

14-19-22-E

OIL FIELD RESEARCH LABORATORIES
CHANUTE, KANSAS

August 16, 1951

Webb, Klee & Spindle
Balcony Building
320 West Forty-seventh
Kansas City, Missouri

Gentlemen:

Enclosed herewith is the report of the partial analysis of the Cable Tool core taken from the Rice Lease, Well No. 2, Miami County, Kansas, and submitted to our laboratory on August 12, 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 38 percent. The recovery is based on the floodable sand subjected to flood pot tests.

Very truly yours,

OIL FIELD RESEARCH LABORATORIES

Clayton A. Mattier

CAN:mm
c.c.

Rice 2

WEBB, KLEE & SPINDLE

CORE ANALYSIS REPORT

RICE LEASE

WELL NO. 2

MIAMI COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES

CHANUTE, KANSAS

AUGUST 16, 1951

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Webb, Klee & Spindle Lease Rice Well No. 2

Location _____

Section 14(?) Twp. 19S Rge. 22E County Miami State Kansas

Name of Sand Squirrel

Top of Core 563.00

Bottom of Core 583.55

Top of ~~Pay~~ Sand 565.80

Bottom of Sand 580.15

Total Feet of Permeable Sand 3.90

Total Feet of Floodable Sand 3.25

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
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Average Effective Permeability Millidarcys	<u>1.45</u>
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Average Percent Porosity	<u>19.09</u>
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Average Percent Oil Saturation	<u>26.34</u>
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Average Percent Water Saturation	<u>60.37</u>
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Average Oil Content, Bbls./A. Ft.	<u>394.</u>
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Total Oil Content, Bbls./Acre	<u>4,252.</u>
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Average Percent Oil Recovery by Laboratory Flooding Tests	<u>5.48</u>
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Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	<u>98.</u>
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Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	<u>319.</u>
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Total Calculated Oil Recovery, Bbls./Acre	<u>800.</u>
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Packer Setting, Feet

Viscosity, Centipoises @ <u>74°F</u>	<u>13.09</u>
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A. P. I. Gravity, degrees @ 60 °F	<u>33.3</u>
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Elevation, Feet

LOG

Company Webb, Klee & Spindle Lease Rice Well No. 2

Depth Interval, Description
Feet

563.00 - 563.90 - Light brown fine grained micaceous sandstone.
563.90 - 564.35 - Gray sandy shale.
564.35 - 564.50 - Light brown fine grained micaceous shaley sandstone.
564.50 - 564.70 - Gray sandy shale.
564.70 - 565.80 - Limestone.
565.80 - 567.60 - Brown fine grained micaceous sandstone.
567.60 - 567.90 - Brown fine grained micaceous shaley sandstone.
567.90 - 568.20 - Brown fine grained micaceous sandstone.
568.20 - 568.55 - Brown fine grained micaceous slightly shaley sandstone.
568.55 - 568.80 - Brown fine grained micaceous sandstone.
568.80 - 569.30 - Brown fine grained laminated micaceous shaley sandstone.
569.30 - 569.90 - Brown fine grained micaceous calcareous sandstone.
569.90 - 570.50 - Brown fine grained micaceous sandstone.
570.50 - 570.90 - Brown fine grained micaceous calcareous sandstone.
570.90 - 572.35 - Brown fine grained micaceous sandstone.
572.35 - 573.15 - Brown fine grained laminated micaceous shaley sandstone.
573.15 - 573.45 - Brown fine grained micaceous sandstone.
573.45 - 574.15 - Laminated shaley sandstone.
574.15 - 574.90 - Brown fine grained micaceous slightly shaley sandstone.
574.90 - 575.45 - Brown fine grained laminated micaceous shaley sandstone.
575.45 - 575.85 - Brown fine grained micaceous sandstone.
575.85 - 577.85 - Brown fine grained laminated micaceous shaley sandstone.
577.85 - 578.80 - Laminated sandstone and shale.
578.80 - 579.35 - Dark fine grained laminated micaceous carbonaceous shale;
sandstone.

579.35 - 579.85 - Gray sandy shale.

579.85 - 580.15 - Dark fine grained laminated micaceous carbonaceous shaley sandstone.

580.15 - 582.05 - Laminated sandy shale.

582.05 - 583.55 - Gray shale.

