

15-065-19116-00-00

GEOLOGIST REPORT

COMPANY: Time Petroleum & Empire Drlg. DESCRIPTION: SE NE NW Sec. 12-9s-25w
 CONTRACTOR: Gabbert & Jones LOCATION: Graham County, Kansas
 FARM: CLARK "C" #2 ELEVATION: 2512 R.B.
 COMMENCED: September 19, 1964 COMPLETED: September 30, 1964
 SURFACE: 159' 8 5/8" w/170 sx. PROD. CASING: 5 1/2" @ 4024 w/100 sx.

Samples were examined on location, by writer, from 3800' to R.T.D. Schlumberger Log was taken on the hole; however, measurements used in this report will be drilling measurements. It is my opinion that the Schlumberger measurements are four (4) feet too low, and that there were also four (4) feet of cavings below the log total depth.

FORMATION TOPS

Top Heebner	3789 (-1277)	3794 (-1282)
Top Toronto	3815 (-1303)	3819 (-1307)
Top Lansing-Kansas City	3829 (-1317)	3833 (-1321)
Rotary Total Depth	4031 (-1519)	4031 1/2 (-1519 1/2)

TOP TORONTO 3815 (-1303)

3816-18 White fine crystalline cherty fossiliferous lime porosity. No show.

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TOP LANSING-KANSAS CITY 3829 (-1317)

3832-43 Top Zone (1) Tan-white fossiliferous oolitic slightly chalky lime. Trace fair free oil stains. Fair porosity. This zone should be tested before well is abandoned. (The hole was not in condition for testing at the time this zone was cut.)

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3863-68 & 69-71

35' zone (2) Flood of vari-colored fresh chert and tan fossiliferous lime. Trace of fair to good show of free oil and odor. Fair to good porosity.

D.S.T. #1

3850-75 35' Zone (2) Open 1 hour. Recovered: 1590' gas in pipe, 1470' clean gassy oil, 360' muddy frothy oil. IBHP 1381 #/30" FBHP 1327 #/30" IFP 140# FFP 519# Temp. 117 degrees. 34 to 37 gravity corrected.

3876-80 & 3884-86 & 3889-93

50' Zone (2A) White to cream fossiliferous lime. Good show free oil, good porosity and odor. Lower zones - dense grey lime with good large vugular porosity, good show of oil.

15-065-19116-00-00

D.S.T. #2

- 3876-95 50' Zone (2A) Open 2 hours, gas to surface 1 hour 50". Recovered 2089' clean gassy oil - (lower 300' very muddy) IBHP 1402#/60" FBHP 1338#/60" IFP 140# FFP 755# Temp. 118 degrees. 40 gravity corrected.
- 3909-12 70' Zone (3) Cream to tan fossiliferous lime. Fair to good show free oil and fair porosity. (Upper section of this zone did not develop.)
- 3912-17 90' Zone (4) White fine crystalline semi-oolitic to oolitic lime. Good porosity. Poor spotted free oil stain. 90% barren porosity.

D.S.T. #3

- 3901-18 70 & 90' Zones (3&4) Open 2 hours. Recovered 300' muddy salt water. IBHP 594#/60" FBHP 551 #/60" IFP 21# FFP 162# Temp. 118 degrees.

NOTE: The offset well (#1 CLARK) produces in these zones. In this pool the shale between these two zones is not present ; therefore, they form one common resevoir, but still maintain their basic lithology. In the #1 Clark the 70' zone is very well developed and is producing oil, but the 90' zone directly in contact below it is very chalky and is not developed enough to carry fluid. The #2 Clark is five foot higher structually but the 70' zone is not developed enough to produce. The 90' zone developed sufficient porosity and permeability and is carrying salt water.

- 3965-70 140' zone (6) Cream-tan fine crystalline fossiliferous lime. Fair to good show of free oil. Fair to good fossiliferous and inter-crystalline porosity.

D.S.T. #4

- 3953-80 140' Zone (6) Open 2 hours: Recovered 30' mud with specks of oil. IBHP 885#/60" FBHP 75#/60" IFP 21# FFP 38# Temp. 118 degrees.
- 3987-91 160' Zone (6A) Tan fine crystalline fossiliferous lime. Trace fair to good free oil stain, good porosity in few pieces; some mealy fine crystalline lime with light stain and poor porosity.

