OILFIELD RESEARCH LABORATORIES

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

April 15, 1981

Ridge Oil & Gas, Inc.
Box 812
Chanute, Kansas 66720

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Finney Lease, Well No. W-2, located in Allen County, Kansas and submitted to our laboratory on March 26, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/kas

5 c to Chanute, Kansas

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GENERAL INFORMATION & SUMMARY

Company: Ridge Oil & Gas, Inc. Lease: Finney Well No.: W-2

Location: 1760' FNL & 50' FEL NE¼

Section: 27 Twp.: 26S Rge.: 18E County: Allen State: Kansas

Elevation, Feet	
Name of Sand	Bartlesville
Top of Core	821.0
Bottom of Core	852.5
Top of Sand	821.0
Bottom of Sand	852.5
Total Feet of Permeable Sand	13.9
Total Feet of Floodable Sand	5.5

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 10	4.8	4.8
20 - 50	3.7	8.5
55 - 75	1.5	10.0
110 - 150	3.9	13.9

Average Permeability Millidarcys	57.2
Average Percent Porosity	16.7
Average Percent Oil Saturation	32.0
Average Percent Water Saturation	46.5
Average Oil Content, Bbls./A. Ft.	427.
Total Oil Content, Bbls./Acre	8,445.
Average Percent Oil Recovery by Laboratory Flooding Tests	4.7
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	69.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	381.
Total Calculated Oil Recovery, Bbls./Acre	See "Calculated Recovery" Section

The core was sampled and the samples sealed in plastic bags by a representative of the client. Salt water mud was used as a drilling fluid.

FORMATION CORED

The detailed log of the formation cored is as follows:

Depth Interval, Feet	Description
821.0 - 822.4	Light brown and gray laminated sandstone and shale.
822.4 - 823.8	Gray laminated sandstone and shale.
823.8 - 828.0	Light brown and gray laminated sandstone and shale.
828.0 - 829.0	Gray sandy shale.
829.0 - 829.5	Brown shaly sandstone.
829.5 - 837.0	No core.
837.0 - 837.3	Light brown and gray laminated sandstone and shale.
837.3 - 838.0	Brown sandstone.
838.0 - 839.0	Gray sandy shale.
839.0 - 841.9	Brown and gray laminated sandstone and shale.
841.9 - 843.1	Brown sandstone.
843.1 - 844.0	Brown and gray laminated sandstone and shale.
844.0 - 847.0	Brown sandstone.
847.0 - 847.4	Gray sandy shale.
847.4 - 848.3	Brown sandstone.
848.3 - 849.3	Brown slightly shaly sandstone.
849.3 - 850.7	Grayish brown conglomeratic shaly sandstone.
850.7 - 851.2	Brown sandstone.
851.2 - 852.5	Brown slightly carbonaceous shaly sandstone.

The sand in this core responded to laboratory flooding tests, as a total recovery of 381 barrels of oil per acre was obtained from 5.5 feet of sand. The weighted average percent oil saturation was reduced from 36.3 to 31.6, or represents an average recovery of 4.7 percent. The weighted average effective permeability of the samples is 11.59 millidarcys, while the average initial fluid production pressure is 21.7 pounds per square inch (See Table V).

By observing the data given in Table IV, you will note that of the 21 samples tested, 6 produced water and oil, and 7 samples produced water only. This indicates that approximately 29 percent of the sand represented by these samples is floodable pay sand.

CALCULATED RECOVERY

It would appear from a study of the core data, that efficient primary and waterflood operations in the vicinity of this well should recover approximately 1,610 barrels of oil per acre. This is an average recovery of 293 barrels per acre foot from 5.5 feet of floodable sand analyzed in this core.

These recovery values were calculated using the following data and assumptions:

Original formation volume factor, estimated	1.06
Reservoir water saturation, percent, estimated	25.0
Average porosity, percent	19.3
Oil saturation after flooding, percent	31.6
Performance factor, percent, estimated	50.0
Net floodable sand, feet	5.5

