

Durango Well Logging

1932 Eastlawn Avenue
Durango, Colorado 81301
Phone 303-247-1518

GEOLOGIC REPORT

DOMO PETROLEUM CORPORATION

SANTA FE 20 No. 1

SW NE, SEC. 20, T21N, R8W

SAN JUAN COUNTY, NEW MEXICO

Dick
R.W. HARNLY



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Samples

Method- Samples of drilling cuttings were caught by members of the drilling contractor's crews every ten(10) feet from the base of surface casing to total depth, except for the cored interval 5608-66.

Samples were caught lagged.

Bottoms-up (lag) time was determined daily by the mud logging operator.

The crews caught samples in a good manner.

Sample Quality- The sample quality was poor to very poor from the base of the surface casing to 4600'. All samples caught thruout this interval consisted predominatly cavings and made formation top determinations and sample reading very difficult. No shows were missed as all samples came to the surface, even though out of place.

The poor quality of the samples was due to the low viscosity drilling mud used while drilling this interval.

Please note the listed mud weights and viscosities.

385'	8.5	28
1130	8.9	29
2984	9.0	27
3578	9.0	27
4172	9.0	32
4406	9.0	38

Optimum penetration rate is needed for economic reasons, but viscosities less than 30 sec/qt result in poor sample quality. It is recommended that future exploratory wells be drilled with muds of 35-40 viscosity.

Cretaceous Shows- The only show of hydrocarbons noted in the Cretaceous section was in the 1870-80 sample; Sandstone, medium grained, white to light gray, clay filled in part, poor porosity and permeability. Fair spotty fluorescence was noted in 10% of the sample with a trace of slow milky cut fluorescence. The logging unit operator reported 45 units of gas being methane and ethane. Show did not warrant testing.

Both Gallup and Dakota formations were tight and free of hydrocarbon shows.

Triassic Shows- The Todilto formation in this test consists of dark brown and brown cryptocrystalline limestone with a trace of very fine granular dark brown limestone. Sixty(60 %) percent of the sample exhibited a dull gold fluorescence with a weak yellow-white cut fluorescence. A minor amount of tan chalky limestone was also present. In the lower portion of the formation scattered traces of very fine granular anhydrite was observed.

The Entrada sandstone underlying the Todilto is very fine to fine grained, white, sub round and frosted. Very good porosity and permeability was noted to contain dark brown mobile oil which exhibited good bright yellow fluorescence and good yellow-white streaming cut fluorescence. A small amount of tan calcareous cementation had occurred. No pyrobitumens.



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Drill Stem Test- The Entrada was topped at 5600' and eight(8') penetrated at a depth of 5608' and Drill Stem Tested with results as follows:

DST-1-5600-08

Pre Flow, 15 minutes, good blow of air through-out.

Shut-In 30 minutes.

Final Flow, 35 minutes, reopened with good blow of air and flowed oil to surface in 35 minutes.

Final Shut-In, 120 minutes.

Pipe Recovery- 5536 ft of oil and 30 feet of mud cut oil.

Top Recorder at 5578'

IHP 2705

IFP 630-1496

ISIP 2337

FFP 1614-2179

FSIP 2337

FHP 2705

Bottom Hole Temperature 152 F

Bottom Recorder at 5604'

