

OILFIELD RESEARCH LABORATORIES

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

March 21, 1980

D. Wilson & Associates
1271 Woodall
163 Lower Level
Topeka, Kansas 66604

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Miller Lease, Well No. 1, Miami County, Kansas and submitted to our laboratory on February 28, 1980.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES



Sanford A. Michel

SAM/kas
5 c to Topeka, Kansas

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GENERAL INFORMATION & SUMMARY

Company D. Wilson & Associates Lease Miller Well No. 1
 Location NW SE NW NW
 Section 21 Twp. 17S Rge. 25E County Miami State Kansas

Elevation, Feet - - - - -
 Name of Sand - - - - - Peru
 Top of Core - - - - - 436.0
 Bottom of Core - - - - - 445.5
 Top of Sand - - - - - 436.0
 Bottom of Sand - - - - - 444.7
 Total Feet of Permeable Sand - - - - - 8.0
 Total Feet of Floodable Sand - - - - - 0.0

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 20	1.7	1.7
60 - 70	1.7	3.4
100 - 150	3.0	6.4
150 - 250	1.6	8.0

Average Permeability Millidarcys - - - - - 96.0
 Average Percent Porosity - - - - - 17.5
 Average Percent Oil Saturation - - - - - 30.9
 Average Percent Water Saturation - - - - - 62.6
 Average Oil Content, Bbls./A. Ft. - - - - - 4.3
 Total Oil Content, Bbls./Acre - - - - - 3,224.
 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

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

Since the core did not respond to floodpot testing 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>
436.0 - 437.6	Brown very calcareous sandstone.
437.6 - 438.3	Gray limestone.
438.3 - 440.0	Dark brown calcareous sandstone.
440.0 - 443.8	Brown calcareous sandstone.
443.8 - 444.7	Brown calcareous shaly sandstone.
444.7 - 445.5	Gray calcareous sandy shale.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company D. Wilson & Associates

Lease Miller

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	436.5	16.9	41	56	97	538	203.	1.0	1.0	538	203.00
2	437.5	16.2	29	64	93	365	153.	0.6	1.6	219	91.80
3	438.5	9.8	43	50	93	327	60.	0.7	2.3	229	42.00
4	439.5	15.0	31	59	90	361	145.	1.0	3.3	361	145.00
5	440.5	22.4	19	73	92	330	110.	1.0	4.3	330	110.00
6	441.5	19.8	30	64	94	461	101.	1.0	5.3	461	101.00
7	442.5	20.5	24	69	93	382	62.	1.0	6.3	382	62.00
8	443.5	18.0	22	70	92	307	15.	0.8	7.1	246	12.00
9	444.5	16.5	41	56	97	509	1.3	0.9	8.0	458	1.17

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company D. Wilson & Associates Lease Miller Well No.

Permeability
Capacity
Ft. x Md.

Average
Permeability,
Millidarcys

Feet of Core
Analyzed

767.97

96.0

8.0

436.0 - 444.7

Total Oil
Content
Bbls./Acre

Average
Oil Content
Bbl./A. Ft.

Average
Percent Water
Saturation

Average
Percent Oil
Saturation

Average
Percent
Porosity

Feet of Core
Analyzed

Depth Interval,
Feet

3,224

403

62.6

30.9

17.5

8.0

436.0 - 444.7

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company D. Wilson & Associates Lease Miller 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			
1	436.5	16.6	42	541	0	0	42	56	282	19.79	10
2	437.5	15.8	31	380	0	0	31	63	308	13.92	15
3	438.5	10.0	43	334	0	0	43	55	417	8.67	15
4	439.5	15.4	32	382	0	0	32	62	448	9.84	10
5	440.5	22.8	20	354	0	0	20	75	450	5.84	10
6	441.5	20.1	30	468	0	0	30	67	485	5.70	10
7	442.5	20.9	24	389	0	0	24	69	379	4.84	10
8	443.5	18.2	22	311	0	0	22	72	50	0.60	20
9	444.5	16.0	42	521	0	0	42	55	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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RESULTS OF WATER DIFFERENTIATION TESTS

