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

January 18, 1982

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 McCune Lease, Well No. W-2, located in Anderson County, Kansas and submitted to our laboratory on January 14, 1982.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/kas

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

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company James E. Russell Petroleum, Inc. Lease McCune Well No. W-2

Location 930' EWL & 330' SNL, SW¼

Section 26 Twp. 22S Rge. 19E County Anderson State Kansas

Elevation, Feet Datum: Mean Sea Level (G. L.)	1100.7
Name of Sand	Squirrel
Top of Core	806.0
Bottom of Core	823.1
Top of Sand	808.0
Bottom of Sand	818.8
Total Feet of Permeable Sand	3.4
Total Feet of Floodable Sand	0.

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 1	2.9	2.9
1 - 5	0.5	3.4

Average Permeability Millidarcys	0.96
Average Percent Porosity	10.5
Average Percent Oil Saturation	35.1
Average Percent Water Saturation	56.5
Average Oil Content, Bbls./A. Ft.	305.
Total Oil Content, Bbls./Acre	3,176.
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	-

The core was sampled by a representative of Oilfield Research Laboratories. Fresh water mud was used as a drilling fluid.

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

FORMATION CORED

The detailed log of the formation cored is as follows:

Depth Interval, Feet	Description
806.0 - 807.2	Shale, gray, slightly sandy.
807.2 - 808.0	Shale, slightly sandy, grayish brown.
808.0 - 808.9	Sandstone, shaly, grayish brown.
808.9 - 809.2	Sandstone, brown with shale nodules.
809.2 - 810.0	Sandstone, shaly, slightly calcareous, grayish brown.
810.0 - 810.3	Sandstone, shaly, slightly calcareous, gray.
810.3 - 810.8	Sandstone, shaly, slightly calcareous, brown.
810.8 - 812.5	Sandstone, shaly, calcareous, grayish brown.
812.5 - 813.7	Sandstone, shaly, slightly calcareous, grayish light brown.
813.7 - 814.5	Shale, slightly sandy, gray.
814.5 - 815.0	Sandstone, shaly, brown.
815.0 - 818.8	Shale and sandstone, laminated, gray and brown.
818.8 - 823.1	Shale, slightly sandy, grayish brown.

Oilfield Research Laboratories

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company James E. Russell Petroleum, Inc. **Lease** McCune **Well No.** W-2

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.	Cum. Ft.		
1	807.6	6.3	22	74	96	108	Imp.	0.8	0.8	86	0.00
2	808.7	14.8	38	52	90	436	0.63	0.9	1.7	392	0.57
3	809.7	6.3	52	45	97	254	Imp.	0.8	2.5	203	0.00
4	810.5	9.7	46	40	86	346	0.98	0.5	3.0	173	0.49
5	811.4	2.5	23	73	96	45	Imp.	1.7	4.7	77	0.00
6	812.7	16.9	42	34	76	551	3.3	0.5	5.2	276	1.65
7	813.6	11.9	35	57	92	323	Imp.	0.7	5.9	226	0.00
8	814.6	16.7	65	33	98	842	0.74	0.5	6.4	421	0.37
9	815.7	10.8	30	63	93	251	Imp.	1.0	7.4	251	0.00
10	816.4	14.0	48	48	96	521	Imp.	1.0	8.4	521	0.00
11	817.5	12.8	23	50	73	228	0.20	1.0	9.4	228	0.20
12	818.3	13.4	31	67	98	322	Imp.	1.0	10.4	322	0.00

Oilfield Research Laboratories

SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company James E. Russell Petroleum, Inc. Lease McCune Well No. W-2

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
807.2 - 818.8	3.4	0.96	3.28

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
807.2 - 818.8	10.4	10.5	35.1	56.5	305	3,176

