



# OILFIELD RESEARCH LABORATORIES

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

April 29, 1981

Werco (Western Well & Pump)  
1100 South Range  
Colby, Kansas 67701

Gentlemen:

Enclosed herewith are the results of tests run on the rotary core taken from the Watkins Lease, Well No. 8, located in Miami County, Kansas.

The core was sampled and sealed in plastic bags by a representative of the client and submitted to our laboratory on April 20, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/mkf

5 c to Colby, Kansas

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## GENERAL INFORMATION & SUMMARY

Company Werco (Western Well & Pump) Lease Watkins Well No. 8  
 Location \_\_\_\_\_  
 Section 11 Twp. 16S Rge. 21E County Miami State Kansas

Elevation, Feet . . . . .	
Name of Sand . . . . .	Squirrel
Top of Core . . . . .	679.0
Bottom of Core . . . . .	710.0
Top of Sand . . . . .	679.0
Bottom of Sand . . . . .	710.0
Total Feet of Permeable Sand . . . . .	24.5

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 5	6.8	6.8
5 - 10	7.1	13.9
10 - 25	3.6	17.5
25 - 35	3.0	20.5
45 - 65	2.2	22.7
80 - 150	1.8	24.5

Average Permeability Millidarcys . . . . .	22.8
Average Percent Porosity . . . . .	19.4
Average Percent Oil Saturation . . . . .	39.0
Average Percent Water Saturation . . . . .	50.9
Average Oil Content, Bbls./A. Ft. . . . .	589.
Total Oil Content, Bbls./Acre . . . . .	15,600.

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LOGName Werco (Western Well & Pump) Lease Watkins Well No. 8

<u>Depth Interval, Feet</u>	<u>Description</u>
679.0 - 680.2	Grayish light brown shaly sandstone.
680.2 - 681.2	Brown sandstone.
681.2 - 684.4	Grayish light brown shaly sandstone.
684.4 - 685.0	Light brown sandstone.
685.0 - 687.2	Grayish brown shaly sandstone.
687.2 - 688.0	Light brown sandstone.
688.0 - 688.5	Gray shale.
688.5 - 689.7	Light brown sandstone.
689.7 - 691.9	Grayish light brown shaly sandstone.
691.9 - 702.0	Brown sandstone.
702.0 - 703.0	Grayish light brown shaly sandstone.
707.0 - 709.0	Brown sandstone.
709.0 - 710.0	Dark green carbonaceous shaly sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Werco (Western Well & Pump) Lease Watkins Well No. 8

Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation		Oil Content Bbbs. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water			Ft.	Cum. Ft.		
1	679.7	17.2	41	46	547	4.9	1.2	1.2	656	5.88
2	680.5	21.8	47	48	795	145.	1.0	2.2	795	145.00
3	681.4	18.3	51	39	724	6.3	1.0	3.2	724	6.30
4	682.7	19.2	49	46	730	7.2	1.0	4.2	730	7.20
5	683.5	16.7	47	42	609	3.0	1.2	5.4	731	3.60
6	684.5	17.0	38	53	501	12.	0.6	6.0	301	7.20
7	685.6	14.2	36	61	397	1.4	1.0	7.0	397	1.40
8	686.6	18.1	44	49	618	2.5	1.2	8.2	742	3.00
9	687.5	23.1	39	59	699	82.	0.8	9.0	559	65.60
10	688.6	20.7	42	50	675	60.	0.5	9.5	338	30.00
11	689.4	21.3	46	48	760	62.	0.7	10.2	532	43.40
12	690.5	17.3	41	56	550	3.1	1.2	11.4	660	3.72
13	691.2	15.4	34	60	406	5.0	1.0	12.4	406	5.00
14	692.2	18.0	34	59	475	9.2	1.1	13.5	523	10.12
15	693.7	22.8	31	52	548	30.	1.0	14.5	548	30.00
16	694.2	22.5	31	58	541	26.	1.0	15.5	541	26.00
17	695.7	20.0	16	52	248	49.	1.0	16.5	248	49.00
18	696.7	22.9	36	57	640	9.2	1.0	17.5	640	9.20
19	697.5	23.5	39	48	711	32.	1.0	18.5	711	32.00
20	698.4	18.3	19	58	270	8.7	1.0	19.5	270	8.70
21	699.7	17.9	32	54	444	*	1.0	20.5	444	-
22	700.4	16.2	33	57	415	*	1.0	21.5	415	-
23	701.7	19.8	35	57	538	14.	1.0	22.5	538	14.00
24	702.5	19.6	36	55	547	6.0	1.0	23.5	547	6.00
25	707.5	20.6	51	39	815	22.	1.0	24.5	815	22.00
26	708.4	21.6	53	41	888	23.	1.0	25.5	888	23.00
27	709.4	21.9	53	34	901	1.6	1.0	26.5	901	1.60

Note: \* Permeability samples unobtainable.

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## SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Lease	Well No.	Watkins	Well No.
Merco (Western Well & Pump)				8
	Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
	679.0 - 710.0	24.5	22.8	558.92
	Depth Interval, Feet	Feet of Core Analyzed	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.
	679.0 - 710.0	26.5	50.9	589
		Average Percent Porosity	Average Percent Oil Saturation	Total Oil Content Ebls./Acre
		19.4	39.0	15,600