Ewing T-34 14-21-20E

May 6, 1950

Deep Rock Oil Corporation
Atlas Life Building
Tulsa, Oklahoma

Att: Mr. T. F. Lowry

Gentlemen:

Enclosed herewith is the report of the analysis made on the 2½" Rotary core taken from the Ewing Lease, Well No. 2-34, Anderson County, Kansas, and submitted to our laboratory on April 26, 1950.

Very truly yours,

OIL FIELD RESEARCH LABORATORIES

Carl L. Pate

CLP:bb
c.c. to Mr. Neil Henderson
Mr. Jack McCuseney

DEEP ROCK OIL CORPORATION

CORE ANALYSIS REPORT

KHANG LEASE WELL NO. T-24

ANDERSON COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES

CHANUTE, KANSAS

MAY 6, 1950

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Deep Rock Oil Corporation Lease Ewing Well No. T-34

Location 830' West of East line, 300' north of south line, NE¼,

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

Name of Sand	Squirrel
Top of Core	687.72
Bottom of Core	728.62
Top of Sand	689.40
Bottom of Sand	724.90
Total Feet of Permeable Sand	10.31

Distribution of Permeable Sand:

Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 5	6.85	6.85
5 - 10	2.62	9.47
10 - 15	1.17	10.64
15 - 20	1.18	11.82
20 - 30	3.02	14.84
30 & above	0.47	15.31

Average Permeability, Millidarcys	9.89
Average Percent Porosity	16.50
Average Percent Oil Saturation	41.72
Average Percent Water Saturation	36.18
Average Oil Content, Bbls./A. Ft.	578.
Total Oil Content, Bbls./Acre	13,826.
Average Percent Oil Recovery by Laboratory Flooding Tests	16.82
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	241.
Aotal Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	2,340.
Total Calculated Oil Recovery, Bbls./Acre	2,350.
Packer Setting, Feet	689.5
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.

Water was used as a circulating fluid in the coring of the sand in this well.

FORMATION CORED

The detailed log of the formation cored is as follows:

Depth Interval, Feet	Description
687.72 - 687.40	Gray shale.
689.40 - 690.10	Brown fine grained laminated micaceous shaley sandstone.
690.10 - 690.75	Gray shale.
690.75 - 691.55	Brown fine grained micaceous shaley sandstone.
691.55 - 691.90	Gray shale.
691.90 - 692.55	Gray sandy shale.
692.55 - 692.95	Finely laminated shaley sandstone.
692.95 - 693.15	Laminated sandstone and shale.
693.15 - 693.85	Brown fine grained finely laminated micaceous shaley sandstone.
693.85 - 694.30	Finely laminated sandy shale.
694.30 - 694.50	Brown fine grained laminated micaceous shaley sandstone.
694.50 - 694.90	Gray shale.
694.90 - 695.25	Finely laminated shaley sandstone.
695.25 - 695.60	Laminated sandstone and shale.
695.60 - 695.70	Brown fine grained micaceous shaley sandstone.
695.70 - 696.35	Finely laminated sandstone and shale.
696.35 - 696.46	Brown fine grained micaceous sandstone.
696.46 - 696.60	Gray shale.
696.60 - 697.35	Laminated shale and sandstone.
697.35 - 697.95	Laminated sandstone and shale.
697.95 - 698.65	Brown fine grained finely laminated micaceous shaley sandstone.
698.65 - 698.90	Gray sandy shale.

698.90 - 699.65 - Brown fine grained finely laminated micaceous shaley sandstone.

699.65 - 699.75 - Gray sandy shale.

699.75 - 700.00 - Brown fine grained finely laminated micaceous shaley sandstone.

700.00 - 700.13 - Gray shale.

700.13 - 700.25 - Brown fine grained finely laminated micaceous shaley sandstone.

700.25 - 700.65 - Gray shale.

700.65 - 701.17 - Brown fine grained micaceous shaley sandstone.

701.17 - 701.35 - Gray shale.

701.35 - 701.50 - Laminated sandstone and shale.

701.50 - 701.98 - Brown fine grained laminated micaceous shaley sandstone.

701.98 - 702.40 - Finely laminated sandstone and shale.

