0.006     | 0.007        |
| 00778944    | <0.008       | 0.008       | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.023     | <0.007       |
| 00778945    | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.063     | <0.007       |
| 00778946    | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.108     | <0.007       |
| 00778947    | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.065     | <0.007       |
| 00778948    | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.068     | <0.007       |
| 00778949    | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.055     | <0.007       |
| 00778950    | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | <0.006    | <0.007       |
| 00778951    | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.045     | <0.007       |
| 00778954    | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.018     | <0.007       |
| 00778954D   | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.017     | <0.007       |
| 00778955    | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.017     | <0.007       |
| 00778956    | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.020     | <0.007       |
| 00778957    | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | 0.024     | <0.007       |
| 00778958    | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | <0.006    | <0.007       |
| 00778959    | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | <0.006    | <0.007       |
| BLK_ENV-1   | <0.008       | <0.008      | <0.005       | <0.008      | <0.007     | <0.005     | <0.006    | <0.010       | <0.006    | <0.005    | <0.006    | <0.007       |

AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS  
 ESTIMATED WATER CONCENTRATIONS  
 COMAL & SAN MARCOS RIVERS - DECEMBER 2016  
 ORDER #01737

| DATAFILE    |                 |              |             |            |                 |              |              |             |             |             |             |
|-------------|-----------------|--------------|-------------|------------|-----------------|--------------|--------------|-------------|-------------|-------------|-------------|
| NAME        | 1112TetCA, ug/L | ETBENZ, ug/L | mpXYL, ug/L | oXYL, ug/L | 1122TetCA, ug/L | 135TMB, ug/L | 124TMB, ug/L | 13DCB, ug/L | 14DCB, ug/L | 12DCB, ug/L | UNDEC, ug/L |
| Average RL= | 0.007           | 0.006        | 0.006       | 0.006      | 0.011           | 0.005        | 0.005        | 0.006       | 0.006       | 0.007       | 0.021       |
| 00778944    | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |
| 00778945    | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |
| 00778946    | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |
| 00778947    | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |
| 00778948    | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |
| 00778949    | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |
| 00778950    | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |
| 00778951    | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |
| 00778954    | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |
| 00778954D   | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |
| 00778955    | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |
| 00778956    | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |
| 00778957    | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | 0.007        | <0.006      | <0.006      | <0.007      | <0.021      |
| 00778958    | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |
| 00778959    | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |
| BLK_ENV-1   | <0.007          | <0.006       | <0.006      | <0.006     | <0.011          | <0.005       | <0.005       | <0.006      | <0.006      | <0.007      | <0.021      |



AMPLIFIED GEOCHEMICAL IMAGING ANALYTICAL RESULTS  
 210 EXECUTIVE DRIVE, SUITE 1, NEWARK, DE  
 SWCA, SAN ANTONIO, TX  
 AGI TARGET COMPOUNDS  
 ESTIMATED WATER CONCENTRATIONS  
 COMAL & SAN MARCOS RIVERS - DECEMBER 2016  
 ORDER #01737

| DATAFILE    | estimated  |              |               | estimated            | estimated      | estimated          | estimated      | estimated  |
|-------------|------------|--------------|---------------|----------------------|----------------|--------------------|----------------|------------|
| NAME        | NAPH, ug/L | TRIDEC, ug/L | 2MeNAPH, ug/L | Acenaphthylene, ug/L | PENTADEC, ug/L | Acenaphthene, ug/L | Fluorene, ug/L | BTEX, ug/L |
| Average RL= | 0.017      | 0.021        | 0.014         | 0.015                | 0.021          | 0.015              | 0.015          | 0.006      |
| 00778944    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| 00778945    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| 00778946    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| 00778947    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| 00778948    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| 00778949    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| 00778950    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| 00778951    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| 00778954    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| 00778954D   | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| 00778955    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| 00778956    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| 00778957    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| 00778958    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| 00778959    | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |
| BLK_ENV-1   | <0.017     | <0.021       | <0.014        | <0.015               | <0.021         | <0.015             | <0.015         | <0.006     |

## KEY TO DATA TABLE

### UNITS

|                   |  |
|-------------------|--|
| µg                | micrograms, relative mass value                              |
| µg/m <sup>3</sup> | micrograms per cubic meter; estimated soil gas concentration |
| µg/L              | micrograms per Liter; calculated water concentration         |

### DATA QUALIFIERS

|   |  |
|---|--|
| > | greater than; value exceeds calibration range, estimated value   |
| < | less than; compound value is below the LOD and RL                |
| J | mass value below LOQ or RL, but above LOD, estimated mass value  |
| E | mass value exceeds upper calibration level, estimated mass value |
| Q | one or more quality control parameters failed for the compound   |

### ABBREVIATIONS

|        |  |
|--------|--|
| AVG RL | average reporting limit; calculated based on individual field sample RLs |
| LOD    | limit of detection   |
| LOQ    | limit of quantification  |
| MDL    | method detection limit   |
| RL     | reporting limit  |

|             |   |          |  |
|-------------|---|----------|--|
| 1112TetCA   | 1,1,1,2-tetrachloroethane   | CIBENZ   | chlorobenzene  |
| 111TCA      | 1,1,1-trichloroethane   | ct12DCE  | cis- & trans-1,2-dichloroethene                                      |
| 1122TetCA   | 1,1,2,2-tetrachloroethane   | EtBENZ   | ethylbenzene   |
| 112TCA      | 1,1,2-trichloroethane   | mpXYL    | m-, p-xylene   |
| 11DCA       | 1,1-dichloroethane  | MTBE     | methyl t-butyl ether   |
| 11DCE       | 1,1-dichloroethene  | NAPH     | naphthalene  |
| 124TMB      | 1,2,4-trimethylbenzene  | OCT      | octane   |
| 12DCA       | 1,2-dichloroethane  | oXYL     | o-xylene   |
| 12DCB       | 1,2-dichlorobenzene   | PCE      | tetrachloroethene  |
| 135TMB      | 1,3,5-trimethylbenzene  | PENTADEC | pentadecane  |
| 13DCB       | 1,3-dichlorobenzene   | PHEN     | phenanthrene   |
| 14DCB       | 1,4-dichlorobenzene   | t12DCE   | trans-1,2-dichloroethene   |
| 2MeNAPH     | 2-methyl naphthalene  | TCE      | trichloroethene  |
| BENZ        | benzene   | TMBs     | combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene |
| BTEX        | combined masses of benzene, toluene, ethylbenzene, and total xylenes (Gasoline Range Aromatics) | TOL      | toluene  |
| C11,C13&C15 | combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)    | TPH      | total petroleum hydrocarbons   |
| c12DCE      | cis-1,2-dichloroethene  | TRIDEC   | tridecane  |
| CCl4        | carbon tetrachloride  | UNDEC    | undecane   |
| CHC13       | chloroform  | VC       | vinyl chloride   |

## SUMMARY OF SAMPLING RATE CALIBRATION FOR AGI UNIVERSAL SAMPLER IN AQUEOUS PHASES

### INTRODUCTION:

The Amplified Geochemical Imaging, LLC (AGI) passive vapor sampler is designed to be used for soil gas, water, sediment pore water, and air sampling. This document describes the process used to calibrate the sampler's compound specific sampling or uptake rates in aqueous phases.

Sampling rates are measured following AGI's "Standard Practice for Determining the Sampling Rate of Passive Diffusion Samplers in Various Environmental Media": SPG-SOP-0493. Rates are used to calculate dissolved phase concentrations of volatile and semi-volatile contaminants in water. The calibration process is summarized in three parts: Part 1: shallow water, Part 2: deep water, and Part 3: sediment.

### PURPOSE:

The purpose of this document is to:

1. Summarize the test protocol,
2. Summarize the methodology for analysis of data,
3. Present general results for generating concentration calibration of the AGI Universal Sampler

### Principle of Operation of the AGI Samper

The AGI Universal Sampler is designed with solid adsorbents enclosed inside a tubular microporous PTFE membrane. When placed in water, the pores and hydrophobic nature of the PTFE keep liquid water from entering the membrane until a water head of about 34 feet is reached. The membrane will not keep water vapor from entering but the adsorbents are very hydrophobic and through testing validated to be unaffected by this moisture vapor. In shallow water, <34', volatile and semi-volatile compounds will partition from the dissolved water into the air phase in the PTFE membrane according to Henry's Law. This partitioning is instantaneous and within seconds-minutes, the compound is adsorbed by the adsorbent inside the sealed tube. Because the diffusivity in air is about 10,000 times higher than the diffusivity in water, the sampling rate is controlled by the water contact area of the membrane that allows the Henry's Law effect to occur. This contact area is set by the membrane diameter and length of the sealed tube, which is fixed in AGI's manufacturing process.

Henry's law as well as diffusivity, which are fundamentally incorporated into the sampling rate, are affected by temperature,  $T$ , and follow an Arrhenius equation  $H_T = H_r \times \exp\left(\frac{-E_a/R}{1/T_r - 1/T}\right)$ . Because a 5°C temperature change can make a 15% change in sampling rate, the temperature of the sampled water should be known to get the most precise concentration.

The membrane pore size is also small enough that colloidal particles and microbes cannot pass through the membrane. This keeps the adsorbent from getting contaminated and eliminates any need to add preservative or chilling during storage or transportation.

When the water pressure exceeds the water entry pressure of the membrane, about 34 feet of water, the water becomes in contact with the solid adsorbent. Under this condition the compounds in the water will partition from the water into the solid. The partitioning coefficient,  $K_{AW}$ , can be approximated by the octanol-water coefficient,  $K_{OW}$ , but has been measured more precisely in the lab for AGI's specific solid adsorbent. The sampling rate is the product of the sampling rate at <34' of water and the  $K_{AW}$ .

In sediment, the sampler measures pore-water concentration, which is generally agreed to be the preferred measurement as it is more indicative of bioavailability. In sediment the volumetric

availability of water to the sampler is reduced by the volume fraction solids in the sediment, which typically varies from zero to 35%, but can be as high as 73% in well packed and broad particle size distribution sediments. As a result, sampling rates in sediment are multiplied by the fraction pore water in the sediment to determine concentration.

## **PART 1: Calibration in shallow water**

Part 1 summarizes the work in shallow water generating calibration data, evaluating the physical and chemical factors affecting the sampling rate, and measurement of the actual sampling rates or regression calibration equations needed to determine concentrations.

### **Sample Generation in water**

In this calibration work, solutions of analytes at known concentrations were formulated in clean 4 liter smoked glass jugs by injecting microliter measured amounts of environmental standards using a calibrated syringe into pure or deionized water and stirring for a minimum of 2 hours but generally overnight. Headspace in the jugs was minimized and generally less than 1% by volume during the tests. Jugs were temperature controlled by placing them in a water filled cooler, chilled via a copper tubing loop in the cooler. Temperature was measured with a certified digital temperature gauge and an average value used for each temperature experiment.

AGI samplers were weighted so they won't float and placed in the jugs at time zero. They were removed at various intervals to generate samples along with duplicates that showed mass increasing with exposure time. The sampler exposure time was selected to span minutes to hours and was generally reduced for high concentration tests to maintain uptake with time in roughly the linear dynamic range. Samplers were removed and dried with a paper towel and returned to their original container for analysis. They were analyzed by AGI's 8260C (SPG-WI-318 or SPG-WI-10028) method in duplicate, which is based on EPA SW846 Method 8260C.

Water samples were also taken and measured at an outside accredited lab using EPA SW846 Method 8260B. The concentrations agreed well with the calculated concentrations based on the standard certification, jug volume, and syringe injection. The variability of the outside lab 8260B values were found to be high, so for the sampling rate calculations we used the concentrations based on syringe dosing.

Calibrations were run at five concentrations, nominally at 6, 24, 118, 590, 1420 ug/L and five temperatures nominally at 5, 10, 15, 20, and 25 degrees centigrade. Samples were taken at 4 different exposure times. Samples were run in duplicate. A total of 176 data points were generated using 28 compounds from AGI's standard compounds list. Tridecane and pentadecane were not evaluated due to their very low solubility in water. In addition, another 23 compounds were tested using an 8260 liquid standard at nominal concentrations of 0.5, 1.0, 5.0, 15, 95, and 470 ug/L at a temperature typical of groundwater, 15°C. This is a living calibration and as additional data are generated, they may be qualified and added to this data set to improve the precision of the sampling rate calibration and broaden the compound list.

## Key Variable Effects

As expected from theory, at short to moderate exposure times, mass will increase roughly linearly proportional to exposure time, as well as proportional to concentration, and exponentially with temperature following Arrhenius law. Temperature affects the Henry's law as well as diffusivity in water. Sampling rate is generally independent of concentration and time at mass values significantly below saturation. In the following sections we have characterized the sampling rate for each compound as affected by temperature and also developed calibrations using regression which account for the minor impact of time, and mass.

## Concentration using Simple Sampling Rate Determination

A simple way to determine concentration is to measure mass on the AGI sampler, divide by exposure time, and divide by sampling rate, SR.

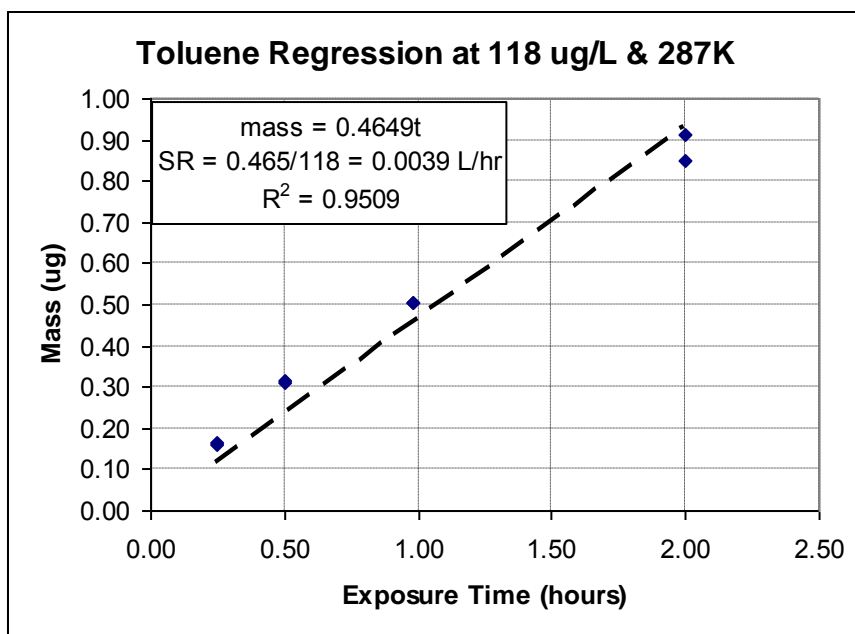
$$\text{Conc [ug/L]} = \text{mass/time/SR} \quad (1)$$

The sampling rate can be determined via measurements of mass versus time at a known concentration and temperature according to the following modification of equation (1).

$$\text{SR} = \text{mass/time/concentration} \quad (2)$$

Sampling rates in L/hr were determined by measuring the trend or regression mass uptake versus time and dividing by the concentration. A measurement like this will use 8 data points (4 times x 2 samples). Such a sampling rate can be measured at any concentration and temperature.

The chart to the right shows a plot of mass versus time for water at 118 ug/L and 287K (actual data from a single run). Slope of 0.465 ug/hr divided by the concentration of 118 ug/L yields a sampling rate, SR, of 0.0039 L/hr.



SR's typically range from about 0.004 to 0.007 L/hr at 15°C. Table A shows SR's measured for our standard compound list at 5 temperatures.

## Rigorous Concentration using Regression

A preferred method for determining concentration that will yield improved accuracy over a wide range of concentrations, exposure times, and temperatures is to use all data in a regression analysis, which allows adjustments for the minor non-linear influences of mass and time as well as the effects of temperature. This step is done by regressing equation (1) or a universal version of equation (1):

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRo} * \exp(-\text{Ea}/\text{R}/\text{T})] \quad (3)$$

The subtle non-linear effects of mass and time will be evident in the deviation of coefficients b and d from 1.0. This regression generates four constants b, d, SRo, and  $-\text{Ea}/\text{R}$  by regressing  $\ln(\text{conc})$  versus  $\ln(\text{mass})$ ,  $\ln(\text{time})$ ,  $1/\text{temp}$ . These four constants can be used to determine concentration via the equation:

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRo} * \exp(-\text{Ea}/\text{R}(1/\text{T}))] \quad (4)$$

Where conc is in ug/L, mass is in ug, time in hours, T in degrees Kelvin.

Equation (4) can be also expressed at a reference temperature,  $\text{Tr}$ , such as 15°C by

$$\text{Conc} = (\text{mass})^b / (\text{time})^{-d} / [-\text{SRr} * \exp(-\text{Ea}/\text{R}(1/\text{Tr} - 1/\text{T}))] \quad (5)$$

This step allows sampling rates, SRr, at any reference temperature,  $\text{Tr}$ , and for any analyte to easily be compared. The values of SRr at 293.14K can be found in Table A.

When sampling times are between 0 and 4 hours, using the 4 constant equation (5) is preferred. For concentrations from about 5 to 1500 ug/L one hour exposure times generally give the lowest error, typically with average error of 6-20% and with total error range of 12%-32%. For low concentrations where sampling times are greater than 4 hours, it is preferred to use equation (1) to avoid unrealistic effects from the coefficient d or to set d to 1.0. In such a case SR in equation (1) can be substituted with  $[\text{SRr} * \exp(-\text{Ea}/\text{R}(1/\text{Tr} - 1/\text{T}))]$  to use an SR representative of the well temperature, T.

The chart to the right is a plot of the calculated concentration from the 4 constant regression compared to the dosed concentration. Agreement is excellent for the 176 data points.

However, there does appear to be a slight high bias of 8.6% over the full range of this data, although it is well within acceptable limits of variability.

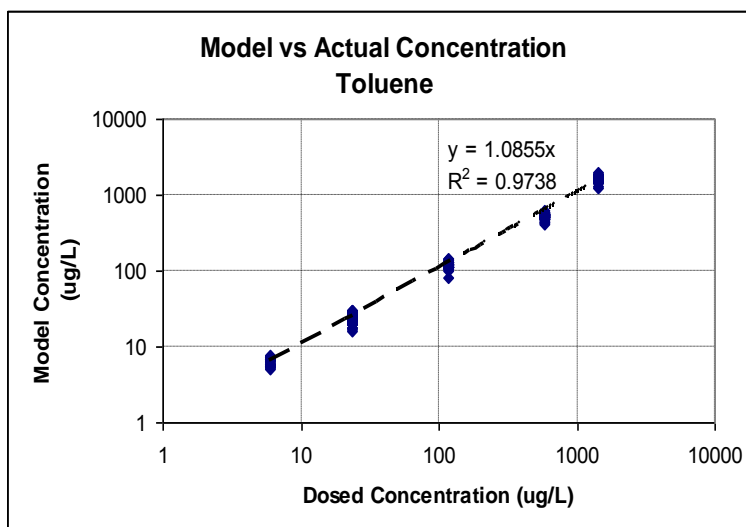


Table B shows the tabulated summary of the 4 constants regression with Rsq values and error estimates for the 4 constants for each analyte. Most regression Rsq values are 0.99 or greater for each analyte. In general,  $-E_a/R$  is about 2400 $\pm$ 400, b is about 0.9, d is about -0.75, and SR(15°C) ranges from .004 L/hr to 0.007 L/hr increasing with MW of the compound.

### Error Estimates

The error in the water concentration values will depend on both the error in mass from the analytical method as well as the error in the concentration calibration. Table C shows the error in the mass values from the 8260C low sensitivity method.

The standard error of the regression and standard errors of the constants can be found in table B. For each compound we have measured the error between the derived concentration and the actual concentration. The error tends to be lowest at our recommended exposure time of one hour as shown by the example for Toluene to the right.

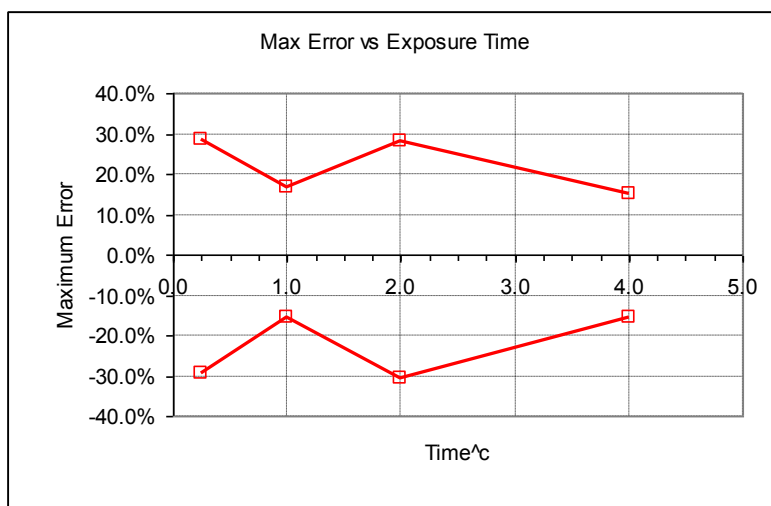


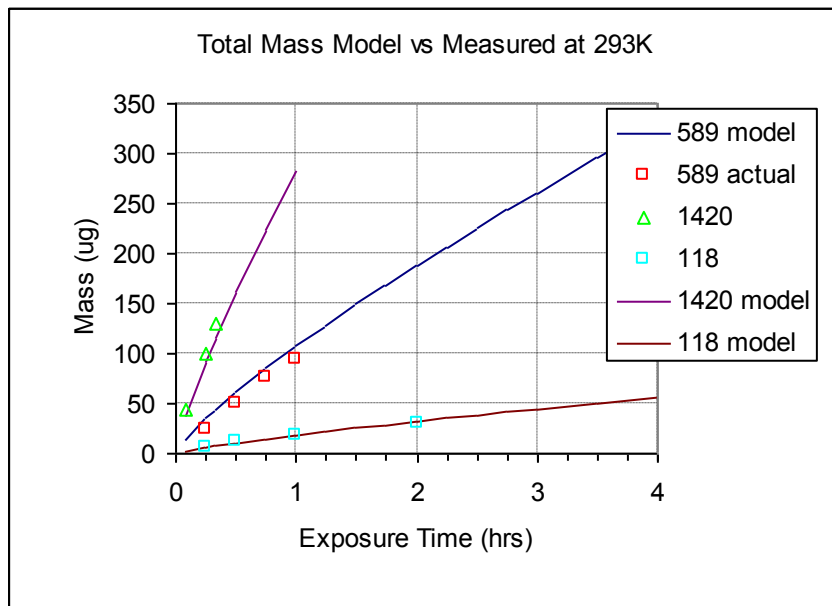
Table D shows the total average error in water concentration by compound as well as the low and high error. The average ranges from about 6% to 20%, which is similar to the analytical method errors. The low and high errors range from 12% to 32% and include contribution from measurement errors in both time and temperature.

### Sorbent Saturation

As mass increases on a solid sorbent and approaches saturation, reverse diffusion can occur causing the sampling rate to drop. Eventually the mass level will reach a maximum steady state value at any concentration. A rate of mass uptake with time that deviates significantly from linear, indicates that sorbent saturation could be an issue. When using equation (1), staying in the linear range to avoid the effects of adsorbent saturation is important. We recommend keeping the total mass on the sampler below 50 ug or flagging when this is exceeded.

The 4 constant regression accounts for some of the non linearity allowing good accuracy at higher mass levels. From the experimental data we have found this safe range can be extended to 100 ug or higher as shown in the chart below. This chart compares total mass of all compounds (excluding heavy alkanes, which have solubility issues) versus time in comparison to that predicted from the 4-constant concentration equation.

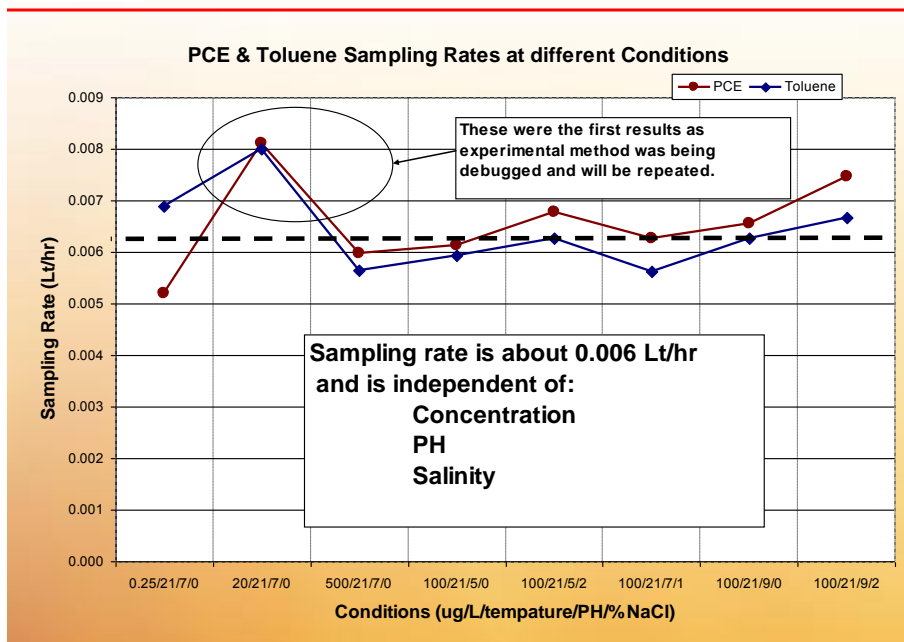




### Effect of PH and Salinity

Because neither PH nor salinity is known to have a significant impact on Henry's law or diffusivity in water, we did not expect them to have a significant impact on sampling rate. To confirm this, experiments were run varying PH from 5 to 9 and NaCl content from 0 to 2%. The chart below shows no significant impact for combinations of PH and NaCl content over this range on the sampling rate of toluene in water at 21°C.

### Checked for Effects of PH & Salinity

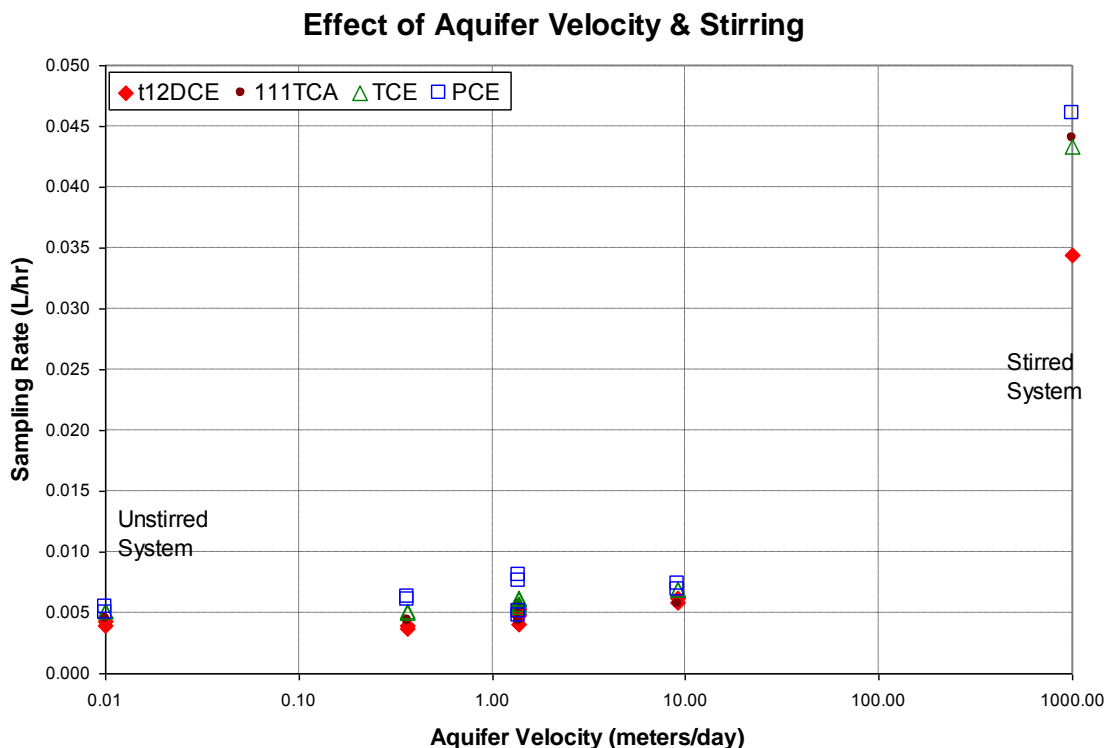


## Impact of Aquifer Velocity

The velocity in most aquifers is quite slow, typically a meter/day or less. Occasionally water flow could be much higher such as encountered in karst aquifers, streams or rivers. Mass transfer coefficients are higher in high flow conditions, which will lead to higher sampling rates. We validated that a highly stirred system had sampling rates about 10 times higher than those that were non-stirred. We decided to evaluate the effect of aquifer velocity.

A test apparatus was built comprising a 3" PVC pipe tee filled with clean sand in each of the horizontal straight legs and screened to leave the center open. A test solution was run through this system using a variable flow pump and AGI samplers were placed into the simulated well through the vertical leg of the tee. Tests were run to examine the effect of velocity by varying the pumping rate and hence water velocity.

