Ewing #1-29 13 21 20E

August 1, 1949

Deep Rock Oil Corporation
Tulsa, Oklahoma

Attention: Mr. T. F. Lawry

Gentlemen:

Enclosed herewith is the report of the partial analysis of the Keystone barrel core taken from the Ewing Lease, Well No. E-29, Anderson County, Kansas and submitted to our laboratory on July 12, 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. Neil Henderson
Mr. Jack McSweeney

DEEP ROCK OIL CORPORATION

CORE ANALYSIS REPORT

REED LEASE WELL NO. R-22

ANDERSON COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES

CHANUTE, KANSAS

AUGUST 1, 1949

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Deep Rock Oil Corporation Lease Ewing Well No. K-29

Location On west line, 660 feet south of north line, NW¼

Section 13 Twp. 21 Rge. 20 County Anderson State Kansas

Name of Sand	Squirrel
Top of Core	651.00
Bottom of Core	702.00
Top of pay Sand	681.05
Bottom of Sand	695.45
Total Feet of Permeable Sand	4.97

Distribution of Permeable Sand:

Permeable Range Millidarcys	Feet	Cum. Ft.

Average effective Permeability, Millidarcys	0.68
Average Percent Porosity	16.84
Average Percent Oil Saturation	31.89
Average Percent Water Saturation	-
Average Oil Content, Bbls./A. Ft.	427.
Total Oil Content, Bbls./Acre	3,404.
Average Percent Oil Recovery by Laboratory Flooding Tests	11.71
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	159.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	790.
Total Calculated Oil Recovery, Bbls./Acre	600.
Packer Setting, Feet	682.00
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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Company Deep Rock Oil Corporation Lease Ewing Well No. M-89

Depth Interval, Feet	Description
651.00 - 651.10	Light brown fine grained micaceous sandstone.
651.10 - 651.67	Laminated sandstone and shale.
651.67 - 652.50	Gray sandy shale.
652.50 - 653.16	Laminated shaley sandstone.
653.16 - 654.87	Gray sandy shale.
654.87 - 654.35	Light brown fine grained laminated micaceous sandstone.
654.35 - 654.70	Brown fine grained laminated micaceous sandstone.
654.70 - 655.10	Laminated sandy shale.
655.10 - 656.00	Gray shale.
656.00 - 656.50	Gray sandy shale.
656.50 - 657.80	Light brown fine grained laminated micaceous sandstone.
657.80 - 659.15	Brown fine grained slightly laminated micaceous sandstone.
659.15 - 659.45	Gray sandy shale.
659.45 - 659.60	Brown fine grained laminated micaceous sandstone.
659.60 - 659.70	Gray shale.
659.70 - 660.00	Laminated sandstone and shale.
660.00 - 660.38	Brown fine grained slightly laminated micaceous sandstone.
660.38 - 661.00	Gray sandy shale.
661.00 - 661.60	Laminated shaley sandstone.
661.60 - 662.10	Laminated sandstone and shale.
662.10 - 662.60	Brown fine grained laminated micaceous sandstone.
662.60 - 663.53	Gray sandy shale.

663.53 - 664.00 - Brown fine grained slightly laminated micaceous sandstone.

664.00 - 664.25 - Laminated shaley sandstone.

664.25 - 664.60 - Brown fine grained slightly laminated micaceous sandstone.

664.60 - 665.12 - Brown fine grained micaceous sandstone.

665.12 - 665.60 - Laminated sandstone and shale.

665.60 - 665.83 - Brown fine grained micaceous sandstone.

665.83 - 666.80 - Finely laminated sandstone and shale.

666.80 - 667.60 - Laminated sandstone and shale.

667.60 - 668.60 - Gray sandy shale.

668.60 - 669.17 - Laminated shaley sandstone.

669.17 - 671.90 - Laminated sandstone and shale.

671.90 - 672.30 - Brown fine grained laminated micaceous sandstone.

