

August 26, 1949

Deep Rock Oil Corporation
Tulsa, Oklahoma

Attention: Mr. T. F. Laury

Gentlemen:

Enclosed herewith is the report of the partial analysis of the No. 6 Baker barrel core taken from the Sheehy Lease, Well No. C-21, Miami County, Kansas, and submitted to our laboratory on August 13, 1949.

In calculating the recovery for the sand within the vicinity of this well, no allowance was made for oil lost during coring and, of course, it is assumed that the sand is not pressured up.

Very truly yours,

OIL FIELD RESEARCH LABORATORIES

Carl L. Pate

CLP:bb
c.c. to Mr. Neil Henderson

C-21
Sheehy

DEEP ROCK OIL CORPORATION

CORE ANALYSIS REPORT

SHERRY LEASE

WELL NO. C-21

MIAMI COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES

CHANUTE, KANSAS

AUGUST 26, 1949

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Deep Rock Oil Corporation Lease Sheehy Well No. C-21

Location 990' North of South Line and 330' East of West Line, SW $\frac{1}{4}$

Section 15 Twp. 17S Rge. 22E County Miami State Kansas

Name of Sand	Peru
Top of Core	371.40
Bottom of Core	396.60
Top of Sand	385.26
Bottom of Sand	396.10
Total Feet of Permeable Sand	7.55

Distribution of Permeable Sand:	Feet	Cum. Ft.
Permeable Range Millidarcys		

<u>Effective</u> Average Permeability, Millidarcys	4.88
Average Percent Porosity	20.96
Average Percent Oil Saturation	39.51
Average Percent Water Saturation	51.10
Average Oil Content, Bbls./A. Ft.	642.
Total Oil Content, Bbls./Acre	6,352.
Average Percent Oil Recovery by Laboratory Flooding Tests	13.80
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	219.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	1,609.
Total Calculated Oil Recovery, Bbls./Acre	1,550.

Packer Setting, Feet **Note: The above averages are for that part of the sand section extending from the packer setting to the top of the cement plug.** 386.0

Viscosity, Centipoises @

A. P. I. Gravity, degrees @ 60 °F

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LOG

Company Bess Rock Oil Corporation Lease Sheehy Well No. C-21

<u>Depth Interval, Feet</u>	<u>Description</u>
371.40 - 374.00	Sandy limestone.
374.00 - 375.05	Soft light brown fine grained micaceous calcareous sandstone.
375.05 - 375.25	Gray sandy shale.
375.25 - 375.92	Sandy limestone.
375.92 - 376.72	Soft light brown fine grained micaceous calcareous sandstone.
376.72 - 377.35	Soft light brown fine grained slightly laminated micaceous calcareous sandstone.
377.35 - 377.70	Limestone.
377.70 - 379.97	Soft light brown fine grained slightly laminated micaceous calcareous sandstone.
379.97 - 380.15	Limestone.
380.15 - 383.00	Soft light brown fine grained slightly laminated micaceous calcareous sandstone.
383.00 - 383.17	Gray sandy shale.
383.17 - 384.30	Soft light brown fine grained laminated micaceous calcareous sandstone.
384.30 - 384.51	Gray sandy calcareous shale.
384.51 - 384.77	Brown fine grained micaceous calcareous sandstone.
384.77 - 384.93	Gray sandy shale.
384.93 - 385.12	Brown fine grained micaceous calcareous sandstone.
385.12 - 385.26	Gray sandy shale.
385.26 - 386.05	Brown fine grained micaceous slightly calcareous sandstone.
386.05 - 386.45	Brown fine grained slightly laminated micaceous calcareous sandstone.

386.45 - 391.90 - Brown fine grained micaceous calcareous sandstone.

391.90 - 392.10 - Limestone.

392.10 - 395.80 - Brown fine grained micaceous calcareous sandstone.

395.80 - 396.10 - Brown fine grained micaceous calcareous shaley sandstone.

396.10 - 396.60 - Limestone.