Oilfield Research Laboratories

RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

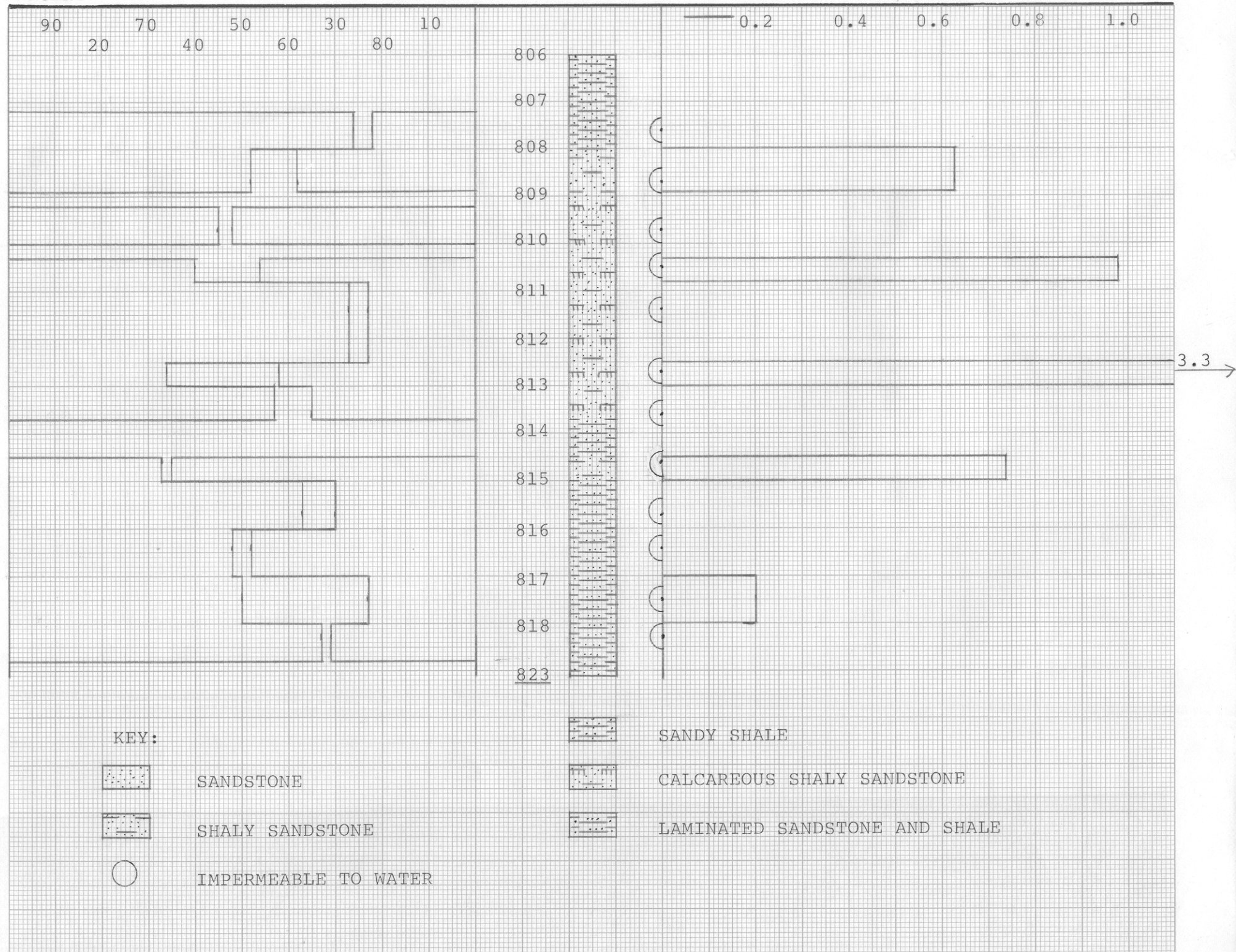
Company James E. Russell Petroleum, Inc. Lease McCune Well No. W-2

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	Bbls./A. Ft.			
1	807.6	6.8	21	111	0	0	21	75	111	0	Imp.	-
2	808.7	14.9	38	439	0	0	38	53	439	0	Imp.	-
3	809.7	6.4	52	258	0	0	52	45	258	0	Imp.	-
4	810.5	9.6	46	343	0	0	46	41	343	0	Imp.	-
5	811.4	2.8	23	50	0	0	23	73	50	0	Imp.	-
6	812.7	17.0	42	554	0	0	42	35	554	0	Imp.	-
7	813.6	11.4	36	318	0	0	36	57	318	0	Imp.	-
8	814.6	16.6	65	837	0	0	65	33	837	0	Imp.	-
9	815.7	11.3	29	254	0	0	29	64	254	0	Imp.	-
10	816.4	14.1	48	525	0	0	48	49	525	0	Imp.	-
11	817.5	12.7	23	227	0	0	23	51	227	0	Imp.	-
12	818.3	13.5	31	325	0	0	31	67	325	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.


WATER SAT., PERCENT
OIL SAT., PERCENT
PERMEABILITY, IN MILLIDARCYS
EFFECTIVE PERMEABILITY TO WATER, IN MILLIDARCYS
90
70
50
30
10
20
40
60
80
0.2
0.4
0.6
0.8
1.0
806
807
808
809
810
811
812
813
814
815
816
817
818
823
3.3
KEY:
SANDSTONE
SHALY SANDSTONE
IMPERMEABLE TO WATER
SANDY SHALE
CALCAREOUS SHALY SANDSTONE
LAMINATED SANDSTONE AND SHALE

JAMES E. RUSSELL PETROLEUM, INC.

MC CUNE LEASE WELL NO. W-2

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
807.2 - 818.8	10.4	10.5	35.1	56.5	0.96	-

NOTE: ELEVATION, FEET - DATUM: MEAN SEA LEVEL (GROUND LEVEL) 1100.7

OILFIELD RESEARCH LABORATORIES
CHANUTE, KANSAS
JANUARY, 1982

PDC