OILFIELD RESEARCH LABORATORIES

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

February 18, 1982

Rantoul Energy Corporation
1505 SW 42nd Street
Topeka, Kansas 66609

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Moews Lease, Well No. A-8A, located in Franklin County, Kansas and submitted to our laboratory on February 15, 1982.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/kas

5 c to Topeka, Kansas

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GENERAL INFORMATION & SUMMARY

Company Rantoul Energy Corporation Lease Moews Well No. A-8A

Location

Section 3 Twp. 19S Rge. 20E County Franklin State Kansas

Elevation, Feet	
Name of Sand	Lower Squirrel
Top of Core	782.0
Bottom of Core	792.2
Top of Sand	782.3
Bottom of Sand	792.2
Total Feet of Permeable Sand	6.1
Total Feet of Floodable Sand	2.5

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 4	2.6	2.6
10 - 12	1.0	3.6
50 - 100	1.3	4.9
169 - 242	1.2	6.1

Average Permeability Millidarcys	40.7
Average Percent Porosity	16.0
Average Percent Oil Saturation	33.3
Average Percent Water Saturation	53.0
Average Oil Content, Bbls./A. Ft.	453.
Total Oil Content, Bbls./Acre	3,945.
Average Percent Oil Recovery by Laboratory Flooding Tests	14.6
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	244.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	610.
Total Calculated Oil Recovery, Bbls./Acre	See "Calculated Recovery" Section

The core was sampled and the samples sealed in plastic bags by a representative of the client. Air and water were used as a drilling fluid. The core was reported to be from a virgin area.

FORMATION CORED

The detailed log of the formation cored is as follows:

Depth Interval, Feet	Description
782.0 - 782.3	Gray shale.
782.3 - 783.2	Brown shaly sandstone.
783.2 - 784.2	Brown sandstone with scattered shale partings.
784.2 - 784.8	Dark brown sandstone with scattered shale partings.
784.8 - 785.1	Gray shaly sandstone with brown sandstone partings.
785.1 - 785.7	Dark brown sandstone.
785.7 - 786.6	Gray shaly sandstone.
786.6 - 787.9	Dark brown sandstone.
787.9 - 789.6	Grayish brown very shaly sandstone.
789.6 - 791.0	Gray very shaly sandstone.
791.0 - 792.2	Grayish brown very shaly sandstone.

LABORATORY FLOODING TESTS

The sand in this core responded to laboratory flooding tests, as a total recovery of 610 barrels of oil per acre was obtained from 2.5 feet of sand. The weighted average percent oil saturation was reduced from 54.9 to 40.3, or represents an average recovery of 14.6 percent. The weighted average effective permeability of the samples is 13.55 millidarcys, while the average initial fluid production pressure is 12.5 pounds per square inch (See Table V).

By observing the data given in Table IV, you will note that of the 10 samples tested, 4 produced water and oil. This indicates that approximately 40 percent of the sand represented by these samples is floodable pay sand.

CALCULATED RECOVERY

It would appear from a study of the core data, that efficient primary and waterflood operations in the vicinity of this well should recover approximately 740 barrels of oil per acre. This is an average recovery of 295 barrels per acre foot from 2.5 feet of floodable sand analyzed in this core.

These recovery values were calculated using the following data and assumptions:

Original formation volume factor, estimated	1.05
Reservoir water saturation, percent, estimated	20.0
Average porosity, percent	21.2
Oil saturation after flooding, percent	40.3
Performance factor, percent, estimated	50.0
Net floodable sand, feet	2.5

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Rantoul Energy Corporation Lease Moews Well No. A-8A

