



OILFIELD RESEARCH LABORATORIES

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August 27, 1981

Vandy Oil Company
Box 94
Neosho Falls, Kansas 66758

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Luther Lease, Well No. 2, located in Coffey County, Kansas and submitted to our laboratory on August 21, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/kas

5 c to Neosho Falls, Kansas

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GENERAL INFORMATION & SUMMARY

Company Vandy Oil Company Lease Luther Well No. 2
 Location _____
 Section 33 Twp. 22S Rge. 16E County Coffey State Kansas

Elevation, Feet
 Name of Sand..... Squirrel
 Top of Core 1000.0
 Bottom of Core 1011.0
 Top of Sand 1000.0
 Bottom of Sand 1010.1
 Total Feet of Permeable Sand 4.6
 Total Feet of Floodable Sand 0.0

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 20	3.5	3.5
30 - 50	1.1	4.6

Average Permeability Millidarcys 19.1
 Average Percent Porosity 16.3
 Average Percent Oil Saturation 56.5
 Average Percent Water Saturation 21.7
 Average Oil Content, Bbls./A. Ft. 715.
 Total Oil Content, Bbls./Acre 3,859.
 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 in the laboratory after being delivered by the client. The client reported that the core was out approximately 24 hours before delivery to the laboratory.

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>
1000.0 - 1001.0	Grayish brown shaly sandstone.
1001.0 - 1003.0	Brown slightly calcareous sandstone with shale partings.
1003.0 - 1003.9	Gray and brown laminated slightly calcareous shale and sandstone.
1003.9 - 1004.4	Gray calcareous conglomeratic shaly sandstone.
1004.4 - 1005.1	Brown slightly calcareous sandstone.
1005.1 - 1005.9	Gray and brown laminated shale and sandstone.
1005.9 - 1006.8	Grayish brown calcareous shaly sandstone.
1006.8 - 1007.3	Gray shaly sandstone.
1007.3 - 1007.8	Brown slightly calcareous sandstone.
1007.8 - 1008.2	Gray and brown laminated slightly calcareous shale and sandstone.
1008.2 - 1008.8	Brown slightly calcareous sandstone.
1008.8 - 1009.3	Gray and brown laminated slightly calcareous shale and sandstone.
1009.3 - 1010.1	Brown slightly calcareous shaly sandstone.
1010.1 - 1011.0	Gray and brown laminated shale and sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Vandy Oil Company Lease Luther Well No. 2

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	1000.5	14.6	58	30	88	657	13.	1.0	1.0	657	13.00
2	1001.4	15.8	47	26	73	576	18.	1.0	2.0	576	18.00
3	1004.6	17.7	61	11	71	838	10.	0.7	2.7	587	7.00
4	1005.4	13.1	61	31	92	620	Imp.	0.8	3.5	496	0.00
5	1007.5	17.0	64	8	72	844	30.	0.5	4.0	422	15.00
6	1008.4	18.4	52	17	69	742	49.	0.6	4.6	445	29.40
7	1009.7	19.1	57	18	75	845	6.7	0.8	5.4	676	5.36

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Lease	Well No.				
Vandy Oil Company	Luther	2				
			Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
			1000.0 - 1010.1	4.6	19.1	87.76
			Depth Interval, Feet	Feet of Core Analyzed	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.
			1000.0 - 1010.1	5.4	21.7	715
				Average Percent Porosity	Average Percent Oil Saturation	Total Oil Content Bbls./Acre
				16.3	56.5	3,859

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company		Vandy Oil Company		Luther		Lease		Well No.		2	
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.
			%	Bbbls./A. Ft.	%	Bbbls./A. Ft.	% Oil	% Water			
1	1000.5	14.7	58	661	0	0	58	31	0	Imp.	-
2	1001.4	15.9	47	580	0	0	47	27	0	Imp.	-
3	1004.6	17.4	62	837	0	0	62	11	0	Imp.	-
4	1005.4	13.2	61	625	0	0	61	32	10	0.15	45
5	1007.5	17.1	64	849	0	0	64	10	24	0.37	35
6	1008.4	18.3	52	738	0	0	52	18	0	Imp.	-
7	1009.7	19.0	57	840	0	0	57	19	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.