

## OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Ladd Petroleum Corporation's Federal well 1-12-74 drilled in the SW1/4SW1/4 (460 feet FSL, 460 feet FWL) of sec. 12, T 17 N, R 94 W, Sweetwater County, Wyoming

Surface elevation: 6,635 feet

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks <sup>2/</sup>
			Weight percent		Spent shale	Gas + loss		Gal per ton		
Laramie	Their		Oil	Water					Oil <sup>1/</sup>	Water
SBR76-1246-1287	70-570						No Oil			
SBR76-1288	670-680	15950	1.7	3.6	93.6	1.1	4.4a	8.6		None
SBR76-1289	680-690	15951	.8	2.6	95.8	.8	2.0a	6.2		None
SBR76-1290	700-710	15952	2.0	2.2	93.5	2.3	5.2a	5.3		None
SBR76-1291	710-720	15953	3.3	4.5	90.3	1.9	8.5	10.8	0.928	None
SBR76-1292	730-740	15954	1.5	4.8	91.8	1.9	3.9a	11.5		None
SBR76-1293	750-760						No Oil			
SBR76-1294-1295	780-800						No Oil			
SBR76-1296-1301	810-870						No Oil			
SBR76-1302-1303	870-890						b			
SBR76-1304-1311	900-980						No Oil			
SBR76-1312	980-990						Trace			
SBR76-1314-1317	1000-1040						Trace			
SBR76-1318	1040-1050	15956	.1	5.0	93.5	1.4	.3a	12.0		None
SBR76-1319	1050-1060	15957	1.7	6.0	89.6	2.7	4.4a	14.4		None
SBR76-1320	1060-1070	15958	1.5	3.6	93.6	1.3	4.0a	8.5		None
SBR76-1321	1070-1080	15959	1.2	3.0	93.8	2.0	3.0a	7.3		None
SBR76-1322	1080-1090	15960	1.9	1.7	94.0	2.4	4.9a	4.1		None
SBR76-1323	1090-1100	15961	2.0	3.7	92.3	2.0	5.2a	8.8		None
SBR76-1324	1100-1110	15962	2.3	3.3	92.8	1.6	5.9a	7.9		None
SBR76-1325	1230-1240	15963	31.0	5.0	59.3	4.7	76.5	12.1	.969	None Rubber
SBR76-1326	1240-1250	15964	36.4	3.2	56.0	4.4	90.9	7.5	.961	None Rubber
SBR76-1327	1250-1260	15965	34.3	3.4	54.1	8.2	85.9	8.2	.957	None Rubber
SBR76-1328	1260-1270	15966	26.3	4.2	65.0	4.5	65.8	10.0	.960	None Rubber
SBR76-1329	1270-1280	15967	23.2	4.8	68.4	3.6	58.0	11.5	.960	None Rubber
SBR76-1330-1338	1280-1370						No Oil			
SBR76-1339	1370-1380	15968	14.2	6.7	68.6	10.5	32.8	16.2	1.039	None
SBR76-1340	1380-1390	15969	11.6	9.6	67.7	11.1	26.8	23.0	1.038	None
SBR76-1341	1390-1400	15970	7.9	12.8	70.7	8.6	17.9	30.7	1.056	None Rubber
SBR76-1342	1400-1410	15971	4.1	16.3	69.7	9.9	9.1	39.1	1.095	None Rubber

See footnote at end of table.

Drill cuttings received January 27, 1976; assays made on air-dried samples

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Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks <sup>2/</sup>	
			Weight percent		Gas + loss	Gal per ton		Tendency to coke			
Laramie	Their		Oil	Water		Spent shale			Oil <sup>1/</sup>	Water	
SBR76-1343	1410-1420	15972	4.1	11.0	77.9	7.0	9.5	26.4	1.040	None	Rubber
SBR76-1344	1420-1430	15973	18.6	6.4	66.2	8.8	44.4	15.4	1.002	None	Rubber
SBR76-1345	1430-1440	15974	16.4	6.3	68.3	9.0	39.1	15.1	1.009	None	Rubber
SBR76-1346	1440-1450	15975	10.3	9.4	74.1	6.2	24.8	22.5	.994	None	Rubber
SBR76-1347	1450-1460	15976	24.1	6.2	62.1	7.6	59.4	14.8	.974	None	Rubber
SBR76-1348	1460-1470	15977	22.6	6.2	63.8	7.4	55.5	14.8	.976	None	Rubber
SBR76-1349	1470-1480	15978	12.7	7.5	72.8	7.0	31.0	18.1	.986	None	Rubber
SBR76-1350	1480-1490	15979	30.3	5.2	58.4	6.1	74.5	12.6	.974	None	Rubber
SBR76-1351	1490-1500	15980	6.2	4.9	83.0	5.9	16.2a	11.8		None	Rubber
SBR76-1352	1560-1570						No Oil				
SBR76-1353	1570-1580						Trace				
SBR76-1354-1356	1580-1610						No Oil				
SBR76-1357-1358	1610-1630						Trace				
SBR76-1359	1640-1650	15981	.0	6.8	91.9	1.3	Trace	16.2		None	
SBR76-1360-1361	1650-1670						No Oil				
SBR76-1362	1670-1680	15982	.0	5.7	93.3	1.0	Trace	13.7		None	
SBR76-1363	1680-1690	15983	.0	5.7	93.0	1.3	Trace	13.6		None	
SBR76-1364	1690-1700	15984	.3	6.0	92.5	1.2	.9a	14.4		None	
SBR76-1365	1700-1710	15985	.0	7.1	91.2	1.7	Trace	17.0		None	
SBR76-1366	1710-1720	15986	.0	5.5	93.6	.9	Trace	13.1		None	
SBR76-1367	1720-1730	15987	.0	5.6	93.5	.9	Trace	13.4		None	
SBR76-1368	1730-1740	15988	.0	5.9	92.1	2.0	Trace	14.1		None	
SBR76-1369	1740-1750	15989	.0	6.8	91.9	1.3	.1a	16.2		None	
SBR76-1370	1750-1760	16006	.0	6.2	92.7	1.1	Trace	15.0		None	
SBR76-1371	1770-1780						b				
SBR76-1372	1780-1790						c				
SBR76-1373-1374	1790-1810						b				
SBR76-1375	1810-1820						c				
SBR76-1376	1820-1830						b				
SBR76-1377	1830-1840						c				

