22-17-22E

June 10, 1949

Deep Rock Oil Corporation
Tulsa, Oklahoma

Attention: Mr. T. F. Lawry

Gentlemen:

Enclosed herewith is the report of the partial analysis of the No. 6 Baker barrel core taken from the Fenoughty Lease, Well No. G-13, Miami County, Kansas, and submitted to our laboratory on May 16, 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

Carl L. Pate

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

G-13

Fenoughty

CARL L. PATE LICENSED 1821 KANSAS PROFESSIONAL ENGINEER

DEEP ROCK OIL CORPORATION

CORE ANALYSIS REPORT

PENOUGHTY LEASE WELL NO. C-13

MIAMI COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES

CHANUTE, KANSAS

JUNE 10, 1949

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Deep Rock Oil Corporation Lease Fenoughty Well No. G-13

Location 330 Feet South of North line

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

Name of Sand	Peru
Top of Core	348.00
Bottom of Core	370.00
Top of Sand	357.18
Bottom of Sand	369.59
Total Feet of Permeable Sand	10.38

Distribution of Permeable Sand:

Permeable Range Millidarcys	Feet	Cum. Ft.

Average effective Permeability, Millidarcys	6.44
Average Percent Porosity	19.65
Average Percent Oil Saturation	38.47
Average Percent Water Saturation	-
Average Oil Content, Bbls./A. Ft.	598.
Total Oil Content, Bbls./Acre	6,500.
Average Percent Oil Recovery by Laboratory Flooding Tests	17.40
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	273.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	2,835.
Total Calculated Oil Recovery, Bbls./Acre	1,800.
Packer Setting, Feet	358.5
Viscosity, Centipoises @	
A. P. I. Gravity, degrees @ 60 °F	

Note: The above averages are for that part of the sand section extending from the packer setting to the top of the cement plug.

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LOG

Company Deep Rock Oil Corporation Lease Fenoughty Well No. G-13

Depth Interval, Feet	Description
348.00 - 348.93	Hard light brown fine grained micaceous calcareous sandstone.
348.93 - 351.59	Soft light brown fine grained laminated micaceous calcareous sandstone.
351.59 - 352.00	Limestone.
352.00 - 352.84	Soft light brown fine grained laminated micaceous calcareous sandstone.
352.84 - 353.20	Laminated sandy shale.
353.20 - 353.90	Soft light brown fine grained laminated micaceous calcareous sandstone.
353.90 - 354.00	Limestone (vertical fracture) filled with shale.
354.00 - 354.63	Soft light brown fine grained laminated micaceous calcareous sandstone.
354.63 - 354.78	Sandy shale.
354.78 - 355.57	Laminated sandy shale.
355.57 - 356.40	Soft light brown fine grained laminated micaceous calcareous sandstone.
356.40 - 357.08	Brown fine grained slightly laminated micaceous calcareous sandstone.
357.08 - 357.18	Limestone.
357.18 - 357.43	Brown fine grained micaceous calcareous sandstone.
357.43 - 357.90	Brown fine grained laminated micaceous calcareous sandstone.
357.90 - 358.10	Brown fine grained slightly shaley micaceous calcareous sandstone.
358.10 - 359.10	Brown fine grained slightly shaley micaceous calcareous sandstone.

359.10 - 359.70 - Brown fine grained micaceous calcareous sandstone.

359.70 - 362.14 - Brown fine grained slightly laminated micaceous calcareous sandstone.

362.14 - 362.25 - Limestone.

362.25 - 363.18 - Dark brown fine grained micaceous calcareous sandstone.

363.18 - 364.30 - Dark brown fine grained slightly laminated micaceous calcareous sandstone.

364.30 - 365.35 - Dark brown fine grained micaceous calcareous sandstone

365.35 - 367.20 - Brown fine grained laminated micaceous calcareous sandstone.

367.20 - 369.59 - Brown fine grained slightly laminated micaceous calcareous sandstone.

369.59 - 370.00 - Conglomeratic limestone.

OIL FIELD RESEARCH LABORATORIES

SHOT RECOMMENDATION

Company Deep Rock Oil Corporation Lease Fenoughty Well No. G-13

Depth Interval, Feet	Feet of Sand	Size of Shell Inches	Qts./Ft.	Total Qts.
363.5 - 368.0	4½	4	2.5	11.25

Recommended Packer Setting - 358.5 feet.

