

Ewing B. S-3

13-21-20E

August 4, 1949

Deep Rock Oil Corporation
Tulsa, Oklahoma

Attention: Mr. T. F. Lawry

Gentlemen:

Enclosed herewith is the report of the partial analysis made on the Keystone barrel core taken from the Ewing "B" Lease, Well No. S-3, Anderson County, Kansas, and submitted to our laboratory on July 19, 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. Fate

CLP:cc

c.c. to Mr. Neil Henderson
Mr. Jack McQueensy

DEEP ROCK OIL CORPORATION

CORE ANALYSIS REPORT

EWING "B" LEASE

WELL NO. S-3

ANDERSON COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES

CHANDLER, KANSAS

AUGUST 4, 1959

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Deep Rock Oil Corporation Lease Swing "B" Well No. 2-3
 Location 320' N. of S. line, 320' W of E line, N₂ E₂
 Section 13 Twp. 21 Rge. 20 County Anderson State Kansas

Name of Sand	Squirrel
Top of Core	624.80
Bottom of Core	659.20
Top of ^{Pay} Sand	625.50
Bottom of Sand	656.70
Total Feet of Permeable Sand	12.27

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

Average ^{Effective} Permeability, Millidarcys	2.04
Average Percent Porosity	17.16
Average Percent Oil Saturation	30.95
Average Percent Water Saturation	-
Average Oil Content, Bbls./A. Ft.	415.
Total Oil Content, Bbls./Acre	8,790.
Average Percent Oil Recovery by Laboratory Flooding Tests	5.33
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	78.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	992.
Total Calculated Oil Recovery, Bbls./Acre	850.
Packer Setting, Feet	627.00

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

Viscosity, Centipoises @

A. P. I. Gravity, degrees @ 60 °F

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LOG

Company Deep Rock Oil Corporation Lease Swing "B" Well No. 8-3

<u>Depth Interval,</u> <u>Feet</u>	<u>Description</u>
624.80 - 625.40	- Brown fine grained micaceous shaley sandstone.
625.40 - 625.80	- Gray sandy shale.
625.80 - 625.90	- Brown fine grained micaceous sandstone.
625.90 - 626.83	- Gray shale.
626.83 - 628.20	- Brown fine grained micaceous sandstone.
628.20 - 628.35	- Gray sandy shale.
628.35 - 628.70	- Brown fine grained micaceous sandstone.
628.70 - 629.30	- Laminated shaley sandstone.
629.30 - 630.23	- Gray sandy shale.
630.23 - 630.80	- Brown fine grained micaceous sandstone.
630.80 - 630.90	- Gray shale.
630.90 - 631.60	- Brown fine grained micaceous slightly shaley sandstone.
631.60 - 631.80	- Light brown fine grained micaceous shaley sandstone.
631.80 - 632.20	- Brown fine grained micaceous sandstone.
632.20 - 632.60	- Finely laminated shale and sandstone.
632.60 - 632.75	- Light brown fine grained micaceous shaley sandstone.
632.75 - 634.72	- Brown fine grained micaceous sandstone.
634.72 - 634.85	- Gray sandy shale.
634.85 - 636.35	- Brown fine grained micaceous sandstone.
636.35 - 636.85	- Gray shale.
636.85 - 637.30	- Brown fine grained micaceous shaley sandstone.
637.30 - 638.10	- Gray sandy shale.

638.10 - 639.10 - Hard brown fine grained micaceous sandstone.
639.10 - 640.74 - Brown fine grained micaceous slightly calcareous shaley sandstone.
640.74 - 641.20 - Gray sandy shale.
641.20 - 642.40 - Finely laminated sandstone and shale.
642.40 - 643.10 - Brown fine grained finely laminated micaceous sandstone.
643.10 - 643.65 - Brown fine grained micaceous sandstone.
643.65 - 644.05 - Laminated sandstone and shale.
644.05 - 644.20 - Gray sandy shale.
644.20 - 644.70 - Brown fine grained micaceous sandstone.
644.70 - 645.10 - Brown fine grained laminated micaceous sandstone.
645.10 - 645.25 - Finely laminated sandstone and shale.
645.25 - 645.80 - Brown fine grained laminated micaceous sandstone.
645.80 - 646.95 - Laminated shale and sandstone.
646.95 - 649.50 - Brown fine grained micaceous slightly calcareous sandstone.
649.50 - 651.10 - Gray sandy shale.
651.10 - 651.70 - Finely laminated sandstone and shale.
651.70 - 652.50 - Brown fine grained laminated micaceous sandstone.
652.50 - 653.28 - Laminated shaley sandstone.
653.28 - 654.23 - Brown fine grained slightly laminated micaceous sandstone.
654.23 - 656.70 - Brown fine grained micaceous sandstone.
656.70 - 657.60 - Gray shale.
657.60 - 659.20 - Discarded at well.