TABLE VI

Company D. Wilson & Associates Lease Miller Well No. 1

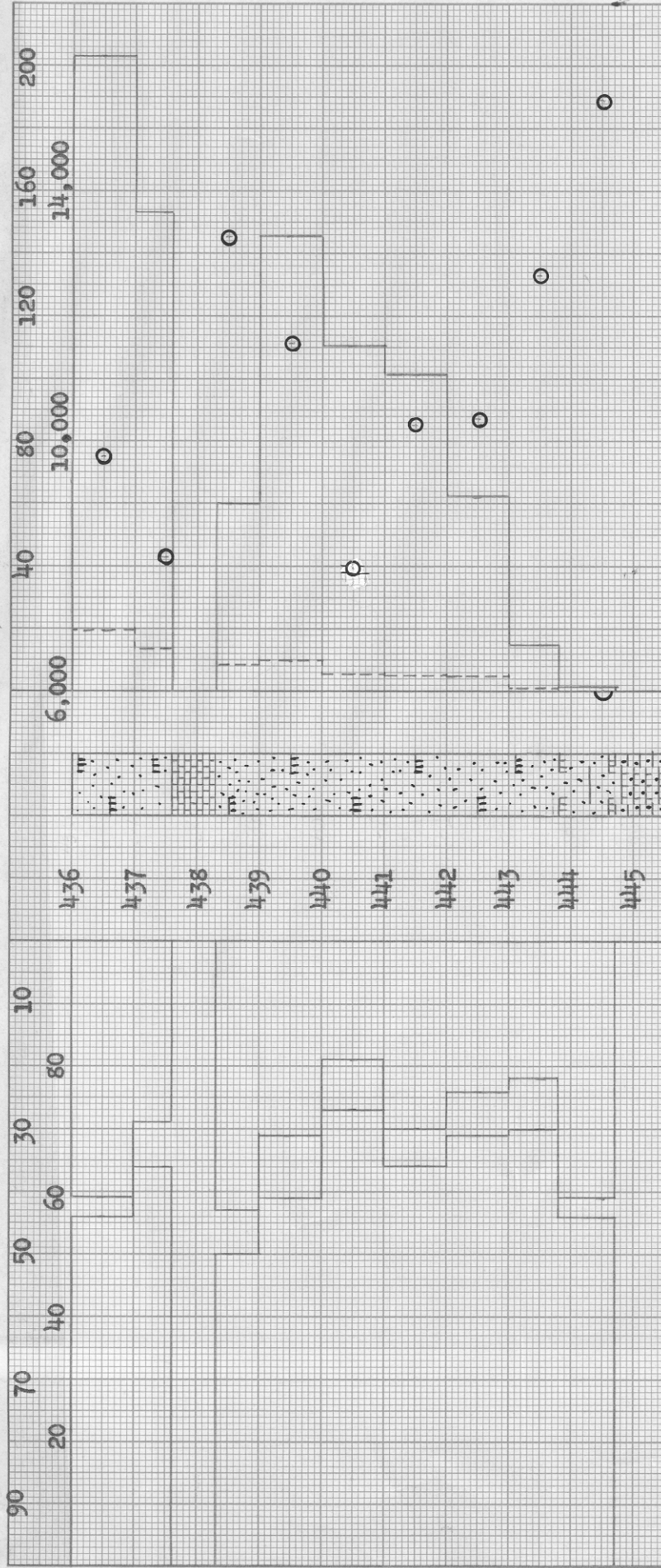
Sample No.	Depth, Feet	Chloride Content of Brine in Sand ppm	Percent Water Saturation Connate Drilling & Foreign	Total
1	436.5	9,746		
2	437.5	8,168		
3	438.5	13,284		
4	439.5	11,596		
5	440.5	7,913		
6	441.5	10,240		
7	442.5	10,393		
8	443.5	12,648		
9	444.5	15,449		

Note: ppm — parts per million




471512



PERMEABILITY, IN MILLIDARCS
EFFECTIVE PERMEABILITY TO WATER, IN MILLIDARCS
CHLORIDE CONTENT OF BRINE IN SAND, ppm

WATER SAT., PERCENT
OIL SAT., PERCENT



KEY:

-  CALCAREOUS SANDSTONE
-  CALCAREOUS SANDY SHALE
-  IMPERMEABLE TO WATER

-  CALCAREOUS SHALY SANDSTONE
-  LIMESTONE

○ IMPERMEABLE TO WATER

D. WILSON AND ASSOC.

MILLER LEASE

WELL NO. 1

MIAMI COUNTY, KANSAS

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY PERCENT	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY, MILLIDARCY BBLIS./ACFM	CALCULATED OIL RECOVERY BBLIS./ACFM
436.0 - 444.7	8.0	17.5	30.9	62.6	96.0	--

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CHANUTE, KANSAS
MARCH, 1980. HR