

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Amoco Production Company's Champlin Well 1-97 drilled in the NW1/4SE1/4 (2,080 feet N/S, 1,980 feet W/E) of sec 21, T 20 N, R 108 W, Sweetwater County, Wyoming

Kelly Bushing Elevation 6,468 feet

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks
			Weight percent		Spent shale	Gas + loss		Gal per ton		
Laramie	Their		Oil	Water					Oil ¹ /	Water
SBR72-10775-89	40-190						No Oil			
SBR72-10790	200-210						b			
SBR72-10791	210-220						Trace			
SBR72-10792	220-230						No Oil			
SBR72-10793	230-240						b			
SBR72-10794-95	240-260						No Oil			
SBR72-10796	260-270						b			
SBR72-10797	270-280						c			
SBR72-10798	280-290						b			
SBR72-10799-803	290-340						Trace			
SBR72-10804	340-350						No Oil			
SBR72-10805	350-360						b			
SBR72-10806-08	360-390						c			
SBR72-10809-10	390-410						b			
SBR72-10811-12	410-430						Trace			
SBR72-10813	430-440						b			
SBR72-10814	440-450	77862	0.8	3.6	94.3	1.3	2.1a	8.6		None
SBR72-10815	450-460	77863	2.0	3.2	93.1	1.7	5.2a	7.7		None
SBR72-10816	460-470	77864	1.5	2.5	94.9	1.1	3.9a	6.0		None
SBR72-10817	470-480	77865	.6	2.0	96.4	1.0	1.6a	4.8		None
SBR72-10818	480-490	77866	1.2	2.1	95.8	.9	3.1a	5.0		None
SBR72-10819	490-500	77867	1.0	2.0	95.7	1.3	2.6a	4.8		None
SBR72-10820	500-510	77868	.4	1.8	96.9	.9	1.0a	4.3		None
SBR72-10821	510-520	77869	.3	1.7	96.9	1.1	.9a	4.1		None
SBR72-10822	520-530	77870	.6	2.5	96.0	.9	1.5a	6.0		None
SBR72-10823	530-540	77871	.6	2.0	96.6	.8	1.6a	4.8		None
SBR72-10824	540-550	77872	2.2	.4	96.8	.6	1.1a	5.3		None
SBR72-10825	550-560	77873	.4	2.1	96.7	.8	1.1a	5.0		None
SBR72-10826	560-570	77874	.5	2.4	96.5	.6	1.4a	5.8		None
SBR72-10827	570-580	77875	.3	2.4	96.5	.8	.9a	5.6		None

See footnote at end of table.

Drill cutting samples received January 10, 1972; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Amoco Production Company's Champlin Well 1-97 (con.)

