

OPERATOR: Woodman-Iannitti Oil Company

WELL: No. 2 Lander
API #15-009-24,512

LOCATION: 70' East SW-SW-NW
2970' from the south line.
400' from the west line.
Section 10-20S-11W
Barton County, Kansas

FIELD: Chase-Silica

DRILLING CONTRACTOR: Woodman-Iannitti Drilling Co., Rig No. 3

DRILLING COMMENCED: 04-15-92

DRILLING COMPLETED: 04-21-92

DRILLING TIME: One (1) foot drilling time was recorded
from 2600' to 3350' RTD.

SAMPLES: Samples were saved and examined from 2600'
to 3350' RTD.

ELEVATIONS: 1760' G.L. 1762' D.F. 1765' K.B.

MEASUREMENTS: All depths are measured from 1765' K.B.

CASING RECORD: 8 5/8" set @ 266' with 166 sacks.
5 1/2" set @ 3348' with 125 sacks.

FORMATION TESTING: Four (4) tests were run by Western Testing Co.

MUD: Mud Systems, Inc. (Chemical)

OPEN HOLE LOGS: ELI, Inc.
CDL
CNL
DIL
Formation Evaluation

PRODUCTION: Oil

FORMATION TOPS:

FORMATION	SAMPLE	LOG	DATUM
ANHYDRITE	491'	490'	+1275
BASE ANHYDRITE	N/A	508'	+1257
TOPEKA	2637'	2638'	- 873
HEEBNER	2903'	2903'	-1138
TORONTO	2919'	2920'	-1155
DOUGLAS	2935'	2936'	-1171
BROWN LIME	3029'	3030'	-1265
LANSING	3048'	3049'	-1284
BASE KANSAS CITY	3279'	3278'	-1513
ARBUCKLE	3302'	3303'	-1538
ROTARY TOTAL DEPTH	3350'	****	-1585
LOG TOTAL DEPTH	****	3351'	-1586

SAMPLE DESCRIPTIONS AND TEST DATA:

(All depths are corrected to log measurements.)

TORONTO:

2920-2936 Limestone, white, cream and tan, finely crystalline, dense, slightly fossiliferous in part, minor tan chert, poor visible porosity, no shows of oil were noted.

LANSING-KANSAS CITY:

3050-3054 Limestone, tan, gray and buff, dense to very finely crystalline, slightly fossiliferous, oolitic in part, with poor visible pinhole porosity, trace of scattered spotted staining, very slight show of free oil, no odor. (Covered by D.S.T. No. 1)

3068-3072 Limestone, tan and gray, very finely crystalline, oolitic and slightly oolitic, with fair interoolitic and oolitic porosity, fair spotted staining and saturation, slight show of free gassy oil when broken, light odor. (Covered by D.S.T. No. 1)

LANSGING-KANSAS CITY: (Cont.)

3097-3102 Limestone, gray, tan and white, very finely crystalline, dense, slightly oolitic with poor visible porosity, trace of scattered staining, no shows of free oil or odor.
(Covered by D.S.T. No. 1)

FORMATION TEST NO. 1
3033-3124

		I.H.P.	1516#
Weak blow	30 min.	I.F.P.	83#-104#
	30 min.	I.S.I.P.	811#
Weak blow	30 Min.	F.F.P.	114#-125#
	30 min.	F.S.I.P.	780#
		F.H.P.	1485#

RECOVERY: 60' gas in pipe.
110' slightly oil cut mud. (1% oil, 3% gas, 96% mud.)
60' muddy water. (45% mud, 55% water.)

CHLORIDES: 22,000 P.P.M. (?)

TEMPERATURE: 98°

3130-3143 Limestone, white, gray and cream, very finely crystalline, oolitic and oolitic, with fair to good oolitic porosity, some dark staining and saturation, light odor, very slight show of free oil when broken. (Perforate and test this zone before abandoning.)

3182-3186 Limestone, gray and tan, mostly dense, oolitic with poor visible porosity, no shows of oil were noted.

3200-3207 Limestone, gray and tan, very finely crystalline, dense, fossiliferous, slightly oolitic, no shows of oil were noted.

