

OILFIELD RESEARCH LABORATORIES

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

November 21, 1981

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 Burke Lease, Well No. W-6, located in Anderson County, Kansas and submitted to our laboratory on November 10, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES



Sanford A. Michel

SAM/mkf

3 c to Abilene, Tx.
2 c to Chanute, Ks.

- REGISTERED ENGINEERS -

CORE ANALYSIS - WATER ANALYSIS - REPRESSURING ENGINEERING - SURVEYING & MAPPING - PROPERTY EVALUATION & OPERATION

Oilfield Research Laboratories
GENERAL INFORMATION & SUMMARY

Company James E. Russell Petroleum, Inc. Lease Burke Well No. W-6
 Location 600' EWL & 2630' SNL NW $\frac{1}{4}$
 Section 26 Twp. 22S Rge. 19E County Anderson State Kansas

Elevation, Feet Datum: Mean Sea Level (G. L.) 1105.6

Name of Sand..... SQUIRREL
 Top of Core 811.0
 Bottom of Core 830.0
 Top of Sand 811.0
 Bottom of Sand 825.0
 Total Feet of Permeable Sand 12.0
 Total Feet of Floodable Sand 0.0

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 5	8.6	8.6
9 - 26	3.4	12.0

Average Permeability Millidarcys 5.2
 Average Percent Porosity 13.6
 Average Percent Oil Saturation 31.8
 Average Percent Water Saturation 51.9
 Average Oil Content, Bbls./A. Ft. 338.
 Total Oil Content, Bbls./Acre 4,737.
 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.

The core was sampled and the samples sealed in plastic bags by a representative of Oilfield Research Laboratories. Fresh water mud was used as a drilling fluid.

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,</u> <u>Feet</u>	<u>Description</u>
811.0 - 812.0	Gray and brown laminated shale and sandstone.
812.0 - 812.8	Brown sandstone.
812.8 - 814.4	Gray and brown laminated shale and sandstone.
814.4 - 814.8	Brown sandstone.
814.8 - 818.0	Gray and brown laminated shale and sandstone.
818.0 - 825.0	Grayish brown shaly sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company James E. Russell Petroleum, Inc. Lease Burke Well No. W-6

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	811.6	13.3	31	46	320	3.2	1.0	1.0	320	2.80
2	812.5	13.1	51	23	518	9.9	0.8	1.8	414	7.92
3	813.6	15.6	26	42	315	3.9	1.6	3.4	504	6.24
4	814.5	17.0	51	28	673	25.	0.4	3.8	269	10.00
5	815.5	15.7	48	33	585	9.4	1.2	5.0	702	11.28
6	816.6	11.4	50	48	442	14.	1.0	6.0	442	14.00
7	817.7	14.9	40	43	462	4.0	1.0	7.0	462	4.00
8	819.5	15.3	23	57	273	1.6	1.6	8.6	437	2.56
9	820.6	11.9	39	53	360	0.36	1.4	10.0	504	0.50
10	821.5	14.8	17	58	195	2.1	1.0	11.0	195	2.10
11	822.5	10.8	29	68	243	0.98	1.0	12.0	243	0.98
12	823.5	11.2	14	80	122	Imp.	1.0	13.0	122	0.00
13	824.6	12.2	13	82	123	Imp.	1.0	14.0	123	0.00

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	James E. Russell Petroleum, Inc.	Lease	Burke	Well No.	W-6				
Depth Interval, Feet	Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.	Average Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
811.0 - 818.0	811.0 - 818.0	7.0	8.0	56.24	14.4	40.2	39.1	445	3,113
818.0 - 825.0	818.0 - 825.0	5.0	1.2	6.14	12.9	23.5	64.8	232	1,624
811.0 - 825.0	811.0 - 825.0	12.0	5.2	62.38	13.6	31.8	51.9	338	4,737

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company James E. Russell Petroleum, Inc. Lease Burke Well No. W-6

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	811.6	13.5	31	325	0	0	31	47	0	Imp.	-
2	812.5	13.2	51	522	0	0	51	33	0	Imp.	-
3	813.6	15.1	27	316	0	0	27	42	0	Imp.	-
4	814.5	17.1	51	677	0	0	51	29	0	Imp.	-
5	815.5	15.6	48	581	0	0	48	34	0	Imp.	-
6	816.6	11.5	50	446	0	0	50	48	0	Imp.	-
7	817.7	15.4	39	466	0	0	39	45	0	Imp.	-
8	819.5	15.2	23	271	0	0	23	58	0	Imp.	-
9	820.6	11.7	39	354	0	0	39	54	0	Imp.	-
10	821.5	14.3	18	200	0	0	18	59	0	Imp.	-
11	822.5	10.9	29	245	0	0	29	69	0	Imp.	-
12	823.5	11.0	14	119	0	0	14	81	0	Imp.	-
13	824.6	12.4	13	125	0	0	13	83	0	Imp.	-