Kelly Bushing Elevation 6,468 feet

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks
			Weight percent		Gal per ton			Tendency to		
Laramie	Their		Oil	Water	Spent shale	Gas + loss	Oil/	Water	coke	
SBR72-10828	580-590	77876	0.7	1.7	96.4	1.2	1.7a	4.1	None	
SBR72-10829	600-610	77877	.5	2.2	96.4	.9	1.3a	5.2	None	
SBR72-10830	610-620	77878	.3	2.3	96.8	.6	.7a	5.5	None	
SBR72-10831	620-630	77879	1.4	1.8	95.9	.9	3.6a	4.3	None	
SBR72-10832	630-640	77880	2.7	1.8	94.3	1.2	7.1a	4.3	None	
SBR72-10833	640-650	77881	3.5	2.0	93.0	1.5	9.2	4.8	0.919	None
SBR72-10834	650-660	77882	1.1	2.7	95.0	1.2	2.8a	6.6	None	
SBR72-10835	660-670	77883	1.9	2.5	94.7	.9	4.9a	6.0	None	
SBR72-10836	670-680	77884	1.5	2.1	95.5	.9	4.0a	5.0	None	
SBR72-10837	680-690	77885	1.6	2.4	95.2	.8	4.1a	5.8	None	
SBR72-10838	690-700	77886	.4	4.2	94.7	.7	1.1a	10.1	None	
SBR72-10839	700-710	77887	1.4	2.1	95.7	.8	3.7a	4.9	None	
SBR72-10840	710-720	77888	3.1	2.1	93.7	1.1	8.0	5.0	.914	None
SBR72-10841	720-730	77889	2.5	1.7	95.0	.8	4.5a	6.0	None	
SBR72-10842	730-740	77890	5.1	2.0	91.2	1.7	13.4	4.8	.916	None
SBR72-10843	740-750	77891	4.7	2.1	91.9	1.3	12.3	5.0	.913	None
SBR72-10844	750-760	77892	4.5	2.0	91.9	1.6	11.7	4.8	.915	None
SBR72-10845	760-770	77893	5.2	1.7	90.9	2.2	13.7	4.1	.918	None
SBR72-10846	770-780	77894	6.4	1.7	88.8	3.1	16.7	4.1	.913	None
SBR72-10847	780-790	77895	5.3	1.7	90.8	2.2	14.0	4.0	.912	None
SBR72-10848	790-800	77896	5.5	1.9	90.8	1.8	14.4	4.6	.912	None
SBR72-10849	800-810	77897	5.5	1.8	90.6	2.1	14.4	4.3	.913	None
SBR72-10850	810-820	77898	9.6	1.5	85.7	3.2	25.3	3.6	.909	Slight
SBR72-10851	820-830	77899	9.1	1.2	85.0	4.7	24.1	2.9	.908	Slight
SBR72-10852	830-840	77900	8.6	1.8	86.0	3.6	22.6	4.3	.911	Slight
SBR72-10853	840-850	77901	7.9	1.2	88.0	2.9	20.9	2.8	.908	Slight
SBR72-10854	850-860	77902	7.2	1.9	88.0	2.9	18.8	4.6	.912	None
SBR72-10855	860-870	77903	7.2	1.9	88.4	2.5	18.9	4.6	.908	None
SBR72-10856	870-880	77904	8.4	1.8	86.1	3.7	22.2	4.2	.913	None
SBR72-10857	880-890	77905	8.3	2.3	86.0	3.4	21.8	5.5	.909	None

See footnote at end of table.

Drill cutting samples received January 10, 1972; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Amoco Production Company's Champlin Well 1-97 (con.)

