Ewing Q-35 14-21-20E

November 4, 1949

Deep Rock Oil Corporation
Tulsa, Oklahoma

Attention: Mr. T. F. Lowry

Gentlemen:

Enclosed herewith is the report of the partial analysis made on the Keystone barrel core taken from the Ewing Lease, Well No. Q-35, Anderson County, Kansas, and submitted to our laboratory on October 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

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

DEEP ROCK OIL CORPORATION

CORE ANALYSIS REPORT

EWING LEASE WELL No. C-35

ANDERSON COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES

CHANUTE, KANSAS

NOVEMBER 4, 1949

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Deep Rock Oil Corporation Lease Ewing Well No. C-35

Location South Line Well, 330' East of West Line, NE¼

Section 14 Twp. 21 Rge. 20 County Anderson State Kansas

Name of Sand	Squirrel
Top of Core	673.60
Bottom of Core	718.80
Top of pay Sand	683.02
Bottom of Sand	715.00
Total Feet of Permeable Sand	15.27

Distribution of Permeable Sand:

Permeability Range Millidarcys	Feet	Cum. Ft.

Average effective Permeability, Millidarcys	0.874
Average Percent Porosity	18.45
Average Percent Oil Saturation	52.93
Average Percent Water Saturation	-
Average Oil Content, Bbls./A. Ft.	765.
Total Oil Content, Bbls./Acre	14,130.
Average Percent Oil Recovery by Laboratory Flooding Tests	29.57
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	443.
Total Oil Reeovery by Laboratory Flooding Tests, Bbls./Acre	6,758.
Total Calculated Oil Recovery, Bbls./Acre	4,950.
Packer Setting, Feet	683.50
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.

OIL FIELD RESEARCH LABORATORIES

LOG

Company Deep Rock Oil Corporation Lease Ewing Well No. C-35

Depth Interval, Feet	Description
673.60 - 676.05	Gray sandy shale.
676.05 - 677.22	Gray shale.
677.22 - 678.00	Gray sandy shale.
678.00 - 678.65	Brown fine grained laminated micaceous sandstone.
678.65 - 679.00	Laminated sandy shale.
679.00 - 679.74	Brown fine grained laminated micaceous sandstone.
679.74 - 679.90	Finely laminated shale and sandstone.
679.90 - 680.10	Laminated sandy shale.
680.10 - 681.75	Brown fine grained laminated micaceous sandstone.
681.75 - 682.00	Finely laminated sandstone and shale.
682.00 - 682.40	Brown fine grained laminated micaceous sandstone.
682.40 - 683.02	Laminated sandy shale.
683.02 - 683.30	Brown fine grained laminated micaceous sandstone.
683.30 - 683.78	Brown fine grained micaceous sandstone.
683.78 - 683.85	Gray sandy shale.
683.85 - 684.05	Finely laminated sandstone and shale.
684.05 - 684.35	Gray shale.
684.35 - 684.55	Brown fine grained micaceous shaley sandstone.
684.55 - 684.63	Gray shale.
684.63 - 684.90	Finely laminated sandstone and shale.
684.90 - 685.17	Gray shale.
685.17 - 685.80	Brown fine grained micaceous sandstone.
685.80 - 686.10	Gray shale.

686.10 - 686.50 - Brown fine grained slightly laminated micaceous sandstone.

686.50 - 686.80 - Brown fine grained finely laminated micaceous sandstone.

686.80 - 687.45 - Laminated sandy shale.

687.45 - 687.55 - Laminated sandstone and shale.

687.55 - 688.20 - Brown fine grained micaceous sandstone.

688.20 - 688.38 - Laminated sandy shale.

688.38 - 688.70 - Laminated shale and sandstone.

688.70 - 688.90 - Gray sandy shale.

688.90 - 689.30 - Brown fine grained micaceous shaley sandstone.

689.30 - 689.70 - Finely laminated sandstone and shale.

689.70 - 689.80 - Brown fine grained micaceous sandstone.

689.80 - 690.60 - Laminated sandy shale.

690.60 - 690.90 - Sandy limestone.

690.90 - 691.10 - Gray shale.

691.10 - 691.77 - Brown fine grained micaceous sandstone.

691.77 - 692.35 - Laminated sandy shale.

692.35 - 692.80 - Brown fine grained micaceous sandstone.

692.80 - 693.30 - Finely laminated sandstone and shale.

693.30 - 694.10 - Laminated sandy shale.

694.10 - 694.55 - Finely laminated sandstone and shale.

694.55 - 694.85 - Brown fine grained slightly laminated micaceous sandstone.

694.85 - 695.30 - Laminated sandy shale.

695.30 - 695.65 - Finely laminated sandstone and shale.

695.65 - 696.00 - Brown fine grained laminated micaceous sandstone.

696.00 - 698.23 - Brown fine grained micaceous sandstone.

698.23 - 698.55 - Brown fine grained laminated micaceous sandstone.

698.55 - 698.90 - Gray sandy shale.

698.90 - 700.20 - Brown fine grained micaceous sandstone.

