Characterization Well R-13:

Location: TA-5, Mortandad Canyon

Survey coordinates (brass marker in NW corner of cement pad):
x = 1640991.7 ft (NAD 83)
y = 1766994.2 ft (NAD 83) ,
z = 6659.7 ft asl (NGVD 29)

Drilling: fluid-assist air rotary reverse circulation with casing advance
Start date: 8/21/01
End date: 9/20/01

Borehole drilled to 1133 ft. total depth (TD)

Data collection:
Hydrologic properties:
Field Hydraulic Testing: N/A

Cores/cuttings submitted for geochemical and contaminant characterization: 0
Groundwater samples submitted for geochemical and contaminant characterization: 1
Geologic properties:
Mineralogy, petrography, and chemistry: 12
Borehole logs:
Lithologic: (0-1133 ft)
Video (LANL tool): 760-828 ft
Natural gamma (LANL tool): 0-830 ft (cased 0-760 ft) , 0-1053 ft (cased 0-850 ft), , 0-1125 ft (cased 0-1126 ft)
Schlumberger Logs: 0-1058 ft (cased 0-850 ft) ; Compensated neutron, array induction, litho-density, electron capture, natural gamma, formation micro-imager.

Contaminants Detected in Borehole Samples:
Regional groundwater: none

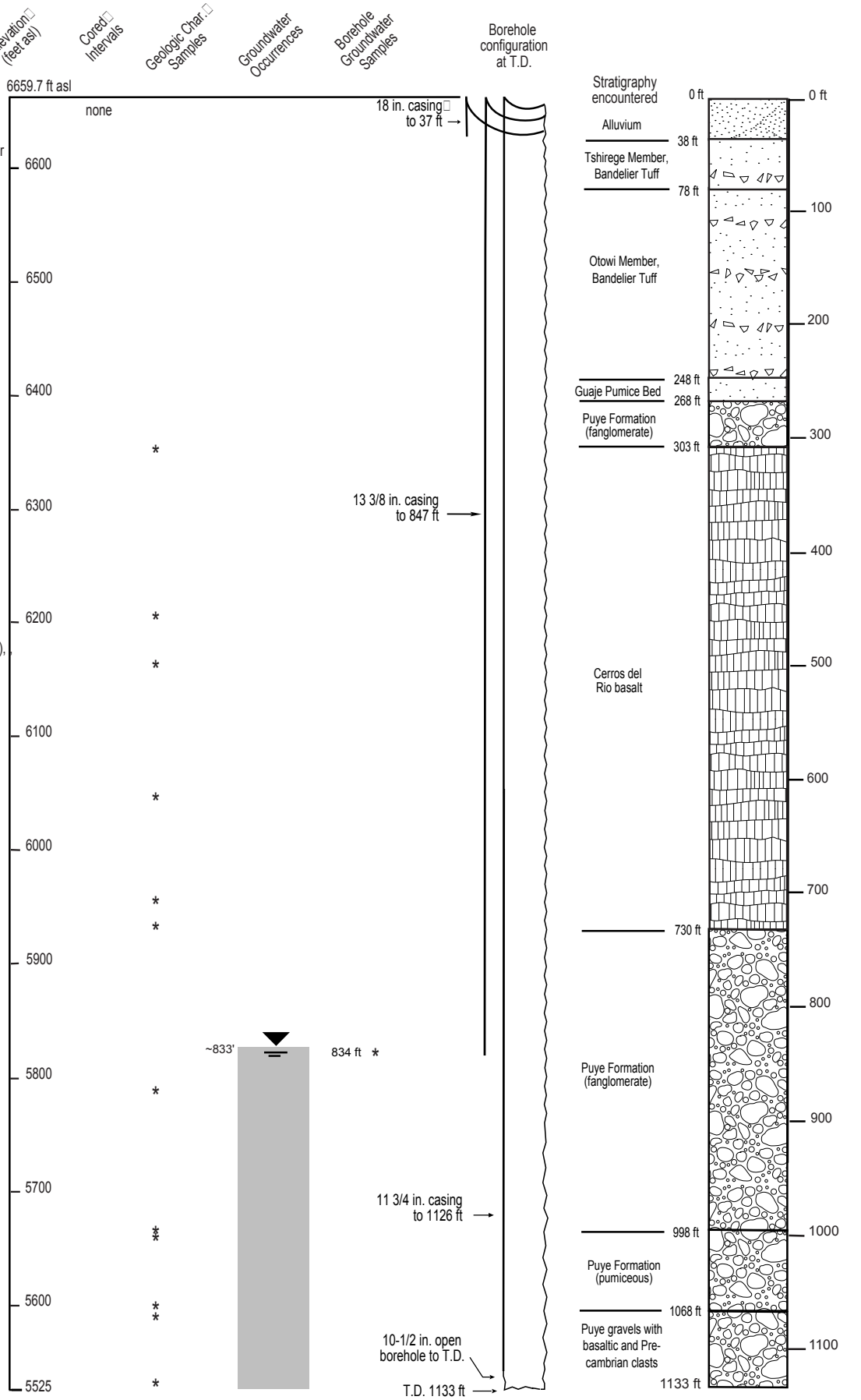
Well construction:
Drilling Completed: 9/20/01
Contract Geophysics: 9/24/01
Well Constructed: 9/26/01 - 10/6/01
Well Developed: 10/11/01 - 10/30/01
Dedicated Pump Installed: Feb. 02

Casing: 4.5-in ID, 5.0-in OD stainless steel with external couplings

Number of Screens: 1
4.5-in ID, 5.563-in OD pipe based, s.s. wire-wrapped; 0.010-in slot

Screen (perforated pipe interval):
Screen #1 - 958.3 - 1018.7 ft

Well development consisted of brushing, bailing, and pumping.



Groundwater occurrence was determined by recognition of first water produced while drilling. Static water levels were determined after the borehole was rested.

Preliminary geologic contacts determined by examination of cuttings and interpretation of geophysical logs.

Drilling, stratigraphic, and hydrologic information for characterization well R-13 Rev. 0 (2/25/02)