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

October 13, 1981

T. I. Energy, Inc.
Ottawa Professional Building
4th & Main
Ottawa, Kansas 66067

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Kramer Lease, Well No. B-3, located in Johnson County, Kansas and submitted to our laboratory on October 2, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/kas

5 c to Ottawa, Kansas

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GENERAL INFORMATION & SUMMARY

Company T. I. Energy, Inc. Lease Kramer Well No. B-3

Location 495' FSL & 165' FEL SE¼

Section 17 Twp. ~~24S~~ 14 Rge. 22E County Johnson State Kansas

Elevation, Feet	
Name of Sand	Bartlesville
Top of Core	900.0
Bottom of Core	907.0
Top of Sand	900.0
Bottom of Sand	907.0
Total Feet of Permeable Sand	5.3
Total Feet of Floodable Sand	0.0

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 3	1.0	1.0
245 - 300	1.6	2.6
400 - 600	2.7	5.3

Average Permeability Millidarcys	336.8
Average Percent Porosity	21.3
Average Percent Oil Saturation	34.2
Average Percent Water Saturation	22.3
Average Oil Content, Bbls./A. Ft.	570.
Total Oil Content, Bbls./Acre	3,646.
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 and the samples sealed in plastic bags by a representative of the client. Fresh water mud was used as a drilling fluid. The core was reported to be from a 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, Feet	Description
900.0 - 902.1	Light grayish brown shaly sandstone.
902.1 - 904.8	Black slightly carbonaceous sandstone.
904.8 - 905.4	Grayish dark brown slightly carbonaceous shaly sandstone.
905.4 - 907.0	Black slightly carbonaceous sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company T. I. Energy, Inc. Lease Kramer Well No. B-3

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	900.7	19.4	11	38	49	166	2.0	1.0	1.0	166	2.00
2	901.7	15.4	35	26	61	418	Imp.	1.1	2.1	460	0.00
3	902.4	23.0	41	16	57	732	599.	1.0	3.1	732	599.00
4	903.5	22.8	36	24	60	637	478.	1.0	4.1	637	478.00
5	904.5	23.2	43	25	68	774	402.	0.7	4.8	542	281.40
6	905.6	27.9	25	21	46	541	296.	0.6	5.4	325	177.60
7	906.4	21.5	47	6	53	784	247.	1.0	6.4	784	247.00

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company T. I. Energy, Inc. Lease Kramer Well No. B-3

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
900.0 - 902.1	1.0	2.0	2.00
902.1 - 907.0	4.3	414.7	1783.00
900.0 - 907.0	5.3	336.8	1785.00

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
900.0 - 902.1	2.1	17.3	23.6	31.7	298	626
902.1 - 907.0	4.3	23.3	39.3	17.7	702	3,020
900.0 - 907.0	6.4	21.3	34.2	22.3	570	3,646

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company T. I. Energy, Inc. Lease Kramer Well No. B-3

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	900.7	19.3	11	165	0	0	11	40	165	0	Imp.	-
2	901.7	15.5	35	421	0	0	35	27	421	0	Imp.	-
3	902.4	22.9	41	728	0	0	41	29	728	308	13.12	10
4	903.5	22.3	37	640	0	0	37	42	640	214	11.57	15
5	904.5	23.3	43	777	0	0	43	37	777	256	16.99	10
6	905.6	27.8	25	539	0	0	25	50	539	334	5.17	20
7	906.4	21.6	47	788	0	0	47	27	788	196	4.80	30

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.