

OILFIELD RESEARCH LABORATORIES

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

December 16, 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 Thexton Lease, Well No. 0-2, located in Anderson County, Kansas and submitted to our laboratory on December 2, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel
by B.L.

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

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GENERAL INFORMATION & SUMMARY

Company James E. Russell Petroleum, Inc. Lease Thexton Well No. 0-2
 Location 910' EWL & 2550' SNL - SW $\frac{1}{4}$
 Section 23 Twp. 22S Rge. 19E County Anderson State Kansas

Elevation, Feet Datum: Mean Sea Level (G. L.) 1100.2
 Name of Sand SQUIRREL
 Top of Core 786.0
 Bottom of Core 797.2
 Top of Sand 788.0
 Bottom of Sand 795.2
 Total Feet of Permeable Sand 4.0
 Total Feet of Floodable Sand 0.0

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 2	2.0	2.0
2 - 5	2.0	4.0

Average Permeability Millidarcys 2.5
 Average Percent Porosity 14.0
 Average Percent Oil Saturation 34.8
 Average Percent Water Saturation 48.9
 Average Oil Content, Bbls./A. Ft. 385.
 Total Oil Content, Bbls./Acre 2,775.
 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.

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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.

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:

Depth Interval, <u>Feet</u>	<u>Description</u>
786.0 - 788.0	Shale, slightly sandy, gray.
788.0 - 795.2	Shale, gray, with fine brown sand and micaceous partings.
795.2 - 797.2	Shale, gray, slightly sandy.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company James E. Russell Petroleum, Inc. Lease Thexton Well No. 0-2

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	788.7	13.8	37	56	93	396	2.9	1.0	1.0	396	2.90
2	789.4	15.5	47	37	84	565	1.3	1.0	2.0	565	1.30
3	790.4	10.9	30	49	79	254	Imp.	1.0	3.0	254	0.00
4	791.5	18.4	40	28	68	571	4.2	1.0	4.0	571	4.20
5	792.5	11.8	30	65	95	275	Imp.	1.0	5.0	275	0.00
6	793.5	14.1	34	57	91	372	1.4	1.0	6.0	372	1.40
7	794.5	13.6	27	50	77	285	Imp.	1.2	7.2	342	0.00

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company		James E. Russell Petroleum, Inc.		Lease	Thexton		Well No.	0-2
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		
788.0 - 795.2	7.2	14.0	34.8	48.9	385	2,775		
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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company James E. Russell Petroleum, Inc. Lease Thexton Well No. 0-2

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	788.7	14.1	36	394	0	0	36	58	394	0	Imp.	-
2	789.4	15.4	47	562	0	0	47	39	562	0	Imp.	-
3	790.4	10.6	31	255	0	0	31	49	255	0	Imp.	-
4	791.5	18.5	40	574	0	0	40	30	574	0	Imp.	-
5	792.5	11.8	30	275	0	0	30	67	275	0	Imp.	-
6	793.5	14.5	33	371	0	0	33	60	371	0	Imp.	-
7	794.5	14.1	26	284	0	0	26	54	284	0	Imp.	-

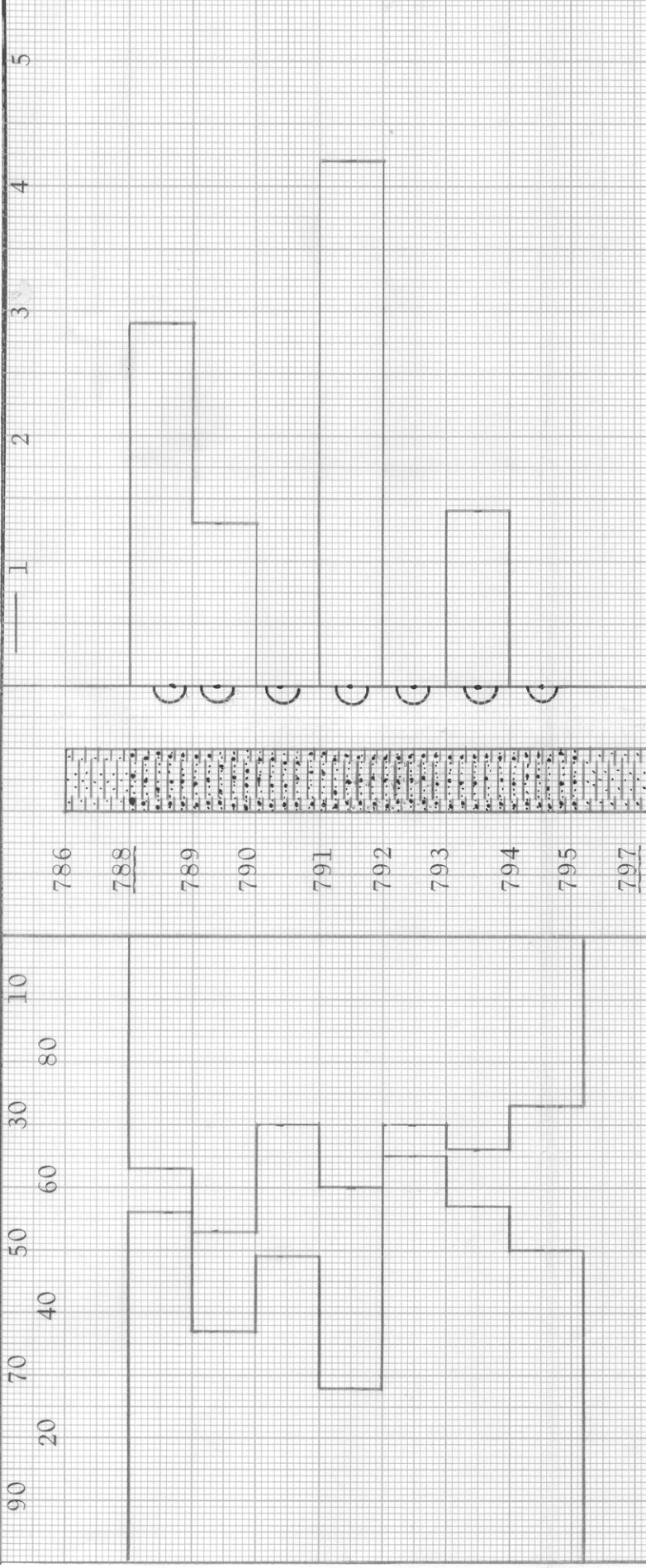
Notes: cc—cubic centimeter.

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

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

WATER SAT., ————> ← OIL SAT.,
PERCENT PERCENT

—— PERMEABILITY, IN MILLIDARCYS
EFFECTIVE PERMEABILITY TO WATER, IN
MILLIDARCYS



KEY:



SANDY SHALE



SHALE WITH MICACEOUS SANDSTONE PARTINGS



IMPERMEABLE TO WATER

JAMES E. RUSSELL PETROLEUM, INC.

THEXTON LEASE

WELL NO. 0-2

ANDERSON COUNTY, KANSAS

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY PERCENT	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY, MILLIDARCYS	CALCULATED OIL RECOVERY BBLs. / ACRE

788.0 - 795.2

7.2

14.0

34.8

48.9

2.5

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