702.40 - 702.80 - Brown fine grained laminated micaceous shaley sandstone.

702.80 - 703.35 - Laminated sandstone and shale.

703.35 - 703.90 - Gray sandy shale.

703.90 - 704.15 - Laminated sandstone and shale.

704.15 - 704.45 - Brown fine grained micaceous shaley sandstone.

704.45 - 705.32 - Light brown fine grained laminated micaceous shaley sandstone.

705.32 - 705.80 - Gray sandy shale.

705.80 - 707.60 - Laminated sandstone and shale.

707.60 - 707.80 - Brown fine grained laminated micaceous shaley sandstone.

707.80 - 708.00 - Laminated sandy shale.

708.00 - 708.60 - Brown fine grained laminated micaceous shaley sandstone.

708.60 - 708.74 - Brown fine grained micaceous sandstone.

708.74 - 709.53 - Gray shale.

709.53 - 709.63 - Brown fine grained laminated micaceous shaley sandstone.

709.63 - 709.90 - Laminated sandstone and shale.

709.90 - 710.25 - Brown fine grained micaceous sandstone.

710.25 - 710.67 - Brown fine grained slightly laminated micaceous shaley sandstone.

710.67 - 710.80 - Laminated sandstone and shale.

710.80 - 712.97 - Dark brown fine grained micaceous sandstone.

712.97 - 713.25 - Gray shale.

713.25 - 714.38 - Dark brown fine grained micaceous sandstone.

714.38 - 715.33 - Gray shale.

715.33 - 715.48 - Laminated sandstone and shale.

715.48 - 716.33 - Gray shale.

716.33 - 717.40 - Brown fine grained micaceous shaley sandstone.

717.40 - 717.70 - Finely laminated shaley sandstone.

717.70 - 717.90 - Brown fine grained laminated micaceous shaley sandstone.

717.90 - 718.42 - Laminated sandstone and shale.

718.42 - 719.00 - Brown fine grained micaceous sandstone.

719.00 - 719.15 - Gray shale.

719.15 - 720.25 - Laminated sandstone and shale.

720.25 - 720.45 - Laminated shaley sandstone.

720.45 - 720.80 - Brown fine grained micaceous shaley sandstone.

720.80 - 721.40 - Laminated sandstone and shale.

721.40 - 721.70 - Brown fine grained finely laminated micaceous shaley sandstone.

721.70 - 722.65 - Brown fine grained micaceous sandstone.

722.65 - 723.85 - Brown fine grained slightly laminated micaceous shaley sandstone.

723.85 - 724.55 - Light brown fine grained micaceous shaley sandstone.

724.55 - 724.90 - Brown fine grained micaceous sandstone.

724.90 - 725.85 - Dark gray shale.

725.85 - 726.20 - Light brown fine grained micaceous shaley sandstone.

726.20 - 727.00 - Gray calcareous shale.

727.00 - 728.62 - Gray shale containing limestone inclusions.

Coring was started at a depth of 687.72 feet in gray shale and completed at 728.62 feet in gray shale containing limestone inclusions. This core shows a total of 22.96 feet of formation containing oil. The pay sand section in this core is badly broken with layers of shale and laminated sandstone and shale.

PERMEABILITY

For the sake of distribution, the core was divided into two sections. The weighted average permeability of the upper and lower sections are 3.76 and 15.47 millidarcys respectively; while that of the pay sand or that part of the sand section extending from the packer setting to the top of the cement plug, is 9.59 millidarcys (See Table II). By observing the data given on the coregraph, it is noticeable that the sand has a very irregular permeability profile and that the lower part of the sand section has a considerable higher permeability.

PERCENT SATURATION & OIL CONTENT

The pay sand in this core has a good weighted average percent oil saturation, namely, 41.72. The weighted average percent oil saturation of the upper and lower sections are 33.79 and 49.76 respectively. The weighted average percent water saturation of the upper and lower sections are 43.14 and 28.99 respectively; while that of the pay sand is 36.18. This gives an overall weighted average total fluid saturation (for the pay sand) of 77.90 percent. This comparatively low total fluid saturation indicates that an appreciable amount of fluid was lost during coring which was probably oil.