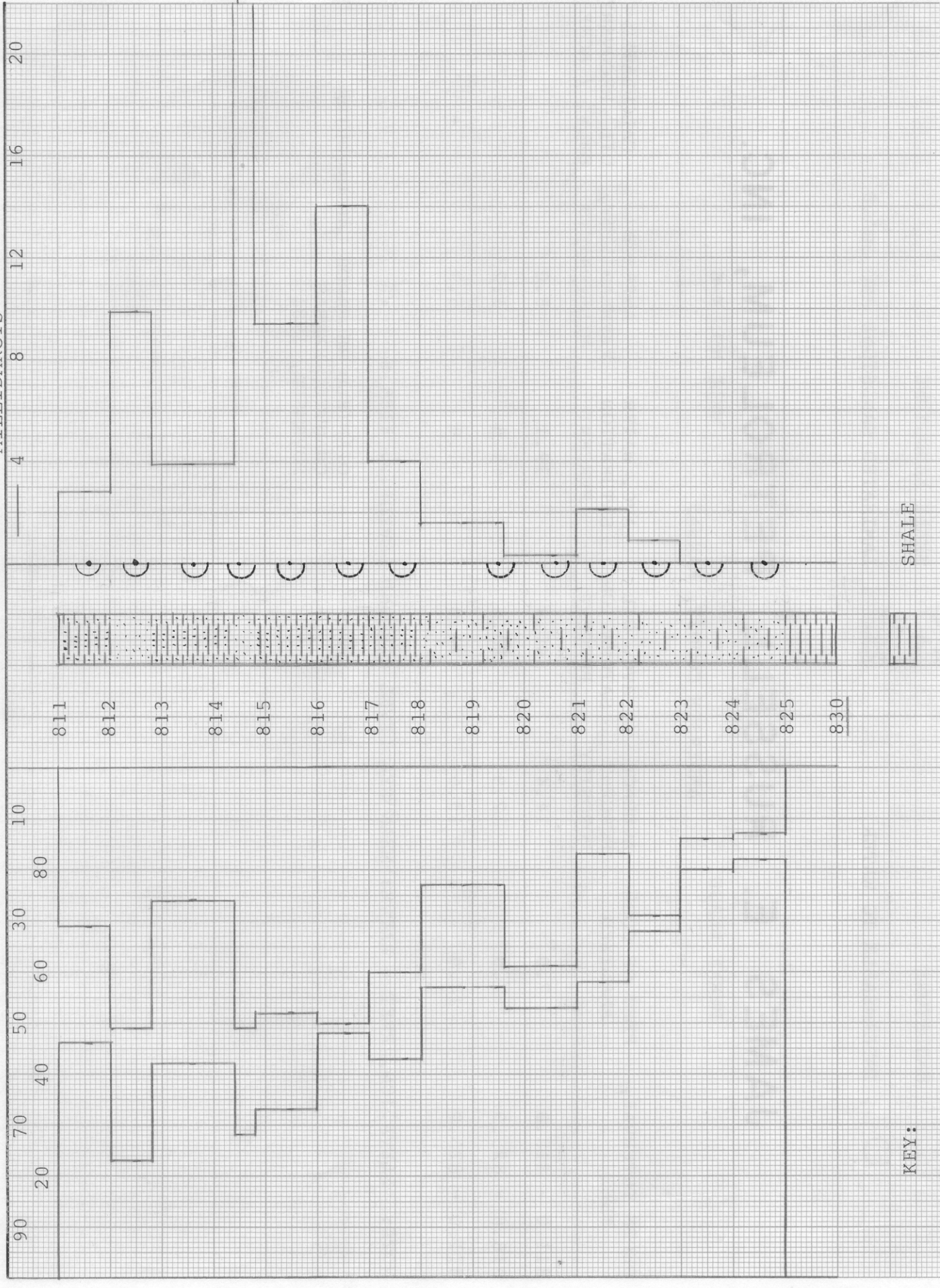
Notes: cc—cubic centimeter.

*—Volume of water recovered at the time of maximum oil recovery.

**—Determined by passing water through sample which still contains residual oil.

PERMEABILITY, IN MILLIDARCYS
EFFECTIVE PERMEABILITY TO WATER, IN
MILLIDARCYS

WATER SAT., PERCENT
OIL SAT., PERCENT



KEY:

SHALES

25

SANDSTONE

SHALY SANDSTONE

IMPERMEABLE TO WATER

LAMINATED SANDSTONE AND SHALE

JAMES E. RUSSELL PETROLEUM, INC.

BURKE LEASE

WELL NO. W-6

ANDERSON COUNTY, KANSAS

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE PERCENT POROSITY	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY, MILLIDARCYS	CALCULATED OIL RECOVERY BBLs. / ACRE
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811.0 - 818.0	7.0	14.4	40.2	39.1	8.0	
818.0 - 825.0	7.0	12.9	23.5	64.8	1.2	
811.0 - 825.0	14.0	13.6	31.8	51.9	5.2	-

NOTE: ELEVATION, FEET - DATUM: MEAN SEA LEVEL (GROUND LEVEL)... 1105.6

OILFIELD RESEARCH LABORATORIES
CHANUTE, KANSAS
NOVEMBER, 1981

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