

# OILFIELD RESEARCH LABORATORIES

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

December 4, 1980

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

Gentlemen:

Enclosed herewith are the results of tests run on the rotary core taken from the Bulson "A" Lease, Well No. 3-C9, located in Franklin County, Kansas.

The core was sampled and sealed in plastic bags by a representative of the client and submitted to our laboratory on November 24, 1980.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES



Sanford A. Michel

SAM/kas

5 c to Ottawa, Kansas

# Oilfield Research Laboratories

## GENERAL INFORMATION & SUMMARY

Company T. I. Energy, Inc. Lease Bulson "A" Well No. 3-C9  
 Location -  
 Section 5 Twp. 16S Rgs. 20E County Franklin State Kansas

Elevation, Feet . . . . .	-
Name of Sand . . . . .	Squirrel
Top of Core . . . . .	707.0
Bottom of Core . . . . .	737.0
Top of Sand . . . . .	707.0
Bottom of Sand . . . . .	735.2
Total Feet of Permeable Sand . . . . .	23.5

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 50	6.1	6.1
50 - 100	8.5	14.6
100 & Above	8.9	23.5

Average Permeability Millidarcys . . . . .	77.3
Average Percent Porosity . . . . .	22.7
Average Percent Oil Saturation . . . . .	44.7
Average Percent Water Saturation . . . . .	30.1
Average Oil Content, Bbls./A. Ft. . . . .	780.
Total Oil Content, Bbls./Acre . . . . .	18,321.

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LOGName T. I. Energy, Inc. Lease Bulson "A" Well No. 3-C9

<u>Depth Interval, Feet</u>	<u>Description</u>
707.0 - 707.5	Brown slightly calcareous sandstone.
707.5 - 711.0	Gray laminated sandstone and shale.
711.0 - 721.5	Dark brown slightly calcareous sandstone.
722.0 - 729.4	Brown slightly calcareous sandstone.
729.4 - 730.1	Light brown slightly calcareous shaly sandstone.
730.1 - 730.8	Brown and gray laminated slightly calcareous sandstone and shale.
730.8 - 733.8	Dark brown slightly calcareous sandstone.
733.8 - 735.2	Gray carbonaceous slightly calcareous shaly sandstone.
735.2 - 735.8	Hard gray limestone.
735.8 - 736.7	Gray shale.
736.7 - 737.0	Hard gray fossiliferous calcareous sandy shale.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company T. I. Energy, Inc.

Lease Bulson "A"

Well No. 3-C9

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	707.3	24.3	42	34	76	792	37.	0.5	0.5	396	18.50
2	712.3	21.5	56	29	85	934	77.	2.0	2.5	1868	154.00
3	713.3	22.6	46	30	76	807	118.	1.5	4.0	1211	177.00
4	714.6	22.6	51	28	79	894	82.	1.5	5.5	1341	123.00
5	716.8	22.0	58	26	84	990	87.	1.5	7.0	1485	130.50
6	718.3	23.5	45	27	72	820	113.	1.5	8.5	1230	169.50
7	719.7	24.5	48	31	79	912	44.	1.5	10.0	1368	66.00
8	721.4	21.2	39	38	77	641	94.	1.0	11.0	641	94.00
9	722.5	24.8	40	30	70	770	119.	1.5	12.5	1155	178.50
10	724.5	25.1	28	39	67	545.	103.	1.5	14.0	818	154.50
11	725.5	22.4	33	34	67	574	60.	1.5	15.5	861	90.00
12	727.5	29.7	32	20	52	737	110.	1.5	17.0	1106	165.00
13	728.5	23.3	41	29	70	741	105.	1.4	18.4	1037	147.00
14	730.7	20.1	37	32	69	577	0.53	0.7	19.1	404	0.37
15	731.2	21.6	54	30	84	905	31.	1.0	20.1	905	31.00
16	732.4	20.8	55	29	84	888	68.	1.0	21.1	888	68.00
17	733.4	19.6	51	28	79	776	46.	1.0	22.1	776	46.00
18	734.3	19.4	51	26	77	768	2.9	0.7	22.8	538	2.03
19	735.0	13.8	39	41	80	418	2.2	0.7	23.5	293	1.54