The chart below shows no significant effect of aquifer velocity up to a speed of about 10 meters/day. At velocities significantly above this, similar to a stirred system, sampling rates are about 10 times higher.

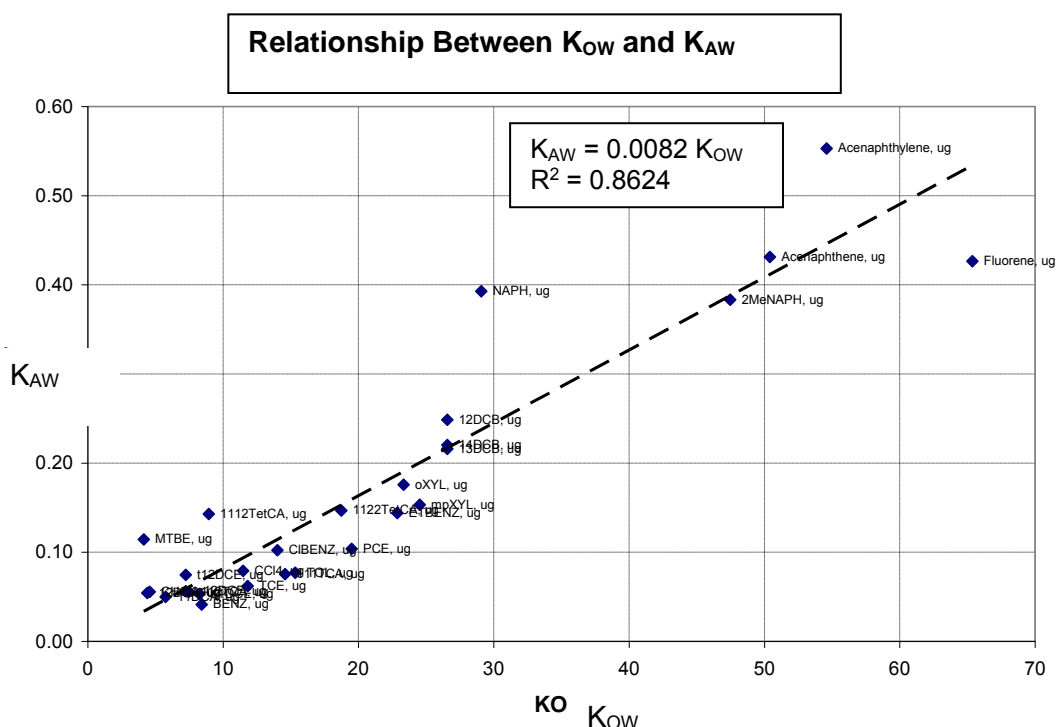


## Part 2: Calibration in Deep (>34') water

Part 2 describes the effect of deep water on the AGI sampler and summarizes the effects on sampling rate and concentration measurement.

When the water pressure exceeds the water entry pressure of the membrane, about 34 feet of water, the water becomes in direct contact with the solid adsorbent. Under this condition the compounds in the water will partition from the water into the solid. The partitioning coefficient is closely related to the octanol-water coefficient,  $K_{OW}$ , but has been measured more precisely in the lab for AGI's specific solid adsorbent,  $K_{AW}$ . The sampling rate for deep water is the product of the sampling rate at <34' of water and the  $K_{AW}$ .

Measurement of the  $K_{AW}$  was done in a one liter stainless steel vessel pressurized with nitrogen to simulate water heads above 34' of water. Pressures of up to 465 psig or 200' of water head were used. The sampling rate change was the same at all pressures above 34' of water. The  $K_{AW}$  was determined as the ratio between the mass or sampling rate above 34' of head to the rate at <34' of head and is shown in the chart below.



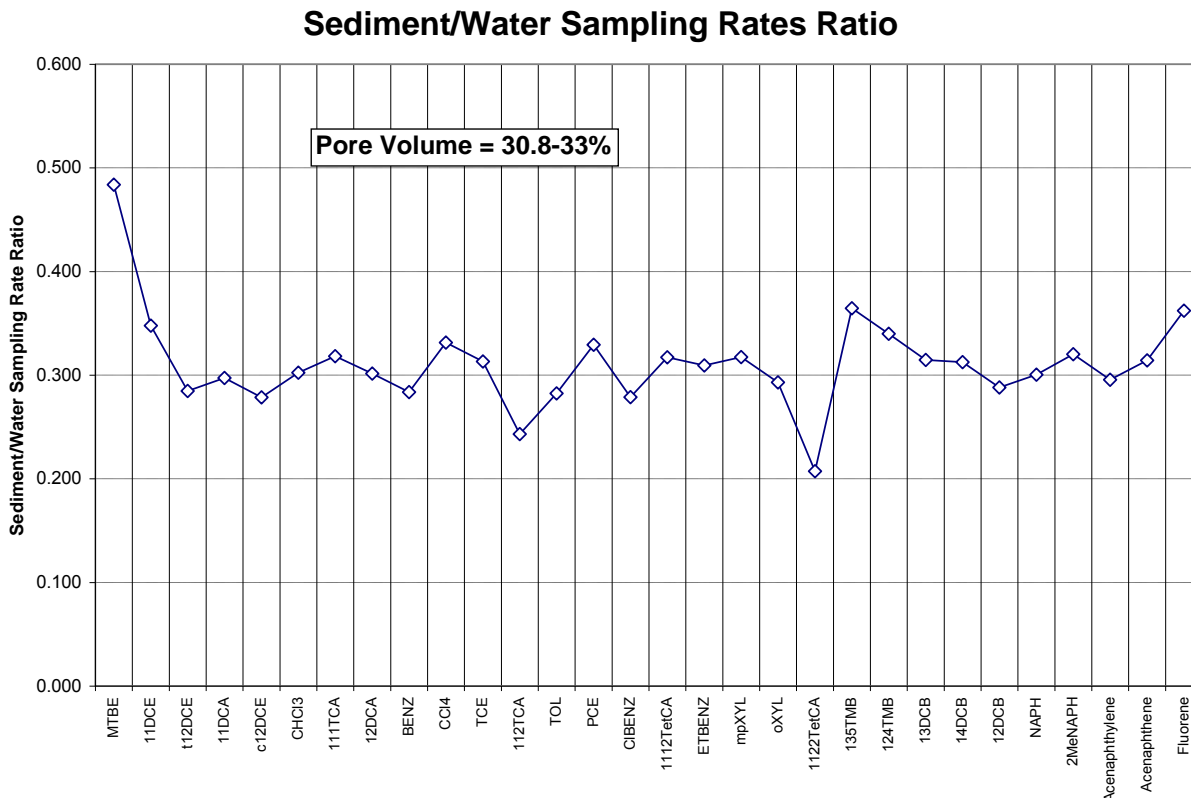
## Part 3: Calibration in Sediment

Part 3 describes the effect of sediment solids or sediment pore volume on the sampling rate and concentration measurement.

In sediment, the sampler measures pore water concentration, which is generally agreed to be the preferred measurement as it is more indicative of bioavailability. In sediment the volumetric availability of water to the sampler is reduced by the volume fraction solids in the sediment. As a result sampling rates in sediment are multiplied by the fraction pore water to determine

concentration. Pore water fraction can range from 1.0 for water without sediment to as low as 0.25. Typically most sediments have pore fractions of 0.9 to 0.65.

A sampling rate study was done with water and with water added into a well-packed sorted sand. Pore water fraction in this test was measured between 30.8% and 33% by volume. Below is a plot of the ratio of sampling rates measured in the sediment to open water. The average ratio is equal to the pore water fraction confirming that sampling rate in sediment is on average equal to the product of pore water fraction times the sampling rate in water.



## Summary

The AGI Sampler can be used to determine the concentration of volatile and semi-volatile compounds in a water phase. This requires knowing the exposure time and water temperature. It also requires knowing if the sample is above or below 34' of water head and if the water has a velocity above 10 meters/day. Regressions of large amounts of data were used to generate a four constant equation to generate concentration values in water. Potential error in the concentration values is excellent typically less than 25%.

**TABLE A**  
**WATER SAMPLING RATES STANDARD LIST**

|                   | <b>SRr</b><br>293.14 | <b>SR @</b><br>277.54 | <b>SR @</b><br>282.44 | <b>SR @</b><br>287.84 | <b>SR @</b><br>293.24 | <b>SR @</b><br>298.94 |
|-------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>MTBE</b>       | 0.0025               | 0.0014                | 0.0016                | 0.0018                | 0.0022                | 0.0029                |
| <b>t12DCE</b>     | 0.0043               | 0.0028                | 0.0028                | 0.0027                | 0.0037                | 0.0048                |
| <b>11DCA</b>      | 0.0047               | 0.0031                | 0.0033                | 0.0033                | 0.0039                | 0.0052                |
| <b>c12DCE</b>     | 0.0046               | 0.0030                | 0.0031                | 0.0031                | 0.0038                | 0.0051                |
| <b>CHCl3</b>      | 0.0046               | 0.0030                | 0.0031                | 0.0031                | 0.0038                | 0.0051                |
| <b>111TCA</b>     | 0.0066               | 0.0043                | 0.0047                | 0.0047                | 0.0056                | 0.0076                |
| <b>12DCA</b>      | 0.0045               | 0.0029                | 0.0029                | 0.0030                | 0.0036                | 0.0050                |
| <b>BENZ</b>       | 0.0050               | 0.0031                | 0.0034                | 0.0035                | 0.0042                | 0.0056                |
| <b>CCl4</b>       | 0.0068               | 0.0044                | 0.0048                | 0.0047                | 0.0058                | 0.0080                |
| <b>TCE</b>        | 0.0052               | 0.0030                | 0.0034                | 0.0034                | 0.0043                | 0.0058                |
| <b>112TCA</b>     | 0.0043               | 0.0027                | 0.0027                | 0.0028                | 0.0034                | 0.0048                |
| <b>TOL</b>        | 0.0056               | 0.0034                | 0.0039                | 0.0039                | 0.0047                | 0.0062                |
| <b>OCT</b>        | 0.0064               | 0.0046                | 0.0050                | 0.0040                | 0.0058                | 0.0089                |
| <b>PCE</b>        | 0.0061               | 0.0036                | 0.0043                | 0.0043                | 0.0051                | 0.0069                |
| <b>CIBENZ</b>     | 0.0054               | 0.0033                | 0.0039                | 0.0040                | 0.0045                | 0.0059                |
| <b>1112TetCA</b>  | 0.0061               | 0.0037                | 0.0042                | 0.0044                | 0.0050                | 0.0065                |
| <b>EtBENZ</b>     | 0.0060               | 0.0037                | 0.0045                | 0.0044                | 0.0052                | 0.0069                |
| <b>mpXYL</b>      | 0.0064               | 0.0039                | 0.0048                | 0.0046                | 0.0055                | 0.0072                |
| <b>oXYL</b>       | 0.0066               | 0.0041                | 0.0050                | 0.0048                | 0.0057                | 0.0074                |
| <b>1122TetCA</b>  | 0.0044               | 0.0027                | 0.0029                | 0.0031                | 0.0036                | 0.0046                |
| <b>135TMB</b>     | 0.0079               | 0.0046                | 0.0059                | 0.0056                | 0.0071                | 0.0093                |
| <b>124TMB</b>     | 0.0078               | 0.0046                | 0.0060                | 0.0055                | 0.0071                | 0.0092                |
| <b>13DCB</b>      | 0.0072               | 0.0041                | 0.0055                | 0.0053                | 0.0063                | 0.0080                |
| <b>14DCB</b>      | 0.0071               | 0.0040                | 0.0054                | 0.0052                | 0.0062                | 0.0079                |
| <b>12DCB</b>      | 0.0070               | 0.0040                | 0.0053                | 0.0051                | 0.0060                | 0.0076                |
| <b>UNDEC</b>      |                      | 0.0026                | 0.0024                | 0.0020                | 0.0031                | 0.0029                |
| <b>NAPH</b>       |                      | 0.0041                | 0.0056                | 0.0054                | 0.0064                | 0.0081                |
| <b>TRIDEC</b>     |                      |                       |                       |                       |                       |                       |
| <b>2MeNAPH</b>    |                      | 0.0043                | 0.0066                | 0.0066                | 0.0080                | 0.0108                |
| <b>PENTADEC</b>   |                      |                       |                       |                       |                       |                       |
| <b>Total mass</b> | 0.1177               | 0.0822                | 0.1339                | 0.1334                | 0.1773                | 0.1981                |

Notes:

Values in L/hr

Total mass does not include UNDEC, TRIDEC, PENTADEC (28 compounds)

**TABLE B**  
**4 CONSTANT REGRESSION OUTPUT**

|                   | <b>Adjusted<br/>Rsq</b> | <b>Standard<br/>Error</b> | <b>ln(SR0)</b> | <b>b</b> | <b>-Ea/R</b> | <b>d</b> | <b>Std<br/>Error<br/>ln(SR0)</b> | <b>Std<br/>Error<br/>b</b> | <b>Std<br/>Error<br/>-<br/>Ea/R</b> | <b>Std<br/>Error<br/>d</b> |
|-------------------|-------------------------|---------------------------|----------------|----------|--------------|----------|----------------------------------|----------------------------|-------------------------------------|----------------------------|
| <b>MTBE</b>       | 0.997                   | 0.0960                    | -3.217         | 0.981    | 2704         | -0.709   | 0.2881                           | 0.0062                     | 83                                  | 0.0082                     |
| <b>t12DCE</b>     | 0.992                   | 0.1659                    | -1.877         | 0.905    | 2147         | -0.760   | 0.4971                           | 0.0100                     | 144                                 | 0.0138                     |
| <b>11DCA</b>      | 0.995                   | 0.1272                    | -1.346         | 0.916    | 1965         | -0.746   | 0.3809                           | 0.0077                     | 110                                 | 0.0106                     |
| <b>c12DCE</b>     | 0.995                   | 0.1299                    | -1.905         | 0.911    | 2137         | -0.751   | 0.3892                           | 0.0078                     | 112                                 | 0.0109                     |
| <b>CHCl3</b>      | 0.996                   | 0.1260                    | -1.841         | 0.912    | 2118         | -0.748   | 0.3776                           | 0.0076                     | 109                                 | 0.0105                     |
| <b>111TCA</b>     | 0.995                   | 0.1279                    | -2.684         | 0.902    | 2259         | -0.761   | 0.3836                           | 0.0076                     | 111                                 | 0.0106                     |
| <b>12DCA</b>      | 0.995                   | 0.1263                    | -2.161         | 0.908    | 2218         | -0.746   | 0.3786                           | 0.0076                     | 109                                 | 0.0106                     |
| <b>BENZ</b>       | 0.995                   | 0.1323                    | -2.207         | 0.920    | 2198         | -0.754   | 0.3965                           | 0.0080                     | 114                                 | 0.0110                     |
| <b>CCl4</b>       | 0.994                   | 0.1405                    | -3.121         | 0.889    | 2379         | -0.776   | 0.4220                           | 0.0083                     | 122                                 | 0.0116                     |
| <b>TCE</b>        | 0.992                   | 0.1655                    | -3.338         | 0.900    | 2522         | -0.772   | 0.4969                           | 0.0099                     | 144                                 | 0.0137                     |
| <b>112TCA</b>     | 0.995                   | 0.1264                    | -2.412         | 0.896    | 2302         | -0.724   | 0.3790                           | 0.0075                     | 109                                 | 0.0107                     |
| <b>TOL</b>        | 0.994                   | 0.1426                    | -2.873         | 0.916    | 2364         | -0.756   | 0.4281                           | 0.0087                     | 124                                 | 0.0119                     |
| <b>OCT</b>        | 0.938                   | 0.4698                    | -5.984         | 0.822    | 3235         | -0.827   | 1.4231                           | 0.0277                     | 412                                 | 0.0388                     |
| <b>PCE</b>        | 0.991                   | 0.1773                    | -3.780         | 0.877    | 2601         | -0.775   | 0.5329                           | 0.0103                     | 154                                 | 0.0147                     |
| <b>CIBENZ</b>     | 0.994                   | 0.1457                    | -2.601         | 0.911    | 2292         | -0.747   | 0.4370                           | 0.0088                     | 126                                 | 0.0122                     |
| <b>1112TetCA</b>  | 0.996                   | 0.1235                    | -2.676         | 0.898    | 2281         | -0.725   | 0.3705                           | 0.0073                     | 107                                 | 0.0104                     |
| <b>EtBENZ</b>     | 0.993                   | 0.1597                    | -2.930         | 0.918    | 2357         | -0.752   | 0.4794                           | 0.0097                     | 138                                 | 0.0134                     |
| <b>mpXYL</b>      | 0.992                   | 0.1678                    | -3.036         | 0.909    | 2372         | -0.749   | 0.5037                           | 0.0101                     | 145                                 | 0.0140                     |
| <b>oXYL</b>       | 0.993                   | 0.1555                    | -2.862         | 0.911    | 2312         | -0.740   | 0.4667                           | 0.0094                     | 135                                 | 0.0131                     |
| <b>1122TetCA</b>  | 0.996                   | 0.1118                    | -1.971         | 0.913    | 2167         | -0.691   | 0.3351                           | 0.0067                     | 97                                  | 0.0096                     |
| <b>135TMB</b>     | 0.988                   | 0.2024                    | -4.435         | 0.897    | 2720         | -0.738   | 0.6093                           | 0.0121                     | 176                                 | 0.0170                     |
| <b>124TMB</b>     | 0.989                   | 0.1997                    | -4.126         | 0.890    | 2631         | -0.731   | 0.6009                           | 0.0118                     | 173                                 | 0.0169                     |
| <b>13DCB</b>      | 0.991                   | 0.1832                    | -3.422         | 0.888    | 2449         | -0.730   | 0.5503                           | 0.0108                     | 159                                 | 0.0155                     |
| <b>14DCB</b>      | 0.991                   | 0.1802                    | -3.263         | 0.892    | 2408         | -0.724   | 0.5413                           | 0.0107                     | 156                                 | 0.0153                     |
| <b>12DCB</b>      | 0.992                   | 0.1697                    | -2.970         | 0.894    | 2327         | -0.716   | 0.5092                           | 0.0101                     | 147                                 | 0.0144                     |
| <b>UNDEC</b>      | 0.694                   | 0.374                     | -1.406         | 0.426    | 1708         | -0.806   | 1.792                            | 0.028                      | 517                                 | 0.053                      |
| <b>NAPH</b>       | 0.992                   | 0.166                     | -3.374         | 0.915    | 2430         | -0.671   | 0.497                            | 0.010                      | 144                                 | 0.014                      |
| <b>TRIDEC</b>     |                         |                           |                |          |              |          |                                  |                            |                                     |                            |
| <b>2MeNAPH</b>    | 0.984                   | 0.238                     | -5.498         | 0.869    | 2990         | -0.689   | 0.72                             | 0.014                      | 208                                 | 0.021                      |
| <b>PENTADEC</b>   |                         |                           |                |          |              |          |                                  |                            |                                     |                            |
| <b>Total mass</b> | 0.993                   | 0.1543                    | -6.111         | 0.907    | 2419         | -0.732   | 0.4666                           | 0.0093                     | 134                                 | 0.0130                     |

**TABLE C**  
**8260C MASS UNCERTAINTY**

**AGI 8260C Method for Mass using SPG-0008  
Samplers**

|           | 99%<br>Uncertainty Range<br>+/- | 95%<br>Uncertainty Range<br>+/- |
|-----------|---------------------------------|---------------------------------|
| MTBE      | 20%                             | 14%                             |
| t12DCE    | 22%                             | 15%                             |
| 11DCA     | 18%                             | 12%                             |
| c12DCE    | 18%                             | 12%                             |
| CHCl3     | 16%                             | 11%                             |
| 111TCA    | 18%                             | 12%                             |
| 12DCA     | 20%                             | 13%                             |
| BENZ      | 16%                             | 10%                             |
| CCl4      | 19%                             | 12%                             |
| TCE       | 15%                             | 10%                             |
| 112TCA    | 18%                             | 12%                             |
| TOL       | 15%                             | 10%                             |
| OCT       | 20%                             | 13%                             |
| PCE       | 16%                             | 11%                             |
| CIBENZ    | 18%                             | 12%                             |
| 1112TetCA | 19%                             | 13%                             |
| EtBENZ    | 18%                             | 12%                             |
| mpXYL     | 18%                             | 12%                             |
| oXYL      | 18%                             | 12%                             |
| 1122TetCA | 23%                             | 15%                             |
| 135TMB    | 21%                             | 14%                             |
| 124TMB    | 20%                             | 14%                             |
| 13DCB     | 19%                             | 13%                             |
| 14DCB     | 19%                             | 13%                             |
| 12DCB     | 20%                             | 14%                             |
| NAPH      | 21%                             | 14%                             |
| 2MeNAPH   | 25%                             | 17%                             |



**TABLE D**  
**4 CONSTANT WATER CONCENTRATION UNCERTAINTY**  
**ERROR IN CONCENTRATION REPORTING (1)**

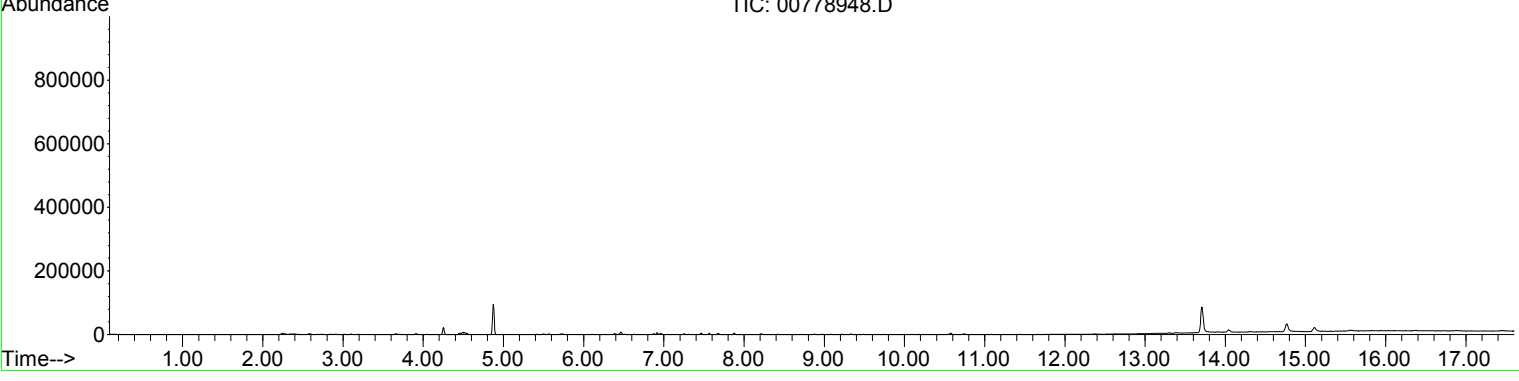
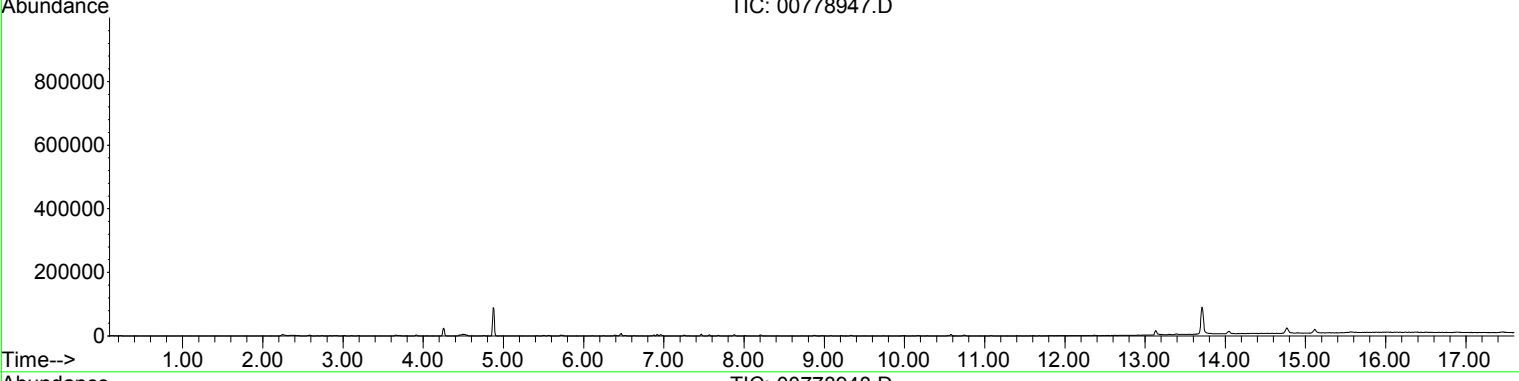
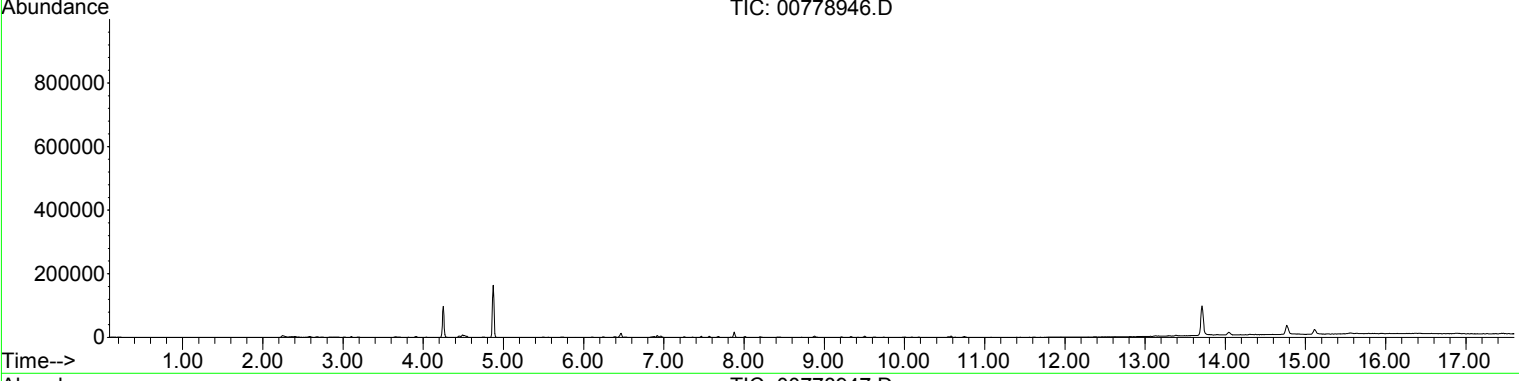
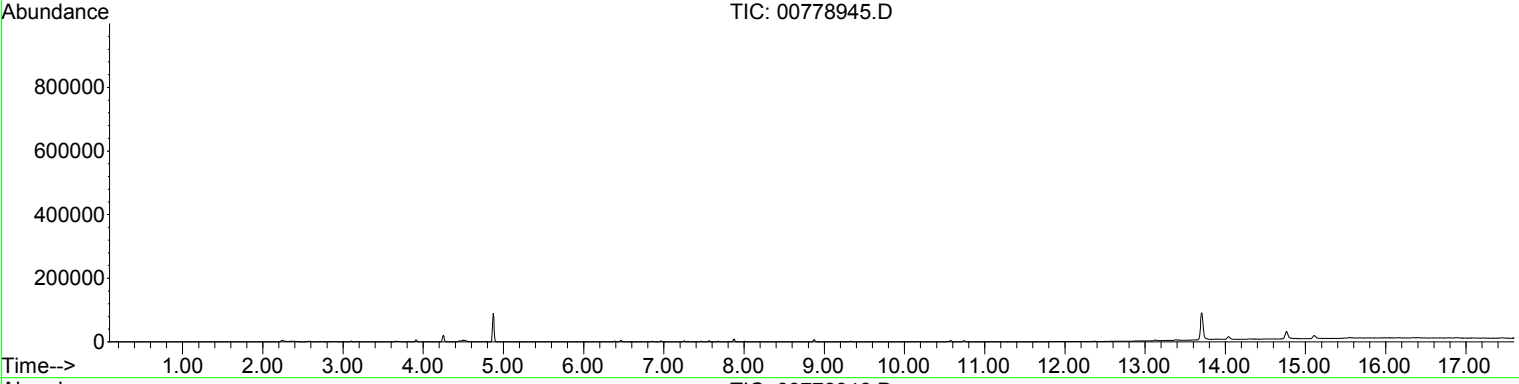
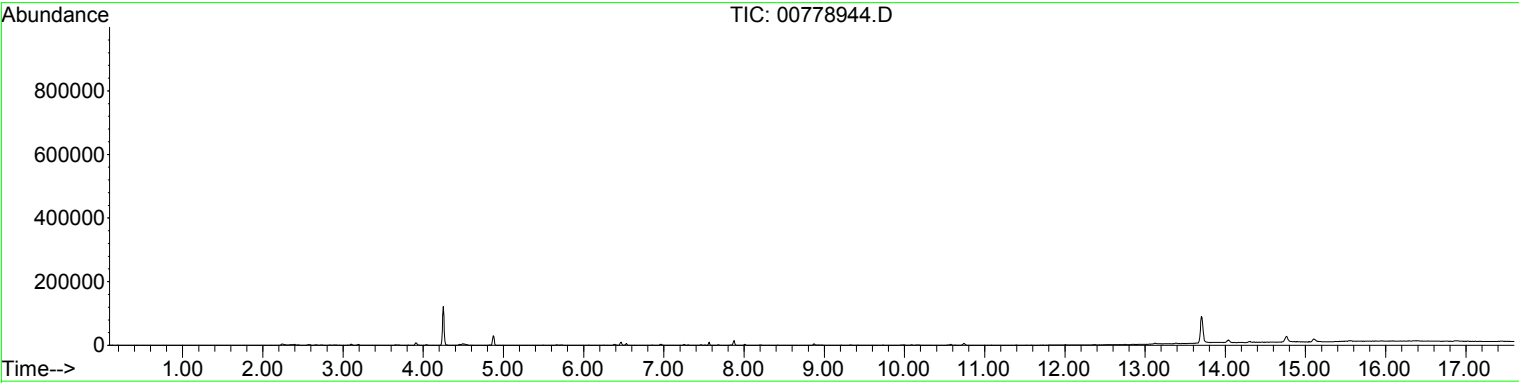
|           | <b>Average<br/>Error</b> | <b>Minimum<br/>Error</b> | <b>Maximum<br/>Error</b> |
|-----------|--------------------------|--------------------------|--------------------------|
| MTBE      | 6%                       | -12%                     | 12%                      |
| t12DCE    | 11%                      | -26%                     | 21%                      |
| 11DCA     | 8%                       | -19%                     | 13%                      |
| c12DCE    | 9%                       | -19%                     | 15%                      |
| CHCl3     | 9%                       | -20%                     | 14%                      |
| 111TCA    | 9%                       | -19%                     | 23%                      |
| 12DCA     | 10%                      | -19%                     | 17%                      |
| BENZ      | 8%                       | -18%                     | 13%                      |
| CCl4      | 10%                      | -23%                     | 22%                      |
| TCE       | 10%                      | -21%                     | 14%                      |
| 112TCA    | 11%                      | -21%                     | 21%                      |
| TOL       | 7%                       | -17%                     | 14%                      |
| OCT       | 20%                      | -41%                     | 42%                      |
| PCE       | 10%                      | -24%                     | 15%                      |
| CIBENZ    | 7%                       | -16%                     | 14%                      |
| 1112TetCA | 8%                       | -17%                     | 18%                      |
| EtBENZ    | 6%                       | -19%                     | 14%                      |
| mpXYL     | 7%                       | -22%                     | 13%                      |
| oXYL      | 7%                       | -19%                     | 13%                      |
| 1122TetCA | 8%                       | -16%                     | 17%                      |
| 135TMB    | 9%                       | -23%                     | 17%                      |
| 124TMB    | 10%                      | -28%                     | 19%                      |
| 13DCB     | 10%                      | -22%                     | 17%                      |
| 14DCB     | 10%                      | -22%                     | 17%                      |
| 12DCB     | 9%                       | -23%                     | 17%                      |
| NAPH      | 10%                      | -24%                     | 21%                      |
| 2MeNAPH   | 13%                      | -32%                     | 30%                      |

