



OILFIELD RESEARCH LABORATORIES

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

November 8, 1977

Sect. 21
H-14

George A. Hoffman
P.O. Box 537
Henderson, Kentucky 42420

Gentlemen:

Enclosed herewith are the results of tests run on the Rotary core samples taken from the Nelson (Lowe) Lease, Well No. H-14, Allen County, Kansas, and submitted to our laboratory on October 31, 1977.

This core is from a virgin territory and was sampled by a representative of the client.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Carl L. Pate

CLP:cb
4 c to Henderson, Kentucky
1 c to Erie, Kansas

- REGISTERED ENGINEERS -

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

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GENERAL INFORMATION & SUMMARY

Company George A. Hoffman Lease Nelson (Lowe) Well No. H-14

Location 600' FEL & 200' FNL, SW

Section 21 Twp. 26S Rge. 21E County Allen State Kansas

Name of Sand - - - - - Lower Bartlesville

Top of Core - - - - - (Received) - - - - - 775.0

Bottom of Core - - - - - (Received) - - - - - 782.0

Top of Sand - - - - - (Received) - - - - - 775.0

Bottom of Sand - - - - - (Received) - - - - - 782.0

Total Feet of Permeable Sand - - - - - 7.0

Total Feet of Floodable Sand - - - - -

Distribution of Permeable Sand:
Permeability Range
Millidarcys

	Feet	Cum. Ft.
0 - 20	4.0	4.0
20 & Above	3.0	7.0

Average Permeability Millidarcys - - - - - 42.8

Average Percent Porosity - - - - - 19.8

Average Percent Oil Saturation - - - - - 50.9

Average Percent Water Saturation - - - - - 32.3

Average Oil Content, Bbls./A. Ft. - - - - - 792.

Total Oil Content, Bbls./Acre - - - - - 5,542.

Average Percent Oil Recovery by Laboratory Flooding Tests - - - - -

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

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

Total Calculated Oil Recovery, Bbls./Acre - - - - -

Packer Setting, Feet - - - - -

Viscosity, Centipoises @ - - - - -

A. P. I. Gravity, degrees @ 60 °F - - - - -

Elevation, Feet - - - - -

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- LOG -

Company George A. Hoffman Lease Nelson (Lowe) Well No. H-14

<u>Depth Interval, Feet</u>	<u>Description</u>	<u>UPPER BARTLESVILLE SAND</u>
651.0 - 655.0	Dark brown fine grained sandstone.	
655.0 - 657.0	Dark and gray carbonaceous sandstone.	
657.0 - 658.0	Dark brown fine grained sandstone.	
658.0 - 660.0	Dark and gray carbonaceous sandstone.	
660.0 - 670.0	Core not received.	
		<u>MIDDLE BARTLESVILLE SAND</u>
670.0 - 671.0	Dark brown fine grained sandstone.	
671.0 - 673.0	Dark carbonaceous shaly sandstone.	
673.0 - 679.0	Dark brown fine grained sandstone.	
679.0 - 680.0	Gray very shaly sandstone.	
680.0 - 682.0	Dark brown fine grained sandstone.	
682.0 - 683.0	Brown shaly sandstone.	
683.0 - 688.0	Dark brown fine grained sandstone.	
688.0 - 689.0	Brown shaly sandstone.	
689.0 - 690.0	Grayish brown carbonaceous shaly sandstone.	
690.0 - 692.0	Dark brown fine grained sandstone.	
692.0 - 693.0	Dark conglomeratic sandstone.	
693.0 - 694.0	Gray and brown very shaly sandstone.	
694.0 - 698.0	Brown fine to medium grained slightly carbonaceous sandstone.	
698.0 - 699.0	Gray finely laminated sandstone and shale.	
699.0 - 754.0	Core not received.	
754.0 - 755.0	Light brown very shaly sandstone.	
755.0 - 775.0	Core not received.	

LOWER BARTLESVILLE SAND

775.0 - 777.0	Light brown very shaly sandstone.
777.0 - 778.0	Light brown shaly sandstone.
778.0 - 782.0	Dark brown fine grained sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company George A. Hoffman Lease Nelson (Lowe) Well No. H-14

