Response to Bryan Comments on Water Level Measuring Protocol

Below are responses to comments offered by the City of Bryan regarding water level measuring protocol and not incorporated into the protocol:

1. Bryan Comments 1 & 2 (All protocols):

    - Because this will be a rule, it should be given a number incorporating it into the District's existing rules.
    - The draft BVGCD protocols for measuring water levels contain no required training (including documentation of training) for new field technicians and no written quality assurance procedures. Without such, the data being collected as part of this effort is not defensible for regulatory purposes where certainty, consistency and precision are important and where best available science is the standard.

Not used due to the general nature of the commentary. Did not lend itself to actual procedures involved in water level measuring protocol. These comments appear on all four protocols.

a) The Board will determine whether or not to incorporate the protocol into the rules or leave it as a separate document referenced in the rules

b) Texas Water Development Board personnel observed the General Manager measuring water levels in April, 2016. Protocol used was approved by TWDB staff. The General Manager now trains all personnel under his supervision.

2. Bryan redline addition which appears on all protocols:

    These rules describe the procedures that will be used by the District to measure water levels in wells for purposes that may include regulatory actions described in Rule 7.2. Because these water level determinations may have regulatory consequences, it is essential that the water level measurements be based on stable water level conditions as described in these procedures.

    Bryan Comment 3 regarding the above redlined addition:

    No language is provided that states the purpose of these measuring procedures. This language should be added to each of the separate procedures for clarification.

Not used because it does lend itself to being a part of water level measuring protocol but was a general comment. Purpose of measuring is not a protocol. This comment appears on all four protocols.

3. Bryan Comment 3 (Steel Tape)

    - Practical experience has been that when using a steel tape, it is most efficient to spool out onto the ground the length of tape that will be needed to reach the desired depth in the well. Then, the tape can much more easily and quickly be dropped into the well to the desired depth without the need to stop multiple times to see if the desired length of tape has been inserted into well. This is the standard technique used by TWDB groundwater monitoring staff.

Not used as each District staff member has their own technique to insert the steel tape to avoid kinking. The desired result is to measure the water level regardless of the technique used to achieve that end.

4. Bryan Comment 10 (Steel Tape)

    - As noted in other comments, there is no rationale provided in protocols for 0.05 feet difference for E-line measurements, 2.31 feet for airlines, and 0.02 for steel tape? Why are they different?

One psi is the accuracy normally obtain when measuring water level with an air line which equates to 2.31 feet.

Electric line measurements are set at 0.05 feet due to the sensitivity of an electric line probe.

A commonly used variance for water levels measured using steel tape is 0.02.

5. Bryan Comment 5 (Pressure Transducers)

    - Over long periods of time, a pressure transducer is prone to drift in pressure for variable time periods prior to failure.

Pressure transducers are reliable instruments used to measure water levels over long periods of time. Periodically, they will be checked for drift and the probe replaced if necessary. We have checked with the US Geological Survey, Lost Pines GCD, and the Edwards Aquifer Authority concerning reliability. These entities have used many pressure transducers for years and report drift to be a very minor and infrequent problem to be addressed.