



OILFIELD RESEARCH LABORATORIES

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

August 12, 1966

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

Attn: Mr. G. P. Huson

Gentlemen:

Enclosed herewith is a partial analysis of the Rotary core taken from the Gilliland Lease, Well No. 8, Franklin County, Kansas, and submitted to our laboratory on August 9, 1966.

This core was sampled and the samples sealed in plastic bags by a representative of Oilfield Research Laboratories.

Inasmuch as we ran flood-pot tests on only part of the samples, no write-up or recovery value is given on this report.

The results of the tests run on the limestone section were not included in the averages given on the General Information and Summary sheet.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Carl L. Pate

CLP:rf

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

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GENERAL INFORMATION & SUMMARY

Company Brazos Oil & Gas Company Lease Gilliland Well No. 8

Location 750' SNL & 350' WEL

Section 19 Twp. 17S Rge. 21E County Franklin State Kansas

Name of Sand	- - - - -	Squirrel
Top of Core	- - - - -	561.0
Bottom of Core	- - - - -	591.5
Top of Sand	- - - - -	570.5
Bottom of Sand	- - - - -	582.0
Total Feet of Permeable Sand	- - - - -	9.3
Total Feet of Floodable Sand	- - - - -	

Distribution of Permeable Sand:
Permeability Range
Millidarcys

	Feet	Cum. Ft.
0 - 3	2.0	2.0
3 - 10	3.0	5.0
10 - 25	2.4	7.4
25 & above	1.9	9.3

Average Permeability Millidarcys	- - - - -	16.9
Average Percent Porosity	- - - - -	17.9
Average Percent Oil Saturation	- - - - -	41.9
Average Percent Water Saturation	- - - - -	39.9
Average Oil Content, Bbls./A. Ft.	- - - - -	585.
Total Oil Content, Bbls./Acre	- - - - -	6,091.
Average Percent Oil Recovery by Laboratory Flooding Tests	- - - - -	8.6
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	- - - - -	129.
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 Brazos Oil & Gas Co. Lease Gilliland Well No. 8

Depth Interval, Description
<u>Feet</u>

561.0 - 564.5 - Brown and gray, cherty limestone.

564.5 - 567.0 - Shale.

567.0 - 570.5 - Gray sandy shale.

570.5 - 576.6 - Light brown, laminated, shaly sandstone.
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576.6 - 577.7 - Gray calcareous sandstone.
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577.7 - 582.0 - Brown, laminated, shaly sandstone.
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582.0 - 585.6 - Laminated sandy shale.
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585.6 - 591.5 - Sandy shale.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Brazos Oil & Gas Company Lease Gilliland Well No. 8

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-A	561.1	24.4	47	7	54	889	156.	1.0	1.0	889	156.00
2-A	562.8	16.7	51	6	57	660	143.	1.2	2.2	792	171.60
3-A	563.6	21.2	67	18	85	1,102	Imp.	1.3	3.5	1,432	0.00
1	571.1	16.0	38	47	85	472	Imp.	1.1	4.6	520	0.00
2	572.1	15.5	35	55	90	421	0.44	1.0	5.6	421	0.44
3	573.1	16.1	38	51	89	474	2.7	1.0	6.6	474	2.70
4	574.1	17.9	42	36	78	584	3.2	1.0	7.6	584	3.20
5	575.1	19.3	55	36	91	824	3.9	1.0	8.6	824	3.90
6	576.1	15.7	36	39	75	439	7.9	1.0	9.6	439	7.90
7	578.1	18.8	45	32	77	656	57.	0.9	10.5	590	51.30
8	579.1	18.8	58	31	89	846	22.	1.0	11.5	846	22.00
9	580.1	20.3	46	25	71	725	39.	1.0	12.5	725	39.00
10	581.1	19.8	31	37	68	477	19.	1.4	13.9	668	26.60

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Brazos Oil & Gas Company		Lease	Gilliland		Well No.	8
	Depth Interval, Feet	Feet of Core Analyzed		Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.		
	561.0 - 564.5	2.2		148.9	327.60		
	570.5 - 582.0	9.3		16.9	157.04		
	561.0 - 582.0	11.5		42.1	484.64		
	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 Bbbl./Acre
	561.0 - 564.5	3.5	20.5	55.8	10.7	890	3,113
	570.5 - 582.0	10.4	17.9	41.9	39.9	585	6,091
	561.0 - 582.0	13.9	18.5	45.4	31.8	662	9,204

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Brazos Oil & Gas Company			Lease			Gilliland			Well No. 8			
Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery		Residual Saturation			Volume of Water Recovered cc ^a	Effective Permeability Millidarcys ^{b,c}	Initial Field Production Pressure Lbs./Sq./In.
			%	Bbls./A. Ft.	%	Bbls./A. Ft.	% Oil	% Water	Bbls./A. Ft.			
1-A	561.1	24.0	44	820	0	0	44	40	820	2	0.100	50
2-A	562.8	17.0	47	620	0	0	47	38	620	6	0.110	50
3	573.1	15.7	35	427	0	0	35	58	427	0	Imp.	-
5	575.1	19.0	55	811	11	162	44	49	649	0	0.005	50
7	578.1	18.3	45	639	8	114	37	55	525	7	0.200	40
9	580.1	19.9	46	710	7	108	39	57	602	17	0.400	40

Notes: cc—cubic centimeter.

^a—Volume of water recovered at the time of maximum oil recovery.

^{b,c}—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	Gilliland	Well No.	8
Depth Interval, Feet	574.6 - 580.6				
Feet of Core Analyzed	2.9				
Average Percent Porosity	19.1				
Average Percent Original Oil Saturation	48.7				
Average Percent Oil Recovery	8.6				
Average Percent Residual Oil Saturation	40.1				
Average Percent Residual Water Saturation	53.6				
Average Percent Total Residual Fluid Saturation	93.7				
Average Original Oil Content, Bbls./A. Ft.	723.				
Average Oil Recovery, Bbls./A. Ft.	129.				
Average Residual Oil Content, Bbls./A. Ft.	594.				
Total Original Oil Content, Bbls./Acre	2,096.				
Total Oil Recovery, Bbls./Acre	373.				
Total Residual Oil Content, Bbls./Acre	1,723.				
Average Effective Permeability, Millidarcys	0.20				
Average Initial Fluid Production Pressure, p.s.i.	43.5				

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