

# GROUND WATER

## Aquifer Testing

### Western Water Company - McLain Well A-1

McLain Well A-1 was drilled and completed during the winter of 2002-2003 for the purpose of supplying ground water to Western Water Company for a variety of purposes. The well was drilled into the Arapahoe aquifer in the Denver Basin aquifer system near the Town of Franktown in Douglas County, Colorado.

As part of this project, Martin and Wood personnel designed an aquifer test to determine the potential production of the Arapahoe aquifer and to aid in the final pump

specifications and settings. In cooperation with a pump contractor, a preliminary 8-hour step drawdown test was conducted at four different pump rates at two-hour intervals. Martin and Wood used the results from the 8-hour step drawdown test to determine an acceptable pump rate in which to run a 24-hour pump test. In addition, Martin and Wood conducted a 24-hour recovery test on the well. The pump test data were recorded by a submersible pressure transducer and an electronic data logger. Martin and Wood analyzed the pump test and recovery data using the Theis Drawdown, Cooper-Jacob Drawdown, and Theis Recovery methods to determine the hydrogeologic characteristics of the aquifer, such as hydraulic conductivity, transmissivity, and specific capacity, as well as to ascertain the eventual long-term pumping capability of the well.



*Airlifting water from McLain Well A-1*

### Dave Goodwin - Residential Well

In developing his foothills property, Dave Goodwin needed a reliable source of water.

Martin and Wood assessed both the reliability and water quality of the 600-foot well on his property. After pump tests revealed high volumes of sediment being produced, Mar-

tin and Wood researched the local geology and found that the well completion for the geology encountered was incorrect. A new well, designed for the specific conditions at this site, was drilled and then tested by Martin and Wood, and this time it was determined that a reliable clean source had been established.

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