

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Shamrock Oil and Gas Corporation's Rainbow Unit well No. 5 drilled in
NW1/4SE1/4 of sec. 6, T. 11 S., R. 24 E., Uintah County, Utah

5195 Gr. (from IWR sheet) 1700' N/S line and 2500' W/E line 159. seems too thick

Mahog. Marker 4395'

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60°F.		Properties of spent shale		Remarks
Laramie	Their		Weight percent		Gal. per ton				Tendency to		
			Oil	Water	Spent shale	Gas + loss	Oil ^{1/}	Water		coke	
SBR63-5416	40- 50	86989	1.1	1.1	97.0	0.8	2.8a	2.6		None	
SBR63-5417	50- 60	86990	1.3	1.3	96.9	.5	3.3a	3.1		None	
SBR63-5418	60- 70						c				
SBR63-5419	70- 80	86991	1.4	1.2	96.7	.7	3.6a	2.9		None	
SBR63-5420	80- 90	86992	1.0	1.1	96.9	1.0	2.7a	2.6		None	
SBR63-5421	90-100	86993	1.4	1.4	96.9	.3	3.6a	3.4		None	
SBR63-5422	100-110	86994	1.2	1.3	96.9	.6	3.0a	3.1		None	
SBR63-5423	110-120	86995	1.1	1.4	97.0	.5	2.9a	3.4		None	
SBR63-5424-25	120-140						c				
SBR63-5426	140-150						b				
SBR63-5427-30	150-190						c				
SBR63-5431	190-200	86996	.5	.8	98.6	.1	1.3a	1.8		None	
SBR63-5432	200-210	86997	1.5	.8	96.5	1.2	3.9a	1.9		None	
SBR63-5433	210-220	86998	1.7	1.2	96.3	.8	4.3a	2.9		None	
SBR63-5434	220-230	86999	1.7	1.2	96.5	.6	4.3a	2.9		None	
SBR63-5435	230-240	87000	1.4	1.1	96.5	1.0	3.7a	2.6		None	
SBR63-5436	240-250	87001	1.4	1.0	96.6	1.0	3.7a	2.4		None	
SBR63-5437	250-260	87002	1.5	.6	96.9	1.0	3.9a	1.4		None	
SBR63-5438	260-270	87003	2.0	.5	96.7	.8	5.1a	1.3		None	
SBR63-5439	270-280	87004	1.6	.6	96.8	1.0	4.2a	1.4		None	
SBR63-5440	300-310	87005	1.4	.3	97.5	.8	3.8a	.7		None	
SBR63-5441	310-320	87006	1.5	.4	97.2	.9	3.9a	1.1		None	
SBR63-5442	320-330	87007	1.4	.4	97.3	.9	3.7a	1.0		None	
SBR63-5443	330-340	87008	1.6	.4	97.3	.7	4.1a	1.1		None	
SBR63-5444	340-350	87009	1.5	.5	97.6	.4	4.0a	1.1		None	
SBR63-5445	350-360	87010	3.3	.2	95.4	1.1	8.4	.6	0.937	None	
SBR63-5446	360-370	87011	3.3	.3	95.8	.6	8.5	.6	.932	None	
SBR63-5447	370-380	87012	3.2	.3	95.7	.8	8.2	.6	.939	None	
SBR63-5448	380-390	87013	3.2	.3	95.7	.8	8.2	.6	.938	None	
SBR63-5449	390-400	87014	3.4	.2	95.6	.8	8.6	.6	.936	None	

See footnotes at end of table.

Drill cutting samples received July 17, 1962; assays made on air-dried samples

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Samples from Shamrock Oil and Gas Corporation's Rainbow Unit well No. 5 (con.)

