dick harnly

consulting petroleum geologist
1932 eastlawn ave ,durango calarado,81301,303-247-1518

36-12

FORMATION TOPS (from "E" Logs) Elevations: 6856 GL, 6870 KB

FORMATION	DEPTH	ELEVATION
Ojo Alamo	1140	+5730
Pictured Cliffs	1852	+5018
Lewis	1936	+4934
Cliff House	3332	+3 <i>5</i> 38
Point Lookout	4170	+2700
Mancos	4430	+2440
Gallup	5264	+1606
Total Depth (Drilled)	57 27	+1143
Total Depth (Pipe Strap)	5690	+1180
Total Depth (Dresser Atlas)	<i>5</i> 69 0	+1180

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OPERATOR:

Kenai Oil & Gas Inc

WELL:

State of New Mexico 36-12

PROSPECT:

Escrito/Nageezi

Gallup

LOCATION:

sw nw 36-T24N-R8W

San Juan County New Mexico

DRILLING CONTRACTOR:

Young Drilling Co.

Pushers: G. Hawkins, C. Carpenter

MUD LOGGING:

Durange Well Logging

Logger: Mark Harnly

WELLSITE GEOLOGY:

Dick Harnly

MUD:

Shiprock Mud Co.

Engineer: Scott Smith

LOGGING:

Dresser Atlas

Engineer: E.Vest

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MUD LOGGING & WELLSITE GEOLOGY

Mud logging services were performed by Mark Harmly of Durango Well Logging ,Durango,Colorado,from the depth of 2500 feet to the total depth of 5727 feet. Geologic services were performed at the wellsite from the starting logging depth to the completion of the logging operation at total depth.

MUD PROGRAM & ELECTRIC LOGGING

The logging at total depth required three attempts as bridges at 1910 and 2285 feet prevented passage down the bore hole. After cleaning out the third try was successful. While difficulty was encountered logging this hole it has been observed that other holes in this area that have been drilled with a higher water loss have experienced a much greater frequency of bridging...while a low water loss is not a guarantee that hole problems will not occure it does reduce such difficulties. (see the mud log for the drilling mud characteristics ...as wellas the bit record and deviation surveys)

OIL & GAS SHOWS

Wellsite logging operations began at a depth of 2500 feet and no shows were encount ered above the Cliffhouse formation where at 3365 feet a fine grained slightly calcareous sandstone exhibiting about 25% dull gray yellow fluorescence with a trace of a very slow milky cut fluorescence was noted. This interval produced a poor show of gas... 6 units of methane and traces of ethane and propane. While this zone exhibited only a poor show of hydrocarbons it may well be a zone of economic importance in subsequent penetrations of the Cliff House.

The next shows of hydrocarbons, excluding the occurence of several thin coals, were noted deep in the Point Lookout formation at 4415 and 4480 feet. The upper zone 4415-45 feet consisted of a very fine to fine grained sandstone exhibiting some tan oil staining and a good bright yellow fluorescence with a good yellow streaming yellow cut fluorescence. A small amount of gas was detected ...6 units of methane with a trace of ethane and propane. The shows in the upper portion of the Point Lookout noted in other tests in this area were not encountered in the current hole. The zone 4480-4505 feet was represented by a very fine sandstone with a poor to fair dull gray yellow fluorescence and a poor streaming yellow white cut fluorescence...no gas.

The next interval of interest was notes 460 feet into the Mancos in a calcareous slightly siliceous siltstone exhibiting a fair yellow fluorescence in about 40% of the sample. No gas was detected and the sandstone offered only a poor slow milky cut fluorescence.

The sample quality in the Gallup zones was something less than desirable as the variations in the viscosity of the mud resulted in erratic cleaning of the hole...thus abundant cavings in each sample.

Two zones of interest were noted in the samples...the upper 5330-60 being an argillaceous siltstone with a very dull gray slightly yellow fluorescence and a trace of a slow milky cut fluorescence. The last show in the samples was noted 5305-15 feet in a very fine grained sandstone with a fair yellow, slightly green fluorescence and a poor milky cut in about 20% of the sample. Gas readings in this zone amounted to a total gas reading of 14 units, 6 units of methane, 5 ethane and 1 unit of propane.

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CONCLUSIONS

As was noted earlier in this report bridging of the hole made the logging of the hole difficult and the water loss as recrded at 2739 feet, while drilling the hole, was allowed to rise to 9.5...the only instance of the water loss exceeding 6.0. The upper portions of the holes in this area are very prone to bridging and the utilization of mud programs with a low water loss have been advantageous in the control of this problem. A closer control of viscosity regularity would result in the reduction of cavings and thus increase the credability of the samples.