

OILFIELD RESEARCH LABORATORIES

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

October 2, 1979

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

Gentlemen:

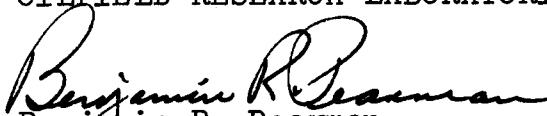
Enclosed herewith are the results of tests run on the rotary core taken from the Freeman Lease, Well No. 9, Bourbon County, Kansas, and submitted to our laboratory on September 25, 1979.

This core was sampled by a representative of the client.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES


Benjamin R. Pearman

SAM:bl

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. 9

Location 1100' FSL & 1,320' FEL, SE $\frac{1}{4}$

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

Name of Sand	Tucker
Top of Core	620.0
Bottom of Core	632.0
Top of Sand	620.0
Bottom of Sand	631.6
Total Feet of Permeable Sand	11.3
Total Feet of Floodable Sand	

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

0 - 10	2.4	2.4
10 - 50	6.9	9.3
50 - 100	1.0	10.3
100 - 200	1.0	11.3

Average Permeability Millidarcys	41.6
Average Percent Porosity	18.4
Average Percent Oil Saturation	
Average Percent Water Saturation	
Average Oil Content, Bbls./A. Ft.	
Total Oil Content, Bbls./Acre	
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-

Company Jim's Water Service, Inc. Lease Freeman Well No. 9

<u>Depth Interval, Feet</u>	<u>Description</u>
620.0 - 621.8	Light brown slightly shaly sandstone.
621.8 - 622.6	Brown laminated shaly sandstone.
622.6 - 622.9	Gray sandy shale.
622.9 - 631.6	Brown sandstone laminated with thin shale streaks.
631.6 - 632.0	Gray laminated sandy shale.

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RESULTS OF PERMEABILITY AND POROSITY TESTS

TABLE I A

Company Jim's Water Service, Inc. Lease Freeman Well No. 9

Sample No.	Depth Feet	Permeability Millidarcys	Feet of Core		Permeability Capacity Ft. x Md.	Percent Porosity
			Ft.	Cum. Ft.		
1	620.5	4.1	1.0	1.0	4.10	17.2
2	621.5	26.	0.8	1.8	20.80	19.0
3	622.5	2.2	0.8	2.6	1.76	12.8
4	623.5	13.	1.1	3.7	14.30	17.8
5	624.5	13.	1.0	4.7	13.00	18.4
6	625.5	46.	1.0	5.7	46.00	17.2
7	626.5	47.	1.0	6.7	47.00	20.8
8	627.5	84.	1.0	7.7	84.00	22.2
9	628.5	35.	1.0	8.7	35.00	20.6
10	629.5	22.	1.0	9.7	22.00	18.1
11	630.5	181.	1.0	10.7	181.00	21.4
12	631.5	2.0	0.6	11.3	1.20	10.6