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	782.6	13.0	36	29	65	363	3.1	0.9	0.9	327	2.79
2	783.5	14.5	49	33	82	551	11.	1.0	1.9	551	11.00
3	784.5	19.8	40	44	84	614	96.	0.6	2.5	368	57.60
4	785.6	24.1	62	34	96	1159	241.	0.6	3.1	695	144.60
5	786.8	22.6	58	17	75	1017	169.	0.6	3.7	610	101.40
6	787.7	18.6	59	21	80	851	50.	0.7	4.4	596	35.00
7	788.6	16.4	28	57	85	356	0.76	1.0	5.4	356	0.76
8	789.5	12.0	15	77	92	140	0.74	0.7	6.1	98	0.52
9	790.4	12.9	7	89	96	70	Imp.	1.4	7.5	98	0.00
10	791.3	13.9	19	79	98	205	Imp.	1.2	8.7	246	0.00

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company Rantoul Energy Corporation Lease Moews Well No. A-8A

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
782.3 - 787.9	4.4	80.1	352.39
787.9 - 792.2	1.7	0.75	1.28
782.3 - 792.2	6.1	40.7	353.67

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
782.3 - 787.9	4.4	18.0	49.7	29.7	715	3,147
787.9 - 792.2	4.3	13.9	16.5	76.8	186	798
782.3 - 792.2	8.7	16.0	33.3	53.0	453	3,945

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company Rantoul Energy Corporation Lease Moews Well No. A-8A

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	782.6	13.5	35	367	0	0	35	30	367	0	Imp.	-
2	783.5	14.4	49	547	0	0	49	34	547	0	Imp.	-
3	784.5	19.9	40	618	5	77	35	51	541	318	16.28	10
4	785.6	24.0	62	1154	18	335	44	53	819	338	17.21	10
5	786.8	22.7	58	1021	18	317	40	56	704	196	10.92	15
6	787.7	18.7	59	856	17	247	42	55	609	278	10.31	15
7	788.6	16.2	28	352	0	0	28	58	352	0	Imp.	-
8	789.5	12.3	15	143	0	0	15	78	143	0	Imp.	-
9	790.4	13.0	7	71	0	0	7	88	71	0	Imp.	-
10	791.3	14.4	18	201	0	0	18	80	201	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.

