OILFIELD RESEARCH LABORATORIES
536 NORTH HIGHLAND - CHANUTE, KANSAS - PHONE HE1-2650

February 12, 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. 14, Woodson County, Kansas, and submitted to our laboratory on February 9, 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

Benjamin R. Pearman

Benjamin R. Pearman

Strahm 14

BRP:rf

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

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Brazos Oil & Gas Company Lease Strahm Well No. 14

Location 463' NSL & 1717' WEL, N½

Section 11 Twp. 24S Rge. 16E County Woodson State Kansas

Name of Sand	Squirrel
Top of Core	994.0
Bottom of Core	1031.8
Top of Sand	1022.2
Bottom of Sand	1030.5
Total Feet of Permeable Sand	8.3
Total Feet of Floodable Sand (Analyzed)	4.0

Distribution of Permeable Sand:

Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 1	3.3	3.3
2 - 10	4.0	7.3
10 & above	1.0	8.3

Average Permeability Millidarcys	3.6
Average Percent Porosity	15.4
Average Percent Oil Saturation	41.2
Average Percent Water Saturation	34.1
Average Oil Content, Bbls./A. Ft.	494.
Total Oil Content, Bbls./Acre	4,097.
Average Percent Oil Recovery by Laboratory Flooding Tests	9.5
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	125.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	501.
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 Brazos Oil & Gas Company Lease Strahm Well No. 14

Depth Interval, Feet	Description
994.0 - 1018.6	Sandy shale.
1018.6 - 1019.5	Fossiliferous, calcareous, sandy shale.
1019.5 - 1022.2	Sandy shale.
1022.2 - 1022.6	Brown calcareous sandstone.
1022.6 - 1025.6	Brown, laminated, shaly sandstone.
1025.6 - 1030.5	Laminated sandstone and shale.
1030.5 - 1031.8	Sandy shale.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Brazos Oil & Gas Company Lease Strahm Well No. 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.		
1	1022.3	8.4	56	34	90	365	0.22	0.4	0.4	146	0.09
2	1023.1	15.4	58	14	72	693	3.6	1.0	1.4	693	3.60
3	1024.1	18.3	47	22	69	668	12.	1.0	2.4	668	12.00
4	1025.1	18.4	45	17	62	643	8.8	1.0	3.4	643	8.80
5	1026.1	14.8	24	47	71	276	0.46	1.0	4.4	276	0.46
6	1027.3	14.0	37	53	90	402	2.4	1.0	5.4	402	2.40
7	1028.4	16.2	44	29	73	553	2.0	1.0	6.4	553	2.00
8	1029.4	14.3	34	46	80	377	0.23	1.9	8.3	716	0.44
								Total		4,097	

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company Brazos Oil & Gas Company Lease Strahm Well No. 14

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
1022.2 - 1030.5	8.3	3.6	29.79

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
1022.2 - 1030.5	8.3	15.4	41.2	34.1	494	4,097

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company Brazos Oil & Gas Company Lease Strahm Well No. 14

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.			
2	1023.1	15.8	58	711	13	159	45	35	552	20	0.500	40
3	1024.1	17.9	47	651	10	139	37	41	512	24	0.625	40
4	1025.1	18.0	45	628	9	126	36	47	502	27	0.800	40
7	1028.4	16.5	44	563	6	77	38	48	486	26	0.600	40

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.

