

26-16-12W

KOESTER & CORNELL

Petroleum Geologists

302 DUFFHEIM BUILDING
WICHITA 2, KANSAS

EDWARD A. KOESTER
LEE H. CORNELL

August 30, 1955

The Larry Moore Ranch, Inc.
Box 188
McPherson, Kansas

Re: No. 2 Lamatsch
SW NW SW 26-16-12W
Barton County, Kansas

Gentlemen:

The following is my geological report on the above captioned well. Drilling progress was observed at the well from 2080 to total depth. One foot drilling time was kept and plotted from 2800 to total depth and 10 foot samples saved from 2800 to 3070 and 5 foot samples from 3070 to total depth. All samples were examined dry and samples through all porous zones were examined wet. Sample observations in this report are adjusted to drilling time. The daylight crew kept drilling time through the anhydrite section but were not able to determine an accurate anhydrite top from either drilling time or samples.

Samples were delivered to the Kansas Well Sample Bureau in Wichita, but no cut was ordered for your account. A copy of the drilling time will be delivered by the writer to the Kansas Well Log Bureau and the original drilling time sheets are included with this report.

MISCELLANEOUS DATA

Contractor: Duke Drilling Company - Great Bend, Kansas
Tool Pusher: Cecil Olson
Surface Hole: August 17, 1955
Surface Casing: 11 jts. new 10-3/4" casing set at 239 and cemented with 175 sacks cement and 200 lbs. C.C. Job completed at 6 AM, August 18.
Drilling Completed: 10:15 PM, Aug. 28 at 3405, total depth.
Oil String: 24#, 10 thread, used 7" set at 3405 and cemented with 100 sacks.
Elevation: Ground 1905; Derrick Floor 1908; Rotary Bushing 1910.
Zero Point for All Measurements: Top Rotary Bushing

FORMATION TOPS

Anhydrite (driller)	804 (?)	(-1106)
Heebner	2984	(-1074)
Toronto	3004	(-1094)
Douglas	3014	(-1104)
Iatan ("Brown Lime")	3074	(-1164)
Lansing	3091	(-1181)
Base Kansas City	3234	(-1424)
Conglomerate	3344	(-1434)
Arbuckle	3354	(-1444)
Total Depth	3405	(-1495)

TOPEKA SECTION

All samples were examined and no shows of oil were noted.

LANSING SECTION

"Top Zone" 3092-96. Gray-white oolitic limestone, poor porosity, trace dark stain, no odor, no free oil, no fluorescence.

"10 Foot Zone" 3102-08. Gray, fine to medium crystalline limestone, scattered poor to fair porosity and stain, very faint odor, traces of free oil good scattered fluorescence.

"30 Foot Zone" 3122-26. Finely oolitic limestone, no odor, no free oil, trace dark stain, no fluorescence.

"90 Foot Zone" 3175-3199. Gray, cream, oolitic limestone, no odor, no free oil, no visible stain, rare pieces showed faint fluorescence.

Bee Drill Stem Test No. 1 (straddle packers) at 3190. Bottom of upper packer at 3078, top of lower packer at 3112, with 78 feet of tail pipe. Open one hour, very strong blow, gas in 15 minutes, recovered 35 ft. of heavily oil cut mud and 1363 ft. of oil. Shut in 30 minutes, BHP 900#, IFP zero, FFP 400#. Gravity of oil 43 at 85 degrees or 40.5 corrected.

CONGLOMERATE SECTION

2344-54. Gray, brick-red and olive green shale, some weathered red-stained limestone, trace opaque, oolitic chert, trace of maroon shale with large, round and sub-round, stained sand grains.

ARBUCKLE SECTION

3354-59. Smoky-gray, partly oolitic chert, white to tan medium crystalline dolomite. No porosity, no odor, no free oil, no fluorescence.

3359-66. Dolomite and chert as above, scattered poor porosity and stain, faint odor and trace free oil.

3366-69. Gray, tan, medium to coarse crystalline dolomite, some tan oolitic and oolitic dolomite, with very poor to complete saturation, poor permeability, much white, partly oolitic chert. Good odor and good show of dark oil (from oolitic dolomite) in 3369 circulating sample.

3369-75. Dolomite and chert as above, less free oil, less odor.

3375-85. White, fine to medium crystalline dolomite, some chert.

