

Recovery: 90' gassy mud

Pressures: ISIP 521 psi
FSIP 367 psi
IFP 177-142 psi
FFP 159-94 psi
HSH 1144-1098 psi

RED EAGLE SECTION

- 2300-2305' Limestone; gray to tan, fossiliferous, scattered porosity, trace pale fluorescence.
- 2308-2328' Limestone; as above.

TARKIO SECTION

- 2624-2631' Sand; gray to grayish green, very fine to medium grained, sub rounded to sub angular, friable in part, no shows, poorly developed.

HOWARD SECTION

- 2726-2736' Limestone; gray to tan, finely crystalline, poorly developed porosity, no shows.

TOPEKA SECTION

- 2864-2870' Limestone; gray, finely crystalline, chalky, no shows.
- 2898-2920' Limestone; tan, fossiliferous in part, slightly dolomitic, few sucrosic, granular, fair porosity, no shows.
- 2941-2951' Limestone; tan, fossiliferous, sub oocastic, fair sub oocastic porosity, no shows.
- 2989-3002' Limestone; gray to tan, finely crystalline, fossiliferous, chalky, scattered porosity, no shows.
- 3066-3071' Limestone; tan to gray, oocastic, fair oocastic to fossil cast porosity, granular in part, black to brown spotty stain, show of free oil and no odor in fresh samples.
- 3074-3090' Limestone; buff to brown, finely crystalline, cherty in part, no shows.
- 3090-3110' Limestone; as above, trace gray to brown chert.

TORONTO SECTION

- 3136-3150' Limestone; white to gray, slightly dolomitic, poor visible porosity, trace spotty black stain, no show of free oil or odor in fresh samples.

LANSING SECTION

- 3225-3230' Limestone; tan to white, finely crystalline, few fossiliferous, chalky, pinpoint to intercrystalline porosity, fair to good stain and saturation, show of free oil and good odor in fresh samples.

- 3238-3241' Limestone; tan to gray, fossiliferous, poor visible porosity, trace spotty dull gray stain, no show of free oil or odor in fresh samples.
- 3248-3256' Limestone; gray to white, scattered vuggy porosity, chalky, black spotty stain, no show of free oil or odor in fresh samples.
- 3258-3262' Limestone; tan, fossiliferous, spotty golden brown stain, weak show of free oil and questionable odor in fresh samples.
- 3275-3300' Limestone; tan to gray, oocastic, fair to good oocastic porosity, questionable mineral discoloration, no stain, no show of free oil or odor in fresh samples.
- 3300-3332' Limestone; as above, barren.
- 3351-3360' Limestone; gray to white, oolitic, fair porosity, brown to dark brown stain, show of free oil and faint odor in fresh samples.
- 3371-3379' Limestone; gray to tan, oocastic, scattered oocastic porosity, brown stain, show of free oil and questionable odor in fresh samples.
- 3388-3399' Limestone; tan to brown, oocastic, good oocastic porosity, barren.
- 3430-3444' Limestone; gray to white, oolitic, chalky, poorly developed porosity, no shows.

CONGLOMERATE SECTION

- 3496-3503' Sand; quartzitic, medium to coarse grained, sub angular, fair to poor sorting, trace chert inclusions, light brown spotty stain, trace light free oil and no odor in fresh samples.
- 3506-3516' Varied colored chert; trace sand, as above, abundant unconsolidated quartz grains.

Drill Stem Test #3 3472-3520'

Times: 45-45-45-60

**Blow: Strong, gas to surface in 3 minutes,
 Gas gauged as follows:**

IFP	5 minutes	1,233,000 cfgpd
	10 minutes	1,980,000 cfgpd
	20 minutes	1,980,000 cfgpd
	30 minutes	1,980,000 cfgpd
	40 minutes	1,980,000 cfgpd
	45 minutes	1,980,000 cfgpd

FFP	5 minutes	1,980,000 cfgpd
	10 minutes	1,980,000 cfgpd
	20 minutes	1,980,000 cfgpd
	30 minutes	1,980,000 cfgpd
	40 minutes	1,980,000 cfgpd
	45 minutes	1,980,000 cfgpd

Recovery: 90' gassy mud

Pressures:	ISIP	568	psi
	FSIP	545	psi
	IFP	331-296	psi
	FFP	331-284	psi
	HSH	1740-1693	psi

3516-3574' Varied colored shale and varied colored oolitic, boney, chert.