700.20 - 700.40 - Laminated sandy shale.

700.40 - 700.50 - Brown fine grained laminated micaceous sandstone.

700.50 - 700.90 - Finely laminated shale and sandstone.

700.90 - 701.15 - Laminated sandy shale.

701.15 - 701.35 - Brown fine grained laminated micaceous sandstone.

701.35 - 701.90 - Gray shale.

701.90 - 702.00 - Brown fine grained micaceous sandstone.

702.00 - 702.90 - Brown fine grained laminated micaceous sandstone.

702.90 - 703.15 - Finely laminated sandstone and shale.

703.15 - 703.40 - Gray sandy shale.

703.40 - 704.00 - Brown fine grained micaceous sandstone.

704.00 - 704.22 - Laminated sandy shale.

704.22 - 706.22 - Brown fine grained micaceous sandstone.

706.22 - 706.40 - Gray shale.

706.40 - 706.85 - Brown fine grained micaceous sandstone.

706.85 - 707.10 - Gray sandy shale.

707.10 - 709.35 - Brown fine grained micaceous sandstone.

709.35 - 709.58 - Gray sandy shale.

709.58 - 710.40 - Dark brown fine grained micaceous sandstone.

710.40 - 710.60 - Laminated sandy shale.

710.60 - 710.70 - Gray shale.

710.70 - 711.60 - Brown fine grained laminated micaceous sandstone.

711.60 - 711.90 - Laminated sandy shale.

711.90 - 712.30 - Brown fine grained slightly laminated micaceous sandstone.

712.30 - 713.10 - Laminated sandy shale.

713.10 - 713.50 - Hard brown fine grained micaceous sandstone.

713.50 - 713.75 - Brown fine grained laminated micaceous sandstone.

713.75 - 715.00 - Brown fine grained micaceous sandstone.

715.00 - 715.35 - Dark fine grained micaceous carbonaceous sandstone.

715.35 - 716.05 - Gray shale.

716.05 - 716.40 - Gray calcareous sandy shale.

716.40 - 717.80 - Gray calcareous shale.

717.80 - 718.80 - Gray shale.

Oil Field Research Laboratories

SHOT RECOMMENDATION

Company Deep Rock Oil Corporation Lease Ewing Well No. 35

Depth Interval, Feet	Feet of Sand	Size of Shell Inches	Qts./Ft.	Total Quarts
688.5 - 714.0	25.5	3½	2.0	51.0

Recommended Packer Setting - 683.5
Note: Plug hole back to - 715.0

Oil Field Research Laboratories

RESULTS OF SATURATION TESTS

TABLE III

Company Deep Rock Oil Corporation Lease Spring Well No. G-35

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-1	678.80	15.2	29.5	-	-	357	0.65	0.65	232
F-2	679.80	14.8	25.9	-	-	290	0.74	1.39	220
3	680.30	16.5	38.7	48.5	87.2	496	1.65	3.04	820
F-4	682.80	15.4	31.0	-	-	370	0.40	3.44	148
F-5	683.45	20.2	51.0	-	-	800	0.76	4.20	608
F-6	686.30	17.7	55.1	-	-	757	0.70	4.90	530
F-7	688.00	18.9	64.6	-	-	948	0.65	5.55	616
F-8	689.10	15.5	32.8	-	-	394	0.40	5.95	158
9	691.40	18.9	43.6	35.9	79.5	640	0.67	6.62	429
10	692.60	19.6	48.3	36.5	84.8	735	0.45	7.07	330
F11	694.30	14.2	23.2	-	-	256	0.45	7.52	115
F12	695.46	14.9	38.1	-	-	441	0.35	7.87	154
F13	696.40	20.0	51.3	-	-	796	1.20	9.07	955
F14	697.30	19.8	60.8	-	-	935	1.70	10.77	1,590
F15	699.10	20.0	44.5	-	-	691	0.70	11.47	484
F16	700.00	20.0	51.7	-	-	802	0.60	12.07	481

Oil Field Research Laboratories

RESULTS OF SATURATION TESTS

TABLE III

Company Deep Rock Oil Corporation Lease Ewing Well No. 4-35

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.	
18A	701.36	20.6	43.2	-	-	891	0.10	12.17	89
F19	702.70	17.0	37.2	-	-	491	0.90	13.07	442
F20	703.80	19.7	53.7	-	-	821	0.60	13.67	493
F21	704.80	19.0	46.1	-	-	680	1.03	14.70	700
F22	705.80	20.4	68.0	-	-	1,076	0.97	15.67	1,044
F23	706.60	18.8	56.4	-	-	852	0.45	16.12	383
F24	707.30	15.3	42.4	-	-	504	0.60	16.72	302
F25	708.30	19.2	60.9	-	-	909	1.65	18.37	1,500
F26	710.00	20.0	59.8	-	-	928	0.82	19.19	762
27	710.99	16.4	55.5	40.2	95.7	707	0.90	20.09	637
F28	712.10	17.3	63.6	-	-	854	0.40	20.49	342
29	713.30	15.8	48.2	42.7	90.9	591	0.65	21.14	384
F30	714.40	16.4	61.3	-	-	780	0.85	21.99	664
F31	714.81	18.0	61.1	-	-	854	0.40	22.39	342
							Total - - - -		15,934

