



# OILFIELD RESEARCH LABORATORIES

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

May 25, 1966

11-24-16E

Brazos Oil & Gas Company  
P.O. Box 22468  
Houston, Texas

Attn: Mr. G. P. Huston

Gentlemen:

Enclosed herewith are the results of tests run on the Rotary core taken from the Strahm Lease, Well No. 16, Woodson County, Kansas, and submitted to our laboratory on May 18, 1966.

This core was 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:rf

8 c. - Houston, Texas  
1 c. - Chanute, Kansas

Strahm 16



-LOG-

Company Brazos Oil & Gas Company Lease Strahm Well No. 16

<u>Depth Interval,</u> <u>Feet</u>	<u>Description</u>
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994.0 - 996.0	- Gray shaly sandstone.
996.0 - 1008.6	- Grayish light brown, shaly sandstone.
1008.6 - 1015.0	- Brown, fine grained, shaly sandstone.
1015.0 - 1028.0	- Sandy shale.
1028.0 - 1029.5	- Laminated sandstone and shale.
1029.5 - 1032.0	- Shale.
1032.0 - 1033.0	- Brown limestone.
1033.0 - 1040.0	- Dark brown, laminated, shaly sandstone.
1040.0 - 1041.0	- Sandy shale.
1041.0 - 1044.0	- Loss.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Brazos Oil & Gas Company Lease Strahm Well No. 16

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.		
1	996.1	16.7	29	60	89	0.24	0.6	0.6	226	0.14
2	997.1	16.2	32	65	97	0.76	1.0	1.6	402	0.76
3	998.1	18.7	21	66	87	3.3	1.0	2.6	304	3.30
4	999.1	17.4	22	73	95	Imp.	1.0	3.6	297	0.00
5	1000.1	16.9	37	60	97	0.49	1.0	4.6	484	0.49
6	1001.1	15.4	28	67	95	0.71	1.0	5.6	334	0.71
7	1002.1	15.1	37	61	98	0.31	1.0	6.6	433	0.31
8	1003.1	14.8	29	66	95	0.70	1.0	7.6	332	0.70
9	1004.1	18.2	23	61	84	23.	1.0	8.6	324	23.00
10	1005.1	13.3	31	57	88	0.52	1.0	9.6	320	0.52
11	1006.1	14.7	43	45	88	8.1	1.0	10.6	490	8.10
12	1007.1	17.7	24	63	87	0.96	1.0	11.6	329	0.96
13	1008.1	15.4	28	59	87	2.9	1.0	12.6	334	2.90
14	1009.1	18.9	33	55	88	92.	1.0	13.6	484	92.00
15	1010.1	17.6	38	55	93	37.	1.0	14.6	519	37.00
16	1011.1	18.2	35	52	87	4.2	1.0	15.6	494	4.20
17	1012.1	15.5	39	46	85	57.	1.0	16.6	469	57.00
18	1013.1	18.6	38	48	86	4.8	1.2	17.8	658	5.76
19	1014.5	16.3	39	45	84	13.	1.2	19.0	592	15.60
20	1028.9	14.5	29	67	96	Imp.	1.0	20.0	326	0.00
21	1033.1	16.0	62	17	79	3.6	0.6	20.6	461	0.22
22	1034.1	15.5	56	27	83	6.8	1.0	21.6	674	6.80
23	1035.1	17.5	57	20	77	7.5	1.0	22.6	773	7.50
24	1036.1	14.2	43	48	91	Imp.	1.0	23.6	473	0.00
25	1037.1	13.3	29	67	96	1.4	1.0	24.6	299	1.40
26	1038.1	12.8	30	67	97	Imp.	1.0	25.6	298	0.00
27	1039.1	13.2	52	45	97	Imp.	1.4	27.0	746	0.00

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## SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Lease		Well No.
Brazos Oil & Gas Company	Strahm		16
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
996.0 - 1008.6	11.6	3.6	41.89
1008.6 - 1015.0	6.4	33.7	211.56
1015.0 - 1040.0	3.6	4.4	15.92
996.0 - 1040.0	21.6	12.5	269.37
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation
996.0 - 1008.0	12.6	16.2	29.6
1008.0 - 1015.0	6.4	17.5	37.1
1015.0 - 1040.0	8.0	14.5	44.3
996.0 - 1040.0	27.0	16.0	35.7
		Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.
		61.8	366
		49.9	503
		46.2	506
		53.6	440
			Total Oil Content Ebls./Acre
			4,609
			3,216
			4,050
			11,875

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## RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company Brazos Oil & Gas Company Lease Strahm Well No. 16

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.			
14	1009.1	19.3	30	449	0	0	30	62	449	257	5.92	20
17	1012.1	19.1	24	355	0	0	24	67	355	62	1.25	20
19	1014.5	16.6	36	464	0	0	36	52	464	30	0.83	40
23	1035.1	18.0	53	740	0	0	53	29	740	3	0.083	50

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.