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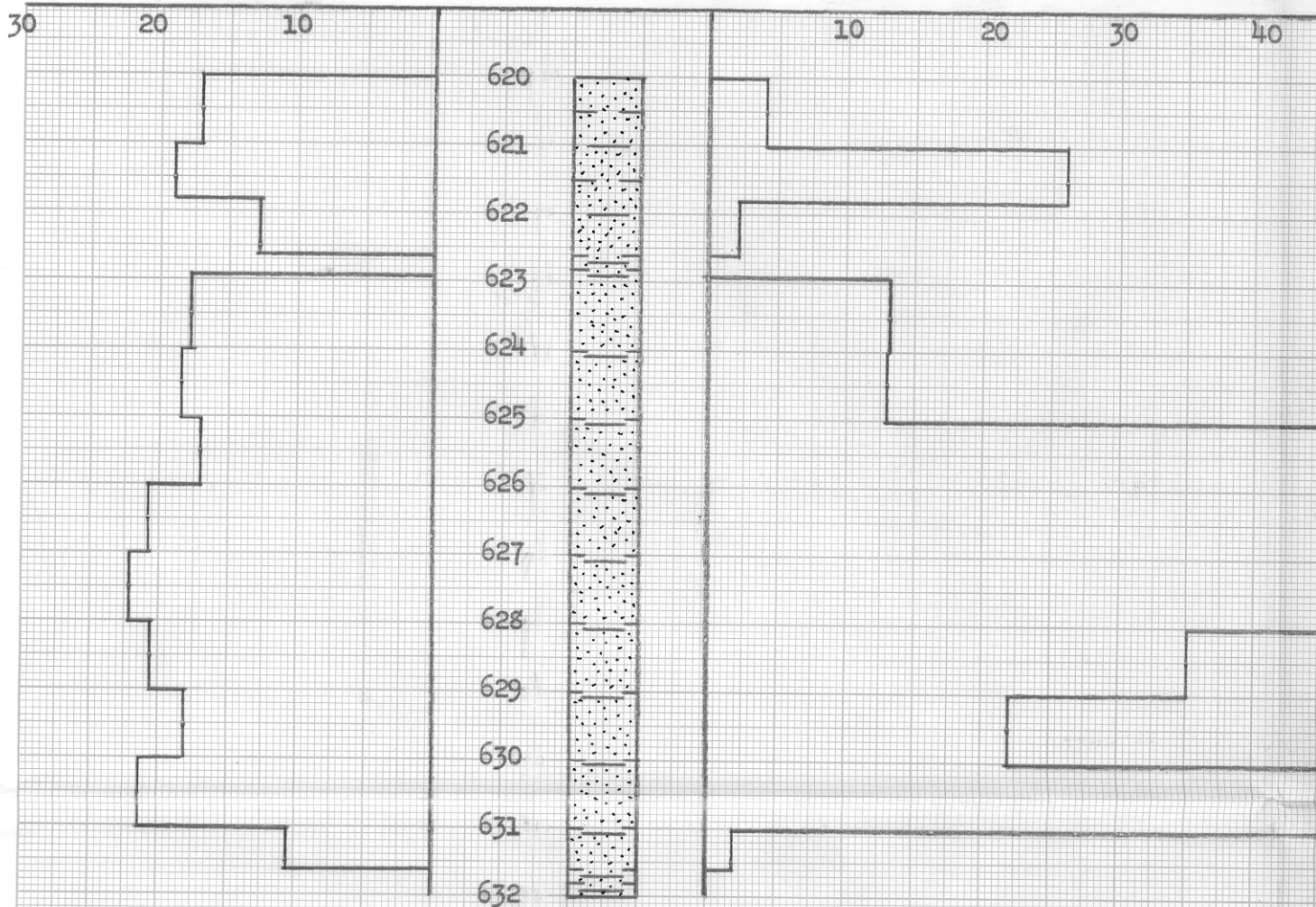
SUMMARY OF PERMEABILITY & POROSITY TESTS

TABLE II A

Company. <u>Jim's Water Service, Inc.</u>		Lease <u>Freeman</u>		Well No. <u>9</u>	
Depth Interval, Feet	Feet of Core Analyzed	Average Air Permeability, Millidarcys	Average Effective Permeability, Millidarcys	Permeability Capacity Ft. x Md.	Average Percent Porosity
620.0 - 631.6	11.3	41.6		470.16	18.4

PERCENT
POROSITY

AIR PERMEABILITY



KEY:



SANDSTONE LAMINATED WITH THIN SHALE STREAKS



SHALY SANDSTONE

JIM'S WATER

FREEMAN LEASE

BOURBON COUNTY

DEPTH INTERVAL,
FEET

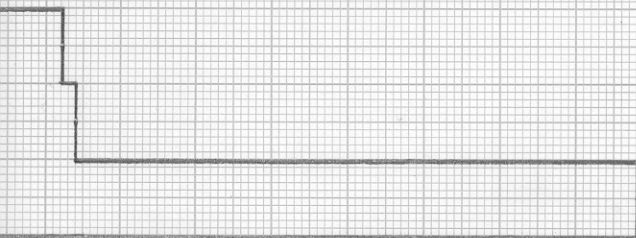
FEET OF CORE
ANALYZED

620.0 - 631.6

11.3

PERMEABILITY, IN MILLIDARCYS

50 60 70 80 90 100 110 120 130 140



SANDY SHALE

SERVICE, INC.

WELL NO. 9

COUNTY, KANSAS

CORE ID	AVG. AIR PERMEABILITY, MILLIDARCYS	AVERAGE PERCENT POROSITY
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41.6

18.4

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CHANUTE, KANSAS
OCTOBER, 1979 BL

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