

28-34-17W

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102 G INSURANCE BUILDING  
WICHITA, KANSAS

EXPLORATION  
FILE COPY  
KANSAS DIVISION

28  
G-M-R & Natural Gas and Oil Companies  
Jackson No. 1 NW NW NW  
Section 38-348-17W  
Comanche County, Kansas

Property of  
Kansas Geological Society  
540 Petroleum Bldg.  
Wichita, Kansas

Commenced May 29, 1954  
Completed August 6, 1954  
Contractor G-M-R Drilling Company; Rig No. 1 & Rig No. 4

13 3/8" casing at 231 feet with 150 sacks cement  
8 5/8" casing at 2360 feet with 125 sacks cement

Geological Report

The following are the important geological markers, zones of indicated porosity, shows of oil and gas and other pertinent data as determined by the appearance of the drill cuttings, changes in drilling time, the electric log, core analysis, and the results of drill stem tests.

This report represents the combined efforts of Mr. George Klein and Robert W. Frensley.

Drill Stem Test No. 1 2355-2525

Open one hour.  
Recovered 270 feet salt water.  
IFP . . . . . 150 p.s.i.  
FFP . . . . . 250 p.s.i.  
SIBHP in 20 minutes . . . . . 1050 p.s.i.

Top Lecompton Lime 4052 (-2240)

Top Elgin Sand Zone 4146 (-2334)

4146-4246 White fine-very fine micaceous porous, in part broken sandstone.

Drill Stem Test No. 2 4146-4190

Open one hour.  
Recovered 840 feet salty mud and 180 feet muddy salt water.  
IFP . . . . . 410 p.s.i.  
FFP . . . . . 620 p.s.i.  
SIBHP in 20 minutes . . . . . 2000 p.s.i.

Top Heebner Black Shale 4275 (-2463)

Top Toronto 4310 (-2498)

4335-4359 Cream-gray and tan medium-coarsely crystalline lime. Some fair intercrystalline porosity.

Top Douglas Sand Zone 4381 (-2569)

4381-4473 Light grey very fine grained silty and micaceous, hard tight broken sandstone.

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Drill Stem Test No. 3

Open one hour.

Recovered 20 feet of drilling mud.

IFP . . . . . 0 p.s.i.

FFP . . . . . 0 p.s.i.

SIBHP in 20 minutes . . . . . 0 p.s.i.

Top Lansing-Kansas City 4500 (-2688)

4509-4515 Cream-tan medium to coarsely crystalline pyritic lime. Some intercrystalline porosity. No stain, odor or fluorescence.

4551-4577 Tan medium crystalline lime. Good inter-crystalline porosity. No stain, odor or fluorescence.

4593-4607 Tan medium to coarsely crystalline slightly dolomitic lime. Good vugular porosity. No stain, odor or fluorescence.

4636-4641 Cream-tan medium-coarsely crystalline lime. Some pin hole porosity. No stain, odor or fluorescence.

4663-4668 Tan medium crystalline pseudo-oolitic lime. Some fair-good pin hole porosity. Possible faint oil stain; no odor or fluorescence.

Drill Stem Test No. 4 4580-4669

Open one hour.

Recovered 1420 feet of gas cut salt water.

IFP . . . . . 200 p.s.i.

FFP . . . . . 750 p.s.i.

SIBHP in 20 minutes . . . . . 1750 p.s.i.

4681-4692 Tan medium crystalline slightly dolomitic lime. Fair pin hole porosity, no stain, odor or fluorescence.

4747-4759 Tan-brown medium crystalline very oolitic and oolastic lime. Good oolastic porosity. No stain, odor or fluorescence.

4820-4824 Cream-grey fine-medium crystalline lime. Some fair intercrystalline porosity. No stain, odor or fluorescence.

Base Kansas City 4856 (-3044)

4879-4894 Tan-brown medium crystalline very finely oolitic and oolastic lime. Much good oolastic porosity. No stain, odor or fluorescence.

Top Marmaton 4936 (-3124)

No porous zones encountered.

Top Cherokee 5170 (-3358)

No porous zones encountered.

Top Mississippian 5241 (-3429) Spergen

5241-5280 Cream medium-coarsely crystalline very slightly oolitic lime. Trace faint spotted oil stain, no odor or fluorescence. Very poor porosity.

Drill Stem Test No. 5 5242-5259

Open one hour.

Recovered 30 feet mud; no shows.

IFP . . . . . 0 p.s.i.

FFP . . . . . 0 p.s.i.

SIBHP in 20 minutes . . . . . 0 p.s.i.

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Drill Stem Test No. 6 5258-5296

Open one hour.

