OILFIELD RESEARCH LABORATORIES

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

November 8, 1979

Oaks Petroleum, Incorporated
R.R. #2
Stoystown, Pennsylvania 15563

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the East Miller Lease, Well No. O-52, Franklin County, Kansas, and submitted to our laboratory on October 17, 1979.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Benjamin R. Pearman

SAM/tem
2 c to Stoystown, Pennsylvania
1 c to Ottawa, Kansas

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Oaks Petroleum, Incorporated Lease East Miller Well No. 0-52

Location 660' WEL & 990' SNL

Section 10 Twp. 17S Rge. 21E County Franklin State Kansas

Name of Sand	Squirrel
Top of Core	653.0
Bottom of Core	664.0
Top of Sand	653.0
Bottom of Sand	663.0
Total Feet of Permeable Sand	7.3
Total Feet of Floodable Sand	3.6

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 5	2.7	2.7
5 - 10	4.1	6.8
40 - 50	0.5	7.3

Average Permeability Millidarcys	8.1
Average Percent Porosity	18.9
Average Percent Oil Saturation	30.8
Average Percent Water Saturation	55.2
Average Oil Content, Bbls./A. Ft.	466.
Total Oil Content, Bbls./Acre	4,333.
Average Percent Oil Recovery by Laboratory Flooding Tests	8.7
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	137.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	492.
Total Calculated Oil Recovery, Bbls./Acre	See "Calculated Recovery" Section.
Packer Setting, Feet	
Viscosity, Centipoises @	
A. P. I. Gravity, degrees @ 60 °F	
Elevation, Feet	

The core was sampled by a representative of Oilfield Research Laboratories. Fresh water mud was 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
653.0 - 656.0	Light brown slightly shaly sandstone.
656.0 - 656.7	Gray sandy shale.
656.7 - 659.5	Gray and light brown laminated shale and sandstone.
659.5 - 660.0	Brown sandstone.
660.0 - 663.0	Gray and light brown laminated shale and sandstone.
663.0 - 664.0	Gray sandy shale.
664.0 - 665.0	Loss.

LABORATORY FLOODING TESTS

The sand in this core responded to laboratory flooding tests, as a total recovery of 492 barrels of oil per acre was obtained from 3.6 feet of sand. The weighted average percent oil saturation was reduced from 42.5 to 33.8, or represents an average recovery of 8.7 percent. The weighted average effective permeability of the samples is 3.33 millidarcys, while the average initial fluid production pressure is 16.3 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 data, that efficient primary and waterflood operations in the vicinity of this well should recover approximately 930 barrels of oil per acre. This is an average recovery of 259 barrels per acre foot from 3.6 feet of floodable sand analyzed in this core.

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

Original formation volume factor	1.04
Reservoir water saturation, percent	30.0
Average porosity, percent	19.9
Oil saturation after flooding, percent	33.8
Performance factor, percent	50.0
Net floodable pay sand, feet	3.6

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Oaks Petroleum, Inc. Lease East Miller Well No. 0-52

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	653.5	18.4	39	55	94	557	6.8	1.0	1.0	557	6.80
2	654.5	20.8	19	63	82	307	3.4	1.0	2.0	307	3.40
3	655.8	16.6	16	73	89	206	2.3	1.0	3.0	206	2.30
4	656.8	18.4	38	56	94	542	9.5	0.6	3.6	325	5.70
5	657.7	19.7	34	44	78	520	0.21	0.7	4.3	364	0.15
6	658.4	21.3	47	32	79	777	8.9	1.5	5.8	1166	13.35
7	659.7	21.4	41	37	78	681	43.	0.5	6.3	341	21.50
8	660.7	14.2	19	77	96	209	Imp.	1.0	7.3	209	0.00
9	661.5	21.8	35	40	75	592	Imp.	1.0	8.3	592	0.00
10	662.6	16.3	21	74	95	266	5.6	1.0	9.3	266	5.60

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company Oaks Petroleum, Incorporated Lease East Miller Well No. 0-52

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
653.0 - 663.0	7.3	8.1	58.80

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
653.0 - 663.0	9.3	18.9	30.8	55.2	466	4,333

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company Oaks Petroleum, Inc. Lease East Miller Well No. 0-52