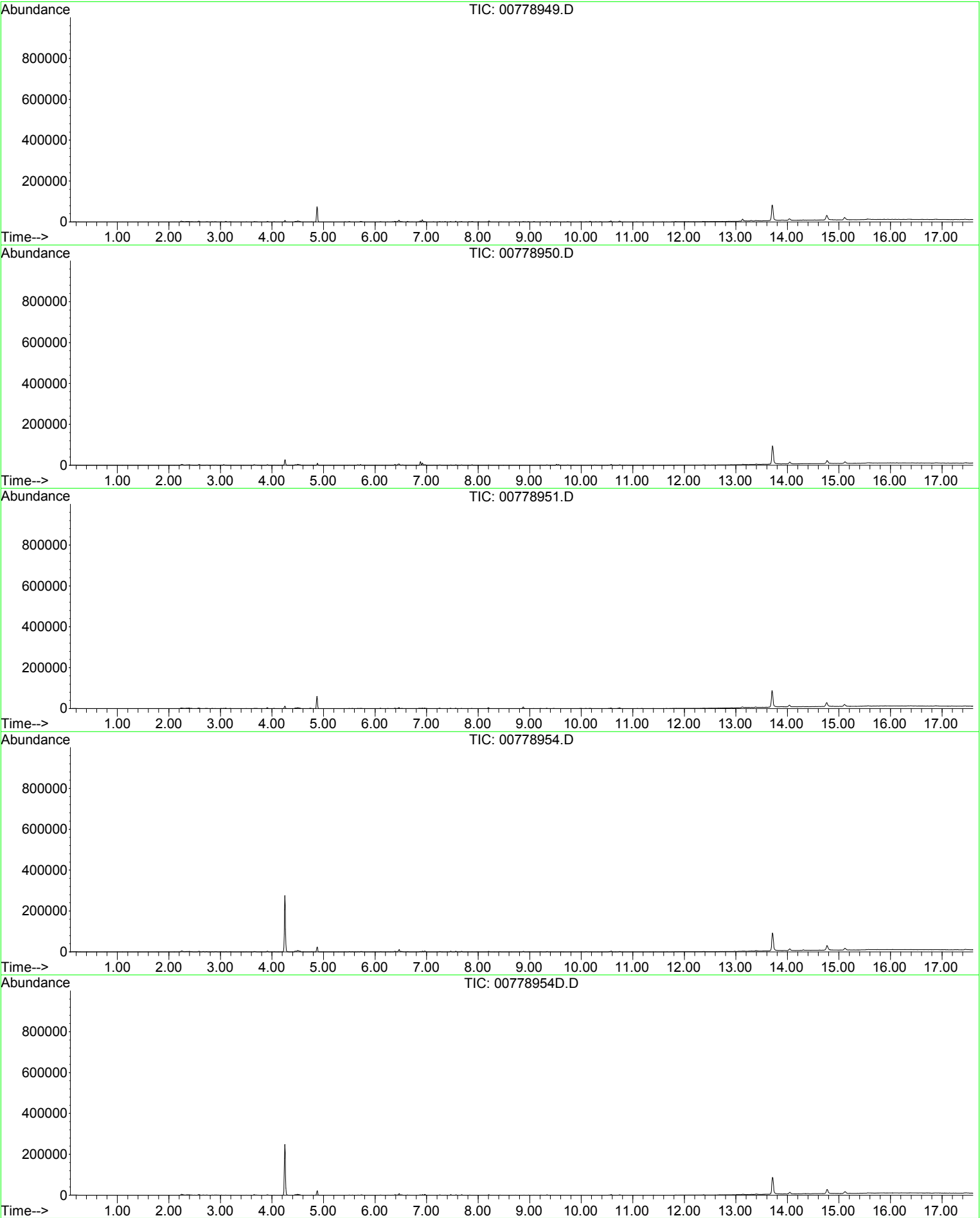
(1) For 1 hour exposure, includes error related to mass value from AGI analytical method 8260C

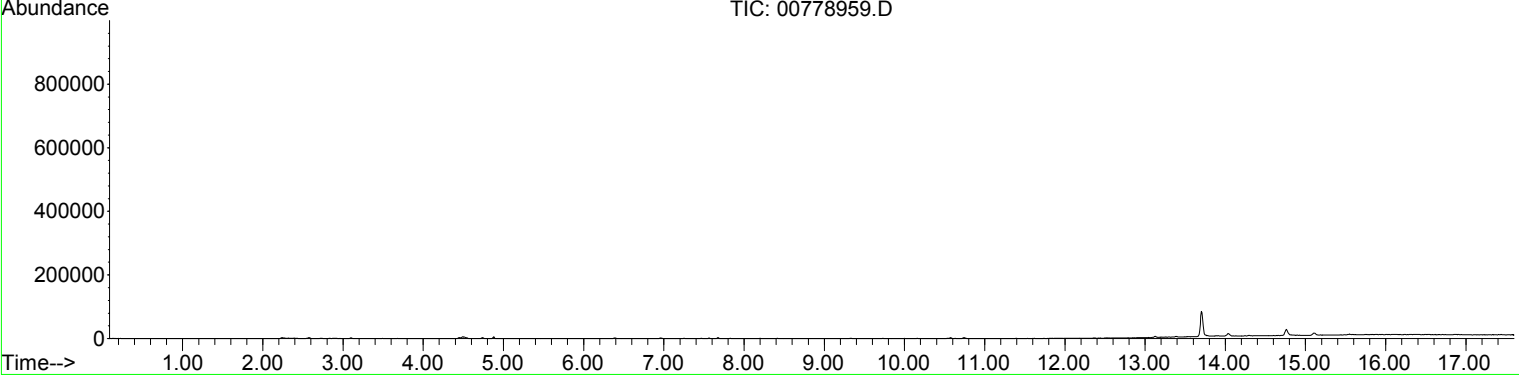
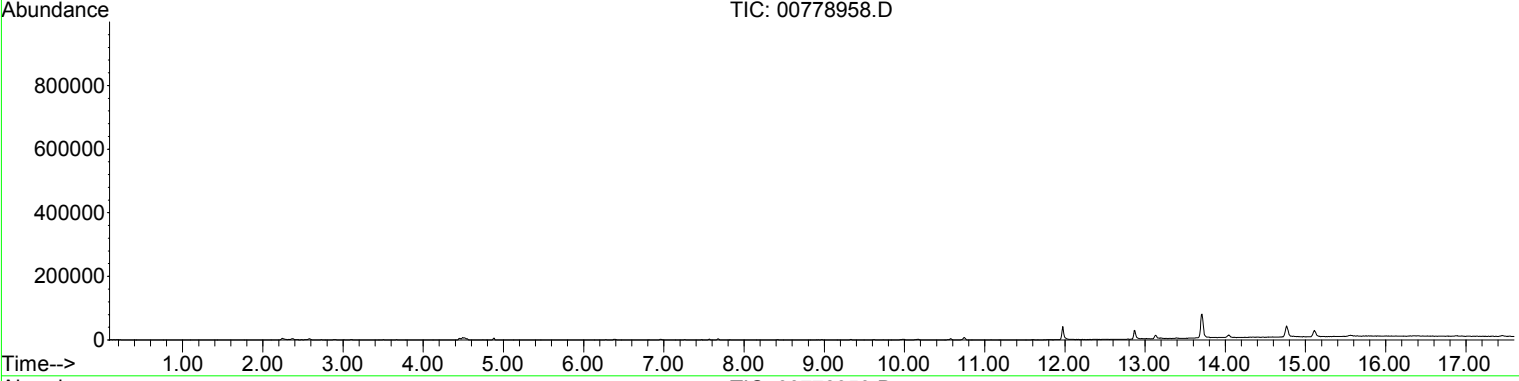
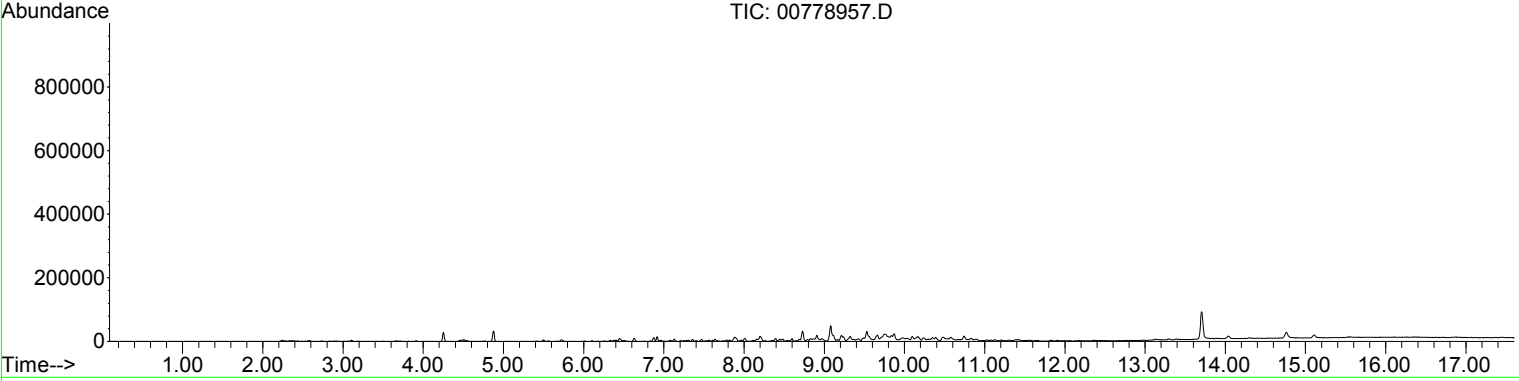
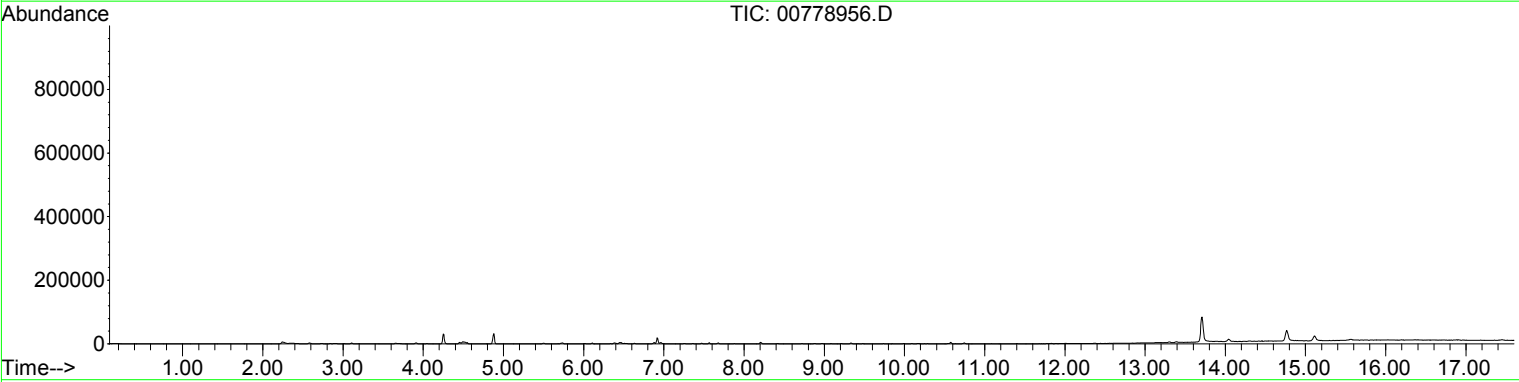
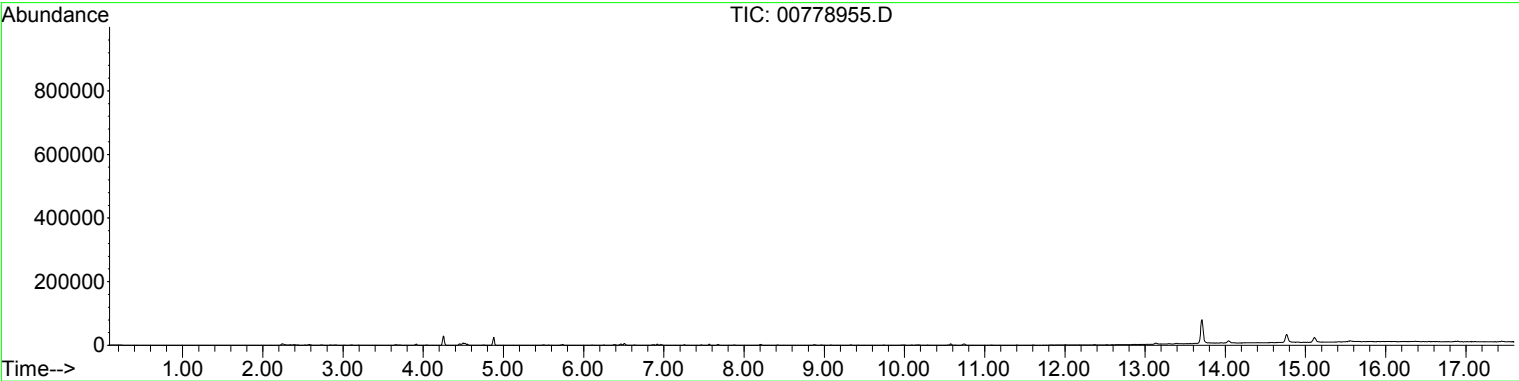
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## **APPENDIX H**

### **ANALYTICAL DATA VALIDATION DISCUSSION**

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## Introduction

This appendix provides an overview of SWCA Environmental Consultants' (SWCA's) post-analyses review of the contract laboratories analytical data set. In general, the data are considered valid for the intended purpose of assessing the baseline of sediment quality, stormwater runoff quality, surface water (base flow), and passive diffusion samplers (PDSs) at a screening level for Comal and San Marcos Springs. Analyses with any associated laboratory issues are listed herein.

Worth noting in this assessment are the detection of plasticizer compounds such as bis(2-ethylhexyl) phthalate (DEHP) and other phthalate compounds. While it is possible these compounds were introduced post-sample collection from either sampling equipment or laboratory equipment, they should not be completely dismissed.

Based on analysis of 2013 laboratory data, the Edwards Aquifer Authority (EAA) concluded that three compounds detected in sediment samples may have been laboratory artifacts. The compounds were DEHP, di-n-octyl phthalate, and di-n-butyl phthalate. The EAA noted in the 2013 *Edwards Aquifer Habitat Conservation Plan Expanded Water Quality Report* that as the data set grows, additional conclusions could be drawn. The 2014 laboratory analyses of sediment samples did not detect di-n-octyl phthalate or di-n-butyl phthalate. However, DEHP was detected in three of the sediment samples in 2014 (HSM320, HSM330, and HSM350). DEHP was also detected in three of the 2015 sediment samples (HSM330, HSM340, and HSM350). In the 2015 annual report, SWCA concluded that continued detections of DEHP indicated that DEHP may be present in the middle reaches of the San Marcos Springs complex. In 2016, DEHP was again detected in many of the sediment samples (all samples except HSM310) from both the Comal and San Marcos Spring complexes. DEHP was also detected in multiple base flow and stormwater samples collected in September and November from both spring complexes. EAA might consider further evaluating the potential presence of DEHP in sediment and surface water by splitting samples between multiple laboratories and including DEHP analysis in the planned fish tissue sampling program.

Analytical results are discussed by analytical laboratory sample data group number, and by sample event type and date. Each event (surface water/base flow, stormwater, PDS, or sediment) is discussed by sample data group with sample names and date outlined for each event in the beginning of the discussion.

A key to sample names is provided below:

### Key to Sample Names

#### H CS 1 10

**H**=HCP

**CS**=Comal Springs (**SM**=San Marcos Springs)

**1**=Sample Type (1=Surface Water (Base Flow), 2=Storm, 3=Sediment, 4=PDS)

**10**=Sample Location

Field Duplicates are identified with the prefix "FD" followed by the sample identification described above. Trip Blank samples are denoted with the prefix "TB" followed by a sequential number. Equipment Blank samples are denoted with the prefix "EB" followed by a sequential number.

## **Analytical Data Review Summary for HCP Samples Collected in 2016**

### **Data Group Numbers (HCP surface water/base flow samples collected March 2, 2016, and March 3, 2016, Comal and San Marcos springs):**

|                                    |                                    |
|------------------------------------|------------------------------------|
| <i>560-60073-1</i> (HCS 110)       | <i>560-60099-1</i> (HSM 110)       |
| <i>560-60073-2</i> (HCS 120)       | <i>560-60099-2</i> (FDHSM 110)     |
| <i>560-60073-3</i> (FDHCS 120)     | <i>560-60099-3</i> (HSM 120)       |
| <i>560-60073-4</i> (HCS 130)       | <i>560-60099-4</i> (HSM 130)       |
| <i>560-60073-5</i> (HCS 140)       | <i>560-60099-5</i> (HSM 140)       |
| <i>560-60073-6</i> (HCS 160)       | <i>560-60099-6</i> (HSM 150)       |
| <i>560-60073-7</i> (Trip Blank 02) | <i>560-60099-7</i> (HSM 160)       |
|                                    | <i>560-60099-8</i> (HSM170)        |
|                                    | <i>560-60099-9</i> (Trip Blank 03) |

### **General Comments**

Although some analytical issues are noted for the data group, unless otherwise noted in the detailed discussion, the data are considered valid for the purposes of the investigation. pH values are collected in the field at the time of sample collection and are listed in the field parameters for each sample event. As such, the laboratory pH values that are flagged for hold time exceedances are not used for sample assessment purposes.

### **Trip Blanks**

There were no detections in the trip blanks associated with this sample set.

### **Quality Assurance/Quality Control (QA/QC) Discussion – Comal and San Marcos Springs Surface/Base Flow Samples (Sampled March 2, 2016, and March 3, 2016)**

#### **Issues associated with work order 560-60073**

Method 8260B – The matrix spike/matrix spike duplicate (MS/MSD) recoveries for analytical batch number 560-125820 were outside of control limits for benzyl chloride, cis-1,4-dichloro-2-butene, 1,1,1,2-tetrachloroethane, and 1,2,3-trichlorobenzene. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Therefore, the results are accepted.

Method 8270C – The MS/MSD recoveries for preparation batch number 560-125782 and analytical batch number 560-125807 were outside of control limits for bis(2-chloroethyl)ether, 2,4-dinitrotoluene, and 2,6-dinitrotoluene. Sample matrix interference and/or non-homogeneity are suspected because the associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8270C – The method blank for preparation batch 560-125782 and analytical batch 560-125807 contained bis(2-ethylhexyl) phthalate was above the method detection limit (MDL). The analyte

concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed. The analyte was not detected in the samples; therefore, the results are accepted.

Method 8141A – The continuing calibration verification (CCV) associated with batch 280-316439 recovered above the upper control limit for merphos on the confirmation column. The samples associated with this CCV were non-detects for the affected analytes; therefore, results are accepted.

Method 8082A – The MS/MSD recoveries for preparation batch number 560-125817 and analytical batch number 560-125830 were outside of control limits for Aroclor 1016 and Aroclor 1260. Sample matrix interference and/or non-homogeneity are suspected because the associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 6020 – The MS/MSD recoveries were outside of control limits for antimony, cadmium, lead, and manganese. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 300.0 – The MS/MSD was performed outside of hold time. The LCS was performed within hold time. The results are accepted.

Method 351.2 – The MS/MSD recoveries were outside of control limits for total kjedhal nitrogen (TKN). The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8141A, Preparation method 3510C – The MS/MSD were spiked with an unverified standard. When the extract was verified it was observed that the standard was made with two milliliters (mL) of one of the stocks rather than the usual one mL. As a result, multiple analytes are spiked at a higher concentration than usual. All recoveries were within control limits in the LCS, MS and MSDs; therefore, the results are accepted.

Method 1694 – The relative percent difference (RPD) and/or percent recovery for MS/MSD cannot be accurately calculated due to the high concentration of analyte inherent in the sample. The LCS recovery was within acceptance limits; therefore, the results are accepted.

### **Issues associated with work order 560-60099**

Method 8081B – The RPD for the MS/MSD recoveries were outside of acceptable limits for endrin ketone. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8270 – The RPD for the MS/MSD recoveries outside of acceptable limits for 4-chloroaniline. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8082A – The MS/MSD recoveries for preparation batch number 560-125817 and analytical batch number 560-125830 were outside of control limits for Aroclor 1016 and Aroclor 1260. Sample matrix interference and/or non-homogeneity are suspected because the associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8082A – The MS/MSD recoveries for preparation batch number 560-125855 and analytical batch number 560-125926 were outside of control limits for Aroclor 1260. Sample matrix interference and/or non-homogeneity are suspected because the associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 6020 – The MS/MSD recoveries associated with batch 125813 were outside of acceptable limits for antimony, cadmium, and lead. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 6020 – The MS/MSD recoveries associated with batch 125854 were outside of acceptable limits for manganese. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 300.0 – Samples were delayed in delivery to the lab causing nitrate analysis to exceed the hold time for HSM110, FDHSM110, HSM120, and HSM130.

Method 351.2 – The MS/MSD recoveries were outside of control limits for TKN. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8141A – Insufficient sample volume was available to perform an MS/MSD associated with analytical batch 280-316370.3510C 8141A.

Method 1694 – The RPD and/or percent recovery for MS/MSD cannot be accurately calculated due to the high concentration of analyte inherent in the sample. The LCS recovery was within acceptance limits; therefore, the results are accepted.

**Data Group Numbers (HCP surface water/base flow samples collected September 8 and 9, 2016, Comal and San Marcos Springs):**

|                                    |                                    |
|------------------------------------|------------------------------------|
| <b>560-63683-1</b> (HCS 110)       | <b>560-63698-1</b> (HSM 110)       |
| <b>560-63683-2</b> (HCS 120)       | <b>560-63698-2</b> (FDHSM 110)     |
| <b>560-63683-3</b> (FDHCS 120)     | <b>560-63698-3</b> (HSM 120)       |
| <b>560-63683-4</b> (HCS 130)       | <b>560-63698-4</b> (HSM 130)       |
| <b>560-63683-5</b> (HCS 140)       | <b>560-63698-5</b> (HSM 140)       |
| <b>560-63683-6</b> (HCS 160)       | <b>560-63698-6</b> (HCS 150)       |
| <b>560-63683-7</b> (Trip Blank 11) | <b>560-63698-7</b> (HSM 160)       |
|                                    | <b>560-63698-8</b> (HSM 170)       |
|                                    | <b>560-63698-9</b> (Trip Blank 12) |

**General Comments**

Although some analytical issues are noted for the data group, unless otherwise noted in the detailed discussion, the data are considered valid for the purposes of the investigation. pH values are collected in the field at the time of sample collection and are listed in the field parameters for each sample event. As such, the laboratory pH values that are flagged for hold time exceedances are not used for sample assessment purposes.

The extracted samples for method 8141A were mislabeled by the laboratory technician. The samples were not uniquely identifiable and had to be discarded. Samples were re-extracted for analysis but the hold time was exceeded. Analysis of these samples was cancelled and new samples were collected on October 24, 2016. Results of samples collected on October 24, 2016, are pending.

**Trip Blank (Comal and San Marcos)**

There were no detections in the trip blanks associated with this sample set.

**QA/QC Discussion – Comal and San Marcos Springs Surface/Base Flow Samples  
(Sampled September 8 and 9, 2016)**

**Issues associated with work order 560-63683**

Method 8260 – The MS/MSD recoveries associated with batch 131652 were outside of acceptable limits for ethylene oxide. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8260 – The RPD for the MS/MSD recoveries associated with batch number 131652 was outside of acceptable limits for naphthalene. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8151 – The MS/MSD recoveries associated with batch 449637 were outside of acceptable limits for dalapon. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 6010B – The method blank for preparation batch 560-131669 and analytical batch 560-131706 contained strontium above the MDL. The analyte concentration was less than the RL; therefore, re-extraction and/or re-analysis of samples was not performed. The method blank detections were three orders of magnitude smaller than sample results; therefore, the results are accepted.

Method 6020 – The MS/MSD recoveries associated with batch 131750 were outside of acceptable limits for aluminum. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 351.2 – The MS/MSD recoveries were outside of control limits for TKN. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 1694 – The spike recovery and/or RPD were outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS and/or LCS duplicate (LCSD) were within acceptance limits showing that the laboratory is in control and the data are acceptable.

### **Issues associated with work order 560-63698**

Method 8260B – The LCS for analytical batch 560-131686 recovered outside of control limits for chloromethane and butadiene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the results are accepted.

Method 8260B – The MS/MSD recoveries for analytical batch number 560-131686 were outside of control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8270C – The method blank for preparation batch 560-131740 and analytical batch 560-131758 contained di-n-butyl phthalate above the MDL. The analyte concentration was less than the RL; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8151 – The MS/MSD recoveries were outside of acceptable limits for dalapon. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 6010B – The MS/MSD recoveries associated with batch 131706 were outside of acceptable limits for calcium. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 6020 – The MS/MSD recoveries associated with batch 131750 were outside of acceptable limits for aluminum. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 351.2 – The MS/MSD recoveries were outside of control limits for TKN. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 351.2 – The RPD for the MS/MSD recoveries were outside of control limits for TKN. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Preparation method 3520C – Insufficient sample volume was available to perform an MS/MSD for preparation batch 560-131740.

Method 1694 – The spike recovery and/or RPD were outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data are acceptable.



**Data Group Numbers (HCP surface water/base flow samples collected October 24, 2016, Comal and San Marcos Springs):**

|                                |                                |
|--------------------------------|--------------------------------|
| <b>560-64578-1</b> (HCS 110)   | <b>560-64579-1</b> (HSM 110)   |
| <b>560-64578-2</b> (HCS 120)   | <b>560-64579-2</b> (FDHSM 110) |
| <b>560-64578-3</b> (FDHCS 120) | <b>560-64579-3</b> (HSM 120)   |
| <b>560-64578-4</b> (HCS 130)   | <b>560-64579-4</b> (HSM 130)   |
| <b>560-64578-5</b> (HCS 140)   | <b>560-64579-5</b> (HSM 140)   |
| <b>560-64578-6</b> (HCS 160)   | <b>560-64579-6</b> (HCS 150)   |
|                                | <b>560-64579-7</b> (HSM 160)   |
|                                | <b>560-64579-8</b> (HSM 170)   |

**General Comments**

Although some analytical issues are noted for the data group, unless otherwise noted in the detailed discussion, the data are considered valid for the purposes of the investigation.

