



OILFIELD RESEARCH LABORATORIES

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

October 7, 1981

Underwood Equipment
923 North Cherry
Ottawa, Kansas 66067

Gentlemen:

Enclosed herewith are the results of tests run on the rotary core taken from the Underwood Lease, Well No. 1, located in Franklin County, Kansas.

The core was sampled and sealed in plastic bags by a representative of the client and was submitted to our laboratory on October 3, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/kas

5 c to Ottawa, Kansas

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GENERAL INFORMATION & SUMMARY

Company Underwood Equipment Lease Underwood Well No. 1
 Location SW SE
 Section 30 Twp. 16S Rge. 21E County Franklin State Kansas
20 E?

Elevation, Feet

Name of Sand.....

Second Squirrel

Top of Core

717.0

Bottom of Core

725.6

Top of Sand

717.7

Bottom of Sand (Tested)

724.3

Total Feet of Permeable Sand

5.6

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 3	3.0	3.0
7 - 16	2.6	5.6

Average Permeability Millidarcys

5.7

Average Percent Porosity

17.2

Average Percent Oil Saturation

30.2

Average Percent Water Saturation.....

53.2

Average Oil Content, Bbls./A. Ft.

402.

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

2,249.

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LOGName Underwood Equipment Lease Underwood Well No. 1

<u>Depth Interval, Feet</u>	<u>Description</u>
717.0 - 717.7	Gray shale.
717.7 - 719.0	Brown sandstone with micaceous partings.
719.0 - 721.2	Gray and brown laminated shale and sandstone.
721.2 - 721.4	Gray shale.
721.4 - 721.7	Brown sandstone.
721.7 - 722.0	Gray shale.
722.0 - 722.5	Gray and brown laminated shale and sandstone.
722.5 - 725.6	Grayish brown very shaly sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Sample No.	Depth, Feet	Effective Porosity Percent	Underwood Equipment			Lease		Underwood		Well No.	
			Oil	Percent Saturation		Oil Content Bbls. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
				Water	Total			Ft.	Cum. Ft.		
1	717.8	18.3	20	48	68	284	14.	0.6	0.6	170	8.40
2	718.4	18.4	31	48	79	443	8.3	0.7	1.3	310	5.81
3	719.9	16.8	41	32	73	534	7.5	1.0	2.3	534	7.50
4	720.4	17.0	30	68	98	396	2.5	1.2	3.5	475	3.00
5	721.6	17.8	25	46	71	345	15.	0.3	3.8	104	4.50
6	722.6	17.4	31	59	90	419	0.82	0.8	4.6	335	0.66
7	723.4	15.9	26	61	87	321	2.1	1.0	5.6	321	2.10

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company		Underwood Equipment		Lease	Underwood	Well No.	1
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.				
717.7 - 724.3	5.6	5.7	31.97				
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 Bbbs./Acre	
717.7 - 724.3	5.6	17.2	30.2	53.2	402	2,249	