



OILFIELD RESEARCH LABORATORIES

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

June 13, 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 Minckley "B", Section 9 Lease, Well No. 94, Anderson County, Kansas, and submitted to our laboratory on June 1, 1979.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Benjamin R. Pearman
Benjamin R. Pearman

SAM:km
3 c to Abilene, Texas
2 c to Chanute, Kansas

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Inc. Minckley "B"

Company James E. Russell Petroleum, Inc. Lease Section 9 Well No. 94

Location 2,640' EWL & 1,100' SNL

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

Name of Sand	Squirrel
Top of Core	694.0
Bottom of Core	751.1
Top of Sand	694.0
Bottom of Sand	738.8
(Tested)	
Total Feet of Permeable Sand	10.6
Total Feet of Floodable Sand	-0-

Distribution of Permeable Sand:
Permeability Range
Millidarcys

	Feet	Cum. Ft.
0 - 1	6.6	6.6
1 - 2	4.0	10.6

Average Permeability Millidarcys	0.84
Average Percent Porosity	13.2
Average Percent Oil Saturation	16.2
Average Percent Water Saturation	67.6
Average Oil Content, Bbls./A. Ft.	176.
Total Oil Content, Bbls./Acre	4,349.
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	
(Ground Level)	
Elevation, Feet	1,029.5

The core was sampled by a representative of Oilfield Research Laboratories. The drilling fluid consisted of fresh water mud. The core was from a virgin area.

Since 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>
694.0 - 695.8	Light brownish gray very shaly sandstone; very light oil stain at top of core.
695.8 - 701.3	Gray sandy shale.
701.3 - 701.8	Brown and gray very shaly sandstone.
701.8 - 705.9	Grayish brown very shaly sandstone.
705.9 - 719.2	Gray sandy shale.
719.2 - 722.8	Light brownish gray very shaly sandstone.
722.8 - 729.0	Brown very shaly sandstone.
729.0 - 734.7	Dark brown slightly laminated shaly sandstone.
734.7 - 736.0	Gray sandy shale.
736.0 - 737.0	Dark brown shaly sandstone.
737.0 - 738.8	Brown and gray laminated sandstone and shale.
738.8 - 740.0	Grayish brown slightly laminated slightly calcareous shaly sandstone.
740.0 - 751.1	Gray sandy shale.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company James E. Russell Petroleum, Inc.

Lease

Minckley "B", Section 9

Well No.

94

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	694.5	10.5	5	89	41	0.16	1.0	1.0	41	0.16
2	695.5	10.9	5	90	42	Imp.	0.8	1.8	34	0.00
3	701.5	12.6	8	86	78	Imp.	0.5	2.3	39	0.00
4	702.5	14.1	8	70	88	Imp.	1.2	3.5	106	0.00
5	703.5	14.3	14	52	155	Imp.	1.0	4.5	155	0.00
6	704.5	14.8	9	69	103	Imp.	1.0	5.5	103	0.00
7	705.5	13.7	22	64	234	Imp.	0.9	6.4	211	0.00
8	719.5	11.0	8	86	68	0.27	0.8	7.2	54	0.22
9	720.5	11.9	3	87	28	Imp.	1.0	8.2	28	0.00
10	721.8	10.4	3	93	24	Imp.	1.0	9.2	24	0.00
11	722.5	11.8	8	85	73	Imp.	0.8	10.0	58	0.00
12	723.5	8.6	12	80	80	Imp.	1.2	11.2	96	0.00
13	724.5	14.2	11	62	121	Imp.	1.0	12.2	121	0.00
14	725.5	13.3	15	66	155	0.85	1.0	13.2	155	0.85
15	726.5	13.9	3	75	32	Imp.	1.0	14.2	32	0.00
16	727.5	12.9	21	68	210	0.48	1.0	15.2	210	0.48
17	728.5	12.6	5	77	49	Imp.	1.0	16.2	49	0.00
18	729.5	14.8	23	54	264	0.60	1.0	17.2	264	0.60
19	730.5	14.2	25	65	275	1.4	1.0	18.2	275	1.40
20	731.5	13.7	28	62	298	0.59	1.0	19.2	298	0.59
21	732.5	14.8	20	56	230	1.3	1.0	20.2	230	1.30
22	733.5	15.1	23	54	269	1.7	1.0	21.2	269	1.70
23	734.5	14.2	39	50	430	Imp.	0.7	21.9	301	0.00
24	736.7	14.5	34	43	383	1.4	1.0	22.9	383	1.40
25	737.5	17.1	34	40	451	Imp.	1.0	23.9	451	0.00
26	738.5	14.2	41	43	452	0.28	0.8	24.7	362	0.22

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company		James E. Russell Petroleum, Inc.		Lease	Minckley "B", Section 9		Well No.	94
Depth Interval, Feet		Feet of Core Analyzed		Average Permeability, Millidarcys		Permeability Capacity Ft. x Md.		
694.0 - 729.0		3.8		0.45		1.71		
729.0 - 738.8		6.8		1.06		7.21		
694.0 - 738.8		10.6		0.84		8.92		

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	
694.0 - 729.0		16.2		12.4		9.5		75.8		94		1,516	
729.0 - 738.8		8.5		14.8		29.1		52.2		333		2,833	
694.0 - 738.8		24.7		13.2		16.2		67.6		176		4,349	

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company James E. Russell Petroleum, Inc. Lease Minckley "B", Section 9 Well No. 94

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	Bbbs./A. Ft.			
1	694.5	10.6	6	50	0	0	6	88	50	0	Imp.	-
2	695.5	10.8	6	50	0	0	6	89	50	0	Imp.	-
3	701.5	12.6	8	78	0	0	8	86	78	0	Imp.	-
4	702.5	13.9	10	108	0	0	10	80	108	0	Imp.	-
5	703.5	14.2	14	154	0	0	14	60	154	0	Imp.	-
6	704.5	14.8	11	126	0	0	11	69	126	0	Imp.	-
7	705.5	13.6	21	222	0	0	21	67	222	0	Imp.	-
8	719.5	11.3	10	88	0	0	10	84	88	0	Imp.	-
9	720.5	11.8	5	46	0	0	5	85	46	0	Imp.	-
10	721.8	10.7	6	50	0	0	6	90	50	0	Imp.	-
11	722.5	11.6	10	90	0	0	10	83	90	0	Imp.	-
12	723.5	9.0	12	84	0	0	12	80	84	0	Imp.	-
13	724.5	14.2	13	144	0	0	13	77	144	0	Imp.	-
14	725.5	13.5	14	147	0	0	14	67	147	0	Imp.	-
15	726.5	13.8	5	54	0	0	5	75	54	0	Imp.	-
16	727.5	13.0	21	212	0	0	21	78	212	0	Imp.	-
17	728.5	12.8	7	70	0	0	7	78	70	0	Imp.	-
18	729.5	14.6	25	283	0	0	25	58	283	0	Imp.	-
19	730.5	14.3	27	299	0	0	27	63	299	0	Imp.	-
20	731.5	13.9	28	302	0	0	28	62	302	0	Imp.	-
21	732.5	14.8	22	253	0	0	22	58	253	0	Imp.	-
22	733.5	15.0	23	268	0	0	23	60	268	0	Imp.	-
23	734.5	14.3	37	410	0	0	37	52	410	0	Imp.	-
24	736.5	14.4	35	391	0	0	35	50	391	0	Imp.	-
25	737.5	17.1	35	465	0	0	35	51	465	0	Imp.	-
26	738.5	14.4	40	447	0	0	40	47	447	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.