

OILFIELD RESEARCH LABORATORIES

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

January 15, 1981

Rantoul Energy Corporation
Box 516
Hutchinson, Kansas 67501

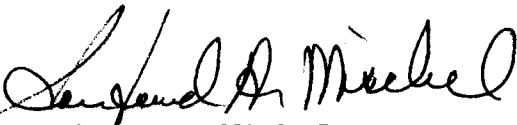
Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Judson-Tullous Lease, Well No. 6-C, located in Franklin County, Kansas and submitted to our laboratory on November 25, 1980.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES



Sanford A. Michel

SAM/mkf

5 c to Hutchinson, Ks.

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Rantoul Energy Corp. Lease Judson-Tullous Well No. 6-C

Location _____

Section 22 Twp. 17S Rge. 21E County Franklin State Kansas

Elevation, Feet

Name of Sand Squirrel

Top of Core 475.0

Bottom of Core 484.7

Top of Sand 475.0

Bottom of Sand 484.7

Total Feet of Permeable Sand 5.0

Total Feet of Floodable Sand 1.5

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 10	2.9	2.9
30 & Above	2.1	5.0

Average Permeability Millidarcys 18.4

Average Percent Porosity 16.1

Average Percent Oil Saturation 30.7

Average Percent Water Saturation 49.9

Average Oil Content, Bbls./A. Ft. 396.

Total Oil Content, Bbls./Acre 2,415.

Average Percent Oil Recovery by Laboratory Flooding Tests 3.6

Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft. 60.

Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre 90.

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.

FORMATION CORED

The detailed log of the formation cored is as follows:

<u>Depth Interval,</u> <u>Feet</u>	<u>Description</u>
475.0 - 475.6	Light brown slightly calcareous sandstone.
475.6 - 476.2	Light brown shaly slightly calcareous sandstone.
476.2 - 476.8	Brown slightly calcareous sandstone.
476.8 - 478.0	Light brown shaly slightly calcareous sandstone.
481.0 - 482.7	Light brown and gray laminated sandstone and shale.
482.7 - 483.6	Light brown slightly calcareous sandstone.
483.6 - 484.7	Grayish light brown very shaly sandstone.
484.7 - 486.2	Gray sandy shale.

LABORATORY FLOODING TESTS

The sand in this core responded to laboratory flooding tests, as a total recovery of 90 barrels of oil per acre was obtained from 1.5 feet of sand. The weighted average percent oil saturation was reduced from 36.8 to 33.2, or represents an average recovery of 3.6 percent. The weighted average effective permeability of the samples is 4.83 millidarcys, while the average initial fluid

production pressure is 27.5 pounds per square inch (See TableV).

By observing the data given in Table IV, you will note that of the 7 samples tested, 2 produced water and oil, and 2 samples produced water only. This indicates that approximately 29 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 360 barrels of oil per acre. This is an average recovery of 241 barrels per acre foot from 1.5 feet of floodable sand analyzed in this core.

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

Original formation volume factor, estimated	1.04
Reservoir water saturation, percent, estimated	35.0
Average porosity, percent	21.2
Oil saturation after flooding, percent	33.2
Performance factor, percent, estimated	50.0
Net floodable sand, feet	1.5

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Rantoul Energy Corp. Lease Judson-Tullous Well No. 6-C

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	475.4	22.0	38	46	84	649	36.	0.6	0.6	389	21.60
2	476.5	22.3	27	41	68	467	49.	0.6	1.2	280	29.40
3	477.5	12.4	20	74	94	192	6.7	1.2	2.4	230	8.04
4	481.4	14.5	22	66	88	247	0.76	1.0	3.4	247	0.76
5	482.4	10.4	21	73	94	169	1.1	0.7	4.1	118	0.77
6	483.5	20.7	36	21	57	578	35.	0.9	5.0	520	31.50
7	484.6	14.8	50	25	75	574	Imp.	1.1	6.1	631	0.00

Oilfield Research Laboratories

SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Lease	Well No.				
Rantoul Energy Corp.	Judson-Tullous	6-C				
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.	Average Percent Oil Saturation	Average Percent Water Saturation	Total Oil Content Bbls./Acre
475.0 - 484.7	5.0	18.4	92.07	30.7	49.9	396
475.0 - 484.7	6.1			16.1		2,415

RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company Rantoul Energy Corp. Lease Judson-Tullious Well No. 6-C

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	475.4	21.8	38	643	3	51	35	53	592	30	0.60	35
2	476.5	22.4	27	469	0	0	27	50	469	39	0.75	35
3	477.5	12.4	20	192	0	0	20	69	192	21	0.64	35
4	481.4	14.8	21	241	0	0	21	68	241	0	Imp.	-
5	482.4	10.2	22	174	0	0	22	73	174	0	Imp.	-
6	483.5	20.8	36	581	4	65	32	64	516	271	7.65	20
7	484.6	15.1	49	574	0	0	49	28	574	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.

Oilfield Research Laboratories

SUMMARY OF LABORATORY FLOODING TESTS

TABLE V

Company Rantoul Energy Corp. Lease Judson-Tullous Well No. 6-C

Depth Interval, Feet	475.0 - 484.7
Feet of Core Analyzed	1.5
Average Percent Porosity	21.2
Average Percent Original Oil Saturation	36.8
Average Percent Oil Recovery	3.6
Average Percent Residual Oil Saturation	33.2
Average Percent Residual Water Saturation	59.6
Average Percent Total Residual Fluid Saturation	92.8
Average Original Oil Content, Bbls./A. Ft.	606.
Average Oil Recovery, Bbls./A. Ft.	60.
Average Residual Oil Content, Bbls./A. Ft.	546.
Total Original Oil Content, Bbls./Acre	909.
Total Oil Recovery, Bbls./Acre	90.
Total Residual Oil Content, Bbls./Acre	819.
Average Effective Permeability, Millidarcys	4.83
Average Initial Fluid Production Pressure, p.s.i.	27.5

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

RANTOUL ENERGY CORP.

JUDSON - TULLOUS LEASE

WELL NO. 6 - C

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
-------------------------	--------------------------	--------------------------------	-----------------------------------	-------------------------------------	---	---

475.0 - 484.7	6.1	16.1	30.7	49.9	18.4	360
---------------	-----	------	------	------	------	-----

(PRIMARY AND
WATERFLOODING)

OILFIELD RESEARCH LABORATORIES
CHANUTE, KANSAS
JANUARY, 1981