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Ridge Oil & Gas, Inc. Lease Finney Well No. W-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	821.3	7.6	17	60	77	100	Imp.	1.0	1.0	100	0.00
2	822.2	9.6	9	84	93	67	Imp.	0.4	1.4	27	0.00
3	824.8	13.1	33	54	87	335	Imp.	1.2	2.6	402	0.00
4	825.3	12.0	26	64	90	242	Imp.	1.0	3.6	242	0.00
5	826.6	8.8	12	81	93	82	Imp.	1.0	4.6	82	0.00
6	827.7	15.3	45	43	88	534	0.78	1.0	5.6	534	0.78
7	829.3	14.4	27	53	80	302	7.5	0.5	6.1	151	3.75
8	837.7	16.8	31	50	81	404	20.	0.7	6.8	283	14.00
9	839.3	18.8	40	36	76	583	44.	1.0	7.8	583	44.00
10	840.5	21.8	33	46	79	558	141.	1.0	8.8	558	141.00
11	841.5	19.8	8	40	48	123	113.	0.9	9.7	111	101.70
12	842.5	21.0	30	40	70	489	149.	1.1	10.8	538	163.90
13	843.6	15.1	29	50	79	340	7.1	0.9	11.7	306	6.39
14	844.6	18.3	49	29	78	696	42.	1.0	12.7	696	42.00
15	845.6	16.3	56	43	99	708	39.	1.0	13.7	708	39.00
16	846.7	20.2	28	49	77	439	72.	1.0	14.7	439	72.00
17	847.7	23.0	29	46	75	518	141.	0.9	15.6	466	126.90
18	848.7	18.3	37	54	91	525	9.4	1.0	16.6	525	9.40
19	849.8	17.5	29	32	61	394	0.66	1.4	18.0	552	0.92
20	850.9	20.7	37	39	76	594	58.	0.5	18.5	297	29.00
21	851.6	18.2	46	19	65	650	Imp.	1.3	19.8	845	0.00

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company Ridge Oil & Gas, Inc. Lease Finney Well No. W-2

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
821.0 - 838.0	2.2	8.4	18.53
839.0 - 852.5	11.7	66.3	776.21
821.0 - 852.5	13.9	57.2	794.74

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 Bbls./Acre
821.0 - 838.0	6.8	12.1	26.2	60.0	268	1,821
839.0 - 852.5	13.0	19.0	34.9	39.4	510	6,624
821.0 - 852.5	19.8	16.7	32.0	46.5	427	8,445

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company: Ridge Oil & Gas, Inc. Lease: Finney Well No.: W-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.
			%	Bbls./A. Ft.	%	Bbls./A. Ft.	% Oil	% Water	Bbls./A. Ft.			
1	821.3	7.7	17	102	0	0	17	62	102	0	Imp.	-
2	822.2	9.7	9	68	0	0	9	85	68	0	Imp.	-
3	824.8	13.1	33	335	0	0	33	56	335	0	Imp.	-
4	825.3	12.5	25	242	0	0	25	66	242	0	Imp.	-
5	826.6	9.1	11	78	0	0	11	83	78	0	Imp.	-
6	827.7	15.6	44	533	0	0	44	45	533	0	Imp.	-
7	829.3	14.5	27	304	0	0	27	56	304	0	Imp.	-
8	837.7	16.7	31	402	0	0	31	57	402	26	1.35	50
9	839.3	18.8	40	583	9	131	31	61	452	268	4.95	20
10	840.5	22.0	33	563	2	34	31	66	529	282	24.89	10
11	841.5	19.9	8	124	0	0	8	79	124	166	15.24	15
12	842.5	20.8	30	484	2	32	28	63	452	348	9.75	25
13	843.6	15.2	29	342	2	24	27	62	318	73	1.50	15
14	844.6	18.4	49	699	10	143	39	51	556	224	21.37	10
15	845.6	16.1	56	699	0	0	56	43	699	4	0.30	50
16	846.7	20.2	28	439	0	0	28	55	439	224	44.98	10
17	847.7	22.8	29	513	0	0	29	57	513	172	15.89	10
18	848.7	18.4	37	528	0	0	37	55	528	77	2.24	15
19	849.8	17.5	29	394	0	0	29	67	394	24	0.45	20
20	850.9	20.5	37	588	2	32	35	63	556	24	0.90	50
21	851.6	18.5	45	646	0	0	45	21	646	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.