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SHOT RECOMMENDATION

Company Deep Rock Oil Corporation Lease Kwing "B" Well No. 5-3

<u>Depth Interval, Feet</u>	<u>Feet of Sand</u>	<u>Size of Shell Inches</u>	<u>Qts./Ft.</u>	<u>Total Quarts</u>
632.0 - 655.5	23.5	3/4	2	47.0

Recommended Packer Setting - 627.0 feet
Note: Plug hole back to 656.50 feet

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RESULTS OF SATURATION TESTS

TABLE III

Company Deep Rock Oil Corporation Lease King "B" Well No. S-3

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.	
1	625.70	20.4	29.2	-	-	462	0.40	0.40	185
2	627.35	16.2	25.4	-	-	319	0.72	1.12	230
3	627.73	14.9	25.0	-	-	289	0.65	1.77	188
4A	628.60	19.1	25.5	-	-	348	0.35	2.12	122
4	629.10	14.5	27.8	65.3	93.1	313	0.60	2.72	187
5	631.10	15.3	25.4	-	-	360	0.70	3.42	252
6A	631.68	14.4	32.4	-	-	362	0.20	3.62	72
6	632.00	20.2	25.8	48.3	74.1	405	0.40	4.02	162
7A	632.87	19.4	27.5	-	-	415	0.15	4.17	62
8	633.26	19.7	39.9	-	-	610	1.97	6.14	1,200
9	635.03	21.4	37.1	-	-	617	1.70	7.84	1,046
10	637.20	18.1	31.6	-	-	444	0.45	8.29	200
12	638.90	17.3	42.1	-	-	565	1.00	9.29	565
13	640.30	8.2	32.9	-	-	209	1.65	10.94	344
14	641.40	20.3	32.3	-	-	510	0.40	11.34	204
16	642.95	12.9	28.1	-	-	281	1.25	12.59	351
17A	644.30	18.9	28.1	-	-	412	0.50	13.09	206
18	644.90	16.6	27.9	-	-	359	0.40	13.49	144
19	645.60	15.0	30.8	-	-	358	0.55	14.04	197
20	646.62	16.2	22.1	-	-	278	1.15	15.19	320

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RESULTS OF SATURATION TESTS

TABLE III

Company Deep Rock Oil Corporation Lease Swing "B" Well No. 2-3

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.	
21	647.70	18.1	28.0	-	-	393	1.35	16.54	530
22	648.90	16.6	33.8	-	-	435	0.80	17.34	349
23	649.30	19.7	25.0	-	-	382	0.40	17.74	153
26	652.00	17.9	38.7	-	-	537	0.80	18.54	430
28	653.60	19.0	31.3	-	-	462	0.95	19.49	439
29-	654.50	19.6	24.7	-	-	376	0.77	20.26	289
30	655.50	18.8	27.0	-	-	393	1.00	21.26	393
31	656.60	20.6	25.9	-	-	414	0.70	21.96	290
							Total	- - - -	9,112

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SUMMARY OF SATURATION TESTS

TABLE IV

Company Deep Rock Oil Corporation Lease Spring "B" Well No. 2-3

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
625.50-632.80	4.02	17.11	26.29	-	348	1,398
632.60-644.05	8.57	16.48	35.49	-	464	3,974
644.20-656.70	9.37	18.06	28.54	-	400	3,740
627.00-656.50	21.19	17.18	30.95	-	416	8,790

Note: Only
w/ 1 in -

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SUMMARY OF LABORATORY FLOODING TESTS

TABLE VI

Company Deep Rock Oil Corporation Lease Ewing "B" Well No. 8-3

Depth Interval, Feet	625.50 - 631.60	632.60-641.60	644.20-656.70	627.00-656.50
Feet of Core Analyzed	2.82	4.67	6.05	12.77
Average Percent Porosity	17.41	20.21	18.86	19.02
Average Percent Original Oil Saturation	25.67	37.43	29.11	31.53
Average Percent Oil Recovery	4.18	7.94	3.67	5.33
Average Percent Residual Oil Saturation	21.49	29.49	25.44	26.20
Average Percent Residual Water Saturation	76.00	67.00	70.03	70.74
Average Percent Total Residual Fluid Saturation	97.49	96.49	95.47	96.94
Average Original Oil Content, Bbls./A. Ft.	345.	581.	424.	466.
Average Oil Recovery, Bbls./A. Ft.	56.	118.	54.	78.
Average Residual Oil Content, Bbls./A. Ft.	289.	463.	370.	388.
Total Original Oil Content, Bbls./Acre	973.	2,785.	2,569.	5,942.
Total Oil Recovery, Bbls./Acre	158.	553.	329.	692.
Total Residual Oil Content, Bbls./Acre	815.	2,153.	2,240.	4,950.
Average Effective Permeability, Millidarcys	1.49	2.54	2.06	2.04
Average Initial Fluid Production Pressure, p.s.i.	21.	21.	22.1	21.6

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