Kelly Bushing Elevation 6,468 feet

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks	
			Weight percent		Spent shale	Gas + loss		Gal per ton			Tendency to coke
Laramie	Their		Oil	Water				Oil	Water		
SBR72-10858	890- 900	77906	7.4	1.9	85.9	4.8	19.3	4.6	0.918	None	Lost Circ. Mat.
SBR72-10859	900- 910	77907	9.0	2.5	84.7	3.8	23.7	6.1	.913	Slight	Lost Circ. Mat.
SBR72-10860	910- 920	77908	11.2	2.7	82.0	4.1	29.6	6.5	.909	Slight	Lost Circ. Mat.
SBR72-10861	920- 930	77909	11.1	2.0	82.1	4.8	29.2	4.8	.909	None	
SBR72-10862	930- 940	77910	13.7	2.4	78.7	5.2	36.2	5.8	.908	Slight	
SBR72-10863	940- 950	77911	15.7	1.7	77.2	5.4	41.4	4.1	.908	Slight	
SBR72-10864	950- 960	77912	16.7	1.8	75.8	5.7	44.2	4.3	.905	Slight	
SBR72-10865	960- 970	77913	12.4	1.5	81.9	4.2	32.9	3.6	.906	None	
SBR72-10866	970-980	77914	12.0	1.6	82.1	4.3	31.7	3.8	.909	None	
SBR72-10867	980- 990	77915	9.9	1.6	85.6	2.9	26.1	3.8	.909	None	
SBR72-10868	990-1000	77916	9.3	1.3	85.8	3.6	24.7	3.1	.907	None	
SBR72-10869	1000-1010	77917	9.1	1.6	85.4	3.9	23.9	3.8	.910	None	
SBR72-10870	1010-1020	77918	3.3	1.7	93.3	1.7	8.8	4.1	.907	None	
SBR72-10871	1020-1030	77919	5.0	1.8	90.8	2.4	13.1	4.3	.908	None	
SBR72-10872	1030-1040	77920	2.2	4.4	91.4	2.0	6.0	10.5	.894	None	
SBR72-10873	1040-1050	77921	3.2	4.0	90.7	2.1	8.5	9.6	.895	None	
SBR72-10874	1050-1060	77922	4.6	4.0	89.1	2.3	12.3	9.6	.899	None	
SBR72-10875	1060-1070	77923	6.5	3.0	87.7	2.8	17.2	7.2	.906	None	
SBR72-10876	1070-1080	77924	5.6	2.7	89.1	2.6	14.9	6.5	.907	None	
SBR72-10877	1080-1090	77925	5.3	2.0	90.1	2.6	13.9	4.8	.911	None	
SBR72-10878	1090-1100	77926	5.5	2.7	89.1	2.7	14.6	6.5	.908	None	
SBR72-10879	1100-1110	77927	6.0	1.6	89.2	3.2	15.8	3.8	.911	None	
SBR72-10880	1110-1120	77928	5.4	2.0	89.9	2.7	14.2	4.8	.911	None	
SBR72-10881	1120-1130	77929	2.5	3.6	91.8	2.1	6.8	8.6	.897	None	
SBR72-10882	1130-1140	77930	2.4	3.4	92.8	1.4	6.6	8.1	.894	None	
SBR72-10883	1140-1150	77931	4.0	2.8	91.3	1.9	10.5	6.7	.903	None	
SBR72-10884	1150-1160	77932	4.2	2.8	90.8	2.2	11.2	6.7	.901	None	
SBR72-10885	1160-1170	77933	4.0	2.8	90.9	2.3	10.7	6.7	.903	None	
SBR72-10886	1170-1180	77934	2.8	2.2	93.1	1.9	7.5	5.3	.907	None	
SBR72-10887	1180-1190	77935	3.0	2.2	92.9	1.9	8.1	5.3	.905	None	

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Kelly Bushing Elevation 6,468 feet