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.		
<u>UPPER BARTLESVILLE SAND</u>											
1	651.5	22.6	50	26	76	879	104.	1.0	1.0	879	104.00
2	652.5	24.4	48	23	71	911	125.	1.0	2.0	911	125.00
3	653.5	21.6	49	23	72	823	116.	1.0	3.0	823	116.00
4	654.5	23.6	58	21	79	1,064	103.	1.0	4.0	1064	103.00
5	655.5	22.0	51	20	71	872	2.1	1.0	5.0	872	2.10
6	656.5	20.9	42	25	67	683	3.5	1.0	6.0	683	3.50
7	657.5	20.8	47	26	73	760	42.	1.0	7.0	760	42.00
8	658.5	20.1	55	32	87	860	1.2	1.0	8.0	860	1.20
9	659.5	19.7	51	23	74	781	0.60	1.0	9.0	781	0.60
<u>MIDDLE BARTLESVILLE SAND</u>											
10	670.5	21.3	45	30	75	745	32.	1.0	10.0	745	32.00
11	671.5	21.4	50	24	74	832	0.65	1.0	11.0	832	0.65
12	672.5	18.8	48	33	81	702	0.35	1.0	12.0	702	0.35
13	673.5	19.7	39	30	69	597	26.	1.0	13.0	597	26.00
14	674.5	21.7	50	26	76	844	42.	1.0	14.0	844	42.00
15	675.5	21.8	51	25	76	865	39.	1.0	15.0	865	39.00
16	676.5	20.6	36	31	67	577	28.	1.0	16.0	577	28.00
17	677.5	19.2	53	36	89	791	16.	1.0	17.0	791	16.00
18	678.5	22.2	50	22	72	863	55.	1.0	18.0	863	55.00
19	679.5	12.2	20	63	83	190	0.16	1.0	19.0	190	0.16
20	680.5	24.6	52	25	77	995	69.	1.0	20.0	995	69.00
21	681.5	23.0	60	38	98	1,073	40.	1.0	21.0	1073	40.00
22	682.5	18.2	39	35	74	552	9.2	1.0	22.0	552	9.20
23	683.5	24.2	60	29	89	1,127	31.	1.0	23.0	1127	31.00
24	684.5	22.7	45	19	64	794	156.	1.0	24.0	794	156.00
25	685.5	24.0	49	22	71	914	107.	1.0	25.0	914	107.00
26	686.5	21.4	52	29	81	865	40.	1.0	26.0	865	40.00
27	687.5	23.2	48	28	76	866	72.	1.0	27.0	866	72.00

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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.		
28	688.5	18.4	32	53	85	458	6.5	1.0	28.0	458	6.50
29	689.5	23.0	34	40	74	608	101.	1.0	29.0	608	101.00
30	690.5	19.5	37	44	81	561	49.	1.0	30.0	561	49.00
31	691.5	19.3	40	38	78	600	25.	1.0	31.0	600	25.00
32	692.5	20.7	36	41	77	579	107.	1.0	32.0	579	107.00
33	693.5	13.0	13	76	89	131	1.8	1.0	33.0	131	1.80
34	694.5	19.8	38	42	80	585	31.	1.0	34.0	585	31.00
35	695.5	20.5	40	43	83	638	57.	1.0	35.0	638	57.00
36	696.5	21.9	30	44	74	511	92.	1.0	36.0	511	92.00
37	697.5	20.9	36	47	83	585	56.	1.0	37.0	585	56.00
38	698.5	14.1	23	65	88	252	Imp.	1.0	38.0	232	0.00
39	754.5	15.1	39	54	93	458	1.9	1.0	39.0	458	1.90
<u>LOWER BARTLESVILLE SAND</u>											
40	775.5	17.2	48	46	94	642	2.3	1.0	40.0	642	2.30
41	776.5	16.0	36	45	81	448	1.0	1.0	41.0	448	1.00
42	777.5	21.3	51	21	72	845	17.	1.0	42.0	845	17.00
43	778.5	22.7	59	28	87	1,041	141.	1.0	43.0	1041	141.00
44	779.5	17.8	59	37	96	817	16.	1.0	44.0	817	16.00
45	780.5	21.6	52	28	80	873	76.	1.0	45.0	873	76.00
46	781.5	22.1	51	21	72	876	46.	1.0	46.0	876	46.00

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company George A. Hoffman Lease Nelson (Lowe) Well No. H-14

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
<u>MIDDLE BARTLESVILLE SAND</u>			
670.0 - 682.0	12.0	29.0	348.16
682.0 - 699.0	16.0	58.8	941.50
670.0 - 699.0	28.0	46.1	1289.66

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
<u>MIDDLE BARTLESVILLE SAND</u>						
670.0 - 682.0	12.0	20.5	46.2	31.9	756	9,074
682.0 - 699.0	17.0	20.3	38.4	40.9	624	10,606
670.0 - 699.0	29.0	20.4	41.6	37.2	679	19,680