3385-3405. White, medium to coarse crystalline dolomite, some fair vugular porosity. Samples carried a slight to faint odor to total depth, but only traces of free oil in last 30 feet.

It is the writer's opinion that the oil in the Arbuckle section is in thin beds of oolitic dolomite, associated with chert. The permeability of this material appears to be rather low.

Note: A correlation of the drilling time logs of No. 1 Lamatsch and No. 2 Lamatsch indicates that the Iatan ("Brown Lime") and the Lansing tops were picked nine feet too low at No. 1 Lamatsch. The following is a comparison of the original tops for No. 1 and the tops picked by the writer on No. 1 and No. 2, based on drilling breaks and intervals between the Heebner and Lansing and Heebner and the "90 Foot Break".

	No. 1 <u>Original Tops</u>	No. 1 <u>by L.H.C.</u>	No. 2 <u>by L.H.C.</u>	Sea Level <u>Diff.-L.H.C.</u>
Heebner	2985 (-1083)	2985 (-1083)	2984 (-1074)	9'
Toronto	Not picked	3004 (-1102)	3004 (-1094)	8'
Douglas	Not picked	3014 (-1112)	3014 (-1104)	8'
Iatan	3081 (-1179)	3074 (-1172)	3074 (-1164)	8'
Lansing	3101 (-1199)	3092 (-1190)	3091 (-1181)	9'
"90 Foot Zone"	3176 (-1274)	3176 (-1274)	3175 (-1265)	9'
Heebner-Lansing Interval	116'	107'	107'	
Heebner-"90 Ft." Interval	191'	191'	191'	

From the above table it will be noted that the Heebner to Lansing and Heebner to the "90 Foot Break" are the identical, in the writer's correlation of the two wells and correlation of the tops of the two wells shows No. 2 Lamatsch 8 to 9 feet higher than No. 1 Lamatsch on all formations.

It is suggested here that a Gamma Ray Log be run in No. 1 Lamatsch for the purpose of (1) determining the correct tops of the Iatan and Lansing and (2) determining if the oil zone found near the top of the Lansing in No. 2 is present in No. 1.

Yours very truly,



LEE H. CORNELL

LHC:bjl

CC: North American Car (2)
C. O. Chubb (2)

26-16-12w

DAILY PROGRESS

Aug. 17	Rigging up		Surface hole, evening tour
" 18	TD 329	WOC	Set surface, morning tour
" 19	Drilling	700	
" 20	"	1740	
" 21	Total Depth 1990		Making trip for bit No. 4
" 22	Drilling	2475	
" 23	"	2630	
" 24	"	2870	
" 25	"	3005	
" 26	"	3160	
" 27	"	3235	
" 28	"	3350	TD 3405 reached at 10:15 PM

BIT RECORD

No.	Make	Size	Type	Depth	Footage	Hours
1	Hughes	8 3/4	OSC RR	329- 642	313	4 1/2
2	"	"	CW RR	642- 915	273	4 1/2
3	"	"	OSC3J	915-1830	915	23 3/4
4	"	"	OSC	1830-1990	160	18
5	"	"	OSC	1990-2585	595	41 1/2
6	"	"	OWV	2585-2848	363	41
7	"	"	OWV	2848-3190	342	40
8	"	"	OWV	3190-3373 1/2	183 1/2	35
9	"	"	OWV	3373 1/2-3405	32 1/2	

MUD RECORD

		Magogel	Hulls	Fibertex	Mylogel	Cello Seal	Pres.
Aug. 18	245- 329	3					
" 21	2120-2225		3				
" 22	2225-2355		2				
" 22	2355-2475		2				
" 22	2475-2565		2				
" 23	2565-2630		2				
" 23	2630-2740		2				
" 23	2740-2810		2				
" 24	2810-2870		2				
" 24	2870-2915		1				
" 24	2915-2950		1				
" 25	2950-3005		2	1	25		
" 25	3005-3080				13	1	100#
" 26	3160-3190		1				
" 27	3235-3275				5		
		3	22	1	43	1	100#

The Larry Moore Ranch, Inc. et al
 No. 2 Lamatsch
 SW NW SW 26-16-12W
 Barton County, Kansas
 Elev. 1910 RB

