

OILFIELD RESEARCH LABORATORIES

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

March 23, 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 Minckley "A" Lease, Well No. R-20, located in Anderson County, Kansas and submitted to our laboratory on February 17, 1981.

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

- 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 Minckley "A" Well No. R-20
 Location 660' SNL & 2420' EWL S½ SW¼
 Section 3 Twp. 23S Rge. 19E County Anderson State Kansas

Elevation, Feet Datum: Mean Sea Level (Ground Level) 1057.2

Name of Sand.....	Upper Squirrel
Top of Core	701.0
Bottom of Core	720.2
Top of Sand	(Tested) 701.4
Bottom of Sand	705.4
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 - 1
 1 - 3

2.0
 2.0

2.0
 4.0

Average Permeability Millidarcys	1.2
Average Percent Porosity	14.3
Average Percent Oil Saturation	28.0
Average Percent Water Saturation.....	50.8
Average Oil Content, Bbls./A. Ft.....	310.
Total Oil Content, Bbls./Acre.....	1,238.
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 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:

<u>Depth Interval, Feet</u>	<u>Description</u>
701.0 - 701.4	Sandstone, shaly, grayish light brown.
701.4 - 705.4	Sandstone and shale, brown and gray laminated.
705.4 - 720.2	Shale, gray, sandy.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company James E. Russell Petroleum, Inc. Lease Minckley "A" Well No. R-20

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	701.7	13.9	28	46	302	0.32	1.0	1.0	302	0.32
2	702.6	15.2	29	36	342	1.0	1.0	2.0	342	1.00
3	703.6	13.7	29	67	308	0.56	1.0	3.0	308	0.56
4	704.6	14.2	26	54	286	2.7	1.0	4.0	286	2.70

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Lease	Well No.	R-20	
James E. Russell Petroleum, Inc.	Minckley "A"			
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.	
701.4 - 705.4	4.0	1.2	4.58	
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
701.4 - 705.4	4.0	28.0	50.8	310
		14.3		1,238

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company James E. Russell Petroleum, Inc. Lease Minckley "A" Well No. R-20

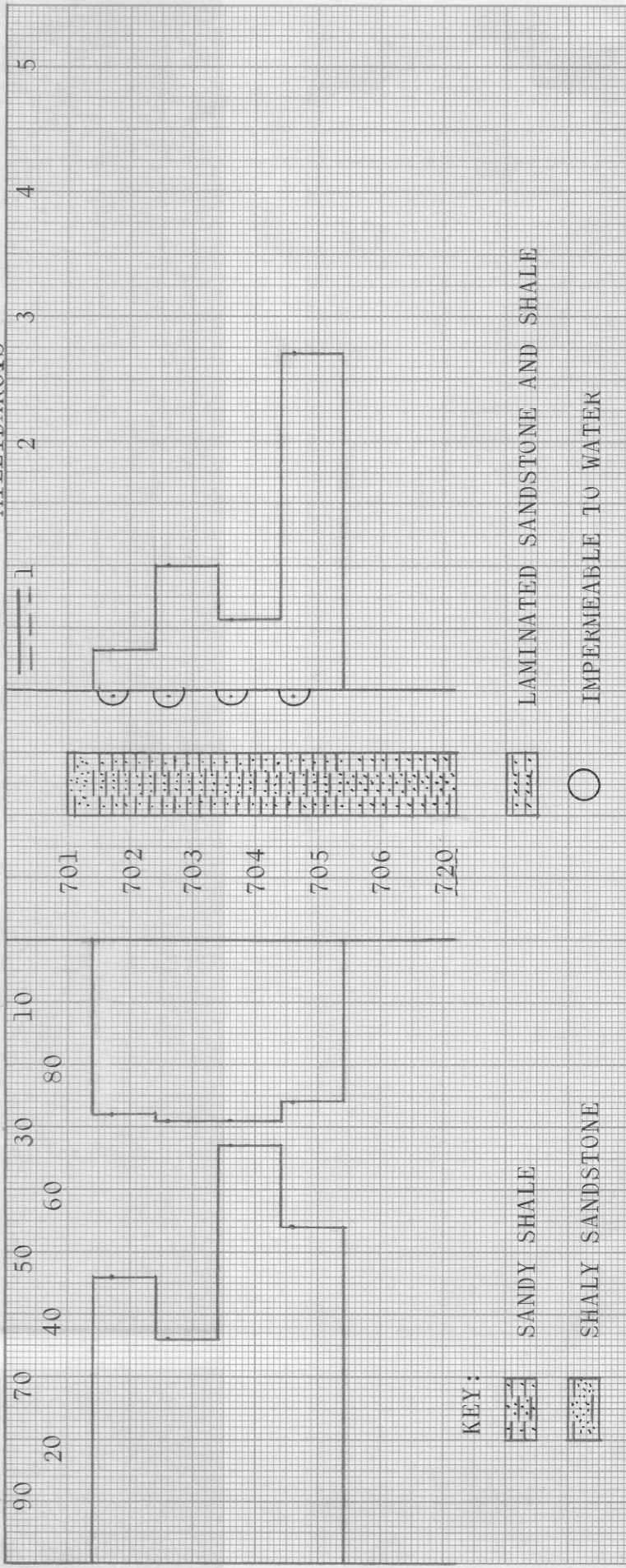
Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery		Residual Saturation			Volume of Water Recovered cc*	Effective Permeability Millidarcys**	Initial Fluid Production Pressure Lbs./Sq./In.
			%	Bbbls./A. Ft.	%	Bbbls./A. Ft.	% Oil	% Water	Bbbls./A. Ft.			
1	701.7	14.4	27	302	0	0	27	49	302	0	Imp.	-
2	702.6	15.1	29	340	0	0	29	37	340	0	Imp.	-
3	703.6	13.2	30	307	0	0	30	66	307	0	Imp.	-
4	704.6	14.3	26	288	0	0	26	55	288	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
 EFFECTIVE PERMEABILITY TO WATER, IN MILLIDARCYS



JAMES E. RUSSELL PETROLEUM, INC.

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
701.4 - 705.4	4.0	14.3	28.0	50.8	1.2	-----

NOTE: ELEVATION, FEET - DATUM: MEAN SEA LEVEL (GROUND LEVEL) 1057.2

OILFIELD RESEARCH LABORATORIES
 CHANUTE, KANSAS
 MARCH, 1981