

OILFIELD RESEARCH LABORATORIES

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May 29, 1985

Prairie Resources Corporation
7800 West 110th Street, Suite 122
Overland Park, Kansas 66210

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Ridgeview Lease, Well No. 1, located in Johnson County, Kansas and submitted to our laboratory on May 17, 1985.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Alan M. Dunning

Alan M. Dunning

AMD/rmc

5 c to Overland Park, Kansas

- REGISTERED ENGINEERS -

CORE ANALYSIS - WATER ANALYSIS - REPRESSURING ENGINEERING - SURVEYING & MAPPING - PROPERTY EVALUATION & OPERATION

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GENERAL INFORMATION & SUMMARY

Company Prairie Resources Corporation Lease Ridgeview Well No. 1

Location _____

Section 19 Twp. 14S Rge. 24E County Johnson State Kansas

Elevation, Feet

Name of Sand..... Lower Squirrel

Top of Core 726.0

Bottom of Core 735.5

Top of Sand 726.0

Bottom of Sand (Tested) 732.2

Total Feet of Permeable Sand 4.7

Total Feet of Floodable Sand 3.2

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 1	0.0	0.0
2 - 4	1.0	1.0
8 - 15	1.1	2.1
35 - 50	1.2	3.3
55 - 72	1.4	4.7

Average Permeability Millidarcys 33.4

Average Percent Porosity 23.7

Average Percent Oil Saturation 51.1

Average Percent Water Saturation 43.9

Average Oil Content, Bbls./A. Ft. 950.

Total Oil Content, Bbls./Acre 5,223.

Average Percent Oil Recovery by Laboratory Flooding Tests 20.1

Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft. 364.

Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre 1,166.

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.

FORMATION CORED

The detailed log of the formation cored is as follows:

<u>Depth Interval, Feet</u>	<u>Description</u>
1.0 726.0 - 727.0	Sandstone, dark brown.
1.3 727.0 - 728.3	Sandstone, brown, with gray shale and mica partings.
0.7 728.3 - 729.0	Sandstone, light brown, with gray shale and mica partings.
729.0 - 730.0	Sandstone, brown, shaly, slightly micaceous.
0.9 730.0 - 730.9	Sandstone, dark brown.
1.3 730.9 - 732.2	Sandstone, shale, and mica, light brown and gray, laminated.
732.2 - 733.0	Sandstone, grayish light brown, very shaly.
733.0 - 735.5	Shale, gray.

5.2

LABORATORY FLOODING TESTS

The sand in this core responded to laboratory flooding tests, as a total recovery of 1,166 barrels of oil per acre was obtained from 3.2 feet of sand. The weighted average percent oil saturation was reduced from 56.4 to 36.3, or represents an average recovery of 20.1 percent. The weighted average effective permeability of the samples is 0.77 millidarcys, while the average initial fluid production pressure is 33.0 pounds per square inch (See Table V).

By observing the data given in Table IV, you will note that of the 8 samples tested, 5 produced water and oil. This indicates that

approximately 63 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 890 barrels of oil per acre. This is an average recovery of 279 barrels per acre foot from 3.2 feet of floodable sand analyzed in this core.

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

Original formation volume factor, estimated	1.04
Reservoir water saturation, percent, estimated	25.0
Average porosity, percent	20.1
Oil saturation after flooding, percent	36.3
Performance factor, percent, estimated	50.0
Net floodable sand, feet	3.2

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Prairie Resources Corporation Lease Ridgeview Well No. 1

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	726.2	23.5	57	38	95	1039	71.	1.0	1.0	1039	71.00
2	727.3	21.7	47	43	90	791	35.	0.7	1.7	554	24.50
3	728.1	21.8	58	38	96	981	8.7	0.6	2.3	589	5.22
4	729.2	21.5	41	56	97	684	3.2	1.0	3.3	684	3.20
5	730.3	26.3	64	32	96	1306	46.	0.5	3.8	653	23.00
6	730.8	22.6	59	30	89	1035	58.	0.4	4.2	414	23.20
7	731.6	30.4	55	43	98	1297	*	0.8	5.0	1038	-
8	732.1	20.9	31	64	95	503	14.	0.5	5.5	252	7.00
Note:		* Permeability sample unobtainable.									

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company Prairie Resources Corporation Lease Ridgeview Well No. 1

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
726.0 - 732.2	4.7	33.4	157.12

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
726.0 - 732.2	5.5	23.7	51.1	43.9	950	5,223

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company Prairie Resources Corporation Lease Ridgeview Well No. 1

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	726.2	23.8	57	1052	23	425	34	63	627	78	1.40	30
2	727.3	21.3	47	777	10	165	37	61	612	13	0.30	40
3	728.1	21.8	58	981	22	372	36	62	609	41	0.47	30
4	729.2	21.2	41	674	0	0	41	56	674	0	Imp.	-
5	730.3	25.9	64	1287	26	522	38	60	765	31	0.47	35
6	730.8	22.7	59	1039	20	352	39	54	687	51	0.80	30
7	731.6	29.9	55	1257	0	0	55	43	1257	0	Imp.	-
8	732.1	20.7	31	498	0	0	31	65	498	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.