Oil Field Research Laboratories

RESULTS OF SATURATION TESTS

TABLE III

Company Deep Rock Oil Corporation Lease Penoughty Well No. 6-13

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-4	354.10	18.3	13.3	-	-	189	0.63	0.63	119
F-6	356.50	20.8	20.4	-	-	330	0.68	1.31	224
F-7	357.80	21.6	35.7	-	-	599	0.72	2.03	432
F-8	358.50	20.2	36.2	-	-	568	1.20	3.23	682
F-9	359.20	20.8	45.5	-	-	736	0.60	3.83	442
F-10	359.80	18.6	37.6	-	-	543	0.45	4.28	244
F-11	360.56	21.3	35.3	-	-	584	0.90	5.18	525
F-14	361.60	21.4	53.3	-	-	887	1.09	6.27	967
F-15	362.60	18.2	33.9	-	-	481	0.93	7.20	447
F-16	363.55	19.1	39.0	-	-	579	1.12	8.32	649
F-17	364.40	20.6	44.1	-	-	706	0.45	8.77	318
F-18	365.15	20.6	49.6	-	-	794	0.60	9.37	476
F-19	366.15	19.5	38.1	-	-	578	1.25	10.62	722
F-20	367.11	18.0	30.8	-	-	431	0.60	11.22	258
F-21	368.35	18.9	31.7	-	-	465	2.39	13.61	1,111
								Total	7,516

Oil Field Research Laboratories

SUMMARY OF SATURATION TESTS

TABLE IV

Company Deep Rock Oil Corporation Lease Fenoughty Well No. 8-13

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
354.00 - 362.14	6.27	20.53	35.95	-	580	3,635
362.25 - 369.59	7.34	19.10	36.33	-	542	3,981
358.50 - 369.59	10.98	19.65	38.47	-	592	6,500

Oil Field Research Laboratories

RESULTS OF LABORATORY FLOODING TESTS

TABLE V

Company Deep Rock Oil Corporation Lease Fenoughty Well No. C-13

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.			
4	354.10	16.2	15.8	189	0.0	0	13.2	85.4	169	220	6.04	10
6	356.00	20.6	20.4	330	0.0	0	20.4	78.0	330	141	10.74	5
7	357.90	21.6	35.7	599	17.8	299	17.9	77.0	300	109	6.48	5
8	358.50	20.2	36.2	568	16.2	254	20.0	76.0	314	158	27.10	5
9	359.20	20.6	45.5	726	25.1	406	20.4	71.8	330	167	6.60	10
10	359.60	16.6	37.8	548	15.6	220	22.4	74.8	325	100	11.20	10
11	360.84	21.5	38.3	684	15.5	220	22.9	73.4	264	151	15.71	10
14	361.60	21.4	35.3	567	35.3	568	13.0	76.9	199	65	5.07	10
15	362.60	16.2	28.9	461	12.2	175	21.7	72.1	306	132	10.35	10
16	363.56	19.1	29.0	579	17.4	250	21.6	70.0	281	11	0.543	35
17	364.40	20.6	44.1	706	21.9	350	22.2	71.9	356	107	7.86	10
18	365.15	20.6	49.6	794	28.1	450	21.5	71.8	344	45	3.20	15
19	366.15	19.5	38.1	578	12.7	193	25.4	70.5	385	28	0.768	20
20	367.11	18.0	30.8	421	0.0	0	30.8	68.2	421	0	Imp.	60+
21	368.35	13.9	31.7	465	10.9	160	20.8	73.0	305	4	2.65	35

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.

Oil Field Research Laboratories

SUMMARY OF LABORATORY FLOODING TESTS

TABLE VI

Company Deep Rock Oil Corporation Lease Penoughty Well No. 6-13

Depth Interval, Feet	357.18 - 362.14	362.25 - 369.59	358.50 - 369.59
Feet of Core Analyzed	4.96	6.74	10.38
Average Percent Porosity	20.79	19.22	19.75
Average Percent Original Oil Saturation	40.93	36.85	38.84
Average Percent Oil Recovery	21.05	14.77	17.40
Average Percent Residual Oil Saturation	19.88	22.08	21.44
Average Percent Residual Water Saturation	75.10	71.74	72.76
Average Percent Total Residual Fluid Saturation	94.98	93.82	94.20
Average Original Oil Content, Bbls./A. Ft.	664.	553.	601.
Average Oil Recovery, Bbls./A. Ft.	343.	223.	273.
Average Residual Oil Content, Bbls./A. Ft.	321.	330.	328.
Total Original Oil Content, Bbls./Acre	3,293.	3,722.	6,240.
Total Oil Recovery, Bbls./Acre	1,703.	1,501.	2,835.
Total Residual Oil Content, Bbls./Acre	1,590.	2,221.	3,406.
Average Effective Permeability, Millidarcys	13.25	3.48	6.44
Average Initial Fluid Production Pressure, p.s.i.	8.3	19.2	14.6

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