**Trip Blank (Comal and San Marcos)**

No trip blanks were required because no VOC analyses were run.

**QA/QC Discussion – Comal and San Marcos Springs Surface/Base Flow Samples  
(Sampled October 24, 2016)**

**Issues associated with work order 560-64578**

Method 8141A – The CCV associated with batch 280-350765 recovered above the upper control limit for dimethoate on the confirmation column. The samples associated with this CCV were non-detects for the affected analytes; therefore, results are accepted.

Method 8141A – The initial calibration verification (ICV) associated with batch 280-350765 recovered outside the control limit on one column for dischlorvos, mevinphos and azinphos-methyl. The samples associated with this ICV were non-detects for the affected analytes; therefore, results are accepted.

Method 3510C – The 8141 LCS\_00113 standard was not verified at the time of spiking, An aliquot has been sent for verification.

**Issues associated with work order 560-64579**

Method 8141A – The CCV associated with batch 280-350765 recovered above the upper control limit for dimethoate on the confirmation column. The samples associated with this CCV were non-detects for the affected analytes; therefore, results are accepted.

Method 8141A – The initial calibration verification (ICV) associated with batch 280-350765 recovered outside the control limit on one column for dischlorvos, mevinphos and azinphos-methyl. The samples associated with this ICV were non-detects for the affected analytes; therefore, results are accepted.

Method 8141A – The triphenylphosphate surrogate recovery for the following sample in preparation batch 280-349084 and analytical batch 280-350765 was outside acceptance limits (low biased) on the back/confirmation column: HSM120 (560-64579-3). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control. Results are accepted.

Method 8141A - Surrogate chlormefos recovery for the following sample in preparation batch 280-349084 and analytical batch 280-350765 was outside control limits: HSM150 (560-64579-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

**Data Group Numbers (HCP stormwater samples collected March 9, 2016, at San Marcos Springs):**

|                                    |                                       |
|------------------------------------|---------------------------------------|
| <b>560-60183-1</b> (HSM 210 Lead)  | <b>560-60183-14</b> (HSM 260 Peak)    |
| <b>560-60183-2</b> (HSM 230 Lead)  | <b>560-60183-15</b> (HSM 270 Peak)    |
| <b>560-60183-3</b> (HSM 231 Lead)  | <b>560-60183-16</b> (HSM 210 Trail)   |
| <b>560-60183-4</b> (HSM 240 Lead)  | <b>560-60183-17</b> (FDHSM 210 Trail) |
| <b>560-60183-5</b> (HSM 250 Lead)  | <b>560-60183-18</b> (HSM 230 Trail)   |
| <b>560-60183-6</b> (HSM 260 Lead)  | <b>560-60183-19</b> (FDHSM 230 Trail) |
| <b>560-60183-7</b> (HSM 270 Lead)  | <b>560-60183-20</b> (HSM 231 Trail)   |
| <b>560-60183-8</b> (Trip Blank 04) | <b>560-60183-21</b> (FDHSM 231 Trail) |
| <b>560-60183-9</b> (HSM 210 Peak)  | <b>560-60183-22</b> (HSM 240 Trail)   |
| <b>560-60183-10</b> (HSM 230 Peak) | <b>560-60183-23</b> (HSM 250 Trail)   |
| <b>560-60183-11</b> (HSM 231 Peak) | <b>560-60183-24</b> (HSM 260 Trail)   |
| <b>560-60183-12</b> (HSM 240 Peak) | <b>560-60183-25</b> (HSM 270 Trail)   |
| <b>560-60183-13</b> (HSM 250 Peak) |                                       |

**General Comments**

Although some analytical issues are noted for the data group, unless otherwise noted in the detailed discussion, the data are considered valid for the purposes of the investigation. pH values are collected in the field at the time of sample collection and are listed in the field parameters for each sample event. As such, the laboratory pH values that are flagged for hold time exceedances are not used for sample assessment purposes.

Lead and peak samples were collected outside of laboratory operating hours. Therefore lead and peak *E. coli* samples were analyzed outside of their hold times.

The caffeine sample container for HSM230 Peak was broken in transit to the laboratory and was not analyzed.

**Trip Blank**

There were no detections in the trip blank associated with these samples.

**QA/QC Discussion – San Marcos Springs Stormwater Samples  
(Sampled March 9, 2016)**

**Issues associated with work order 560-60183**

Method 8260B – The MS/MSD recoveries for analytical batch number 560-125954 was outside of control limits for ethylene oxide. Sample matrix interference and/or non-homogeneity are suspected because the associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8260B – The RPD for the MS/MSD recoveries was outside of acceptable limits for ethylene oxide. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8270C – The MS/MSD recoveries for preparation batch number 560-126050 and analytical batch number 560-126070 were outside of control limits for various analytes. Sample matrix interference is suspected because the associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8270C – The MS/MSD recoveries for preparation batch number 560-125968 and analytical batch number 560-125986 were outside of control limits for indeno(1,2,3-cd)pyrene. Sample matrix interference is suspected because the associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8270C – The RPD for the MS/MSD recoveries was outside of acceptable limits for various analytes. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8270C – The surrogate recovery for the following sample was outside control limits: (560-60183-I-5-A MS). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8270C – The method blank for preparation batch 560-126050 and analytical batch 560-126070 contained bis(2-ethylhexyl) phthalate above the MDL. The analyte concentration was less than the RL; therefore, re-extraction and/or re-analysis of samples was not performed. The analyte was not detected in the samples; therefore, the results are accepted.

Method 8141A – The CCV associated with batches 280-317060 and 280-317425 recovered above the upper control limit for dichlorvos on the confirmation column. The samples associated with this CCV were non-detects for the affected analytes; therefore, results are accepted.

Method 8082A – The MS/MSD recoveries for preparation batch number 560-125982 and analytical batch number 560-126039 were outside of control limits for Aroclor 1260. Sample matrix interference and/or non-homogeneity are suspected because the associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 6020 – The serial dilution performed for the following sample associated with batch 560-125994 was outside control limits: Al 11% (560-60182-A-1-A SD)

Method 6020 – The CCV associated with batch 560-125994 recovered above the upper control limit for beryllium. The recoveries were in the middle of the acceptance range so that the high CCV did not affect whether the samples met the pass/fail criteria. The samples associated with this CCV were non-detects for the affected analytes; therefore, the results are accepted.

Method 6010B – The method blank for preparation batch 560-126005 and analytical batch 560-126018 contained sodium above the MDL. The analyte concentration was less than the RL; therefore, re-extraction and/or re-analysis of samples was not performed. The results are accepted.

Method 6010B – The method blank for preparation batch 560-125967 and analytical batch 560-125994 contained selenium above the MDL. The analyte concentration was less than the RL; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 6020 – The CCV associated with batch 560-126076 recovered above the upper control limit for beryllium. All QA/QC analyses were in the middle of the acceptance range and not effected by the high CCV. The samples associated with this CCV were non-detects for the affected analytes; therefore, results are accepted.

Method 7470A – The MS/MSD recoveries associated with batch 126107 were outside of acceptable limits for mercury. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method SM 2320B – There is no substituent recovery of carbonate alkalinity and bicarbonate alkalinity for MS/MSDs.

Method 351.2 – The MS/MSD recoveries were outside of control limits for TKN for batches 184408 and 184530. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 300.0 – The MS/MSD recoveries for batch 125971 were outside of control limits for chloride and/or sulfate and/or bromide. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 351.2 – The RPD for the MS/MSD recoveries were outside of control limits for TKN. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 300.0 – The method blank for analytical batch 560-125971 contained chloride above the MDL. The analyte concentration was less than the RL; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8141A and Preparation method 3510C – HSM230 Lead, HSM230 Trail, and FDHSM230 Trail formed emulsions during the extraction procedure. The emulsions were broken up using a pour back on all of the first extractions from analytical batch 280-316652.

Preparation method 3520C – Insufficient sample provided for 3520C resulted in the use of higher reporting limits for samples: HSM240 Lead, HSM260 Lead, HSM210 Peak, HSM230 Trail, HSM260 Trail, HSM240 Peak, FDHSM231 Trail, and HSM240 Trail.

Method 1694 – The concentration indicated for HSM230 Lead is an estimated value above the calibration range.

Method 1694 – The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

**Data Group Numbers (HCP stormwater samples collected April 12–13, 2016, at Comal Springs):**

|                                    |                                       |
|------------------------------------|---------------------------------------|
| <b>560-60893-1</b> (HCS 210 Lead)  | <b>560-60893-14</b> (HCS 260 Peak)    |
| <b>560-60893-2</b> (HCS 240 Lead)  | <b>560-60893-15</b> (HCS 270 Peak)    |
| <b>560-60893-3</b> (HCS 250 Lead)  | <b>560-60893-16</b> (HCS 210 Trail)   |
| <b>560-60893-4</b> (HCS 260 Lead)  | <b>560-60893-17</b> (HCS 240 Trail)   |
| <b>560-60893-5</b> (HCS 270 Lead)  | <b>560-60893-18</b> (HCS 250 Trail)   |
| <b>560-60893-6</b> (Trip Blank 06) | <b>560-60893-19</b> (HCS 260 Trail)   |
| <b>560-60893-7</b> (HCS 210 Peak)  | <b>560-60893-20</b> (FDHCS 260 Trail) |
| <b>560-60893-8</b> (HCS 240 Peak)  | <b>560-60893-21</b> (HCS 270 Trail)   |
| <b>560-60893-9</b> (HCS 250 Peak)  | <b>560-60893-22</b> (FDHCS 270 Trail) |

**General Comments**

Although some analytical issues are noted for the data group, unless otherwise noted in the detailed discussion, the data are considered valid for the purposes of the investigation. pH values are collected in the field at the time of sample collection and are listed in the field parameters for each sample event. As such, the laboratory pH values that are flagged for hold time exceedances are not used for sample assessment purposes. Lead and peak samples were collected outside of laboratory operating hours. Therefore lead and peak *E. coli* samples were analyzed outside of their hold times.

**Trip Blanks**

There were no detections in the trip blank associated with these samples.

**QA/QC Discussion – Comal Springs Stormwater Samples  
(Sampled April 12 and 13, 2016)**

**Issues associated with work order 560-60893**

Method 8260 – The MS/MSD recoveries were outside of acceptable limits for ethylene oxide and 3,3-dichlorobenzene. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8260 – The RPD for the MS/MSD recoveries was outside of acceptable limits for cyclohexane, 1,4-dioxane, and 4-chloroaniline. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8260 – The RPD for the MS/MSD recoveries for batch 126945 was outside of acceptable limits for acetonitrile, 1,4-dioxane, isobutyl alcohol, and 2-nitropropane. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8260 – The MS/MSD recoveries associated with batch 126945 were outside of acceptable limits for ethylene oxide, isooctane, and 2-nitropropane. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8081 – The MS/MSD recoveries were outside of acceptable limits for Aldrin and 4,4-DDE. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8081 – The RPD for the MS/MSD recoveries was outside of acceptable limits for cyclohexane, 1,4-dioxane, and 4-chloroaniline. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.



**Data Group Numbers (HCP stormwater samples collected September 26-27, 2016, at Comal Springs):**

|                                     |                                       |
|-------------------------------------|---------------------------------------|
| <i>560-63976-1</i> (HCS 210 Lead)   | <i>560-63977-5</i> (HCS 270 Peak)     |
| <i>560-63976-2</i> (HCS 240 Lead)   | <i>560-63977-11</i> (Trip Blank 14)   |
| <i>560-63976-3</i> (HCS 250 Lead)   | <i>560-64002-2</i> (HCS 210 Trail)    |
| <i>560-63976-4</i> (HCS 260 Lead)   | <i>560-64002-3</i> (HCS 240 Trail)    |
| <i>560-63976-5</i> (HCS 270 Lead)   | <i>560-64002-4</i> (HCS 250 Trail)    |
| <i>560-63976-11</i> (Trip Blank 13) | <i>560-64002-5</i> (HCS 260 Trail)    |
| <i>560-63977-1</i> (HCS 210 Peak)   | <i>560-64002-6</i> (FDHCS 260 Trail)  |
| <i>560-63977-2</i> (HCS 240 Peak)   | <i>560-64002-12</i> (HCS 270 Trail)   |
| <i>560-63977-3</i> (HCS 250 Peak)   | <i>560-64002-13</i> (FDHCS 270 Trail) |
| <i>560-63977-4</i> (HCS 260 Peak)   | <i>560-64002-14</i> (FDHCS 270 Trail) |

**General Comments**

Although some analytical issues are noted for the data group, unless otherwise noted in the detailed discussion, the data are considered valid for the purposes of the investigation. pH values are collected in the field at the time of sample collection and are listed in the field parameters for each sample event. As such, the laboratory pH values that are flagged for hold time exceedances are not used for sample assessment purposes. Lead and peak samples were collected outside of laboratory operating hours. Therefore lead and peak *E. coli* samples were analyzed outside of their hold times.

**Trip Blanks**

There were no detections in the trip blank associated with these samples.

**QA/QC Discussion – Comal Springs Stormwater Samples  
(Sampled September 26-27, 2016)**

**Issues associated with work order 560-63976**

Method 8260 - Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 132164 were outside acceptable limits for Ethylene oxide. The LCS was within acceptable limits. Therefore, results are accepted.

Method 8141A - The grand mean exception, as outlined in EPA method 8000B, was applied to the continuing calibration verification (CCV) standard associated with batch 280-345644 for several compounds. This rule states that when one or more compounds in the CCV fail to meet acceptance criteria, the initial calibration (ICAL) may be used for quantitation if the average percent difference (the grand mean) of all the compounds in the CCV is less than or equal to 15% difference with no single percent difference more than 30%. All associated samples are ND for the affected compounds. Both surrogates are well in control on both columns and not affected by any bias.

Method 8141A - The continuing calibration verification (CCV) associated with batch 280-345644 recovered outside acceptance criteria, low biased, for Naled. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the results are accepted.

Method 8141A - The initial calibration verification (ICV) for Mevinphos associated with analytical batch 280-345644 recovered below the lower control limit on the back/confirmation column. The samples associated with this ICV were non-detects for the affected analytes; therefore, the data have been reported from the front/primary column which is in control. The results are accepted

Method 8141A - The Chlormefos surrogate recovery for the following sample in preparation batch 280-344653 and analytical batch 280-345644 was outside acceptance limits (low biased) on the back/confirmation column: (560-64002-Q-2-A MS). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control. The bracketing CCV for Chlormefos recovered below the lower limit but the surrogate is in control on the same column without bias. The sample is a matrix spike and all spiked compounds are well in control on both columns.

Method 8082A - Two surrogates are used for this analysis. The laboratory's standard operating procedure (SOP) allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 560-132158/1-A). These results have been reported and qualified.

Method 8081B - The following continuing calibration verification (CCV) associated with batch 560-132177 recovered above the upper control limit for toxaphene: (CCV 560-132177/4). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8081B - Two surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 560-132158/1-A). These results have been reported and qualified.

Method 8151 - Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 452263 were outside acceptable limits for Dalapon. The LCS was within acceptable limits. Therefore, data are reported.

Method 6010B - The method blank for preparation batch 560-132189 and analytical batch 560-132326 contained Na and Sr above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 6010 - Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 132326 and prep batch 132189 were outside acceptable limits for Sodium. The LCS was within acceptable limits. Therefore, data are reported.

Method 3510C - The following samples were spiked with unverified standards: 8141 Surr\_00079, 8141 LCS\_000112, HCS210 Lead (560-63976-1), HCS240 Lead (560-63976-2), HCS250 Lead (560-63976-3), HCS260 Lead (560-63976-4) and HCS270 Lead (560-63976-5).

Method 3510C - The following samples formed emulsions during the extraction procedure: HCS210 Lead (560-63976-1), HCS240 Lead (560-63976-2), HCS250 Lead (560-63976-3), HCS260 Lead (560-63976-4) and HCS270 Lead (560-63976-5). The emulsions were broken up using a pour back method on all three extractions.

Method 3520C - Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 560-132246.

### **Issues associated with work order 560-63977**

Method 8260 - Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 132164 were outside acceptable limits for Ethylene oxide. The LCS was within acceptable limits. Therefore, data are reported.

Method 8270 - Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 132347 were outside acceptable limits for various analytes. The LCS was within acceptable limits. Therefore, data are reported.

Method 8141A - The grand mean exception, as outlined in EPA method 8000B, was applied to the continuing calibration verification (CCV) standard associated with batch 280-345644 for several compounds. This rule states that when one or more compounds in the CCV fail to meet acceptance criteria, the initial calibration (ICAL) may be used for quantitation if the average percent difference (the grand mean) of all the compounds in the CCV is less than or equal to 15% difference with no single percent difference more than 30%. All associated samples are ND for the affected compounds. Both surrogates are well in control on both columns and not affected by any bias.

Method 8141A - The continuing calibration verification (CCV) associated with batch 280-345644 recovered outside acceptance criteria, low biased, for Naled. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8141A - The initial calibration verification (ICV) for Mevinphos associated with analytical batch 280-345644 recovered below the lower control limit on the back/confirmation column. The samples associated with this ICV were non-detects for the affected analytes; therefore, the data have been reported from the front/primary column which is in control.

Method 8141A - The Chlormefos surrogate recovery for the following sample in preparation batch 280-344653 and analytical batch 280-345644 was outside acceptance limits (low biased) on the back/confirmation column: (560-64002-Q-2-A MS). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control. The bracketing CCV for Chlormefos

recovered below the lower limit but the surrogate is in control on the same column without bias. The sample is a matrix spike and all spiked compounds are well in control on both columns.

Method 8082A - Two surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 560-132158/1-A). These results have been reported and qualified.

Method 8081B - The following continuing calibration verification (CCV) associated with batch 560-132177 recovered above the upper control limit for toxaphene: (CCV 560-132177/4). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8081B - Two surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (MB 560-132158/1-A). These results have been reported and qualified.

Method 8151 - Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 452263 were outside acceptable limits for Dalapon. The LCS was within acceptable limits. Therefore, data are reported.

Method 6010B - The method blank for preparation batch 560-132189 and analytical batch 560-132326 contained Na and Sr above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 6010 - Percent recovery results for the MS/MSD pair, the MS or the MSD associated with prep batch 132189 were outside acceptable limits for Sodium. The LCS was within acceptable limits. Therefore, data are reported.

Method(s) 3510C - The following samples formed emulsions during the extraction procedure: HCS210 Peak 2 (560-63977-1), HCS240 Peak 2 (560-63977-2), HCS250 Peak 2 (560-63977-3), HCS260 Peak 2 (560-63977-4) and HCS270 Peak 2 (560-63977-5). The emulsions were broken up using a pour back method on all three extractions.

Method(s) 3520C - Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 560-132246.

Method(s) 3520C - Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 560-132382.

#### **Issues associated with work order 560-64002**

Method 8260 - The relative percent deviation (RPD) was outside acceptable limits for 1, 4-Dioxane in the MS/MSD pair associated with batch 132278. The LCS was within acceptable limits. Therefore, data are reported.

Method 8260 - The relative percent deviation (RPD) was outside acceptable limits for 1, 4-Dioxane in the MS/MSD pair associated with batch 132278. The LCS was within acceptable limits. Therefore, data are reported.

Method 8260 - Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 132311 were outside acceptable limits for various analytes. The LCS was within acceptable limits. Therefore, data are reported.

Method 8260 - The relative percent deviation (RPD) was outside acceptable limits for Ethylene oxide in the MS/MSD pair associated with batch 132311. The LCS was within acceptable limits. Therefore, data are reported.

Method 8260 - Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 132347 were outside acceptable limits for various analytes. The LCS was within acceptable limits. Therefore, data are reported.

Method 8141A - The grand mean exception, as outlined in EPA method 8000B, was applied to the continuing calibration verification (CCV) standard associated with batch 280-345644 for several compounds. This rule states that when one or more compounds in the CCV fail to meet acceptance criteria, the initial calibration (ICAL) may be used for quantitation if the average percent difference (the grand mean) of all the compounds in the CCV is less than or equal to 15% difference with no single percent difference more than 30%. All associated samples are ND for the affected compounds. Both surrogates are well in control on both columns and not affected by any bias.

Method 8141A - The continuing calibration verification (CCV) associated with batch 280-345644 recovered outside acceptance criteria, low biased, for Naled. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8141A - The initial calibration verification (ICV) for Mevinphos associated with analytical batch 280-345644 recovered below the lower control limit on the back/confirmation column. The samples associated with this ICV were non-detects for the affected analytes; therefore, the data have been reported from the front/primary column which is in control.

Method 8141A - The Chlormefos surrogate recovery for the following samples in preparation batch 280-344653 and analytical batch 280-345644 was outside acceptance limits (low biased) on the front/primary column: HCS260 Trail (560-64002-5), FDHCS260 Trail (560-64002-6), HCS270 Trail (560-64002-12) and FDHCS270 Trail (560-64002-13). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control.

Method 8141A - The Chlormefos surrogate recovery for the following sample in preparation batch 280-344653 and analytical batch 280-345644 was outside acceptance limits (low biased) on the back/confirmation column: HCS210 Trail (560-64002-2[MS]). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control. The bracketing CCV for Chlormefos recovered below the lower limit but the surrogate is in control on the same column without bias. The sample is a matrix spike and all spiked compounds are well in control on both columns.

Method 8081B - The following continuing calibration verification (CCV) associated with batch 560-132295 recovered above the upper control limit for toxaphene: (CCV 560-132295/4). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8151 - Percent recovery results for the MS/MSD pair, the MS or the MSD associated with batch 452263 were outside acceptable limits for Dalapon. The LCS was within acceptable limits. Therefore, data are reported.

Method 3510C - The following samples were spiked with a unverified standards: 8141 Surr\_00079, 8141 LCS\_000112, HCS210 Trail (560-64002-2), HCS210 Trail (560-64002-2[MS]), HCS210 Trail (560-64002-2[MSD]), HCS240 Trail (560-64002-3), HCS250 Trail (560-64002-4), HCS260 Trail (560-64002-5), FDHCS260 Trail (560-64002-6), HCS270 Trail (560-64002-12) and FDHCS270 Trail (560-64002-13).

Method 3510C - The following samples formed emulsions during the extraction procedure: HCS210 Trail (560-64002-2), HCS210 Trail (560-64002-2[MS]), HCS210 Trail (560-64002-2[MSD]), HCS240 Trail (560-64002-3), HCS250 Trail (560-64002-4), HCS260 Trail (560-64002-5), FDHCS260 Trail (560-64002-6), HCS270 Trail (560-64002-12) and FDHCS270 Trail (560-64002-13). The emulsions were broken up using a pour back method on all three extractions.

Method 3520C - Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 560-132382.

#### **Issues associated with EPA Method 1694**

The relative percent difference and/or percent recovery for the quality control spike samples cannot be accurately calculated due to high concentration of analyte inherent in the sample.

**Data Group Numbers (HCP stormwater samples collected November 3, 2016, at San Marcos Springs):**

|                                    |                                       |
|------------------------------------|---------------------------------------|
| <b>560-64786-1</b> (HSM 210 Lead)  | <b>560-64786-14</b> (HSM 260 Peak)    |
| <b>560-64786-2</b> (HSM 230 Lead)  | <b>560-64786-15</b> (HSM 270 Peak)    |
| <b>560-64786-3</b> (HSM 231 Lead)  | <b>560-64786-16</b> (HSM 210 Trail)   |
| <b>560-64786-4</b> (HSM 240 Lead)  | <b>560-64786-17</b> (FDHSM 210 Trail) |
| <b>560-64786-5</b> (HSM 250 Lead)  | <b>560-64786-18</b> (HSM 230 Trail)   |
| <b>560-64786-6</b> (HSM 260 Lead)  | <b>560-64786-19</b> (FDHSM 230 Trail) |
| <b>560-64786-7</b> (HSM 270 Lead)  | <b>560-64786-20</b> (HSM 231 Trail)   |
| <b>560-64786-8</b> (Trip Blank 17) | <b>560-64786-21</b> (FDHSM 231 Trail) |
| <b>560-64786-9</b> (HSM 210 Peak)  | <b>560-64786-22</b> (HSM 240 Trail)   |
| <b>560-64786-10</b> (HSM 230 Peak) | <b>560-64786-23</b> (HSM 250 Trail)   |
| <b>560-64786-11</b> (HSM 231 Peak) | <b>560-64786-24</b> (HSM 260 Trail)   |
| <b>560-64786-12</b> (HSM 240 Peak) | <b>560-64786-25</b> (HSM 270 Trail)   |
| <b>560-64786-13</b> (HSM 250 Peak) |                                       |

**General Comments**

Although some analytical issues are noted for the data group, unless otherwise noted in the detailed discussion, the data are considered valid for the purposes of the investigation. pH values are collected in the field at the time of sample collection and are listed in the field parameters for each sample event. As such, the laboratory pH values that are flagged for hold time exceedances are not used for sample assessment purposes.

All samples were collected outside of laboratory operating hours. Therefore *E. coli* samples were analyzed outside of their hold times.

The organophosphorous pesticide sample container for HSM210 Trail was delayed internally at the contract laboratory and was processed outside of hold time.

**Trip Blank**

There were no detections in the trip blank associated with these samples.



## **QA/QC Discussion – San Marcos Springs Stormwater Samples (Sampled November 3, 2016)**

### **Issues associated with work order 560-64786**

Method(s) 8260B - Due to the high concentration of Benzene, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 560-133589 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 8260B - The matrix spike duplicate (MSD) recovery for analytical batch 560-133589 were outside control limits for 1-octene. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270C - The laboratory control sample (LCS) for preparation batch 560-133681 and analytical batch 560-133691 recovered outside control limits for the following analytes: Bis(2-ethylhexyl) phthalate. This analyte was biased high in the LCS and was not detected in the associated samples above the RL; therefore, the data have been reported. The MS/MSD had passing %R for all targets.

Method(s) 8141A - The Chlormefos surrogate recovery for the following sample in preparation batch 280-350606 and analytical batch 280-351570 was outside acceptance limits (low biased) on the front/primary column: HSM270 Lead (560-64786-7). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control.

Method(s) 8141A - The continuing calibration verification (CCV) for Coumaphos, Chlormefos and Azinphos-methyl associated with analytical batch 280-351570 recovered outside the control limit on the back/confirmation column. The samples associated with this CCV were well in control for both surrogates on both columns; therefore, the data have been reported from the front/primary column which is in control. The associated sample was ND for Azinphos-methyl and Coumaphos and are reported from the front/primary column, which is in control.

Method(s) 8141A - The continuing calibration verification (CCV) for Chlormefos, Dimethoate, Coumaphos and Disulfoton associated with analytical batch 280-351570 recovered outside the control limit on one column. The samples associated with this CCV were well in control for both surrogates on both columns; therefore, the data have been reported from the back/confirmation column which is in control. The associated sample was ND for Coumaphos, Dimethoate and Disulfoton and are reported from the front/primary column, which is in control.

Method(s) 8141A - The initial calibration verification (ICV) for Mevinphos, Azinphos-methyl and Dichlorvos associated with analytical batch 280-351570 recovered outside the control limit on one column. The samples associated with this ICV were non-detects for the affected analytes; therefore, the data have been reported from the column which is in control.

Method(s) 8141A - The ISTD expired at midnight of 11/15/16. The analytical run was set up on the 15th and continued thru 11/16/16: HSM210 Lead (560-64786-1), HSM230 Lead (560-64786-2), HSM231 Lead (560-64786-3), HSM240 Lead (560-64786-4), HSM250 Lead (560-64786-5), HSM260 Lead (560-64786-6), HSM270 Lead (560-64786-7), HSM210 Peak (560-64786-9), HSM230 Peak (560-64786-10), HSM231 Peak (560-64786-11), HSM240 Peak (560-64786-12), HSM250 Peak (560-64786-13), HSM260 Peak (560-64786-14), HSM270 Peak (560-64786-15), FDHSM210 Trail (560-64786-17), HSM230 Trail (560-64786-18), FDHSM230 Trail (560-64786-19), HSM231 Trail (560-64786-20), FDHSM231 Trail (560-64786-21), HSM240 Trail (560-64786-22), HSM250 Trail (560-64786-23), HSM260 Trail (560-64786-24), HSM260 Trail (560-64786-24[MS]), HSM260 Trail (560-64786-24[MSD]), HSM270 Trail (560-64786-25), HSM270 Trail (560-64786-25[MS]), HSM270 Trail (560-64786-25[MSD]), (CCV 280-

351570/27), (CCV 280-351570/42), (CCV 280-351570/54), (LCS 280-350606/2-A), (LCS 280-350683/2-A), (LCSD 280-350606/3-A) and (MB 280-350606/1-A)

Method(s) 8141A - The continuing calibration verification (CCV) for Merphos associated with analytical batch 280-352316 recovered above the upper control limit on the back/confirmation column. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported from the front/primary column which is in control.

Method(s) 8141A - The initial calibration verification (ICV) for Merphos associated with analytical batch 280-352316 recovered above the upper control limit on the front/primary column. The samples associated with this ICV were non-detects for the affected analytes; therefore, the data have been reported from the column which is in control.

Method(s) 8141A - The initial calibration verification (ICV) result for batch 280-354760 was outside the control limits on one column. Sample results were non-detects and reported from the column in control. Results have been reported as qualified data.

