Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Deep Rock Oil Corporation Lease Ewing Well No. W-33

Location 660' East of West line and 990' North of South line, NE¼

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

Name of Sand	Squirrel
Top of Core	682.30
Bottom of Core	727.70
Top of broken Sand	707.00
Bottom of Sand	723.08
Total Feet of Permeable Sand	5.87

Distribution of Permeable Sand:

Permeable Range Millidarcys	Feet	Cum. Ft.

Average effective Permeability, Millidarcys	0.658
Average Percent Porosity	15.49
Average Percent Oil Saturation	34.65
Average Percent Water Saturation	-
Average Oil Content, Bbls./A. Ft.	420.
Total Oil Content, Bbls./Acre	4,764.
Average Percent Oil Recovery by Laboratory Flooding Tests	6.64
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	90.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	529.
Total Calculated Oil Recovery, Bbls./Acre	450.
Packer Setting, Feet	708.0
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.

OIL FIELD RESEARCH LABORATORIES

LOG

Company Deep Rock Oil Corporation Lease Ewing Well No. W-33

Depth Interval, Feet	Description
682.30 - 683.50	Brown fine grained laminated micaceous sandstone.
683.50 - 683.65	Gray shale.
683.65 - 683.80	Laminated shaley sandstone.
683.80 - 684.40	Gray shale.
684.40 - 684.55	Brown fine grained laminated micaceous sandstone.
684.55 - 684.70	Gray sandy shale.
684.70 - 685.25	Brown fine grained micaceous sandstone.
685.25 - 685.38	Gray sandy shale.
685.38 - 685.56	Brown fine grained slightly laminated micaceous sandstone
685.56 - 685.72	Gray sandy shale.
685.72 - 686.42	Brown fine grained slightly laminated micaceous sandstone
686.42 - 686.90	Laminated sandstone and shale.
686.90 - 687.30	Brown fine grained slightly laminated micaceous sandstone
687.30 - 687.68	Laminated shale and sandstone.
687.68 - 688.75	Gray sandy shale.
688.75 - 688.85	Brown fine grained micaceous sandstone.
688.85 - 689.35	Laminated sandstone and shale.
689.35 - 689.75	Brown fine grained laminated micaceous sandstone.
689.75 - 690.85	Laminated sandstone and shale.
690.85 - 691.20	Laminated shale and sandstone.
691.20 - 693.20	Gray shale.
693.20 - 693.55	Laminated sandstone and shale.
693.55 - 693.90	Brown fine grained slightly laminated micaceous sandstone.

693.90 - 694.25 - Laminated sandstone and shale.

694.25 - 694.60 - Gray shale.

694.60 - 695.20 - Brown fine grained slightly laminated micaceous sandstone.

695.20 - 696.10 - Finely laminated sandstone and shale.

696.10 - 696.40 - Brown fine grained laminated micaceous sandstone.

696.40 - 696.60 - Laminated shaley sandstone.

696.60 - 697.40 - Gray shale.

697.40 - 697.80 - Finely laminated sandstone and shale.

697.80 - 698.40 - Gray shale.

698.40 - 698.80 - Brown fine grained laminated micaceous sandstone.

698.80 - 700.27 - Gray shale.

700.27 - 700.37 - Brown fine grained micaceous shaley sandstone.

700.37 - 700.90 - Gray shale.

700.90 - 701.55 - Brown fine grained laminated micaceous sandstone.

701.55 - 702.13 - Gray sandy shale.

702.13 - 702.40 - Gray shale.

702.40 - 702.75 - Finely laminated shale and sandstone.

702.75 - 703.50 - Gray shale.

703.50 - 703.90 - Laminated sandstone and shale.

703.90 - 704.60 - Gray sandy shale.

704.60 - 704.80 - Brown fine grained micaceous sandstone.

704.80 - 705.08 - Gray sandy shale.

705.08 - 705.25 - Brown fine grained micaceous sandstone.

705.25 - 705.60 - Gray sandy shale.

705.60 - 706.80 - Finely laminated sandstone and shale.

706.80 - 707.00 - Gray sandy shale.

707.00 - 707.22 - Brown fine grained micaceous sandstone.

707.28 - 707.80 - Brown fine grained laminated micaceous sandstone.

707.80 - 708.65 - Brown fine grained micaceous sandstone.

708.65 - 709.20 - Brown fine grained laminated micaceous sandstone.