Gas to surface in 11 minutes gauged as follows:

at the end of 22 minutes . . . . . 48,000 cubic feet per day  
at the end of 30 minutes . . . . . 45,000 cubic feet per day  
at the end of 45 minutes . . . . . 39,500 cubic feet per day  
at the end of 60 minutes . . . . . 38,780 cubic feet per day

Recovered 100 feet gas cut mud

IFP . . . . . 115 p.s.i.

FFP . . . . . 120 p.s.i.

SIBHP in 20 minutes . . . . . 1070 p.s.i.

5302-5390 Cream-white. Medium-coarsely crystalline. Slightly glauconitic lime with thin streaks of poor fossiliferous porosity. Possible faint spotted stain. No odor or fluorescence.

5391-5410 Cream-buff. Coarsely crystalline. Very fossiliferous (Bryozoan) glauconitic lime. Good fossil cast porosity - 10% light oil stain. Good fluorescence.

5410-5420. Tan. Sucrosic. Slightly shaley dolomite. Some inter-crystalline porosity. No stain, odor or fluorescence.

5426-5447 Tan. Sucrosic. Slightly shaley and glauconitic dolomite. Some inter-crystalline porosity. No stain, odor or fluorescence.

Drill Stem Test No. 7 5390-5438

Open one hour.

Recovered 350 feet slightly oil and gas cut mud

IFP . . . . . 110 p.s.i.

FFP . . . . . 200 p.s.i.

SIBHP in 20 minutes . . . . . 1770 p.s.i.

5468-5496 Tan-buff sucrosic. Slightly glauconitic cherty dolomite. Some inter-crystalline porosity. No stain, odor or fluorescence.

Top Warsaw 5522 (-3710)

5522-5569 Grey. Fine sucrosic dolomite with quartzose chert. No apparent porosity.

Top Cowley 5570 (-3758)

5570-5589 Grey. Finely crystalline siliceous and argillaceous dolomite.

Top Kinderhook 5820 (-4008)

Top Chattanooga Shale 5896 (-4084)

5896-5906 Brown carbonaceous spore bearing shale, sandy in bottom two feet.

Top Viola 5906 (-4094)

5906-5910 Grey. Coarsely crystalline. Slightly dolomitic cherty lime. Possible faint spotted stain. No odor or fluorescence.

Drill Stem Test No. 8 5884-5938

Open one hour.

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Recovered 50 feet mud, no shows.

IPP . . . . . 0 p.s.i.

PPP . . . . . 0 p.s.i.

SIBMP in 20 minutes . . . . . 0 p.s.i.

5910-6105 Mostly grey and tan. Very finely crystalline lime and dolomitic lime with very poor broken porosity. No stain, odor or fluorescence.

TOP SIMPSON (Shale) 6104 (-4292)

6104-6110 Apple green. Waxy fissile shale.

6110-6120 Tan-brown. Sucrosic tight hard dolomite. No stain, odor or fluorescence.

6120-6122 Chocolate brown. Fissile shale.

6122-6130 Cream-white. Finely crystalline lime. Porosity from 6124-6127. No stain, odor or fluorescence.

6130-6140 Grey medium to coarsely crystalline phosphatic dolomite with tan translucent chert.

CORE NO. 1 6140-6144 (6 1/8 inch diamond core head)

Recovery 100% as follows:

6140-6144 Grey. Dense very fossiliferous tight hard phosphatic dolomite. No apparent porosity. No stain, odor or fluorescence.

CORE NO. 2 6144-6204 (6 1/8 inch diamond core head)

Recovery 100% as follows:

6144-6158 Cream-tan and tan sucrosic dolomite with grey opaque chert nodules and streaks. No odor or fluorescence.

Core Laboratories Inc. gave the following core analysis on the porous portion of the core:

| Depth  | Lithology | Permeability<br>M.D. | Porosity<br>% | Residual Saturation<br>% Pore Space |       |
|--------|-----------|----------------------|---------------|-------------------------------------|-------|
|        |           |                      |               | Oil                                 | Water |
| 6158.5 | dolomite  | 0.0                  | 16.2          | 1.2                                 | 84.4  |
| 6160.5 | dolomite  | 1.7                  | 17.9          | 1.1                                 | 88.9  |
| 6162.6 | dolomite  | 0.7                  | 14.0          | 1.4                                 | 90.0  |
| 6166.5 | dolomite  | 0.0                  | 10.6          | 1.9                                 | 73.5  |
| 6168.5 | dolomite  | 0.0                  | 8.3           | 2.4                                 | 85.5  |
| 6177.5 | sand      | 173.0                | 12.1          | 0.0                                 | 62.8  |
| 6178.5 | sand      | 463.0                | 14.7          | 0.0                                 | 72.2  |
| 6179.5 | sand      | 40.0                 | 12.9          | 0.0                                 | 77.5  |
| 6180.5 | sand      | 260.0                | 13.4          | 0.0                                 | 82.2  |
| 6182.5 | sand      | 128.0                | 13.0          | 0.0                                 | 86.2  |
| 6285.5 | sand      | 58.0                 | 12.6          | 0.0                                 | 69.8  |
| 6289.5 | sand      | 15.0                 | 10.4          | 0.0                                 | 79.8  |

6158-6168 Tan. Sucrosic dolomite with chert bands and nodules. Streaks light oil stain. Some faint spotted fluorescence.

