

22-17-22E

May 24, 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-15, Miami County, Kansas, and submitted to our laboratory on May 7, 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

Fenoughty G-15

DEEP ROCK OIL CORPORATION

CORE ANALYSIS REPORT

PENOGHTY LEASE

WELL NO. G-15

MIAMI COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES

CHANUTE, KANSAS

MAY 25, 1949

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Deep Rock Oil Corporation Lease Fenoughty Well No. G-15

Location NW 1

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

Name of Sand	Peru
Top of Core	339.20
Bottom of Core	365.60
Top of Sand	351.45
Bottom of Sand	364.80
Total Feet of Permeable Sand	11.68

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

Average Permeability ^{Effective} Permeability, Millidarcys	6.03
Average Percent Porosity	20.08
Average Percent Oil Saturation	39.40
Average Percent Water Saturation	-
Average Oil Content, Bbls./A. Ft.	643.
Total Oil Content, Bbls./Acre	7,508.
Average Percent Oil Recovery by Laboratory Flooding Tests	11.64
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	188.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	2,200.
Total Calculated Oil Recovery, Bbls./Acre	1,600.

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.

352.5

Viscosity, Centipoises @

A. P. I. Gravity, degrees @ 60 °F

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LOG

Company Deep Rock Oil Corporation Lease Fencughty Well No. G-15

<u>Depth Interval,</u> <u>Feet</u>	<u>Description</u>
339.20 - 339.70	- Soft light brown fine grained laminated micaceous sandstone.
339.70 - 341.10	- Soft light brown fine grained micaceous sandstone.
341.10 - 341.45	- Limestone.
341.45 - 343.10	- Hard light brown fine grained micaceous calcareous sandstone.
343.10 - 343.85	- Sandy limestone.
343.85 - 344.50	- Limestone.
344.50 - 346.60	- Soft light brown fine grained micaceous sandstone.
346.60 - 347.28	- Soft light brown fine grained laminated micaceous sandstone.
347.28 - 347.62	- Limestone.
347.62 - 351.45	- Soft light brown fine grained laminated micaceous sandstone.
351.45 - 351.90	- Brown fine grained laminated micaceous sandstone.
351.90 - 352.45	- Laminated sandy shale.
352.45 - 353.10	- Dark brown fine grained slightly laminated micaceous sandstone.
353.10 - 353.33	- Brown fine grained laminated micaceous sandstone.
353.33 - 354.80	- Dark brown fine grained micaceous calcareous slightly shaley sandstone.
354.80 - 355.67	- Brown fine grained slightly laminated micaceous calcareous sandstone.
355.67 - 356.73	- Brown fine grained laminated micaceous calcareous sandstone.
356.73 - 357.15	- Brown fine grained micaceous calcareous sandstone.

357.15 - 357.35 - Limestone.

357.35 - 360.78 - Brown fine grained slightly laminated micaceous calcareous sandstone.

360.78 - 360.90 - Laminated sandy shale.

360.90 - 361.75 - Brown fine grained finely laminated micaceous calcareous sandstone.

361.75 - 364.80 - Brown fine grained laminated micaceous sandstone.

364.80 - 365.60 - Gray calcareous shale.

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SHOT RECOMMENDATION

Company Deen Rook Oil Corporation Lease Fenoughty Well No. G-15

<u>Depth Interval,</u> <u>Feet</u>	<u>Feet of</u> <u>Sand</u>	<u>Size of Shell</u> <u>Inches</u>	<u>Gts./Ft.</u>	<u>Total Gts.</u>
357.5 - 363.0	5.5	4 $\frac{1}{2}$	3.1	17.05

Recommended Packer Setting - 352.5 feet.
Note: Plug hole back to - 364.5 feet.