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Surface elevation: 6,635 feet

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale Tendency to coke	Remarks
			Weight percent		Gas + loss	Gal per ton			
Laramie	Their		Oil	Water		Spent shale		Oil <sup>1/</sup>	Water
SBR76-1378	1840-1850						b		
SBR76-1379	1850-1860	16007	0.0	5.5	93.5	1.0	Trace	13.3	None
SBR76-1380	1860-1870	16008	.0	5.8	93.5	.7	Trace	13.9	None
SBR76-1381	1870-1880	16009	.0	7.3	91.6	1.1	Trace	17.5	None
SBR76-1382	1880-1890	16012	.0	6.4	92.0	1.6	Trace	15.2	None
SBR76-1383	1900-1910	16013	.0	6.4	91.0	2.6	Trace	15.3	None
SBR76-1384	1910-1920	16014	.0	5.9	92.6	1.5	Trace	14.2	None
SBR76-1385	1920-1930	16015	.0	7.2	91.4	1.4	Trace	17.2	None
SBR76-1386	1930-1940	16016	.0	6.2	92.5	1.3	Trace	14.9	None
SBR76-1387	1940-1950	16017	.0	7.5	91.0	1.5	Trace	18.0	None
SBR76-1388	1950-1960	16018	.0	6.5	92.4	1.1	Trace	15.6	None
SBR76-1389	1970-1980	16019	.4	6.0	91.5	2.1	1.0a	14.4	None
SBR76-1390	1980-1990	16020	.0	7.4	91.0	1.6	Trace	17.8	None
SBR76-1391	1990-2000	16021	.7	6.0	91.0	2.3	1.8a	14.4	None
SBR76-1392	2000-2030	16022	.0	6.5	92.2	1.3	Trace	15.6	None
SBR76-1393	2030-2060	16023	.0	6.6	92.2	1.2	Trace	15.8	None
SBR76-1394	2090-2120	16024	3.2	6.6	87.6	2.6	8.1	15.8	0.953
SBR76-1395	2120-2150	16025	4.6	6.8	83.3	5.3	11.5	16.3	.963
SBR76-1396	2150-2180	16026	3.1	4.9	90.1	1.9	8.2a	11.8	None
SBR76-1397	2180-2210	16027	1.3	4.7	92.1	1.9	3.4a	11.4	None
SBR76-1398	2210-2240	16028	2.4	5.1	88.2	4.3	6.4a	12.3	None
SBR76-1399	2240-2270	16029	1.0	4.8	92.6	1.6	2.5a	11.5	None
SBR76-1400	2270-2300	16030	.6	4.7	93.2	1.5	1.6a	11.4	None
SBR76-1401	2300-2330						No Oil		
SBR76-1402-1403	2330-2390						c		
SBR76-1404	2450-2480						Trace		
SBR76-1405	4070-4100	16031	.0	4.8	94.3	.9	Trace	11.4	None
SBR76-1406	4100-4130	16032	.0	4.9	94.7	.4	Trace	11.8	None
SBR76-1407	4130-4160	16033	.0	6.0	93.2	.8	Trace	14.3	None
SBR76-1408	4160-4190	16034	.0	4.7	94.5	.8	Trace	11.3	None

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Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks <sup>2/</sup>	
			Weight percent		Gal per ton			Tendency to			
Laramie	Their		Oil	Water	Spent shale	Gas + loss	Oil <sup>1/</sup>	Water	coke		
SBR76-1409	4190-4220	16035	0.0	5.4	94.1	0.5	Trace	12.9	None		
SBR76-1410	4220-4250	16036	.0	4.9	94.2	.9	Trace	11.8	None		
SBR76-1411	5000-5010	16037	6.9	6.4	82.1	4.6	16.8	15.4	0.984	None	
SBR76-1412	5010-5020	16038	9.5	5.2	77.6	7.7	23.5	12.4	.974	None	Rubber
SBR76-1413	5020-5030	16039	16.2	2.5	75.5	5.8	40.4	6.0	.965	None	Rubber
SBR76-1414	5030-5040	16040	18.4	4.3	74.3	3.0	46.4	10.3	.954	None	Rubber
SBR76-1415	5040-5050	16041	13.9	4.9	78.4	2.8	34.6	11.8	.964	None	Rubber
SBR76-1416	5050-5060	16042	49.5	1.6	44.7	4.2	123.0	4.0	.964	None	Rubber

<sup>1/</sup> "a"--indicates specific gravity estimated as 0.92. Oil yields were estimated by a rapid test-tube method: "No Oil," "Trace," "b"--less than 1 gal oil/ton, "c"--1 to 3 gal oil/ton. <sup>2/</sup> Rubber contamination makes these results useless.

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