

OIL FIELD RESEARCH LABORATORIES
CHANUTE, KANSAS

March 31, 1951

Williams Oil Company
Ottawa, Kansas

Gentlemen:

Included herewith is a partial analysis of the No. 6 Baker Barrel core taken from your Jackman Lease, Well No. 19-O, Franklin County, Kansas, and submitted to our laboratory on March 21, 1951.

In calculating the recovery for the area represented by this core, an allowance was made for oil lost during coring and it was assumed that the true water saturation of the sand is 35 percent and that the sand is not pressured up.

Very truly yours,

OIL FIELD RESEARCH LABORATORIES

Carl L. Pate

CLP:eam

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Williams Oil Company Lease Jackman Well No. 19-0

Location Center of South 1/4

Section 7 Twp. 18S Rge. 21E County Franklin State Kansas

Name of Sand	Squirrel
Top of Core	579.00
Bottom of Core	595.00
Top of Sand	?
Bottom of Pay Sand	587.95
Total Feet of Permeable Sand	7.21

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

Effective	
Average Permeability Millidarcys	1.38
Average Percent Porosity	18.89
Average Percent Oil Saturation	44.31
Average Percent Water Saturation	-
Average Oil Content, Bbls./A. Ft.	645.
Total Oil Content, Bbls./Acre	7,523.
Average Percent Oil Recovery by Laboratory Flooding Tests	6.91
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	104..
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	751.
Total Calculated Oil Recovery, Bbls./Acre	800.
Packer Setting, Feet	-
Viscosity, Centipoises @	
A. P. I. Gravity, degrees @ 60 °F	

WILLIAMS OIL COMPANY

CORE ANALYSIS REPORT

JACKMAN LEASE WELL NO. 19-0

FRANKLIN COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES

CHANUTE, KANSAS

MARCH 31, 1951

OIL FIELD RESEARCH LABORATORIES
CHANUTE, KANSAS

LOG

Company Williams Oil Company Lease Jackman Well No. 19-0

Depth Interval, Description
Feet

579.00 - 579.60 - Brown fine grained micaceous sandstone.

579.60 - 579.75 - Brown fine grained slightly laminated micaceous shaley sandstone.

579.75 - 581.19 - Brown fine grained micaceous sandstone.

581.19 - 581.35 - Laminated shaley sandstone.

581.35 - 583.60 - Brown fine grained micaceous sandstone.

583.60 - 583.90 - Brown fine grained micaceous slightly shaley sandstone.

583.90 - 584.12 - Brown fine grained micaceous sandstone.

584.12 - 584.55 - Gray shale.

584.55 - 589.10 - Brown fine grained micaceous sandstone.

589.10 - 589.55 - Dark fine grained micaceous carbonaceous sandstone.

589.55 - 590.50 - Dark brown fine grained micaceous slightly shaley sandstone.

590.50 - 591.55 - Dark brown fine grained micaceous carbonaceous sandstone.

591.55 - 592.40 - Gray sandy shale.

592.40 - 592.85 - Brown fine grained micaceous shaley sandstone.

592.85 - 593.00 - Gray sandy shale.

593.00 - 595.00 - Discarded at well.

Oil Field Research Laboratories

RESULTS OF SATURATION TESTS

TABLE III

Company **Williams Oil Company**

Lease **Jackman**

Well No. **19-0**

Sat. No.	Depth, Feet	Effective Porosity Percent	Percent Saturation		Oil Content, Bbls./A. Ft.	Feet of Core		Total Oil Content Bbls./Acre
			Oil	Water		Ft.	Cum. Ft.	
1	579.05	18.8	41.0	-	598	0.60	0.60	359
2	579.65	17.5	39.6	-	538	0.15	0.75	81
3	580.65	19.7	40.3	-	616	1.44	2.19	889
4	581.42	19.3	33.7	-	510	0.59	2.69	253
5	582.25	19.0	39.9	-	589	0.95	3.64	560
6	583.28	19.1	36.1	-	535	0.80	4.44	428
7	583.97	23.0	43.9	-	784	0.22	4.66	173
8A	584.90	18.1	29.6	-	416	0.70	5.36	292
9	585.65	19.3	45.1	-	676	0.80	6.16	541
10	586.42	18.9	39.4	0	578	0.70	6.86	404
11	587.05	19.4	36.5	-	550	0.60	7.46	330
12	587.68	20.3	31.6	-	498	0.60	8.06	299
13	588.22	17.3	34.7	-	466	0.65	8.71	303
14	588.88	17.6	60.8	-	832	0.59	9.21	416
15	589.41	20.0	62.4	-	969	0.45	9.66	436
16	590.03	18.7	60.2	-	874	0.95	10.61	830
17	590.53	19.4	68.0	-	1,023	0.25	10.86	256
18	590.92	16.0	67.6	-	840	0.80	11.66	671
Total						-	-	7,523

A sample was taken from the core after it was received in the laboratory.