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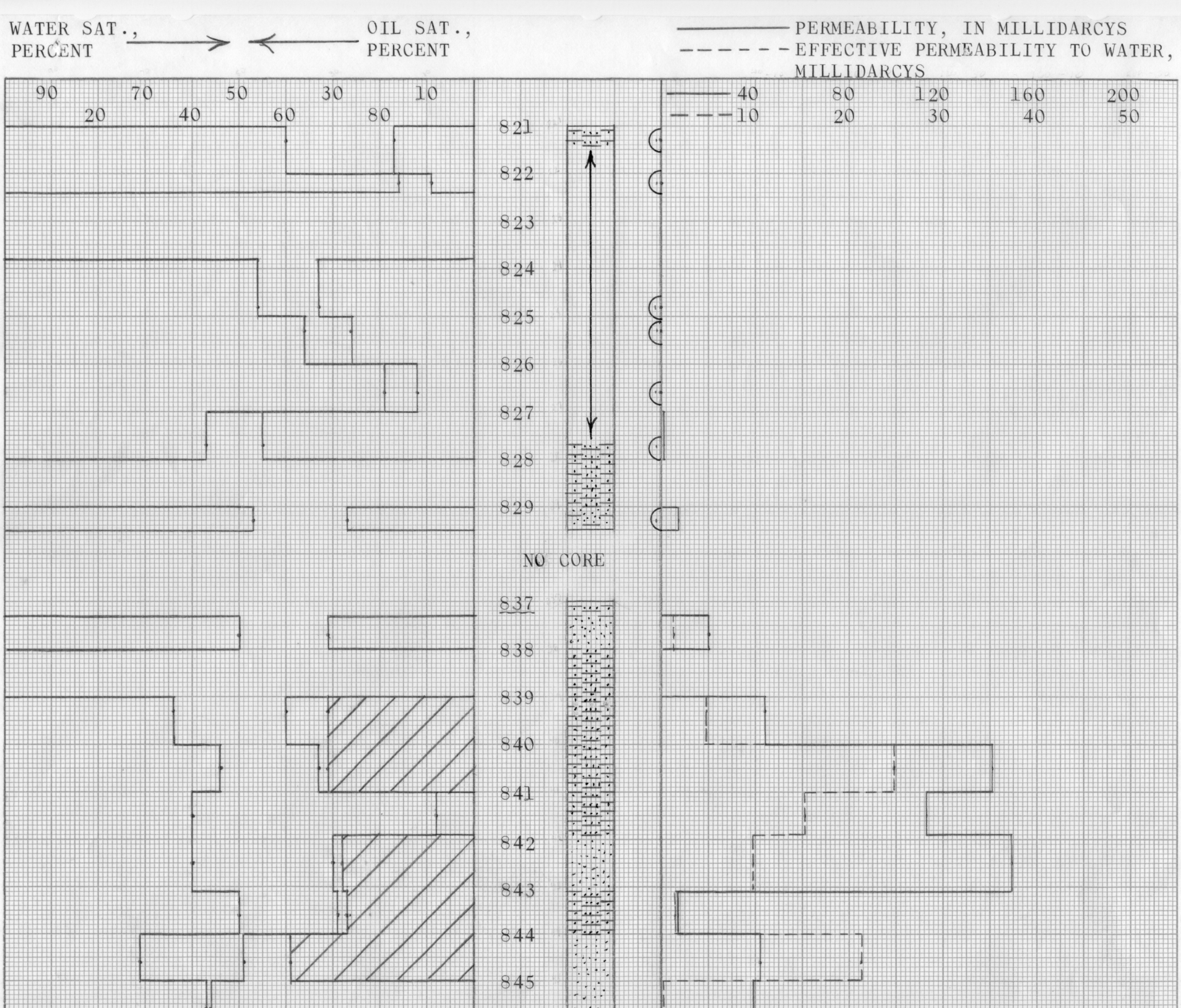
SUMMARY OF LABORATORY FLOODING TESTS

TABLE V

Company Ridge Oil & Gas, Inc. Lease Finney Well No. W-2

Depth Interval, Feet	839.0 - 852.5
Feet of Core Analyzed	5.5
Average Percent Porosity	19.3
Average Percent Original Oil Saturation	36.3
Average Percent Oil Recovery	4.7
Average Percent Residual Oil Saturation	31.6
Average Percent Residual Water Saturation	60.8
Average Percent Total Residual Fluid Saturation	92.4
Average Original Oil Content, Bbls./A. Ft.	541.
Average Oil Recovery, Bbls./A. Ft.	69.
Average Residual Oil Content, Bbls./A. Ft.	472.
Total Original Oil Content, Bbls./Acre	2,979.
Total Oil Recovery, Bbls./Acre	381.
Total Residual Oil Content, Bbls./Acre	2,598.
Average Effective Permeability, Millidarcys	11.59
Average Initial Fluid Production Pressure, p.s.i.	21.7

NOTE: Only those samples which recovered oil were used in calculating the above averages.