**Oilfield Research Laboratories**  
**RESULTS OF WATER DIFFERENTIATION TESTS**

**TABLE VI**

Company Brazos Oil & Gas Company Lease Strahm Well No. 16

Sample No.	Depth, Feet	Chloride Content of Brine in Sand ppm	Percent Water Saturation		
			Connate	Drilling & Foreign	Total
1	996.1	46,450			
4	999.1	35,875			
8	1003.1	47,200			
12	1007.1	40,600			

Note: ppm — parts per million

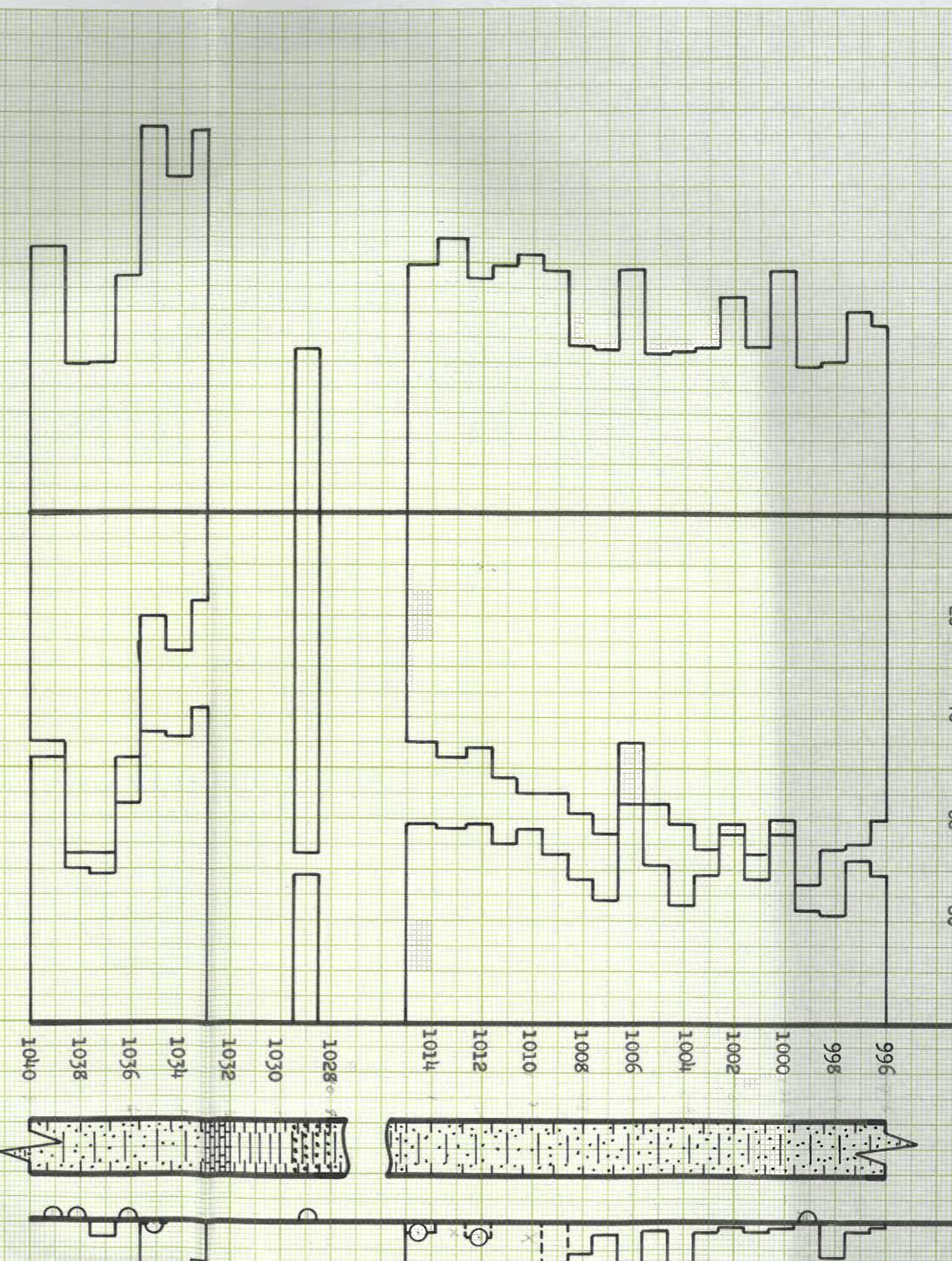
OIL CONTENT,  
BBLS./A. FT.

