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OILFIELD RESEARCH LABORATORIES

536 NORTH HIGHLAND - CHANUTE, KANSAS - PHONE HE1-2650

February 2, 1968

Mr. G. M. Smith
260 N. Terrace Drive
Wichita, Kansas 67200

Gentlemen:

Enclosed herewith are the results of tests run on the Rotary cores taken from the E. Light Lease, Well No. 2-A, Woodson County, Kansas, and submitted to our laboratory on January 31, 1968.

These cores are from a virgin territory and were sampled and the samples sealed in plastic bags by a representative of Oilfield Research Laboratories.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Carl L. Pate

CLP:bjo

4 c. - Wichita, Kansas
1 c. - Yates Center, Kansas

E. Light 2-A

16-25-100

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company	G. M. Smith		Lease	E. Light		Well No.	2-A	
Location	SW, SE, NW							
Section	16	Twp.	25S	Rge.	16E	County	Woodson	
						State	Kansas	
Name of Sand							Upper Squirrel	
Top of Core							869.0	
Bottom of Core							889.0	
Pay Top of Sand							871.3	
Bottom of Sand							885.1	
Total Feet of Permeable Sand							12.3	
Total Feet of Floodable Sand							-	
Distribution of Permeable Sand:								
Permeability Range Millidarcys		Feet		Cum. Ft.				
0 - 2		2.8		2.8				
2 - 4		4.5		7.3				
4 - 12		2.1		9.4				
12 & above		2.9		12.3				
Average Permeability Millidarcys						6.2		
Average Percent Porosity						15.9		
Average Percent Oil Saturation						47.3		
Average Percent Water Saturation						37.1		
Average Oil Content, Bbls./A. Ft.						602.		
Total Oil Content, Bbls./Acre						7,829.		
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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GENERAL INFORMATION & SUMMARY

Company G. M. Smith Lease E. Light Well No. 2-A

Location SW, SE, NW

Section 16 Twp. 25S Rge. 16E County Woodson State Kansas

Name of Sand - - - - - Lower Squirrel

Top of Core - - - - - 908.5

Bottom of Core - - - - - 925.0

Top of Sand - - - - - 911.7

Good
Bottom of Sand - - - - - 919.7

Total Feet of Permeable Sand - - - - - 8.1

Total Feet of Floodable Sand - - - - - -

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

0 - 25	2.6	2.6
25 - 50	1.2	3.8
50 - 100	3.3	7.1
100 & above	1.0	8.1

Average Permeability Millidarcys - - - - - 60.2

Average Percent Porosity - - - - - 18.8

Average Percent Oil Saturation - - - - - 54.4

Average Percent Water Saturation - - - - - 25.8

Average Oil Content, Bbls./A. Ft. - - - - - 803.

Total Oil Content, Bbls./Acre - - - - - 7,618.

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 G. M. Smith Lease E. Light Well No. 2-A

Depth Interval, Feet	Description
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UPPER SAND

869.0 - 869.8	Light brown laminated sandstone & shale.
869.8 - 870.5	Dark brown laminated shaly sandstone.
870.5 - 870.9	Gray sandy shale.
870.9 - 871.3	Dark laminated shaly sandstone.
871.3 - 875.2	Dark brown slightly shaly sandstone.
875.2 - 876.0	Gray laminated sandy shale.
876.0 - 879.1	Brown finely laminated shaly sandstone.
879.1 - 879.8	Gray laminated sandy shale.
879.8 - 881.0	Dark brown laminated shaly sandstone.
881.0 - 882.9	Dark brown slightly shaly sandstone.
882.9 - 883.5	Brown laminated shaly sandstone.
883.5 - 885.1	Dark brown sandstone.
885.1 - 886.1	Gray shale.
886.1 - 889.0	Gray sandy shale (discarded at well).

LOWER SAND

908.5 - 909.0	Gray laminated sandy shale.
909.0 - 909.5	Dark laminated shaly sandstone.
909.5 - 911.7	Gray shale.
911.7 - 916.8	Dark slightly laminated shaly sandstone.
916.8 - 918.4	Gray micaceous carbonaceous shaly sandstone.
918.4 - 919.7	Dark sandstone.
919.7 - 921.2	Dark micaceous carbonaceous sandstone.