672.30 - 673.05 - Laminated sandstone and shale.

673.05 - 673.85 - Brown fine grained slightly laminated micaceous sandstone.

673.85 - 677.20 - Laminated sandstone and shale.

677.20 - 677.55 - Gray sandy shale.

677.55 - 678.80 - Laminated sandstone and shale.

678.80 - 679.83 - Laminated sandy shale.

679.83 - 680.20 - Gray sandy shale.

680.20 - 681.05 - Laminated sandy shale.

681.05 - 681.40 - Brown fine grained slightly laminated micaceous sandstone.

681.40 - 681.80 - Brown fine grained micaceous sandstone.

681.80 - 681.95 - Laminated sandstone and shale.

681.95 - 682.77 - Brown fine grained laminated micaceous sandstone.

682.77 - 682.92 - Gray sandy shale.

682.92 - 683.55 - Brown fine grained laminated micaceous sandstone.

683.55 - 683.65 - Gray shale.

683.65 - 684.08 - Brown fine grained micaceous sandstone.

684.08 - 684.30 - Gray sandy shale.

684.30 - 684.44 - Laminated shaley sandstone.

684.44 - 685.68 - Gray shale.

685.68 - 686.35 - Brown fine grained laminated micaceous sandstone.

686.35 - 686.85 - Laminated shaley sandstone.

686.85 - 687.10 - Brown fine grained micaceous sandstone.

687.10 - 687.81 - Gray sandy shale.

687.81 - 687.85 - Brown fine grained micaceous sandstone.

687.85 - 687.95 - Gray shale.

687.95 - 688.40 - Brown fine grained micaceous sandstone.

688.40 - 689.40 - Finely laminated sandstone and shale.

689.40 - 690.00 - Brown fine grained slightly laminated micaceous sandstone.

690.00 - 690.10 - Gray sandy shale.

690.10 - 690.93 - Brown fine grained laminated micaceous sandstone.

690.93 - 691.75 - Gray sandy shale.

691.75 - 692.25 - Brown fine grained slightly laminated micaceous sandstone.

692.25 - 692.40 - Laminated shale and sandstone.

692.40 - 692.80 - Brown fine grained slightly laminated micaceous sandstone.

692.80 - 693.08 - Gray sandy shale.

693.08 - 693.18 - Brown fine grained micaceous sandstone.

693.18 - 693.29 - Gray shale.

693.29 - 694.30 - Brown fine grained slightly laminated micaceous sandstone.

694.30 - 694.70 - Laminated sandy shale.

694.70 - 694.90 - Brown fine grained micaceous sandstone.

694.90 - 695.00 - Laminated sandstone and shale.

695.00 - 695.45 - Brown fine grained slightly laminated micaceous sandstone.

695.45 - 698.83 - Gray shale.

698.83 - 700.85 - Gray sandy shale.

700.85 - 701.15 - Gray shale.

701.15 - 702.00 - Discarded at well.

OIL FIELD RESEARCH LABORATORIES

SHOT RECOMMENDATION

Company Deep Rock Oil Corporation Lease Ewing Well No. M-29

Depth Interval, Feet	Feet of Sand	Size of Shell, Inches	Qts./Ft.	Total Qts.
687.0 - 694.5	7.5	4	2½	18.75