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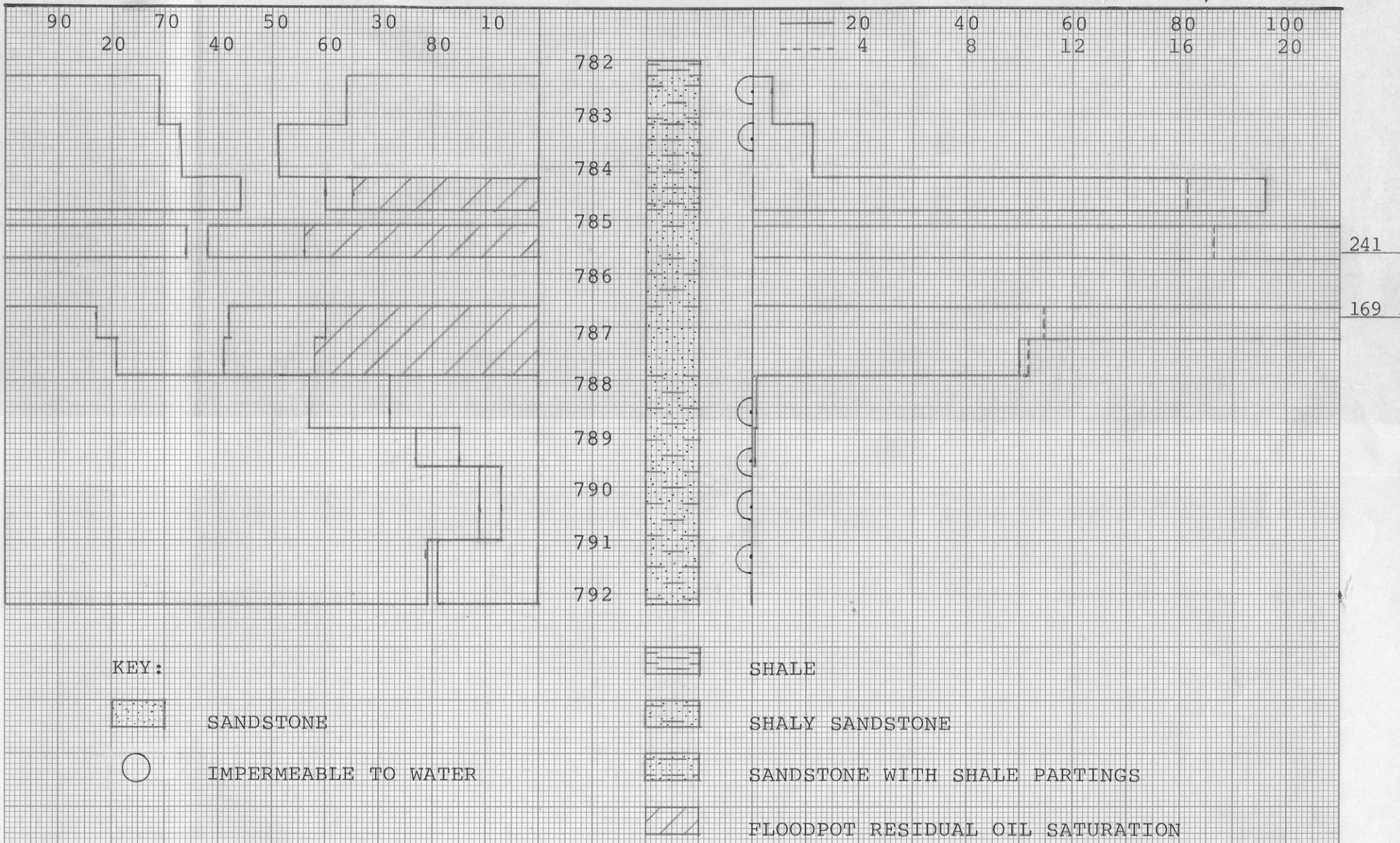
SUMMARY OF LABORATORY FLOODING TESTS

TABLE V

Company Rantoul Energy Corporation Lease Moews Well No. A-8A

Depth Interval, Feet	782.3 - 787.9
Feet of Core Analyzed	2.5
Average Percent Porosity	21.2
Average Percent Original Oil Saturation	54.9
Average Percent Oil Recovery	14.6
Average Percent Residual Oil Saturation	40.3
Average Percent Residual Water Saturation	53.8
Average Percent Total Residual Fluid Saturation	94.1
Average Original Oil Content, Bbls./A. Ft.	910.
Average Oil Recovery, Bbls./A. Ft.	244.
Average Residual Oil Content, Bbls./A. Ft.	666.
Total Original Oil Content, Bbls./Acre	2,274.
Total Oil Recovery, Bbls./Acre	610.
Total Residual Oil Content, Bbls./Acre	1,664.
Average Effective Permeability, Millidarcys	13.55
Average Initial Fluid Production Pressure, p.s.i.	12.5

NOTE: Only those samples which recovered oil were used in calculating the above averages.



RANTOUL ENERGY CORPORATION

MOEWS LEASE WELL NO. A-8A

FRANKLIN COUNTY, KANSAS

DEPTH INTERVAL, FEET OF CORE AVERAGE AVG. OIL AVG. WATER AVERAGE CALCULATED

FLOODPOT RESIDUAL OIL SATURATION

RANTOUL ENERGY CORPORATION

MOEWS LEASE

WELL NO. A-8A

FRANKLIN 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
782.3 - 787.9	4.4	18.0	49.7	29.7	80.1	
787.9 - 792.2	4.3	13.9	16.5	76.8	0.75	
782.3 - 792.2	8.7	16.0	33.3	53.0	40.7	740 (PRIMARY AND WATERFLOODING)

OILFIELD RESEARCH LABORATORIES
CHANUTE, KANSAS
FEBRUARY, 1982

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