

# OILFIELD RESEARCH LABORATORIES

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

December 23, 1981

Kindle & Clark Oil Company  
R R 2, Box 29A  
Wellsville, Kansas 66092

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Milton Lease, Well No. 1, located in Franklin County, Kansas and submitted to our laboratory on December 21, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/kas

5 c to Wellsville, Kansas

**Onfield Research Laboratories**  
**GENERAL INFORMATION & SUMMARY**

Company Kindle & Clark Oil Company Lease Milton Well No. 1  
 Location 350' N & 150' W, SW $\frac{1}{4}$   
 Section 10 Twp. 16S Rge. 19E County Franklin State Kansas

Elevation, Feet .....

Name of Sand..... Squirrel

Top of Core ..... 740.0

Bottom of Core ..... 753.0

Top of Sand ..... 740.5

Bottom of Sand ..... 745.2

Total Feet of Permeable Sand ..... 3.9

Total Feet of Floodable Sand ..... 0.

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
2 - 5	1.8	1.8
11 - 13	0.7	2.5
21 - 32	1.4	3.9

Average Permeability Millidarcys ..... 13.1

Average Percent Porosity ..... 19.9

Average Percent Oil Saturation ..... 38.7

Average Percent Water Saturation ..... 48.3

Average Oil Content, Bbls./A. Ft. .... 595.

Total Oil Content, Bbls./Acre ..... 2,321.

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 by a representative of Oilfield Research Laboratories. Salt water mud was used as a drilling fluid.

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:

<u>Depth Interval, Feet</u>	<u>Description</u>
740.0 - 740.5	Gray shale.
740.5 - 740.9	Grayish brown shaly sandstone.
740.9 - 741.5	Brown sandstone.
741.5 - 742.0	Gray shale.
742.0 - 743.5	Brown sandstone.
743.5 - 743.8	Gray shale.
743.8 - 745.2	Grayish brown shaly sandstone.
745.2 - 753.0	Gray slightly sandy shale.

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## RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Kindle & Clark Oil Company Lease Milton Well No. 1

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	740.7	22.6	42	51	736	4.6	0.4	0.4	294	1.84
2	741.4	19.8	32	45	492	21.	0.6	1.0	295	12.60
3	742.3	20.7	35	50	562	12.	0.7	1.7	393	8.40
4	743.3	21.9	38	43	646	31.	0.8	2.5	517	24.80
5	744.5	17.6	43	51	587	2.5	1.4	3.9	822	3.50

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## SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Kinda & Clark Oil Company	Lease	Milton	Well No.	1	
	Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.		
	740.5 - 745.2	3.9	13.1	51.14		
	Depth Interval, Feet	Average Percent Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
	740.5 - 745.2	19.9	38.7	48.3	595	2,321

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## RESULTS OF LABORATORY FLOODING TESTS