Method(s) 8141A - The continuing calibration verification (CCV) associated with batch 280-354760 recovered above the upper control limit for Mevinphos and Dichlorvos on the front column. The samples associated with this CCV were non-detects for the affected analytes and are reported from the back column; therefore, the data have been reported. The following sample is impacted: HSM210 Trail (560-64786-16).

Method(s) 8141A - The following sample had low surrogate recoveries with no obvious matrix: HSM210 Trail (560-64786-16). Per DV-QA-18P reextraction out of hold will not be done without client approval.

Method(s) 8151A - The closing continuing calibration verification (CCV) associated with batch 680-457888 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: HSM260 Peak (560-64786-14), HSM270 Peak (560-64786-15), (CCV 680-457888/43), (680-131875-A-

1-I), (680-131875-A-1-J MS), (680-131875-A-1-K MSD), (680-132059-A-4-A) and (680-132059-A-4-B MS).

Method(s) 8151A - Surrogate recovery for the following sample was outside control limits: HSM260 Peak (560-64786-14) and HSM270 Peak (560-64786-15). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results.

Method(s) 6010B - The method blank for preparation batch 560-133618 and analytical batch 560-133668 contained Ca above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 365.4 - The method blank for preparation batch 680-456744 and analytical batch 680-457065 contained phosphorus above the method detection limit (MDL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method(s) 365.4 - Due to the high concentration of phosphorus, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 680-456744 and analytical batch 680-457065 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 3510C - Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with Batch: 350606

Method(s) 3510C - 8141 LCS\_00113 was not verified prior to use. LCS is in the process of verification.

Method(s) 3510C - The following sample formed emulsions during the extraction procedure: HSM260 Lead (560-64786-6) and HSM270 Lead (560-64786-7). The emulsions were broken up using a pour back on the first and second extractions.

Method(s) 3510C - 8141 LCS\_00113 was not verified at the time of spiking. An aliquot has been sent for analysis. Preparation batch is 280-350683.

Method(s) 3510C - Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 280-353905.

Method(s) 3510C - The following sample(s) was prepared outside of preparation holding time due to sample was received by internal laboratory shipment out of hold time. Preparation batch is 280-353905.

Method(s) 3520C - Elevated reporting limits are provided for the following samples due to insufficient sample provided for 3520c preparation/analysis: FDHSM230 Trail (560-64786-19), HSM231 Trail (560-64786-20) and HSM240 Trail (560-64786-22).

Method 1694 - The relative percent difference and/or percent recovery for the quality control spike samples cannot be accurately calculated due to high concentration of analyte inherent in the sample.

**Data Group Numbers (HCP sediment samples collected June 8 and 9, 2016, at Comal and San Marcos Springs):**

|  |  |
|--|--|
| <i>560-62017-1</i> (HCS 310)             | <i>560-62041-1</i> (HSM 310)                     |
| <i>560-62017-2</i> (HCS 320)             | <i>560-62041-2</i> (HSM 320)                     |
| <i>560-62017-3</i> (HCS 330)             | <i>560-62041-3</i> (HSM 330)                     |
| <i>560-62017-4</i> (HCS 340)             | <i>560-62041-4</i> (HSM 340)                     |
| <i>560-62017-5</i> (HCS 360)             | <i>560-62041-5</i> (HSM 350)                     |
| <i>560-62017-6</i> (FDHCS 360)           | <i>560-62041-6</i> (HSM 360)                     |
| <i>560-62017-7</i> (Trip Blank 07)       | <i>560-62041-7</i> (HSM 370)                     |
|  | <i>560-62041-8</i> (FDHSM370)                    |
|  | <i>560-62041-9</i> (Trip Blank 08)               |
| <i>560-62041-10</i> (Equipment Blank 01) | <i>560-62094-1</i> (Equipment Blank 01 - metals) |
| <i>560-62041-11</i> (Equipment Blank 02) | <i>560-62094-2</i> (Equipment Blank 02 - metals) |

**General Comments**

Although some analytical issues are noted for the data group, unless otherwise noted in the detailed discussion, the data are considered valid for the purposes of the investigation. Samples were collected in glass jars using stainless steel trowels. The water depth and sediment availability at HCS 330 made collection with a trowel impossible. The HCS 330 sample was collected in a plastic sleeve using a hand core sampler and extruded into the glass sample jars.

**Trip Blanks**

There were no detections in the trip blanks associated with these samples.

**Equipment Blanks**

Two equipment blanks were collected. One sample was collected by pouring American Society for Testing and Materials (ASTM) Type II Reagent Grade water over a decontaminated trowel. The second sample was collected by pouring ASTM Type II Reagent Grade water through a new sample tube. The laboratory provided the water used for equipment blanks but did not supply a sufficient volume. Equipment blank metals samples were collected separately, after the laboratory provided additional water.

There were several compounds detected in both of the two equipment blanks. The detections are similar between each blank despite the differences in sampling equipment. SWCA suspects that the detected compounds were present in the ASTM Type II Reagent Grade water used. The plastic sample tube was a new, single-use tube from the box and was therefore not decontaminated, eliminating decontamination procedures as the source of interference. Many of the detections were “J” flagged and substantially lower than the levels detected in the sediment samples. Therefore, the equipment blank analyses results are not anticipated to have affected the usability of results of the sediment sample analyses. The equipment blank detections are summarized in Table 1.

**Table 1. Detections in Sediment Equipment Blanks June 2016**

| Sample | Associated Equipment | Calcium<br>mg/L | Bis(2-ethylhexyl) Phthalate<br>µg/L | Chloride<br>mg/L | Fluoride<br>mg/L | Nitrate<br>mg/L | Phenol<br>µg/L | Silicon<br>mg/L | Sodium<br>mg/L | Total Organic Carbon<br>mg/L |
|--------|----------------------|-----------------|-------------------------------------|------------------|------------------|-----------------|----------------|-----------------|----------------|------------------------------|
| EB01   | Trowel               | <0.101          | <5.00                               | 6.74             | 0.0200 J         | 0.115 JH        | <0.768         | 0.217 J         | 0.539 J        | 0.461 J                      |
| EB02   | Sample tube          | 0.112           | 19.4 J                              | 7.34             | <0.0200          | 0.116 JH        | 2.17 J         | 0.299 J         | 0.549 J        | 0.473 J                      |

## **QA/QC Discussion – Comal and San Marcos Springs Sediment Samples (Sampled June 8, and 9, 2016)**

### **Issues associated with work order 560-62017**

Method 8260 – The MS/MSD recoveries were outside of control limits for various analytes. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8260 – The RPD for the MS/MSD recoveries were outside of control limits for various analytes. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8270C – Surrogate recovery for the following samples was outside control limits: HCS360 (560-62017-5) and FDHCS360 (560-62017-6). Re-extraction and re-analysis was performed with concurring results. The original analysis has been reported.

Method 8270C – The MS/MSD recoveries were outside of control limits for various analytes. The associated LCS recovery was within acceptance limits. Therefore, the results are accepted.

Method 8141A: The following samples were diluted due to the nature of the sample matrix: HCS310 (560-62017-1), HCS320 (560-62017-2), HCS330 (560-62017-3), HCS340 (560-62017-4), HCS340 (560-62017-4[MS]), HCS340 (560-62017-4[MSD]), HCS360 (560-62017-5), and FDHCS360 (560-62017-6). Elevated RLs are provided. When run at a lower dilution the samples caused CCV failure. The matrix caused failed very low in the CCVs. The dilutions were also performed in order to protect the analytical instrumentation. Due to the dilution, the surrogate and matrix spike concentration in the samples were reduced to a level where the recovery calculation does not provide useful information.

Method 8141A – The CCV associated with batch 280-332552 recovered above the upper control limit for dichlorvos, dimethoate, and mevinphos. The samples associated with this CCV were non-detects for the affected analytes; therefore, results are accepted.

Method 8082A – Two surrogates are used for this analysis. The laboratory's standard operating procedure allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: (CCVIS 560-129231/1). These results have been reported and qualified.

Method 8151A – The CCV associated with batch 600-191143 recovered above the upper control limit for 2,4-DB(15.7%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the results are accepted. The following sample is impacted: (CCVRT 600-191143/2).

Method 8151A – The MS/MSD recoveries for preparation batch 600-190936 and analytical batch 600-191143 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated LCS recovery was within acceptance limits. The results are accepted.

Method 8151A – The CCV associated with batch 600-191143 recovered above the upper control limit for 2,4,5-T(17.3%) and 2,4-DB(43.8%). The samples associated with this CCV were non-detects for the

affected analytes; therefore, the results are accepted. The following sample is impacted: (CCV 600-191143/13).

Method 8151A – The MS/MSD/sample duplicate (DUP) precision for preparation batch 600-190936 and analytical batch 600-191143 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected. The results are accepted.

Method 8151A – The 2,4-DB concentration was outside the calibration range, however, the percent recovery was within the control limits. (LCS 600-190936/2-A). The results are accepted.

Method 8151A – Surrogate recovery for the following sample was outside control limits: HCS330 (560-62017-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8151A – Surrogate recovery for the following sample was outside control limits: HCS360 (560-62017-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8151A – The CCV associated with batch 600-191143 recovered above the upper control limit for 2,4-DB(46.2%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 600-191143/24).

Method 8081B – The LCS and/or LCSD for preparation batch 600-190731 and analytical batch 600-191263 recovered outside control limits for the following analytes: methoxychlor. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the results are accepted.

Method 8081B – The CCV associated with batch 600-191263 recovered above the upper control limit for 4,4-DDT(22.8%) and Methoxychlor(39.1%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the results are accepted. The following sample is impacted: (CCVIS 600-191263/3).

Method 8081B – Compound internal standard (ISTD) eluted outside the retention time window on the RTX-CLPesticides II column for the following samples: (LCS 600-190731/2-A) and (MB 600-190731/1-A). This retention time shift was taken into account when reviewing the sample(s) for target compounds.

Method 8081B – The MS/MSD recoveries for preparation batch 600-190731 and analytical batch 600-191263 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated LCS recovery was within acceptance limits. The results are accepted.

Method 8081B – The MS/MSD/Duplicate (DUP) precision for preparation batch 600-190731 and analytical batch 600-191263 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.



Method 8081B – Compound ISTD eluted outside the retention time window on the RTX-CLPesticides I and RTX-CLPesticides II column for the following samples: HCS360 (560-62017-5). This retention time shift was taken into account when reviewing the sample(s) for target compounds.

Method 8081B – Compound ISTD eluted outside the retention time window on the RTX-CLPesticides II column for the following sample: FDHCS360 (560-62017-6). This retention time shift was taken into account when reviewing the sample(s) for target compounds.

Method 8081B – Surrogate recovery for the following sample was outside control limits: FDHCS360 (560-62017-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 6010B – Due to the high concentration of calcium, the MS/MSD for preparation batch 560-128926 and analytical batch 560-129037 could not be evaluated for accuracy and precision. The associated LCS met acceptance criteria. The results are accepted.

Method 6010 – The RPD was outside acceptable limits for various analytes in the MS/MSD pair associated with sample 560-62017-4. The LCS was within acceptable limits. Therefore, data are reported. The results are accepted.

Method 300.0: The following samples were analyzed outside of holding time for nitrates due to an error at the laboratory: HCS310 (560-62017-1), HCS320 (560-62017-2), HCS330 (560-62017-3), HCS340 (560-62017-4), HCS360(560-62017-5), and FDHCS360 (560-62017-6).

Method 300.0 – The MS/MSD recoveries for Bromide preparation batch 600-191188 and analytical batch 600-191189 were outside control limits. Sample matrix interference is suspected because the associated LCS recovery was within acceptance limits. The results are accepted.

Preparation Method 3540C – Sample HCS340 could not be thoroughly homogenized because the sample contained shells.

Preparation Method 3546 – Due to the matrix, the HCS310, HCS340, HCS360, and FDHCS360 could not be concentrated to the final method required volume. The reporting limits are elevated proportionately. The results are accepted.

## **Issues associated with work order 560-62041**

Method 8260B –HMSM350 (560-62041-5) was analyzed using less sample weight due to the internal standard failures in the original 1X analysis. Elevating reporting limits are provided.

Method 8260B – The method blank for analytical batch 560-129009 contained methylene chloride above the method detection limit. This target analyte concentration was less than the RL; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260B – The LCS for analytical batch 560-129047 recovered outside control limits for the following analytes: ethylene oxide. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the results are accepted.

Method 8270C – The MS/MSD precision for preparation batch 560-128987 and analytical batch 560-129026 was outside control limits. Sample matrix interference is suspected.

Method 8270C – Due to sample matrix effect on the ISTD, a dilution was required for the following sample: HMSM330 (560-62041-3).

Method 8141A – The CCV associated with batch 280-331214 recovered above the upper control limit for dichlorvos. The samples associated with this CCV were non-detects for the affected analytes; therefore, the results are accepted. The following samples are impacted: EB01 (560-62041-10) and EB02 (560-62041-11).

Method 8141A – The following samples were diluted due to the nature of the sample matrix: HMSM310 (560-62041-1), HMSM320 (560-62041-2), HMSM330 (560-62041-3), HMSM340 (560-62041-4), HMSM350 (560-62041-5), HMSM360 (560-62041-6), HSM370 (560-62041-7), and FDHSM370 (560-62041-8). Elevated RLs are provided. When run at a lower dilution the samples caused CCV failure. The matrix caused failed very low in the CCVs. The dilutions were also performed in order to protect the analytical instrumentation. Due to the dilution, the surrogate and matrix spike concentration in the samples were reduced to a level where the recovery calculation does not provide useful information.

Method 8141A – The CCV associated with batch 280-332552 recovered above the upper control limit for dichlorvos, dimethoate and mevinphos. The samples associated with this CCV were non-detects for the affected analytes; therefore, the results are accepted. The following samples are impacted: HMSM310 (560-62041-1), HMSM320 (560-62041-2), HMSM330 (560-62041-3), HMSM340 (560-62041-4), HMSM350 (560-62041-5), HMSM360 (560-62041-6), HSM370 (560-62041-7), and FDHSM370 (560-62041-8).

Method 8082A – The method blank for preparation batch 560-129018 contained Aroclor 1260 above the RL. None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed. The results are accepted.

Method 8151A – The CCV associated with batch 600-191143 recovered above the upper control limit for 2,4-DB(15.7%). The samples associated with this CCV were non-detects for the affected analytes;

therefore, the data have been reported. The results are accepted. The following sample is impacted: (CCVRT 600-191143/2).

Method 8151A – The MS/MSD recoveries for preparation batch 600-190936 and analytical batch 600-191143 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated LCS recovery was within acceptance limits. The results are accepted.

Method 8151A – The CCV associated with batch 600-191143 recovered above the upper control limit for 2,4,5-T(17.3%) and 2,4-DB(43.8%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 600-191143/13). The results are accepted.

Method 8151A – The MS/MSD recoveries for preparation batch 600-190936 and analytical batch 600-191143 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. The results are accepted.

Method 8151A – The MS/MSD/DUP precision for preparation batch 600-190936 and analytical batch 600-191143 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

Method 8151A – The 2,4-DB concentration was outside the calibration range, however, the %R was within the control limits. The results are accepted.

Method 8151A – The CCV associated with batch 600-191143 recovered above the upper control limit for 2,4-DB(46.2%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 600-191143/24). The results are accepted.

Method 8151A – The CCV associated with batch 600-191259 recovered above the upper control limit for 2,4-DB(37.3%) and Dinoseb(37.3%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVRT 600-191259/2). The results are accepted.

Method 8151A – The LSC and/or LCSD for preparation batch 600-190717 and analytical batch 600-190893 recovered outside control limits for the following analyte(s): dinoseb. Dinoseb has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Method 8151A: The MS/MSD recoveries for preparation batch 600-190598 and 600-190717 and analytical batch 600-190893 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated LCS recovery was within acceptance limits. The results are accepted.

Method 8151A: The CCV associated with batch 600-190893 recovered above the upper control limit for 2,4-DB(39.2%) and dinoseb(53.7%). The samples associated with this CCV were non-detects for the

affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 600-190893/13). The results are accepted.

Method 8081B – Surrogate recovery for the following sample was outside control limits: HSM340 (560-62041-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8081B – Compound ISTD eluted outside the retention time window on the RTX-CLPesticides II column for the following sample: (MB 600-190731/1-A). This retention time shift was taken into account when reviewing the sample(s) for target compounds.

Method 8081B – The LCS and/or LCSD for preparation batch 600-190731 and analytical batch 600-191263 recovered outside control limits for the following analytes: methoxychlor. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. The results are accepted.

Method 8081B – Compound ISTD eluted outside the retention time window on the RTX-CLPesticides II column for the following sample: (LCS 600-190731/2-A). This retention time shift was taken into account when reviewing the sample(s) for target compounds.

Method 8081B – The MS/MSD recoveries for preparation batch 600-190731 and analytical batch 600-191263 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated LCS recovery was within acceptance limits. The results are accepted.

Method 8081B – Compound ISTD eluted outside the retention time window on the RTX-CLPesticides II column for the following samples: HSM310 (560-62041-1) and HSM320 (560-62041-2). This retention time shift was taken into account when reviewing the sample(s) for target compounds.

Method 8081B – Compound ISTD eluted outside the retention time window on the RTX-CLPesticides II column for the following samples: HSM340 (560-62041-4), HSM350 (560-62041-5), and HSM360 (560-62041-6). This retention time shift was taken into account when reviewing the sample(s) for target compounds.

Method 8081B – The CCV associated with batch 600-191263 recovered above the upper control limit for 4,4-DDT(22.8%) and Methoxychlor(39.1%). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 600-191263/3).

Method 300.0 – The MS/MSD recoveries for bromide, chloride, sulfate analytical batch 600-190667 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated LCS recovery was within acceptance limits. The results are accepted.

Method 300.0 – Samples were received outside of holding time for nitrates, due to shipping error by laboratory.

Method 300.0 – The MS/MSD recoveries for Bromide preparation batch 600-191188 and analytical batch 600-191189 were outside control limits. Sample matrix interference is suspected because the associated LCS recovery was within acceptance limits. The results are accepted.

Method 3510C/8141A – Insufficient sample volume was available to perform a MS/MSD associated with analytical batch 280-330102. (8141)

Method 3540C – Batch 330856, 8141. The samples associated with this batch had the parent of a MS/MSD pair burn up during the extraction process. Per contract laboratory project manager advisement, the samples will be sent on for analysis, with this accompanying nonconformance memo (NCM). The associated MS/D will be canceled per the contract laboratory project manager.

Method 3546 – Due to the matrix, the sample(s) could not be concentrated to the final method required volume. The RLs are elevated proportionately. The results are accepted.

Method 8151A – Insufficient sample volume was available to perform a MS/MSD associated with 190717.

Method 8151A – Elevated reporting limits are provided for the following sample due to insufficient sample provided for preparation: EB01 (560-62041-10).

Method 3546: The samples required a Florisil clean-up, via EPA Method 3620B, to reduce matrix interferences.

#### **Issues associated with work order 560-62094**

There were no analytical issues associated with work order 560-62094.

**Data Group Numbers (HCP PDS deployed February 4–16, 2016, at Comal and San Marcos Springs):**

|                               |                           |
|-------------------------------|---------------------------|
| HCS 410 <b>00774142</b>       | HSM 410 <b>00774148</b>   |
| HCS 420 <b>00774143</b>       | HSM 420 <b>00774149</b>   |
| HCS 430 <b>00774144</b>       | HSM 430 <b>00774150</b>   |
| HCS 440 <b>00774145</b>       | FDHSM 430 <b>00774151</b> |
| FDHCS 440 <b>00774146</b>     | HSM 440 <b>00774152</b>   |
| HCS 460 <b>00774147</b>       | HSM 450 <b>00774153</b>   |
|                               | HSM 460 <b>00774154</b>   |
| Trip Blank 02 <b>00774156</b> | HSM 470 <b>00774155</b>   |

**General Comments**

Although some analytical issues are noted for the data group, unless otherwise noted in the detailed discussion, the data are considered valid for the purposes of the investigation. Passive Diffusion Samplers (PDSs) were deployed from February 4 through 16, 2016. The initial method blank data were accidentally overwritten by the laboratory and not available for inclusion in the laboratory report. However, there was no evidence of system contamination observed in any other quality control sample; the results are accepted.

**Trip Blanks**

There were no detections in the trip blank associated with these samples.

**Equipment Blanks**

Equipment blanks were not applicable due to sampler type.

**Data Group Numbers (HCP PDS deployed April 4–16, 2016, at Comal and San Marcos Springs):**

|                               |                           |
|-------------------------------|---------------------------|
| HCS 410 <i>00774288</i>       | HSM 410 <i>00774294</i>   |
| HCS 420 <i>00774289</i>       | HSM 420 <i>00774295</i>   |
| HCS 430 <i>00774290</i>       | HSM 430 <i>00774296</i>   |
| HCS 440 <i>00774291</i>       | FDHSM 430 <i>00774297</i> |
| FDHCS 440 <i>00774292</i>     | HSM 440 <i>00774298</i>   |
| HCS 460 <i>00774293</i>       | HSM 450 <i>00774299</i>   |
|                               | HSM 460 <i>00774300</i>   |
| Trip Blank 05 <i>00757302</i> | HSM 470 <i>00774301</i>   |

**General Comments**

No analytical issues are noted for the data group, unless otherwise noted in the detailed discussion, the data are considered valid for the purposes of the investigation. PDSs were deployed from April 4 through 16, 2016.

**Trip Blanks**

There were no detections in the trip blank associated with these samples.

**Equipment Blanks**

Equipment blanks were not applicable due to sampler type.



**Data Group Numbers (HCP PDS deployed June 13–27, 2016, at Comal and San Marcos Springs):**

|                               |                           |
|-------------------------------|---------------------------|
| HCS 410 <i>00774441</i>       | HSM 410 <i>00774447</i>   |
| HCS 420 <i>00774442</i>       | HSM 420 <i>00774448</i>   |
| HCS 430 <i>00774443</i>       | HSM 430 <i>00774449</i>   |
| HCS 440 <i>00774444</i>       | FDHSM 430 <i>00774450</i> |
| FDHCS 440 <i>00774445</i>     | HSM 440 <i>00774451</i>   |
| HCS 460 <i>00774446</i>       | HSM 450 <i>00774452</i>   |
|                               | HSM 460 <i>00774453</i>   |
| Trip Blank 09 <i>00774455</i> | HSM 470 <i>00774454</i>   |

**General Comments**

No analytical issues are noted for the data group, unless otherwise noted in the detailed discussion, the data are considered valid for the purposes of the investigation. PDSs were deployed from June 13 through 27, 2016.

**Trip Blanks**

There were no detections in the trip blank associated with these samples.

**Equipment Blanks**

Equipment blanks were not applicable due to sampler type.

**Data Group Numbers (HCP PDS deployed August 9–23, 2016, at Comal and San Marcos Springs):**

|                               |                           |
|-------------------------------|---------------------------|
| HCS 410 <i>00776682</i>       | HSM 410 <i>00776688</i>   |
| HCS 420 <i>00776683</i>       | HSM 420 <i>00776689</i>   |
| HCS 430 <i>00776684</i>       | HSM 430 <i>00776690</i>   |
| HCS 440 <i>00776685</i>       | FDHSM 430 <i>00776691</i> |
| FDHCS 440 <i>00776686</i>     | HSM 440 <i>00776697</i>   |
| HCS 460 <i>00776687</i>       | HSM 450 <i>00776698</i>   |
|                               | HSM 460 <i>00776699</i>   |
| Trip Blank 10 <i>00776701</i> | HSM 470 <i>00776700</i>   |

**General Comments**

No analytical issues are noted for the data group, unless otherwise noted in the detailed discussion, the data are considered valid for the purposes of the investigation. PDSs were deployed from August 9 through 23, 2016.

**Trip Blanks**

There were no detections in the trip blank associated with these samples.

**Equipment Blanks**

Equipment blanks were not applicable due to sampler type.

**Data Group Numbers (HCP PDS deployed October 10–24, 2016, at Comal and San Marcos Springs):**

|                               |                           |
|-------------------------------|---------------------------|
| HCS 410 <i>00778788</i>       | HSM 410 <i>00778794</i>   |
| HCS 420 <i>00778789</i>       | HSM 420 <i>00778795</i>   |
| HCS 430 <i>00778790</i>       | HSM 430 <i>00778796</i>   |
| HCS 440 <i>00778791</i>       | FDHSM 430 <i>00778797</i> |
| FDHCS 440 <i>00778792</i>     | HSM 440 <i>00778798</i>   |
| HCS 460 <i>00778793</i>       | HSM 450 <i>00778799</i>   |
|                               | HSM 460 <i>00778800</i>   |
| Trip Blank 10 <i>00778802</i> | HSM 470 <i>00778801</i>   |

**General Comments**

No analytical issues are noted for the data group, unless otherwise noted in the detailed discussion, the data are considered valid for the purposes of the investigation. PDSs were deployed from October 10 through 24, 2016. Sampler HSM470 was not analyzed due to evidence of tampering in the field.

**Trip Blanks**

There were no detections in the trip blank associated with these samples.

**Equipment Blanks**

Equipment blanks were not applicable due to sampler type.

**Data Group Numbers (HCP PDS deployed December 1-15, 2016, at Comal and San Marcos Springs):**

|                               |                           |
|-------------------------------|---------------------------|
| HCS 410 <i>00778944</i>       | HSM 410 <i>00778950</i>   |
| HCS 420 <i>00778945</i>       | HSM 420 <i>00778951</i>   |
| HCS 430 <i>00778946</i>       | HSM 430 <i>00778952</i>   |
| HCS 440 <i>00778947</i>       | FDHSM 430 <i>00778953</i> |
| FDHCS 440 <i>00778948</i>     | HSM 440 <i>00778954</i>   |
| HCS 460 <i>00778949</i>       | HSM 450 <i>00778955</i>   |
|                               | HSM 460 <i>00778956</i>   |
| Trip Blank 10 <i>00778958</i> | HSM 470 <i>00778957</i>   |

**General Comments**

No analytical issues are noted for the data group, unless otherwise noted in the detailed discussion, the data are considered valid for the purposes of the investigation. PDSs were deployed from December 1 through 15, 2016. Samplers HSM430 and FDHSM430 were in contact with sediment during the deployment and were not analyzed. The duplicate sorber in sampler HSM440 was analyzed as field duplicate to replace FDHSM430.

**Trip Blanks**

There were no detections in the trip blank associated with these samples.

**Equipment Blanks**

Equipment blanks were not applicable due to sampler type.

## **Relative Percent Differences between Field Samples and Their Duplicates**

RPD values for parent samples and associated duplicate samples are provided in Table 2 below. In general, the RPD are less than 20% indicating parent and duplicate sample constituent concentrations are similar. Some differences observed in water samples may be the result of concentrations that vary naturally due to stream flow. Because the streams sampled are constantly flowing, constituent concentrations can change or fluctuate during the time period in which multiple sample bottles, which are all part of the same sample, are filled. Although sediment sample cores were collected in close proximity to one another, soil concentrations may vary spatially, which can cause differences between parent and duplicate sample constituent concentrations.

The differences observed do not show wide variations where a parent sample concentration exceeds a regulatory threshold or comparison value and a duplicate does not, or vice versa.

It should be noted that the RPDs between parent and duplicate field samples not only show differences between the parent and duplicate samples but also include differences inherent to laboratory procedures when the two separate samples are analyzed. Therefore, the laboratory RPDs contribute to the parent and field duplicate constituent concentration RPDs.

