

April 12, 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. FM-7, Miami County, Kansas, and submitted to our laboratory on April 5, 1949.

In calculating the recovery for the sand within the vicinity of this well, an allowance was made for oil lost during coring and it was assumed that the true water saturation of the sand is 36 percent.

Very truly yours,

OIL FIELD RESEARCH LABORATORIES

Carl L. Pate

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

FM-7
Fenoughty

DEEP ROCK OIL CORPORATION

CORE ANALYSIS REPORT

FENOUGHTY LEASE WELL NO. FK-7

MIAMI COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES

CHANUTE, KANSAS

APRIL 12, 1942.

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Deep Rock Oil Corporation Lease Fenoughty Well No. FM-7

Location _____

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

Name of Sand	Peru
Top of Core	337.00
Bottom of Core	363.10
Pay Top of Sand	353.40
Bottom of Sand	362.33
Total Feet of Permeable Sand	7.50

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

Effective Average Permeability, Millidarcys	12.68
Average Percent Porosity	23.08
Average Percent Oil Saturation	40.59
Average Percent Water Saturation	-
Average Oil Content, Bbls./A. Ft.	733.
Total Oil Content, Bbls./Acre	5,500.
Average Percent Oil Recovery by Laboratory Flooding Tests	14.40
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	264.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	1,981.
Total Calculated Oil Recovery, Bbls./Acre	2,500.
Packer Setting, Feet	354.0

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

Viscosity, Centipoises @

A. P. I. Gravity, degrees @ 60 °F

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LOG

Company Deep Rock Oil Corp. Lease Fenoughty Well No. FM-7

<u>Depth Interval, Feet</u>	<u>Description</u>
337.00 - 341.65	- Soft light brown fine grained micaceous shaley sandstone.
341.65 - 343.10	- Soft light brown fine grained micaceous slightly shaley sandstone.
343.10 - 344.30	- Soft light brown fine grained micaceous shaley sandstone.
344.30 - 345.27	- Soft light brown fine grained micaceous calcareous shaley sandstone.
345.27 - 345.90	- Light brown fine grained micaceous calcareous sandstone.
345.90 - 346.30	- Limestone.
346.30 - 348.27	- Light brown fine grained micaceous calcareous sandstone.
348.27 - 349.00	- Soft light brown fine grained micaceous calcareous slightly shaley sandstone.
349.00 - 350.47	- Soft light brown fine grained micaceous calcareous sandstone.
350.47 - 352.40	- Soft light brown fine grained micaceous calcareous sandstone.
352.40 - 352.58	- Limestone.
352.58 - 354.80	- Brown fine grained micaceous calcareous slightly shaley sandstone.
354.80 - 355.90	- Dark brown fine grained micaceous slightly calcareous sandstone.
355.90 - 356.30	- Brown fine grained micaceous calcareous sandstone.
356.30 - 357.70	- Dark brown fine grained micaceous calcareous sandstone.
357.70 - 358.80	- Dark brown fine grained micaceous calcareous slightly shaley sandstone.
358.80 - 361.10	- Dark brown fine grained micaceous calcareous sandstone.
361.10 - 361.20	- Limestone.

361.20 - 361.70 - Dark brown fine grained micaceous calcareous sandstone.

361.70 - 362.33 - Dark brown fine grained micaceous calcareous chaley sandstone.

362.33 - 362.75 - Gray shale.

362.75 - 363.10 - Limestone.