3247-3254 Limestone, gray, white and tan, finely crystalline, slightly dense, oolitic and fossiliferous in part, slightly chalky, no shows of oil were noted.

ARBUCKLE:

3303-3308 Dolomite, tan, light brown and gray, very finely crystalline, dense in part, sucrosic, with fair pinhole porosity, fair to good staining and saturation, fair show of free oil, good odor.
(Covered by D.S.T. No. 2)

FORMATION TEST NO. 2

3281-3308

		I.H.P.	1630#
Weak blow	45 min.	I.F.P.	41#-41#
	45 min.	I.S.I.P.	614#
Weak blow	45 min.	F.F.P.	41#-41#
	45 min.	F.S.I.P.	510#
		F.H.P.	1609#

RECOVERY:

60' gas in pipe.
 10' clean oil. (43° gravity)
 5' oil and gas cut mud. (5% gas, 15% oil, 80% mud.)

TEMPERATURE:

102°

3309-3313

Dolomite, tan, light brown and gray, finely crystalline, slightly oolitic and oolitic, with fair visible pinhole and slightly vugular intercrystalline porosity, fair to good staining and saturation, good show of free oil, strong odor. (Covered by D.S.T. No. 3)

FORMATION TEST NO. 3

3308-3313

		I.H.P.	1609#
Weak blow	45 min.	I.F.P.	20#-20#
	45 min.	I.S.I.P.	977#
Weak blow	45 min.	F.F.P.	31#-31#
	45 min.	F.S.I.P.	946#
		F.H.P.	1578#

RECOVERY:

120' gas in pipe.
 40' clean oil.
 10' heavy oil cut mud.

TEMPERATURE:

103°

3314-3319

Dolomite, as above, fair to good staining and saturation, good show of free oil. (Covered by D.S.T. No. 4 - straddle test)

3320-3330

Dolomite, white, tan and gray, fine to medium crystalline, with fair intercrystalline and pinhole porosity, some dark, dead staining, fair odor, very slight show of free oil.

3331-3340

Dolomite, white and gray, fine to medium crystalline, with fair intercrystalline and pinhole porosity, very slight show of free oil, no odor.

3341-3350

Dolomite, as above.

FORMATION TEST NO. 4 (Straddle test)
3309-3316

Weak blow	45 min.	I.H.P.	1630#
		I.F.P.	20#-20#
Weak blow	45 min.	I.S.I.P.	935#
	45 min.	F.F.P.	31#-31#
	45 min.	F.S.I.P.	873#
		F.H.P.	1589#

RECOVERY: 60' gas in pipe.
40' clean oil.
25' oil and gas cut mud.

TEMPERATURE: 103°

SUMMARY:

The No. 2 Lander ran structurally lower by 7' to 12' on most markers in comparison to the No. 1 Lander. After two marginal drill stem tests in the Arbuckle and in reviewing the open hole logs, it was decided to further test this well by running 5 1/2" production casing and a completion attempted through perforations.

Respectfully submitted,


Todd E. Morgenstern
Geologist

Recommended Perforations

3309-3314

DRILLING TIMES:

2601-2610	2-2-2-2-1-1-1-1-1-1
2611-2620	1-1-1-1-1-1-2-1-1-1
2621-2630	1-2-2-1-1-1-1-1-1-1
2631-2640	2-1-2-1-1-1-1-2-3-3
2641-2650	3-2-3-2-2-3-3-3-3-2
2651-2660	2-2-2-3-2-5-3-2-4-3
2661-2670	3-3-4-3-3-3-2-4-3-3
2671-2680	3-3-3-3-2-2-2-2-2-3
2681-2690	3-1-2-2-2-3-3-3-3-3
2691-2700	2-3-2-4-3-3-3-3-3-3