TIME LOG

2800-2810	9-7-5-8-7	11-11-9-8-10	
20	4-7-5-10-10	5-6-5-4-5	
30	3-4-6-7-8	8-9-7-8-8	
40	7-5-10-12-12	8-6-7-4-5	
50	5-6-4-9-8	8-11-11-12-10	
60	10-12-12-11-8	3-3-2-7-7	
70	8-4-8-7-6	6-9-10-5-10	
80	8-8-11-8-10	12-11-11-9-12	
90	11-10-13-11-10	8-6-6-5-5	
2800-2900	6-12-12-12-13	9-11-12-11-14	
2900-2910	5-4-10-14-12	12-13-10-8-9	
20	10-11-11-14-11	12-13-14-14-14	SR 2911
30	15-11-12-12-15	15-16-13-16-9	
40	5-6-6-9-7	8-8-8-5-9	SR 2933
50	12-14-12-11-12	13-11-16*5-7	Trip 2948 OWV
60	8-7-5-8-6	7-7-10-5-5	Mixing mud
70	7-8-10-7-9	9-10-13-11-14	
80	10-10-9-11-11	8-7-10-9-10	
90	11-9-10-11-6	6-4-4-2-9	Heebner 2984
2990-3000	15-13-9-8-8	8-10-8-8-8	SR 2997
3000-3010	9-6-8-7-11	11-10-9-7-8	
20	11-12-7-6-4	5-5-6-5-6	SR 3015, 16
30	6-5-6-6-6	5-5-4-4-4	
40	5-4-4-4-4	4-6-4-4-5	
50	4-5-5-5-4	5-4-4-6-5	
60	4-4-5-6-5	5-6-6-5-5	
70	6-5-6-6-5	5-5-6-6-6	
80	6-6-6-6-9	11-9-13-13-9	Iatan 3074
90	8-11-10-9-10	8-10-17-13-8	Lansing 3091
3090-3100	5-11-6-6-6	5-11-14-16-12	SR 3094
3100-3110	14-14-12-10-10	10-8-12-15-12	
20	14-10-14-15-13	14-15-9-8-13	Very slight odor 3115 sample
30	16-10-7-8-8	13-16-17-15-13	
40	11-9-11-15-15	14-15-13-12-17	
50	17-16-17-14-13	12-10-11-13-13	
60	15-16-14-16-18	9-9-10-15-15	
70	14-15-15-16-18	17-14-18-17-19	
80	18-20-21-19-16	10-6-4-6-5	SR 3176, 77
90	5-5-5-5-5	5-5-2 $\frac{1}{2}$ -1 $\frac{1}{2}$ -2	Circ. 1 hr. @ 3181 and 3190.
3190-3200	1-1- $\frac{1}{2}$ - $\frac{1}{2}$ -1	1-1-2-3-8	DST at 3190. New OWV @ 3190.
3200-3210	10-8-10-10-10	11-8-2-3-7	
20	10-11-8-11-9	9-10-9-11-9	
30	8-8-7-4-10	5-7-7-7-6	
40	7-5-9-5-10	7-9-11-9-9	
50	10-10-11-11-11	7-8-8-11-13	

3250-3260	13-11-12-12-12	10-9-11-8-9
70	11-10-8-8-9	12-12-11-13-13
80	15-10-12-13-12	11-10-13-13-11
90	11-14-15-12-14	15-13-12-9-6
3290-3300	6-8-5-10-10	9-10-17-9-11

SR 3259

Circ. 45 min. @ 3271

3300-3310	11-14-14-14-12	13-14-12-15-15
20	15-14-13-9-13	11-10-14-13-13
30	9-13-8-7-12	14-13-14-14-11
40	14-11-15-14-9	9-9-8-12-15
50	13-14-12-11-8	10-10-11-9-10
60	7-8-6 $\frac{1}{2}$ -5-8 $\frac{1}{2}$	6 $\frac{1}{2}$ -8-11-10-14

Circ. 1 hr. @ 3350

SR 3359. Circ. 1 hr. @ 3353.

Circ. 1 $\frac{1}{4}$ hr. @ 3359. Arbuckle
3354.SR3361, 68. VR 3369. Circ. 1 hr.
@ 3369.

*Trip 3373, new OWV

70	16-10-7-10-11	12-9-10-12-12
80	22-19-12*9-6	6-6-6-6-9
90	10-10-6-6-8	6-9-10-7-6
3390-3400	9-9-8-7-5	6-6-7-10-7

3400-3405 10-8-7-10-9

Circ. 3/4 hr. 3405 total depth.