709.20 - 710.00 - Gray shale.

710.00 - 711.07 - Laminated sandstone and shale.

711.07 - 711.55 - Brown fine grained slightly laminated micaceous sandstone.

711.55 - 712.20 - Brown fine grained finely laminated micaceous sandstone.

712.20 - 712.55 - Brown fine grained micaceous sandstone.

712.55 - 713.48 - Finely laminated sandstone and shale.

713.48 - 714.00 - Brown fine grained slightly laminated micaceous sandstone.

714.00 - 714.70 - Brown fine grained finely laminated micaceous sandstone.

714.70 - 715.00 - Laminated sandstone and shale.

715.00 - 716.00 - Brown fine grained laminated micaceous sandstone.

716.00 - 716.80 - Brown fine grained slightly laminated micaceous sandstone.

716.80 - 717.40 - Brown fine grained laminated micaceous sandstone.

717.40 - 718.30 - Laminated sandstone and shale.

718.30 - 718.65 - Brown fine grained finely laminated micaceous sandstone.

718.65 - 719.23 - Laminated sandstone and shale.

719.23 - 720.13 - Finely laminated sandstone and shale.

720.13 - 721.60 - Brown fine grained laminated micaceous sandstone.

721.60 - 722.30 - Brown fine grained finely laminated micaceous sandstone.

722.30 - 722.60 - Brown fine grained finely laminated micaceous slightly calcareous sandstone.

722.60 - 723.08 - Brown fine grained micaceous calcareous sandstone.

723.08 - 723.40 - Gray sandy shale.

723.40 - 724.10 - Hard gray sandy calcareous shale

724.10 - 725.90 - Gray shale.

725.90 - 727.70 - (Discarded at well).

Oil Field Research Laboratories

RESULTS OF SATURATION TESTS

TABLE III

Company Deep Rock Oil Corporation Lease Ewing Well No. W-33

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	685.06	14.0	29.1	-	-	316	0.55	0.55	174
F-2	685.80	17.2	44.7	-	-	597	0.70	1.25	418
F-3	687.07	16.6	34.8	-	-	448	0.40	1.65	180
F-5	690.06	13.8	30.4	-	-	326	1.10	2.75	359
6	691.02	14.5	22.4	68.4	90.8	252	0.35	3.10	88
F-7	693.36	13.5	29.3	-	-	307	0.35	3.45	107
F-8	693.80	16.4	38.8	-	-	494	0.35	3.80	173
8	694.07	13.5	32.9	60.5	93.4	345	0.35	4.15	121
F-9	695.02	16.5	49.6	-	-	637	0.60	4.75	382
F10	695.66	12.2	37.9	-	-	359	0.90	5.65	323
F11	697.60	13.9	25.6	-	-	276	0.40	6.05	110
F12	698.60	18.3	29.8	-	-	423	0.40	6.45	169
F13A	701.10	14.5	30.9	-	-	348	0.65	7.10	226
F15	702.57	14.7	36.2	-	-	413	0.35	7.45	145
16	703.70	14.1	32.4	58.8	91.2	354	0.40	7.85	142
F17	705.80	14.4	33.6	-	-	376	0.60	8.45	226
F19	707.50	15.5	30.7	-	-	369	0.58	9.03	214
F20	709.00	14.8	40.2	-	-	461	1.40	10.43	645
F22	711.37	17.8	30.0	-	-	415	0.48	10.91	199

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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-23	712.10	14.6	32.3	-	-	366	1.00	11.91	366
F-24	713.10	12.7	19.2	-	-	189	0.93	12.84	176
F-25	713.82	15.7	27.3	-	-	335	0.52	13.36	174
F-26	714.50	14.9	28.3	-	-	327	0.70	14.06	229
F-27	715.13	17.3	49.9	-	-	590	0.50	14.56	294
F-28	715.82	17.1	42.7	-	-	567	1.30	15.86	737
F-29	717.20	16.0	32.3	-	-	401	0.60	16.46	240
F-30	718.46	15.5	32.2	-	-	388	0.35	16.81	136
31	719.45	13.5	21.4	59.5	90.9	329	0.90	17.71	296
F-32	720.34	19.4	36.1	-	-	544	1.47	19.18	800
F-33	722.00	12.9	35.0	-	-	351	0.70	19.88	246
F-34	722.82	12.6	46.4	-	-	453	0.78	20.66	354
							Total - - - - - -		8,449