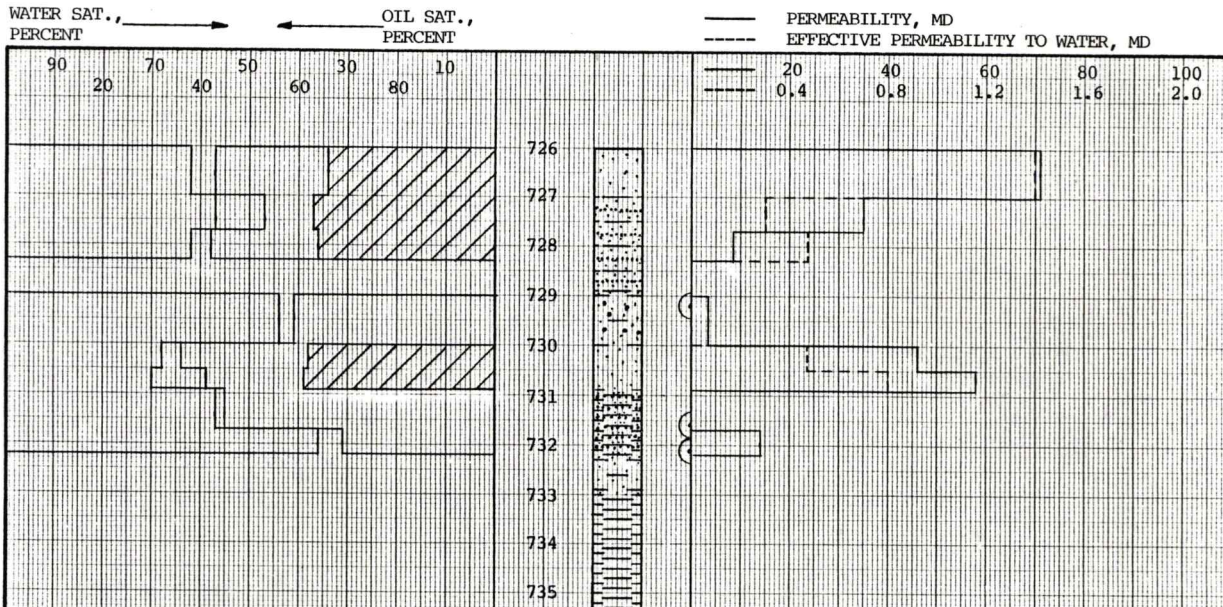
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SUMMARY OF LABORATORY FLOODING TESTS

TABLE V

Company <u>Prairie Resources Corporation</u>	Lease <u>Ridgeview</u>	Well No. <u>1</u>
Depth Interval, Feet	726.0 - 732.2	
Feet of Core Analyzed	3.2	
Average Percent Porosity	23.1	
Average Percent Original Oil Saturation	56.4	
Average Percent Oil Recovery	20.1	
Average Percent Residual Oil Saturation	36.3	
Average Percent Residual Water Saturation	60.8	
Average Percent Total Residual Fluid Saturation	97.1	
Average Original Oil Content, Bbls./A. Ft.	1,013.	
Average Oil Recovery, Bbls./A. Ft.	364.	
Average Residual Oil Content, Bbls./A. Ft.	649.	
Total Original Oil Content, Bbls./Acre	3,244.	
Total Oil Recovery, Bbls./Acre	1,166.	
Total Residual Oil Content, Bbls./Acre	2,078.	
Average Effective Permeability, Millidarcys	0.77	
Average Initial Fluid Production Pressure, p.s.i.	33.0	

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



KEY:

- SANDSTONE
- SANDSTONE WITH SHALE AND MICA PARTINGS
- SANDSTONE, SHALY
- IMPERMEABLE TO WATER
- SANDSTONE, SHALY, MICACEOUS
- SANDSTONE, SHALE, AND MICA, LAMINATED
- SHALE
- FLOODPOT RESIDUAL OIL SATURATION

PRAIRIE RESOURCES CORPORATION

RIDGEVIEW LEASE

JOHNSON COUNTY, KANSAS

WELL NO. 1

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY PERCENT	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY, MILLIDARCYS	CALCULATED OIL RECOVERY BBLs. / ACRE
726.0 - 732.2	5.5	23.7	51.1	43.9	33.4	890 (PRIMARY AND WATERFLOODING)

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CHANUTE, KANSAS
MAY, 1985 RAL