D.S.T. #5

- 3982-95 160' Zone (6A) Open 1 hour. Recovered 3' mud. IBHP 51#/60" FBHP 34#/60" IFP 21# FFP 28#. Temp. 119 degrees.
- 4002-06 White fine crystalline fossiliferous lime, trace of gilsonite. Tan-grey dense slightly fossiliferous lime. Large vugular porosity with fair show free oil. Fair porosity, trace dark residue.

15-065-19116-00-00

D.S.T. #6

3992-4014 180' Zone (7) Open 2 hours. Recovered 300 feet gas in pipe.
345' gassy muddy oil, 335' oil cut salt water. IBHP 1047 #.60"
FBHP 907 #/60" IFP 64# FFP 302# Temp. 119 degrees.

4019-24 200' Zone (8) Tan oolitic-fossiliferous lime. Fair show dark free
oil stain. Fair to good porosity.

D.S.T. #7

4020-31 200' Zone (8) Open 2 hours. Recovered: 548' gas in pipe; 1042'
clean gassy oil, 300' muddy gassy oil. IBHP 1424 #/60" FBHP
1294 #/60" IFP 75# FFP 356# Temp. 118 degrees (32 gravity
corrected).

R.T.D. 4031 (-1519) 5½" casing was cemented at 4024' with 100 sacks.

Orlin R. Phelps
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15-005-19116-00-00

DRILLING TIME

One foot Intervals

3500-10 2-2-2-2-3/2-2-1-2-1
 20 2-2-1-2-1/2-2-1-2-2
 30 2-2-2-2-3/2-2-2-2-1
 40 2-2-2-3-2/3-2-1-1-2
 50 1-2-2-2-3/2-2-2-2-1
 60 1-2-2-1-1/1-2-2-2-1
 70 2-1-1-1-1/1-1-1-1-1
 80 2-1-1-2-2/2-2-2-2-2
 90 2-3-3-2-2/2-2-3-3-3
 00 3-3-3-3-3/3-2-2-4-2

3900-10 6-5-4-3-4/4-5-8-6-6
 20 4-5-4-3-2/2-3-5-6-6
 30 4-2-3-3-5/6-5-5-6-4
 40 3-4-4-4-4/4-4-4-5-4
 50 7-5-5-5-4/6-7-6-5-5
 60 6-6-5-5-5/4-4-2-3-3
 70 3-3-3-3-3/4-4-4-6-4
 80 7-6-8-5-6/6-7-8-9-4
 90 4-5-4-2-1/3-9-5-6-5
 00 6-7-7-7-6/4-4-5-4-5

3600-10 3-2-2-2-3/3-4-4-4-4
 20 4-5-2-4-2/4-2-2-1-4
 30 3-3-3-4-3/3-4-5-4-3
 40 2-2-2-2-3/2-2-2-2-2
 50 2-3-2-2-1/3-3-3-4-4
 60 4-2-2-3-3/2-3-2-3-2
 70 2-2-2-3-2/3-2-2-4-4
 80 3-3-2-3-3/4-4-4-5-5
 90 5-5-4-4-4/4-4-3-4-4
 00 3-3-2-2-2/2-2-3-2-2

4000-10 4-4-3-4-5/5-6-5-5-5
 20 5-6-6-6-6/6-7-7-5-7
 30 7-6-7-8-10/12-7-8-6-8
 40 6 R.T.D. 4031

3700-10 3-4-4-4-4/4-5-6-6-7
 20 7-5-3-2-3/2-3-2-3-3
 30 2-3-4-4-4/4-3-2-3-3
 40 4-3-2-3-3/4-4-3-4-4
 50 3-4-3-2-2/3-5-2-3-3
 60 2-2-1-2-1/2-3-3-4-4
 70 2-2-2-3-2/2-3-2-4-4
 80 3-3-2-3-4/3-5-4-4-3
 90 5-5-4-3-5/4-5-3-3-3
 00 3-2-3-2-2/2-4-6-7-5

3800-10 6-5-6-3-3/3-4-4-5-4
 20 4-5-3-4-4/4-4-6-5-4
 30 6-7-5-6-6/6-7-4-4-4
 40 4-7-7-7-5/3-4-4-4-4
 50 5-3-4-6-6/5-4-5-4-6/
 60 4-5-3-4-4/3-2-2-3-2
 70 2-2-2-3-2/4-5-5-8-6
 80 5-4-4-3-2/4-3-4-3-4
 90 5-5-4-5-3/4-5-5-6-4
 00 5-7-4-6-6/4-4-3-3-5

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