**TABLE IV**

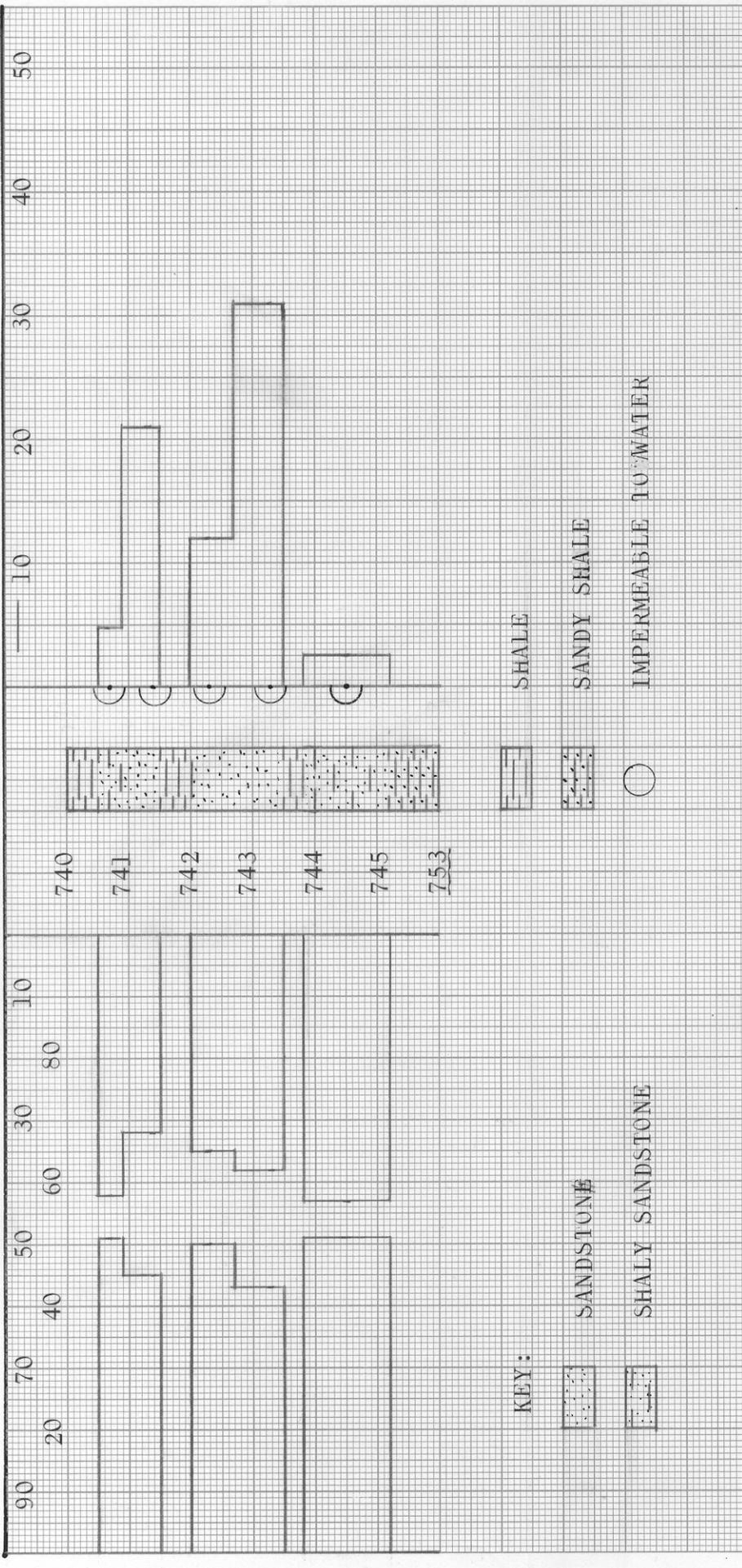
Company		Kindie & Clark Oil Company		Lease		Milton		Well No.		1	
Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery		Residual Saturation		Volume of Water Recovered cc*	Effective Permeability Millidarcys**	Initial Fluid Production Pressure Lbs./Sq./In.
			%	Bbls./A. Ft.	%	Bbls./A. Ft.	% Oil	% Water			
1	740.7	22.5	42	733	0	0	42	52	0	Imp.	-
2	741.4	19.3	33	494	0	0	33	45	0	Imp.	-
3	742.3	20.8	35	565	0	0	35	51	0	Imp.	-
4	743.3	21.8	38	643	0	0	38	44	0	Imp.	-
5	744.5	18.0	42	587	0	0	42	52	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.

WATER SAT., PERCENT → ← OIL SAT., PERCENT  
 ——— PERMEABILITY, IN MILLIDARCYS  
 EFFECTIVE PERMEABILITY TO WATER, IN MILLIDARCYS



KEY:

SANDSTONE

SHALY SANDSTONE

SHALE

SANDY SHALE

IMPERMEABLE TO WATER

# KINDLE & CLARK OIL COMPANY

WELL NO. 1

MILTON LEASE  
 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
740.5 - 745.2	3.9	19.9	38.7	48.3	13.1	-

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 CHANUTE, KANSAS  
 DECEMBER, 1981