

5 1/2" Production Casing Set

Contractor: Discovery Drilling Company (Rig #2)
Commenced: February 25, 2002
Completed: March 4, 2002
Elevation: 2080' K.B.; 2078' D.F.; 2072' G. L.
Casing Program: Surface; 8 5/8" @ 1232'
Production; 5 1/2" @ 3854'
Samples: Samples saved and examined.
Drilling Time: One (1) foot drilling time recorded and kept to the Rotary Total Depth.
Measurements: All depths measured from the Kelly Bushing.
Formation Testing: There were two (2) Drill Stem Tests ran by Arrow Testing Co.
Electric Log: By Log Tech; Radiation Guard Log.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	1229	+851
Base Anhydrite	1260	+820
Heebner	3418	-1338
Toronto	3439	-1359
Lansing	3475	-1395
Base Kansas City	3738	-1658
Pawnee	3800	-1720
Basal Pennsylvanian Lime	3831	-1751
Arbuckle	3846	-1766
Rotary Total Depth	3860	-1780
Log Total Depth	3858	-1777

(All tops and zones are corrected to Electric Log measurements.)

SAMPLE ANALYSIS. SHOWS OF OIL, TESTING DATA, ETC.

TOPEKA SECTION

3323-3348' Limestone; gray to white, finely crystalline, fossiliferous, fair porosity, plus trace tan chert and white chalk.
3353-3380' Limestone; tan and buff, finely crystalline, oocastic, fair pinpoint to oocastic porosity, (barren), no shows.
3380-3390' Limestone; as above, trace white chert.

3398-3411' Limestone; tan to cream and gray, fossiliferous, fair to good fossil cast porosity, trace gray, fossiliferous chert.

TORONTO SECTION

3438-3450' Limestone; white, chalky, fossiliferous, poor porosity, no shows.

LANSING SECTION

3475-3484' Limestone; white to cream, finely crystalline, fossiliferous, chalky in part, no shows.

3498-3506' Limestone; tan, oolitic, oocastic, fair oocastic porosity, spotty brown stain, trace of free oil and questionable odor in fresh samples.

3521-3530' Limestone; gray to white, finely crystalline, dense.

3530-3536' Limestone as above, plus white chalky and gray chert.

3551-3555' Limestone; tan to gray, oolitic chalky, trace poor brown stain, no show of free oil and questionable odor in fresh samples.

3574-3586' Limestone; gray to tan, oocastic, good oocastic porosity, (barren).

3623-3628' Limestone; gray to tan, fossiliferous in part, poor visible porosity, golden brown edge staining, no show of free oil or odor in fresh samples.

3646-3651' Limestone; gray to white, chalky in part, poorly developed porosity, no shows.

3666-3683' Limestone; as above, fossiliferous.

3687-3700' Limestone; tan to gray, fossiliferous, cherty in part, dense, poor porosity.

3714-3724' Limestone; tan, finely oolitic, dense, no shows.

MARMATON SECTION

3747-3752' Limestone; cream to tan, chalky, plus gray to white chert.

3760-3780' Limestone; white to cream, finely crystalline, fossiliferous, plus chert as above.

PAWNEE SECTION

3800-3811' Limestone; tan to white, chalky (poor samples).

BASAL PENNSYLVANIAN LIMESTONE SECTION

3831-3845' Limestone; gray to tan, finely crystalline, chalky in part, no shows.

ARBUCKLE SECTION

3846-3853' Dolomite; tan and gray, fine to medium crystalline, scattered porosity, trace brown stain, trace of free oil and faint odor in fresh samples.

Drill Stem Test #1 3804-3855 (log 3802-3853)

Times: 45-45-60-60

Blow: Weak to fair

Recovery: 120' gas in pipe
75' clean gassy oil
80' oil cut mud

Pressures: ISIP 1232 psi
FSIP 1255 psi
IFP 70-82 psi
FFP 94-105 psi
HSH 1923-1923 psi

3853-3858' Dolomite; gray and tan, fine to medium crystalline, fair intercrystalline porosity, scattered stain, show of free oil and faint odor in fresh samples (few sand inclusions).

Drill Stem Test #2 3854-3860 (log 3852-3858)

Times: 30-30-30-30

Blow: Strong

Recovery: 120' gas in pipe
175' clean gassy oil
50' mud cut gassy oil

Pressures: ISIP 1243 psi
FSIP 1243 psi
IFP 11-23 psi
FFP 70-92 psi
HSH 1889-1889 psi

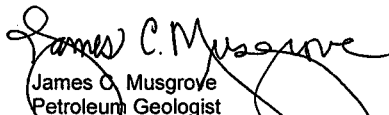
Rotary Total Depth 3860 (-1780)

Log Total Depth 3858 (-1778)

Recommendations:

On the basis of the favorable structural position and the positive results of the Drill Stem Tests, it was recommended by all parties involved to set and cement 5 ½" production casing at 3854' (six foot off bottom) and the Alex #1 be completed in the Arbuckle Dolomite by open hole completion methods.

Respectfully submitted;


James C. Musgrove
Petroleum Geologist