**Table 2. Relative Percent Differences between Field Samples and Their Duplicates**

| Sample Location      | Date Collected | Analyte                 | Units      | Field Sample | Qualifiers | Duplicate | Qualifiers | RPD     |
|----------------------|----------------|-------------------------|------------|--------------|------------|-----------|------------|---------|
| <b>Surface Water</b> |                |                         |            |              |            |           |            |         |
| <b>HCS120</b>        | 3/2/2016       | Fluoride                | mg/L       | 0.2          |            | 0.207     |            | 3.44%   |
|                      |                | Total Kjeldahl Nitrogen | mg/L       | <0.100       |            | 0.163     | J          | 47.91%  |
|                      |                | pH                      | SU         | 7.31         | HF         | 7.22      | HF         | 1.24%   |
|                      |                | TOC                     | mg/L       | 2.17         |            | 1.32      |            | 48.71%  |
|                      |                | Caffeine                | ng/L       | 2.6          |            | 3.8       |            | 37.50%  |
|                      |                | Bromide                 | mg/L       | 0.545        | J          | 0.548     | J          | 0.55%   |
|                      |                | Chloride                | mg/L       | 17.6         |            | 17.6      |            | 0.00%   |
|                      |                | Nitrate                 | mg/L       | 1.79         |            | 1.78      |            | 0.56%   |
|                      |                | Sulfate                 | mg/L       | 24.4         |            | 24.3      |            | 0.41%   |
|                      |                | Calcium                 | mg/L       | 83.9         |            | 85.8      |            | 2.24%   |
|                      |                | Magnesium               | mg/L       | 16.8         |            | 17        |            | 1.18%   |
|                      |                | Potassium               | mg/L       | 1.38         |            | 1.37      |            | 0.73%   |
|                      |                | Silicon                 | mg/L       | 5.67         |            | 5.8       |            | 2.27%   |
|                      |                | Sodium                  | mg/L       | 11.9         |            | 12        |            | 0.84%   |
|                      |                | Strontium               | mg/L       | 0.683        |            | 0.681     |            | 0.29%   |
|                      |                | Barium                  | mg/L       | 0.0445       |            | 0.0445    |            | 0.00%   |
|                      |                | Lead                    | mg/L       | <0.000733    |            | 0.00179   | J          | 83.79%  |
|                      |                | Bicarbonate             | mg/L       | 229          |            | 224       |            | 2.21%   |
|                      |                | Total Alkalinity        | mg/L       | 229          |            | 224       |            | 2.21%   |
|                      |                | Total dissolved solids  | mg/L       | 340          |            | 343       |            | 0.88%   |
|                      |                | E. coli                 | MPN/100 mL | 21           |            | 11        |            | 62.50%  |
| <b>HCS120</b>        | 9/8/2016       | Fluoride                | mg/L       | 0.203        |            | 0.206     |            | 1.47%   |
|                      |                | pH                      | SU         | 7.2          | HF         | 7.1       | HF         | 1.40%   |
|                      |                | DOC                     | mg/L       | 0.488        | J          | <0.285    |            | 52.52%  |
|                      |                | Caffeine                | ng/L       | <0.31        |            | 15        |            | 191.90% |
|                      |                | Bromide                 | mg/L       | 0.462        | J          | 0.458     | J          | 0.87%   |
|                      |                | Chloride                | mg/L       | 18.8         |            | 18.8      |            | 0.00%   |
|                      |                | Nitrate                 | mg/L       | 1.86         |            | 1.87      |            | 0.54%   |
|                      |                | Sulfate                 | mg/L       | 25.3         |            | 25.2      |            | 0.40%   |
|                      |                | Calcium                 | mg/L       | 79           |            | 82.4      |            | 4.21%   |
|                      |                | Magnesium               | mg/L       | 15.5         |            | 16        |            | 3.17%   |
|                      |                | Potassium               | mg/L       | 1.36         |            | 1.45      |            | 6.41%   |

| Sample Location | Date Collected | Analyte                 | Units      | Field Sample | Qualifiers | Duplicate | Qualifiers | RPD     |
|-----------------|----------------|-------------------------|------------|--------------|------------|-----------|------------|---------|
|                 |                | Silicon                 | mg/L       | 5.23         |            | 5.44      |            | 3.94%   |
|                 |                | Sodium                  | mg/L       | 11.1         |            | 11.9      |            | 6.96%   |
|                 |                | Strontium               | mg/L       | 0.644        |            | 0.675     |            | 4.70%   |
|                 |                | Barium                  | mg/L       | 0.0561       |            | 0.0588    |            | 4.70%   |
|                 |                | Bicarbonate             | mg/L       | 224          |            | 223       |            | 0.45%   |
|                 |                | Total Alkalinity        | mg/L       | 224          |            | 223       |            | 0.45%   |
|                 |                | Total dissolved solids  | mg/L       | 339          |            | 341       |            | 0.59%   |
|                 |                | E. coli                 | MPN/100 mL | 25           |            | 26        |            | 3.92%   |
| <b>HSM110</b>   | 3/2/2106       | Fluoride                | mg/L       | 0.227        |            | 0.221     |            | 2.68%   |
|                 |                | Total Kjeldahl Nitrogen | mg/L       | 0.591        | J          | <0.432    |            | 31.09%  |
|                 |                | pH                      | SU         | 7.33         | HF         | 7.31      | HF         | 0.27%   |
|                 |                | DOC                     | mg/L       | 0.376        | J          | 0.458     | J          | 19.66%  |
|                 |                | TOC                     | mg/L       | 0.525        | J          | 0.508     | J          | 3.29%   |
|                 |                | Caffeine                | ng/L       | 23           |            | 2.6       |            | 159.38% |
|                 |                | Bromide                 | mg/L       | 0.589        | J          | 0.593     | J          | 0.68%   |
|                 |                | Chloride                | mg/L       | 26.5         |            | 26.6      |            | 0.38%   |
|                 |                | Nitrate                 | mg/L       | 0.706        | H          | 0.706     | H          | 0.00%   |
|                 |                | Sulfate                 | mg/L       | 32.6         |            | 32.5      |            | 0.31%   |
|                 |                | Calcium                 | mg/L       | 92.4         |            | 89        |            | 3.75%   |
|                 |                | Magnesium               | mg/L       | 20.5         |            | 19.9      |            | 2.97%   |
|                 |                | Potassium               | mg/L       | 1.67         |            | 1.6       |            | 4.28%   |
|                 |                | Silicon                 | mg/L       | 5.54         |            | 5.28      |            | 4.81%   |
|                 |                | Sodium                  | mg/L       | 16           |            | 15.7      |            | 1.89%   |
|                 |                | Strontium               | mg/L       | 0.66         |            | 0.647     |            | 1.99%   |
|                 |                | Barium                  | mg/L       | 0.0282       |            | 0.028     |            | 0.71%   |
|                 |                | Manganese               | mg/L       | 0.119        |            | 0.112     |            | 6.06%   |
|                 |                | Bicarbonate             | mg/L       | 242          |            | 239       |            | 1.25%   |
|                 |                | Total Alkalinity        | mg/L       | 242          |            | 239       |            | 1.25%   |
|                 |                | Total dissolved solids  | mg/L       | 365          |            | 369       |            | 1.09%   |
|                 |                | Total suspended solids  | mg/L       | <3.00        |            | 3.4       |            | 12.50%  |
|                 |                | E. coli                 | MPN/100 mL | 15           |            | 13        |            | 14.29%  |
| <b>HSM110</b>   | 9/9/2016       | Fluoride                | mg/L       | 0.227        |            | 0.232     |            | 2.18%   |
|                 |                | Phosphorous, total      | mg/L       | 0.0635       | J          | 0.0456    | J          | 32.81%  |



| Sample Location     | Date Collected | Analyte                | Units      | Field Sample | Qualifiers | Duplicate | Qualifiers | RPD     |
|---------------------|----------------|------------------------|------------|--------------|------------|-----------|------------|---------|
|                     |                | pH                     | SU         | 7.1          | HF         | 7.2       | HF         | 1.40%   |
|                     |                | DOC                    | mg/L       | <0.285       |            | 0.296     | J          | 3.79%   |
|                     |                | TOC                    | mg/L       | 0.443        | J          | 0.524     | J          | 16.75%  |
|                     |                | Caffeine               | ng/L       | 39           |            | <0.31     |            | 196.85% |
|                     |                | Bromide                | mg/L       | 0.508        | J          | 0.509     | J          | 0.20%   |
|                     |                | Chloride               | mg/L       | 27.9         |            | 27.9      |            | 0.00%   |
|                     |                | Nitrate                | mg/L       | 0.585        |            | 0.587     |            | 0.34%   |
|                     |                | Sulfate                | mg/L       | 30.3         |            | 30.4      |            | 0.33%   |
|                     |                | Calcium                | mg/L       | 89.1         |            | 88.8      |            | 0.34%   |
|                     |                | Magnesium              | mg/L       | 19.3         |            | 19.2      |            | 0.52%   |
|                     |                | Potassium              | mg/L       | 1.93         |            | 1.88      |            | 2.62%   |
|                     |                | Silicon                | mg/L       | 5.52         |            | 5.47      |            | 0.91%   |
|                     |                | Sodium                 | mg/L       | 16           |            | 16.4      |            | 2.47%   |
|                     |                | Strontium              | mg/L       | 0.659        |            | 0.663     |            | 0.61%   |
|                     |                | Arsenic                | mg/L       | 0.00129      | J          | 0.00152   | J          | 16.37%  |
|                     |                | Barium                 | mg/L       | 0.0417       |            | 0.0427    |            | 2.37%   |
|                     |                | Chromium               | mg/L       | <0.00140     |            | 0.0115    |            | 156.59% |
|                     |                | Copper                 | mg/L       | <0.00200     |            | 0.0334    |            | 177.40% |
|                     |                | Lead                   | mg/L       | <0.000733    |            | 0.00289   | J          | 119.07% |
|                     |                | Manganese              | mg/L       | 0.275        |            | 0.275     |            | 0.00%   |
|                     |                | Bicarbonate            | mg/L       | 251          |            | 252       |            | 0.40%   |
|                     |                | Total Alkalinity       | mg/L       | 251          |            | 252       |            | 0.40%   |
|                     |                | Total dissolved solids | mg/L       | 352          |            | 356       |            | 1.13%   |
|                     |                | Total suspended solids | mg/L       | 2.2          |            | <2        |            | 9.52%   |
|                     |                | E. coli                | MPN/100 mL | 89           |            | 91        |            | 2.22%   |
|                     |                | Di-n-Butyl Phthalate   | ug/L       | 3.66         | J B        | 2.18      | J B        | 50.68%  |
| <b>Stormwater</b>   |                |                        |            |              |            |           |            |         |
| <b>HCS260 Trail</b> | 4/13/2016      | Fluoride               | mg/L       | 0.214        |            | 0.213     |            | 0.47%   |
|                     |                | Phosphorous, total     | mg/L       | <0.0410      |            | 0.0551    | J          | 29.34%  |
|                     |                | pH                     | SU         | 7.47         | HF         | 7.48      | HF         | 0.13%   |
|                     |                | DOC                    | mg/L       | 0.819        | J          | 0.635     | J          | 25.31%  |
|                     |                | TOC                    | mg/L       | 0.599        | J          | 0.666     | J          | 10.59%  |
|                     |                | Caffeine               | ng/l       | 38000        |            | 28000     |            | 30.30%  |

| Sample Location     | Date Collected | Analyte                | Units      | Field Sample | Qualifiers | Duplicate | Qualifiers | RPD    |
|---------------------|----------------|------------------------|------------|--------------|------------|-----------|------------|--------|
|                     |                | Bromide                | mg/L       | 0.588        | J          | 0.59      | J          | 0.34%  |
|                     |                | Chloride               | mg/L       | 21.1         |            | 21.1      | B          | 0.00%  |
|                     |                | Nitrate                | mg/L       | 1.53         |            | 1.53      |            | 0.00%  |
|                     |                | Sulfate                | mg/L       | 39.9         |            | 39.8      |            | 0.25%  |
|                     |                | Calcium                | mg/L       | 81           |            | 81.6      |            | 0.74%  |
|                     |                | Magnesium              | mg/L       | 14.7         |            | 14.6      |            | 0.68%  |
|                     |                | Potassium              | mg/L       | 1.93         |            | 1.98      |            | 2.56%  |
|                     |                | Silicon                | mg/L       | 5.1          |            | 5.16      |            | 1.17%  |
|                     |                | Sodium                 | mg/L       | 19.9         |            | 20        |            | 0.50%  |
|                     |                | Strontium              | mg/L       | 0.651        |            | 0.658     |            | 1.07%  |
|                     |                | Barium                 | mg/L       | 0.0568       |            | 0.0575    |            | 1.22%  |
|                     |                | Selenium               | mg/L       | 0.0017       | J          | 0.00277   | J          | 47.87% |
|                     |                | Bicarbonate            | mg/L       | 219          |            | 221       |            | 0.91%  |
|                     |                | Total Alkalinity       | mg/L       | 219          |            | 221       |            | 0.91%  |
|                     |                | Total dissolved solids | mg/L       | 340          |            | 345       |            | 1.46%  |
|                     |                | Total suspended solids | mg/L       | 5.4          |            | 4.2       |            | 25.00% |
|                     |                | E. coli                | MPN/100 mL | 1300         |            | 1400      |            | 7.41%  |
|                     |                | Calcium                | mg/L       | 81           |            | 81.6      |            | 0.74%  |
|                     |                | Magnesium              | mg/L       | 14.7         |            | 14.6      |            | 0.68%  |
|                     |                | Potassium              | mg/L       | 1.93         |            | 1.98      |            | 2.56%  |
|                     |                | Silicon                | mg/L       | 5.1          |            | 5.16      |            | 1.17%  |
|                     |                | Sodium                 | mg/L       | 19.9         |            | 20        |            | 0.50%  |
|                     |                | Strontium              | mg/L       | 0.651        |            | 0.658     |            | 1.07%  |
|                     |                | Barium                 | mg/L       | 0.0568       |            | 0.0575    |            | 1.22%  |
|                     |                | Selenium               | mg/L       | 0.0017       | J          | 0.00277   | J          | 47.87% |
| <b>HCS270 Trail</b> | 4/13/2016      | Fluoride               | mg/L       | 0.202        |            | 0.103     |            | 64.92% |
|                     |                | Phosphorous, total     | mg/L       | 0.0446       | J          | <0.0410   |            | 8.41%  |
|                     |                | pH                     | SU         | 7.57         | HF         | 7.61      | HF         | 0.53%  |
|                     |                | DOC                    | mg/L       | <0.285       |            | 0.39      | J          | 31.11% |
|                     |                | TOC                    | mg/L       | 0.464        | J          | 0.491     | J          | 5.65%  |
|                     |                | Caffeine               | ng/l       | 28000        |            | 35000     |            | 22.22% |
|                     |                | Bromide                | mg/L       | 0.551        | J          | 0.551     | J          | 0.00%  |
|                     |                | Chloride               | mg/L       | 17.3         | B          | 17.2      | B          | 0.58%  |

| Sample Location | Date Collected | Analyte                | Units      | Field Sample | Qualifiers | Duplicate | Qualifiers | RPD    |
|-----------------|----------------|------------------------|------------|--------------|------------|-----------|------------|--------|
|                 |                | Nitrate                | mg/L       | 1.67         |            | 1.66      |            | 0.60%  |
|                 |                | Sulfate                | mg/L       | 27.3         |            | 27.2      |            | 0.37%  |
|                 |                | Calcium                | mg/L       | 76.8         |            | 76.2      |            | 0.78%  |
|                 |                | Magnesium              | mg/L       | 14.6         |            | 14.4      |            | 1.38%  |
|                 |                | Potassium              | mg/L       | 1.77         |            | 1.75      |            | 1.14%  |
|                 |                | Silicon                | mg/L       | 5.18         |            | 5.16      |            | 0.39%  |
|                 |                | Sodium                 | mg/L       | 12.8         |            | 12.7      |            | 0.78%  |
|                 |                | Strontium              | mg/L       | 0.623        |            | 0.619     |            | 0.64%  |
|                 |                | Barium                 | mg/L       | 0.0506       |            | 0.0521    |            | 2.92%  |
|                 |                | Selenium               | mg/L       | 0.00224      | J          | 0.00227   | J          | 1.33%  |
|                 |                | Bicarbonate            | mg/L       | 212          |            | 214       |            | 0.94%  |
|                 |                | Total Alkalinity       | mg/L       | 212          |            | 214       |            | 0.94%  |
|                 |                | Total dissolved solids | mg/L       | 311          |            | 321       |            | 3.16%  |
|                 |                | Total suspended solids | mg/L       | 4.8          |            | 4.8       |            | 0.00%  |
|                 |                | E. coli                | MPN/100 mL | 3100         |            | 3400      |            | 9.23%  |
| HCS260 Trail    | 9/27/2016      | Fluoride               | mg/L       | 0.224        |            | 0.218     |            | 2.71%  |
|                 |                | pH                     | SU         | 7.4          | HF         | 7.4       | HF         | 0.00%  |
|                 |                | DOC                    | mg/L       | 1.06         |            | 0.922     | J          | 13.93% |
|                 |                | TOC                    | mg/L       | 1.39         |            | 1.01      |            | 31.67% |
|                 |                | Caffeine               | ng/L       | 13           |            | 36        |            | 93.88% |
|                 |                | Bromide                | mg/L       | 0.458        | J          | 0.458     | J          | 0.00%  |
|                 |                | Chloride               | mg/L       | 16.3         |            | 16.2      |            | 0.62%  |
|                 |                | Nitrate                | mg/L       | 1.65         |            | 1.65      |            | 0.00%  |
|                 |                | Sulfate                | mg/L       | 26.3         |            | 26.2      |            | 0.38%  |
|                 |                | Calcium                | mg/L       | 81.1         |            | 82.9      |            | 2.20%  |
|                 |                | Magnesium              | mg/L       | 14.5         |            | 14.9      |            | 2.72%  |
|                 |                | Potassium              | mg/L       | 2.38         |            | 2.28      |            | 4.29%  |
|                 |                | Silicon                | mg/L       | 6.06         |            | 6.27      |            | 3.41%  |
|                 |                | Sodium                 | mg/L       | 12.1         |            | 12.4      |            | 2.45%  |
|                 |                | Strontium              | mg/L       | 0.603        |            | 0.615     |            | 1.97%  |
|                 |                | Arsenic                | mg/L       | 0.0011       | J          | <0.00109  |            | 0.91%  |
|                 |                | Barium                 | mg/L       | 0.0518       |            | 0.0518    |            | 0.00%  |
|                 |                | Bicarbonate            | mg/L       | 205          |            | 200       |            | 2.47%  |

| Sample Location     | Date Collected | Analyte                        | Units      | Field Sample | Qualifiers | Duplicate | Qualifiers | RPD     |
|---------------------|----------------|--------------------------------|------------|--------------|------------|-----------|------------|---------|
|                     |                | Total Alkalinity               | mg/L       | 205          |            | 200       |            | 2.47%   |
|                     |                | Total dissolved solids         | mg/L       | 308          |            | 302       |            | 1.97%   |
|                     |                | Total suspended solids         | mg/L       | 10           |            | 10.4      |            | 3.92%   |
|                     |                | E. coli                        | MPN/100 mL | 1500         |            | 1300      |            | 14.29%  |
| <b>HCS270 Trail</b> | 9/27/2016      | Fluoride                       | mg/L       | 0.223        |            | 0.217     |            | 2.73%   |
|                     |                | pH                             | SU         | 7.5          | HF         | 7.5       | HF         | 0.00%   |
|                     |                | DOC                            | mg/L       | 1.08         |            | 0.793     | J          | 30.65%  |
|                     |                | TOC                            | mg/L       | 1.51         |            | 1.17      |            | 25.37%  |
|                     |                | Caffeine                       | ng/L       | 920          |            | 35        |            | 185.34% |
|                     |                | Bromide                        | mg/L       | 0.467        | J          | 0.467     | J          | 0.00%   |
|                     |                | Chloride                       | mg/L       | 16.4         |            | 16.3      |            | 0.61%   |
|                     |                | Nitrate                        | mg/L       | 1.64         |            | 1.63      |            | 0.61%   |
|                     |                | Sulfate                        | mg/L       | 25.9         |            | 25.7      |            | 0.78%   |
|                     |                | Calcium                        | mg/L       | 85.2         |            | 82.7      |            | 2.98%   |
|                     |                | Magnesium                      | mg/L       | 15.3         |            | 14.9      |            | 2.65%   |
|                     |                | Potassium                      | mg/L       | 2.49         |            | 2.31      |            | 7.50%   |
|                     |                | Silicon                        | mg/L       | 6.42         |            | 6.2       |            | 3.49%   |
|                     |                | Sodium                         | mg/L       | 12.1         |            | 11.9      |            | 1.67%   |
|                     |                | Strontium                      | mg/L       | 0.63         |            | 0.614     |            | 2.57%   |
|                     |                | Arsenic                        | mg/L       | 0.00111      | J          | <0.00109  |            | 1.82%   |
|                     |                | Barium                         | mg/L       | 0.0541       |            | 0.0513    |            | 5.31%   |
|                     |                | Bicarbonate                    | mg/L       | 204          |            | 203       |            | 0.49%   |
|                     |                | Total Alkalinity               | mg/L       | 204          |            | 203       |            | 0.49%   |
|                     |                | Total dissolved solids         | mg/L       | 299          |            | 310       |            | 3.61%   |
|                     |                | Total suspended solids         | mg/L       | 14           |            | 7.4       |            | 61.68%  |
|                     |                | E. coli                        | MPN/100 mL | 1900         |            | 1300      |            | 37.50%  |
|                     |                | Bis(2-Ethylhexyl)<br>Phthalate | ug/L       | 7.43         | J          | 5.81      | J          | 24.47%  |
| <b>HSM210 Trail</b> | 3/9/2016       | Fluoride                       | mg/L       | 0.216        |            | 0.217     |            | 0.46%   |
|                     |                | Phosphorous, total             | mg/L       | <0.0410      |            | 0.0423    | J          | 3.12%   |
|                     |                | pH                             | SU         | 7.21         | HF         | 7.13      | HF         | 1.12%   |
|                     |                | DOC                            | mg/L       | 1.32         |            | 1.31      |            | 0.76%   |
|                     |                | TOC                            | mg/L       | 1.4          |            | 1.66      |            | 16.99%  |

| Sample Location     | Date Collected | Analyte                | Units      | Field Sample | Qualifiers | Duplicate | Qualifiers | RPD    |
|---------------------|----------------|------------------------|------------|--------------|------------|-----------|------------|--------|
|                     |                | Caffeine               | ng/l       | 53           |            | 69        |            | 26.23% |
|                     |                | Bromide                | mg/L       | 0.584        | J          | 0.582     | J          | 0.34%  |
|                     |                | Chloride               | mg/L       | 25.3         |            | 24.9      | B          | 1.59%  |
|                     |                | Nitrate                | mg/L       | 0.743        |            | 0.687     |            | 7.83%  |
|                     |                | Sulfate                | mg/L       | 31.9         |            | 31.6      |            | 0.94%  |
|                     |                | Calcium                | mg/L       | 82.6         |            | 82.5      |            | 0.12%  |
|                     |                | Magnesium              | mg/L       | 18.1         |            | 18        |            | 0.55%  |
|                     |                | Potassium              | mg/L       | 1.7          |            | 1.68      |            | 1.18%  |
|                     |                | Silicon                | mg/L       | 5.05         |            | 5.06      |            | 0.20%  |
|                     |                | Sodium                 | mg/L       | 16.3         |            | 15.9      |            | 2.48%  |
|                     |                | Strontium              | mg/L       | 0.636        |            | 0.636     |            | 0.00%  |
|                     |                | Barium                 | mg/L       | 0.0336       |            | 0.0326    |            | 3.02%  |
|                     |                | Manganese              | mg/L       | 0.162        |            | 0.173     |            | 6.57%  |
|                     |                | Bicarbonate            | mg/L       | 226          |            | 227       |            | 0.44%  |
|                     |                | Total Alkalinity       | mg/L       | 226          |            | 227       |            | 0.44%  |
|                     |                | Total dissolved solids | mg/L       | 348          |            | 346       |            | 0.58%  |
|                     |                | Total suspended solids | mg/L       | 5.2          |            | 5.2       |            | 0.00%  |
|                     |                | E. coli                | MPN/100 mL | 2000         |            | 2400      |            | 18.18% |
|                     |                | Mercury                | mg/L       | <0.000130    |            | 0.000235  | J          | 57.53% |
|                     |                | Acetone                | ug/L       | <5.00        |            | 6.27      | J          | 22.54% |
| <b>HSM230 Trail</b> | 3/9/2016       | Fluoride               | mg/L       | 0.158        |            | 0.163     |            | 3.12%  |
|                     |                | Phosphorous, total     | mg/L       | 0.0811       | J          | 0.0913    | J          | 11.83% |
|                     |                | pH                     | SU         | 7.15         | HF         | 7.13      | HF         | 0.28%  |
|                     |                | DOC                    | mg/L       | 1.85         |            | 1.92      |            | 3.71%  |
|                     |                | TOC                    | mg/L       | 2.06         |            | 2.19      |            | 6.12%  |
|                     |                | Caffeine               | ng/l       | 2300         |            | 2400      |            | 4.26%  |
|                     |                | Bromide                | mg/L       | 0.521        | J          | 0.521     | J          | 0.00%  |
|                     |                | Chloride               | mg/L       | 13.3         | B          | 13.2      | B          | 0.75%  |
|                     |                | Nitrate                | mg/L       | 1.21         |            | 1.2       |            | 0.83%  |
|                     |                | Sulfate                | mg/L       | 23.1         |            | 23        |            | 0.43%  |
|                     |                | Calcium                | mg/L       | 64           |            | 62.8      |            | 1.89%  |
|                     |                | Magnesium              | mg/L       | 9.28         |            | 9.19      |            | 0.97%  |
|                     |                | Potassium              | mg/L       | 1.58         |            | 1.55      |            | 1.92%  |

| Sample Location     | Date Collected | Analyte                | Units      | Field Sample | Qualifiers | Duplicate | Qualifiers | RPD    |
|---------------------|----------------|------------------------|------------|--------------|------------|-----------|------------|--------|
|                     |                | Silicon                | mg/L       | 3.88         |            | 3.63      |            | 6.66%  |
|                     |                | Sodium                 | mg/L       | 8.64         |            | 8.71      |            | 0.81%  |
|                     |                | Strontium              | mg/L       | 0.32         |            | 0.315     |            | 1.57%  |
|                     |                | Aluminum               | mg/L       | 0.118        |            | <0.05     |            | 80.95% |
|                     |                | Barium                 | mg/L       | 0.0274       |            | 0.0258    |            | 6.02%  |
|                     |                | Manganese              | mg/L       | 0.0167       | J          | 0.0152    | J          | 9.40%  |
|                     |                | Selenium               | mg/L       | <0.00108     |            | 0.00126   | J B        | 15.38% |
|                     |                | Zinc                   | mg/L       | 0.00568      | J          | 0.00498   | J          | 13.13% |
|                     |                | Bicarbonate            | mg/L       | 180          |            | 177       |            | 1.68%  |
|                     |                | Total Alkalinity       | mg/L       | 180          |            | 177       |            | 1.68%  |
|                     |                | Total dissolved solids | mg/L       | 257          |            | 249       |            | 3.16%  |
|                     |                | Total suspended solids | mg/L       | 14           |            | 14.8      |            | 5.56%  |
|                     |                | E. coli                | MPN/100 mL | 14000        |            | 26000     |            | 60.00% |
|                     |                | Acetone                | ug/L       | 7.75         | J          | <5.00     |            | 43.14% |
| <b>HSM231 Trail</b> | 3/9/2016       | Fluoride               | mg/L       | 0.183        |            | 0.181     |            | 1.10%  |
|                     |                | pH                     | SU         | 7.2          | HF         | 7.18      | HF         | 0.28%  |
|                     |                | TOC                    | mg/L       | <0.285       |            | 0.638     | J          | 76.49% |
|                     |                | Caffeine               | ng/l       | 30           |            | 36        |            | 18.18% |
|                     |                | Bromide                | mg/L       | 0.547        | J          | 0.547     | J          | 0.00%  |
|                     |                | Chloride               | mg/L       | 18           | B          | 18.1      | B          | 0.55%  |
|                     |                | Nitrate                | mg/L       | 1.26         |            | 1.27      |            | 0.79%  |
|                     |                | Sulfate                | mg/L       | 24.6         |            | 24.8      |            | 0.81%  |
|                     |                | Calcium                | mg/L       | 90.6         |            | 88.4      |            | 2.46%  |
|                     |                | Magnesium              | mg/L       | 17.2         |            | 16.7      |            | 2.95%  |
|                     |                | Potassium              | mg/L       | 1.16         |            | 1.33      |            | 13.65% |
|                     |                | Silicon                | mg/L       | 5.13         |            | 5.31      |            | 3.45%  |
|                     |                | Sodium                 | mg/L       | 12.3         |            | 12        | B          | 2.47%  |
|                     |                | Strontium              | mg/L       | 0.552        |            | 0.534     |            | 3.31%  |
|                     |                | Barium                 | mg/L       | 0.0344       |            | 0.036     |            | 4.55%  |
|                     |                | Selenium               | mg/L       | <0.00108     |            | 0.00167   | J          | 42.91% |
|                     |                | Bicarbonate            | mg/L       | 237          |            | 247       |            | 4.13%  |
|                     |                | Total Alkalinity       | mg/L       | 237          |            | 247       |            | 4.13%  |
|                     |                | Total dissolved solids | mg/L       | 347          |            | 332       |            | 4.42%  |