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RESULTS OF SATURATION TESTS

TABLE III

Company Deep Rock Oil Corporation

Lease Fenoughty

Well No. G-15

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-10	351.30	19.6	15.0	-	-	228	0.75	0.75	171
F-11	352.75	21.6	39.1	-	-	656	0.88	1.63	578
F-12	353.60	24.0	37.7	-	-	701	0.67	2.30	470
F-13	354.40	18.9	35.4	-	-	520	0.80	3.10	416
F-14	355.30	21.0	37.0	-	-	604	0.87	3.97	525
F-15	356.06	21.2	35.9	-	-	574	1.06	5.03	609
F-16	356.96	18.0	42.4	-	-	593	0.42	5.45	249
F-17	358.23	21.9	43.9	-	-	746	1.35	6.80	1,008
F-18	359.16	19.8	48.6	-	-	747	0.90	7.70	672
F-19	360.00	20.7	44.2	-	-	711	1.18	8.88	839
F-20	361.17	21.6	32.7	-	-	548	0.85	9.73	465
F-21	362.40	21.0	38.5	-	-	628	1.15	10.88	722
F-22	363.36	19.2	32.2	-	-	580	0.90	11.78	521
F-23	364.34	20.0	43.0	-	-	667	1.00	12.78	667
Total							-----		7,912

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SUMMARY OF SATURATION TESTS

TABLE IV

Company Deep Rock Oil Corporation Lease Fenoughty Well No. Q-15

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
350.70-359.60	7.70	20.84	37.68	-	610	4,698
359.60-364.80	5.08	20.51	38.62	-	633	3,214
352.50-364.50	11.68	20.80	39.40	-	643	7,508

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RESULTS OF LABORATORY FLOODING TESTS

TABLE V

Company Deep Rock Oil Corporation

Lease Zenoughty

Well No. G-15

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.			
10	351.20	19.6	18.0	228	0.0	0	15.0	75.0	228	164	6.35	5
11	352.75	21.6	29.1	656	15.6	262	25.5	64.6	394	119	4.75	15
12	353.60	24.0	37.7	701	15.6	262	24.1	68.9	448	168	21.67	5
13	354.40	18.9	25.4	520	13.4	197	22.0	66.5	323	169	26.62	10
14	355.30	21.0	37.0	604	8.2	124	28.6	69.2	470	135	6.68	10
15	356.05	21.2	35.9	574	8.6	142	26.3	68.9	432	44	1.04	15
16	356.96	18.0	48.4	593	20.8	291	21.6	71.0	302	70	5.79	10
17	358.23	21.9	42.9	746	15.9	270	25.0	66.7	474	126	5.43	10
18	359.16	19.8	48.6	747	16.2	249	22.4	62.6	498	112	4.41	15
19	360.00	20.7	44.2	711	6.7	108	27.5	59.6	603	52	2.13	25
20	361.17	21.6	32.7	548	8.2	137	24.5	67.6	411	43	2.10	20
21	362.40	21.0	28.5	628	10.1	165	28.4	69.2	463	111	2.01	15
22	363.36	19.2	22.2	580	4.9	72	27.3	65.2	407	35	1.69	25
23	364.34	20.0	43.0	667	16.2	251	26.8	68.0	416	67	2.76	15

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	Fenoughty	Well No.	G-15
Depth Interval, Feet	352.45 - 359.60	359.60 - 364.80	352.50 - 364.50		
Feet of Core Analyzed	6.95	5.08	11.68		
Average Percent Porosity	20.99	20.51	20.80		
Average Percent Original Oil Saturation	39.98	38.64	39.34		
Average Percent Oil Recovery	13.58	9.27	11.64		
Average Percent Residual Oil Saturation	26.40	29.37	27.70		
Average Percent Residual Water Saturation	66.99	66.32	66.68		
Average Percent Total Residual Fluid Saturation	93.39	95.69	94.38		
Average Original Oil Content, Bbls./A. Ft.	651.	615.	635.		
Average Oil Recovery, Bbls./A. Ft.	221.	148.	188.		
Average Residual Oil Content, Bbls./A. Ft.	430.	467.	447.		
Total Original Oil Content, Bbls./Acre	4,525.	3,125.	7,419.		
Total Oil Recovery, Bbls./Acre	1,537.	751.	2,200.		
Total Residual Oil Content, Bbls./Acre	2,988.	2,374.	5,219.		
Average Effective Permeability, Millidarcys	8.72	2.15	6.03		
Average Initial Fluid Production Pressure, p.s.i.	11.3	20.0	14.6		

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