ARBUCKLE SECTION

3575-3580' Dolomite; gray to white, fine to medium crystalline, sandy in part, fair porosity, no stain, trace gas bubbles and no odor in fresh samples.

Rotary Total Depth 3580 (-1682)


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 4 1/2" production casing at 3579' (1 ft. off bottom) and the following zones be perforated in the Leroy #1.

- | | | |
|----------------------|-----------------------|-----------|
| 1. Conglomerate Sand | 3497-3503 | perforate |
| 2. Red Eagle | 2301-2303 | perforate |
| 3. Neva | 2235-2239 | perforate |
| 4. Winfield | 1784-1792 | perforate |
| 5. Krider | 1750-1760 | perforate |
| 6. Herington | 1746-1748 & 1734-1736 | perforate |

All Lansing zones with porosity and sample shows should be perforated before abandonment.

Respectfully submitted;


James C. Musgrove
Petroleum Geologist

JAMES C. MUSGROVE

Petroleum Geologist
P.O. Box 1162
Great Bend, KS 67530

Office (316) 792-7716

Res. Claflin (316) 587-3444

Grady Bolding Corp.
Leroy #1
C-E/2-SE; Section 20-19s-14w
Barton County, Kansas
Page No. 1

4 1/2" Production Casing Set

Contractor: Pickrell Drilling Company (Rig #10)

Commenced: February 6, 2001

Completed: February 15, 2001

Elevation: 1898' K.B.; 1896' D.F.; 1893' G. L.

Casing Program: Surface; 8 5/8" @ 817'
Production; 4 1/2" @ 3579'

Samples: Samples saved and examined 1600' to the Rotary Total Depth.

Drilling Time: One (1) foot drilling time recorded and kept 1600' to the Rotary Total Depth.

Measurements: All depths measured from the Kelly Bushing.

Formation Testing: There were three (3) Drill Stem Tests ran by Trilobite Testing.

Electric Log: By Eli Wireline Services; Dual Induction Log and Compensated Density/Neutron Log.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	813	+1085
Herington	1733	+165
Winfield	1782	+116
Council Grove	2064	-166
Neva	2235	-337
Red Eagle	2300	-402
Tarkio Lime	2589	-691
Elmont	2652	-754
Howard	2726	-828
Severy	2765	-867
Topeka	2791	-893
Heebner	3119	-1221
Toronto	3136	-1238
Douglas	3151	-1253
Brown Lime	3209	-1311
Lansing	3220	-1322
Base Kansas City	3458	-1560
Conglomerate Sand	3496	-1598
Arbuckle	3575	-1677
Rotary Total Depth	3580	-1682

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

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

HERINGTON SECTION

- 1733-1750' Limestone; tan to brown; finely crystalline, highly dolomitic, scattered porosity.
- 1750-1760' Dolomite; gray to white, finely crystalline sucrosic, scattered pinpoint to intercrystalline porosity, trace gas bubbles, no fluorescence.

WINFIELD SECTION

- 1782-1790' Dolomite; gray, finely crystalline, scattered intercrystalline to vuggy porosity, no shows.

Drill Stem Test #1 1699-1810'

Times: 45-45-45-45

Blow: Strong

**Recovery: 375' gas in pipe
120' gassy mud**

**Pressures: ISIP 361 psi
FSIP 339 psi
IFP 63-85 psi
FFP 95-106 psi
HSH 878-846 psi**

- 1810-2220' There were several zones of well developed porosity encountered but no shows of oil and/or gas were noted.

NEVA SECTION

- 2235-2240' Limestone; white to gray, fossiliferous, slightly chalky, fair light yellow fluorescence.
- 2258-2268' Limestone; as above.

Drill Stem Test #2 2220-2300'

Times: 45-45-45-60

**Blow: Strong, gas to surface in 5 minutes,
Gas gauged as follows:**

IFP	5 minutes	472,000 cfgpd
	10 minutes	603,000 cfgpd
	20 minutes	687,000 cfgpd
	30 minutes	687,000 cfgpd
	40 minutes	687,000 cfgpd
	45 minutes	687,000 cfgpd
FFP	5 minutes	603,000 cfgpd
	15 minutes	526,000 cfgpd
	25 minutes	603,000 cfgpd
	35 minutes	603,000 cfgpd
	45 minutes	603,000 cfgpd