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SHOT RECOMMENDATION

Company Deep Rock Oil Corporation Lease Sheehy Well No. C-21

Depth Interval, Feet	Feet of Sand	Size of Shell Inches	Qts./Ft.	Total Quarts
<u>391.00 - 395.0</u>	<u>4.0</u>	<u>4.0</u>	<u>2.5</u>	<u>10.0</u>

Recommended Packer Setting - 386.00 feet

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RESULTS OF SATURATION TESTS

TABLE III

Company Deep Rock Oil Corporation Lease Sheehy Well No. C-21

Sat. No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content, Bbls./A. Ft.	Feet of Core		Total Oil Content Bbls./Acre
			Oil	Water	Total		Ft.	Cum. Ft.	
F-1	385.75	23.1	35.5	-	-	638	1.19	1.19	759
F-2	387.51	20.6	35.7	-	-	570	1.45	2.64	825
3	388.20	22.8	38.4	40.8	79.2	679	0.60	3.24	408
F-4	388.85	17.1	42.1	-	-	558	0.75	3.99	418
F-5	389.66	20.0	43.7	-	-	678	0.75	4.74	509
F-6	390.48	20.5	43.3	-	-	690	0.95	5.69	655
F-7	391.46	21.9	44.2	-	-	751	0.95	6.64	715
8	392.25	20.9	42.0	55.3	97.3	682	0.50	7.14	741
F-9	392.95	21.7	37.6	-	-	634	0.75	7.89	475
10	393.85	22.6	36.1	55.3	91.4	633	0.85	8.74	538
11	394.48	22.6	38.2	52.1	90.3	670	0.60	9.34	401
F12	395.25	20.7	38.6	-	-	621	1.00	10.34	621
F13	395.95	17.8	38.1	-	-	526	0.30	10.64	158
							Total -	- - - -	6,823

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SUMMARY OF SATURATION TESTS

TABLE IV

Company Deep Rock Oil Corporation Lease Sheehy Well No. C-21

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
385.26-391.90	6.64	20.95	39.83	-	646	4,289
392.10-396.10	4.00	21.38	38.23	54.26	634	2,534
385.00-396.10	9.90	20.96	39.51	51.10	642	6,352

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RESULTS OF LABORATORY FLOODING TESTS

TABLE V

Company Deep Rock Oil Corporation Lease Sheehy Well No. C-21

Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery		Residual Saturation			Volume of Water Recovered cc*	Permeability, Millidarcys		Initial Fluid Production Pressure Lbs./Sq. In.
			Percent	Bbls./A. Ft.	Percent	Bbls./A. Ft.	% Oil	% Water	Bbls./A. Ft.		Dry	Effective	
1	385.75	23.1	36.5	638	8.7	156	26.6	66.9	482	95		8.66	10
2	387.51	20.6	35.7	670	9.6	157	25.9	66.6	413	93		8.33	10
4	388.83	17.1	42.1	558	16.3	216	25.6	66.0	342	136		6.76	15
5	389.65	20.0	43.7	678	17.9	278	25.6	72.3	400	142		7.85	15
6	390.48	20.5	43.3	690	16.5	263	26.9	71.3	427	67		3.28	15
7	391.46	21.9	44.2	751	17.0	289	27.2	71.7	462	54		2.89	20
9	392.95	21.7	37.6	634	11.7	197	25.9	68.6	437	32		2.46	15
12	395.25	20.7	36.6	621	14.1	227	24.5	69.5	394	52		1.31	15
13	395.95	17.6	36.1	526	10.1	140	20.0	66.0	386	14		0.596	25

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.

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SUMMARY OF LABORATORY FLOODING TESTS

TABLE VI

Company Deep Root Oil Corporation Lease Sheehy Well No. C-21

Depth Interval, Feet	385.26 - 391.90	392.60-396.10	386.00-396.10
Feet of Core Analyzed	6.04	2.05	7.35
Average Percent Porosity	20.76	20.67	20.49
Average Percent Original Oil Saturation	39.95	38.14	39.92
Average Percent Oil Recovery	13.56	12.67	13.80
Average Percent Residual Oil Saturation	26.39	25.51	26.12
Average Percent Residual Water Saturation	69.29	68.68	69.36
Average Percent Total Residual Fluid Saturation	95.68	94.19	95.48
Average Original Oil Content, Bbls./A. Ft.	643.	612.	635.
Average Oil Recovery, Bbls./A. Ft.	217.	203.	219.
Average Residual Oil Content, Bbls./A. Ft.	426.	409.	416.
Total Original Oil Content, Bbls./Acre	3,882.	1,255.	4,664.
Total Oil Recovery, Bbls./Acre	1,308.	417.	1,609.
Total Residual Oil Content, Bbls./Acre	2,574.	838.	3,055.
Average Effective Permeability, Millidarcys	6.45	1.62	4.88
Average Initial Fluid Production Pressure, p.s.i.	14.2	18.7	15.6

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