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- 6168-6170 Cream-tan. Very fine sucrosic tight hard dolomite. Light spotted oil stain. Faint odor. Faint spotted fluorescence.
- 6170-6176 Cream-grey and tan. Very finely crystalline dolomite with thin green shale partings. No oil stain, odor or fluorescence.
- 6176-6177.5 Grey. Medium-coarsely crystalline shaley dolomite with good vugular porosity. No oil stain, odor or fluorescence.
- 6177.5-6191 White. Fine grained well sorted friable porous sandstone. Faint odor in top 2 feet. No oil stain or fluorescence.
- 6191-6200 Green medium crystalline very sandy and shaley dolomite.
- 6200-6204 Apple green very fissile shale.

Drill Stem Test No. 9 6146-6204

Open 1½ hours.

Recovered 3410 feet salt water. No shows.

IFP . . . . . 350 p.s.i.  
VFP . . . . . 1720 p.s.i.  
SIBHP in 20 minutes . . . . . 2380 p.s.i.

Drill Stem Test No. 10 6112-6139

Was attempted as a straddle packer test after the total depth was reached. The top packer failed to hold. Also additional attempts were made.

- 6204-6260 Green. Waxy pyritic and slightly sandy shale.
- 6260-6294 Broken white with isolated pink grains of coarse-fine and very fine grained sand, both slightly porous and tight, siliceous. No stain, odor or fluorescence.

Top Arbuckle 6294 (-4482)

- 6294-6311 Tan-buff sucrosic dolomite. No stain, odor or fluorescence.
- 6312-6326 Tan. Coarsely crystalline-rhombic oolitic in part porous dolomite. No stain, odor or fluorescence.
- 6326-6340 Tan. Coarsely crystalline slightly sandy dolomite. Poor porosity.
- 6340-6359 Brown. Medium crystalline very sandy dolomite. Good intercrystalline porosity. No stain, odor or fluorescence.
- 6359-6371 Grey. Medium crystalline tight hard dolomite.
- 6371-6387 Grey. Coarsely crystalline-rhombic very porous dolomite. No shows odor or fluorescence.
- 6387-6395 Tan. Coarsely crystalline slightly sandy dolomite.
- 6395-6427 Tan-brown. Medium-coarsely crystalline dolomite streaks, fair vugular porosity. No stain, odor or fluorescence.
- 6427-6460 Tan. Medium-coarsely crystalline dolomite. Fair vugular porosity. No stain, odor or fluorescence.
- 6460-6500 Grey. Rhombic dolomite. Good vugular porosity. No stain, odor or fluorescence.

Drill Stem Test No. 11 6420-6500

Open one hour.

Recovered 1980 feet salt water. No shows.

IFP . . . . . 480 p.s.i.

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FFP . . . . . 1245 p.s.i.  
SIBHP in 20 minutes . . . . . 2250 p.s.i.

Total Depth 6500 (-4688)

**Remarks:**

Drill cuttings were examined and described from 2,000 feet to total depth. Drilling was supervised from a point above 2300 feet to 4450 feet by Mr. George Klein. The writer completed the remainder of the hole.

The relative structural position of the subject test as compared to other tests in the vicinity is shown in the following table.

| <u>Formation</u> | <u>Champlin Dyer No. 1<br/>NE SE NW Sec 17-29N-17W<br/>Woods County, Oklahoma</u> | <u>Eason Nol O'Connell<br/>C NW SW Sec 10-35S-17W<br/>Comanche County, Kansas</u> |
|------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Lansing          | 44 feet lower                                                                     | 108 feet higher                                                                   |
| Mississippian    | 61 feet lower                                                                     | 160 feet higher                                                                   |
| Viola            | 399 feet lower                                                                    | 282 feet higher                                                                   |
| Simpson          | 400 feet lower                                                                    | 297 feet higher                                                                   |
| Arbuckle         | 395 feet lower                                                                    | 274 feet higher                                                                   |

**Discussion:**

In spite of the southeast dip as confirmed by the Eason O'Connell oil accumulation failed to occur. Apparently the Jackson No. 1 is located on a large regional nose with no critical northeast dip.

Oil and gas shows in the mississippian were not significant enough to warrant the running of an oil string and further testing. The Simpson was water bearing where porosity and permeability were present. All other oil shows where drill stem tested and condemned.

In light of the above stated facts the writer recommended that the test be plugged and abandoned as dry.

*Robert W. Frensley*  
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