In order to get some idea of the degree of flushing of the sand during coring, all of the saturation samples were analyzed for chloride

content. The results of these tests are given in Tables VII and VIII. By observing the data given in these tables and on the coregraph, it is noticeable that the brine in the sand has a comparatively uniform chloride content which leads us to believe that salt water may have been used as a circulating fluid in the coring of the sand in this well. In case fresh water was used, then the tests show that the sand was not flushed to any appreciable extent by the drilling water and that most of the oil lost during coring was due to the expansion of gas carried in solution by the oil. Of course, this would also be true in case salt water was used.

The weighted average oil content of the upper and lower sections are 471 and 725 barrels per acre foot respectively; while that of the pay sand is 578 barrels per acre. The total oil content, as shown by this core, is 13,274 barrels per acre of which 13,226 barrels are in the pay sand section.

LABORATORY FLOODING TESTS

The pay sand in this core responded very well to laboratory flooding tests as a total recovery of 2,540 barrels of oil per acre was obtained from 10.54 feet of sand. The weighted average percent oil saturation was reduced from 49.11 to 32.29, or represents an average recovery of 16.82 percent. The weighted average effective permeability of the samples is 5.18 millidarcys while the average initial fluid production pressure is 25.9 pounds per square inch (See Table VI). From the data given in this table, it is noticeable that the sand in the lower section produced most of the oil and had a considerable higher effective permeability.

By observing the data given in Table V, you will note that of the 28 samples tested, 16 produced oil and took water. The results of these

tests show that a considerable portion of the sand tested is not floodable. This is due to the fact that part of the sand would not take water.

CONCLUSION

From a study of the above data, we believe that an efficient water flood within the vicinity of this well will recover approximately 2,350 barrels of oil per acre. In calculating this recovery, an allowance was made for oil lost during coring and it is assumed that the sand within the vicinity of this well is not pressured up.

The principle drawback of this core is the fact that it is badly broken and that a considerable portion of the sand will not take water.

Oil Field Research Laboratories

SHOT RECOMMENDATION

Company Deep Rock Oil Corporation Lease Ewing Well No. 1-34

Depth Interval, Feet	Feet of Sand	Size of Shell Inches	Qts./Ft.	Total Quarts
694.5 - 723.5	29.0	3½	2.0	58.0

Recommended Packer Setting - 689.5 feet
Note: Plug hole back to 725.0 feet

Oil Field Research Laboratories

RESULTS OF PERMEABILITY TESTS

TABLE I

Company Deep Rock Oil Corporation Lease Ewing Well No. T-34

Sample No.	Depth, Feet	Permeability Millidarcys	Feet of Core		Permeability Capacity Ft. x Md.
			Ft.	Cum. Ft.	
1	689.95	0.85	0.40	0.40	0.34
2	690.80	11.	0.45	0.85	4.95
3	692.90	0.55	0.40	1.25	0.22
4	693.95	2.2	0.45	1.70	0.99
5	694.45	5.4	0.20	1.90	1.08
6	695.45	Imp.	0.35	2.25	0.00
7	695.68	5.1	0.10	2.35	0.51
8	696.45	1.5	0.11	2.46	0.17
9	696.65	1.1	0.40	2.86	0.44
10	697.80	0.31	0.35	3.21	0.11
11	697.55	Imp.	0.60	3.81	0.00
12	698.45	2.3	0.70	4.51	1.61
13	698.85	Imp.	0.35	4.86	0.00
14	699.60	5.4	0.45	5.31	2.43
15	699.84	1.7	0.25	5.56	0.43
16	700.15	1.0	0.12	5.68	0.12
17	701.05	11.	0.52	6.20	5.72
18	701.40	Imp.	0.15	6.35	0.00
19	701.95	2.6	0.48	6.83	1.25
20	702.75	9.2	0.40	7.23	3.68
21	703.70	Imp.	0.55	7.78	0.00
22	704.55	0.60	0.45	8.23	0.27
23	705.30	1.2	0.42	8.65	0.50
24	706.55	Imp.	0.60	9.25	0.00
25	707.25	1.5	0.80	10.05	1.20
26	707.90	Imp.	0.20	10.25	0.00
27	708.65	20.	0.14	10.39	2.80
28	709.55	1.0	0.10	10.49	0.10
29	710.55	6.1	0.42	10.91	2.56
30	710.85	25.	0.40	11.31	10.00
31	711.45	18.	0.60	11.91	10.80
32	712.35	22.	0.40	12.31	8.80
33	712.62	30.	0.30	12.61	9.00
34	712.95	31.	0.17	12.78	5.27
35	713.45	22.	0.55	13.33	12.10
36	714.25	24.	0.58	13.91	13.92
37	715.35	1.1	0.15	14.06	0.17
38	716.35	1.7	0.37	14.43	0.63
39	717.00	2.1	0.70	15.13	1.47
40	717.78	10.	0.20	15.33	2.00

