Description of aquifer test for town of Gardnerville # 4 well.

A single-well constant-rate test was conducted by Carson Pump of Carson City, Nevada. The well is located at 38º 56' 11.1"N, 119º 43' 59.1"W, and is completed in the basin-fill aquifer of Carson Valley, Nevada. Copies of time-drawdown and pump data were obtained from files of the Gardnerville Water Company (Mark Gonzales, written commun. 2005). Results of the aquifer test will be used in the development of a numerical ground-water flow model in Carson Valley, project # 9705-BPS01. Specifically, the estimated transmissivity will be used to develop a relation between transmissivity and specific yield. The relation will then be used with data from driller's logs to develop a preliminary distribution of transmissivity for the valley.

The pump rate during the test was 1,000 GPM, measured with a totalizing flow meter, for a period of 28 hours from 12/8/03 to 12/9/03. The methods of water-level measurement, location of discharge of pumped water, and pre-test water-level trends are not known. The well was reported completed on 4/30/70, and the well was likely in use the entire 33-year period between completion and testing. Time-drawdown data were analyzed using an Excel spreadsheet program (Halford and Kuniansky, 2002) and the Cooper-Jacob analysis.

Results of the test indicate a hydraulic conductivity and transmissivity of 26 ft/day and 7,700 ft^2/day, respectively.

References Cited

Halford K.J., and Kuniansky, E.L. 2002, Documentation of spreadsheets for the analysis of aquifer pumping and slug test data: U.S. Geological Survey Open-File Report 02-197, 54 p.