



COMMENTS: PROPOSED REVISIONS TO 30 TAC CHAPTER 230 GROUNDWATER AVAILABILITY CERTIFICATIONS FOR PLATTING

I am submitting these comments to propose adding an additional pumping test method to the rules. In addition to the constant rate pumping test method currently specified in Title 30, TAC, Chapter 230.1-230.11, Groundwater Availability Certification for Platting, I am proposing to add the constant drawdown pumping test method.

Prior to the start of a constant rate test, a rate must be picked that can be maintained for the duration of the test. If the chosen rate is too low, then the aquifer is not stressed enough, and if the chosen rate is too high, then the test will end prematurely. The selection of an appropriate pumping rate for the constant drawdown test is not required.

In relatively low yield formations, fractured rock, or where the available drawdown is limited, the constant drawdown aquifer testing method is particularly useful.

For the constant drawdown method, the water level is held constant in the pumping well and the pumping rate, time, and water levels are recorded in the pumping well and observation wells. The constant drawdown method maximizes stress on the aquifer from the beginning of the test, thereby maximizing information acquired for the effort expended. A minimum 24-hour test is also recommended for the constant drawdown method.

To determine the aquifer parameters, data are typically analyzed using the Aron-Scott method, which is a variation of the familiar Cooper-Jacob straight-line method but allows for constant drawdown and variable yield (Kruseman and de Ridder).

References:

Kruseman, G. P. and N. A. de Ridder, "Analysis and Evaluation of Pumping Test Data," Second Edition, International Institute for Land Reclamation and Improvement, Publication 47, 2000, pp. 185-187.

Rice, J.B., "Constant Drawdown Aquifer Tests: An Alternative to Traditional Constant Rate Tests," Ground Water Monitoring Review, Spring 1998.

TCEQ Remediation Division, RG-366/TRRP-8, "Groundwater Classification", Revised March 2010, pp. 33-34 (2.7.2.3 Method 2b: Well Yield by Equilibrium Water Level Test).

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