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	653.5	18.4	39	557	8	114	31	67	443	60	2.35	20
2	654.5	20.5	20	318	0	0	20	70	318	0	Imp.	-
3	655.8	16.9	16	210	0	0	16	73	210	0	Imp.	-
4	656.8	18.0	38	531	3	42	35	62	489	317	8.12	10
5	657.7	19.7	35	535	0	0	35	52	535	0	Imp.	-
6	658.4	21.0	47	766	11	179	36	55	587	72	2.40	20
7	659.7	21.7	41	690	10	168	31	62	522	60	2.33	15
8	660.7	14.0	19	206	0	0	19	77	206	0	Imp.	-
9	661.5	21.7	36	606	0	0	36	51	606	0	Imp.	-
10	662.6	16.6	20	258	0	0	20	75	258	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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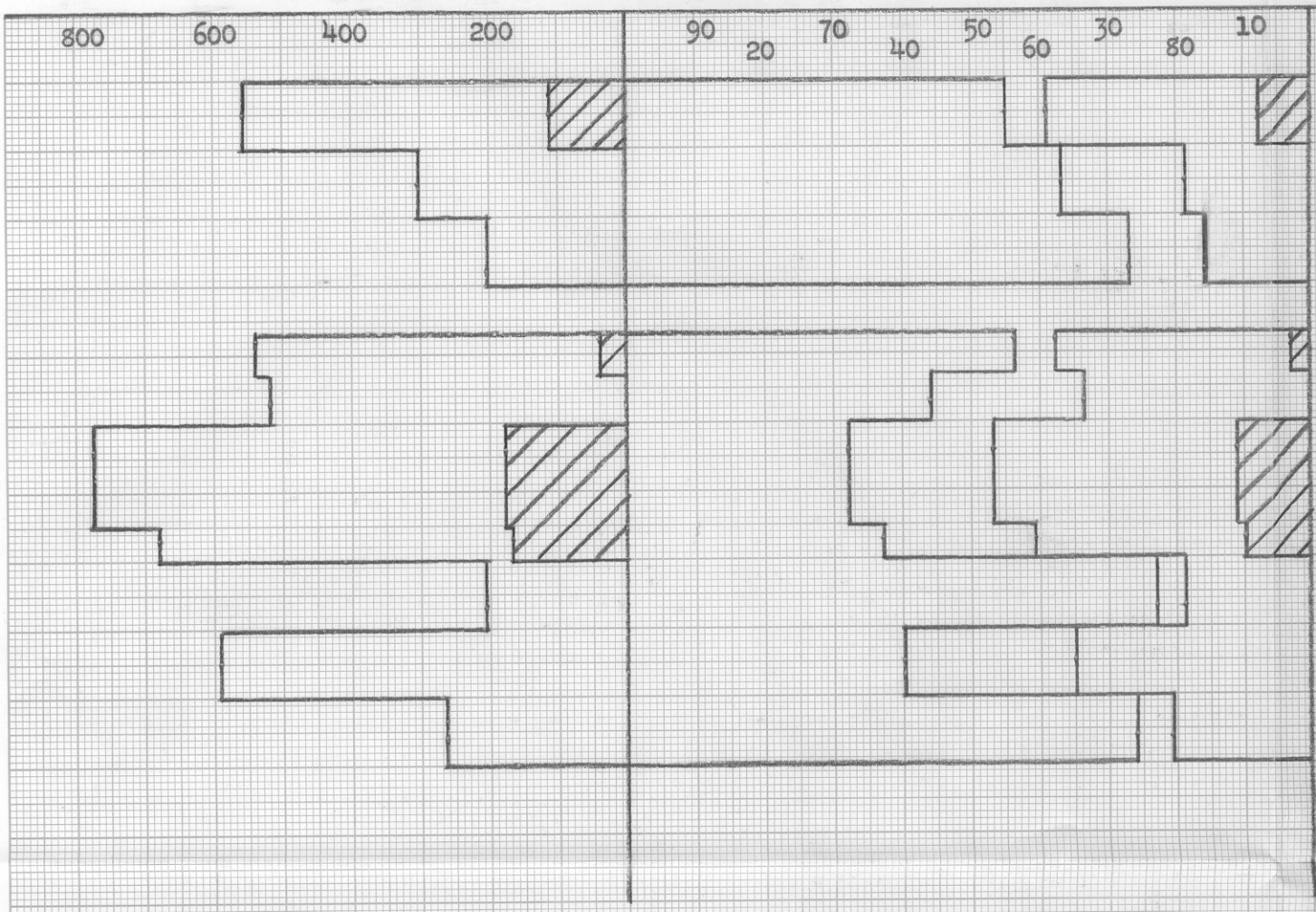
SUMMARY OF LABORATORY FLOODING TESTS

TABLE V

Company Oaks Petroleum, Incorporated Lease East Miller Well No. O-52

Depth Interval, Feet	653.0 - 663.0
Feet of Core Analyzed	3.6
Average Percent Porosity	19.9
Average Percent Original Oil Saturation	42.5
Average Percent Oil Recovery	8.7
Average Percent Residual Oil Saturation	33.8
Average Percent Residual Water Saturation	60.5
Average Percent Total Residual Fluid Saturation	94.3
Average Original Oil Content, Bbls./A. Ft.	659.
Average Oil Recovery, Bbls./A. Ft.	137.
Average Residual Oil Content, Bbls./A. Ft.	522.
Total Original Oil Content, Bbls./Acre	2,370.
Total Oil Recovery, Bbls./Acre	492.
Total Residual Oil Content, Bbls./Acre	1,878.
Average Effective Permeability, Millidarcys	3.33
Average Initial Fluid Production Pressure, p.s.i.	16.3

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



KEY:

