



# OILFIELD RESEARCH LABORATORIES

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

January 14, 1981

Blackhawk Oil Company  
15 North Highland  
Chanute, Kansas 66720

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the White Lease, Well No. 1, located in Wilson County, Kansas and submitted to our laboratory on November 20, 1980.

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 Blackhawk Oil Company Lease White Well No. 1

Location -

Section - Twp - Rge - County Wilson State Kansas

Elevation, Feet -

Name of Sand Squirrel

Top of Core 884.0

Bottom of Core 895.7

Top of Sand 884.0

Bottom of Sand 895.7

Total Feet of Permeable Sand 9.8

Total Feet of Floodable Sand 0.0

**Distribution of Permeable Sand:**  
Permeability Range  
Millidarcys

**Feet**

**Cum. Ft.**

0 - 5                      2.0                      2.0

5 - 10                     5.0                     7.0

10 & Above                2.8                     9.8

Average Permeability Millidarcys 7.9

Average Percent Porosity 15.7

Average Percent Oil Saturation 44.4

Average Percent Water Saturation 37.1

Average Oil Content, Bbls./A. Ft. 555.

Total Oil Content, Bbls./Acre 6,496.

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.

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 flooding susceptibility tests, 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>
884.0 - 885.3	Grayish brown shaly sandstone.
885.3 - 886.3	Grayish brown shaly calcareous sandstone.
886.3 - 886.9	Brown slightly calcareous sandstone.
886.9 - 887.8	Brown slightly shaly slightly calcareous sandstone.
887.8 - 890.0	Brown slightly calcareous sandstone.
890.0 - 895.1	Brown shaly slightly calcareous sandstone.
895.1 - 895.7	Grayish light brown shaly sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE I-B

Company Blackhawk Oil Company Lease White 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	884.5	14.9	63	30	93	728	Imp.	1.3	1.3	946	0.00
2	885.5	13.2	13	64	77	133	4.2	1.0	2.3	133	4.20
3	886.5	18.0	47	27	74	656	17.	0.6	2.9	394	10.20
4	887.4	16.0	55	24	79	683	8.3	0.9	3.8	615	7.47
5	888.5	16.8	52	25	77	678	12.	1.2	5.0	814	14.40
6	889.5	17.2	39	35	74	520	10.	1.0	6.0	520	10.00
7	890.5	17.7	54	25	79	742	4.3	1.0	7.0	742	4.30
8	891.5	16.7	39	39	78	505	6.3	1.0	8.0	505	6.30
9	892.6	17.0	46	31	77	607	7.2	1.0	9.0	607	7.20
10	893.6	15.4	60	25	85	717	6.8	1.0	10.0	717	6.80
11	894.5	14.4	39	49	88	436	5.8	1.1	11.1	480	6.38
12	895.5	9.7	5	90	95	38	Imp.	0.6	11.7	23	0.00

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## SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Lease	White	Well No.
Blackhawk Oil Company			1
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
884.0 - 895.7	9.8	7.9	77.25
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Oil Saturation	Average Percent Water Saturation
884.0 - 895.7	11.7	44.4	37.1
		Average Percent Porosity	Average Oil Content Bbl./A. Ft.
		15.7	555
			Total Oil Content Bbls./Acre
			6,496

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## RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

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	884.5	15.4	62	741	0	0	62	32	0	Imp.	-
2	885.5	13.3	13	134	0	0	13	65	0	Imp.	-
3	886.5	17.6	48	655	0	0	48	28	0	Imp.	-
4	887.4	16.1	55	687	0	0	55	24	0	Imp.	-
5	888.5	16.6	52	670	0	0	52	27	0	Imp.	-
6	889.5	16.7	40	518	0	0	40	36	0	Imp.	-
7	890.5	17.6	54	737	0	0	54	32	12	0.75	50
8	891.5	16.2	40	503	0	0	40	41	0	Imp.	-
9	892.6	16.8	46	600	0	0	46	31	0	Imp.	-
10	893.6	15.8	59	723	0	0	59	27	0	Imp.	-
11	894.5	14.5	39	439	0	0	39	49	0	Imp.	-
12	895.5	9.7	5	38	0	0	5	90	0	Imp.	-

Company: Blackhawk Oil Company      Lease: White      Well No. 1

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.