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks
			Weight percent		Gal per ton			Tendency to		
Laramie	Their		Oil	Water	Spent shale	Gas + loss	Oil ¹ /	Water	coke	
SBR72-10888	1190-1200	77936	3.3	2.2	92.7	1.8	8.8	5.3	0.906	None
SBR72-10889	1200-1210	77937	3.4	2.4	92.3	1.9	9.1	5.8	.905	None
SBR72-10890	1210-1220	77938	3.9	1.9	92.3	1.9	10.4	4.6	.908	None
SBR72-10891	1220-1230	77939	3.8	2.1	92.6	1.5	10.0	5.0	.904	None
SBR72-10892	1230-1240	77940	5.1	2.0	90.4	2.5	13.6	4.8	.904	None
SBR72-10893	1240-1250	77941	5.0	2.2	90.5	2.3	13.2	5.3	.907	None
SBR72-10894	1250-1260	77942	4.4	1.8	90.9	2.9	11.7	4.3	.904	None
SBR72-10895	1260-1270	77945	5.8	1.7	90.1	2.4	15.2	4.1	.916	None
SBR72-10896	1270-1280	77946	6.6	1.6	89.3	2.5	17.5	3.8	.906	None
SBR72-10897	1280-1290	77947	7.4	1.1	88.7	2.8	19.6	2.6	.904	None
SBR72-10898	1290-1300	77948	7.7	1.5	88.3	2.5	20.6	3.5	.901	None
SBR72-10899	1300-1310	77949	1.7	.1	91.2	7.0	4.5a	.1		None
SBR72-10900	1310-1320	77950	4.8	1.6	91.3	2.3	12.7	3.8	.903	None
SBR72-10901	1320-1330	77951	4.4	1.3	92.9	1.4	11.8	3.1	.901	None
SBR72-10902	1330-1340	77952	3.3	1.5	93.6	1.6	8.9	3.6	.900	None
SBR72-10903	1340-1360	77953	3.1	1.7	93.8	1.4	8.4	4.1	.901	None
SBR72-10904	1360-1370	77954	2.4	1.8	94.6	1.2	6.5	4.3	.896	None
SBR72-10905	1370-1380	77955	3.0	1.9	93.9	1.2	8.0	4.6	.897	None
SBR72-10906	1380-1390	77956	2.7	1.7	94.4	1.2	7.1	4.1	.900	None
SBR72-10907	1390-1400	77957	2.9	1.6	94.0	1.5	7.7	3.7	.904	None
SBR72-10908	1400-1410	77958	2.0	1.7	95.1	1.2	5.3	4.1	.899	None
SBR72-10909	1410-1420	77959	2.1	1.7	95.2	1.0	5.6	4.1	.900	None
SBR72-10910	1420-1430	77960	3.7	1.7	92.9	1.7	9.7	4.1	.907	None
SBR72-10911	1430-1440	77961	3.3	1.5	93.7	1.5	8.7	3.6	.907	None
SBR72-10912	1440-1450	77962	4.4	1.5	92.6	1.5	11.7	3.5	.907	None
SBR72-10913	1450-1460	77963	4.1	1.4	93.2	1.3	11.0	3.4	.903	None
SBR72-10914	1460-1470	77964	4.0	1.2	93.0	1.8	10.5	2.9	.906	None
SBR72-10915	1470-1480	77965	5.9	1.5	90.3	2.3	15.4	3.6	.917	None
SBR72-10916	1480-1490	77966	5.7	2.0	90.6	1.7	15.0	4.8	.917	None
SBR72-10917	1490-1500	77967	3.0	1.8	94.0	1.2	7.9	4.3	.911	None

See footnote at end of table.

Drill cutting samples received January 10, 1972; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Amoco Production Company's Champlin Well 1-97 (con.)

