

OILFIELD RESEARCH LABORATORIES

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

February 12, 1981

4-Way Oil Company
% Vic Leis
Box 223
Yates Center, Kansas 66783

Gentlemen:

Enclosed herewith are the results of tests run on the rotary core taken from the North & South Estate Lease, Well No. N-2, located in Woodson County, Kansas.

The core was sampled and sealed in plastic bags by a representative of the client and submitted to our laboratory on February 2, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/mkf

5 c to Yates Center, Ks.

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GENERAL INFORMATION & SUMMARY

Company 4-Way Oil Company North & South Estate Well No. N-2
 Location _____
 Section 12 Twp. 26S Rge. 14E County Woodson State Kansas

Elevation, Feet	-
Name of Sand	Bartlesville
Top of Core	1417.0
Bottom of Core	1437.3
Top of Sand (Tested)	1420.0
Bottom of Sand (Tested)	1436.7
Total Feet of Permeable Sand	16.0

Distribution of Permeable Sand:
Permeability Range
Millidarcys

	Feet	Cum. Ft.
5 - 20	4.4	4.4
20 - 60	3.8	8.2
60 - 100	4.0	12.2
140 - 170	1.8	14.0
230 & Above	2.0	16.0

Average Permeability Millidarcys	77.5
Average Percent Porosity	20.8
Average Percent Oil Saturation	33.2
Average Percent Water Saturation	34.7
Average Oil Content, Bbls./A. Ft.	534.
Total Oil Content, Bbls./Acre	8,536.

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LOGName 4 - Way Oil Company Lease North & South Estate Well No. N-2

Depth Interval, <u>Feet</u>	<u>Description</u>
1417.0 - 1420.0	Light brown and gray laminated sandstone and shale.
1420.0 - 1420.8	Brown sandstone.
1420.8 - 1421.9	Grayish brown shaly sandstone.
1421.9 - 1422.7	Brown sandstone.
1422.7 - 1424.2	Brown slightly shaly sandstone.
1424.2 - 1432.0	Brown sandstone.
1432.0 - 1432.7	Gray sandy shale.
1432.7 - 1437.3	Brown sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company			4 - Way Oil Company			Lease			North & South Estate			Well No.			N-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	1420.6	18.1	38	3	41	534	41.	0.8	0.8	427	32.80						
2	1421.7	19.4	35	40	75	527	5.2	1.1	1.9	580	5.72						
3	1422.5	22.0	33	39	72	563	14.	0.8	2.7	450	11.20						
4	1423.5	19.0	43	38	81	634	8.9	1.5	4.2	951	13.35						
5	1424.5	20.5	21	43	64	334	12.	1.0	5.2	334	12.00						
6	1425.6	21.0	27	47	74	440	24.	1.0	6.2	440	24.00						
7	1426.6	21.6	23	45	68	385	42.	1.0	7.2	385	42.00						
8	1427.5	23.0	38	31	69	678	62.	1.0	8.2	678	62.00						
9	1428.5	20.6	23	46	69	368	62.	1.0	9.2	368	62.00						
10	1429.5	22.2	27	46	73	465	43.	1.0	10.2	465	43.00						
11	1430.5	18.8	38	8	46	554	90.	1.0	11.2	554	90.00						
12	1431.7	22.5	46	31	77	803	149.	0.8	12.0	642	119.20						
13	1432.8	23.1	34	39	73	609	236.	1.0	13.0	609	236.00						
14	1434.5	22.7	26	50	76	458	233.	1.0	14.0	458	233.00						
15	1435.2	21.3	40	37	77	661	90.	1.0	15.0	661	90.00						
16	1436.4	18.6	37	3	40	534	163.	1.0	16.0	534	163.00						

