

OILFIELD RESEARCH LABORATORIES

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August 11, 1980

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

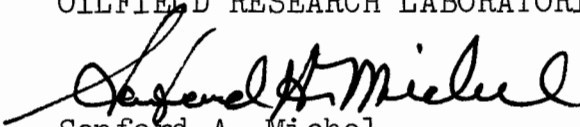
Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Minckley B, Sec. 9 Lease, Well No. 96, Anderson County, Kansas and submitted to our laboratory on June 4, 1980.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES


Sanford A. Michel

BRP/ks

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

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

James E. Russell

Company Petroleum, Inc. Lease Minckley B, Sec. 9 Well No. 96

Location 1980' SNL & 1980' EWL NE $\frac{1}{4}$

Section 9 Twp. 23S Rge. 19E County Anderson State Kansas

Elevation, Feet Datum: Mean Sea Level (G.L.) . . . 1048.6

Name of Sand Squirrel

Top of Core 730.0

Bottom of Core 791.5

Top of Sand 758.2

Bottom of Sand 783.7

Total Feet of Permeable Sand 6.9

Total Feet of Floodable Sand 0.0

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

0.20 - 0.80

5.3

5.3

0.80 - 1.1

1.6

6.9

Average Permeability Millidarcys 0.74

Average Percent Porosity 14.3

Average Percent Oil Saturation 29.5

Average Percent Water Saturation 48.6

Average Oil Content, Bbls./A. Ft. 323.

Total Oil Content, Bbls./Acre 5,141.

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.

This core was sampled by a representative of Oilfield Research Laboratories. The well was drilled in virgin territory using fresh water mud as the circulating fluid.

The core did not respond to laboratory waterflooding susceptibility tests and therefore no calculated recovery is presented.

FORMATION CORED

The detailed log of the formation cored is as follows:

<u>Depth Interval, Feet</u>	<u>Description</u>
730.0 - 753.6	Shale gray laminated with thin streaks of siltstone. First oil show.
753.6 - 755.1	Coal.
755.1 - 758.2	Shale gray sandy.
758.2 - 764.1	Sandstone grayish brown very shaly.
764.1 - 768.8	Shale gray sandy.
768.8 - 769.2	Sandstone and shale brown and gray laminated.
769.2 - 772.0	Shale gray sandy.
772.0 - 772.5	Sandstone grayish brown very shaly.
772.5 - 773.0	Shale gray sandy.
773.0 - 773.8	Sandstone grayish brown very shaly.
773.8 - 775.0	Shale gray sandy.
775.0 - 779.7	Sandstone brown very shaly.
779.7 - 783.1	Sandstone gray slightly carbonaceous slightly calcareous shaly.
783.1 - 783.7	Sandstone brown very shaly.
783.7 - 786.5	Shale hard gray calcareous sandy.
786.5 - 789.9	Shale gray.
789.9 - 791.3	Coal.
791.3 - 791.5	Shale gray.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company James E. Russell Petroleum, Inc.

Lease

Minckley B, Sec. 9

Well No.

96

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			Ft.	Cum. Ft.		
1	758.5	13.6	30	57	317	1.1	0.8	0.8	254	0.88
2	759.5	17.9	19	45	264	Imp.	1.0	1.8	264	0.00
3	760.5	12.8	14	71	139	Imp.	1.0	2.8	139	0.00
4	761.5	13.8	16	65	171	Imp.	1.0	3.8	171	0.00
5	762.5	13.8	15	65	161	Imp.	1.0	4.8	161	0.00
6	763.5	12.0	30	67	279	0.45	1.1	5.9	307	0.50
7	772.2	12.8	20	70	199	0.80	0.5	6.4	100	0.40
8	773.4	15.7	27	44	329	1.1	0.8	7.2	264	0.88
9	775.2	15.7	25	48	305	Imp.	1.0	8.2	305	0.00
10	776.4	15.4	43	33	514	0.80	1.0	9.2	514	0.80
11	777.3	18.0	35	27	489	0.68	1.0	10.2	489	0.68
12	778.3	16.1	31	25	387	Imp.	1.0	11.2	387	0.00
13	779.3	15.2	33	48	389	Imp.	0.7	11.9	272	0.00
14	780.3	11.5	46	23	410	Imp.	1.3	13.2	533	0.00
15	781.5	10.0	23	70	178	Imp.	1.0	14.2	178	0.00
16	782.5	13.1	43	50	437	0.78	1.1	15.3	481	0.86
17	783.5	14.1	49	26	536	0.20	0.6	15.9	322	0.12

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company		Lease		Well No.	
James E. Russell Petroleum, Inc.		Minckley B, Sec. 9		96	
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.		
758.2 - 773.8	3.2	0.83	2.66		
775.0 - 783.7	3.7	0.67	2.46		
758.2 - 783.7	6.9	0.74	5.12		

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
758.2 - 773.8	7.2	14.1	21.2	60.5	231	1,660
775.0 - 783.7	8.7	14.2	36.4	38.8	400	3,481
758.2 - 783.7	15.9	14.3	29.5	48.6	323	5,141

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company James E. Russell Petroleum, Inc. Lease Minckley B, Sec. 9 Well No. 96

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.
			%	Bbbls./A. Ft.	%	Bbbls./A. Ft.	% Oil	% Water			
1	758.5	13.6	28	295	0	0	28	59	0	Imp.	-
2	759.5	17.7	20	274	0	0	20	47	0	Imp.	-
3	760.5	13.1	15	152	0	0	15	71	0	Imp.	-
4	761.5	13.6	16	169	0	0	16	67	0	Imp.	-
5	762.5	13.8	15	161	0	0	15	67	0	Imp.	-
6	763.5	12.3	29	276	0	0	29	69	0	Imp.	-
7	772.2	12.9	21	210	0	0	21	72	0	Imp.	-
8	773.4	15.7	29	353	0	0	29	47	0	Imp.	-
9	775.2	15.7	25	305	0	0	25	52	0	Imp.	-
10	776.4	15.5	44	529	0	0	44	37	0	Imp.	-
11	777.3	17.8	35	483	0	0	35	29	0	Imp.	-
12	778.3	16.2	34	427	0	0	34	27	0	Imp.	-
13	779.3	15.0	35	407	0	0	35	50	0	Imp.	-
14	780.3	11.8	45	411	0	0	45	26	0	Imp.	-
15	781.5	10.4	22	177	0	0	22	72	0	Imp.	-
16	782.5	13.1	43	437	0	0	43	51	0	Imp.	-
17	783.5	14.3	48	531	0	0	48	29	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.