

Oilfield Research Laboratories

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company James E. Russell Petroleum, Inc. Lease C. McGhee Well No. 4

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	730.4	13.1	28	62	90	285	0.17	0.9	0.9	256	0.15
2	731.4	13.9	29	51	80	313	0.37	1.7	2.6	532	0.63
3	742.4	14.6	18	52	70	204	1.2	1.0	3.6	204	1.20
4	743.5	13.8	13	67	80	139	0.92	0.8	4.4	111	0.74
5	744.6	15.6	18	53	71	218	10.	1.3	5.7	284	13.00
6	745.7	13.7	17	63	80	181	0.39	1.4	7.1	253	0.55
7	746.8	16.0	22	45	67	273	5.4	0.7	7.8	191	3.78
8	747.5	17.5	17	54	71	231	6.1	0.8	8.6	185	4.88
9	748.5	17.8	25	41	66	345	9.2	1.0	9.6	345	9.20
10	749.5	17.6	26	40	66	355	3.9	1.0	10.6	355	3.90
11	750.4	15.4	26	48	74	311	3.1	1.0	11.6	311	3.10
12	751.5	15.1	26	54	80	305	2.4	1.0	12.6	305	2.40
13	752.5	14.8	34	52	86	390	7.2	1.0	13.6	390	7.20
14	753.5	18.5	28	39	67	402	21.	1.0	14.6	402	21.00
15	754.5	14.8	35	48	83	402	8.3	0.6	15.2	241	4.98
16	755.5	12.6	21	70	91	206	0.92	1.4	16.6	288	1.29
17	756.5	14.5	25	60	85	281	0.56	1.2	17.8	337	0.67
18	759.5	17.3	38	38	76	510	6.4	0.8	18.6	408	5.12
19	760.4	16.4	37	40	77	471	2.7	0.9	19.5	424	2.43
20	761.5	14.9	31	47	78	358	5.7	1.1	20.6	394	6.27
21	762.5	17.2	41	31	72	547	3.2	1.0	21.6	547	3.20
22	763.5	16.7	50	29	79	648	5.0	1.0	22.6	648	5.00
23	764.5	14.9	65	27	92	753	11.	0.7	23.3	526	7.70
24	765.5	17.3	42	29	71	564	17.	1.0	24.3	564	17.00
25	766.6	14.1	52	40	92	570	5.0	1.0	25.3	570	5.00
26	767.6	17.2	39	34	73	520	4.7	1.0	26.3	520	4.70
27	768.5	16.4	41	36	77	522	8.9	1.0	27.3	522	8.90

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			Oil	Water	Total			Ft.	Cum. Ft.		
28	769.5	16.8	51	33	84	665	1.2	1.0	28.3	665	1.20
29	770.5	18.3	53	26	79	752	2.2	0.6	28.9	451	1.32
30	772.4	16.8	43	35	78	560	Imp.	0.8	29.7	448	0.00
31	773.5	15.3	47	42	89	558	0.55	1.0	30.7	558	0.55
32	774.5	15.7	54	31	85	658	0.54	1.0	31.7	658	0.54
33	775.4	15.0	61	26	87	710	0.28	1.5	33.2	1,065	0.42

Oilfield Research Laboratories

RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company James E. Russell Petroleum, Inc. Lease C. McGhee Well No. 4

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.
			%	Bbls./A. Ft.	%	Bbls./A. Ft.	% Oil	% Water	Bbls./A. Ft.			
1	730.4	13.3	29	299	0	0	29	64	299	0	Imp.	-
2	731.4	13.8	29	311	0	0	29	54	311	0	Imp.	-
3	742.4	14.7	20	228	0	0	20	56	228	0	Imp.	-
4	743.5	13.8	15	160	0	0	15	68	160	0	Imp.	-
5	744.6	17.1	22	292	0	0	22	73	292	33	0.61	40
6	745.7	14.0	17	184	0	0	17	66	184	0	Imp.	-
7	746.8	16.5	24	307	0	0	24	62	307	12	0.22	40
8	747.5	17.5	19	258	0	0	19	69	258	8	0.24	45
9	748.5	17.5	24	326	0	0	24	58	326	9	0.33	45
10	749.5	18.0	26	363	2	28	24	64	335	15	0.25	40
11	750.4	15.2	25	294	0	0	25	50	294	0	Imp.	-
12	751.5	15.2	25	294	0	0	25	56	294	0	Imp.	-
13	752.5	14.6	33	373	0	0	33	56	373	0	Imp.	-
14	753.5	18.8	28	408	2	30	26	63	378	13	0.25	40
15	754.5	15.3	35	415	7	83	28	63	332	4	0.15	50
16	755.5	12.4	22	212	0	0	22	71	212	0	Imp.	-
17	756.5	14.3	25	277	0	0	25	63	277	0	Imp.	-
18	759.5	17.7	38	521	6	82	32	60	439	5	0.16	40
19	760.4	16.9	37	485	5	66	32	59	419	5	0.16	50
20	761.5	15.1	31	363	2	23	29	63	340	3	0.16	50
21	762.5	16.9	40	524	0	0	41	35	524	0	Imp.	-
22	763.5	17.2	50	666	17	227	33	60	439	7	0.10	40
23	764.5	15.3	65	771	31	368	34	59	403	6	0.16	40
24	765.5	17.1	42	556	7	92	35	57	464	8	0.17	50
25	766.6	14.6	52	589	19	215	33	58	374	3	0.08	50
26	767.6	17.0	39	514	7	93	32	61	421	3	0.08	50
27	768.5	16.4	41	521	5	63	36	55	458	5	0.08	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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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.
			%	Bbls./A. Ft.	%	Bbls./A. Ft.	% Oil	% Water	Bbls./A. Ft.			
28	769.5	16.5	50	640	0	0	50	35	640	0	Imp.	—
29	770.5	18.3	53	752	0	0	53	28	752	0	Imp.	—
30	772.4	16.9	44	576	0	0	44	37	576	0	Imp.	—
31	773.5	15.3	47	558	0	0	47	44	558	0	Imp.	—
32	774.5	15.9	52	641	0	0	52	34	641	0	Imp.	—
33	775.4	15.2	60	707	0	0	60	29	707	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.