EARLOUGHER ENGINEERING

RESULTS OF LABORATORY FLOODING TESTS

COMPANY Deep Rock Oil Corporation LEASE Ewing WELL NO. Y-31

Sample No.	Depth	Porosity	Perm. Approx.	Before Flooding 1/ Oil Sat.	Before Flooding 1/ Water Sat.	Before Flooding 1/ Oil Content Bbl./A. Ft.	Max. Press. Psi.	Water Through C.C.	Time Min.	Flood Pot Residual Oil Sat.	Flood Pot Residual Water Sat.	Flood Pot Residual Oil Content Bbl./A. Ft.	Flood Pot Oil Recovery Bbl./A. Ft.	
- 4	692.5	20.7	11.	28.	--	450.	40.	94.	555.	18.	55.	290.	164.	
- 8	700.1	15.0	4.0	34.	--	390.	40.	67.	615.	25.	66.	290.	95.	
-10	702.1	16.0	3.0	41.	--	510.	40.	90.	615.	24.	62.	300.	208.	
-12	704.5	14.8	2.0	44.	--	500.	40.	25.	615.	29.	71.	330.	165.	
-14	706.8	15.6	--	30.	--	360.	40.	10.	555.	23.	62.	280.	75.	
-16	712.9	13.2	--	24.	--	250.	40.	-0-	615	22.	78.	230.	24.	
-18	715.1	15.4	2.0	22.	--	260.	40.	-0-	615.	21.	64.	250.	12.	
-20	716.7	13.0	--	30.	--	300.	40.	-0-	615.	27.	73.	270.	27.	
-22	719.2	14.9	--	38.	--	440.	40.	35.	555.	31.	69.	350.	93.	
-24	720.8	13.9	0.1	36.	--	390.	40.	-0-	615.	30.	70.	330.	55.	

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1/ Unless otherwise noted, oil content and saturation before flooding equals flood pot oil recovery plus flood pot residual.

EARLOUGHER ENGINEERING

RESULTS OF PERMEABILITY TESTS

COMPANY Deep Rock Oil Corporation WELL Ewing No. Y-31

Sample No.	Depth Feet	Permeability Millidarcys	Feet of Sand		Capacity Ft. X Md.	Sample No.	Depth Feet	Permeability Millidarcys	Feet of Sand		Capacity Ft. X Md.
			Ft.	Cum. Ft.					Ft.	Cum. Ft.	
1	683.0	2.9	0.3*			20	702.5	2.6	0.6	8.1	1.6
2	685.4	2.2	0.6*			21	703.3	1.2	0.7	8.8	0.8
3	685.8	0.4	0.1*			22	703.8	2.0	0.1	8.9	0.2
4	687.3	Imp.	0.1*			23	704.5	1.7	0.7	9.6	1.2
5	688.1	Imp.	0.1*			24	705.0	2.3	0.2	9.8	0.5
6	689.2	2.1	0.5	0.5	1.1	25	705.9	1.6	0.6	10.4	1.0
7	689.6	16.	0.8	1.3	13.	26	706.1	2.8	0.6	11.0	1.9
8	691.5	7.7	0.5	1.8	3.9	27	707.0	~~Imp.~~	~~0.4*~~		
9	692.5	11.	0.6	2.4	6.6	28	707.8	~~Imp.~~	0.1*		
10	694.3	6.4	0.9	3.3	5.8	29	713.1	~~Imp.~~	0.2*		
11	695.9	2.0	0.6	3.9	1.2	30	714.2	2.5	1.2	12.2	3.0
12	696.1	Imp.	0.4*			31	715.2	1.0	0.9	13.1	0.9
13	697.9	0.7	0.3	4.2	0.2	32	715.8	2.0	1.0	14.1	2.0
14	698.7	3.3	0.8	5.0	2.6	33	716.0	~~0.3~~	~~0.1*~~		
15	700.1	3.4	0.6	5.6	2.0	34	716.9	~~Imp.~~	0.3*		
16	700.4	3.6	0.3	5.9	1.1	35	718.5	~~Imp.~~	1.9	16.0	-0-
17	701.1	8.8	0.6	6.5	5.3	36	719.0	Imp.	0.1*		
18	701.5	6.9	0.5	7.0	3.5	37	719.9	1.0	0.8*		
19	702.2	2.4	0.5	7.5	1.2	38	720.9	~~Imp.~~	0.9*		