OIL FIELD RESEARCH LABORATORIES
CHANUTE, KANSAS

28-27-19E

August 27, 1951

Berry & Eells
Newton, Kansas

Gentlemen:

Enclosed herewith is the report of the partial analysis of the Cable Tool core taken from the Reinhardt & Malson Lease, Well No. 36, Neosho County, Kansas, and submitted to our laboratory on August 14, 1951.

In calculating the recovery for the vicinity of this well, an allowance was made for oil lost during coring, and it was assumed that the true water saturation of the sand is 35 percent.

Very truly yours,

OIL FIELD RESEARCH LABORATORIES

Clayton A. Nattier

CAN:mm
c.c.

REINHARDT & MALSON 36

BERRY & EELLS

CORE ANALYSIS REPORT

REINHARDT & MALSON LEASE

WELL NO. 36

NEOSHO COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES

CHANUTE, KANSAS

AUGUST 27, 1951

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Berry & Eells Lease Reinhardt & Malson Well No. 36

Location

Section 28 Twp. 27S Rge. 19E County Neosho State Kansas

Name of Sand	Bartlesville,
Top of Core	676.00
Bottom of Core	752.80
Top of Pay Sand	685.20
Bottom of Sand	689.70
Total Feet of Permeable Sand	3.20
Total Feet of Floodable Sand	3.20

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.

Average Effective Permeability Millidarcys	17.19
Average Percent Porosity	19.72
Average Percent Oil Saturation	33.97
Average Percent Water Saturation	-
Average Oil Content, Bbls./A. Ft.	520.
Total Oil Content, Bbls./Acre	1,664.
Average Percent Oil Recovery by Laboratory Flooding Tests	10.53
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	163.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	521.
Total Calculated Oil Recovery, Bbls./Acre	1,200.
Packer Setting, Feet	686.50
Viscosity, Centipoises @	
A. P. I. Gravity, degrees @ 60 °F	
Elevation, Feet	

Note: The above averages are for that part of the sand section extending from the packer setting to the bottom of the sand.

LOG

Company Berry & Eells Lease Reinhardt & Malson Well No. 36

Depth Interval, Feet	Description
676.00 - 676.20	Light brown fine grained micaceous slightly carbonaceous sandstone.
676.20 - 678.73	Light brown fine grained micaceous sandstone.
678.73 - 678.85	Finely laminated sandstone and carbon.
678.85 - 680.80	Light brown fine grained laminated micaceous carbonaceous sandstone.
680.80 - 682.60	Light brown fine grained micaceous sandstone.
682.60 - 682.80	Light brown fine grained laminated micaceous carbonaceous sandstone.
682.80 - 685.20	Light brown fine grained micaceous sandstone.
685.20 - 686.80	Brown fine grained micaceous sandstone containing a shale streak.
686.80 - 689.70	Dark brown fine grained micaceous sandstone.
689.70 - 690.90	Gray shale.
690.90 - 694.50	According to log, gray shale (Discarded at well).
694.50 - 736.50	Drilled.
736.50 - 737.95	Laminated sandy shale.
737.95 - 738.30	Laminated shale and sandstone.
738.30 - 740.35	Laminated sandy shale.
740.35 - 740.85	Light brown fine grained micaceous sandstone.
740.85 - 742.10	Soft gray shale.
742.10 - 742.42	Laminated shaley sandstone.
742.42 - 743.40	Laminated sandy shale.
743.40 - 743.58	Hard light brown fine grained micaceous sandstone.

743.58 - 744.00 - Finely laminated sandy shale.

744.00 - 744.45 - Hard light brown fine grained micaceous sandstone.

744.45 - 746.00 - Gray shale.

746.00 - 746.53 - Finely laminated sandy shale.

746.53 - 747.25 - Hard light brown fine grained micaceous sandstone.

747.25 - 749.50 - Laminated sandy shale.

749.50 - 749.70 - Light brown fine grained micaceous sandstone.

749.70 - 751.70 - Laminated sandy shale containing a sand streak.

751.70 - 752.20 - Light brown fine grained micaceous sandstone.

752.20 - 752.80 - Finely laminated sandy shale.

