

May 13, 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 Miller lease, Well No. M-3, Franklin County, Kansas, and submitted to our laboratories on April 29, 1949.

No calculated recovery was given for the sand within the vicinity of this well, as the pay is pressured up and as a result, such a value would be very unreliable.

Very truly yours,

OIL FIELD RESEARCH LABORATORIES

Carl L. Pate

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

DEEP ROCK OIL CORPORATION

CORE ANALYSIS REPORT

HILLER LEASE

WELL NO. N-3

FRANKLIN COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES

CHANDLER, KANSAS

MAY 13, 1949

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Deep Rock Oil Corporation Lease Miller Well No. M-3

Location NE 1

Section 34 Twp. 16S Rge. 21E County Franklin State Kansas

Name of Sand	Squirrel
Top of Core	637.00
Bottom of Core	354.50
Top of Sand	637.14
Bottom of Sand	651.60
Total Feet of Permeable Sand	10.86

Distribution of Permeable Sand:
Permeability Range
Millidarcys

Feet

Cum. Ft.

Average Permeability Effective Permeability, Millidarcys	4.18
Average Percent Porosity	19.78
Average Percent Oil Saturation	44.80
Average Percent Water Saturation	51.39
Average Oil Content, Bbls./A. Ft.	689.
Total Oil Content, Bbls./Acre	9,036.
Average Percent Oil Recovery by Laboratory Flooding Tests	16.77
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	319.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	3,461.
Total Calculated Oil Recovery, Bbls./Acre	-
Casing Point, Packer Setting, Feet	637.0

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 Dasp Rock Oil Corporation Lease Miller Well No. H-3

<u>Depth Interval,</u> <u>Feet</u>	<u>Description</u>
637.00 - 637.14	- Shaley limestone.
637.14 - 646.10	- Dark brown fine grained micaceous sandstone.
646.10 - 648.60	- Medium hard dark brown fine grained slightly laminated micaceous sandstone.
648.60 - 649.10	- Medium hard light brown fine grained laminated micaceous sandstone.
649.10 - 649.80	- Medium hard dark brown fine grained micaceous sandstone.
649.80 - 650.05	- Medium hard light brown fine grained laminated micaceous sandstone.
650.05 - 651.60	- Medium hard dark brown laminated micaceous sandstone.
651.60 - 652.00	- Laminated sandstone and shale.
652.00 - 654.50	- Sandy shale (discarded at well);

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SHOT RECOMMENDATION

Company Deep Rock Oil Corporation Lease Miller Well No. M-2

<u>Depth Interval,</u> <u>Feet</u>	<u>Feet of</u> <u>Shot</u>	<u>Size of Shell</u> <u>Inches</u>	<u>Qts./Ft.</u>	<u>Total Qts.</u>
639.5 - 649.0	9.5	4	2.5	23.75

Casing Point - 637.0 feet.

Note: Plug hole back to 651.00 feet.

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RESULTS OF SATURATION TESTS

TABLE III

Company Deep Rock Oil Corporation Lease Miller Well No. 3-3

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.	
F-1	637.70	20.0	61.7	-	959	0.96	0.96	920
F-2	638.45	21.8	49.7	-	842	0.70	1.66	590
F-3	639.25	21.3	56.5	-	936	0.80	2.46	749
F-4	639.97	20.4	41.6	-	659	0.75	3.21	494
F-5	640.77	21.6	42.5	-	711	0.85	4.06	605
6	641.70	21.1	39.5	31.8	645	1.00	5.06	645
7	642.77	20.9	34.6	57.2	561	1.00	6.06	561
F-8	643.70	19.9	39.0	-	602	1.00	7.06	602
F-9	644.70	19.4	57.7	-	869	0.90	7.96	790
10	645.52	21.9	36.1	96.8	613	1.00	8.96	613
F-11	646.35	14.6	33.7	-	382	0.55	9.61	248
F-12	647.13	18.6	55.3	-	798	0.60	10.21	479
F-13	647.60	15.6	38.5	-	467	0.55	10.86	303
F-14	648.48	19.9	46.2	-	714	0.60	11.46	429
F-15	649.53	17.1	38.6	-	512	0.70	12.16	359
F-16A	650.34	18.0	55.2	-	772	0.65	12.81	502
17	651.03	20.6	38.7	79.4	583	0.50	13.31	262
F-18	651.35	15.9	41.4	-	310	0.40	13.71	204
Total-----								9,345

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SUMMARY OF SATURATION TESTS

TABLE IV

Company	Deep rock Oil Corporation	Lease	Miller	Well No.	M-3	
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Water Saturation	Average Oil Content Bbls./A. Ft.	Total Oil Content Bbls./Acre
637.14-646.10	8.96	20.83	45.50	51.87	732	6,559
646.10-651.60	4.75	17.52	42.88	46.70	587	2,786
637.00-651.00	13.11	19.78	44.80	51.39	689	9,036

