

OILFIELD RESEARCH LABORATORIES

536 NORTH HIGHLAND - CHANUTE, KANSAS 66720 - PHONE (316) 431-2650

October 19, 1979

Jim's Water Service, Inc.
P.O. Box 3076
Inglewood, Colorado 80111

Gentlemen:

Enclosed herewith are the results of tests run on the rotary core taken from the Freeman Lease, Well No. 11, Bourbon County, Kansas, and submitted to our laboratory on October 4, 1979.

The core was sampled and sealed in plastic bags by a representative of the client.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES


Benjamin R. Pearman

GLW/tem

4 c to Inglewood, Colorado
1 c to Erie, Kansas

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GENERAL INFORMATION & SUMMARY

Company Jim's Water Service, Inc. Lease Freeman Well No. 11

Location 1100' FNL & 1760' FWL

Section 24 Twp 27S Rge 21E County Bourbon State Kansas

Name of Sand	Tucker
Top of Core	647.0
Bottom of Core	656.0
Top of Sand	647.0
Bottom of Sand	655.2
Total Feet of Permeable Sand	8.2
Total Feet of Floodable Sand	

Distribution of Permeable Sand:
Permeability Range
Millidarcys

	Feet	Cum. Ft.
0.0 - 5.0	3.9	3.9
5.0 - 20.0	2.6	6.5
20.0 - 100.0	1.0	7.5
100.0 and Above	0.7	8.2

Average Permeability Millidarcys	24.2
Average Percent Porosity	16.8
Average Percent Oil Saturation	50.0
Average Percent Water Saturation	36.0
Average Oil Content, Bbls./A. Ft.	654.
Total Oil Content, Bbls./Acre	5,365.
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

Name Jim's Water Service, Inc. Lease Freeman Well No. 11

<u>Depth Interval, Feet</u>	<u>Description</u>
647.0 - 648.3	Brown gray laminated sandstone and shale.
648.3 - 649.0	Brown sandstone.
649.0 - 652.6	Brown sandstone with fine shale partings.
652.6 - 655.2	Brown slightly carbonaceous shaly sandstone.
655.2 - 656.0	Gray sandy shale.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Jim's Water Service, Inc. Lease Freeman Well No. 11

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	647.5	15.1	42	41	83	492	1.7	1.3	1.3	640	2.21
2	648.5	16.1	52	39	91	650	141.	0.7	2.0	455	98.70
3	649.5	19.8	45	34	79	691	56.	1.0	3.0	691	56.00
4	650.5	14.8	48	45	93	551	10.	1.0	4.0	551	10.00
5	651.5	16.7	51	39	90	661	19.	1.0	5.0	661	19.00
6	652.5	15.9	48	41	89	592	8.3	0.6	5.6	355	4.98
7	653.5	19.1	57	24	81	845	3.3	1.4	7.0	1,183	4.62
8	654.5	16.2	55	32	87	691	2.6	1.2	8.2	1,829	3.12

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company		Jim's Water Service, Inc.		Lease	Freeman	Well No.		11
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.					
647.0 - 655.2	8.2	24.2	198.63					
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		
647.0 - 655.2	8.2	16.8	50.0	36.0	654	5,365		