| Sample Location     | Date Collected | Analyte                | Units      | Field Sample | Qualifiers | Duplicate | Qualifiers | RPD    |
|---------------------|----------------|------------------------|------------|--------------|------------|-----------|------------|--------|
|                     |                | Total suspended solids | mg/L       | 2.4          |            | 2.4       |            | 0.00%  |
|                     |                | E. coli                | MPN/100 mL | 880          |            | 1400      |            | 45.61% |
|                     |                | Acetone                | ug/L       | <5.00        |            | 5.61      | J          | 11.50% |
| <b>HSM210 Trail</b> | 11/03/16       | Fluoride               | mg/L       | 0.176        |            | 0.191     |            | 8.17%  |
|                     |                | Phosphorous, total     | mg/L       | <0.100       |            | 0.0457    | J          | 74.54% |
|                     |                | pH                     | SU         | 7.4          |            | 7.3       |            | 1.36%  |
|                     |                | DOC                    | mg/L       | 0.347        | J          | 0.317     | J          | 9.04%  |
|                     |                | TOC                    | mg/L       | 0.468        | J          | 0.579     | J          | 21.20% |
|                     |                | Bromide                | mg/L       | 0.5          | J          | 0.5       | J          | 0.00%  |
|                     |                | Chloride               | mg/L       | 27.9         |            | 27.9      |            | 0.00%  |
|                     |                | Nitrate                | mg/L       | 0.546        |            | 0.544     |            | 0.37%  |
|                     |                | Sulfate                | mg/L       | 30.2         |            | 30.3      |            | 0.33%  |
|                     |                | Calcium                | mg/L       | 83.2         |            | 87.9      |            | 5.49%  |
|                     |                | Magnesium              | mg/L       | 18.2         |            | 19        |            | 4.30%  |
|                     |                | Potassium              | mg/L       | 2.06         | B          | 2.12      | B          | 2.87%  |
|                     |                | Silicon                | mg/L       | 5.24         |            | 5.59      |            | 6.46%  |
|                     |                | Sodium                 | mg/L       | 15.8         |            | 16.7      |            | 5.54%  |
|                     |                | Strontium              | mg/L       | 0.617        |            | 0.656     |            | 6.13%  |
|                     |                | Barium                 | mg/L       | 0.0389       |            | 0.0408    |            | 4.77%  |
|                     |                | Manganese              | mg/L       | 0.192        |            | 0.2       |            | 4.08%  |
|                     |                | Bicarbonate            | mg/L       | 243          |            | 246       |            | 1.23%  |
|                     |                | Total Alkalinity       | mg/L       | 243          |            | 246       |            | 1.23%  |
|                     |                | Total dissolved solids | mg/L       | 364          |            | 364       |            | 0.00%  |
|                     |                | Total suspended solids | mg/L       | 3.2          |            | <2.00     |            | 46.15% |
|                     |                | E. coli                | MPN/100 mL | 240          | H          | 280       | H          | 15.38% |
| <b>HSM230 Trail</b> | 11/03/16       | Fluoride               | mg/L       | 0.154        |            | 0.141     |            | 8.81%  |
|                     |                | Phosphorous, total     | mg/L       | 0.0602       | J          | 0.0499    | J          | 18.71% |
|                     |                | pH                     | SU         | 7.3          |            | 7.3       |            | 0.00%  |
|                     |                | DOC                    | mg/L       | 0.813        | J          | 0.729     | J          | 10.89% |
|                     |                | TOC                    | mg/L       | 1.12         |            | 0.861     | J          | 26.15% |



| Sample Location     | Date Collected | Analyte                | Units      | Field Sample | Qualifiers | Duplicate | Qualifiers | RPD     |
|---------------------|----------------|------------------------|------------|--------------|------------|-----------|------------|---------|
|                     |                | Caffeine               | ng/L       | 600          |            | 600       |            | 0.00%   |
|                     |                | Bromide                | mg/L       | 0.443        | J          | 0.443     | J          | 0.00%   |
|                     |                | Chloride               | mg/L       | 18.3         |            | 18.2      |            | 0.55%   |
|                     |                | Nitrate                | mg/L       | 1.42         |            | 1.42      |            | 0.00%   |
|                     |                | Sulfate                | mg/L       | 24.8         |            | 24.8      |            | 0.00%   |
|                     |                | Calcium                | mg/L       | 82.3         |            | 77.6      |            | 5.88%   |
|                     |                | Magnesium              | mg/L       | 13.7         |            | 13        |            | 5.24%   |
|                     |                | Potassium              | mg/L       | 2.01         | B          | 1.85      | B          | 8.29%   |
|                     |                | Silicon                | mg/L       | 5.16         |            | 4.88      |            | 5.58%   |
|                     |                | Sodium                 | mg/L       | 11.5         |            | 11.3      |            | 1.75%   |
|                     |                | Strontium              | mg/L       | 0.451        |            | 0.424     |            | 6.17%   |
|                     |                | Barium                 | mg/L       | 0.0382       |            | 0.0367    |            | 4.01%   |
|                     |                | Bicarbonate            | mg/L       | 214          |            | 216       |            | 0.93%   |
|                     |                | Total Alkalinity       | mg/L       | 214          |            | 216       |            | 0.93%   |
|                     |                | Total dissolved solids | mg/L       | 315          |            | 323       |            | 2.51%   |
|                     |                | Total suspended solids | mg/L       | <2.00        |            | 9.4       |            | 129.82% |
|                     |                | E. coli                | MPN/100 mL | 4900         | H          | 6500      | H          | 28.07%  |
| <b>HSM231 Trail</b> | 11/03/16       | Fluoride               | mg/L       | 0.144        |            | 0.14      |            | 2.82%   |
|                     |                | pH                     | SU         | 7.3          |            | 7.3       |            | 0.00%   |
|                     |                | Bromide                | mg/L       | 0.451        | J          | 0.45      | J          | 0.22%   |
|                     |                | Chloride               | mg/L       | 18.6         |            | 18.5      |            | 0.54%   |
|                     |                | Nitrate                | mg/L       | 1.15         |            | 1.15      |            | 0.00%   |
|                     |                | Sulfate                | mg/L       | 23.7         |            | 23.5      |            | 0.85%   |
|                     |                | Calcium                | mg/L       | 86           |            | 87.5      |            | 1.73%   |
|                     |                | Magnesium              | mg/L       | 15.9         |            | 16.2      |            | 1.87%   |
|                     |                | Potassium              | mg/L       | 1.52         | B          | 1.55      | B          | 1.95%   |
|                     |                | Silicon                | mg/L       | 5.31         |            | 5.37      |            | 1.12%   |
|                     |                | Sodium                 | mg/L       | 11.1         |            | 11.3      |            | 1.79%   |
|                     |                | Strontium              | mg/L       | 0.494        |            | 0.504     |            | 2.00%   |
|                     |                | Barium                 | mg/L       | 0.0372       |            | 0.0378    |            | 1.60%   |

| Sample Location | Date Collected | Analyte                | Units      | Field Sample | Qualifiers | Duplicate | Qualifiers | RPD     |
|-----------------|----------------|------------------------|------------|--------------|------------|-----------|------------|---------|
|                 |                | Bicarbonate            | mg/L       | 246          |            | 242       |            | 1.64%   |
|                 |                | Total Alkalinity       | mg/L       | 246          |            | 242       |            | 1.64%   |
|                 |                | Total dissolved solids | mg/L       | 348          |            | 356       |            | 2.27%   |
|                 |                | E. coli                | MPN/100 mL | 390          | H          | 610       | H          | 44.00%  |
|                 |                | Mercury                | mg/L       | <0.00200     |            | 0.000143  | J          | 173.31% |
|                 |                | Acetone                | ug/L       | 7.41         | J          | <10.0     |            | 29.75%  |
| <b>Sediment</b> |                |                        |            |              |            |           |            |         |
| <b>HSM360</b>   | 6/8/2016       | Chloride               | mg/Kg      | 22.9         |            | 25.1      |            | 9.17%   |
|                 |                | Fluoride               | mg/Kg      | 4.24         | J          | 3.82      | J          | 10.42%  |
|                 |                | Sulfate                | mg/Kg      | 193          |            | 169       |            | 13.26%  |
|                 |                | Aluminum               | mg/Kg      | 5540         |            | 5060      |            | 9.06%   |
|                 |                | Antimony               | mg/Kg      | 1.1          | J          | 1.02      | J          | 7.55%   |
|                 |                | Arsenic                | mg/Kg      | 3.07         | J          | 2.85      | J          | 7.43%   |
|                 |                | Barium                 | mg/Kg      | 51.4         |            | 48.8      |            | 5.19%   |
|                 |                | Beryllium              | mg/Kg      | 0.48         | J          | 0.446     | J          | 7.34%   |
|                 |                | Cadmium                | mg/Kg      | 0.848        | J          | 0.762     | J          | 10.68%  |
|                 |                | Calcium                | mg/Kg      | 120000       |            | 153000    |            | 24.18%  |
|                 |                | Chromium               | mg/Kg      | 10.2         |            | 9.73      |            | 4.72%   |
|                 |                | Copper                 | mg/Kg      | 11.4         |            | 10.3      |            | 10.14%  |
|                 |                | Iron                   | mg/Kg      | 6120         |            | 5780      |            | 5.71%   |
|                 |                | Lead                   | mg/Kg      | 23.5         |            | 22.3      |            | 5.24%   |
|                 |                | Magnesium              | mg/Kg      | 2520         |            | 2380      |            | 5.71%   |
|                 |                | Manganese              | mg/Kg      | 126          |            | 130       |            | 3.13%   |
|                 |                | Nickel                 | mg/Kg      | 7.94         |            | 7.38      |            | 7.31%   |
|                 |                | Phosphorous, total     | mg/Kg      | 488          |            | 459       |            | 6.12%   |
|                 |                | Potassium              | mg/Kg      | 1120         |            | 1060      |            | 5.50%   |
|                 |                | Selenium               | mg/Kg      | 1.94         |            | 1.97      |            | 1.53%   |
|                 |                | Silicon                | mg/Kg      | 4110         |            | 4480      |            | 8.61%   |
|                 |                | Sodium                 | mg/Kg      | 117          | J          | 128       | J          | 8.98%   |
|                 |                | Strontium              | mg/Kg      | 170          |            | 171       |            | 0.59%   |
|                 |                | Zinc                   | mg/Kg      | 89.1         |            | 74.1      |            | 18.38%  |
|                 |                | pH                     | SU         | 7.59         | HF         | 7.63      | HF         | 0.53%   |

| Sample Location | Date Collected | Analyte                     | Units | Field Sample | Qualifiers | Duplicate | Qualifiers | RPD     |
|-----------------|----------------|-----------------------------|-------|--------------|------------|-----------|------------|---------|
|                 |                | Bicarbonate                 | mg/Kg | 380          |            | 386       |            | 1.57%   |
|                 |                | Total Alkalinity            | mg/Kg | 380          |            | 386       |            | 1.57%   |
|                 |                | TOC                         | mg/Kg | 37500        |            | 40000     |            | 6.45%   |
|                 |                | 2,4-D                       | ug/Kg | <1.33        |            | 5.05      | J          | 116.61% |
|                 |                | Mercury                     | mg/Kg | <0.0203      |            | 0.0366    | J          | 57.29%  |
|                 |                | Benzo (a) Anthracene        | mg/Kg | 0.14         | J          | 0.156     | J          | 10.81%  |
|                 |                | Benzo (a) Pyrene            | mg/Kg | 0.184        | J          | 0.192     | J          | 4.26%   |
|                 |                | Benzo (b) Fluoranthene      | mg/Kg | 0.376        | J          | 0.437     | J          | 15.01%  |
|                 |                | Benzo (g,h,i) Perylene      | mg/Kg | 0.0892       | J          | 0.0891    | J          | 0.11%   |
|                 |                | Benzo (k) Fluoranthene      | mg/Kg | 0.152        | J          | 0.185     | J          | 19.58%  |
|                 |                | Bis(2-Ethylhexyl) Phthalate | mg/Kg | 0.381        | J          | 0.356     | J          | 6.78%   |
|                 |                | Chrysene                    | mg/Kg | 0.244        | J          | 0.294     | J          | 18.59%  |
|                 |                | Fluoranthene                | mg/Kg | 0.44         | J          | 0.505     | J          | 13.76%  |
|                 |                | Indeno (1,2,3-c,d) Pyrene   | mg/Kg | 0.223        | J          | 0.224     | J          | 0.45%   |
|                 |                | Phenanthrene                | mg/Kg | 0.104        | J          | 0.119     | J          | 13.45%  |
|                 |                | Pyrene                      | mg/Kg | 0.256        | J          | 0.295     | J          | 14.16%  |
|                 |                | 2-Butanone                  | ug/Kg | <20.5        |            | 38.7      | J          | 61.49%  |
|                 |                | Acetone                     | ug/Kg | 199          | J          | 224       | J          | 11.82%  |
|                 |                | p-Isopropyltoluene          | ug/Kg | <4.26        |            | 46.3      | J          | 166.30% |
| <b>HSM370</b>   | 6/9/2016       | Chloride                    | mg/Kg | 7.69         |            | 7.9       |            | 2.69%   |
|                 |                | Fluoride                    | mg/Kg | 2.34         | J          | 2.47      | J          | 5.41%   |
|                 |                | Nitrate                     | mg/Kg | 1.71         | J H        | 1.82      | J H        | 6.23%   |
|                 |                | Sulfate                     | mg/Kg | 157          |            | 128       |            | 20.35%  |
|                 |                | Aluminum                    | mg/Kg | 3930         |            | 3380      |            | 15.05%  |
|                 |                | Antimony                    | mg/Kg | 1.05         | J          | 1.28      | J          | 19.74%  |
|                 |                | Arsenic                     | mg/Kg | 3.16         |            | 2.4       |            | 27.34%  |
|                 |                | Barium                      | mg/Kg | 36.9         |            | 37.1      |            | 0.54%   |
|                 |                | Beryllium                   | mg/Kg | 0.512        | J          | 0.347     | J          | 38.42%  |
|                 |                | Cadmium                     | mg/Kg | 0.777        |            | 0.784     |            | 0.90%   |

| Sample Location | Date Collected | Analyte                     | Units | Field Sample | Qualifiers | Duplicate | Qualifiers | RPD    |
|-----------------|----------------|-----------------------------|-------|--------------|------------|-----------|------------|--------|
|                 |                | Calcium                     | mg/Kg | 249000       |            | 225000    |            | 10.13% |
|                 |                | Chromium                    | mg/Kg | 7.97         |            | 9.16      |            | 13.89% |
|                 |                | Copper                      | mg/Kg | 5.03         |            | 4.47      |            | 11.79% |
|                 |                | Iron                        | mg/Kg | 5970         |            | 4710      |            | 23.60% |
|                 |                | Lead                        | mg/Kg | 14.5         |            | 17.3      |            | 17.61% |
|                 |                | Magnesium                   | mg/Kg | 2060         |            | 2140      |            | 3.81%  |
|                 |                | Manganese                   | mg/Kg | 302          |            | 339       |            | 11.54% |
|                 |                | Nickel                      | mg/Kg | 7.27         |            | 5.47      |            | 28.26% |
|                 |                | Phosphorous, total          | mg/Kg | 450          |            | 640       |            | 34.86% |
|                 |                | Potassium                   | mg/Kg | 677          |            | 611       |            | 10.25% |
|                 |                | Selenium                    | mg/Kg | 0.952        | J          | 1.13      |            | 17.10% |
|                 |                | Silicon                     | mg/Kg | 2330         |            | 2790      |            | 17.97% |
|                 |                | Sodium                      | mg/Kg | 129          |            | 154       |            | 17.67% |
|                 |                | Strontium                   | mg/Kg | 142          |            | 171       |            | 18.53% |
|                 |                | Zinc                        | mg/Kg | 28.7         |            | 25.9      |            | 10.26% |
|                 |                | pH                          | SU    | 7.64         |            | 7.7       |            | 0.78%  |
|                 |                | Bicarbonate                 | mg/Kg | 174          |            | 183       |            | 5.04%  |
|                 |                | Total Alkalinity            | mg/Kg | 174          |            | 183       |            | 5.04%  |
|                 |                | TOC                         | mg/Kg | 5290         |            | 4720      |            | 11.39% |
|                 |                | Mercury                     | mg/Kg | 0.0234       | J          | <0.0140   |            | 50.27% |
|                 |                | Benzo (a) Pyrene            | mg/Kg | 0.0244       | J          | <0.0237   |            | 2.91%  |
|                 |                | Benzo (b) Fluoranthene      | mg/Kg | 0.0498       | J          | <0.0209   |            | 81.75% |
|                 |                | Bis(2-Ethylhexyl) Phthalate | mg/Kg | 0.0671       | J          | 0.0816    | J          | 19.50% |
|                 |                | Chrysene                    | mg/Kg | 0.0291       | J          | <0.0209   |            | 32.80% |
|                 |                | Fluoranthene                | mg/Kg | 0.0492       | J          | 0.0361    | J          | 30.72% |
|                 |                | Indeno (1,2,3-c,d) Pyrene   | mg/Kg | 0.0596       | J          | 0.0503    | J          | 16.92% |
|                 |                | Pyrene                      | mg/Kg | 0.0273       | J          | <0.0237   |            | 14.12% |
|                 |                | Acetone                     | ug/Kg | 13.1         | J          | 10.4      | J          | 22.98% |

| Passive Diffusion Sampling |           |                   |    |       |  |       |  |         |
|----------------------------|-----------|-------------------|----|-------|--|-------|--|---------|
| <b>HCS440</b>              | 2/16/2016 | Tetrachloroethene | ug | 0.4   |  | 0.33  |  | 19.18%  |
|                            | 4/16/2016 | Tetrachloroethene | ug | 0.32  |  | 0.3   |  | 6.45%   |
|                            | 6/27/2016 | Fluorene          | UG | 0.12  |  | <0.05 |  | 82.35%  |
|                            |           | Phenanthrene      | UG | 0.1   |  | 0.05  |  | 66.67%  |
|                            |           | Tetrachloroethene | UG | 0.35  |  | 0.35  |  | 0.00%   |
|                            |           | TPH               | UG | 1.68  |  | 1.4   |  | 18.18%  |
|                            | 8/23/2016 | Tetrachloroethene | ug | 0.39  |  | 0.39  |  | 0.00%   |
|                            |           | TPH               | ug | 0.75  |  | 0.77  |  | 2.63%   |
| <b>HSM430</b>              | 2/16/2016 | BTEX              | ug | <0.02 |  | 0.02  |  | 0.00%   |
|                            |           | Tetrachloroethene | ug | 0.55  |  | 0.54  |  | 1.83%   |
|                            |           | Toluene           | ug | <0.02 |  | 0.02  |  | 0.00%   |
| <b>HSM440</b>              | 4/16/2016 | Tetrachloroethene | ug | 0.1   |  | 0.09  |  | 10.53%  |
|                            | 12/15/16  | Tetrachloroethene | ug | 0.08  |  | 0.07  |  | 13.33%  |
| <b>HSM430</b>              | 6/27/2016 | 4,4-DDD           | UG | 0.09  |  | <0.05 |  | 57.14%  |
|                            |           | 4,4-DDE           | UG | 0.07  |  | <0.05 |  | 33.33%  |
|                            |           | Acenaphthene      | UG | 0.75  |  | <0.05 |  | 175.00% |
|                            |           | Acenaphthylene    | UG | 0.15  |  | <0.05 |  | 100.00% |
|                            |           | Anthracene        | UG | 0.28  |  | <0.05 |  | 139.39% |
|                            |           | Chloroform        | UG | 0.03  |  | 0.03  |  | 0.00%   |
|                            |           | Dieldrin          | UG | 0.08  |  | <0.05 |  | 46.15%  |
|                            |           | Endrin Ketone     | UG | 0.21  |  | <0.05 |  | 123.08% |
|                            |           | Fluoranthene      | UG | 0.3   |  | <0.05 |  | 142.86% |
|                            |           | Fluorene          | UG | 1.7   |  | 0.07  |  | 184.18% |
|                            |           | Methoxychlor      | UG | 0.1   |  | <0.05 |  | 66.67%  |
|                            |           | Phenanthrene      | UG | 1.37  |  | 0.06  |  | 183.22% |
|                            |           | Pyrene            | UG | 0.28  |  | <0.05 |  | 139.39% |
|                            |           | Tetrachloroethene | UG | 1.87  |  | 1.82  |  | 2.71%   |
|                            |           | TPH               | UG | 16.56 |  | 0.84  |  | 180.69% |
|                            | 8/23/2016 | Tetrachloroethene | ug | 0.8   |  | 0.87  |  | 8.38%   |
|                            |           | TPH               | ug | 0.56  |  | 0.72  |  | 25.00%  |

B - Analyte detected in the laboratory method blank at the quantity listed

H - Sample exceeded hold time

J - Result above the method detection limit but below the reporting limit

Method detection limits or reporting limits were used to calculate RPD for results not detected above these limits.

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**APPENDIX I**

**SAMPLE RECORD**

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**COMAL SURFACE WATER**

| <b>Location /<br/>Sample Name</b> | <b>Date<br/>Sampled</b> | <b>Time<br/>Sampled</b> | <b>Latitude<br/>(dd)</b> | <b>Longitude<br/>(dd)</b> | <b>County</b> | <b>Location Generic<br/>Name</b> |
|-----------------------------------|-------------------------|-------------------------|--------------------------|---------------------------|---------------|----------------------------------|
| HCS110                            | 3/2/2016                | 12:37                   | 29.72043                 | -98.12525                 | Comal         | Upper Springs                    |
| HCS120                            | 3/2/2016                | 13:16                   | 29.718084                | -98.131644                | Comal         | Upper Landa Lake                 |
| FDHCS120                          | 3/2/2016                | 13:16                   | 29.718084                | -98.131644                | Comal         | Upper Landa Lake                 |
| HCS130                            | 3/2/2016                | 11:29                   | 29.709566                | -98.133749                | Comal         | Lower Landa Lake                 |
| HCS140                            | 3/2/2016                | 14:00                   | 29.709566                | -98.133749                | Comal         | Lower Landa Lake                 |
| HCS160                            | 3/2/2016                | 14:30                   | 29.707454                | -98.122762                | Comal         | USGS Gauge                       |
| TB02                              | 3/2/2016                | 0:00                    | NA                       | NA                        | Comal         | VOC Blank                        |
| HCS110                            | 9/8/2016                | 9:58                    | 29.72043                 | -98.12525                 | Comal         | Upper Springs                    |
| HCS120                            | 9/8/2016                | 10:31                   | 29.718084                | -98.131644                | Comal         | Upper Landa Lake                 |
| FDHCS120                          | 9/8/2016                | 10:31                   | 29.718084                | -98.131644                | Comal         | Upper Landa Lake                 |
| HCS130                            | 9/8/2016                | 9:12                    | 29.709566                | -98.133749                | Comal         | Lower Landa Lake                 |
| HCS140                            | 9/8/2016                | 11:09                   | 29.710221                | -98.129534                | Comal         | Upper Old Channel                |
| HCS160                            | 9/8/2016                | 11:38                   | 29.707454                | -98.122762                | Comal         | USGS Gauge                       |
| TB11                              | 9/8/2016                | 0:00                    | NA                       | NA                        | Comal         | VOC Blank                        |

# COMAL STORM WATER

| Location / Sample Name | Date Sampled | Time Sampled | Latitude (dd) | Longitude (dd) | County | Location Generic Name        |
|------------------------|--------------|--------------|---------------|----------------|--------|------------------------------|
| HCS210 Lead            | 4/12/2016    | 23:20        | 29.72043      | -98.12525      | Comal  | Upper Springs                |
| HCS240 Lead            | 4/12/2016    | 23:37        | 29.710221     | -98.129534     | Comal  | Upper Old Channel            |
| HCS250 Lead            | 4/12/2016    | 23:08        | 29.709491     | -98.122578     | Comal  | Lower Old Channel            |
| HCS260 Lead            | 4/12/2016    | 23:35        | 29.708007     | -98.127301     | Comal  | New Channel                  |
| HCS270 Lead            | 4/12/2016    | 23:16        | 29.704014     | -98.115791     | Comal  | Comal River above confluence |
| HCS210 Peak            | 4/13/2016    | 2:07         | 29.72043      | -98.12525      | Comal  | Upper Springs                |
| HCS240 Peak            | 4/13/2016    | 2:19         | 29.710221     | -98.129534     | Comal  | Upper Old Channel            |
| HCS250 Peak            | 4/13/2016    | 1:55         | 29.709491     | -98.122578     | Comal  | Lower Old Channel            |
| HCS260 Peak            | 4/13/2016    | 2:14         | 29.708007     | -98.127301     | Comal  | New Channel                  |
| HCS270 Peak            | 4/13/2016    | 2:00         | 29.704014     | -98.115791     | Comal  | Comal River above confluence |
| HCS210 Peak            | 4/13/2016    | 4:33         | 29.72043      | -98.12525      | Comal  | Upper Springs                |
| HCS240 Peak            | 4/13/2016    | 4:52         | 29.710221     | -98.129534     | Comal  | Upper Old Channel            |
| HCS250 Peak            | 4/13/2016    | 4:23         | 29.709491     | -98.122578     | Comal  | Lower Old Channel            |
| HCS260 Peak            | 4/13/2016    | 4:42         | 29.708007     | -98.127301     | Comal  | New Channel                  |
| HCS270 Peak            | 4/13/2016    | 4:29         | 29.704014     | -98.115791     | Comal  | Comal River above confluence |
| HCS210 Trail           | 4/13/2016    | 8:37         | 29.72043      | -98.12525      | Comal  | Upper Springs                |
| HCS240 Trail           | 4/13/2016    | 8:52         | 29.710221     | -98.129534     | Comal  | Upper Old Channel            |
| HCS250 Trail           | 4/13/2016    | 8:16         | 29.709491     | -98.122578     | Comal  | Lower Old Channel            |
| HCS260 Trail           | 4/13/2016    | 9:14         | 29.708007     | -98.127301     | Comal  | New Channel                  |
| HCS270 Trail           | 4/13/2016    | 8:43         | 29.704014     | -98.115791     | Comal  | Comal River above confluence |
| TB06                   | 4/13/2016    | 0:00         | NA            | NA             | Comal  | VOC Blank                    |
| HCS210 Lead            | 9/26/2016    | 3:15         | 29.72043      | -98.12525      | Comal  | Upper Springs                |
| HCS240 Lead            | 9/26/2016    | 3:36         | 29.710221     | -98.129534     | Comal  | Upper Old Channel            |
| HCS250 Lead            | 9/26/2016    | 3:10         | 29.709491     | -98.122578     | Comal  | Lower Old Channel            |
| HCS260 Lead            | 9/26/2016    | 3:46         | 29.708007     | -98.127301     | Comal  | New Channel                  |
| HCS270 Lead            | 9/26/2016    | 3:32         | 29.704014     | -98.115791     | Comal  | Comal River above confluence |
| HCS210 Peak            | 9/26/2016    | 5:22         | 29.72043      | -98.12525      | Comal  | Upper Springs                |
| HCS240 Peak            | 9/26/2016    | 5:40         | 29.710221     | -98.129534     | Comal  | Upper Old Channel            |
| HCS250 Peak            | 9/26/2016    | 5:10         | 29.709491     | -98.122578     | Comal  | Lower Old Channel            |
| HCS260 Peak            | 9/26/2016    | 5:53         | 29.708007     | -98.127301     | Comal  | New Channel                  |
| HCS270 Peak            | 9/26/2016    | 5:35         | 29.704014     | -98.115791     | Comal  | Comal River above confluence |
| HCS210 Peak            | 9/26/2016    | 7:28         | 29.72043      | -98.12525      | Comal  | Upper Springs                |
| HCS240 Peak            | 9/26/2016    | 7:49         | 29.710221     | -98.129534     | Comal  | Upper Old Channel            |
| HCS250 Peak            | 9/26/2016    | 7:24         | 29.709491     | -98.122578     | Comal  | Lower Old Channel            |
| HCS260 Peak            | 9/26/2016    | 8:04         | 29.708007     | -98.127301     | Comal  | New Channel                  |
| HCS270 Peak            | 9/26/2016    | 7:40         | 29.704014     | -98.115791     | Comal  | Comal River above confluence |

|                |           |       |           |            |       |                              |
|----------------|-----------|-------|-----------|------------|-------|------------------------------|
| HCS210 Trail   | 9/27/2016 | 9:54  | 29.72043  | -98.12525  | Comal | Upper Springs                |
| HCS240 Trail   | 9/27/2016 | 10:28 | 29.710221 | -98.129534 | Comal | Upper Old Channel            |
| HCS250 Trail   | 9/27/2016 | 11:36 | 29.709491 | -98.122578 | Comal | Lower Old Channel            |
| HCS260 Trail   | 9/27/2016 | 10:58 | 29.708007 | -98.127301 | Comal | New Channel                  |
| FDHCS260 Trail | 9/27/2016 | 10:58 | 29.708007 | -98.127301 | Comal | New Channel                  |
| HCS270 Trail   | 9/27/2016 | 12:01 | 29.704014 | -98.115791 | Comal | Comal River above confluence |
| FDHCS270 Trail | 9/27/2016 | 12:01 | 29.704014 | -98.115791 | Comal | Comal River above confluence |
| TB13           | 9/26/2016 | 0:00  | 29.704014 | -98.115791 | Comal | Comal River above confluence |
| TB14           | 9/26/2016 | 0:00  | NA        | NA         | Comal | VOC Blank                    |

**COMAL SEDIMENT**

| <b>Location /<br/>Sample<br/>Name</b> | <b>Date<br/>Sampled</b> | <b>Time<br/>Sampled</b> | <b>Latitude<br/>(dd)</b> | <b>Longitude<br/>(dd)</b> | <b>County</b> | <b>Location Generic<br/>Name</b> |
|---------------------------------------|-------------------------|-------------------------|--------------------------|---------------------------|---------------|----------------------------------|
| HCS310                                | 6/8/2016                | 11:09                   | 29.72043                 | -98.12525                 | Comal         | Upper Springs                    |
| HCS320                                | 6/8/2016                | 11:32                   | 29.718084                | -98.131644                | Comal         | Upper Landa Lake                 |
| HCS330                                | 6/8/2016                | 15:07                   | 29.709566                | -98.133749                | Comal         | Lower Landa Lake                 |
| HCS340                                | 6/8/2016                | 12:26                   | 29.710221                | -98.129534                | Comal         | Upper Old Channel                |
| HCS360                                | 6/8/2016                | 12:49                   | 29.707454                | -98.122762                | Comal         | USGS Gauge                       |
| FDHCS360                              | 6/8/2016                | 12:49                   | 29.707454                | -98.122762                | Comal         | USGS Gauge                       |
| TB07                                  | 6/8/2016                | 0:00                    | NA                       | NA                        | Comal         | Trip Blank                       |
| EB01                                  | 6/8/2016                | 16:15                   | NA                       | NA                        | Comal/Hays    | Equipment Blank                  |
| EB02                                  | 6/8/2016                | 16:05                   | NA                       | NA                        | Comal         | Equipment Blank                  |
| EB01 Metals                           | 6/13/2016               | 17:10                   | NA                       | NA                        | Comal/Hays    | Equipment Blank                  |
| EB02 Metals                           | 6/13/2016               | 17:26                   | NA                       | NA                        | Comal         | Equipment Blank                  |