Recommended Packer Setting - 682.0 feet
Note: Plug hole back to 696.0 feet

Oil Field Research Laboratories

RESULTS OF SATURATION TESTS

TABLE III

Company Deep Rock Oil Corporation Lease Ewing Well No. M-29

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.	
2	657.60	15.5	14.9	-	-	180	1.30	1.30	234
3	658.50	13.3	20.9	-	-	215	1.35	2.65	290
6	662.40	18.2	32.1	-	-	455	0.50	3.15	228
7	663.80	15.3	20.0	-	-	238	0.72	3.87	171
8	664.43	15.0	23.8	-	-	276	0.87	4.74	240
9	665.43	15.2	14.7	-	-	174	0.48	5.22	84
12	668.80	14.2	27.8	-	-	306	0.57	5.79	174
13	669.70	14.8	27.0	-	-	310	1.23	7.02	382
14	671.30	14.0	25.0	-	-	271	1.50	8.52	406
15	672.10	14.7	24.5	-	-	280	0.40	8.92	112
16	672.87	14.5	28.2	-	-	317	0.75	9.67	238
17	673.66	14.8	26.8	-	-	308	0.80	10.47	246
18	674.47	13.8	12.6	-	-	134	1.05	11.52	141
20	676.07	14.0	12.1	-	-	132	0.75	12.27	99
21	676.80	13.6	19.8	-	-	210	0.80	13.07	168
22	677.85	15.0	18.4	-	-	214	0.65	13.72	139
23	678.59	13.6	14.4	-	-	152	0.60	14.32	91
26	681.60	18.7	48.7	-	-	706	0.75	15.07	530
27	683.35	18.8	40.4	-	-	589	1.16	16.23	683
28	686.00	14.9	35.8	-	-	414	0.67	16.90	278

Oil Field Research Laboratories

RESULTS OF SATURATION TESTS

TABLE III

Company Deep Rock Oil Corporation Lease Ewing Well No. E-29

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.	
29	686.65	16.0	30.2	-	-	375	0.50	17.40	188
31	688.20	19.5	31.9	-	-	483	0.45	17.85	217
32	689.10	14.2	15.9	-	-	175	1.00	18.85	175
33	689.75	17.2	29.5	-	-	393	0.70	19.55	275
34	690.50	17.2	25.6	-	-	341	0.83	20.38	283
35	691.93	18.1	38.4	-	-	540	0.50	20.88	270
36	692.60	18.0	43.4	-	-	606	0.40	21.28	242
37	693.70	18.4	38.9	-	-	556	1.01	22.29	562
39	695.26	14.6	27.1	-	-	308	0.75	23.04	231
							Total	- - - -	7,377

Oil Field Research Laboratories

SUMMARY OF SATURATION TESTS

TABLE IV

Company Deep Rock Oil Corporation Lease Ewing Well No. E-29

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
656.50-678.80	14.32	14.57	21.20	-	240	3,443
681.05-695.45	8.72	17.09	33.35	-	451	3,934
682.00-696.00	7.97	16.84	31.89	-	427	3,404

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Company Deep Rock Oil Corporation Lease Ewing

Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery	
			Percent	Bbls./A. Ft.	Percent	Bbls./A.
2	657.60	15.5	14.9	180	0.0	0
5	658.50	13.3	20.9	215	0.0	0
6	662.40	18.2	32.1	455	7.5	103
7	663.80	15.3	20.0	238	0.0	0
8	664.45	15.0	22.8	276	0.0	0
9	665.45	15.2	14.7	174	0.0	0
12	668.30	14.2	27.8	306	0.0	0
13	669.70	14.8	27.0	310	0.0	0
14	671.30	14.0	25.0	271	0.0	0
15	672.10	14.7	24.5	280	0.0	0
16	672.97	14.5	28.2	317	0.0	0
17	673.56	14.8	26.8	308	0.0	0
18	674.47	13.8	12.6	134	0.0	0
20	676.07	14.0	12.1	152	0.0	0
21	676.80	13.6	19.8	210	0.0	0
22	677.85	15.0	18.4	214	0.0	0
25	678.59	13.6	14.4	152	0.0	0
26	681.60	18.7	48.7	706	24.7	358
27	683.35	18.8	40.4	589	11.0	161
28	686.00	14.9	35.8	414	0.0	0
29	686.65	16.0	30.2	375	0.0	0
31	688.20	19.5	31.9	483	3.8	58
32	689.10	14.8	15.9	175	0.0	0
33	689.75	17.2	29.5	393	4.2	56
34	690.50	17.2	25.6	341	0.0	0

