



OILFIELD RESEARCH LABORATORIES

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

August 20, 1966

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 Detwiler Lease, Well No. 6, Franklin County, Kansas, and submitted to our laboratory on August 10, 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

BRP:rf

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

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GENERAL INFORMATION & SUMMARY

Company Brazos Oil & Gas Company Lease Detwiler Well No. 6

Location 520' NSL & 430' EWL, NW $\frac{1}{4}$

Section 20 Twp. 17S Rge. 21E County Franklin State Kansas

Name of Sand - - - - - Squirrel

Top of Core - - - - - 585.0

Bottom of Core - - - - - 627.0

Top of Sand - - - - - (Tested) 603.2

Bottom of Sand - - - - - (Tested) 624.0

Total Feet of Permeable Sand - - - - - 13.0

Total Feet of Floodable Sand - (Tested) - - - - - 3.0

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

0 - 1	2.4	2.4
1 - 10	4.8	7.2
10 - 20	1.0	8.2
20 - 50	4.8	13.0

Average Permeability Millidarcys - - - - - 15.0

Average Percent Porosity - - - - - 17.9

Average Percent Oil Saturation - - - - - 42.0

Average Percent Water Saturation - - - - - 31.6

Average Oil Content, Bbls./A. Ft. - - - - - 591.

Total Oil Content, Bbls./Acre - - - - - 8,292.

Average Percent Oil Recovery by Laboratory Flooding Tests - - - - - 10.0

Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft. - - - - - 149.

Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre - - - - - 448.

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

Packer Setting, Feet - - - - -

Viscosity, Centipoises @ - - - - -

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

Elevation, Feet - - - - -

-LOG-

Company Brazos Oil & Gas Company Lease Detwiler Well No. 6

Depth Interval, Description
Feet

585.0 - 589.0 - Dark, carbonaceous, sandy shale.

589.0 - 601.0 - Gray sandy shale.

601.0 - 602.0 - Gray, slightly sandy limestone.

602.0 - 603.2 - Dark calcareous shale.

603.2 - 605.0 - Dark brown, vuggy, cherty limestone.

605.0 - 606.8 - Gray, slightly sandy limestone.

606.8 - 609.0 - Dark brown, vuggy, cherty limestone.

609.0 - 614.0 - Shale.

614.0 - 616.6 - Light brown, laminated, shaly sandstone.

616.6 - 624.0 - Brown shaly sandstone.

624.0 - 627.0 - Gray shaly sandstone.

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

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	603.4	14.5	52	17	69	584	26.	0.8	0.8	466	20.80
2	604.7	14.4	49	17	66	546	47.	1.0	1.8	546	47.00
3	607.2	18.1	43	16	59	603	5.1	1.2	3.0	724	6.12
4	608.6	24.3	56	29	85	1,053	Imp.	1.0	4.0	1,053	0.00
5	614.1	15.2	41	43	84	483	1.7	0.6	4.6	290	1.02
6	615.1	15.4	34	50	84	406	0.88	1.0	5.6	406	0.88
7	616.1	18.1	47	30	77	659	1.2	1.0	6.6	659	1.20
8	617.1	20.7	54	24	78	866	28.	1.0	7.6	866	28.00
9	618.1	16.2	50	38	88	627	14.	1.0	8.6	627	14.00
10	619.1	19.6	36	23	59	546	8.3	1.0	9.6	546	8.30
11	620.1	20.6	45	27	72	719	33.	1.0	10.6	719	33.00
12	621.1	14.6	17	59	76	193	3.3	1.0	11.6	193	3.30
13	622.1	17.8	20	42	62	276	30.	1.0	12.6	276	30.00
14	623.1	19.3	44	33	77	659	0.69	1.4	14.0	921	0.97
Total								-----		8,292	

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company		Brazos Oil & Gas Company		Lease	Detwiler	Well No.	
		Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.		
		603.2 - 609.0	3.0	24.6	73.92		
		614.0 - 624.0	10.0	12.1	120.67		
		603.2 - 624.0	13.0	15.0	194.59		
		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
		603.2 - 609.0	4.0	18.0	19.7	697	2,789
		614.0 - 624.0	10.0	17.9	36.5	550	5,503
		603.2 - 624.0	14.0	17.9	31.6	591	8,292

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company			Brazos Oil & Gas Company			Lease		Detwiler		Well No.		6	
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.				
1	603.4	14.4	51	569	0	0	51	20	569	0	Imp.	-	
2	604.7	14.9	49	566	5	58	44	53	508	357	15.33	20	
8	617.1	20.2	54	846	17	266	37	62	580	22	0.466	35	
11	620.1	20.2	45	704	8	124	37	61	580	6	0.250	45	
13	622.1	18.1	22	309	0	0	22	44	309	0	Imp.	-	

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	Detwiler	Well No.	6
Depth Interval, Feet	603.2 - 622.6				
Feet of Core Analyzed	3.0				
Average Percent Porosity	18.4				
Average Percent Original Oil Saturation	49.3				
Average Percent Oil Recovery	10.0				
Average Percent Residual Oil Saturation	39.3				
Average Percent Residual Water Saturation	58.6				
Average Percent Total Residual Fluid Saturation	97.9				
Average Original Oil Content, Bbls./A. Ft.	704.				
Average Oil Recovery, Bbls./A. Ft.	149.				
Average Residual Oil Content, Bbls./A. Ft.	555.				
Total Original Oil Content, Bbls./Acre	2,116.				
Total Oil Recovery, Bbls./Acre	448.				
Total Residual Oil Content, Bbls./Acre	1,668.				
Average Effective Permeability, Millidarcys	5.35				
Average Initial Fluid Production Pressure, p.s.i.	33.3				

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