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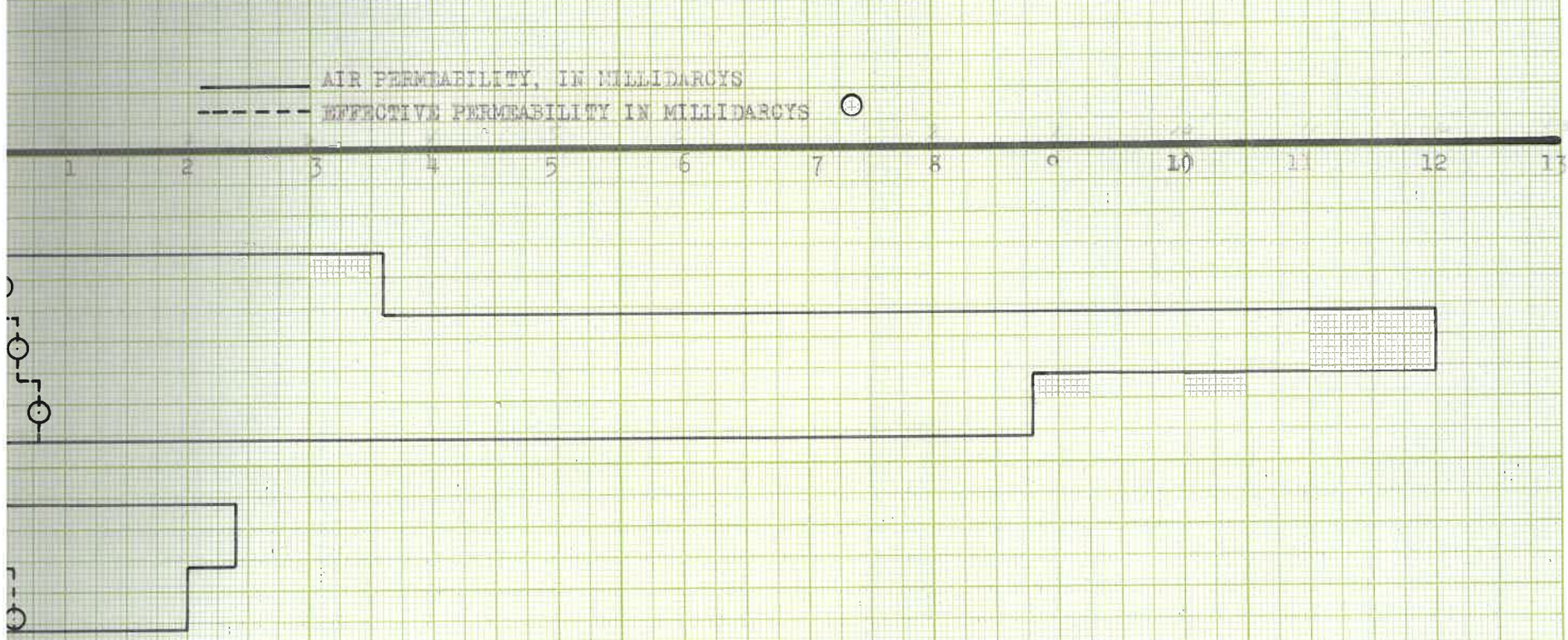
SUMMARY OF LABORATORY FLOODING TESTS

TABLE V

Company Brazos Oil & Gas Company Lease Strahm Well No. 14

Depth Interval, Feet	1022.2 - 1030.5
Feet of Core Analyzed	4.0
Average Percent Porosity	17.1
Average Percent Original Oil Saturation	48.5
Average Percent Oil Recovery	9.5
Average Percent Residual Oil Saturation	39.0
Average Percent Residual Water Saturation	42.8
Average Percent Total Residual Fluid Saturation	81.8
Average Original Oil Content, Bbls./A. Ft.	638.
Average Oil Recovery, Bbls./A. Ft.	125.
Average Residual Oil Content, Bbls./A. Ft.	513.
Total Original Oil Content, Bbls./Acre	2,553.
Total Oil Recovery, Bbls./Acre	501.
Total Residual Oil Content, Bbls./Acre	2,052.
Average Effective Permeability, Millidarcys	0.631
Average Initial Fluid Production Pressure, p.s.i.	40.0

NOTE: Only those samples which recovered oil were used in calculating the above averages.