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ATORY FLOODING TESTS

BLE V

Well No. M-29

Ft.	Residual Saturation % Oil	% Water	Bbls./A. Ft.	Volume of Water Recovered cc*	** Effective Permeability, Millidarcys	Initial Fluid Production Pressure Lbs./Sq. In.
	14.9	74.5	180	0	Imp.	50+
	20.9	77.1	215	0	Imp.	50+
	24.8	69.0	352	10	0.349	30
	20.0	75.8	238	4	0.135	40
	23.9	71.2	276	0	Imp.	50+
	14.7	79.5	174	0	Imp.	50+
	27.6	65.2	306	-	Cracked	-
	27.0	65.0	310	0	Imp.	50+
	25.0	66.0	271	0	Imp.	50+
	24.5	70.0	280	0	Imp.	50+
	28.2	69.4	317	0	Imp.	50+
	26.8	68.0	308	0	Imp.	50+
	12.6	74.4	134	0	Imp.	50+
	12.1	84.1	152	0	Imp.	50+
	19.8	76.5	210	0	Imp.	50+
	18.4	74.5	214	0	Imp.	50+
	14.4	84.4	152	0	Imp.	50+
	24.0	66.7	348	15	0.584	15
	29.4	65.2	428	11	0.416	30
	35.8	62.8	414	0	Imp.	50+
	30.2	66.9	375	0	Imp.	50+
	28.1	67.5	425	62	1.70	15
	15.9	76.5	175	0	Imp.	50+
	25.3	73.6	357	65	1.40	15
	25.6	68.5	341	5	0.172	40

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Company Deep Rock Oil Corporation Lease Ne

Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery	
			Percent	Bbls./A. Ft.	Percent	Bbls./A
36	691.93	16.1	38.4	540	16.2	22
36	692.60	18.0	43.4	606	19.7	27
37	693.70	18.4	38.9	556	18.9	27
39	695.26	14.6	27.1	308	4.9	5

Note: * oc -
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RATORY FLOODING TESTS

ABLE V

ing _____ Well No. 4-29

. Ft.	Residual Saturation			Volume of Water Recovered cc*	**Effective Permeability, Millidarcys	Initial Fluid Production Pressure Lbs./Sq. In.
	% Oil	% Water	Bbls./A. Ft.			
3	22.2	69.2	312	52	0.959	20
5	23.7	70.0	331	11	0.140	15
0	20.0	69.6	286	24	0.59	15
5	22.2	73.0	252	0	0.0035	40

ubic centimeter
e of water recovered at the time
ximum oil recovery.

rmined by passing water through sample
h still contains residual oil.

Oil Field Research Laboratories

SUMMARY OF LABORATORY FLOODING TESTS

TABLE VI

Company Deep Rock Oil Corporation Lease Ewing Well No. E-29

Depth Interval, Feet	662.10 - 695.40	682.00-696.00
Feet of Core Analyzed	6.22	4.97
Average Percent Porosity	17.93	17.79
Average Percent Original Oil Saturation	37.10	35.86
Average Percent Oil Recovery	12.60	11.31
Average Percent Residual Oil Saturation	24.50	24.55
Average Percent Residual Water Saturation	69.07	69.44
Average Percent Total Residual Fluid Saturation	93.57	93.99
Average Original Oil Content, Bbls./A. Ft.	520.	499.
Average Oil Recovery, Bbls./A. Ft.	178.	159.
Average Residual Oil Content, Bbls./A. Ft.	342.	340.
Total Original Oil Content, Bbls./Acre	3,236.	2,479.
Total Oil Recovery, Bbls./Acre	1,110.	790.
Total Residual Oil Content, Bbls./Acre	2,126.	1,689.
Average Effective Permeability, Millidarcys	0.63	0.68
Average Initial Fluid Production Pressure, p.s.i.	21.7	21.4

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