

## LITHOLOGIC LOG

Project: AlumHole: 21-30Elevation: 4960Date Drilled: 11/16/82Location: NE 1/4 NW 1/4 NW 1/4 S30T1NR38 1/2E Method: rotary air/mud

MDBM

Geologist: DeymonazGamma: N/A

Depth (ft)

Description

0-1295  
(0-395)

Siltstones and Shales - Esmeralda Formation, light tan, yellow and pale green thinly bedded siltstone and sandy siltstones with lesser amounts of light colored shales and sandy shales. At surface beds dip 8-12° south and contain numerous veins of gypsum, generally following bedding planes and to a lesser extent following small fractures. The rock type remains very uniform from the surface. A few small hard zones (less than 2 feet thick) may have been thin silicified sandstone lenses but no cuttings were recovered. Considerable water encountered from 850-920 feet (259-280m) although no large fractures were identified. Drilling continued with high viscosity mud and L.C.M. below 920 feet (280m) and very few cuttings were recovered below that depth. Resistivity 2-12 m.

1295-1446  
(395-441)

Shale and Siltstone - Esmeralda Formation, dark gray shale, thinly laminated shales and sandy shales, rare pyrite. Very poor sample recovery. Drill rate slowed to 30-40 feet/hour, resistivity dropped to about 1 m, borehole wall holding up well.

1446-1720  
(441-524)

Shale - Esmeralda Formation, dark gray thinly laminated shales and sandy shales with minor thin yellow-brown siltstones. Similar to above interval except much softer, drilling rate 2-5 ft/hour, quickly increases mud viscosity and forms clay rings above bit. Caliper log shows this interval washed out to 7-8 inches with numerous small blocks of rock which have dislodged from borehole wall. Resistivity 1-6 m.

1720-2006  
(524-612)

Shale and Siltstone - Esmeralda Formation, dark gray shale as above except harder with 10-15% interbedded yellow-brown sandy siltstone. Resistivity 1-2 m.