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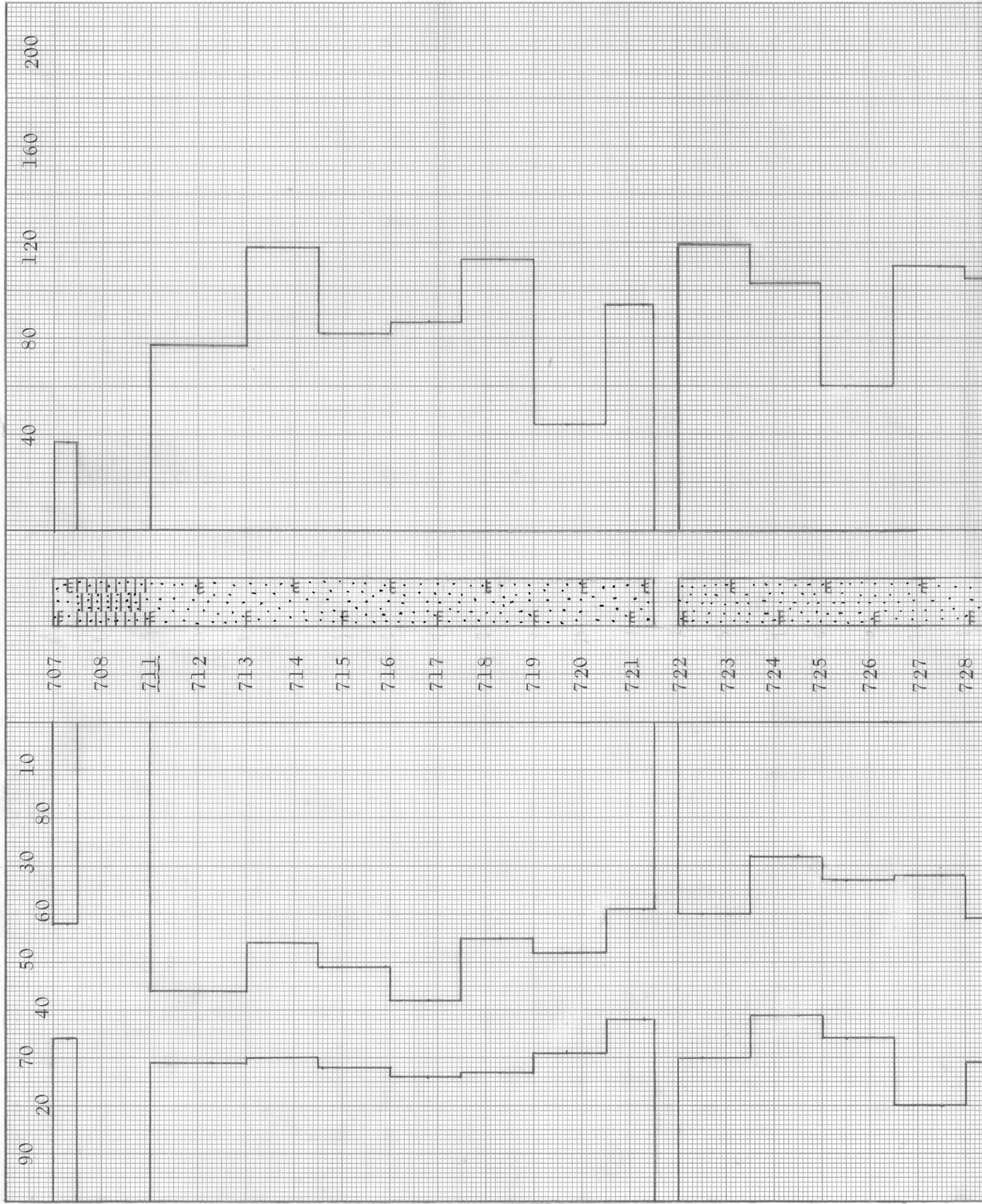
## SUMMARY OF PERMEABILITY & SATURATION TESTS