Oil Field Research Laboratories

RESULTS OF PERMEABILITY TESTS

TABLE I

Company Deep Rock Oil Corporation Lease Ewing Well No. T-34

Sample No.	Depth, Feet	Permeability Millidarcys	Feet of Core		Permeability Capacity Ft. x Md.
			Ft.	Cum. Ft.	
41	718.65	17.	0.56	15.91	9.56
42	719.93	Imp.	0.55	16.46	0.00
43	720.35	2.7	0.20	16.66	0.54
44	721.25	Imp.	0.60	17.26	0.00
45	722.07	23.	0.50	17.76	11.50
46	722.30	21.	0.45	18.21	9.45
47	723.05	9.4	0.65	18.86	6.10
48	723.90	Imp.	0.15	19.01	0.00
49	724.10	9.2	0.40	19.41	3.68

Oil Field Research Laboratories

SUMMARY OF PERMEABILITY TESTS

TABLE II

Company Deep Rock Oil Corporation Lease Ewing Well No. T-34

Depth Interval Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity, Ft. x Md.
689.70 - 709.63	7.69	3.76	28.92
710.25 - 724.40	7.62	15.47	117.85
689.50 - 725.00	15.31	9.59	146.77

Oil Field Research Laboratories

RESULTS OF SATURATION TESTS

TABLE III

Company Deep Rock Oil Corporation Lease Ewing Well No. T-34

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	689.55	15.7	39.2	38.5	77.7	477	0.70	0.70	334
2	691.05	16.9	39.3	46.6	85.7	515	0.80	1.50	412
F-3	692.70	15.2	33.7	-	-	398	0.40	1.90	159
4	693.35	16.0	44.5	44.8	89.3	551	0.70	2.60	386
5	693.15	15.9	40.8	48.3	89.1	503	0.35	2.95	176
F-6	695.45	15.2	42.7	-	-	505	0.45	3.40	227
6	695.95	15.2	33.9	48.2	82.1	400	0.76	4.16	304
7	696.90	15.5	34.9	47.3	82.2	480	0.75	4.91	315
8	698.10	15.7	43.5	42.7	86.2	530	0.70	5.61	371
9	699.05	16.3	37.0	45.7	82.7	486	0.75	6.36	351
10	700.85	17.1	42.4	37.6	80.0	562	0.52	6.88	292
F10	701.65	15.2	37.7	-	-	445	0.48	7.36	214
11	702.25	14.1	35.5	51.0	84.5	366	0.42	7.78	154
F11	702.55	15.7	43.0	-	-	524	0.40	8.18	210
12	703.20	15.8	35.7	51.8	87.5	438	0.55	8.73	241
13	704.05	15.1	36.6	50.0	86.6	426	0.25	8.98	107
F13	704.30	18.0	46.4	-	-	676	0.30	9.28	203
14	704.75	14.7	33.0	50.0	83.0	377	0.87	10.15	328
15	705.95	14.7	30.9	55.3	86.2	352	0.70	10.85	246

