

OILFIELD RESEARCH LABORATORIES

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

July 27, 1982

Triple-I Energy Corporation
8100 Marty, Suite 117
Overland Park, Kansas 66204

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Caylor Lease, Well No. 22, located in Franklin County, Kansas and submitted to our laboratory on July 20, 1982.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES



Sanford A. Michel

SAM/dlb

4 c to Overland Park, Kansas
1 c to L & B Leasing
Hutchinson, Kansas

Oilfield Research Laboratories
GENERAL INFORMATION & SUMMARY

Company Triple-I Energy Corporation Lease Caylor Well No. 22
 Location _____
 Section 33 Twp. 17S Rge. 21E County Franklin State Kansas

Elevation, Feet
 Name of Sand..... Cattleman
 Top of Core 720.0
 Bottom of Core 738.0
 Top of Sand 722.2
 Bottom of Sand 729.8
 Total Feet of Permeable Sand 7.1
 Total Feet of Floodable Sand 5.0

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 12	3.6	3.6
12 - 26	3.5	7.1

Average Permeability Millidarcys 12.8
 Average Percent Porosity 20.8
 Average Percent Oil Saturation 39.2
 Average Percent Water Saturation 27.3
 Average Oil Content, Bbls./A. Ft. 641.
 Total Oil Content, Bbls./Acre 4,548.
 Average Percent Oil Recovery by Laboratory Flooding Tests 7.0
 Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft. 116.
 Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre 579.
 Total Calculated Oil Recovery, Bbls./Acre.....

See "Calculated Recovery"
 Section

The core was sampled by a representative of Oilfield Research Laboratories. Fresh water mud and KCL were used as a drilling fluid. The core was reported to be from a non-virgin area.

FORMATION CORED

The detailed log of the formation cored is as follows:

<u>Depth Interval, Feet</u>	<u>Description</u>
720.0 - 722.2	Gray shale.
722.2 - 723.0	Grayish brown shaly sandstone.
723.0 - 726.0	Dark brown sandstone.
726.0 - 727.0	Dark brown slightly shaly sandstone.
727.0 - 727.5	Dark brown sandstone.
727.5 - 728.0	Grayish brown very shaly sandstone.
728.0 - 729.8	Dark brown sandstone with scattered fine gray shale partings.
729.8 - 738.0	Gray shale.

LABORATORY FLOODING TESTS

The sand in this core responded to laboratory flooding tests, as a total recovery of 579 barrels of oil per acre was obtained from 5.0 feet of sand. The weighted average percent oil saturation was reduced from 40.6 to 33.6, or represents an average recovery of 7.0 percent. The weighted average effective permeability of the samples is 0.13 millidarcys, while the average initial fluid production pressure is 30.0 pounds per square inch (See Table V).

By observing the data given in Table IV, you will note that of the 8 samples tested, 5 produced water and oil. This indicates that approximately 63 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 1,760 barrels of oil per acre. This is an average recovery of 352 barrels per acre foot from 5.0 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	21.3
Oil saturation after flooding, percent	33.6
Performance factor, percent, estimated	50.0
Net floodable sand, feet	5.0

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Triple-I Energy Corporation Lease Caylor

Well No. 22

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			Ft.	Cum. Ft.		
1	722.7	17.3	17	64	228	1.8	0.8	0.8	182	1.44
2	723.6	21.5	40	22	667	11.	1.0	1.8	667	11.00
3	724.5	22.6	40	22	701	25.	1.0	2.8	701	25.00
4	725.7	20.8	43	21	694	15.	1.0	3.8	694	15.00
5	726.7	21.0	38	25	619	7.4	1.0	4.8	619	7.40
6	727.4	20.9	51	18	827	14.	0.5	5.3	414	7.00
7	728.5	20.5	42	26	668	15.	1.0	6.3	668	15.00
8	729.6	21.6	45	22	754	11.	0.8	7.1	603	8.80

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Lease	Well No.		22
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.	
722.2 - 729.8	7.1	12.8	90.64	
Average Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
20.8	39.2	27.3	641	4,548
722.2 - 729.8	7.1			
Triple-I Energy Corporation	Caylor			