CALCAREOUS SANDSTONE

LAMINATED SANDSTONE & SHALE

SANDY SHALE

GAS COMPANY

WELL NO. 14

KANSAS

AVG. WATER SATURATION PERCENT	AVG. OIL CONTENT BBLS./A.FT.	TOTAL OIL CONTENT BBLS./ACRE	AVG. AIR PERMEABILITY, MILLIDARCYS
34.1	494	4,097	3.6

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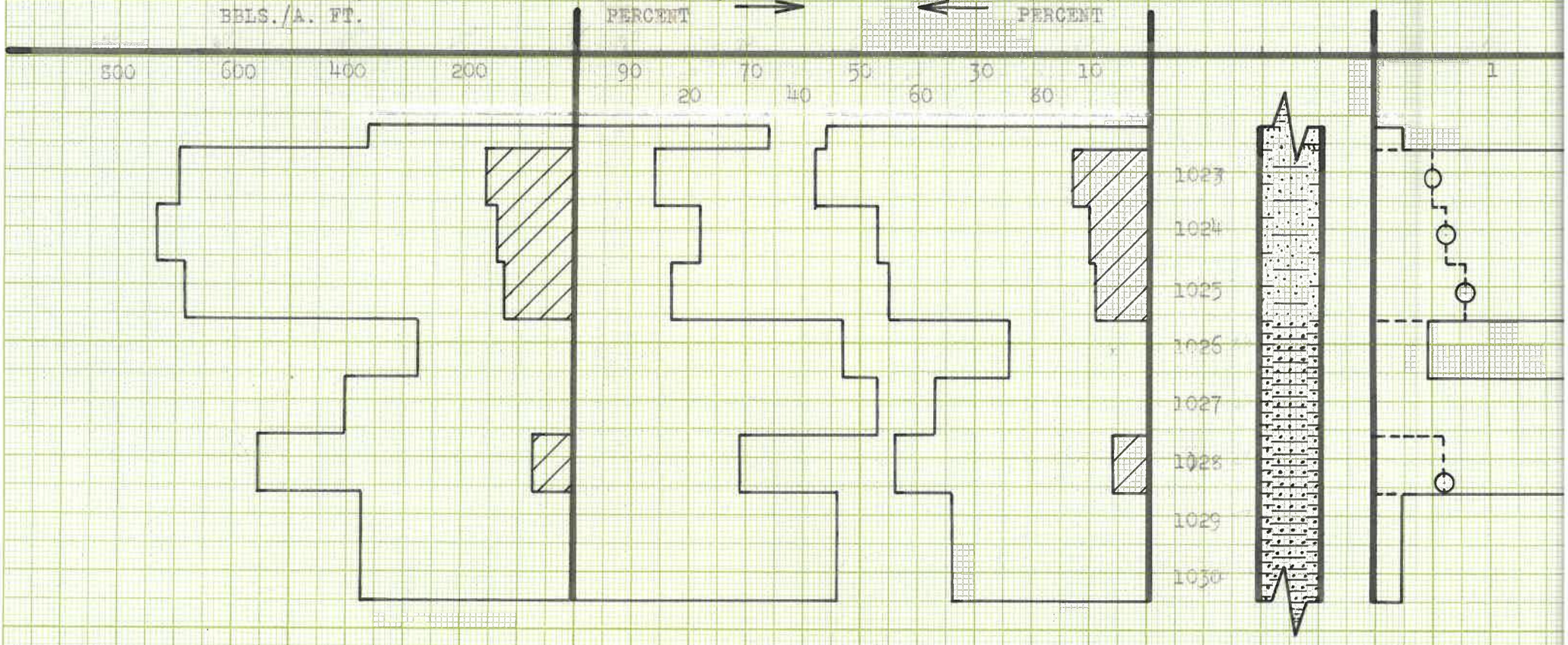
CHANUTE, KANSAS
FEBRUARY, 1966



BRAZOS OIL & GAS

STRAHM LEASE

WOODSON COUNTY, KANSAS

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY, PERCENT	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT
1022.2 - 1030.5	8.3	15.4	41.2	34.1