

OILFIELD RESEARCH LABORATORIES

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

January 14, 1981

Lincoln 77
8485 Kathy Lane
Lincoln, Nebraska 68526

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Sims Lease, Well No. 3, located in Coffey County, Kansas and submitted to our laboratory on November 22, 1980.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/kas

4 c to Lincoln, Nebraska
1 c to Topeka, Kansas

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Lincoln 77 **Lease** Sims **Well No.** 3
Location SE Corner NE $\frac{1}{4}$ SW $\frac{1}{4}$
Section 14 **Twp.** 23S **Rge.** 16E **County** Coffey **State** Kansas

Elevation, Feet - - - - -
Name of Sand - - - - - Squirrel
Top of Core - - - - - 954.0
Bottom of Core - - - - - 964.8
Top of Sand - - - - - 954.0
Bottom of Sand - - - - - 961.3
Total Feet of Permeable Sand - - - - - 3.6
Total Feet of Floodable Sand - - - - - 0.0

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 5	2.0	2.0
15 & Above	1.6	3.6

Average Permeability Millidarcys - - - - - 13.4
Average Percent Porosity - - - - - 16.7
Average Percent Oil Saturation - - - - - 52.6
Average Percent Water Saturation - - - - - 15.1
Average Oil Content, Bbls./A. Ft. - - - - - 680.
Total Oil Content, Bbls./Acre - - - - - 3,806.
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.

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The core was sampled in the laboratory after being delivered by 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:

<u>Depth Interval, Feet</u>	<u>Description</u>
954.0 - 954.6	Brown slightly calcareous sandstone.
954.6 - 961.3	Light brown and gray laminated slightly calcareous sandstone and shale.
961.3 - 964.8	Gray sandy shale.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Lincoln 77 Lease Sims Well No. 3

Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content Bbbs. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water	Total			Ft.	Cum. Ft.		
1	954.5	18.1	48	11	59	674	44.	0.6	0.6	404	26.40
2	955.5	17.9	57	21	78	792	Imp.	1.0	1.6	792	0.00
3	956.5	16.2	60	9	69	754	Imp.	1.0	2.6	754	0.00
4	957.4	14.2	52	16	68	573	17.	1.0	3.6	573	17.00
5	959.5	17.3	47	17	64	631	0.17	1.0	4.6	631	0.17
6	860.5	16.8	50	15	65	652	4.7	1.0	5.6	652	4.70

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Lease	Sims	Well No.				
Lincoln 77			3				
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.	Average Percent Porosity	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
954.0 - 961.3	3.6	13.4	48.27				
954.0 - 961.3	5.6			16.7	526.	680	3,806

RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Well No. 3

Lease Sims

Lincoln 77

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	954.5	18.3	48	681	0	0	48	48	304	6.00	20
2	955.5	17.4	58	783	0	0	58	22	0	Imp.	-
3	956.5	16.6	59	760	0	0	59	12	0	Imp.	-
4	957.4	14.7	51	582	0	0	51	19	0	Imp.	-
5	959.5	17.4	47	634	0	0	47	49	99	1.95	20
6	960.5	17.2	49	654	0	0	49	46	8	0.30	50

Notes: cc—cubic centimeter.

*—Volume of water recovered at the time of maximum oil recovery.

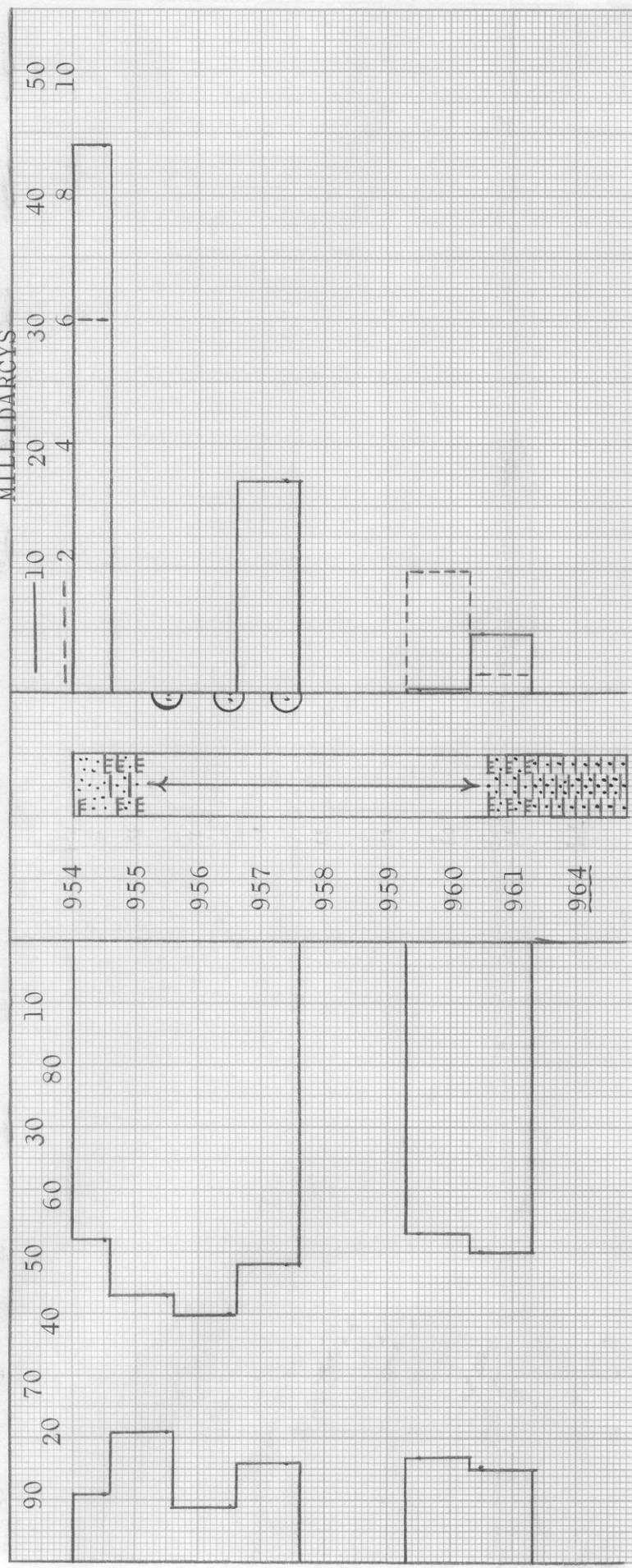
**—Determined by passing water through sample which still contains residual oil.

WATER SAT., PERCENT →

← OIL SAT., PERCENT

PERMEABILITY, IN MILLIDARCYS

— — — — — EFFECTIVE PERMEABILITY TO WATER, IN MILLIDARCYS



KEY:

-  CALCAREOUS SANDSTONE
-  SANDY SHALE

-  LAMINATED CALCAREOUS SANDSTONE AND SHALE
-  Q IMPERMEABLE TO WATER

LINCOLN 77

SIMS LEASE
WELL NO. 3
COFFEY COUNTY, KANSAS

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE PERCENT POROSITY	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY, MILLIDARCS	CALCULATED OIL RECOVERY BBLS. / ACRE
954.0 - 961.3	5.6	16.7	52.6	15.1	13.4	-----

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CHANUTE, KANSAS
JANUARY, 1981

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