Oil Field Research Laboratories

RESULTS OF SATURATION TESTS

TABLE III

Company Berry & Eells Lease Reinhardt & Malson Well No. 36

Sat. No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content, Bbls./A. Ft.	Feet of Core		Total Oil Content Bbls./Acre
			Oil	Water	Total		Ft.	Cum. Ft.	
1	676.08	17.5	21.8	–	–	296	0.20	0.20	59
2	677.08	19.2	14.5	–	–	216	1.35	1.55	292
3	678.03	19.1	15.1	–	–	224	1.18	2.73	264
4	678.98	22.9	14.6	–	–	260	0.65	3.38	169
5	680.03	22.2	13.3	–	–	229	1.30	4.68	298
6	681.02	21.2	12.4	–	–	204	0.75	5.43	153
7	682.06	19.2	13.2	–	–	197	1.05	6.48	207
8	683.02	20.6	23.4	–	–	374	0.70	7.18	262
9	683.98	21.8	21.4	–	–	362	0.95	8.13	344
10	684.96	22.2	20.6	–	–	355	0.75	8.88	266
11	685.98	18.3	34.3	–	–	487	1.55	10.43	755
12	686.86	18.8	34.5	–	–	504	0.60	11.03	302
13	687.97	19.3	32.1	–	–	481	1.10	12.13	530
14	689.08	20.9	35.3	–	–	572	1.20	13.33	686
							Total	– – – –	4,587

Oil Field Research Laboratories

SUMMARY OF SATURATION TESTS

TABLE IV

Company Berry & Eells Lease Reinhardt & Malson Well No. 36

Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
676.00-682.60	6.48	20.32	14.17	-	223	1,442
682.80-689.70	6.85	20.10	29.72	-	459	3,145
686.50-689.70	3.20	19.72	33.97	-	520	1,664

Oil Field Research Laboratories

RESULTS OF LABORATORY FLOODING TESTS

TABLE V

Company Berry & Eells Lease Reinhardt & Malson Well No. 36

Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery		Residual Saturation			Volume of Water Recovered cc*	Effective Permeability, Millidarcys **	Initial Fluid Production Pressure Lbs./Sq. In.
			Percent	Bbls./A. Ft.	Percent	Bbls./A. Ft.	% Oil	% Water	Bbls./A. Ft.			
1	676.08	17.5	21.8	296	0.0	0	21.8	69.3	296	16	0.608	30
2	677.08	19.2	14.5	216	0.0	0	14.5	62.5	216	141	34.73	5
3	678.03	19.1	15.1	224	0.0	0	15.1	62.2	224	115	14.32	5
4	678.98	22.9	14.6	260	0.0	0	14.6	66.5	260	106	33.14	5
5	680.03	22.2	13.3	229	0.0	0	13.3	73.7	229	157	48.50	5
6	681.02	21.2	12.4	204	0.0	0	12.4	75.9	204	142	39.43	5
7	682.06	19.2	13.2	197	0.0	0	13.2	73.2	197	187	36.50	5
8	683.02	20.6	23.4	374	1.9	30	21.5	71.1	344	156	9.00	5
9	683.98	21.8	21.4	362	1.2	20	20.2	69.6	342	676	19.12	5
10	684.96	22.2	20.6	355	0.0	0	20.6	72.2	355	72	19.60	5
11	685.98	18.3	34.3	487	7.5	107	26.8	67.2	380	84	5.37	20
12	686.86	18.8	34.5	504	7.8	114	26.7	68.3	390	121	11.34	10
13	687.97	19.3	32.1	481	8.8	132	23.3	68.8	349	106	18.13	10
14	689.08	20.9	35.3	572	14.2	230	21.1	67.8	342	164	22.20	5

Notes: cc - cubic centimeter.
*Volume of water recovered at the time of maximum oil recovery.
**Determined by passing water through sample which still contains residual oil.

Oil Field Research Laboratories

SUMMARY OF LABORATORY FLOODING TESTS

TABLE VI

Company Berry & Eells Lease Reinhardt & Malson Well No. 36

Depth Interval, Feet	682.80 - 689.70	686.50 - 689.70
Feet of Core Analyzed	6.10	3.20
Average Percent Porosity	19.85	19.72
Average Percent Original Oil Saturation	30.83	33.97
Average Percent Oil Recovery	7.44	10.53
Average Percent Residual Oil Saturation	23.39	23.44
Average Percent Residual Water Saturation	68.51	68.19
Average Percent Total Residual Fluid Saturation	91.90	91.63
Average Original Oil Content, Bbls./A. Ft.	472.	520.
Average Oil Recovery, Bbls./A. Ft.	114.	163.
Average Residual Oil Content, Bbls./A. Ft.	358.	357.
Total Original Oil Content, Bbls./Acre	2,878.	1,663.
Total Oil Recovery, Bbls./Acre	695.	521.
Total Residual Oil Content, Bbls./Acre	2,183.	1,142.
Average Effective Permeability, Millidarcys	14.13	17.19
Average Initial Fluid Production Pressure, p.s.i.	9.2	11.3

NOTE: Only those samples which recovered oil were used in calculating the above averages.