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GENERAL INFORMATION & SUMMARY

Company Jackson Bros. Lease Harry Jackson Well No. 7

Location SE SW SW

Section 11 Twp. 25S Rge. 8E County Greenwood State Kansas

Name of Sand Bartlesville
Top of Core 2313.0
Bottom of Core 2330.0
Permeable
Top of Sand 2321.6
Bottom of Sand 2329.0
Total Feet of Permeable Sand 6.6
Total Feet of Floodable Sand -

Table with 3 columns: Permeability Range Millidarcys, Feet, Cum. Ft.
0 - 1 4.4 4.4
1 & above 2.2 6.6

Average Permeability Millidarcys 0.66
Average Percent Porosity 10.3
Average Percent Oil Saturation 21.9
Average Percent Water Saturation 62.9
Average Oil Content, Bbls./A. Ft. 181.
Total Oil Content, Bbls./Acre 1,924.
Average Percent Oil Recovery by Laboratory Flooding Tests None.
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft. None.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre None.
Total Calculated Oil Recovery, Bbls./Acre -
Packer Setting, Feet -
Viscosity, Centipoises @ -
A. P. I. Gravity, degrees @ 60 'F -
Elevation, Feet -

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SUMMARY OF WATER DIFFERENTIATION TESTS

TABLE VII

Company Jackson Bros. Lease Harry Jackson Well No. 7

Depth Interval, Feet	Chloride Content of Brine in Sand, ppm	Average Percent Connate Water	Average Percent Drilling & Foreign Water
2317.6 - 2321.6	118,575		
2321.6 - 2329.0	133,258		
2317.6 - 2329.0	127,717		

Note: ppm — parts per million.

A fresh water mud was used as a circulating fluid in the coring of the sand in this well. The well was drilled in a semi-virgin area. The core was sampled and sealed in tin cans by a representative of Oilfield Research Laboratories.

#### FORMATION CORED

The detailed log of the formation cored is as follows:

<u>Depth Interval, Feet</u>	<u>Description</u>
2313.0 - 2317.0	Sandy shale.
2317.0 - 2322.6	Gray shaly sandstone.
2322.6 - 2324.6	Light brown, shaly sandstone with a formation containing a vertical fracture.
2324.6 - 2326.4	Sandy shale.
2326.4 - 2329.0	Light brown, shaly sandstone.
2329.0 - 2330.0	Shale.

Coring was started at a depth of 2313.0 feet in sandy shale and completed at 2330.0 feet in the same type of material. This core shows a total of 10.2 feet of sandstone. For the most part, the sand section is made up of gray to light brown, shaly sandstone.

#### PERMEABILITY

For the sake of distribution, the core was divided into two sections. The weighted average permeability of the upper and lower sections is 0.00 and 0.66 millidarcys respectively (See Table III). By observing the data given on the coregraph, it is noticeable that the sand is very tight. The permeability of the sand varies from impermeable to a maximum of 1.5 millidarcys.

#### PERCENT SATURATION & OIL CONTENT

The sand in this core shows a low weighted average percent oil saturation, namely, 21.9. The weighted average percent oil saturation of the upper and lower sections is 20.7 and 22.6 respectively. The weighted

average percent water saturation of the upper and lower sections is 65.8 and 61.1 respectively; the overall average being 62.9 (See Table III). This gives an overall weighted average total fluid saturation of 84.8 percent.

In an effort to determine whether or not any flushing of the sand occurred during coring, all of the saturation samples were analyzed for chloride content. The results of these tests are given in Tables VI and VII. From the data given in these tables and on the coregraph, it is evident that very little, if any, flushing of the sand occurred during the cutting of the core.

The weighted average oil content of the upper and lower sections is 124 and 216 barrels per acre foot respectively; the overall average being 181. The total oil content, as shown by this core, is 1,924 barrels per acre (See Table III).

#### LABORATORY FLOODING TESTS

By observing the data given in Table IV, you will note that of the 11 samples tested, none produced water or oil. This indicates that none of the sand represented by these samples is floodable pay sand.

#### CONCLUSION

On the basis of the above data, it is very doubtful whether this well would make a commercial oil producer unless a fracture treatment would penetrate a more saturated and permeable sand.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Jackson Bros. Lease Harry Jackson Well No. 7

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	2318.1	6.0	12	73	85	56	Imp.	1.0	1.0	56	0.00
2	2319.1	9.2	20	68	88	143	Imp.	1.0	2.0	143	0.00
3	2320.1	11.3	17	59	76	149	Imp.	1.0	3.0	149	0.00
4	2321.1	5.7	34	63	97	150	Imp.	1.0	4.0	150	0.00
5	2322.1	6.3	27	69	96	132	0.40	1.0	5.0	132	0.40
6	2323.1	13.5	22	71	93	231	0.67	1.0	6.0	231	0.67
7	2324.1	11.9	19	72	91	175	1.0	1.0	7.0	175	1.00
8	2325.1	10.5	30	56	86	244	0.41	1.0	8.0	244	0.41
9	2326.5	10.9	15	55	70	127	1.5	0.4	8.4	151	0.60
10	2327.1	11.6	13	54	67	117	1.2	0.8	9.2	94	0.96
11	2328.1	14.7	25	50	75	285	0.23	1.4	10.6	399	0.32

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company Jackson Bros. Lease Harry Jackson Well No. 7

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.	Average Percent Porosity	Average Percent Oil Saturation	Average Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
2317.6 - 2321.6	4.0	0.0	0.00	8.0	20.7	65.8	124	498
2321.6 - 2329.0	6.6	0.66	4.36	11.6	22.6	61.1	216	1,426
2317.6 - 2329.0	10.6			10.3	21.9	62.9	181	1,924

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Sample No.	Depth, Feet	Inhibitive Percent	Original Oil Saturation		Oil Recovery		Residual Saturation			Volume of Water Recovered, Cu.	Inhibitive Percentages	Initial Fluid Production Pressure Lbs./Sq./In.	
			%	Ebb./A. Ft.	%	Ebb./A. Ft.	%	Oil	%				Water
1	2318.1	6.5	10	50	0	0	10	77	50	None	Imp.		
2	2319.1	8.8	17	117	0	0	17	74	117	None	Imp.		
3	2320.1	11.0	15	128	0	0	15	65	128	None	Imp.		
4	2321.1	6.3	30	147	0	0	30	68	147	None	Imp.		
5	2322.1	6.0	24	112	0	0	24	73	112	None	Imp.		
6	2323.1	13.0	19	192	0	0	19	76	192	None	Imp.		
7	2324.1	12.2	17	161	0	0	17	67	161	None	Imp.		
8	2325.1	10.2	26	206	0	0	26	62	206	None	Imp.		
9	2326.1	10.5	17	138	0	0	17	61	138	None	Imp.		
10	2327.1	12.0	11	102	0	0	11	60	102	None	Imp.		
11	2328.1	14.3	21	233	0	0	21	56	233	None	Imp.		

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Notes: cu—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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**RESULTS OF WATER DIFFERENTIATION TESTS**  
**TABLE VI**

Company Jackson Bros. Lease Harry Jackson Well No. 7

Sample No.	Depth, Feet	Chloride Content of Brine in Sand ppm	Percent Water Saturation	
			Connate	Drilling & Foreign
1	2318.1	102,100		
2	2319.1	120,500		
3	2320.1	114,200		
4	2321.1	137,500		
5	2322.1	115,200		
6	2323.1	131,150		
7	2324.1	130,250		
8	2325.1	155,500		
9	2326.5	162,800		
10	2327.1	141,000		
11	2328.1	121,100		

Note: ppm — parts per million