

## **Item 5 – Revisions to Static Water Level Measuring Protocol**

The static water level measuring protocols were adopted by the Board August 11, 2016 and have been strictly adhered to. One thing that was not taken into account at the time of adoption were designated monitoring wells that have no equipment or have a pump with no power supply. Currently, all wells are measured using the same protocol.

The purpose of measuring wells twice at five (5) minute intervals was to assure the well has not been recently pumped and in recovery phase. This scenario does not occur with capped wells or wells with no power supply. It is not necessary to measure these types of wells twice as the same water level measurement will be the result.

Attached are suggested revised protocol pertaining to e-line or steel tape measurements of the above described category of monitoring wells. The attached protocol are additional to the previously adopted protocols and would in no way affect monitoring well measurement being done on any of the other categories of wells including DFC wells that have no equipment or power supply.

**It is the recommendation by the General Manager to approve the described static water level measuring protocol using an e-line or steel tape on monitoring wells with no equipment or no power supply to the pump and not a DFC well.**

Adopted ~~August 11, 2016~~ March 3, 2023

**Brazos Valley GCD  
E-line Measuring Protocol  
for Wells Not Equipped with a Pump or Power for a Pump  
and not a DFC Well**

1. The well where the static water level is to be measured should not be pumped for 24 hours, if possible, prior to taking the static water-level measurements. If the well has been pumped less than 24 hours prior to taking the water-level measurement, record in the official record how long the pump has been off prior to taking the measurement, if known. ~~Confirm and indicate in the official record that no non-exempt well completed in the same aquifer within a ½ mile radius to the well being measured is being actively pumped at the time of taking the water level measurement. Unless this can be confirmed, no water level measurement should be taken. Obtain permission to collect measurement at a later time.~~
2. If well is equipped with a submersible pump, confirm and record in the official record that the pump is not in operation. Unless it is determined that the pump is not operational, no water-level measurement should be taken or recorded. Obtain permission to collect measurement at a later time.
3. Identify a port or opening in the pump discharge head or in the pump foundation (surface casing vent pipe) that provides access for the e-line to the annulus between the surface casing and the pump column assembly, water-level measuring pipe or open casing if the well is not equipped with a pump.
4. Measure and record the height of the opening above ground level and this will become the measuring point. Describe the measuring point in the official record for the well, and use the same measuring point each time when measuring the water level. If not possible, record the height of the measuring point above land surface each time the water level is measured.
5. Prior to taking the water-level measurement, review previous water-level measurements to estimate the current water level depth.
6. Turn on power to the e-line and adjust sensitivity of sound meter to about halfway. If light used to detect water level, no need to adjust sound level.
7. Lower the e-line into the well until the e-line signals it has encountered the water level in the well. Retract the e-line about one foot above where the e-line signaled water encountered and slowly lower again until the water level is encountered again.
8. Hold the electric line with a fingertip at the measuring point when the water is encountered. Using the 0.01 foot markings on the electric line, determine depth to water to the nearest 0.01 of a foot and record in the official record.

~~9. Retract the e-line about 5 feet, wait five minutes and repeat the process to ensure an accurate reading has been made of a stable water level. If both measurements are not within~~

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~~0.05 foot of each other, note in the field log and schedule for water level measurement at a later date.~~

~~10.~~ 9. Subtract the measuring point height from the measured depth to water obtained in Step 8 to determine depth of water from land surface, and record in the official record.

~~11.~~ 10. Record date and time of measurement.

~~12.~~ 11. Retract the e-line from the well and clean the lower 20 feet with Clorox bleach wipes, bleach wipes with an equivalent percentage sodium hypochlorite or a minimum 0.5% sodium hypochlorite in solution (NaOCl and water) prior to measuring the water level in the next well.

~~13.~~ 12. Replace cap on any port in discharge head or casing. Leave the well and pump in same condition as observed on arrival.

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Adopted ~~August 11, 2016~~ March 9, 2023

**Brazos Valley GCD**  
**Steel Tape Measuring Protocol**  
**for Wells Not Equipped with a Pump or Power for a Pump**  
**and not a DFC Well**

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1. The well where the static water level is to be measured should not be pumped for 24 hours, if possible, prior to taking the static water-level measurements. If the well has been pumped less than 24 hours prior to taking the water-level measurement, record in the official record how long the pump has been off prior to taking the measurement, if known. ~~Confirm and indicate in the official record that no non-exempt well completed in the same aquifer within a 1/2 mile radius to the well being measured is being actively pumped at the time of taking the water level measurement. Unless this can be confirmed, no water level measurement should be taken. Obtain permission to collect measurement at a later time.~~
2. If well is equipped with a submersible pump, confirm and record in the official record that the pump is not in operation. Unless it is determined that the pump is not operational, no water-level measurement should be taken or recorded. Obtain permission to collect measurement at a later time.
3. Identify a port or opening in the pump discharge head or casing or in the pump foundation (surface casing vent pipe) that provides access for the steel tape to the annulus between the surface casing and the pump column assembly, water-level measuring pipe or open casing if the well is not equipped with a pump.
4. Measure and record the height of the opening above ground level and this will become the measuring point. Describe the measuring point in the official record for the well, and use the same measuring point each time when measuring the water level. If not possible, record the height of the measuring point above land surface each time the static water-level is measured.
5. Prior to taking the water-level measurement, review previous water-level measurements to estimate the current water level depth.
6. Use carpenter's chalk to coat the lowest 15-30 feet of the steel tape.
7. Lower the steel tape in the annulus between the pump column and casing, down the open casing if not equipped with a pump or down a water-level measuring pipe until the depth of the tape is 10 feet lower than the last recorded static water level. Record the length of tape installed in the well with the footage marker exactly at the measuring point. Refer to this length as the "hold". Retract the steel tape and record the length of the tape to the nearest hundredth of a foot that is wet. This measurement is called the "cut". Record both measurements. Remove the wet chalk on the tape.
8. ~~Wait 5 minutes after initial measurement, re-chalk tape and lower the tape 1-2 feet deeper than the hold depth for the previous measurement. Retract the tape and record the cut~~

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~~length. Subtract the cut length from the hold length to calculate the depth to water. The difference between the two measurements should be no greater than 0.02 feet. If the difference in depth to water is greater than 0.02 feet, note in the field log and schedule for water level measurement at a future date.~~

~~98.~~ Subtract the measuring point height from the measured depth to water to obtain depth of water below land surface and record in the official record.

~~109.~~ Record date and time of measurement.

~~11.~~ 10. Remove the chalk from the steel tape and clean the lowest 30 feet with Clorox bleach wiper, bleach wiper with an equivalent percentage sodium hypochlorite or a minimum 0.5% sodium hypochlorite solution (NaOCl and water) before measuring the water level in another well.

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~~12.~~ 11. Replace cap on any port in discharge head or casing. Leave the well and pump in same condition as observed on arrival.

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