OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

0' of 30
0' of 25
40' of 15

Samples from Phillips Petroleum Company's Uteland Butte No. 3 well drilled in SW 1/4, SE 1/4, of sec. 31, T. 10 S., R. 19 E., Uintah County, Utah

Derrick Floor elevation 5,383 feet

Mahogany marker		3763'	Yield of product						Specific gravity	Properties of spent shale	
			Weight percent				Gal. per ton				
Sample number Laramie	Sample number Their	Run No.	Oil	Water	Spent shale	Gas + loss	Oil	Water	of oil at 60°/60° F.	Tendency to coke	Remarks
SBR61-5146-66	10-220						No Oil				
SBR61-5167-72	230-290						No Oil				
SBR61-5173	290-300						b				
SBR61-5174	300-310						No Oil				
SBR61-5175-77	310-340						b				
SBR61-5178	340-350						c				
SBR61-5179-80	350-370						b				
SBR61-5181	370-380						Assay				
SBR61-5182	380-390	73524	2.5	2.2	94.3	1.0	6.5	5.2	0.918	None	
SBR61-5183	390-400	73525	1.8	2.0	95.6	.6	4.7a	4.8		None	
SBR61-5184	400-410	73526	1.6	2.1	95.7	.6	4.1a	5.0		None	
SBR61-5185	410-420	73527	1.6	3.7	93.9	.8	4.2a	8.9		None	
SBR61-5186-96	420-530						c				
SBR61-5197	530-540	73528	.7	2.6	96.2	.5	1.8a	6.2		None	
SBR61-5198	540-550	73529	1.7	1.9	95.7	.7	4.4a	4.5		None	
SBR61-5199	550-560	73530	1.0	2.4	96.0	.6	2.6a	5.8		None	
SBR61-5200	560-570	73543	1.1	2.0	96.5	.4	2.8a	4.8		None	
SBR61-5201	570-580	73544	.4	1.1	98.2	.3	1.1a	2.6		None	
SBR61-5202	580-590	73545	1.7	1.7	95.8	.8	4.4a	4.1		None	
SBR61-5203	600-610	73546	.5	2.0	96.7	.8	1.3a	4.8		None	
SBR61-5204	610-620	73547	1.7	1.8	95.9	.6	4.4a	4.3		None	
SBR61-5205	620-630	73548	1.5	2.5	95.4	.6	3.8a	6.0		None	
SBR61-5206	630-640	73549	1.9	1.9	95.6	.6	4.8a	4.6		None	
SBR61-5207	640-650	73550	2.1	1.8	95.7	.4	5.4a	4.4		None	
SBR61-5208	650-660	73551	2.2	1.7	95.4	.7	5.8	4.1	.904	None	
SBR61-5209	660-670	73552	3.9	1.7	93.2	1.2	10.3	4.1	.906	None	
SBR61-5210	670-680	73553	3.8	1.6	93.4	1.2	9.9	3.8	.908	None	
SBR61-5211	680-690	73554	3.1	1.9	94.1	.9	8.2	4.6	.901	None	
SBR61-5212	690-700	73555	3.3	1.8	93.9	1.0	8.8	4.3	.896	None	
SBR61-5213	700-710	73556	2.0	1.9	95.5	.6	5.2a	4.6		None	

a - Specific gravity estimated due to insufficient oil.
b - Less than 1.0 gallon of oil per ton of shale.
c - More than 1.0 but less than 3.0 gallons of oil per ton of shale.
Assay - Sample contained more than 3.0 gallons of oil per ton of shale.

Drill cutting samples received January 20, 1961; assays made on air-dried samples.

Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. SBR-3494P Sheet No. 1 of 7 sheets July 3, 1961

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Phillips Petroleum Company's Uteland Butte No. 3 well (Con.)

