

# **EDWARDS UNDERGROUND WATER DISTRICT**

1619 Tower Life Building  
San Antonio, Texas

## **BULLETIN 16**

### **CHEMICAL ANALYSES OF WATER FROM OBSERVATION WELLS IN THE EDWARDS AND ASSOCIATED LIMESTONES, SAN ANTONIO AREA, TEXAS, 1967**

Compiled by

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Prepared in cooperation with the Geological Survey,  
United States Department of the Interior,  
the Texas Water Development Board, and  
the City of San Antonio

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A program to resample observation wells tapping a zone of transition between water of good quality and saline water in the Edwards and associated limestones was begun in 1959. The chemical analyses of the resampling program are being used to detect possible encroachment of saline water into the fresh-water areas as the head in the aquifer changes. Those analyses compiled through 1966 were published by the Edwards Underground Water District (See references, page 3), and this report presents the chemical analyses compiled during 1967. This program is part of a more extensive hydrologic investigation carried on by the U. S. Geological Survey in cooperation with the Edwards Underground Water District, the Texas Water Development Board, and the city of San Antonio.

Samples are collected for chemical analyses from 37 wells, most of which are sampled twice a year, but some are sampled only once a year because of their limited use. The number of wells was reduced in 1966 from 72 to 37, but the original 72 will be sampled again when water levels drop to those levels near and below the recorded lows.

The well numbers in this report conform to the statewide system used by the Texas Water Development Board (Alexander and others, 1964). The numbers formerly used are listed in parenthesis with each well.

The water samples are analyzed in the laboratory of the U.S. Geological Survey in Austin, Texas, for specific conductance, pH, chloride, sulfate, bicarbonate, and hardness. A more complete analysis has been made for one sample from each well, and these analyses are on file in the offices of the Geological Survey in Austin and San Antonio. Locations of wells and other data pertaining to the resampling program may be found in the references.

## REFERENCES

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- \_\_\_\_\_ 1962b, Chemical analyses of water from observation wells in the Edwards and associated limestones, San Antonio area, Texas: Edwards Underground Water District Bull. 1.
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- Rettman, Paul, 1967, Chemical analyses of water from observation wells in the Edwards and associated limestones, San Antonio area, Texas, 1966: Edwards Underground Water District Bull. 13.

Chemical analyses of Water from observation wells and springs in the San Antonio area, Texas  
 (Analyses are in parts per million, except specific conductance and pH)

Well	Owner	Depth of Well	Date of Collection	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Hardness as CaCO <sub>3</sub>	Specific Conductance (micromhos at 25°C)	pH	Temperature °F
<u>Kinney County</u>										
RP-70-43-301 (M-10)	Wardlaw Bros	750	Mar. 8, 1967	244	209	10	408	779	7.4	80
			Aug. 17, 1967	268	172	19	364	776	7.6	-
RP-70-44-101 (M-14)	F. Beidler	618	Mar. 2, 1967	268	93	11	286	617	7.6	79
			Aug. 16, 1967	264	99	11	288	624	7.6	-
RP-70-44-801 (U-14)	W. Richards	1390	Mar. 2, 1967	180	1680	7.6	1920	2650	6.8	94
			Oct. 3, 1967	200	1670	7.0	1980	2600	7.4	93
RP-70-45-401 (V-29)	R. Dodd	930	Mar. 2, 1967	242	336	7.6	548	963	7.5	82
			Aug. 16, 1967	232	316	7.6	516	916	7.2	-
RP-70-45-501 (V-7)	Las Moras Springs	Spring	Mar. 3, 1967	244	6.6	11	218	429	7.5	72
			Oct. 12, 1967	243	7.6	11	224	429	7.4	-
RP-70-46-901 (X-5)	A. Harrison	514	Mar. 3, 1967	232	1300	26	1540	2280	6.9	80
			Sept. 6, 1967	268	1290	25	1480	2250	7.4	80

