

OILFIELD RESEARCH LABORATORIES

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

January 4, 1980

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

Gentlemen:

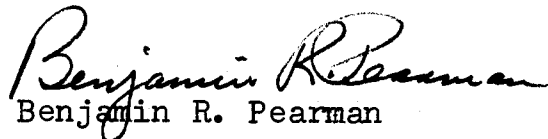
Enclosed herewith are the results of tests run on the rotary core taken from the Freeman Lease, Well No. 20, Bourbon County, Kansas, and submitted to our laboratory on December 18, 1979.

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

BRP/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. 20

Location -

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

Name of Sand	Tucker
Top of Core	607.0
Bottom of Core	616.0
Top of Sand	607.0
Bottom of Sand	613.7
	(Tested)
Total Feet of Permeable Sand	6.7
Total Feet of Floodable Sand	

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 12	2.7	2.7
30 - 35	2.3	5.0
85 & Above	1.7	6.7
Average Permeability Millidarcys		53.1
Average Percent Porosity		17.0
Average Percent Oil Saturation		32.5
Average Percent Water Saturation		53.2
Average Oil Content, Bbls./A. Ft.		405.
Total Oil Content, Bbls./Acre		2,713.
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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LOGName Jim's Water Service, Inc. Lease Freeman Well No. 20Depth Interval,
FeetDescription

607.0 - 611.3

Light brown laminated shaly sandstone.

611.3 - 613.7

Brown sandstone laminated with widely scattered streaks of shale.

613.7 - 616.0

Brown sandstone.

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Jim's Water Service, Inc.

Lease Freeman

Well No. 20

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	607.5	14.7	38	47	85	433	0.32	1.0	1.0	433	0.32
2	608.5	12.0	40	57	97	372	31.	1.0	2.0	372	31.00
3	609.5	20.2	9	72	81	141	89.	1.0	3.0	141	89.00
4	610.5	20.7	25	56	81	402	31.	1.3	4.3	523	40.30
5	611.5	16.4	37	48	85	471	10.	0.7	5.0	330	7.00
6	612.5	18.0	34	49	83	475	1.8	1.0	6.0	475	1.80
7	613.5	14.7	55	36	91	627	266.	0.7	6.7	439	186.20

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company Jim's Water Service, Incorporated Lease Freeman Well No. 20

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.	Average Percent Oil Saturation	Average Percent Water Saturation	Total Oil Content Bbls./Acre
607.0 - 613.7	6.7	53.1	355.62	32.5	53.2	405
607.0 - 613.7	6.7			17.0		2,713