- LOG -

921.2 - 922.9 - Gray sandy shale.

922.9 - 923.1 - Dark sandstone.

923.1 - 925.0 - Gray sandy shale.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company G. M. Smith Lease E. Light Well No. 2-A

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	870.2	15.4	44	41	85	526	Imp.	0.7	0.7	368	0.00
2	871.4	16.8	44	32	76	574	4.0	0.5	1.2	287	2.00
3	872.2	16.8	53	31	84	691	3.8	0.8	2.0	553	3.04
4	873.1	16.6	56	23	79	721	14.	1.0	3.0	721	14.00
5	874.1	16.9	63	32	95	826	3.7	1.0	4.0	826	3.70
6	875.1	17.0	62	32	94	818	2.6	0.6	4.6	491	1.56
7	876.1	13.6	30	59	89	317	1.0	0.6	5.2	190	0.60
8	877.1	12.4	30	59	89	289	0.60	1.0	6.2	289	0.60
9	878.1	12.3	29	63	92	277	3.7	1.5	7.7	415	5.55
10	880.1	15.4	49	37	86	586	1.2	1.2	8.9	703	1.44
11	881.1	20.2	62	22	84	972	12.	0.6	9.5	583	7.20
12	882.1	16.2	50	24	74	628	13.	1.3	10.8	816	16.90
13	883.1	15.6	50	35	85	606	3.6	0.6	11.4	364	2.16
14	884.1	19.3	51	25	76	764	11.	1.6	13.0	1223	17.60
<u>LOWER SAND</u>											
15	912.1	19.3	54	20	74	809	15.	0.9	0.9	728	13.50
16	913.1	20.1	52	21	73	811	202.	1.0	1.9	811	202.00
17	914.1	16.1	52	37	89	650	76.	1.0	2.9	650	76.00
18	915.1	20.4	47	21	68	744	92.	1.0	3.9	744	92.00
19	916.1	19.9	48	21	69	741	29.	1.2	5.1	890	34.80
20	917.1	16.4	57	37	94	725	0.66	0.8	5.9	580	0.53
21	918.1	17.5	56	37	93	761	Imp.	0.8	6.7	609	0.00
22	919.1	20.8	65	14	79	1049	51.	1.3	8.0	1390	66.30
23	920.1	19.7	69	13	82	1054	2.2	0.9	8.9	949	1.98
24	921.1	15.1	38	57	95	446	Imp.	0.6	9.5	267	0.00

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company		G. M. Smith		Lease		E. Light		Well No.		2-A	
Depth Interval, Feet		Feet of Core Analyzed		Average Permeability, Millidarcys		Permeability Capacity Ft. x Md.					
				UPPER SAND							
871.3 - 885.1		12.3		6.2		76.35					
				LOWER SAND							
911.7 - 920.6		8.1		60.2		487.11					
Depth Interval, Feet		Feet of Core Analyzed		Average Percent Oil Saturation		Average Percent Water Saturation		Average Oil Content Bbl./A. Ft.		Total Oil Content Bbls./Acre	
				UPPER SAND							
869.8 - 885.1		13.0		47.3		37.1		602.		7,829.	
				LOWER SAND							
911.7 - 921.2		9.5		54.4		25.8		803.		7,618.	