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SOFT RECOMMENDATION

Company Deep Rock Oil Corporation Lease Pennsylv Well No. FD-7

<u>Depth Interval,</u> <u>Feet</u>	<u>Feet of</u> <u>Sand</u>	<u>Size of Shell,</u> <u>Inches</u>	<u>Gra/Ft.</u>	<u>Total Gts.</u>
357.0 - 361.0	2.0	4	2.5	5.0

Recommended Packer Setting - 354.0 feet
Water Plug hole back to 362.0 feet

OIL FIELD RESEARCH LABORATORIES

SHOT RECOMMENDATION

Company Deep Rock Oil Corporation Lease Fenoughty Well No. FH-7

<u>Depth Interval, Feet</u>	<u>Feet of Sand</u>	<u>Size of Shell, Inches</u>	<u>Gts/Ft.</u>	<u>Total Gts.</u>
359.0 - 361.0	2.0	4	2.5	5.0
Recommended Packer Setting - 354.0 feet				
Note: Plug hole back to 362.0 feet				
361.0 - 362.0	1.0	1	0.208	0.208
362.0 - 363.0	1.0	1	8.56	8.56
363.0 - 364.0	1.0	1	14.71	14.71
364.0 - 365.0	1.0	1	37.51	37.51
365.0 - 366.0	1.0	1	22.45	22.45
366.0 - 367.0	1.0	1	27.42	27.42
367.0 - 368.0	1.0	1	18.83	18.83
368.0 - 369.0	1.0	1	11.17	11.17
369.0 - 370.0	1.0	1	45.50	45.50
370.0 - 371.0	1.0	1	30.76	30.76
371.0 - 372.0	1.0	1	28.90	28.90
372.0 - 373.0	1.0	1	23.05	23.05
373.0 - 374.0	1.0	1	34.20	34.20
374.0 - 375.0	1.0	1	13.90	13.90
375.0 - 376.0	1.0	1	20.40	20.40
376.0 - 377.0	1.0	1	22.50	22.50
377.0 - 378.0	1.0	1	21.79	21.79
378.0 - 379.0	1.0	1	24.80	24.80
379.0 - 380.0	1.0	1	24.73	24.73
380.0 - 381.0	1.0	1	24.88	24.88
381.0 - 382.0	1.0	1	24.90	24.90
382.0 - 383.0	1.0	1	24.90	24.90
383.0 - 384.0	1.0	1	24.90	24.90
384.0 - 385.0	1.0	1	24.90	24.90
385.0 - 386.0	1.0	1	24.90	24.90
386.0 - 387.0	1.0	1	24.90	24.90
387.0 - 388.0	1.0	1	24.90	24.90
388.0 - 389.0	1.0	1	24.90	24.90
389.0 - 390.0	1.0	1	24.90	24.90
390.0 - 391.0	1.0	1	24.90	24.90
391.0 - 392.0	1.0	1	24.90	24.90
392.0 - 393.0	1.0	1	24.90	24.90
393.0 - 394.0	1.0	1	24.90	24.90
394.0 - 395.0	1.0	1	24.90	24.90
395.0 - 396.0	1.0	1	24.90	24.90
396.0 - 397.0	1.0	1	24.90	24.90
397.0 - 398.0	1.0	1	24.90	24.90
398.0 - 399.0	1.0	1	24.90	24.90
399.0 - 400.0	1.0	1	24.90	24.90

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RESULTS OF SATURATION TESTS

TABLE III

Company Deep Rock Oil Corporation Lease Fenoughty Well No. FM-7

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-9	346.55	21.0	8.9	-	-	145	0.75	0.75	109
F10	347.60	16.6	19.9	-	-	256	1.22	1.97	312
F11	349.15	21.7	12.5	-	-	212	1.33	3.30	282
F12	350.18	22.3	14.1	-	-	244	0.87	4.17	212
F13	351.28	23.0	14.3	-	-	257	1.23	5.40	316
F14	352.15	20.1	11.8	-	-	184	0.70	6.10	129
F15	352.95	19.5	16.2	-	-	245	1.02	7.12	250
F16	354.16	22.4	27.2	-	-	473	1.20	8.32	568
F17	355.20	22.6	38.6	-	-	677	1.10	9.42	745
F18	356.50	22.1	37.2	-	-	639	0.75	10.17	479
F19	357.59	23.0	41.0	50.0	91.0	731	1.05	11.22	768
F20	358.61	25.6	49.5	-	-	983	0.70	11.92	689
F21	359.80	25.7	45.2	-	-	902	1.50	13.42	1,351
F22	360.94	23.1-	48.6	-	-	871	0.80	14.22	696
F23	361.95	18.3	34.7	-	-	493	1.13	15.35	557
							Total	- - - -	7,463