Chemical analyses of water from observation wells and springs in the San Antonio area - continued

Well	Owner	Depth of Well (ft.)	Date of Collection	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Hard- ness as CaCO <sub>3</sub>	Specific Conduct- ance (micromhos at 25°C)	pH	Tempera- ture °F
<u>Uvalde County</u>										
YP-69-49-101 (H-4-64)	H. Martin	842	Mar. 3, 1967	548	136	110	384	1340	7.5	80
			Aug. 17, 1967	548	118	110	390	1320	7.5	-
YP-69-50-501 (H-5-163)	U. S. Fish & Wildlife	600	Mar. 8, 1967	308	120	201	570	1310	7.2	72
			Aug. 16, 1967	300	114	160	502	1160	7.0	-
YP-69-50-601 (H-5-240)	W. Painter	562	Mar. 30, 1967	280	256	70	510	1060	7.4	-
YP-69-51-401 (H-5-284)	J. R. Carnes	400	Feb. 24, 1967	298	40	42	320	661	7.1	78
YP-69-52-401 (H-6-25)	B. Turner	1410	Feb. 24, 1967	324	844	422	880	3130	6.8	93
YP-69-53-702	F. Woodley	2242	Mar. 9, 1967	218	176	66	373	874	6.9	99
<u>Medina County</u>										
TD-68-49-601 (J-4-143)	H. Kelso	2765	Mar. 10, 1967	252	51	34	248	579	7.9	95
TD-69-54-501 (I-5-55)	G. E. Farley	2000	Mar. 8, 1967	244	16	30	220	488	7.7	74
			Aug. 17, 1967	244	16	18	220	456	7.6	-

Chemical analyses of water from observation wells and springs in the San Antonio area - continued

Well	Owner	Depth of Well (ft.)	Date of Collection	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Hard- ness as CaCO <sub>3</sub>	Specific Conduct- ance (micromhos at 25°C)	pH	Tempera- ture of
TD-69-55-401 (I-5-74)	E. Hood	2260	Aug. 16, 1967	256	14	19	236	477	7.6	-
TD-69-55-501	Lucian Ward	2550	Aug. 16, 1967	256	14	15	232	467	7.5	-
<u>Atascosa County</u>										
AL-68-50-301 (3)	C. W. Mask	2507	Mar. 3, 1967	243	79	34	286	621	7.4	91
			July 25, 1967	246	75	32	286	616	7.5	91
<u>Bexar County</u>										
AY-68-30-601 (G-7)	Converse Water Co.	684	Feb. 24, 1967	242	36	22	242	508	7.4	82
			July 24, 1967	246	36	23	240	511	7.7	81
AY-68-37-601 (J-87)	City of San Antonio	1185	Feb. 28, 1967	242	24	15	234	463	7.2	81
			Aug. 16, 1967	244	27	16	234	474	7.5	80
AY-68-37-701 (284)	City of San Antonio	1582	Mar 10, 1967	248	27	16	240	474	7.7	81
			Aug. 23, 1967	244	30	16	240	477	7.2	85
AY-68-38-101 (J-40)	E. Ackerman	900	Mar. 6, 1967	250	259	176	480	1380	7.5	82
			Aug. 16, 1967	248	254	178	480	1380	7.6	80

Chemical analyses of water from observation wells and springs in the San Antonio area - continued

