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

November 8, 1979

E & W Incorporated
P.O. Box 87
Bronson, Kansas 66716

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the McKinnis Lease, Well No. 3, Bourbon County, Kansas and submitted to our laboratory on October 16, 1979.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Benjamin R. Pearman

Benjamin R. Pearman

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5 c to Bronson, Kansas

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company E & W, Incorporated Lease McKinnis Well No. 3

Location 1390' EL & 2590' NL - NE 1/4

Section 14 Twp. 25S Rge. 21E County Bourbon State Kansas

Name of Sand	Bartlesville
Top of Core	668.0
Bottom of Core	689.0
Top of Sand	668.0
Bottom of Sand (Tested)	689.0
Total Feet of Permeable Sand	10.0
Total Feet of Floodable Sand	0

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 5	7.0	7.0
5 - 10	3.0	10.0

Average Permeability Millidarcys	4.1
Average Percent Porosity	14.9
Average Percent Oil Saturation	29.6
Average Percent Water Saturation	57.8
Average Oil Content, Bbls./A. Ft.	331.
Total Oil Content, Bbls./Acre	3,309.
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
Packer Setting, Feet	
Viscosity, Centipoises @	
A. P. I. Gravity, degrees @ 60 °F	
Elevation, Feet	

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:

Depth Interval, Feet	Description
668.0 - 670.0	Brown shaly sandstone.
670.0 - 675.0	Brown and gray laminated sandstone and shale.
675.0 - 676.0	Brown very shaly sandstone.
676.0 - 677.0	Brown and gray laminated sandstone and shale.
677.0 - 681.8	Brown shaly sandstone.
681.8 - 682.3	Gray sandy shale.
682.3 - 685.0	Brown shaly sandstone.
685.0 - 689.0	Brown slightly shaly sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company E & W, Incorporated Lease McKinnis Well No. 3

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	668.5	11.8	39	56	95	333	1.1	1.0	1.0	333	1.10
2	669.5	18.1	11	69	80	155	1.6	1.0	2.0	155	1.60
3	675.5	14.4	30	59	89	335	0.73	1.0	3.0	335	0.73
4	678.5	16.3	25	55	80	316	1.2	1.0	4.0	316	1.20
5	680.7	15.3	30	56	86	356	0.92	1.0	5.0	356	0.92
6	683.5	17.6	30	49	79	410	3.6	1.0	6.0	410	3.60
7	685.5	16.6	25	57	82	322	0.71	1.0	7.0	322	0.71
8	686.4	14.3	40	55	95	444	15.	1.0	8.0	444	15.00
9	687.5	10.6	31	63	94	255	7.8	1.0	9.0	255	7.80
10	688.5	14.1	35	59	94	383	8.0	1.0	10.0	383	8.00

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company E & W, Incorporated Lease McKinnis Well No. 3

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
668.0 - 670.0	2.0	1.4	2.70
675.0 - 689.0	8.0	4.8	37.96
668.0 - 689.0	10.0	4.1	40.66

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
668.0 - 670.0	2.0	15.0	25.0	62.5	244	488
675.0 - 689.0	8.0	14.9	30.8	56.6	353	2,821
668.0 - 689.0	10.0	14.9	29.6	57.8	331	3,309

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company E & W, Incorporated Lease McKinnis Well No. 3

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	668.5	12.0	38	354	0	0	38	57	354	0	Imp.	–
2	669.5	18.0	11	154	0	0	11	69	154	0	Imp.	–
3	675.5	14.4	29	324	0	0	29	60	324	0	Imp.	–
4	678.5	16.0	27	335	0	0	27	54	335	0	Imp.	–
5	680.7	15.6	29	351	0	0	29	60	351	0	Imp.	–
6	683.5	17.4	32	432	0	0	32	53	432	0	Imp.	–
7	685.5	16.6	26	335	0	0	26	60	335	0	Imp.	–
8	686.4	14.2	40	441	0	0	40	55	441	0	Imp.	–
9	687.5	11.0	29	247	0	0	29	65	247	0	Imp.	–
10	688.5	14.0	35	380	0	0	35	60	380	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.