24-33-14W

OFFICE PHONE AMHERST 2-2992
RESIDENCE PHONE MURRAY 4-4423

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WICHITA, KANSAS

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Gramchart-Miller and Lion Oil Companies
W. J. Lenkner No. 2 NW SE NE
Section 24 - T33S - R14W
Barber County, Kansas

Elevation: 1834 Kelly bushing (depth datum)
1831 Derrick floor

Commenced: November 18, 1955
Completed: December 1, 1955
Contractor: GMR Oil Company Rig No. 1

8-5/8 inch casing cemented at 280 feet with 240 sacks.

GEOLOGICAL REPORT

The following are the important geological markers, zones of indicated porosity with oil and gas shows and other pertinent data as determined by the appearance of the drill cuttings, changes in the drilling rate and the results of the drill stem test. No electric log was run in open hole.

Top Lecompton Lime 3751 (-1917)

Top Kanwaka Shale (Elgin Zone) 3788 (-1954)
3788-3835 Grey calcareous and slightly silty shale.

Top Elgin Sand 3835 (-2001)
3835-3851 Light grey fine grained very shaley and calcareous sandstone. No oil shows.
3851-3878 Grey medium-grained sub-angular micaceous friable porous sandstone. No oil shows.
3878-3930 Sandstone as above plus rust-colored, shaley and locally limey. No oil shows.

Top Heumader Shale (First black shale) 3954 (-2120)

Top Heebner Shale 3969 (-2135)

Top Toronto 3986 (-2152)
3986-4009 Cream-tan medium crystalline fossiliferous in part lime. Some intercrystalline and fossiliferous porosity. No oil shows.

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Top Douglas Group (Sand) 4009 (-2175)

4009-4029	Light grey fine-medium grained sub-rounded micaceous sandstone. Some faint oil staining. No fluorescence.
4029-4070	Light grey-rust medium-grained, slightly shaley, locally calcareous sandstone. No oil shows.
4070-4073	Tan-buff finely crystalline slightly sandy lime.
4073-4086	Light grey medium-grained micaceous calcareous sandstone. No oil shows.
4086-4089	Tan fine-medium crystalline lime.
4089-4115	Grey and rust sandy shale.
4115-4125	Broken tan-buff fine-medium and coarse crystalline lime.
4125-4147	Grey and rust fine-medium grained micaceous tight sandstone.

Top Lansing 4147 (-2313)

There are numerous zones of porosity developed in the Lansing. None carried shows of oil.

Top Marmaton 4623 (-2789)

4623-4633	Light grey-tan finely crystalline-chalky broken lime.
4633-4636	Grey and grey-green shale.
4636-4647	Tan-grey very finely crystalline lime with tan-brown sub-opaque chert.
4647-4658	Grey limey shale with thin streaks grey fine-medium crystalline, slightly fossiliferous lime.

Top Massey Zone 4658 (-2824)

4658-4664	Light grey-grey fine-medium crystalline oolitic, fossiliferous slightly shaley lime; 5% oil staining and saturation. Faint odor, free oil in wet sample. Good fluorescence.
4664-4676	Grey-tan and buff fine-very finely crystalline lime.

Drill Stem Test No. 1 4647-4675

Open one hour. Gas to surface in 7 minutes.
Gauged as follows:

62,000 cubic feet of gas per day in	10 minutes
24,530 " " " " " "	20 minutes
17,260 " " " " " "	30 minutes
10,970 " " " " " "	40 minutes
10,000 " " " " " "	50 minutes
Volume too small to gauge "	60 minutes

Recovered 1400 feet of oil and muddy oil. No water.

Initial flow pressure	210 p.s.i.
Final flow pressure	310 p.s.i.
Shut in bottom hole pressure in 30 minutes. . .	950 p.s.i.
Initial hydrostatic pressure.	2500 p.s.i.

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4676-4684	Broken shaley lime as above.
4684-4689	Light grey-green fine-medium chalky lime.
4689-4697	Grey-green sub-waxey slightly glauconitic shales with lime and chert nodules.

Top Mississippian (Cowley Facies) 4697 (-2863)

4697-4718	Tan and grey gritty, siliceous, shaley and silty lime plus cream-grey and light green very finely crystalline lime with 10% cream translucent chert. Trace of slight weathering with poor light oil staining. No free oil or odor.
4718-4736	Dark grey-grey and brown medium granular gritty, siliceous, shaley dolomite with some chert as above plus trace yellowish chert.

Top Mississippi Lime 4739 (-2905)

4739-4750	Cream-light green, fine, medium and coarse crystalline with some cream sub-translucent chert. No oil shows.

Rotary Total Depth 4750 (-2916)

Remarks:

Drill cuttings were examined and described on location from 3600 feet to total depth. Drilling was supervised from 4609 feet to total depth.

The relative structural position of the subject test as compared to nearby wells is shown in the following table:

Formation	Gramehart Lenkner No. 2 NW SE NE Sec.24-33S-14W	Gramehart Lenkner No.1-A Con.SE/4 Sec.24-33S-14W	Purcell-Mull Lenkner No.1 NW SW NW Sec.19-33S-13W
Heebner	- 2135	- 2160	- 2144
Douglas	- 2175	- 2199	- 2186
Lansing	- 2313	- 2341	- 2328
Marmaton	- 2789	- 2794	- 2776
Massey	- 2824	- 2828	- 2809
Mississippian	- 2863	- 2879	- 2864

The Gramehart-Miller Lenkner No. 2 is consistently higher than the Gramehart-Miller Lenkner No. A-1. However, the Purcell-Mull Lenkner No. 1, the east offset, is lower on the Lansing and upper beds but higher on the Marmaton and Massey zones than the subject test. The difference of the datums of the Massey zones is 15 feet. The Purcell-Mull Lenkner flowed on a drill stem test from this zone. The subject well recovered 1400 feet of oil and muddy oil from this interval.

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The Mississippian in the Lenkner No. 2 and its east offset is the "Cowley Facies". The grey, tan and brown gritty, siliceous, shaley, silty dolomite and lime is tight with very little chert development. The drill cuttings indicate very poor reservoir characteristics.

There is some oil staining recorded in the top 15 feet of the Douglas Sand (probably the Ireland member). A maximum of 5% staining was logged with much sand with void porosity observed. Should the gamma ray-neutron log indicate a favorable reading, consideration should be given to testing it before the hole is plugged and abandoned as dry.

It was recommended that 5-1/2 inch casing be set at 4750 feet with 100 sacks cement.

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