Derrick Floor elevation 5,383 feet

Sample number		Run	Yield of product						Specific gravity	Properties of spent shale	
			Weight percent				Gal. per ton		of oil at	Tendency to	
Laramie	Their	No.	Oil	Water	Spent shale	Gas + loss	Oil	Water	60°/60° F.	coke	Remarks
SBR61-5214	710-720	73557	1.9	2.0	95.1	1.0	5.0a	4.8		None	
SBR61-5215	720-730	73558	1.3	1.5	96.3	.9	3.3a	3.6		None	
SBR61-5216	730-740	73559	1.4	1.6	96.2	.8	3.6a	3.8		None	
SBR61-5217	740-750	73560	1.5	2.1	95.6	.8	3.9a	5.0		None	
SBR61-5218	750-760	73561	1.9	1.9	95.1	1.1	4.8a	4.6		None	
SBR61-5219	760-770	73562	1.4	2.3	95.2	1.1	3.6a	5.5		None	
SBR61-5220	770-780	73563	1.4	1.9	96.1	.6	3.7a	4.6		None	
SBR61-5221	780-790	73564	1.5	2.0	95.9	.6	3.9a	4.8		None	
SBR61-5222	790-800	73565	1.3	1.5	96.7	.5	3.5a	3.6		None	
SBR61-5223	800-810	73566	1.6	1.6	96.3	.5	4.2a	3.8		None	
SBR61-5224	810-820	73567	1.3	1.9	96.5	.3	3.5a	4.6		None	
SBR61-5225	820-830	73568	1.4	3.2	94.7	.7	3.7a	7.7		None	
SBR61-5226	830-840	73569	1.3	2.0	96.2	.5	3.5a	4.8		None	
SBR61-5227	840-850	73570	1.8	1.3	96.4	.5	4.6a	3.1		None	
SBR61-5228	850-860	73571	1.1	1.0	97.3	.6	3.0a	2.4		None	
SBR61-5229	860-870	73572	1.2	1.0	97.1	.7	3.2a	2.4		None	
SBR61-5230	870-880	73573	1.7	1.3	96.3	.7	4.5a	3.1		None	
SBR61-5231	880-890	73574	1.9	1.5	96.0	.6	4.9a	3.6		None	
SBR61-5232	890-900	73575	1.8	1.6	96.0	.6	4.6a	3.8		None	
SBR61-5233	900-910	73576	1.7	1.3	96.1	.9	4.5a	3.1		None	
SBR61-5234	910-920	73577	1.6	1.4	96.3	.7	4.1a	3.4		None	
SBR61-5235	920-930	73578	1.7	1.2	96.4	.7	4.5a	2.9		None	
SBR61-5236	930-940	73579	1.0	1.6	96.7	.7	2.6a	3.8		None	
SBR61-5237	940-950	73580	1.5	2.0	95.6	.9	4.0a	4.8		None	
SBR61-5238	950-960	73581	1.2	.8	96.9	1.1	3.1a	2.0		None	
SBR61-5239	960-970	73582	1.6	.8	96.6	1.0	4.2a	1.8		None	
SBR61-5240	970-980	73583	1.6	1.5	95.8	1.1	4.3a	3.6		None	
SBR61-5241	980-990	73584	1.4	1.0	96.2	1.4	3.6a	2.4		None	
SBR61-5242	990-1000	73585	1.4	1.5	95.9	1.2	3.6a	3.6		None	
SBR61-5243	1000-1010	73586	1.7	1.2	96.0	1.1	4.5a	2.9		None	

a - Specific gravity estimated due to insufficient oil.

Drill cutting samples received January 20, 1961; assays made on air-dried samples.

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Phillips Petroleum Company's Uteland Butte No. 3 well (Con.)

Derrick Floor elevation 5,383 feet

Sample number		Run	Yield of product						Specific gravity	Properties of spent shale	
			Weight percent				Gal. per ton		of oil at	Tendency to	
Laramie	Their	No.	Oil	Water	Spent shale	Gas + loss	Oil	Water	60°/60° F.	coke	Remarks
SBR61-5244	1010-1020	73587	1.9	1.1	96.1	0.9	4.9a	2.6		None	
SBR61-5245	1020-1030	73588	1.9	1.6	95.8	.7	5.1a	3.8		None	
SBR61-5246	1030-1040	73589	1.1	1.1	97.2	.6	2.8a	2.6		None	
SBR61-5247	1040-1050	73590	4.0	1.3	93.8	.9	10.4	3.1	0.914	None	
SBR61-5248	1050-1060	73591	2.3	1.1	95.8	.8	6.1	2.6	.924	None	
SBR61-5249	1060-1070	73592	1.7	1.4	96.2	.7	4.4a	3.5		None	
SBR61-5250	1070-1080	73593	1.9	1.3	95.8	1.0	5.1a	3.1		None	
SBR61-5251	1080-1090	73594	1.2	1.1	97.0	.7	3.0a	2.6		None	
SBR61-5252	1090-1100	73595	1.3	1.1	97.2	.4	3.3a	2.6		None	
SBR61-5253	1100-1110	73596	.8	1.5	97.4	.3	2.0a	3.6		None	
SBR61-5254	1110-1120						b				
SBR61-5255	1120-1130						c				
SBR61-5256-58	1130-1160						b				
SBR61-5259	1160-1170	73597	1.3	1.8	94.2	2.7	3.4a	4.3		None	
SBR61-5260	1170-1180	73598	1.9	1.8	95.8	.5	4.9a	4.3		None	
SBR61-5261	1180-1190	73599	2.0	1.3	96.1	.6	5.1a	3.1		None	
SBR61-5262	1190-1200	73600	.6	1.8	97.1	.5	1.7a	4.3		None	
SBR61-5263	1200-1210	73601	2.0	1.3	95.7	1.0	5.1a	3.1		None	
SBR61-5264	1210-1220	73602	2.4	1.0	94.5	2.1	6.2	2.4	.926	None	
SBR61-5265	1220-1230	73603	2.2	.9	96.1	.8	5.6a	2.2		None	
SBR61-5266	1230-1240	73604	2.2	1.1	95.7	1.0	5.8	2.6	.925	None	
SBR61-5267	1240-1250	73605	1.2	1.0	97.2	.6	3.2a	2.3		None	
SBR61-5268	1250-1260	73606	2.9	.9	94.8	1.4	7.5	2.0	.928	None	
SBR61-5269	1260-1270	73607	2.7	.8	95.6	.9	6.9	2.0	.923	None	
SBR61-5270	1270-1280	73608	2.9	.9	95.0	1.2	7.6	2.2	.926	None	
SBR61-5271	1280-1290	73609	2.5	.7	95.7	1.1	6.4	1.8	.924	None	
SBR61-5272	1290-1300	73610	2.7	.8	95.5	1.0	6.9	1.9	.925	None	
SBR61-5273	1300-1310	73611	2.2	.8	96.2	.8	5.6	2.0	.923	None	
SBR61-5274	1310-1320	73612	2.1	1.0	96.6	.3	5.6	2.4	.920	None	
SBR61-5275	1320-1330	73613	3.1	.8	95.2	.9	8.2	1.9	.918	None	