Oil Field Research Laboratories

RESULTS OF SATURATION TESTS

TABLE III

Company Deep Rock Oil Corporation Lease Ewing Well No. T-34

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.	
16	706.80	15.3	29.2	48.0	77.2	347	0.65	11.30	226
17	707.45	15.9	31.6	48.3	79.9	390	0.45	11.95	175
F17	707.70	14.6	40.3	-	-	457	0.20	12.15	92
18	708.15	17.1	41.1	38.2	79.3	545	0.74	12.89	403
19	710.05	19.2	58.6	25.7	84.3	672	0.55	13.24	305
F19	710.35	18.3	50.9	-	-	724	0.42	13.66	304
20	711.05	20.6	53.4	22.4	75.8	853	0.80	14.46	682
21	711.85	19.4	56.6	24.1	80.7	852	1.37	15.83	1,168
22	713.75	21.0	50.7	20.2	70.9	825	1.13	16.96	935
23	716.55	16.5	44.6	32.2	76.8	570	0.67	17.63	382
24	717.25	18.3	51.3	29.2	80.5	728	0.40	18.03	291
F24	717.55	15.3	34.6	-	-	411	0.50	18.53	206
25	718.55	15.8	46.3	29.1	75.4	710	0.58	19.11	412
26	720.65	19.0	49.2	26.6	75.8	725	0.35	19.46	254
29	721.55	18.3	39.6	42.8	82.4	476	0.30	19.76	143
F29	721.85	18.6	52.6	-	-	758	0.50	20.26	379
30	722.35	20.5	50.9	16.4	78.3	810	0.45	20.71	364
F30	722.75	17.2	57.4	-	-	766	0.45	21.16	345
31	723.35	19.6	53.0	18.9	71.9	805	0.75	21.91	604
32	724.35	15.3	41.2	38.9	80.1	489	0.70	22.61	342
F32	724.75	17.0	50.2	-	-	661	0.35	22.96	232
							Total	- - - -	13,274

Oil Field Research Laboratories

SUMMARY OF SATURATION TESTS

TABLE IV

Company Deep Rock Oil Corporation Lease Ewing Well No. T-34

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
689.40-710.25	13.24	14.92	35.79	43.14	471	6,231
710.25-724.90	9.72	18.63	49.76	25.99	725	7,043
689.80-725.00	22.86	16.50	41.72	36.18	578	13,226

Oil Field Research Laboratories

RESULTS OF LABORATORY FLOODING TESTS

TABLE V

Company Deep Rock Oil Corporation Lease Ewing Well No. T-24

Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery		Residual Saturation			Volume of Water Recovered cc*	[redacted] Effective Permeability, Millidarcys **	Initial Fluid Production Pressure Lbs./Sq. In.
			Percent	Bbls./A. Ft.	Percent	Bbls./A. Ft.	% Oil	% Water	Bbls./A. Ft.			
1	689.95	16.3	39.4	498	4.8	61	34.6	62.7	437	0	0.014	40
2	691.35	18.3	39.2	556	0.0	0	39.2	57.1	556	10.5	0.253	30
3	692.70	15.2	33.7	398	0.0	0	33.7	62.1	398	0	Imp.	50 +
4	693.65	17.0	42.5	560	6.8	90	35.7	58.6	470	2	0.091	45
5	695.45	15.2	42.7	505	0.0	0	42.7	56.8	505	0	Imp.	50 +
6	696.22	15.0	32.2	375	0.0	0	32.2	66.3	375	0	Imp.	50 +
7	697.20	15.0	36.7	427	0.0	0	36.7	62.1	427	0	Imp.	50 +
8	698.45	16.0	44.8	556	8.0	99	36.8	56.7	457	0	0.005	40
9	699.40	16.7	37.6	469	2.6	34	35.0	62.5	455	12	0.353	30
10	701.65	15.2	37.7	445	0.0	0	37.7	58.9	445	0	Imp.	50 +
11	702.55	15.7	43.0	524	16.9	206	26.1	72.2	318	4	0.165	25
12	704.30	18.0	48.4	676	18.6	260	29.8	64.5	416	3	0.096	30
14	705.05	15.2	32.6	385	0.0	0	32.6	63.2	385	0	Imp.	50 +
15	706.25	14.3	30.3	336	0.0	0	30.3	69.0	336	0	Imp.	50 +
16	707.05	14.2	27.9	308	0.0	0	27.9	63.2	308	0	Imp.	50 +
17	707.70	14.6	40.3	457	0.0	0	40.3	55.0	457	2	0.090	40
18	708.45	15.9	42.3	517	6.1	75	36.2	58.9	442	0	0.017	45
19	710.35	18.3	50.9	724	20.0	284	30.9	66.0	440	4	0.152	25
20	711.25	19.5	52.8	813	26.5	400	27.3	68.5	413	51	1.26	10
21	712.15	19.3	58.0	862	30.5	457	27.5	66.7	412	62	1.67	15
22	714.05	23.0	51.5	917	14.5	258	37.0	58.3	659	4	0.229	20
23	716.75	15.7	43.8	533	00.0	0	43.8	53.2	533	1	0.031	40
24	717.55	15.3	34.6	411	0.0	0	34.6	60.9	411	0	Imp.	50 +
26	718.85	17.8	48.7	672	22.2	306	26.5	70.6	366	17	0.363	15
29	721.65	18.6	52.8	758	28.1	405	24.5	66.7	353	35	0.620	15
30	722.75	17.2	57.4	766	21.4	286	36.0	60.0	480	42.5	1.05	15
31	723.65	16.1	54.9	686	20.9	262	34.0	55.0	424	16	0.350	20
32	724.75	17.0	50.2	661	14.2	187	36.0	58.7	474	2	0.097	25

