

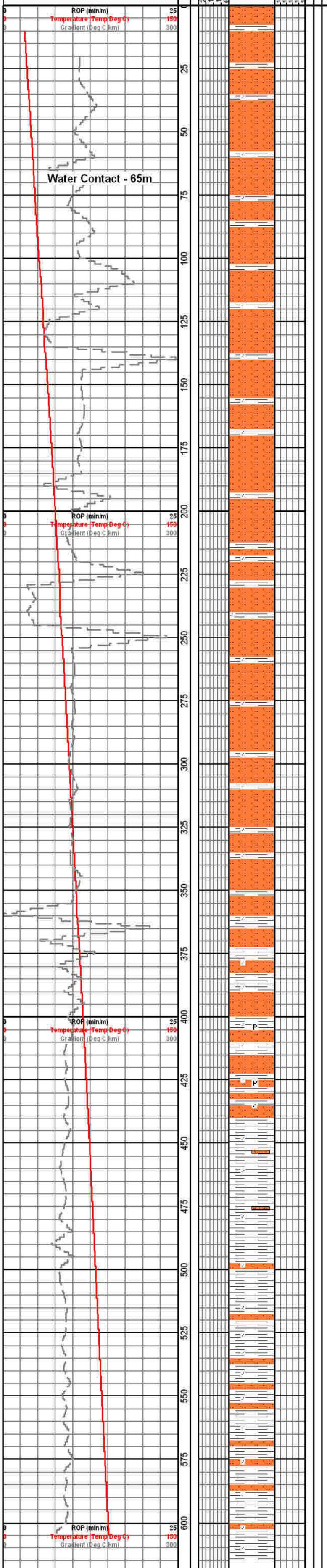
Curve Track 1

ROP (min/m) ———
 Temperature (Temp Deg C) ———
 Gradient (Deg C/km) - - - - -

Depth (m) 0 25 50 75 100 125 150 175 200 225 250 275 300 325 350 375 400 425 450 475 500 525 550 575 600

Porosity Type
 Porosity
 Lithology
 Grain Size
 Sonar
 Bounding
 Oil Shows

Geological Descriptions



Alum Well 1186-33- 21-30
 Lat 117'45, Long 37'45
 Elevation 4960 ft or 1511.8m

0-395m: 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 8-120 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 (259-280n) although no large fractures were identified. Drilling continued with high viscosity mud and L.C.M. below 920 feet (28011) and very few cuttings were recovered below that depth. Resistivity 2-12 m.

395-441m 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.

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 increase 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 with have dislodges from borehole wall. Resistivity 1-6m.

524-612m Shale and Siltstones: Esmeralda Formation: Dark grey shale as above except harder with 10-15% interbedded yellow-brown sandy siltstone. Resistivity 1-2m.