Oil Field Research Laboratories

SUMMARY OF SATURATION TESTS

TABLE IV

Company Deep Rock Oil Corporation Lease Fenoughty Well No. FM-7

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
346.30-353.60	7.12	20.58	14.35	-	226	1,610
353.60-362.33	8.23	22.86	39.71	-	711	5,853
354.00-362.00	7.50	23.08	40.59	-	733	5,500

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RESULTS OF LABORATORY FLOODING TESTS

TABLE V

Company Deep Rock Oil Corporation

Lease Penoughy

Well No. FL-7

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	337.73											
2	338.65											
3	340.90										6.99	
4	341.79										32.00	
5	342.58										35.70	
6	343.73										71.20	
7	344.98										82.10	
8	345.75										54.70	
9	346.55	21.0	8.9	145	0.0	0	8.9	88.5	145	216 1/2	17.50	
10	347.60	16.6	19.9	256	3.4	44	16.6	76.0	212	103	9.11	
11	349.15	21.7	12.5	212	0.0	0	12.5	69.1	212	50 1/2	38.80	5
12	350.18	22.3	14.1	244	0.0	0	14.1	77.5	244	106	13.90	5
13	351.28	23.0	14.3	257	0.0	0	14.3	73.7	257	132	36.20	5
14	352.15	20.1	11.8	184	0.0	0	11.8	69.8	184	122 1/2	22.65	5
15	352.95	19.5	16.2	245	0.0	0	16.2	73.4	245	165	29.90	10
16	354.15	22.4	27.2	473	4.6	80	22.6	63.7	393	83	20.70	5
17	355.20	22.6	38.6	677	12.0	210	22.6	64.0	467	90	45.50	5
18	355.50	22.1	37.2	659	12.4	213	24.8	65.4	426	102	11.17	5
19A	357.59	23.1	41.0	734	15.0	268	26.0	69.9	466	108	10.83	10
20	358.61	25.6	49.5	983	23.3	463	26.2	69.2	520	180	17.42	10
21	359.80	25.7	45.2	902	16.2	325	28.9	62.0	577	120	12.46	15
22	360.94	23.1	48.6	871	24.5	439	24.1	68.5	452	133	27.01	5
23	361.95	18.3	24.7	493	7.1	101	27.6	71.5	392	1	14.71	5
											8.56	5
											0.205	30

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.

Salt water was used to flood out these samples.

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SUMMARY OF LABORATORY FLOODING TESTS

TABLE VI

Company	Deep Rock Oil Corporation	Lease	Fenoughty	Well No.	FM-7
Depth Interval, Feet	354.00 - 362.00				
Feet of Core Analyzed	7.50				
Average Percent Porosity	23.11				
Average Percent Original Oil Saturation	40.60				
Average Percent Oil Recovery	14.40				
Average Percent Residual Oil Saturation	26.20				
Average Percent Residual Water Saturation	66.32				
Average Percent Total Residual Fluid Saturation	92.52				
Average Original Oil Content, Bbls./A. Ft.	734.				
Average Oil Recovery, Bbls./A. Ft.	264.				
Average Residual Oil Content, Bbls./A. Ft.	470.				
Total Original Oil Content, Bbls./Acre	5,508.				
Total Oil Recovery, Bbls./Acre	1,981.				
Total Residual Oil Content, Bbls./Acre	3,527.				
Average Effective Permeability, Millidarcys	12.68				
Average Initial Fluid Production Pressure, p.s.i.	10.6				

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