Oil Field Research Laboratories

SUMMARY OF SATURATION TESTS

TABLE IV

Company Deep Rock Oil Corporation Lease Ewing Well No. 4-38

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
678.00-695.65	7.37	16.98	40.89	-	554	4,360
695.65-715.00	14.52	18.67	34.76	-	797	11,574
683.50-715.00	18.47	18.45	59.93	-	765	14,130

Oil Field Research Laboratories

RESULTS OF LABORATORY FLOODING TESTS

TABLE V

Company Deep Rock Oil Corporation Lease Ewing Well No. C-25

Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery		Residual Saturation			Volume of Water Recovered cc*	Permeability, Millidarcys		Initial Fluid Production Pressure Lbs./Sq. In.
			Percent	Bbls./A. Ft.	Percent	Bbls./A. Ft.	% Oil	% Water	Bbls./A. Ft.		Dry **	Effective	
1	678.20	15.2	29.8	357	0.0	0	29.8	66.7	357	0		Imp.	50+
2	679.20	14.8	25.9	298	0.0	0	25.9	69.9	298	0		Imp.	50+
4	682.20	15.4	31.0	370	0.0	0	31.0	65.0	370	0		Imp.	50+
5	683.45	20.2	51.0	900	24.5	364	26.5	71.6	416	20		0.466	15
6	686.30	17.7	55.1	757	19.2	264	35.9	63.0	493	0		0.017	40
7	688.00	16.9	64.6	948	35.3	518	29.3	68.6	430	4		0.151	15
8	689.10	15.5	32.8	394	0.0	0	32.8	59.7	394	0		Imp.	50+
9	691.40	18.6	43.6	693	30.4	483	13.2	69.5	210	5		0.100	20
11	694.30	14.2	25.2	256	0.0	0	25.2	70.4	256	0		Imp.	50+
12	695.46	14.9	38.1	441	0.0	0	38.1	56.5	441	0		Imp.	50+
13	696.40	20.0	51.3	796	26.3	408	25.0	70.0	388	19		0.636	15
14	697.30	19.8	60.8	935	36.0	553	24.8	69.5	382	36		1.08	10
15	699.10	20.0	44.5	691	20.6	320	23.9	72.6	371	14		0.482	20
16	700.00	20.0	51.7	802	27.2	422	24.5	71.0	380	11		0.307	15
18	701.96	20.6	43.2	691	13.4	214	29.8	68.7	477	6		0.249	30
19	702.70	17.0	37.2	491	8.4	111	28.8	68.8	380	6		0.149	30
20	703.80	19.7	53.7	821	31.4	480	22.3	76.4	341	20		0.972	15
21	704.80	19.0	46.1	660	26.7	394	19.4	77.5	286	12		0.507	15
22	705.80	20.4	68.0	1076	48.7	770	19.3	76.5	306	139		3.25	5
23	706.60	18.8	58.4	852	35.1	512	23.3	73.8	340	9		0.163	15
24	707.30	15.3	42.4	804	1.9	23	40.5	56.0	481	4		0.083	35
25	708.20	19.2	50.9	909	30.0	467	22.9	75.6	342	54		1.62	5
26	710.00	20.0	59.8	929	36.7	570	23.1	72.9	359	65		1.65	5
28	712.10	17.3	63.6	854	27.7	372	35.9	62.0	482	5		0.085	20
30	714.40	16.4	61.3	780	31.3	398	30.0	67.6	382	42		0.950	10
31	714.81	18.0	61.1	854	36.2	506	24.9	70.0	348	34		0.885	10

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 Ewing Well No. 9-35

Depth Interval, Feet	683.02-691.77	695.65-715.00	683.50-715.00
Feet of Core Analyzed	2.78	12.97	15.27
Average Percent Porosity	18.88	18.96	18.91
Average Percent Original Oil Saturation	53.49	55.05	54.89
Average Percent Oil Recovery	27.12	29.90	29.57
Average Percent Residual Oil Saturation	26.37	25.15	25.32
Average Percent Residual Water Saturation	68.20	71.36	70.77
Average Percent Total Residual Fluid Saturation	94.57	96.51	96.09
Average Original Oil Content, Bbls./A. Ft.	798.	815.	811.
Average Oil Recovery, Bbls./A. Ft.	409.	448.	443.
Average Residual Oil Content, Bbls./A. Ft.	389.	367.	368.
Total Original Oil Content, Bbls./Acre	2,220.	10,348.	12,383.
Total Oil Recovery, Bbls./Acre	1,138.	5,805.	6,758.
Total Residual Oil Content, Bbls./Acre	1,082.	4,743.	5,625.
Average Effective Permeability, Millidarcys	0.191	1.01	0.874
Average Initial Fluid Production Pressure, p.s.i.	22.5	15.9	17.3

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