

Oilfield Research Laboratories

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company James E. Russell Petroleum, Inc. Lease Minckley "B" Well No. 104

Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content Bbls. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water	Total			Ft.	Cum. Ft.		
1	726.5	13.5	8	83	91	84	1.3	1.2	1.2	101	1.56
2	727.5	12.4	13	82	95	125	0.69	1.0	2.2	125	0.69
3	728.5	11.8	9	81	90	70	1.8	1.0	3.2	70	1.80
4	729.5	11.3	26	70	96	228	0.87	1.0	4.2	228	0.87
5	730.5	12.2	16	69	75	151	6.0	1.0	5.2	151	6.00
6	731.5	12.0	5	80	85	47	Imp.	1.0	6.2	47	0.00
7	732.5	12.3	14	78	92	134	Imp.	1.0	7.2	134	0.00
8	733.3	16.6	16	47	63	206	4.8	1.0	8.2	206	4.80
9	734.5	14.4	19	60	79	212	2.6	1.0	9.2	212	2.60
10	735.5	14.0	13	80	93	141	0.30	1.0	10.2	141	0.30
11	736.5	16.6	25	49	74	322	6.0	1.0	11.2	322	6.00
12	737.5	15.7	24	58	82	292	5.9	1.0	12.2	292	5.90
13	738.5	15.4	32	51	83	383	7.5	1.0	13.2	383	7.50
14	739.5	14.6	38	47	85	431	10.	1.0	14.2	431	10.00
15	740.5	14.5	21	59	80	237	3.4	0.8	15.0	190	2.72
16	741.5	15.4	28	59	87	335	3.4	1.2	16.2	402	4.08
17	742.5	15.0	35	51	86	408	1.9	1.0	17.2	408	1.90
18	743.5	15.4	35	46	81	419	3.6	1.0	18.2	419	3.60
19	744.5	15.4	38	48	86	455	4.8	1.0	19.2	455	4.80
20	745.5	19.3	28	33	61	420	4.3	1.0	20.2	420	4.30
21	746.5	15.7	44	41	85	537	7.8	1.0	21.2	537	7.80
22	747.5	14.2	29	60	89	320	10.	1.0	22.2	320	10.00
23	748.5	14.2	24	60	84	265	4.1	0.7	22.9	185	2.87
24	749.5	15.3	37	45	82	440	4.3	1.3	24.2	572	5.59
25	750.5	14.6	43	49	92	488	9.7	1.0	25.2	488	9.70
26	751.5	15.7	34	41	75	415	4.7	1.0	26.2	415	4.70
27	752.5	13.2	36	49	85	369	2.1	1.0	27.2	369	2.10
28	753.5	17.3	56	30	86	752	3.8	1.0	28.2	752	3.80
29	754.5	15.0	41	40	81	478	6.2	1.0	29.2	478	6.20
30	755.5	16.3	52	37	89	659	13.	1.0	30.2	659	13.00

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			Oil	Water	Total			Ft.	Cum. Ft.		
31	756.5	16.7	56	30	86	727	24.	1.0	31.2	727	24.00
32	757.5	15.9	44	41	85	544	3.1	1.0	32.2	544	3.10
33	758.6	16.0	40	40	80	498	9.1	1.0	33.2	498	9.10
34	759.5	14.3	39	53	92	434	2.6	1.0	34.2	434	2.60
35	760.5	15.7	40	44	84	488	2.2	0.7	34.9	342	1.54
36	761.5	14.2	18	71	89	199	1.4	1.0	35.9	199	1.40
37	763.5	14.0	63	26	89	686	0.64	0.7	36.6	473	0.45

Oilfield Research Laboratories

RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company James E. Russell Petroleum, Inc. Lease Minckley "B" Well No. 104

Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery		Residual Saturation			Volume of Water Recovered cc*	Effective Permeability Millidarcys**	Initial Fluid Production Pressure Lbs./Sq./In.
			%	Bbbs./A. Ft.	%	Bbbs./A. Ft.	% Oil	% Water	Bbbs./A. Ft.			
1	726.5	13.5	8	84	0	0	8	83	84	0	Imp.	—
2	727.5	12.4	13	125	0	0	13	82	125	0	Imp.	—
3	728.5	11.8	9	70	0	0	9	81	70	0	Imp.	—
4	729.5	11.3	26	228	0	0	26	70	228	0	Imp.	—
5	730.5	12.2	16	151	0	0	16	69	151	0	Imp.	—
6	731.5	12.0	5	47	0	0	5	80	47	0	Imp.	—
7	732.5	12.3	14	134	0	0	14	78	134	0	Imp.	—
8	733.3	16.6	16	206	0	0	16	47	206	0	Imp.	—
9	734.5	14.4	19	212	0	0	19	60	212	0	Imp.	—
10	735.5	14.0	13	141	0	0	13	80	141	0	Imp.	—
11	736.5	17.3	25	335	3	40	22	63	295	5	0.07	50
12	737.5	17.1	24	318	1	13	23	65	305	6	0.15	50
13	738.5	16.9	32	419	4	52	28	58	367	3	0.15	50
14	739.5	14.6	38	431	0	0	38	47	431	0	Imp.	—
15	740.5	14.5	21	237	0	0	21	59	237	0	Imp.	—
16	741.5	15.4	28	335	0	0	28	59	335	0	Imp.	—
17	742.5	15.0	35	408	0	0	35	51	408	0	Imp.	—
18	743.5	15.4	35	419	0	0	35	46	419	0	Imp.	—
19	744.5	15.9	38	468	7	86	31	68	382	2	0.07	50
20	745.5	16.6	33	426	4	52	29	64	374	2	0.07	50
21	746.5	16.7	44	571	8	104	36	58	467	6	0.15	50
22	747.5	14.2	29	320	0	0	29	60	320	0	Imp.	—
23	748.5	14.2	24	265	0	0	24	60	265	0	Imp.	—
24	749.5	15.3	37	440	0	0	37	45	440	0	Imp.	—
25	750.5	16.9	43	564	15	197	28	65	367	6	0.15	30
26	751.5	15.8	38	466	0	0	38	54	466	0	Imp.	—
27	752.5	15.0	36	419	4	47	32	60	372	6	0.15	45
28	753.5	17.0	56	739	29	383	27	71	356	44	0.97	30
29	754.5	16.7	41	532	11	143	30	68	389	3	0.15	40

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.

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			%	Bbls./A. Ft.	%	Bbls./A. Ft.	% Oil	% Water	Bbls./A. Ft.			
30	755.5	17.4	52	703	19	257	33	61	446	36	0.67	30
31	756.5	17.9	56	778	25	347	31	62	431	25	0.45	30
32	757.5	16.2	41	515	0	0	41	54	515	0	Imp.	-
33	758.6	17.3	40	537	3	40	37	53	497	2	0.07	50
34	759.5	14.3	39	434	0	0	39	53	434	0	Imp.	-
35	760.5	15.7	40	488	0	0	40	44	488	0	Imp.	-
36	761.5	14.2	18	199	0	0	18	71	199	0	Imp.	-
37	763.5	14.0	63	686	0	0	63	26	686	0	Imp.	-

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.