

OILFIELD RESEARCH LABORATORIES

536 NORTH HIGHLAND - CHANUTE, KANSAS 66720 - PHONE (316) 431-2650

June 10, 1980

James E. Russell Petroleum, Inc.
P.O. Box 2618
Abilene, Texas 79604

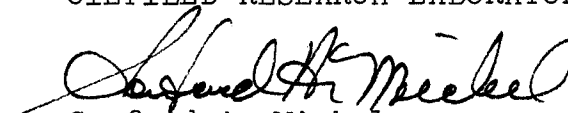
Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Alexander Lease, Well No. W-69, Woodson County, Kansas, and submitted to our laboratory on May 1, 1980.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES



Sanford A. Michel

SAM/tem

3 c to Abilene, Texas
2 c to Chanute, Kansas

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company James E. Russell Petroleum, Inc. Lease Alexander Well No. W-69

Location 2575' SNL & 725' EWL SW $\frac{1}{4}$

Section 2 Twp 24S Rge 16E County Woodson State Kansas

Elevation, Feet . Datum: Mean Sea Level (G.L.) . 1065.2

Name of Sand - - - - - Squirrel

Top of Core - - - - - 1025.0

Bottom of Core - - - - - 1043.5

Top of Sand - - - - - 1029.0

Bottom of Sand - - - - - 1037.4

Total Feet of Permeable Sand - - - - - 4.8

Total Feet of Floodable Sand - - - - - 0.0

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

0 - 1

1.8

1.8

1 - 5

0.8

2.6

5 - 10

1.5

4.1

20 - 30

0.7

4.8

Average Permeability Millidarcys - - - - - 7.2

Average Percent Porosity - - - - - 13.7

Average Percent Oil Saturation - - - - - 29.1

Average Percent Water Saturation - - - - - 59.3

Average Oil Content, Bbls./A. Ft. - - - - - 315.

Total Oil Content, Bbls./Acre - - - - - 1,986.

Average Percent Oil Recovery by Laboratory Flooding Tests - - - - - 0

Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft. - - - - - 0

Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre - - - - - 0

Total Calculated Oil Recovery, Bbls./Acre - - - - - 0

OILFIELD RESEARCH LABORATORIES

-2-

The core was sampled by a representative of Oilfield Research Laboratories. Fresh water mud was used as a drilling fluid. The core was from a non-virgin area.

Since the core did not respond to flooding susceptibility tests, no calculated recovery is given.

FORMATION CORED

The detailed log of the formation cored is as follows:

<u>Depth Interval, Feet</u>	<u>Description</u>
1025.0 - 1029.0	Shale, gray, sandy.
1029.0 - 1029.8	Sandstone, hard, brown, fossiliferous, calcareous, shaly.
1029.8 - 1030.2	Sandstone, brown.
1030.2 - 1033.4	Sandstone and shale, gray and brown, laminated.
1033.4 - 1033.9	Sandstone, brown.
1033.9 - 1034.3	Sandstone and shale, brown, gray, laminated.
1034.3 - 1035.0	Sandstone, brown.
1035.0 - 1036.3	Shale, gray, sandy.
1036.3 - 1037.4	Sandstone, grayish, brown, very shaly.
1037.4 - 1043.5	Shale, gray, sandy.

Oilfield Research Laboratories

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company James E. Russell Petroleum, Inc. Lease Alexander Well No. W-69

Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content Bbls. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water	Total			Ft.	Cam. Ft.		
1	1029.5	11.3	42	33	75	368	Imp.	0.8	0.8	294	0.00
2	1030.5	14.7	30	59	89	342	5.0	0.8	1.6	274	4.00
3	1031.5	11.4	28	70	98	248	6.0	1.0	2.6	248	6.00
4	1032.5	12.2	15	80	95	142	0.45	1.4	4.0	199	0.63
5	1033.5	17.3	29	50	79	389	8.3	0.5	4.5	195	4.15
6	1034.5	18.2	45	35	80	635	28.	0.7	5.2	445	19.60
7	1036.5	13.9	28	63	91	302	Imp.	0.7	5.9	211	0.00
8	1037.2	14.3	27	61	88	300	0.27	0.4	6.3	120	0.11

Oilfield Research Laboratories

SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company		James E. Russell Petroleum, Inc.	Lease	Alexander	Well No.	W-69
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.			
1029.0 - 1037.4	4.8	7.2	34.49			
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
1029.0 - 1037.4	6.3	13.7	29.1	59.3	315	1,986

Oilfield Research Laboratories

RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company		James E. Russell Petroleum, Inc.		Lease		Alexander		Well No.		W-69	
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.
			%	Bbls./A. Ft.	%	Bbls./A. Ft.	% Oil	% Water			
1	1029.5	11.8	42	384	0	0	42	37	0	Imp.	-
2	1030.5	14.4	31	346	0	0	31	62	12	0.15	50
3	1031.5	11.7	28	254	0	0	28	70	0	Imp.	-
4	1032.5	12.5	14	136	0	0	14	81	0	Imp.	-
5	1033.5	17.7	28	384	0	0	28	53	49	0.52	35
6	1034.5	18.0	45	628	0	0	45	36	0	Imp.	-
7	1036.5	14.0	28	304	0	0	28	63	0	Imp.	-
8	1037.2	14.1	28	306	0	0	28	64	0	Imp.	-

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.