Kelly Bushing Elevation 6,468 feet

Sample number	Run	Yield of product							Specific gravity of oil at 60°/60° F	Properties of spent shale Tendency to coke	Remarks
		Weight percent				Gal per ton					
		Laramie	Their	No.	Oil	Water	Spent shale	Gas + loss			
SBR72-10918	1500-1510	77968	3.1	1.7	94.3	0.9	8.1	4.1	0.907	None	
SBR72-10919	1510-1520	77969	4.3	1.6	92.7	1.4	11.2	3.8	.913	None	
SBR72-10920	1520-1530	77970	5.1	1.7	91.2	2.0	13.5	4.1	.915	None	
SBR72-10921	1530-1540	77971	5.2	1.5	91.6	1.7	13.5	3.7	.913	None	
SBR72-10922	1540-1550	77972	3.6	1.6	93.5	1.3	9.5	3.8	.912	None	
SBR72-10923	1570-1590	77973	2.9	1.6	94.5	1.0	7.5	3.8	.909	None	
SBR72-10924	1590-1610	77974	4.0	1.7	92.8	1.5	10.6	4.1	.912	None	
SBR72-10925	1610-1630	77975	6.4	1.9	89.6	2.1	16.9	4.6	.913	None	
SBR72-10926	1630-1650	77976	5.9	1.9	90.5	1.7	15.7	4.6	.899	None	
SBR72-10927	1650-1670	77977	4.5	1.7	92.5	1.3	11.8	4.1	.905	None	
SBR72-10928	1670-1690	77978	3.2	1.8	93.9	1.1	8.7	4.2	.898	None	
SBR72-10929	1690-1710	77979	2.9	1.5	94.6	1.0	7.8	3.5	.895	None	
SBR72-10930	1710-1730	77980	2.6	1.6	95.1	.7	7.0	3.7	.896	None	
SBR72-10931	1730-1750	77981	2.4	1.5	95.3	.8	6.5	3.6	.903	None	
SBR72-10932	1750-1770	77982	1.6	2.0	96.2	.2	4.1a	4.8		None	
SBR72-10933	1770-1790	77983	1.7	1.8	96.3	.2	4.4a	4.3		None	
SBR72-10934	1790-1810	77984	1.2	1.7	96.9	.2	3.2a	4.1		None	
SBR72-10935	1810-1830	77985	1.1	1.7	97.1	.1	2.8a	4.1		None	
SBR72-10936	1830-1840	77986	2.0	1.7	95.8	.5	5.4	4.1	.900	None	
SBR72-10937	1840-1850	77987	1.4	1.5	96.9	.2	3.6a	3.6		None	
SBR72-10938	1850-1860	77988	1.5	1.1	96.8	.6	3.8a	2.6		None	
SBR72-10939	1860-1870	77989	1.4	1.8	96.6	.2	3.7a	4.3		None	
SBR72-10940	1870-1880	77990	.7	1.9	97.0	.4	1.7a	4.6		None	
SBR72-10941	1880-1886	77991	1.1	1.4	97.0	.5	2.9a	3.4		None	
SBR72-10942	1886-1900	77992	1.1	1.9	96.8	.2	2.8a	4.6		None	
SBR72-10943	1920-1940	77993	5.6	1.6	90.6	2.2	14.8	3.8	.911	None	
SBR72-10944	1940-1960	77994	4.2	1.6	92.4	1.8	11.1	3.8	.909	None	
SBR72-10945	1960-1977	77995	3.6	1.2	92.4	2.8	9.5	2.9	.909	None	
SBR72-10946	1980-1990	77996	.2	3.5	94.9	1.4	.7a	8.4		None	
SBR72-10947	1990-2000	77997	.3	3.8	94.7	1.2	.8a	9.1		None	

See footnote at end of table.

Drill cutting samples received January 10, 1972; Assays made on air-dried samples

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Kelly Bushing Elevation 6,468 feet

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks
			Weight percent		Gal per ton			Tendency to		
Laramie	Their		Oil	Water	Spent shale	Gas + loss	Oil ^{1/}	Water	coke	
SBR72-10948	2000-2010	77998	0.5	4.0	94.2	1.3	1.2a	9.6	None	
SBR72-10949	2010-2020	77999	.4	3.4	95.3	.9	1.1a	8.1	None	
SBR72-10950	2020-2030	78000	.4	2.7	95.9	1.0	.9a	6.5	None	
SBR72-10951	2030-2040	78001	.4	2.7	95.9	1.0	1.0a	6.5	None	
SBR72-10952-55	2040-2080						Trace			
SBR72-10956	2080-2090						c			
SBR72-10957-58	2090-2110						Trace			
SBR72-10959	2110-2120						b			
SBR72-10960-61	2120-2140						No Oil			
SBR72-10962	2140-2150						b			
SBR72-10963	2150-2160						Trace			
SBR72-10964-65	2180-2200						No Oil			
SBR72-10966	2200-2210						Trace			
SBR72-10967	2210-2220						No Oil			
SBR72-10968-69	2220-2240						Trace			
SBR72-10970-71	2240-2260						No Oil			
SBR72-10972	2260-2270						Trace			
SBR72-10973-77	2270-2320						No Oil			
SBR72-10978	2320-2330						Trace			
SBR72-10979	2330-2340						b			
SBR72-10980-87	2340-2420						No Oil			
SBR72-10988	2420-2430						c			
SBR72-10989-95	2430-2500						No Oil			

^{1/} "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.

Drill cutting samples received January 10, 1972; Assays made on air-dried samples