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SHOT RECOMMENDATION

Company Webb, Klee & Spindle Lease Rice Well No. 2

<u>Depth Interval, Feet</u>	<u>Feet of Sand</u>	<u>Size of Shell Inches</u>	<u>Qts./Ft.</u>	<u>Total Quarts</u>
569.00 - 578.00	9.0	4.5	3.1	27.9

RESULTS OF SATURATION TESTS

Company Dr. Webb, Dr. Klee & Spindle Lease Rice Well No. 2

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.	
F-1	563.40	19.6	27.5	-	-	419	0.90	0.90	377
F-2	565.95	22.2	28.5	-	-	491	0.70	1.60	344
F-3	567.00	24.3	26.3	-	-	498	1.10	2.70	548
4	568.05	24.0	34.1	52.3	86.4	635	0.30	3.00	191
F-4A	568.75	21.8	22.5	-	-	381	0.25	3.25	95
F-5	569.45	10.3	26.6	-	-	213	0.60	3.85	128
F-6	570.65	12.6	22.8	-	-	221	0.40	4.25	88
7	571.73	21.1	30.4	63.6	94.0	498	1.45	5.70	722
F-8A	572.70	15.4	29.5	-	-	353	0.80	6.50	282
8	573.30	22.0	24.9	51.5	76.4	425	0.30	6.80	127
F-9	574.30	18.6	27.6	-	-	398	0.75	7.55	298
10	575.60	21.1	27.9	61.2	89.1	457	0.40	7.95	183
F-11	576.60	18.1	20.7	-	-	291	1.25	9.20	364
F-12	577.60	17.9	19.7	-	-	274	0.75	9.95	206
F-13	578.95	17.5	26.8	-	-	364	0.55	10.50	200
F-14	580.00	16.7	25.4	-	-	329	0.30	10.80	99
							Total	- - - - -	4,252

Note: "A" samples were taken from the core after it was received in the laboratory.

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SUMMARY OF SATURATION TESTS

TABLE IV

Company Webb, Klee & Spindle Lease Rice Well No. 2

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
563.00 - 572.35	5.70	20.05	27.81	61.66	437	2,493
572.35 - 580.15	5.10	18.02	24.71	57.14	345	1,759
563.00 - 580.15	10.80	19.09	26.34	60.37	394	4,252

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RESULTS OF LABORATORY FLOODING TESTS

TABLE V

Company Dr. Webb, Dr. Klee & Spindle Lease Rice Well No. 2

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	563.40	19.6	27.5	419	0.0	0	27.5	63.8	419	0	Imp.	50 +
2	565.95	22.2	28.5	491	10.0	172	18.5	79.2	319	59	2.28	20
3	567.00	24.3	26.3	498	7.1	136	19.2	77.9	362	93	2.59	20
4A	568.75	21.8	22.5	381	0.0	0	22.5	65.0	381	26	0.668	30
5	569.45	10.3	26.6	213	0.0	0	26.6	49.6	213	0	Imp.	50 +
6	570.85	12.6	22.8	221	0.0	0	22.8	62.4	221	3	0.094	45
7	671.73	21.1	30.1	492	2.1	34	28.0	63.2	458	14	0.194	30
8A	572.70	15.4	29.5	353	0.0	0	29.5	68.0	353	0	Imp.	50 +
9	574.30	18.6	27.6	398	0.0	0	27.6	55.9	398	0	Imp.	50 +
11	576.60	18.1	20.7	291	0.0	0	20.7	64.0	291	0	Imp.	50 +
12	577.60	17.9	19.7	274	0.0	0	19.7	68.3	274	0	Imp.	50 +
13	578.95	17.5	26.8	364	0.0	0	26.8	48.4	364	0	Imp.	50 +
14	580.00	16.7	25.4	329	0.0	0	25.4	67.0	329	0	Imp.	50 +

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.
 "A" - Samples were taken from core after it was received in the laboratory.

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SUMMARY OF LABORATORY FLOODING TESTS

TABLE VI

Company	Webb, Klee & Spindle	Lease	Rice	Well No.	2
Depth, Interval, Feet	565.80 - 572.35				
Feet of Core Analyzed	3.25				
Average Percent Porosity	22.40				
Average Percent Original Oil Saturation	28.40				
Average Percent Oil Recovery	5.48				
Average Percent Residual Oil Saturation	22.92				
Average Percent Residual Water Saturation	71.59				
Average Percent Total Residual Fluid Saturation	94.51				
Average Original Oil Content, Bbls./A. Ft.	493.				
Average Oil Recovery, Bbls./A. Ft.	98.				
Average Residual Oil Content, Bbls./A. Ft.	395.				
Total Original Oil Content, Bbls./Acre	1,604.				
Total Oil Recovery, Bbls./Acre	319.				
Total Residual Oil Content, Bbls./Acre	1,285.				
Average Effective Permeability, Millidarcys	1.45				
Average Initial Fluid Production Pressure, p.s.i.	23.3				

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