KEY:
SANDSTONE
SHALY SANDSTONE

CARBONACEOUS SANDSTONE
CARBONACEOUS SHALY SANDSTONE

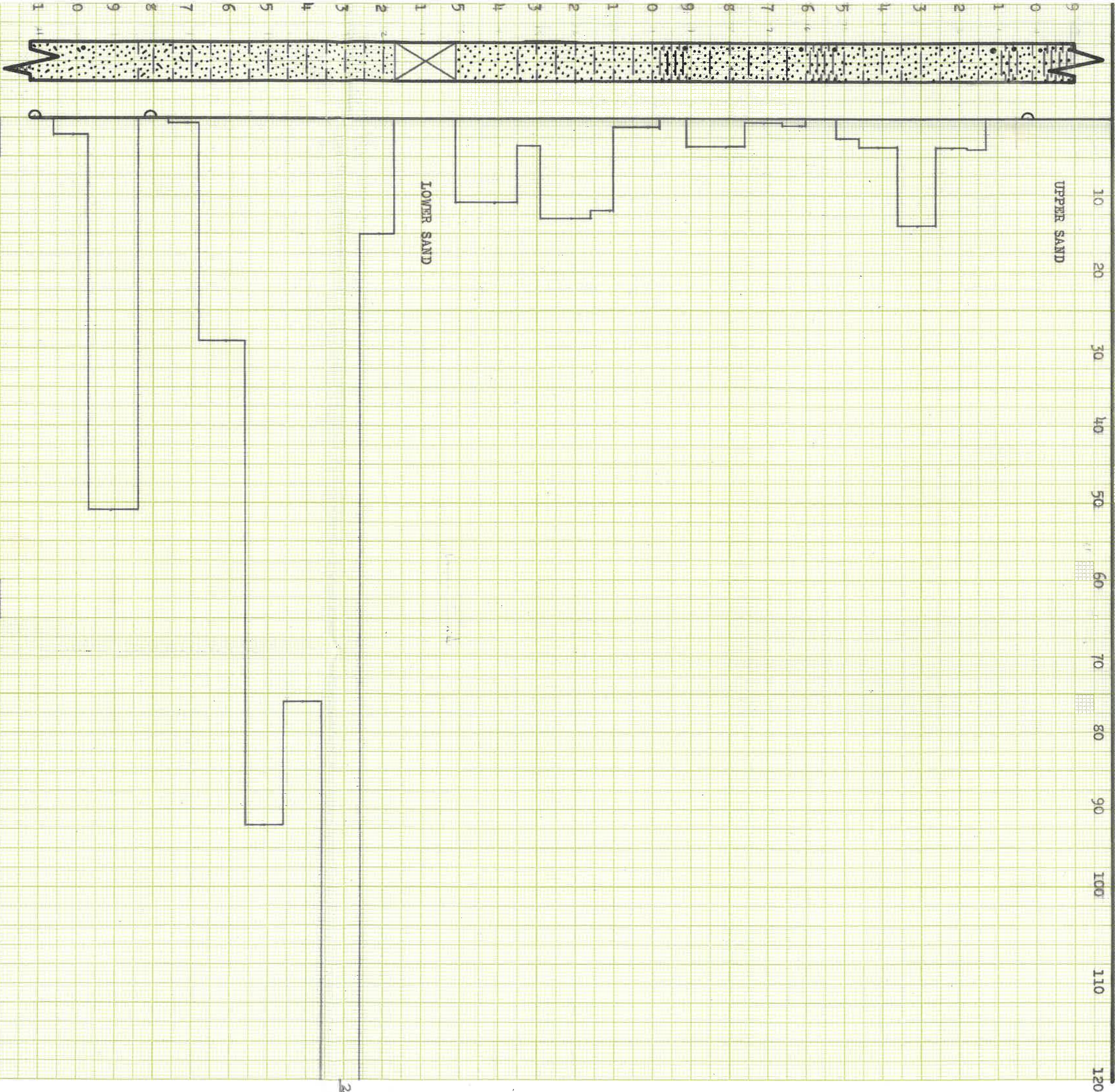
LAMINATED SAND
SANDY SHALE

G. M. SMITH
E. LIGHT LEASE WELL NO. 2-A
WOODSON COUNTY, KANSAS

DEPTH INTERVAL FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY PERCENT	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVG. OIL CONTENT BBLs./A. FT.	TOTAL CORRECTION BBL
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UPPER SAND						
869.8 - 885.1	13.0	15.9	47.3	37.1	602	
LOWER SAND						
911.7 - 921.2	9.5	18.8	54.4	25.8	803	

AIR PERMEABILITY, MILLIDARCYs



M. SMITH

LIGHT LEASE WELL NO. 2-A
WOODSON COUNTY, KANSAS

AVG. WATER SATURATION PERCENT	AVG. OIL CONTENT BBLS./A. FT.	TOTAL OIL CONTENT BBLS./ACRE	AVG. AIR PERMEABILITY MILLIDARCYs
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PER SAND

37.1

602

7,829

6.2

WATER SAND

25.8

803

7,618

60.2

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CHANNING, KANSAS
FEBRUARY, 1968