2701-2710	3-3-3-2-2-3-2-3-3-3
2711-2720	2-3-3-4-3-3-4-3-4-3
2721-2730	3-3-4-3-3-3-3-2-2-2
2731-2740	2-3-3-3-3-2-3-3-3-4
2741-2750	4-3-4-2-3-3-3-2-3-3
2751-2760	2-3-2-3-3-2-2-2-3-3
2761-2770	3-3-3-3-3-3-3-4-3-3
2771-2780	3-3-3-3-3-3-3-3-2-3
2781-2790	3-3-2-3-3-3-3-3-3-3
2791-2800	4-3-3-3-3-3-3-2-3-3

2801-2810	3-3-3-4-3-4-3-4-3-3
2811-2820	2-3-4-3-3-3-2-3-2-2
2821-2830	1-2-2-3-3-2-2-2-2-2
2831-2840	2-2-2-3-3-3-2-3-2-2
2841-2850	3-3-3-3-3-3-2-1-3-3
2851-2860	2-3-4-3-3-3-2-2-2-2
2861-2870	2-2-3-2-2-2-3-2-3-2
2871-2880	3-3-3-3-3-3-3-2-2-3
2881-2890	3-3-2-3-2-3-2-2-2-3
2891-2900	2-3-2-3-3-2-3-2-3-2

2901-2910	3-2-3-2-1-1-1-3-3-3
2911-2920	3-3-2-2-2-2-2-2-2-3
2921-2930	2-3-3-3-3-3-2-3-2-2
2931-2940	3-3-3-3-3-2-2-1-1-2
2941-2950	1-1-2-2-2-2-2-2-2-1
2951-2960	1-2-2-2-2-2-2-2-2-2
2961-2970	2-2-1-2-1-2-1-2-2-1
2971-2980	2-1-2-1-2-2-1-1-2-1
2981-2990	1-1-1-1-1-2-1-1-1-1
2991-3000	2-1-1-2-1-2-2-2-2-1

DRILLING TIMES: (Cont.)

3001-3010	2-2-1-1-1-1-1-1-1-1
3011-3020	1-1-1-1-1-2-1-1-1-1
3021-3030	1-1-1-1-1-1-1-1-1-3
3031-3040	3-3-3-3-3-3-3-3-3-3
3041-3050	2-3-2-2-2-2-3-2-3-3
3051-3060	4-3-3-3-2-2-3-3-3-3
3061-3070	3-3-3-3-3-2-2-2-3-1
3071-3080	2-3-3-2-3-3-3-3-4-3
3081-3090	3-3-3-3-3-4-2-2-2-3
3091-3100	3-2-3-3-3-3-3-3-3-4
3101-3110	3-3-4-2-2-2-3-4-4-4
3111-3120	3-3-4-4-3-3-4-3-4-2
3121-3130	2-3-4-4-4-2-3-2-2-3
3131-3140	3-1-1-1-1-1-1-3-2-2
3141-3150	3-1-1-2-3-3-2-2-2-3
3151-3160	3-3-3-3-3-3-2-3-3-3
3161-3170	3-3-3-3-3-3-4-3-2-4
3171-3180	3-4-3-4-3-2-3-3-3-2
3181-3190	2-2-2-2-2-2-2-2-3-2
3191-3200	3-3-2-3-3-3-2-2-2-2
3201-3210	3-4-3-3-3-3-3-3-3-3
3211-3220	3-3-2-3-3-2-3-4-4-3
3221-3230	2-4-3-4-3-3-3-4-3-2
3231-3240	4-4-4-4-3-4-3-4-3-4
3241-3250	3-4-4-3-3-3-3-4-3-4
3251-3260	4-4-3-4-4-4-4-4-4-4
3261-3270	4-4-4-4-4-4-4-4-3-5
3271-3280	4-4-3-4-4-4-5-5-4-5
3281-3290	6-5-5-6-5-5-4-5-4-4
3291-3300	4-5-4-4-5-2-1-2-2-2
3301-3310	2-1-2-2-3-2-2-2-2-2
3311-3320	2-2-2-2-3-2-2-2-3-2
3321-3330	2-1-2-2-2-2-2-2-2-2
3331-3340	2-2-2-2-2-2-2-3-2-2
3341-3350	2-2-2-2-1-2-2-2-2-2-RTD