Well	Owner	Depth of Well (ft.)	Date of Collection	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Hardness as CaCO <sub>3</sub>	Specific Conductance (micromhos at 25°C)	pH	Temperature of
AY-68-38-301 (K-2)	R. Schirmer	854	Feb. 27, 1967	290	1820	1650	2240	7490	6.9	85
			Aug. 24, 1967	284	1830	1680	2230	7610	6.8	87
AY-68-44-301 (I-266)	Patio Foods, Inc.	1373	Aug. 16, 1967	248	37	17	244	494	7.6	82
AY-68-44-302- (I-206)	Patio Foods, Inc.	1400	Feb. 20, 1967	232	25	17	220	453	7.3	76
AY-68-44-401 (N-6)	C. Verstuyft	1532	Feb. 28, 1967	244	26	15	232	472	7.2	81
			Aug. 9, 1967	248	27	16	236	469	7.4	81
AY-68-45-101 (J-50)	San Antonio Hot Wells	1878	Mar. 10, 1967	274	1920	920	2500	5530	7.3	102
			Aug. 25, 1967	280	1950	900	2560	5530	7.1	-
AY-68-45-301 (J-90)	Holt Machinery	2179	Feb. 28, 1967	276	1920	940	2480	5600	7.2	111
			July 24, 1967	276	1920	940	2510	5610	7.2	110
AY-68-51-201 (M-44)	Remi Aelevoet	2226	Feb. 28, 1967	228	1680	780	2200	4800	6.9	105
			Aug. 16, 1967	260	1650	770	2240	4820	7.3	101

Chemical analyses of water from observation wells and springs in the San Antonio area - continued

Well	Owner	Depth of Well (ft.)	Date of Collection	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Hard- ness as CaCO <sub>3</sub>	Specific Conduct- ance (micromhos at 25°C)	pH	Tempera- ture OF
<u>Guadalupe County</u>										
KX-68-30-601 (D-67)	W. Kramer	565	Feb. 27, 1967	270	440	420	760	2410	7.1	76
			July 24, 1967	266	480	435	765	2490	7.3	77
<u>Comal County</u>										
DX-68-16-501 (G-84)	H. C. Nelson	272	Mar. 6, 1967	372	218	170	570	1430	7.2	75
			Aug. 18, 1967	376	211	170	560	1420	7.2	74
DX-68-23-301 (G-50)	Comal Springs	Spring	Feb. 27, 1967	282	22	12	260	512	7.2	75
			Aug. 18, 1967	260	22	11	240	471	7.3	74
DX-68-23-501 (F-75)	U. S. Gypsum	209	Sept. 13, 1967	292	22	12	270	518	7.5	74
DX-68-23-701 (H-20)	W. Schaeffer	300	Feb. 27, 1967	276	32	23	262	546	7.3	74
			Aug. 22, 1967	282	32	23	270	536	7.4	73
<u>Hays County</u>										
IR-58-58-403 (E-76)	City of Buda	390	Mar. 13, 1967	324	28	13	308	555	7.2	76
			Aug. 22, 1967	324	29	8.8	304	561	7.4	72

Chemical analyses of water from observation wells and springs in the San Antonio area - continued

Well	Owner	Depth of Well (ft.)	Date of Collection	Bicar- bonate (HCO <sub>3</sub> )	Sul- fate (SO <sub>4</sub> )	Chlo- ride (Cl)	Hard- ness as CaCO <sub>3</sub>	Specific Conduct- ance (micromhos at 25°C)	pH	Tempera- ture °F
LR-58-58-701 (E-80)	D. A. Dacy	492	Mar. 4, 1967	306	276	205	380	1530	7.5	-
			Aug. 16, 1967	304	249	205	388	1550	7.7	-
LR-67-01-302 (H-107)	City of Kyle	360	Mar. 6, 1967	282	138	11	380	698	7.5	76
			Aug. 14, 1967	280	136	11	376	697	7.5	76
LR-67-01-701 (H-66)	San Marcos Springs	Spring	Mar. 6, 1967	308	24	19	284	564	7.3	72
			Aug. 18, 1967	312	23	17	292	570	7.2	72
LR-67-02-101 (H-25)	Four Seasons Farm	600	Mar. 6, 1967	268	476	660	720	3150	7.6	73
LR-68-16-601 (K-5)	E. Jackson	200	Mar. 13, 1967	372	178	156	510	1340	6.9	-
			Aug. 18, 1967	340	204	160	512	1330	7.1	74