WATER SAT.,  
PERCENT

OIL SAT.,  
PERCENT

800 600 400 200

90 20 70 40 50 60 30 80 10



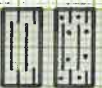
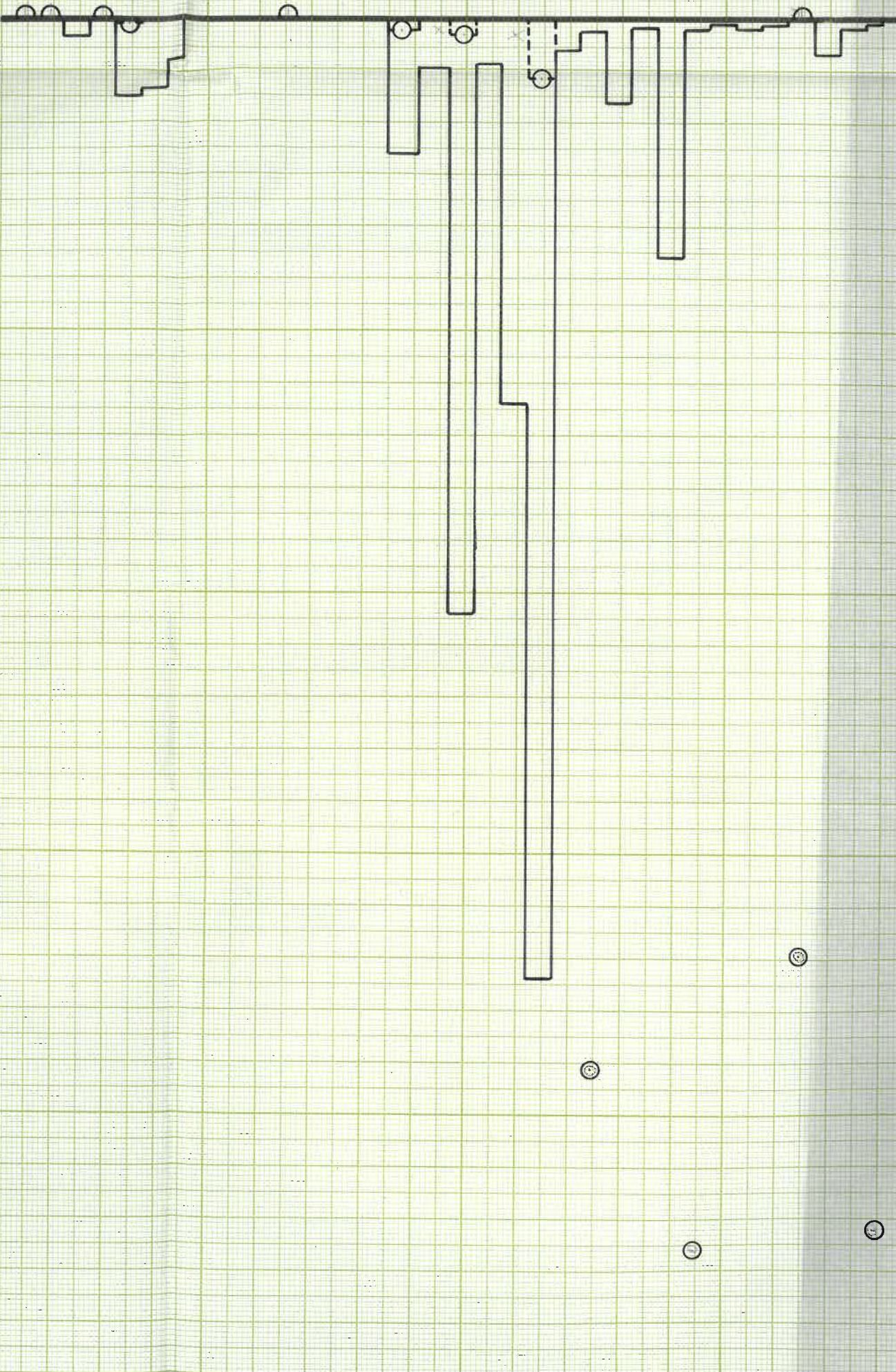
SHALE SANDSTONE  
LAMINATED SANDSTONE & SHALE

**BRAZOS OIL &**  
SPRAH LEASE  
WOODSON 6

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY, PERCENT	AVG. OIL SATURATION PERCENT
996.0 - 1008.0	12.6	16.2	29.6
1008.0 - 1015.0	6.4	17.5	37.1
1015.0 - 1040.0	8.0	14.5	44.3
996.0 - 1040.0	27.0	16.0	35.7

— AIR PERMEABILITY, IN MILLIDARCS  
 - - - - - EFFECTIVE PERMEABILITY, IN MILLIDARCS  
 ○ CHLORIDE CONTENT OF BRINE IN SAND, PPM

10 20 30 40 50 60 70 80 90 100 110 120  
 CHLORIDE SCALE  
 4,000 12,000 20,000 28,000 36,000 44,000



SANDY SHALE  
 SHALE



LIMESTONE

○ IMPERMEABLE TO AIR

# L & GAS COMPANY

WOODSON COUNTY, KANSAS

WELL NO. 16

AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVG. OIL CONTENT BBLs./A. FT.	TOTAL OIL CONTENT BBLs./ACRE	AVG. AIR PERMEABILITY, MILLIDARCS
29.6	61.8	366	4,609	3.6
37.1	49.9	503	3,216	33.7
44.3	46.2	506	4,050	4.4
35.7	53.6	440	11,875	12.5