**COMAL PDS**

| <b>Location /<br/>Sample Name</b> | <b>Installed</b> | <b>Retrieved</b> | <b>Latitude<br/>(dd)</b> | <b>Longitude<br/>(dd)</b> | <b>County</b>  | <b>Location Generic<br/>Name</b> |
|-----------------------------------|------------------|------------------|--------------------------|---------------------------|----------------|----------------------------------|
| HCS410                            | 2/2/16<br>11:07  | 2/16/16<br>10:28 | 29.72043                 | -98.12525                 | Comal          | Upper Springs                    |
| HCS420                            | 2/2/16<br>11:25  | 2/16/16<br>10:44 | 29.718084                | -98.131644                | Comal          | Upper Landa<br>Lake              |
| HCS430                            | 2/2/16<br>10:49  | 2/16/16<br>10:03 | 29.709566                | -98.133749                | Comal          | Lower Landa<br>Lake              |
| HCS440                            | 2/2/16<br>11:39  | 2/16/16<br>10:55 | 29.710221                | -98.129534                | Comal          | Upper Old<br>Channel             |
| FDHCS440                          | 2/2/16<br>11:45  | 2/16/16<br>10:55 | 29.710221                | -98.129534                | Comal          | Upper Old<br>Channel             |
| HCS460                            | 2/2/16<br>11:56  | 2/16/16<br>11:12 | 29.707454                | -98.122762                | Comal          | USGS Gauge                       |
| TB01                              | 2/2/16<br>10:03  | 2/16/16<br>14:16 | NA                       | NA                        | Comal/<br>Hays | Trip Blank                       |
| HCS410                            | 4/4/16<br>11:17  | 4/16/16<br>9:21  | 29.72043                 | -98.12525                 | Comal          | Upper Springs                    |
| HCS420                            | 4/4/16<br>11:29  | 4/16/16<br>9:12  | 29.718084                | -98.131644                | Comal          | Upper Landa<br>Lake              |
| HCS430                            | 4/4/16<br>10:51  | 4/16/16<br>8:47  | 29.709566                | -98.133749                | Comal          | Lower Landa<br>Lake              |
| HCS440                            | 4/4/16<br>11:39  | 4/16/16<br>9:02  | 29.710221                | -98.129534                | Comal          | Upper Old<br>Channel             |
| FDHCS440                          | 4/4/16<br>11:39  | 4/16/16<br>9:02  | 29.710221                | -98.129534                | Comal          | Upper Old<br>Channel             |
| HCS460                            | 4/4/16<br>11:50  | 4/16/16<br>9:36  | 29.707454                | -98.122762                | Comal          | USGS Gauge                       |
| TB05                              | 4/4/16<br>10:51  | 4/16/16<br>11:20 | NA                       | NA                        | Comal/<br>Hays | Trip Blank                       |
| HCS410                            | 6/13/16<br>10:33 | 6/27/16<br>12:47 | 29.72043                 | -98.12525                 | Comal          | Upper Springs                    |
| HCS420                            | 6/13/16<br>10:45 | 6/27/16<br>13:00 | 29.718084                | -98.131644                | Comal          | Upper Landa<br>Lake              |
| HCS430                            | 6/13/16<br>10:12 | 6/27/16<br>12:06 | 29.709566                | -98.133749                | Comal          | Lower Landa<br>Lake              |
| HCS440                            | 6/13/16<br>10:58 | 6/27/16<br>12:36 | 29.710221                | -98.129534                | Comal          | Upper Old<br>Channel             |
| FDHCS440                          | 6/13/16<br>10:58 | 6/27/16<br>12:36 | 29.710221                | -98.129534                | Comal          | Upper Old<br>Channel             |
| HCS460                            | 6/13/16<br>11:15 | 6/27/16<br>12:23 | 29.707454                | -98.122762                | Comal          | USGS Gauge                       |
| TB09                              | 6/13/16<br>10:12 | 6/27/16<br>13:00 | NA                       | NA                        | Comal/<br>Hays | Test Blank                       |



| <b>Location /<br/>Sample Name</b> | <b>Installed</b>    | <b>Retrieved</b>    | <b>Latitude<br/>(dd)</b> | <b>Longitude<br/>(dd)</b> | <b>County</b>  | <b>Location Generic<br/>Name</b> |
|-----------------------------------|---------------------|---------------------|--------------------------|---------------------------|----------------|----------------------------------|
| HCS410                            | 8/9/16<br>10:45     | 8/23/16<br>10:29    | 29.72043                 | -98.12525                 | Comal          | Upper Springs                    |
| HCS420                            | 8/9/16<br>11:00     | 8/23/16<br>10:47    | 29.718084                | -98.131644                | Comal          | Upper Landa<br>Lake              |
| HCS430                            | 8/9/16<br>10:29     | 8/23/16<br>10:10    | 29.709566                | -98.133749                | Comal          | Lower Landa<br>Lake              |
| HCS440                            | 8/9/16<br>13:16     | 8/23/16<br>11:16    | 29.710221                | -98.129534                | Comal          | Upper Old<br>Channel             |
| FDHCS440                          | 8/9/16<br>11:09     | 8/23/16<br>11:16    | 29.710221                | -98.129534                | Comal          | Upper Old<br>Channel             |
| HCS460                            | 8/9/16<br>11:25     | 8/23/16<br>11:55    | 29.707454                | -98.122762                | Comal          | USGS Gauge                       |
| TB10                              | 8/9/16<br>10:29     | 8/23/16<br>13:42    | NA                       | NA                        | Comal/<br>Hays | Test Blank                       |
| HCS410                            | 10/10/2016<br>11:15 | 10/24/2016<br>10:13 | 29.72043                 | -98.12525                 | Comal          | Upper Springs                    |
| HCS420                            | 10/10/2016<br>11:27 | 10/24/2016<br>10:27 | 29.718084                | -98.131644                | Comal          | Upper Landa<br>Lake              |
| HCS430                            | 10/10/2016<br>10:58 | 10/24/2016<br>9:44  | 29.709566                | -98.133749                | Comal          | Lower Landa<br>Lake              |
| HCS440                            | 10/10/2016<br>11:38 | 10/24/2016<br>10:43 | 29.710221                | -98.129534                | Comal          | Upper Old<br>Channel             |
| FDHCS440                          | 10/10/2016<br>11:38 | 10/24/2016<br>10:43 | 29.710221                | -98.129534                | Comal          | Upper Old<br>Channel             |
| HCS460                            | 10/10/2016<br>11:50 | 10/24/2016<br>10:59 | 29.707454                | -98.122762                | Comal          | USGS Gauge                       |
| TB16                              | 10/10/2016<br>10:58 | 10/24/2016<br>13:53 | NA                       | NA                        | Comal/<br>Hays | Test Blank                       |
| HCS410                            | 12/1/2016<br>10:16  | 12/15/2016<br>10:10 | 29.72043                 | -98.12525                 | Comal          | Upper Springs                    |
| HCS420                            | 12/1/2016<br>10:30  | 12/15/2016<br>10:21 | 29.718084                | -98.131644                | Comal          | Upper Landa<br>Lake              |
| HCS430                            | 12/1/2016<br>9:45   | 12/15/2016<br>9:52  | 29.709566                | -98.133749                | Comal          | Lower Landa<br>Lake              |
| HCS440                            | 12/1/2016<br>10:44  | 12/15/2016<br>10:30 | 29.710221                | -98.129534                | Comal          | Upper Old<br>Channel             |
| FDHCS440                          | 12/1/2016<br>10:44  | 12/15/2016<br>10:30 | 29.710221                | -98.129534                | Comal          | Upper Old<br>Channel             |
| HCS460                            | 12/1/2016<br>11:00  | 12/15/2016<br>10:41 | 29.707454                | -98.122762                | Comal          | USGS Gauge                       |
| TB17                              | 12/1/2016<br>09:45  | 12/15/2016<br>12:33 | NA                       | NA                        | Comal/<br>Hays | Test Blank                       |

**SAN MARCOS SURFACE WATER**

| <b>Location /<br/>Sample Name</b> | <b>Date<br/>Sampled</b> | <b>Time<br/>Sampled</b> | <b>Latitude<br/>(dd)</b> | <b>Longitude<br/>(dd)</b> | <b>County</b> | <b>Location<br/>Generic Name</b> |
|-----------------------------------|-------------------------|-------------------------|--------------------------|---------------------------|---------------|----------------------------------|
| HSM 110                           | 3/3/2016                | 10:14                   | 29.893566                | -97.927631                | Hays          | Sink Creek                       |
| FDHSM 110                         | 3/3/2016                | 10:14                   | 29.893566                | -97.927631                | Hays          | Sink Creek                       |
| HSM 120                           | 3/3/2016                | 11:09                   | 29.890258                | -97.934568                | Hays          | Spring Lake                      |
| HSM 130                           | 3/3/2016                | 11:38                   | 29.889831                | -97.935957                | Hays          | Sessoms Creek                    |
| HSM 140                           | 3/3/2016                | 12:23                   | 29.883955                | -97.935295                | Hays          | City Park                        |
| HSM 150                           | 3/3/2016                | 12:56                   | 29.880016                | -97.932977                | Hays          | Rio Vista Dam                    |
| HSM 160                           | 3/3/2016                | 13:21                   | 29.87469                 | -97.931603                | Hays          | 1-35 Reach                       |
| HSM 170                           | 3/3/2016                | 13:48                   | 29.868809                | -97.930378                | Hays          | Capes Dam                        |
| TB03                              | 3/3/2016                | 0:00                    | NA                       | NA                        | Hays          | Trip Blank                       |
| HSM 110                           | 9/9/2016                | 9:57                    | 29.893566                | -97.927631                | Hays          | Sink Creek                       |
| FDHSM 110                         | 9/9/2016                | 9:57                    | 29.893566                | -97.927631                | Hays          | Sink Creek                       |
| HSM 120                           | 9/9/2016                | 10:52                   | 29.890258                | -97.934568                | Hays          | Spring Lake                      |
| HSM 130                           | 9/9/2016                | 11:26                   | 29.889831                | -97.935957                | Hays          | Sessoms Creek                    |
| HSM 140                           | 9/9/2016                | 11:56                   | 29.883955                | -97.935295                | Hays          | City Park                        |
| HSM 150                           | 9/9/2016                | 13:00                   | 29.880016                | -97.932977                | Hays          | Rio Vista Dam                    |
| HSM 160                           | 9/9/2016                | 13:34                   | 29.87469                 | -97.931603                | Hays          | 1-35 Reach                       |
| HSM 170                           | 9/9/2016                | 14:06                   | 29.868809                | -97.930378                | Hays          | Capes Dam                        |
| TB12                              | 9/9/2016                | 0:00                    | NA                       | NA                        | Hays          | Trip Blank                       |

# SAN MARCOS STORM WATER

| Location / Sample Name | Date Sampled | Time Sampled | Latitude (dd) | Longitude (dd) | County | Location Generic Name |
|------------------------|--------------|--------------|---------------|----------------|--------|-----------------------|
| HSM210 Lead            | 3/9/2016     | 1:36         | 29.893566     | -97.927631     | Hays   | Sink Creek            |
| HSM230 Lead            | 3/9/2016     | 1:52         | 29.889831     | -97.935957     | Hays   | Sessoms Creek         |
| HSM231 Lead            | 3/9/2016     | 2:10         | 29.886254     | -97.935891     | Hays   | Dog Beach Outflow     |
| HSM240 Lead            | 3/9/2016     | 1:50         | 29.884145     | -97.935554     | Hays   | City Park             |
| HSM250 Lead            | 3/9/2016     | 1:37         | 29.882213     | -97.934867     | Hays   | Purgatory Creek       |
| HSM260 Lead            | 3/9/2016     | 1:55         | 29.87484      | -97.931713     | Hays   | 1-35 Reach            |
| HSM270 Lead            | 3/9/2016     | 2:11         | 29.868809     | -97.930378     | Hays   | Capes Dam             |
| HSM210 Peak            | 3/9/2016     | 4:10         | 29.893566     | -97.927631     | Hays   | Sink Creek            |
| HSM230 Peak            | 3/9/2016     | 4:25         | 29.889831     | -97.935957     | Hays   | Sessoms Creek         |
| HSM231 Peak            | 3/9/2016     | 4:11         | 29.886254     | -97.935891     | Hays   | Dog Beach Outflow     |
| HSM240 Peak            | 3/9/2016     | 4:25         | 29.884145     | -97.935554     | Hays   | City Park             |
| HSM250 Peak            | 3/9/2016     | 4:04         | 29.882213     | -97.934867     | Hays   | Purgatory Creek       |
| HSM260 Peak            | 3/9/2016     | 4:22         | 29.87484      | -97.931713     | Hays   | 1-35 Reach            |
| HSM270 Peak            | 3/9/2016     | 4:35         | 29.868809     | -97.930378     | Hays   | Capes Dam             |
| HSM210 Trail           | 3/9/2016     | 5:51         | 29.893566     | -97.927631     | Hays   | Sink Creek            |
| FDHSM210 Trail         | 3/9/2016     | 5:51         | 29.893566     | -97.927631     | Hays   | Sink Creek            |
| HSM230 Trail           | 3/9/2016     | 6:14         | 29.889831     | -97.935957     | Hays   | Sessoms Creek         |
| FDHSM230 Trail         | 3/9/2016     | 6:14         | 29.889831     | -97.935957     | Hays   | Sessoms Creek         |
| HSM231 Trail           | 3/9/2016     | 6:45         | 29.886254     | -97.935891     | Hays   | Dog Beach Outflow     |
| FDHSM231 Trail         | 3/9/2016     | 6:45         | 29.886254     | -97.935891     | Hays   | Dog Beach Outflow     |
| HSM240 Trail           | 3/9/2016     | 5:51         | 29.884145     | -97.935554     | Hays   | City Park             |
| HSM250 Trail           | 3/9/2016     | 6:16         | 29.882213     | -97.934867     | Hays   | Purgatory Creek       |
| HSM260 Trail           | 3/9/2016     | 6:40         | 29.87484      | -97.931713     | Hays   | 1-35 Reach            |
| HSM270 Trail           | 3/9/2016     | 7:18         | 29.868809     | -97.930378     | Hays   | Capes Dam             |
| TB04                   | 3/9/2016     | 0:00         | NA            | NA             | Hays   | VOC Blank             |
| HSM210 Lead            | 11/3/2016    | 16:48        | 29.893566     | -97.927631     | Hays   | Sink Creek            |
| HSM230 Lead            | 11/3/2016    | 17:10        | 29.889831     | -97.935957     | Hays   | Sessoms Creek         |
| HSM231 Lead            | 11/3/2016    | 16:40        | 29.886254     | -97.935891     | Hays   | Dog Beach Outflow     |
| HSM240 Lead            | 11/3/2016    | 17:30        | 29.884145     | -97.935554     | Hays   | City Park             |
| HSM250 Lead            | 11/3/2016    | 17:05        | 29.882213     | -97.934867     | Hays   | Purgatory Creek       |
| HSM260 Lead            | 11/3/2016    | 16:30        | 29.87484      | -97.931713     | Hays   | 1-35 Reach            |
| HSM270 Lead            | 11/3/2016    | 16:50        | 29.868809     | -97.930378     | Hays   | Capes Dam             |
| HSM210 Peak            | 11/3/2016    | 18:17        | 29.893566     | -97.927631     | Hays   | Sink Creek            |
| HSM230 Peak            | 11/3/2016    | 18:37        | 29.889831     | -97.935957     | Hays   | Sessoms Creek         |
| HSM231 Peak            | 11/3/2016    | 18:17        | 29.886254     | -97.935891     | Hays   | Dog Beach Outflow     |
| HSM240 Peak            | 11/3/2016    | 18:54        | 29.884145     | -97.935554     | Hays   | City Park             |
| HSM250 Peak            | 11/3/2016    | 18:42        | 29.882213     | -97.934867     | Hays   | Purgatory Creek       |

| <b>Location /<br/>Sample Name</b> | <b>Date<br/>Sampled</b> | <b>Time<br/>Sampled</b> | <b>Latitude<br/>(dd)</b> | <b>Longitude<br/>(dd)</b> | <b>County</b> | <b>Location Generic<br/>Name</b> |
|-----------------------------------|-------------------------|-------------------------|--------------------------|---------------------------|---------------|----------------------------------|
| HSM260 Peak                       | 11/3/2016               | 18:00                   | 29.87484                 | -97.931713                | Hays          | 1-35 Reach                       |
| HSM270 Peak                       | 11/3/2016               | 18:22                   | 29.868809                | -97.930378                | Hays          | Capes Dam                        |
| HSM210 Trail                      | 11/3/2016               | 20:53                   | 29.893566                | -97.927631                | Hays          | Sink Creek                       |
| FDHSM210 Trail                    | 11/3/2016               | 20:53                   | 29.893566                | -97.927631                | Hays          | Sink Creek                       |
| HSM230 Trail                      | 11/3/2016               | 21:25                   | 29.889831                | -97.935957                | Hays          | Sessoms Creek                    |
| FDHSM230 Trail                    | 11/3/2016               | 21:25                   | 29.889831                | -97.935957                | Hays          | Sessoms Creek                    |
| HSM231 Trail                      | 11/3/2016               | 20:52                   | 29.886254                | -97.935891                | Hays          | Dog Beach Outflow                |
| FDHSM231 Trail                    | 11/3/2016               | 20:52                   | 29.886254                | -97.935891                | Hays          | Dog Beach Outflow                |
| HSM240 Trail                      | 11/3/2016               | 21:08                   | 29.884145                | -97.935554                | Hays          | City Park                        |
| HSM250 Trail                      | 11/3/2016               | 21:38                   | 29.882213                | -97.934867                | Hays          | Purgatory Creek                  |
| HSM260 Trail                      | 11/3/2016               | 20:34                   | 29.87484                 | -97.931713                | Hays          | 1-35 Reach                       |
| HSM270 Trail                      | 11/3/2016               | 21:08                   | 29.868809                | -97.930378                | Hays          | Capes Dam                        |
| TB17                              | 11/3/2016               | 0:00                    | NA                       | NA                        | Hays          | VOC Blank                        |

**SAN MARCOS SEDIMENT**

| <b>Location /<br/>Sample Name</b> | <b>Date<br/>Sampled</b> | <b>Time<br/>Sampled</b> | <b>Latitude<br/>(dd)</b> | <b>Longitude<br/>(dd)</b> | <b>County</b> | <b>Location Generic<br/>Name</b> |
|-----------------------------------|-------------------------|-------------------------|--------------------------|---------------------------|---------------|----------------------------------|
| HSM 310                           | 6/9/2016                | 10:38                   | 29.893566                | -97.927631                | Hays          | Sink Creek                       |
| HSM 320                           | 6/9/2016                | 11:02                   | 29.890258                | -97.934568                | Hays          | Spring Lake                      |
| HSM 330                           | 6/9/2016                | 11:19                   | 29.889831                | -97.935957                | Hays          | Sessoms Creek                    |
| HSM 340                           | 6/9/2016                | 11:39                   | 29.883955                | -97.935295                | Hays          | City Park                        |
| HSM 350                           | 6/9/2016                | 12:00                   | 29.880016                | -97.932977                | Hays          | Rio Vista Dam                    |
| FDHSM 350                         | 6/9/2016                | 12:28                   | 29.880016                | -97.932977                | Hays          | Rio Vista Dam                    |
| HSM 360                           | 6/9/2016                | 12:57                   | 29.87469                 | -97.931603                | Hays          | 1-35 Reach                       |
| HSM 370                           | 6/9/2016                | 12:57                   | 29.868809                | -97.930378                | Hays          | Capes Dam                        |
| TB08                              | 6/9/2016                | 0:00                    | NA                       | NA                        | Hays          | VOC Blank                        |

**SAN MARCOS PDS**

| <b>Location /<br/>Sample Name</b> | <b>Installed</b> | <b>Retrieved</b> | <b>Latitude<br/>(dd)</b> | <b>Longitude<br/>(dd)</b> | <b>County</b> | <b>Location<br/>Generic<br/>Name</b> |
|-----------------------------------|------------------|------------------|--------------------------|---------------------------|---------------|--------------------------------------|
| HSM 410                           | 2/2/16 13:39     | 2/16/16<br>12:45 | 29.893566                | -97.927631                | Hays          | Sink Creek                           |
| HSM 420                           | 2/2/16 13:54     | 2/16/16<br>13:03 | 29.890258                | -97.934568                | Hays          | Spring Lake                          |
| HSM 430                           | 2/2/16 14:07     | 2/16/16<br>13:13 | 29.889831                | -97.935957                | Hays          | Sessoms<br>Creek                     |
| FDHSM 430                         | 2/2/16 14:07     | 2/16/16<br>13:13 | 29.889831                | -97.935957                | Hays          | Sessoms<br>Creek                     |
| HSM 440                           | 2/2/16 14:18     | 2/16/16<br>13:27 | 29.883955                | -97.935295                | Hays          | City Park                            |
| HSM 450                           | 2/2/16 14:43     | 2/16/16<br>13:48 | 29.880016                | -97.932977                | Hays          | Rio Vista<br>Dam                     |
| HSM 460                           | 2/2/16 15:02     | 2/16/16<br>14:06 | 29.87469                 | -97.931603                | Hays          | 1-35 Reach                           |
| HSM 470                           | 2/2/16 15:18     | 2/16/16<br>14:16 | 29.868809                | -97.930378                | Hays          | Capes Dam                            |
| HSM 410                           | 4/4/16 13:09     | 4/16/16<br>10:35 | 29.893566                | -97.927631                | Hays          | Sink Creek                           |
| HSM 420                           | 4/4/16 13:28     | 4/16/16<br>10:48 | 29.890258                | -97.934568                | Hays          | Spring Lake                          |
| HSM 430                           | 4/4/16 13:39     | 4/16/16<br>10:56 | 29.889831                | -97.935957                | Hays          | Sessoms<br>Creek                     |
| HSM 440                           | 4/4/16 13:52     | 4/16/16<br>11:08 | 29.883955                | -97.935295                | Hays          | City Park                            |
| FDHSM 440                         | 4/4/16 13:52     | 4/16/16<br>11:08 | 29.883955                | -97.935295                | Hays          | City Park                            |
| HSM 450                           | 4/4/16 14:06     | 4/16/16<br>11:20 | 29.880016                | -97.932977                | Hays          | Rio Vista<br>Dam                     |
| HSM 460                           | 4/4/16 14:21     | 4/16/16<br>10:06 | 29.87469                 | -97.931603                | Hays          | 1-35 Reach                           |
| HSM 470                           | 4/4/16 14:31     | 4/16/16<br>10:16 | 29.868809                | -97.930378                | Hays          | Capes Dam                            |
| HSM 410                           | 6/13/16 12:36    | 6/27/16 9:35     | 29.893566                | -97.927631                | Hays          | Sink Creek                           |
| HSM 420                           | 6/13/16 12:49    | 6/27/16 9:45     | 29.890258                | -97.934568                | Hays          | Spring Lake                          |
| HSM 430                           | 6/13/16 13:00    | 6/27/16 9:56     | 29.889831                | -97.935957                | Hays          | Sessoms<br>Creek                     |
| FDHSM 430                         | 6/13/16 13:00    | 6/27/16 9:56     | 29.889831                | -97.935957                | Hays          | Sessoms<br>Creek                     |
| HSM 440                           | 6/13/16 13:14    | 6/27/16<br>10:18 | 29.883955                | -97.935295                | Hays          | City Park                            |
| HSM 450                           | 6/13/16 13:33    | 6/27/16<br>10:36 | 29.880016                | -97.932977                | Hays          | Rio Vista<br>Dam                     |

| <b>Location /<br/>Sample Name</b> | <b>Installed</b>    | <b>Retrieved</b>    | <b>Latitude<br/>(dd)</b> | <b>Longitude<br/>(dd)</b> | <b>County</b> | <b>Location<br/>Generic<br/>Name</b> |
|-----------------------------------|---------------------|---------------------|--------------------------|---------------------------|---------------|--------------------------------------|
| HSM 460                           | 6/13/16 13:46       | 6/27/16<br>10:51    | 29.87469                 | -97.931603                | Hays          | 1-35 Reach                           |
| HSM 470                           | 6/13/16 13:58       | 6/27/16<br>11:02    | 29.868809                | -97.930378                | Hays          | Capes Dam                            |
| HSM 410                           | 8/9/16 12:38        | 8/23/16<br>13:12    | 29.893566                | -97.927631                | Hays          | Sink Creek                           |
| HSM 420                           | 8/9/16 12:50        | 8/23/16<br>13:32    | 29.890258                | -97.934568                | Hays          | Spring Lake                          |
| HSM 430                           | 8/9/16 12:59        | 8/23/16<br>13:42    | 29.889831                | -97.935957                | Hays          | Sessoms<br>Creek                     |
| FDHSM 430                         | 8/9/16 12:59        | 8/23/16<br>13:42    | 29.889831                | -97.935957                | Hays          | Sessoms<br>Creek                     |
| HSM 440                           | 8/9/16 13:11        | 8/23/16<br>13:58    | 29.883955                | -97.935295                | Hays          | City Park                            |
| HSM 450                           | 8/9/16 13:24        | 8/23/16<br>14:09    | 29.880016                | -97.932977                | Hays          | Rio Vista<br>Dam                     |
| HSM 460                           | 8/9/16 13:37        | 8/23/16<br>14:22    | 29.87469                 | -97.931603                | Hays          | 1-35 Reach                           |
| HSM 470                           | 8/9/16 13:54        | 8/23/16<br>14:36    | 29.868809                | -97.930378                | Hays          | Capes Dam                            |
| HSM 410                           | 10/10/2016<br>10:58 | 10/24/2016<br>12:16 | 29.893566                | -97.927631                | Hays          | Sink Creek                           |
| HSM 420                           | 10/10/2016<br>13:15 | 10/24/2016<br>12:34 | 29.890258                | -97.934568                | Hays          | Spring Lake                          |
| HSM 430                           | 10/10/2016<br>13:29 | 10/24/2016<br>12:45 | 29.889831                | -97.935957                | Hays          | Sessoms<br>Creek                     |
| FDHSM 430                         | 10/10/2016<br>13:50 | 10/24/2016<br>12:45 | 29.889831                | -97.935957                | Hays          | Sessoms<br>Creek                     |
| HSM 440                           | 10/10/2016<br>13:50 | 10/24/2016<br>13:02 | 29.883955                | -97.935295                | Hays          | City Park                            |
| HSM 450                           | 10/10/2016<br>14:04 | 10/24/2016<br>13:17 | 29.880016                | -97.932977                | Hays          | Rio Vista<br>Dam                     |
| HSM 460                           | 10/10/2016<br>14:18 | 10/24/2016<br>13:36 | 29.87469                 | -97.931603                | Hays          | 1-35 Reach                           |
| HSM 470                           | 10/10/2016<br>14:29 | 10/24/2016<br>13:53 | 29.868809                | -97.930378                | Hays          | Capes Dam                            |
| HSM 410                           | 10/10/2016<br>14:56 | 10/24/2016<br>13:53 | 29.893566                | -97.927631                | Hays          | Sink Creek                           |
| HSM 420                           | 12/1/2016<br>12:29  | 12/15/2016<br>11:31 | 29.890258                | -97.934568                | Hays          | Spring Lake                          |
| HSM 430                           | 12/1/2016<br>12:44  | 12/15/2016<br>11:41 | 29.889831                | -97.935957                | Hays          | Sessoms<br>Creek                     |
| FDHSM 430                         | 12/1/2016<br>12:44  | 12/15/2016<br>11:41 | 29.889831                | -97.935957                | Hays          | Sessoms<br>Creek                     |



| <b>Location /<br/>Sample Name</b> | <b>Installed</b>   | <b>Retrieved</b>    | <b>Latitude<br/>(dd)</b> | <b>Longitude<br/>(dd)</b> | <b>County</b> | <b>Location<br/>Generic<br/>Name</b> |
|-----------------------------------|--------------------|---------------------|--------------------------|---------------------------|---------------|--------------------------------------|
| HSM 440                           | 12/1/2016<br>13:11 | 12/15/2016<br>11:56 | 29.883955                | -97.935295                | Hays          | City Park                            |
| HSM 450                           | 12/1/2016<br>13:28 | 12/15/2016<br>12:07 | 29.880016                | -97.932977                | Hays          | Rio Vista<br>Dam                     |
| HSM 460                           | 12/1/2016<br>13:43 | 12/15/2016<br>12:22 | 29.87469                 | -97.931603                | Hays          | 1-35 Reach                           |
| HSM 470                           | 12/1/2016<br>13:59 | 12/15/2016<br>12:33 | 29.868809                | -97.930378                | Hays          | Capes Dam                            |

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