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. T-34

Depth, Interval, Feet	689.40 - 706.74	710.25 - 724.90	689.50 - 725.00
Feet of Core Analyzed	4.29	6.35	10.54
Average Percent Porosity	16.43	19.24	18.13
Average Percent Original Oil Saturation	41.98	33.76	49.11
Average Percent Oil Recovery	7.62	22.85	16.82
Average Percent Residual Oil Saturation	34.36	30.91	32.29
Average Percent Residual Water Saturation	61.42	63.54	62.68
Average Percent Total Residual Fluid Saturation	95.78	94.45	94.97
Average Original Oil Content, Bbls./A. Ft.	535.	794.	691.
Average Oil Recovery, Bbls./A. Ft.	97.	335.	241.
Average Residual Oil Content, Bbls./A. Ft.	438.	459.	450.
Total Original Oil Content, Bbls./Acre	2,295.	5,042.	7,287.
Total Oil Recovery, Bbls./Acre	418.	2,128.	2,540.
Total Residual Oil Content, Bbls./Acre	1,877.	2,914.	4,747.
Average Effective Permeability, Millidarcys	0.105	0.789	0.518
Average Initial Fluid Production Pressure, p.s.i.	36.6	17.8	25.9

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

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RESULTS OF WATER DIFFERENTIATION TESTS

TABLE VII

Company Deep Rock Oil Corporation Lease Ewing Well No. T-34

Sample No.	Depth, Feet	Chloride Content of Brine in Sand ppm	Percent Water Saturation		
			Connate	Drilling & Foreign	Total
1	689.35	22,500			
2	691.05	22,200			
4	693.35	21,200			
5	695.15	22,100			
6	695.95	24,400			
7	696.90	22,100			
8	698.10	27,700			
9	699.05	25,900			
10	700.85	26,600			
11	702.85	21,800			
12	703.80	21,600			
13	704.05	22,600			
14	704.75	23,400			
15	705.95	23,900			
16	706.80	23,000			
17	707.45	23,100			
18	708.15	19,400			
19	710.05	24,900			
20	711.05	23,000			
21	711.85	23,100			
22	713.75	24,800			
23	716.55	20,900			
24	717.25	24,700			
26	718.55	26,200			
28	720.65	22,800			
29	721.55	20,600			
30	722.55	25,700			
31	723.35	24,600			
32	724.35	21,600			

Note: ppm - parts per million

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SUMMARY OF WATER DIFFERENTIATION TESTS

TABLE VIII

Company Deep Rock Oil Corporation Lease Ewing Well No. T-36

Depth Interval, Feet	Chloride Content of Brine in Sand, ppm	Average Percent Connate Water	Average Percent Drilling & Foreign Water
689.40 - 710.25	23,252		
710.25 - 724.90	23,572		
689.50 - 725.00	23,387		

Note: ppm - parts per million