

# EDWARDS AQUIFER AUTHORITY

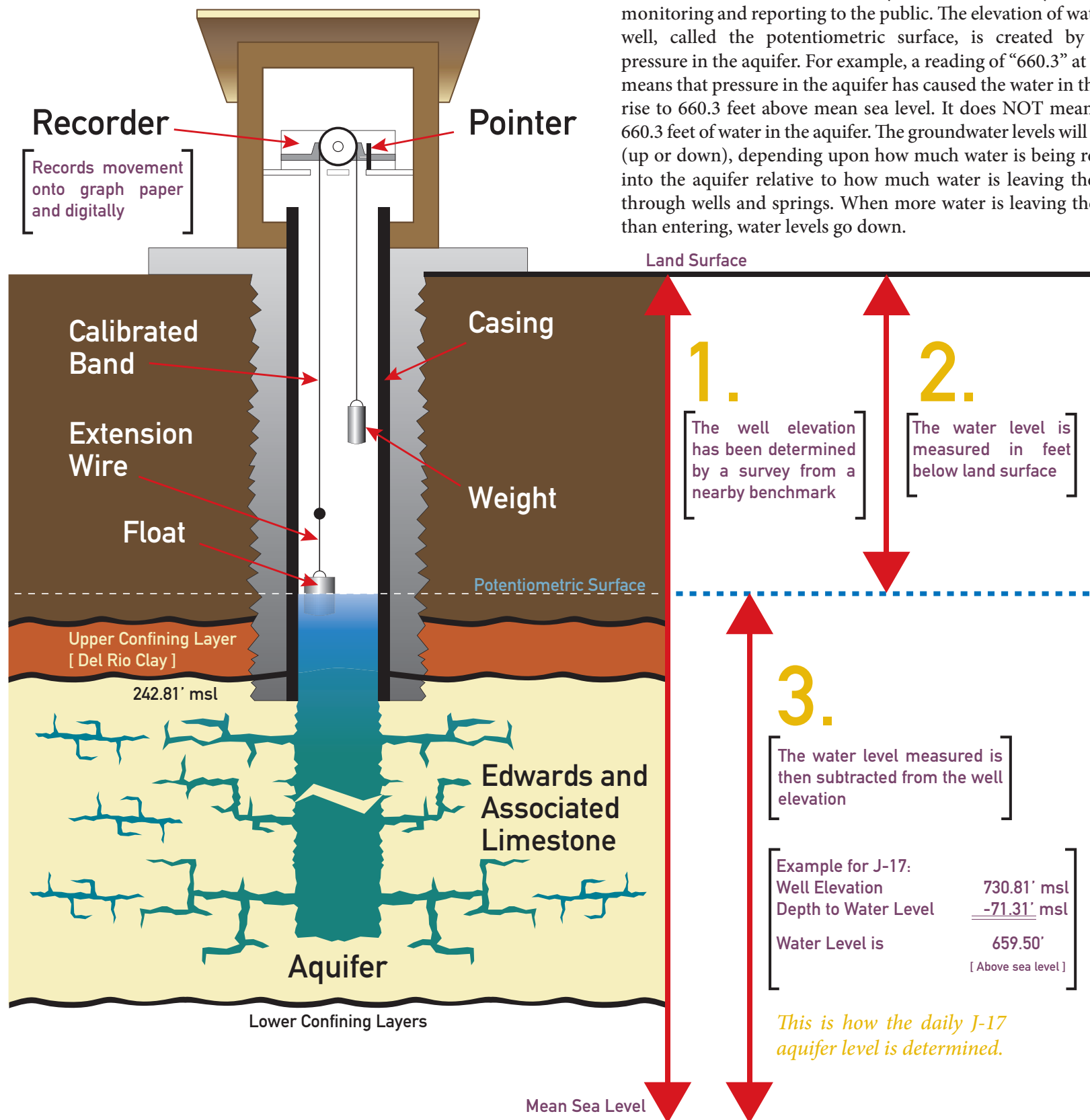
## Bexar County Index Well J-17

The Bexar County Index Well, better known as J-17 or well AY-68-37-203 by the Texas Water Development Board, is located at Fort Sam Houston in San Antonio, Texas. It serves as the official well for recording groundwater elevations in the San Antonio Pool of the Edwards Aquifer. J-17 is the most cited and recognized in a network of observation wells maintained by the Edwards Aquifer Authority (Authority) to monitor aquifer conditions in Uvalde, Medina, Bexar, Comal, and Hays counties. Water level readings at J-17 are continuously recorded and monitored by the Authority. The well has been used to collect data from the Edwards Aquifer since 1964, making it a valuable resource in studying long-term trends in aquifer conditions.

### How It Works

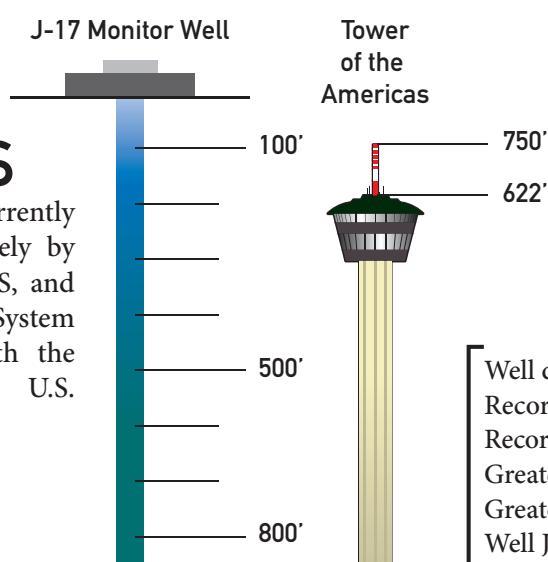
The water level in well J-17 is measured relative to mean sea level (msl) using three different methods: a pressure transducer, a float system (shown here), and an air pressure gauging system. These systems record the height that water rises in the well bore and then transmit the data electronically to the Authority's offices for monitoring and reporting to the public. The elevation of water in the well, called the potentiometric surface, is created by artesian pressure in the aquifer. For example, a reading of "660.3" at well J-17 means that pressure in the aquifer has caused the water in the well to rise to 660.3 feet above mean sea level. It does NOT mean there is 660.3 feet of water in the aquifer. The groundwater levels will fluctuate (up or down), depending upon how much water is being recharged into the aquifer relative to how much water is leaving the aquifer through wells and springs. When more water is leaving the aquifer than entering, water levels go down.

### The Float System



### J-17 FACTS

Drilled in 1914; currently maintained collaboratively by the Authority, the USGS, and the San Antonio Water System through agreement with the property owner, the U.S. Federal Government.



[Well depth: 874 feet  
Record high: 703.3 feet above mean sea level (June 1992)  
Record low: 612.5 feet above mean sea level (August 1956)  
Greatest one-day increase: 6.72 feet (October 1998)  
Greatest one-day decline: 4.84 feet (December 1994)  
Well J-17 is deeper than the Tower of the Americas is tall  
(as shown in the illustration)]

### A DAY IN THE LIFE OF J-17

Water levels at J-17 reflect the impact that pumping groundwater in the San Antonio area has on the aquifer. Each day, the Authority reports the highest water level obtained as that day's official aquifer reading for the San Antonio Pool. Generally, the highest daily levels are recorded around 6:00 a.m. when water demand is at its lowest. The aquifer level then usually drops throughout the day as demand rises, and then begins to recover in the late evening and through the night as demand declines again.