2720

788-1548

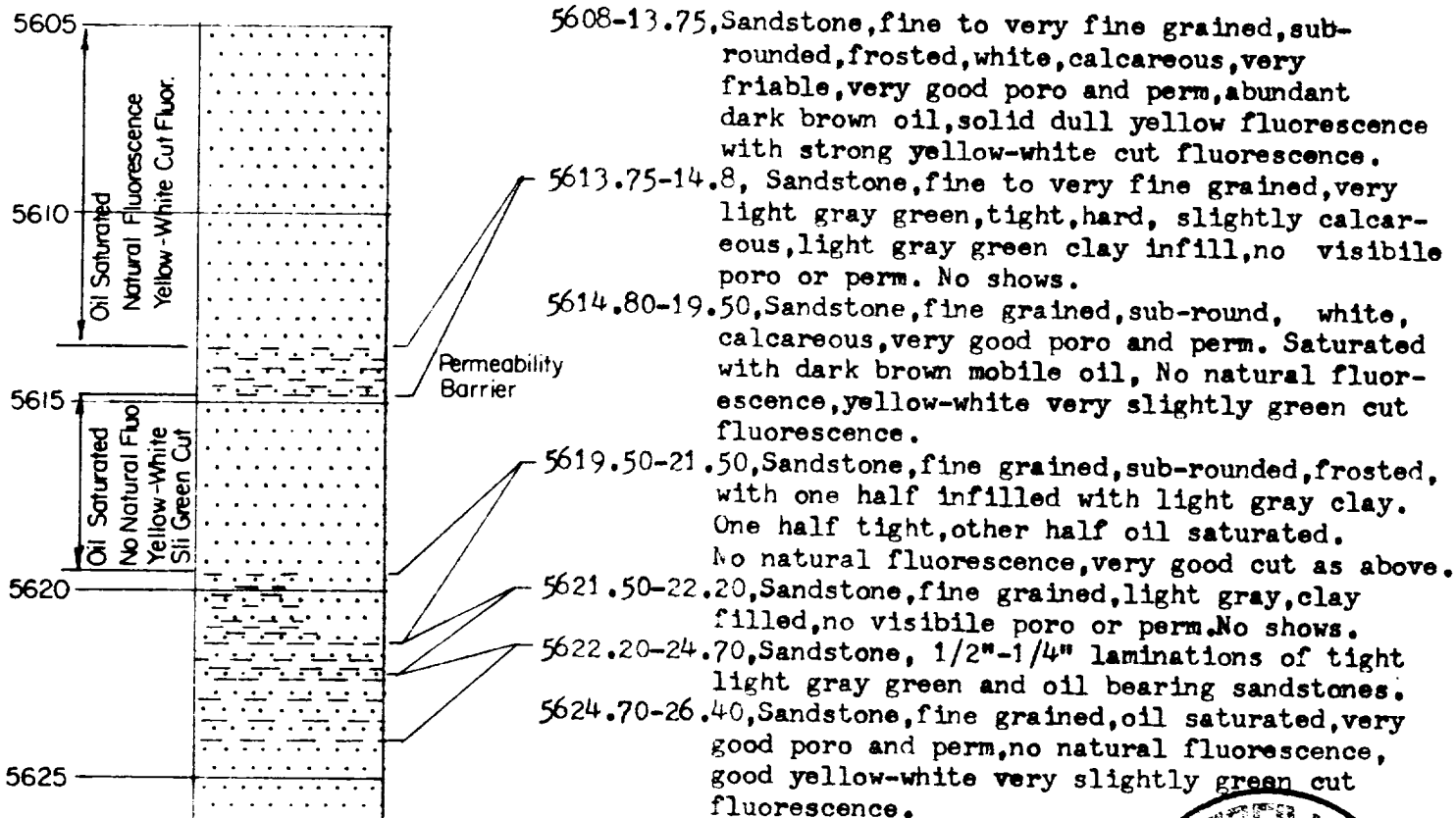
2364

1706-2233

2364

2720

Core- After testing a core of Entrada was cut from 5608-66, cut 58', recovered 50'.



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- 5626.40-27.60, Sandstone, fine grained, oil laden, some scattered pyrobitumens, fluorescence and cut fluorescence as above.
- 5627.60-28.00, Sandstone, fine grained, white, sub-round, trace pale green grains, very good pore and perm, abundant pyrobitumens, minor oil, with fair yellow-white very slightly green cut fluorescence.
- 5628.00-29.00, Sandstone, fine grained, sub-rounded, white slightly cream, trace pale, orange and green grains, calcareous, fair to good pore and perm, no shows.
- 5629.00-58.00, Sandstone, as above, poor to fair pore and perm, no shows.

Samples while drilling after coring as follows:

- 5660-80, No sample
- 5680-5700, Sandstone, fine to very fine grained, white, clay filled, calcareous, tight.
- 5700-10, Sandstone, fine grained, cream, sub-angular, calcareous, clay filled, tight.
- 5710-20, Sandstone, fine grained, cream-light orange, sub-angular, very calcareous, tight.
- 5720-80, Sandstone, very fine, fine and medium grained, poor sorting, light orange, clay filled, very calcareous, trace brown and orange quartz grains, tight.
- 5780-90, Sandstone, as above with very fine to fine grained, white, clay filled, calcareous, tight.
- 5790-5814, Shale, brown, sandy and Siltstone, red orange, argillaceous, very calcareous.

Examination of the fluorescent characteristics of the oil above and below the permeability barrier indicates two slightly different oils may be present. The oil above the barrier will fluoresce a dull gold with a cut fluorescence of yellow-white; below the barrier has no natural fluorescence with a yellow-white very slightly green cut fluorescence.

Summary-The samples below 4600' were of good quality due primarily to the viscosity being raised. Viscosity ranged from 36 at 4693 to 48 at 5108'.



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Formation	Formation Tops (from "E" logs)	
	Depth	Datum
Chacra	522	+6057
La Ventana (Massive)	920	+5659
Point Lookout	2466	+4113
Mancos	2588	+3991
Gallup	3288	+3291
Sanostee	4054	+2525
Greenhorn	4387	+2192
Graneros	4530	+2049
Dakota	4665	+1914
Morrison	4703	+1876
Summerville	5525	+1054
Todilto	5570	+1009
Entrada	5603	+ 976
Carmel	5792	+ 787
Total Depth, Logged	5818	+ 761
Total Depth, Drilled	5814	+ 765

