



OILFIELD RESEARCH LABORATORIES

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November 20, 1979

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-50, Woodson County, Kansas, and submitted to our laboratory on October 31, 1979.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Benjamin R. Pearman
Benjamin R. Pearman

SAM/tem
3 c to Abilene, Texas
2 c to Chanute, Kansas

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Inc.

Company James E. Russell Petroleum, Inc. Lease Alexander Well No. W-50

Location 1980' EWL & 30' SNL NW 1/4

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

Name of Sand	-	Lower Squirrel
Top of Core	-	992.0
Bottom of Core	-	1008.5
Top of Sand	-	998.3
Bottom of Sand	-	1008.0
Total Feet of Permeable Sand	-	5.9
Total Feet of Floodable Sand	-	0

Distribution of Permeable Sand:
Permeability Range
Millidarcys

	Feet	Cum. Ft.
0 - 1	3.9	3.9
1 - 2	0.7	4.6
10 - 20	1.3	5.9

Average Permeability Millidarcys	-	4.6
Average Percent Porosity	-	13.0
Average Percent Oil Saturation	-	23.2
Average Percent Water Saturation	-	66.1
Average Oil Content, Bbls./A. Ft.	-	242.
Total Oil Content, Bbls./Acre	-	1,546.
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
Packer Setting, Feet	-	
Viscosity, Centipoises @	-	
A. P. I. Gravity, degrees @ 60 °F	-	
Elevation, Feet	-	1047.3

(Ground Level)

-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.

Inasmuch as the core did not respond to floodpot testing, 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>
992.0 - 997.3	Gray shale.
997.3 - 997.8	Gray shaly limestone, top first oil stain.
997.8 - 998.3	Gray shale.
998.3 - 999.0	Gray and brown laminated sandstone and shale.
999.0 - 1000.4	Gray shale.
1000.4 - 1001.3	Gray sandy limestone.
1001.3 - 1003.0	Brown and gray laminated sandstone and shale.
1003.0 - 1003.7	Light brown sandy shale.
1003.7 - 1006.1	Gray sandy shale.
1006.1 - 1007.4	Light and dark brown laminated sandstone.
1007.4 - 1008.0	Gray shaly sandstone.
1008.0 - 1008.5	Gray sandy shale.
1008.5 - 1012.0	Loss.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company James E. Russell Petroleum, Inc. Lease Alexander Well No. W-50

Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation		Oil Content Bbbs. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water			Ft.	Cum. Ft.		
1	997.4	13.4	27	68	281	Imp.	0.5	0.5	141	0.00
2	998.5	11.3	11	83	96	0.44	0.7	1.2	67	0.31
3	1000.6	10.5	33	57	269	0.17	0.9	2.1	242	0.15
4	1001.6	13.9	24	64	259	1.5	0.7	2.8	181	1.05
5	1002.6	13.1	13	76	132	0.33	1.0	3.8	132	0.33
6	1003.5	11.3	13	82	114	0.92	0.7	4.5	80	0.64
7	1006.4	15.6	41	44	496	19.	1.3	5.8	645	24.70
8	1007.7	13.0	9	74	96	0.16	0.6	6.4	58	0.10

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company James E. Russell Petroleum, Inc. Lease Alexander Well No. W-50

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
997.3 - 1008.0	5.9	4.6	27.28

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
997.3 - 1008.0	6.4	13.0	23.2	66.1	24.2	1,546

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

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.
			%	Bbbs./A. Ft.	%	Bbbs./A. Ft.	% Oil	% Water			
1	997.4	13.4	27	281	0	0	27	68	0	Imp.	-
2	998.5	11.6	10	90	0	0	10	85	0	Imp.	-
3	1000.6	10.8	34	285	0	0	34	59	0	Imp.	-
4	1001.6	13.7	24	361	0	0	24	66	0	Imp.	-
5	1002.6	13.3	14	144	0	0	14	75	0	Imp.	-
6	1003.5	11.3	13	114	0	0	13	82	0	Imp.	-
7	1006.4	15.3	40	475	0	0	40	50	0	Imp.	-
8	1007.7	13.0	11	111	0	0	11	76	0	Imp.	-

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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.