WATER SAT., PERCENT
OIL SAT., PERCENT
PERMEABILITY, IN MILLIDARCYS
EFFECTIVE PERMEABILITY TO WATER, IN MILLIDARCYS
90 70 50 30 10
20 40 60 80
40 80 120 160 200
10 20 30 40 50
821
822
823
824
825
826
827
828
829
NO CORE
837
838
839
840
841
842
843
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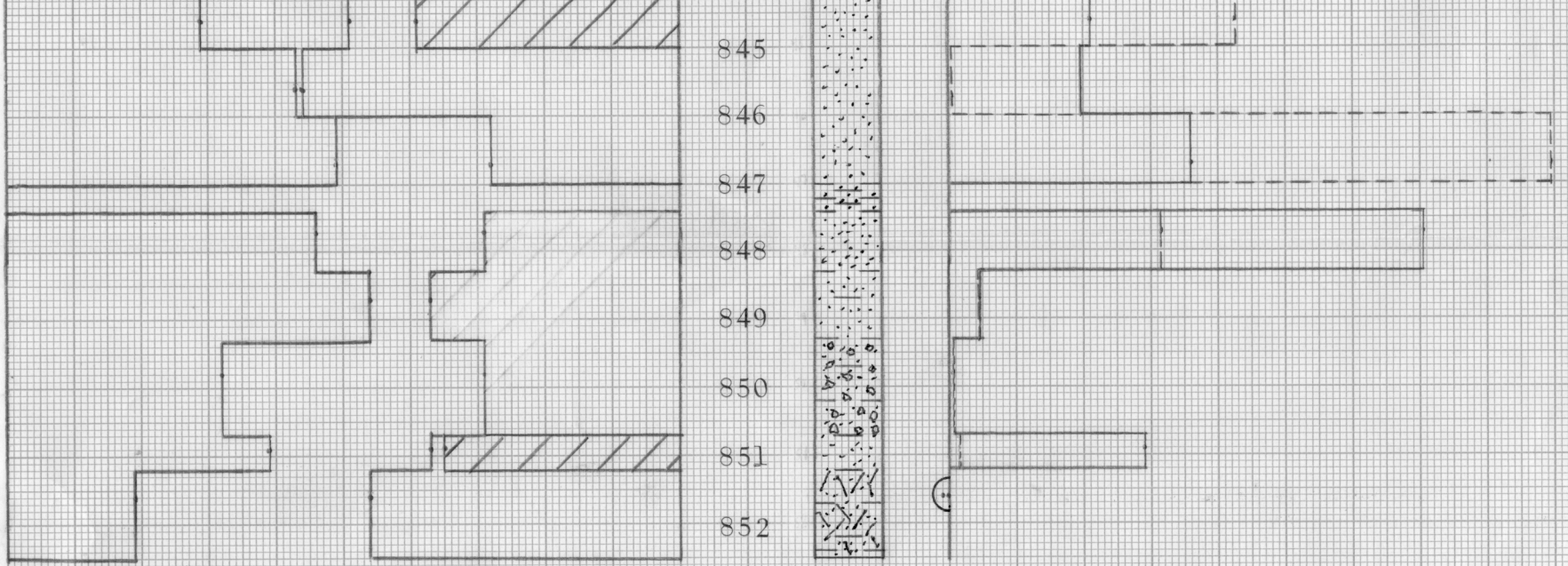
845



KEY:

SANDSTONE

SANDY SHALE

SHALY SANDSTONE

LAMINATED SANDSTONE AND SHALE

CARBONACEOUS SHALY SANDSTONE

CONGLOMERATIC SHALY SANDSTONE

FLOODPOT RESIDUAL OIL SATURATION

IMPERMEABLE TO WATER

RIDGE OIL & GAS, INC.

FINNEY LEASE WELL NO. W - 2

ALLEN 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
821.0 - 838.0	6.8	12.1	26.2	60.0	8.4	
839.0 - 852.5	13.0	19.0	34.9	39.4	66.3	
821.0 - 852.5	19.8	16.7	32.0	46.5	57.2	1610 (PRIMARY AND WATERFLOODING)

OILFIELD RESEARCH LABORATORIES
CHANUTE, KANSAS
APRIL, 1981

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