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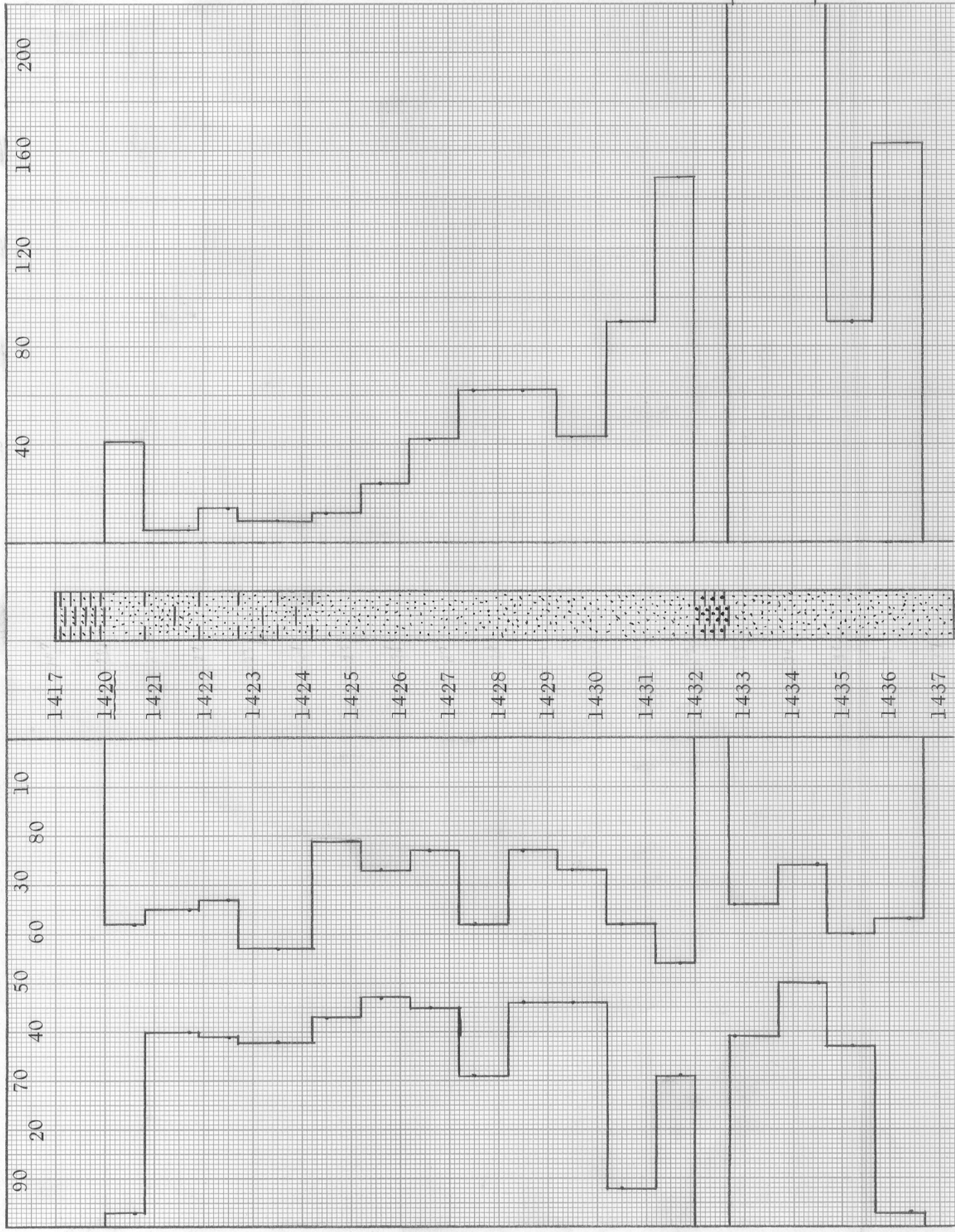
SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	4 - Way Oil Comapny	Lease	North & South Estate	Well No.	N-2	
	Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.		
	1420.0 - 1436.7	16.0	77.5	1239.27		
	Depth Interval, Feet	Feet of Core Analyzed	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
	1420.0 - 1436.7	16.0	20.8	33.2	34.7	534
	1420.0 - 1436.7	16.0	20.8	33.2	34.7	8,536

WATER SAT., PERCENT

PERMEABILITY, IN MILLIDARCYS



KEY:

SANDSTONE

SANDY SHALE

SHALY SANDSTONE

LAMINATED SANDSTONE AND SHALE

4-WAY OIL COMPANY

NORTH AND SOUTH ESTATE LEASE

WELL NO. N - 2

WOODSON COUNTY, KANSAS

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY, MILLIDARCYS
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1420.0 - 1436.7

16.0

20.8

33.2

34.7

77.5

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CHANUTE, KANSAS
FEBRUARY, 1981

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