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Well No. 22

Lease Caylor

Triple-I Energy Corporation

Company

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			
1	722.7	17.2	17	227	0	0	17	66	0	Imp.	-
2	723.6	21.5	40	667	10	167	30	68	0	0.03	25
3	724.5	22.5	40	698	6	105	34	51	5	0.37	25
4	725.7	20.8	43	694	9	145	34	48	0	0.02	25
5	726.7	21.1	38	622	5	82	33	42	0	0.01	40
6	727.4	21.4	50	830	0	0	50	21	0	Imp.	-
7	728.5	20.6	42	671	5	80	37	44	3	0.22	35
8	729.6	22.1	44	754	0	0	45	24	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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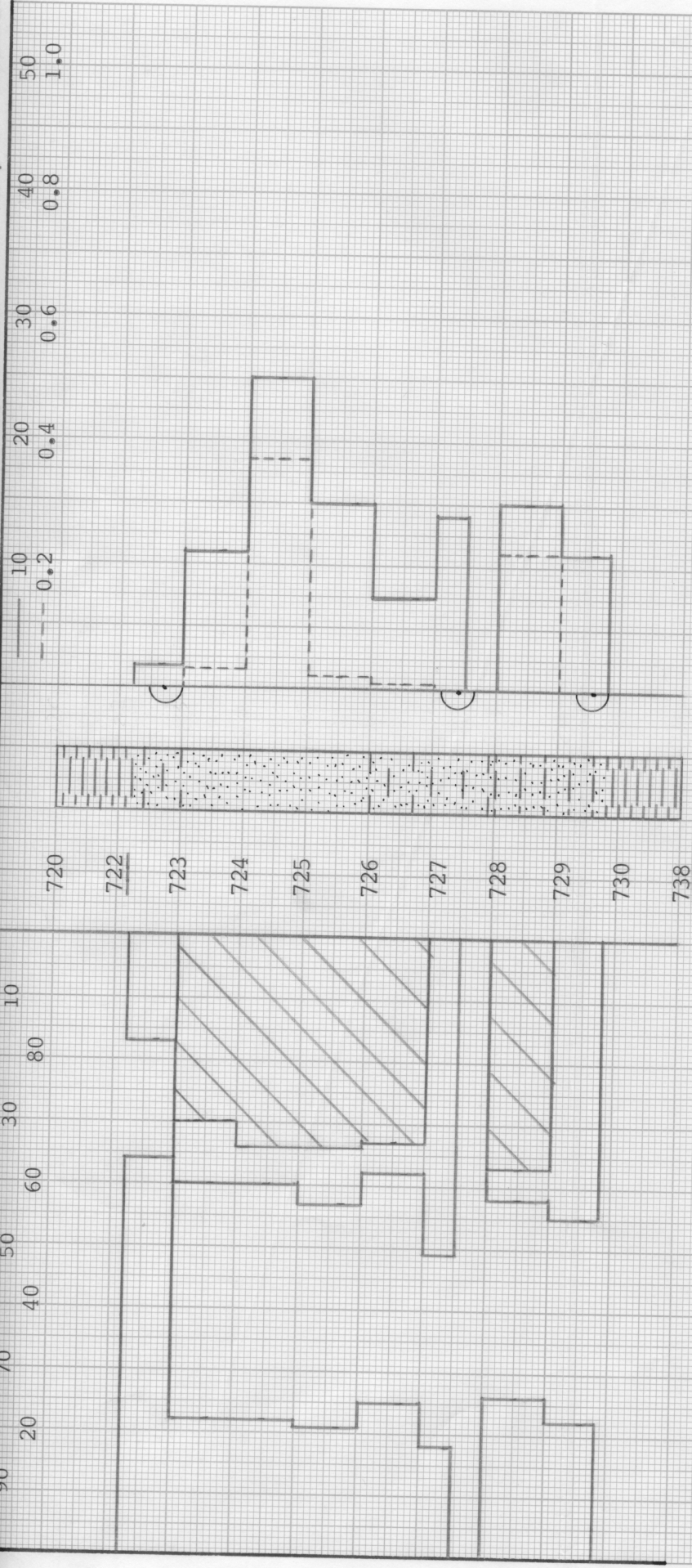
SUMMARY OF LABORATORY FLOODING TESTS

TABLE V

Company Triple-I Energy Corporation Lease Caylor Well No. 22

Depth Interval, Feet	722.2 - 729.8
Feet of Core Analyzed	5.0
Average Percent Porosity	21.3
Average Percent Original Oil Saturation	40.6
Average Percent Oil Recovery	7.0
Average Percent Residual Oil Saturation	33.6
Average Percent Residual Water Saturation	50.6
Average Percent Total Residual Fluid Saturation	84.2
Average Original Oil Content, Bbls./A. Ft.	671.
Average Oil Recovery, Bbls./A. Ft.	116.
Average Residual Oil Content, Bbls./A. Ft.	555.
Total Original Oil Content, Bbls./Acre	3,352.
Total Oil Recovery, Bbls./Acre	579.
Total Residual Oil Content, Bbls./Acre	2,773.
Average Effective Permeability, Millidarcys	0.13
Average Initial Fluid Production Pressure, p.s.i.	30.0

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



TRIPLE I ENERGY CORPORATION

CAYLOR LEASE

FRANKLIN COUNTY, KANSAS

WELL NO. 22

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
722.2 - 729.8	7.1	20.8	39.2	27.3	12.8	1760

(PRIMARY AND