

OIL FIELD RESEARCH LABORATORIES
CHANUTE, KANSAS

May 9, 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. 30, Neosho County, Kansas, and submitted to our laboratory on May 3, 1951.

In calculating the recovery for the area representing this core, 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. to Mr. L. C. McLaughlin

28-27-19E

REINHARDT & MALSON 30

BERRY & ELLS
CORE ANALYSIS REPORT
BEINHARDT & WALSON LEASE
WELL NO. 70
WYOMING COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES
CHANUTE, KANSAS
MAY 9, 1951

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Berry & Kelle Lease Reinhardt & Nelson Well No. 30

Location _____

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

Name of Sand	Bartlesville
Top of Core	693.00
Bottom of Core	713.20
Top of ^{Ray} Sand	695.73
Bottom of Sand	707.75
Total Feet of Permeable Sand	10.15

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

Average ^{Effective} Permeability Millidarcys	18.83
Average Percent Porosity	20.85
Average Percent Oil Saturation	48.55
Average Percent Water Saturation	-
Average Oil Content, Bbls./A. Ft.	781.
Total Oil Content, Bbls./Acre	9,215.
Average Percent Oil Recovery by Laboratory Flooding Tests	19.92
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	334.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	3,391.
Total Calculated Oil Recovery, Bbls./Acre	2,550.
Packer Setting, Feet	696.00
Viscosity, Centipoises @	
A. P. I. Gravity, degrees @ 60 °F	

OIL FIELD RESEARCH LABORATORIES
CHANUTE, KANSAS

The above averages are for that part of the sand section extending from the packer setting to the top of the cement plug.

LOG

Company Harry & Kells Lease Reinhardt & Nelson Well No. 30

<u>Depth Interval,</u> <u>Feet</u>	<u>Description</u>
693.00 - 695.30	- According to log, gray shale (Discarded at well).
695.30 - 695.55	- Gray shale.
695.55 - 695.73	- Hard brown fine grained micaceous sandstone.
695.73 - 698.25	- Brown fine grained micaceous sandstone containing a shale streak.
698.25 - 704.80	- Dark brown fine grained micaceous sandstone.
704.80 - 706.70	- Dark fine grained micaceous carbonaceous sandstone.
706.70 - 706.85	- Gray shale.
706.85 - 707.75	- Brown fine grained micaceous sandstone.
707.75 - 708.40	- Dark fine grained micaceous carbonaceous sandstone.
708.40 - 713.20	- According to log, gray shale (Discarded at well).

Oil Field Research Laboratories

SHOT RECOMMENDATION

Company Berry & Wells Lease Reinhardt & Nelson Well No. 30

<u>Depth Interval, Feet</u>	<u>Feet of Sand</u>	<u>Size of Shell Inches</u>	<u>Qts./Ft.</u>	<u>Total Quarts</u>
701.0 - 707.0	6.0	3/4	2.0	12.0

Recommended Packer Setting - - - - 696.0

Note: Plug hole back to - - - - 708.0

Oil Field Research Laboratories

RESULTS OF SATURATION TESTS

TABLE III

Company Harry & Belle Lease Heinhardt & Nelson Well No. 30

Sat. No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content Bbbs./A. Ft.	Feet of Core		Total Oil Content Bbbs./Acre
			Oil	Water	Total		Ft.	Cum. Ft.	
1	696.45	17.0	31.5	-	-	316	1.62	1.62	512
2	697.55	19.4	35.3	-	-	531	0.85	2.47	451
3	698.60	22.8	46.3	-	-	820	0.85	3.32	697
4	699.55	22.4	49.9	-	-	867	1.00	4.32	867
5	700.77	21.4	52.8	-	-	876	1.20	5.52	1,051
6	701.80	21.9	65.1	-	-	1,107	0.95	6.47	1,052
7	702.70	22.9	42.2	-	-	750	0.95	7.42	713
8	703.65	22.6	53.8	-	-	944	1.60	9.02	1,510
9	704.85	21.8	53.6	-	-	907	0.50	9.52	454
10	705.76	19.1	57.4	-	-	851	1.40	10.92	1,191
11	707.05	20.3	45.7	-	-	720	0.90	11.82	648
12	708.31	17.7	45.2	-	-	621	0.65	12.47	404
							Total	- - - -	9,550

Oil Field Research Laboratories

SUMMARY OF SATURATION TESTS

TABLE IV

Company Herry & Kelle Lease Reinhardt & Nelson Well No. 30

Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbls./A. Ft.	Total Oil Content Bbls./Acre
695.73-708.40	12.47	20.66	48.08	-	766	9,550
696.00-708.00	11.80	20.85	48.55	-	781	9,215

Oil Field Research Laboratories

RESULTS OF LABORATORY FLOODING TESTS

TABLE V

Company Berry & Wells Lease Reinhardt & Malson Well No. 30

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	696.45	17.0	31.5	316	9.2	122	22.3	65.7	294	125	6.32	15
2	697.55	19.4	35.3	531	12.7	191	22.6	66.5	340	86	9.56	10
3	698.60	22.8	46.3	820	14.2	251	32.1	56.8	569	223	37.30	5
4	699.55	22.4	49.9	867	19.5	339	30.4	62.0	528	69	17.32	5
5	700.77	21.4	52.8	876	28.5	473	24.3	64.5	403	69	16.16	5
6	701.80	21.9	65.1	1,107	38.5	655	26.6	65.0	452	92	8.25	5
7	702.70	22.9	42.2	750	14.2	252	28.0	66.7	498	233	43.80	10
8	703.65	22.6	53.8	944	29.3	514	24.5	66.3	430	224	31.02	5
9	704.85	21.8	53.6	907	12.4	210	41.2	46.0	697	178	6.55	15
10	705.76	19.1	57.4	851	0.0	0	57.4	22.6	851	0	Imp.	50 ^f
11	707.05	20.3	45.7	720	11.1	175	34.6	63.0	545	167	4.17	20
12	708.31	17.7	45.2	621	0.0	0	45.2	20.0	621	0	Imp.	50 ^f

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	Lease		Well No.
Herry & Belle	Reinhardt & Nelson		30
Depth Interval, Feet	695.73 - 707.75		696.00 - 708.00
Feet of Core Analyzed	10.42		10.15
Average Percent Porosity	21.05		21.16
Average Percent Original Oil Saturation	46.99		47.40
Average Percent Oil Recovery	19.62		19.92
Average Percent Residual Oil Saturation	27.35		27.48
Average Percent Residual Water Saturation	63.66		63.40
Average Percent Total Residual Fluid Saturation	90.81		90.88
Average Original Oil Content, Bbls./A. Ft.	766.		788.
Average Oil Recovery, Bbls./A. Ft.	329.		334.
Average Residual Oil Content, Bbls./A. Ft.	450.		454.
Total Original Oil Content, Bbls./Acre	8,113.		8,000.
Total Oil Recovery, Bbls./Acre	3,424.		3,391.
Total Residual Oil Content, Bbls./Acre	4,689.		4,609.
Average Effective Permeability, Millidarcys	18.51		18.83
Average Initial Fluid Production Pressure, p.s.i.	9.5		9.5

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