FLOOD POT RECOVERY

SANDSTONE

IMPERMEABLE TO AIR

SHALY SANDSTONE

LAMINATED SANDSTONE AN

OAKS PETR

EAST MILLER LEASE

FRANKLIN CO

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE PERCENT POROSITY	AVG. OIL SATURATION PERCENT
653.0 - 663.0	9.3	18.9	30.8

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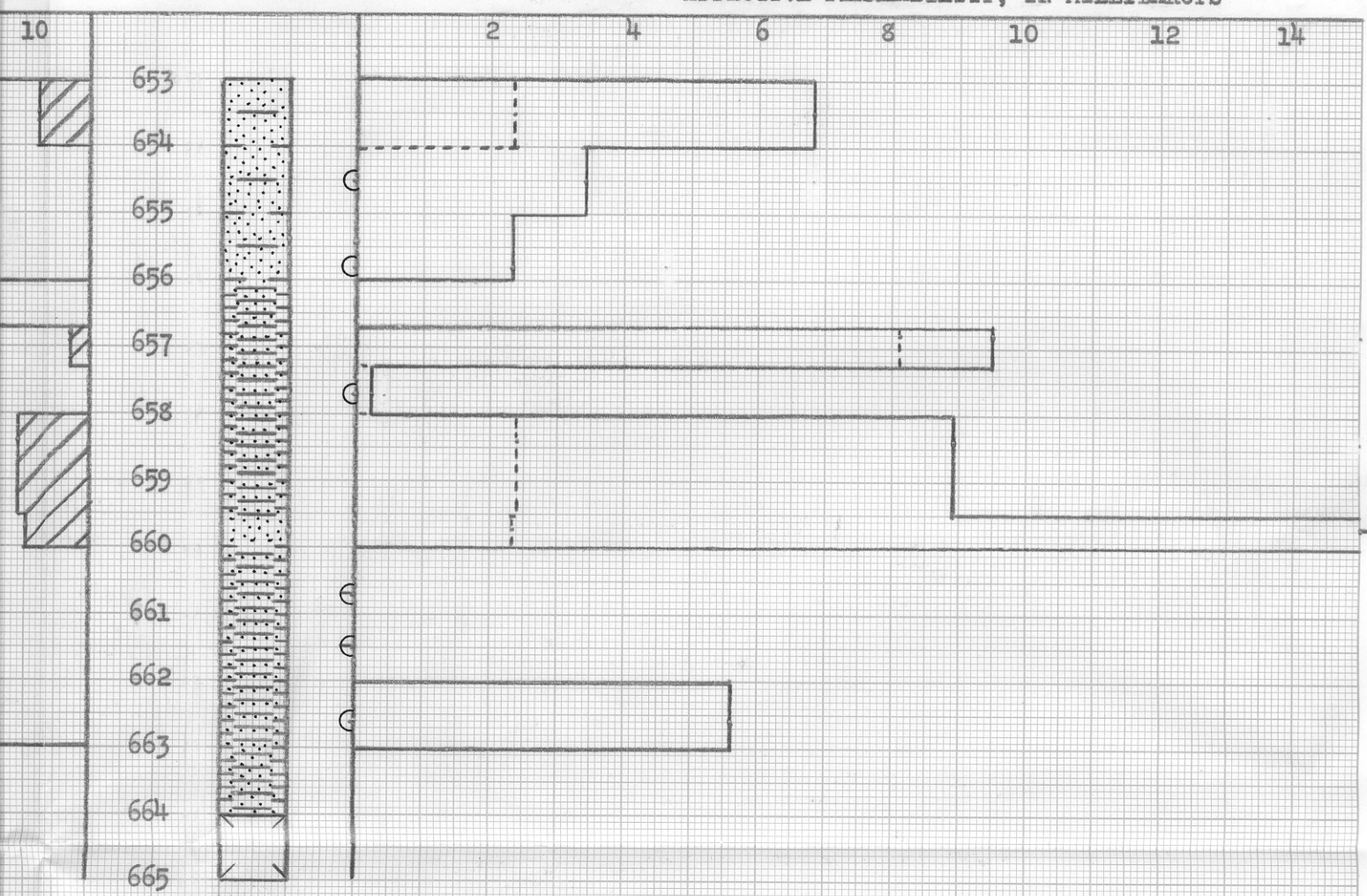

ONE AND SHALE

TROLEUM, INC.

WELL NO. O-52

LIN COUNTY, KANSAS

. OIL RATION RCENT	AVG. WATER SATURATION PERCENT	AVG. OIL CONTENT BBLS./A.FT.	TOTAL OIL CONTENT BBLS./ACRE	AVG. AIR PERMEABILITY, MILLIDARCYS	CALCULATED OIL RECOVERY, BBLS./ACRE
30.8	55.2	466	4,333	8.1	930 (PRIMARY & WATER-FLOODING)

OILFIELD RESEARCH LABORATORIES
CHANUTE, KANSAS
NOVEMBER, 1979.