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	
SBR63-5450	400-410	87015	3.0	0.3	95.9	0.8	7.6	0.6	0.941	None	
SBR63-5451	410-420	87016	3.1	.3	95.8	.8	7.9	.8	.938	None	
SBR63-5452	420-430	87017	3.0	.4	95.9	.7	7.8	.8	.934	None	
SBR63-5453	430-440	87018	3.2	.3	95.8	.7	8.1	.7	.934	None	
SBR63-5454	440-450	87019	2.5	.6	96.3	.6	6.4	1.4	.931	None	
SBR63-5455	450-460	87020	2.5	.9	95.9	.7	6.4	2.2	.929	None	
SBR63-5456	460-470	87021	4.9	.6	92.6	1.9	12.6	1.6	.929	None	
SBR63-5457	470-480	87022	5.8	.6	91.8	1.8	15.0	1.3	.930	None	
SBR63-5458	480-490	87023	6.1	.5	91.6	1.8	15.8	1.2	.928	None	
SBR63-5459	490-500	87024	6.8	.6	90.9	1.7	17.7	1.4	.921	None	
SBR63-5460	500-510	87025	4.9	.5	92.9	1.7	12.7	1.2	.919	None	
SBR63-5461	510-520	87026	5.2	.7	92.5	1.6	13.6	1.6	.919	None	
SBR63-5462	520-530	87027	6.3	.6	91.7	1.4	16.4	1.4	.919	None	
SBR63-5463	530-540	87028	5.1	.4	92.9	1.6	13.2	1.1	.920	None	
SBR63-5464	550-560	87029	5.3	.8	92.6	1.3	13.7	2.0	.921	None	
SBR63-5465	560-570	87030	9.1	.9	87.5	2.5	23.7	2.2	.922	None	
SBR63-5466	570-580	87031	6.1	.7	91.9	1.3	15.9	1.8	.917	None	
SBR63-5467	580-590	87032	6.2	.8	91.6	1.4	16.3	1.9	.920	None	
SBR63-5468	590-600	87033	5.3	.6	92.1	2.0	13.5	1.4	.938	None	
SBR63-5469	600-610	87034	4.7	.6	93.2	1.5	12.3	1.3	.924	None	
SBR63-5470	610-620	87035	6.0	1.0	91.7	1.3	15.5	2.4	.920	None	
SBR63-5471	620-630	87036	6.1	.7	91.2	2.0	15.8	1.7	.924	None	
SBR63-5472	630-640	87037	5.1	.7	92.2	2.0	13.3	1.6	.924	None	
SBR63-5473	640-650	87038	15.1	.8	80.0	4.1	39.5	2.0	.914	Slight	
SBR63-5474	650-660	87039	11.9	.6	84.6	2.9	31.4	1.4	.909	None	
SBR63-5475	660-670	87040	8.9	.5	87.7	2.9	23.4	1.2	.915	None	
SBR63-5476	670-680	87041	21.7	.7	72.6	5.0	56.9	1.8	.914	Medium	
SBR63-5477	680-690	87042	21.0	.6	73.0	5.4	54.7	1.4	.919	Medium	
SBR63-5478	690-700	87043	21.2	.7	73.0	5.1	55.3	1.7	.918	Medium	
SBR63-5479	700-710	87044	21.8	.8	72.2	5.2	57.2	1.8	.914	Medium	

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Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. SBR-3737P, Sheet No. 2 of 4 sheets

March 29, 1963

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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 ^{1/}	Water	
SBR63-5480	710- 720	87045	21.8	0.7	73.0	4.5	57.4	1.7	0.908	Medium	
SBR63-5481	720- 730	87046	21.0	.8	73.8	4.4	55.4	1.9	.910	Medium	
SBR63-5482	730- 740	87047	21.0	.8	73.8	4.4	55.3	1.9	.911	Medium	
SBR63-5483	740- 750	87048	20.4	.5	73.0	6.1	53.3	1.2	.918	Medium	
SBR63-5484	750- 760	87049	22.1	.7	72.7	4.5	58.0	1.7	.912	Medium	
SBR63-5485	760- 770	87050	22.3	.7	72.5	4.5	58.6	1.7	.910	Medium	
SBR63-5486	770- 780	87051	21.7	.8	73.0	4.5	56.8	1.8	.913	Medium	
SBR63-5487	780- 790	87052	20.9	.7	74.1	4.3	54.9	1.7	.911	Medium	
SBR63-5488	790- 800	87053	21.6	.8	73.2	4.4	56.8	1.8	.910	Medium	
SBR63-5489	800- 810	87054	22.7	.8	71.5	5.0	59.7	1.9	.911	Medium	
SBR63-5490	820- 830	87055	20.6	.7	74.3	4.4	54.2	1.7	.910	Medium	
SBR63-5491	830- 840	87056	20.1	.8	75.1	4.0	52.8	2.0	.910	Medium	
SBR63-5492	840- 850	87057	19.6	.5	75.8	4.1	51.7	1.2	.909	Medium	
SBR63-5493	850- 860	87058	20.4	.5	74.3	4.8	53.8	1.3	.908	Medium	
SBR63-5494	860- 870	87059	19.2	.5	76.0	4.3	50.5	1.3	.910	Medium	
SBR63-5495	870- 880	87060	15.6	.6	80.6	3.2	41.1	1.3	.909	Medium	
SBR63-5496	880- 890	87061	12.7	.8	83.3	3.2	33.3	2.0	.911	Medium	
SBR63-5497	890- 900	87062	13.8	1.1	82.1	3.0	36.2	2.6	.911	Medium	
SBR63-5498	900- 910	87063	13.8	1.0	82.1	3.1	36.4	2.4	.911	Medium	
SBR63-5499	910- 920	87064	12.9	.9	83.1	3.1	33.9	2.0	.912	Slight	
SBR63-5500	920- 930	87065	7.7	1.0	89.3	2.0	20.0	2.4	.916	Slight	
SBR63-5501	930- 940	87066	7.1	1.0	89.9	2.0	18.5	2.4	.917	Slight	
SBR63-5502	940- 950	87067	6.9	1.0	90.2	1.9	17.9	2.4	.919	Slight	
SBR63-5503	950- 960	87068	5.6	1.1	91.6	1.7	14.7	2.6	.916	Slight	
SBR63-5504	960- 970	87069	5.5	.9	91.8	1.8	14.3	2.2	.923	None	
SBR63-5505	970- 980	87070	5.9	1.2	91.5	1.4	15.5	2.9	.921	None	
SBR63-5506	980- 990	87071	6.4	1.1	91.0	1.5	16.6	2.8	.920	None	
SBR63-5507	990-1000	87072	3.7	1.2	93.6	1.5	9.7	2.8	.921	None	
SBR63-5508	1000-1010	87073	3.4	1.2	93.9	1.5	8.8	2.9	.919	None	
SBR63-5509	1010-1020	87074	1.8	.8	96.0	1.4	4.6a	2.0		None	