Oil Field Research Laboratories

SUMMARY OF SATURATION TESTS

TABLE IV

Company	Williams Oil Company			Lease	Jackman	Well No.	19-0
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbls./A. Ft.	Total Oil Content Bbls./Acre	
579.00 - 583.60	4.44	19.26	38.78	-	579	2,572	
583.90 - 591.55	7.22	18.67	47.70	-	686	4,951	
579.00 - 591.55	11.66	18.89	44.31	-	643	7,523	

Oil Field Research Laboratories
RESULTS OF LABORATORY FLOODING TESTS

TABLE V

Company Williams Oil Company Lease Jackman Well No. 12-0

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.
			Percent	Bbls./A. Ft.	Percent	Bbls./A. Ft.	% Oil	% Water	Bbls./A. Ft.			
1	579.05	18.8	41.0	598	13.1	191	27.9	68.8	407	41	1.58	50
2	579.85	17.5	39.6	538	0.0	0	59.6	54.8	538	4	0.252	45
3	580.65	19.7	40.3	616	8.7	87	34.6	63.0	529	16	0.808	35
4	581.42	19.3	35.7	310	2.6	59	31.1	62.2	471	4	0.296	40
5	582.25	19.0	59.2	589	9.3	157	30.6	68.3	452	14	0.573	25
6	583.23	19.1	36.1	535	3.9	58	32.2	56.2	477	4	0.269	40
7	583.97	25.0	43.9	764	12.5	224	31.4	54.5	560	123	5.93	15
8A	584.90	18.1	29.6	416	0.0	0	29.6	55.6	416	205	2.59	-
9	585.65	19.3	43.1	676	10.6	159	34.5	61.7	517	44	2.08	25
10	586.42	18.9	39.4	378	6.1	90	33.3	64.8	468	7	0.363	25
11	587.05	19.4	36.8	550	3.0	45	33.5	61.4	505	23	1.37	25
12	587.68	20.3	31.6	498	3.2	62	26.4	68.6	416	71	4.46	15
13	588.22	17.3	34.7	466	0.0	0	34.7	63.6	466	25	0.762	35
14	588.88	17.6	60.8	832	0.0	0	60.8	28.5	832	1	0.197	50
15	589.41	20.0	62.4	969	0.0	0	62.4	32.8	969	0	Imp.	50
16	590.03	18.7	60.2	874	0.0	0	60.2	35.2	874	0	Imp.	50
17	590.55	19.4	66.0	1,023	0.0	0	66.0	20.4	1,023	0	Imp.	50
18	590.92	16.0	67.6	840	0.0	0	67.6	14.3	840	0	Imp.	50

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.
"A" sample was taken from the core after it was received in the laboratory.

Oil Field Research Laboratories
SUMMARY OF LABORATORY FLOODING TESTS

TABLE VI

Company	Williams Oil Company	Lease	Jackman	Well No.	19-C
Depth Interval, Feet	579.00 - 583.60	583.90 - 587.95	579.00 - 587.95		
Feet of Core Analyzed	4.29	2.92	7.21		
Average Percent Porosity	19.35	19.69	19.49		
Average Percent Original Oil Saturation	38.79	39.14	38.93		
Average Percent Oil Recovery	6.83	7.02	6.91		
Average Percent Residual Oil Saturation	31.96	32.12	32.02		
Average Percent Residual Water Saturation	63.57	63.28	63.44		
Average Percent Total Residual Fluid Saturation	95.53	95.40	95.46		
Average Original Oil Content, Bbls./A. Ft.	580.	598.	587.		
Average Oil Recovery, Bbls./A. Ft.	102.	108.	104.		
Average Residual Oil Content, Bbls./A. Ft.	478.	490.	483.		
Total Original Oil Content, Bbls./Acre	2,487.	1,747.	4,234.		
Total Oil Recovery, Bbls./Acre	436.	315.	751.		
Total Residual Oil Content, Bbls./Acre	2,051.	1,432.	3,483.		
Average Effective Permeability, Millidarcys	0.707	2.36	1.38		
Average Initial Fluid Production Pressure, p.s.i.	38.0	21.0	29.5		

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