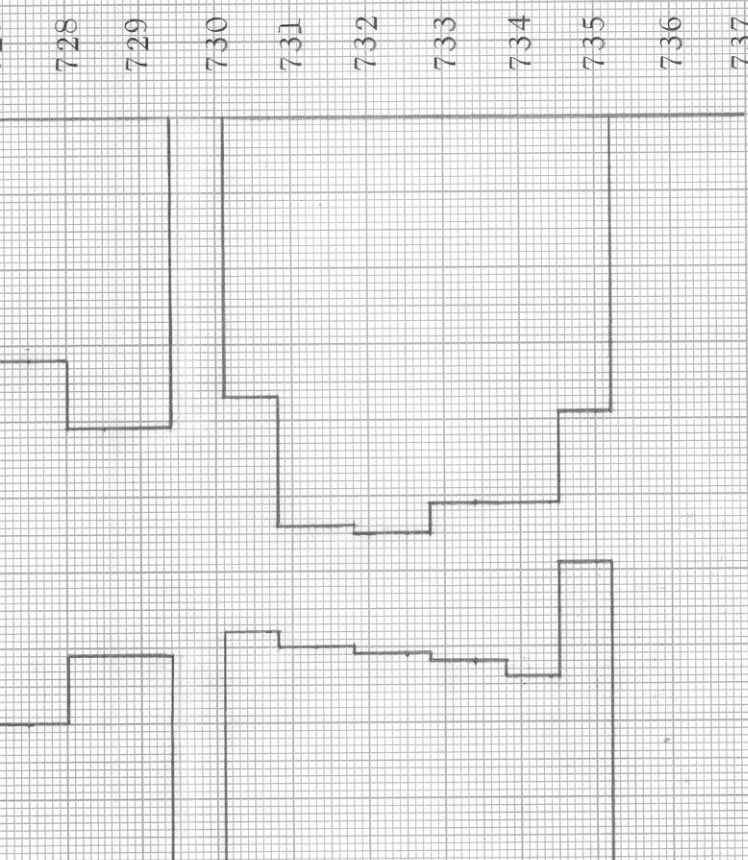
TABLE III

Company	Lease	Well No.	3-C9
T. I. Energy, Inc.	Bulson "A"		
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
707.0 - 735.2	23.5	77.3	1,816.44
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Oil Saturation	Average Percent Water Saturation
707.0 - 735.2	23.5	44.7	30.1
		Average Percent Porosity	Average Oil Content Bbl./A. Ft.
		22.7	780
707.0 - 735.2	23.5	44.7	30.1
			Total Oil Content Bbls./Acre
			18,321









WATER SAT., PERCENT ←

→ PERMEABILITY, IN MILLIDARCYS





KEY:

-  CALCAREOUS SANDSTONE
-  SHALY CALCAREOUS SANDSTONE
-  SHALY CALCAREOUS CARBONACEOUS SANDSTONE
-  SHALE
-  LAMINATED SANDSTONE & SHALE
-  LAMINATED CALCAREOUS SANDSTONE & SHALE
-  LIMESTONE
-  FOSSILIFEROUS CALCAREOUS SANDY SHALE SHALE

# T. I. ENERGY, INC.

BULSON A LEASE  
 WELL NO. 3-C9  
 FRANKLIN COUNTY, KANSAS

# T. I. ENERGY, INC.

BULSON A LEASE

WELL NO. 3-C9

FRANKLIN COUNTY, KANSAS

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY PERCENT	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY MILLIDARCS
707.0 - 735.2	23.5	22.7	44.7	30.1	77.3

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CHANUTE, KANSAS  
DECEMBER, 1980

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