See footnotes at end of table.

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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 ^{1/}		Water	
SBR63-5510	1020-1030	87075	1.7	1.2	96.0	1.1	4.5a	2.9			None	
SBR63-5511	1030-1040	87076	1.7	1.1	95.9	1.3	4.3a	2.6			None	
SBR63-5512	1040-1050	87077	1.6	1.3	96.0	1.1	4.3a	3.0			None	
SBR63-5513	1050-1060	87078	1.6	1.2	95.8	1.4	4.2a	2.8			None	
SBR63-5514	1060-1070	87079	5.8	2.2	89.8	2.2	15.2	5.3	0.913		None	
SBR63-5515	1070-1080	87080	5.9	2.2	89.8	2.1	15.5	5.3	.912		None	
SBR63-5516	1080-1090	87081	5.2	2.0	91.2	1.6	13.8	4.8	.913		None	
SBR63-5517	1090-1100	87082	4.5	2.0	91.8	1.7	11.7	4.8	.915		None	
SBR63-5518	1100-1110	87083	1.9	1.5	95.5	1.1	5.1	3.6	.915		None	
SBR63-5519	1110-1120	87084	1.9	1.6	95.3	1.2	4.8a	3.8			None	
SBR63-5520	1120-1130	87085	2.1	1.5	95.2	1.2	5.6	3.6	.906		None	
SBR63-5521	1140-1150	87086	2.2	1.6	94.9	1.3	5.7	3.8	.902		None	
SBR63-5522	1150-1160	87087	2.0	1.6	95.3	1.1	5.1a	3.8			None	
SBR63-5523	1160-1170	87088	2.0	1.8	95.0	1.2	5.2a	4.3			None	
SBR63-5524	1170-1180	87089	2.0	1.7	95.3	1.0	5.2a	4.1			None	
SBR63-5525	1180-1190	87090	5.2	1.7	91.2	1.9	13.5	4.1	.917		None	
SBR63-5526	1190-1200	87091	5.3	1.7	91.0	2.0	14.0	4.1	.916		None	
SBR63-5527	1200-1210	87092	5.3	1.7	91.2	1.8	13.8	4.1	.917		None	
SBR63-5528	1210-1220	87093	5.1	1.2	91.4	2.3	13.3	2.9	.921		None	
SBR63-5529	1220-1230	87094	5.1	1.2	91.4	2.3	13.2	2.9	.921		None	
SBR63-5530	1230-1240	87095	2.5	1.5	94.4	1.6	6.6	3.6	.919		None	
SBR63-5531	1240-1250	87096	2.7	2.1	93.7	1.5	7.0	5.0	.918		None	
SBR63-5532	1250-1260	87097	2.6	1.5	94.0	1.9	6.8	3.6	.919		None	
SBR63-5533	1260-1270	87098	1.9	1.7	95.4	1.0	4.9a	4.1			None	
SBR63-5534	1270-1280	87099	1.6	1.3	96.0	1.1	4.1a	3.1			None	
SBR63-5535	1280-1290	87100	1.2	1.3	95.9	1.6	3.2a	3.1			None	
SBR63-5536	1290-1300	87101	1.8	1.7	95.1	1.4	4.8a	4.1			None	
SBR63-5537-47	2980-3090						No Oil					

^{1/} "a" indicates specific gravity estimated as 0.92. Oil yields were estimated by rapid test-tube method: "No oil", "b"--less than 1 gal oil/ton, "c"--1 to 3 gal oil/ton.

Drill cutting samples received July 17, 1962; assays made on air-dried samples