Deep Rock Oil Corporation

Company

Lease

21114

Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery	
			Percent	Bbls./A. Ft.	Percent	Bbls./A. Ft.
1	637.70	20.0	61.7	959	38.2	594
2	638.45	21.8	49.7	642	26.0	441
3	639.25	21.3	56.5	936	21.7	360
4	639.97	20.4	41.8	659	16.4	295
5	640.77	21.6	42.5	711	16.3	275
6A	641.70	21.4	42.0	496	9.1	151
7A	642.77	19.9	35.5	549	5.0	77
8	643.70	19.9	39.0	602	7.7	119
9	644.70	19.4	57.7	869	20.2	304
10A	645.52	20.2	41.0	642	15.9	249
11	645.55	18.8	32.7	282	0.0	0
12	647.13	15.6	55.5	798	16.6	271
13	647.50	15.6	38.5	467	0.0	0
14	648.48	19.9	45.3	714	10.6	167
15	649.53	17.1	38.6	512	11.7	155
16A	650.54	18.0	55.2	772	0.0	0
17A	651.05	20.6	32.7	523	0.0	0
18	651.55	15.9	41.4	510	0.0	0

Notes: -cc- cubic centime
 *Volume of water
 of maximum oil

**Determined by p
 which still occ

ch Laboratories

DRY FLOODING TESTS

E V

Well No. 4-8

Residual Saturation			Volume of Water Recovered cc*	** Effective Permeability, Millidarcys	Initial Fluid Production Pressure Lbs./Sq. In.
% Oil	% Water	Bbbs./A. Ft.			
23.5	75.0	355	67	1.40	5
23.7	72.0	401	94	7.12	10
24.8	59.2	576	93	8.24	10
25.0	75.4	354	159	4.70	15
26.2	72.6	428	91	6.93	15
22.9	63.5	547	116	7.98	15
30.6	66.4	472	67	2.37	20
31.3	65.8	483	43	1.12	20
27.5	60.2	555	195	4.05	10
25.1	61.7	393	106	7.49	10
23.7	60.6	382	0	Imp.	50 +
24.5	59.3	527	4	0.089	30
28.5	54.5	467	0	Imp.	50 +
25.4	59.7	547	5	0.37	30
25.9	70.9	357	5	0.083	30
25.2	40.1	772	0	Imp.	50 +
32.7	46.7	523	0	Imp.	50 +
41.4	50.8	510	0	Imp.	50 +

for
recovered at the time
recovery.

passing water through sample
gains residual oil.

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SUMMARY OF LABORATORY FLOODING TESTS

TABLE VI

Company <u>Deep Seak Oil Corporation</u>	Lease <u>Miller</u>	Well No. <u>M-3</u>	
Depth Interval, Feet	<u>637.14 - 646.10</u>	<u>646.75 - 649.80</u>	<u>637.00 - 651.00</u>
Feet of Core Analyzed	<u>8.96</u>	<u>1.90</u>	<u>10.86</u>
Average Percent Porosity	<u>20.55</u>	<u>18.47</u>	<u>20.18</u>
Average Percent Original Oil Saturation	<u>46.46</u>	<u>46.26</u>	<u>46.43</u>
Average Percent Oil Recovery	<u>17.42</u>	<u>13.68</u>	<u>16.77</u>
Average Percent Residual Oil Saturation	<u>29.04</u>	<u>32.58</u>	<u>29.66</u>
Average Percent Residual Water Saturation	<u>66.80</u>	<u>63.63</u>	<u>66.24</u>
Average Percent Total Residual Fluid Saturation	<u>95.84</u>	<u>96.21</u>	<u>95.90</u>
Average Original Oil Content, Bbls./A. Ft.	<u>807.</u>	<u>667.</u>	<u>783.</u>
Average Oil Recovery, Bbls./A. Ft.	<u>345.</u>	<u>196.</u>	<u>319.</u>
Average Residual Oil Content, Bbls./A. Ft.	<u>462.</u>	<u>471.</u>	<u>464.</u>
Total Original Oil Content, Bbls./Acre	<u>7,230.</u>	<u>1,266.</u>	<u>8,496.</u>
Total Oil Recovery, Bbls./Acre	<u>3,089.</u>	<u>372.</u>	<u>3,461.</u>
Total Residual Oil Content, Bbls./Acre	<u>4,141.</u>	<u>894.</u>	<u>5,035.</u>
Average Effective Permeability, Millidarcys	<u>5.03</u>	<u>0.175</u>	<u>4.18</u>
Average Initial Fluid Production Pressure, p.s.i.	<u>13.0</u>	<u>30.0</u>	<u>16.9</u>

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