a - Specific gravity estimated due to insufficient oil.
b - Less than 1.0 gallon of oil per ton of shale.
c - More than 1.0 but less than 3.0 gallons of oil per ton of shale.

Drill cutting samples received January 20, 1961; assays made on air-dried samples.

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Phillips Petroleum Company's Uteland Butte No. 3 well (Con.)

Derrick Floor elevation 5,383 feet

Sample number		Run	Yield of product						Specific gravity	Properties of spent shale	
			Weight percent				Gal. per ton		of oil at	Tendency to	
Laramie	Their	No.	Oil	Water	Spent shale	Gas + loss	Oil	Water	60°/60° F.	coke	Remarks
SBR61-5276	1330-1340	73614	2.7	1.0	95.8	0.5	6.9	2.4	0.925	None	
SBR61-5277	1340-1350	73615	1.9	1.1	96.5	.5	5.0a	2.6		None	
SBR61-5278	1350-1360	73616	3.0	.8	95.5	.7	7.7	1.9	.923	None	
SBR61-5279	1360-1370	73617	3.6	.7	94.6	1.1	9.2	1.8	.927	None	
SBR61-5280	1370-1380	73618	4.2	.6	94.0	1.2	10.8	1.4	.926	None	
SBR61-5281	1380-1390	73619	4.4	.7	93.7	1.2	11.4	1.7	.923	None	
SBR61-5282	1390-1400	73620	4.8	.6	93.7	.9	12.4	1.4	.915	None	
SBR61-5283	1400-1410	73621	5.0	.7	93.2	1.1	13.0	1.8	.914	None	
SBR61-5284	1410-1420	73622	4.4	1.1	93.6	.9	11.6	2.6	.913	None	
SBR61-5285	1420-1430	73623	4.5	1.1	93.2	1.2	11.9	2.6	.911	None	
SBR61-5286	1430-1440	73624	4.0	1.2	93.7	1.1	10.4	2.9	.912	None	
SBR61-5287	1440-1450	73625	3.4	1.5	94.4	.7	9.0	3.6	.914	None	
SBR61-5288	1450-1460	73626	4.7	1.0	93.3	1.0	12.2	2.4	.920	None	
SBR61-5289	1460-1470	73627	3.1	1.4	94.6	.9	8.1	3.4	.919	None	
SBR61-5290	1470-1480	73628	4.1	1.5	93.2	1.2	10.8	3.6	.916	None	
SBR61-5291	1480-1490	73629	2.1	2.5	95.3	.1	5.6	6.0	.915	None	
SBR61-5292	1490-1500	73630	3.5	2.6	93.9	.0	9.1	6.2	.919	None	
SBR61-5293	1500-1510	73631	3.7	1.4	93.9	1.0	9.6	3.4	.927	None	
SBR61-5294	1510-1520	73632	3.7	1.5	93.7	1.1	9.7	3.6	.925	None	
SBR61-5295	1520-1530	73633	4.1	1.4	93.3	1.2	10.6	3.4	.923	None	
SBR61-5296	1530-1540	73634	3.7	1.1	94.0	1.2	9.7	2.6	.923	None	
SBR61-5297	1540-1550	73635	4.1	.8	93.9	1.2	10.6	2.0	.919	None	
SBR61-5298	1550-1560	73636	3.5	1.0	94.2	1.3	9.2	2.3	.923	None	
SBR61-5299	1560-1570	73637	2.3	.6	96.1	1.0	5.9	1.4	.914	None	
SBR61-5300	1570-1580	73638	1.6	.6	96.9	.9	4.2a	1.4		None	
SBR61-5301	1580-1590	73639	4.1	.8	94.1	1.0	10.9	1.8	.905	None	
SBR61-5302	1590-1600	73640	4.3	.8	93.8	1.1	11.2	2.0	.913	None	
SBR61-5303	1600-1610	73641	3.5	.7	94.7	1.1	9.3	1.6	.909	None	
SBR61-5304	1610-1620	73642	7.2	.6	90.7	1.5	19.1	1.4	.903	None	
SBR61-5305	1620-1630	73643	6.6	.6	91.0	1.8	17.8	1.4	.896	None	

a - Specific gravity estimated due to insufficient oil.

Drill cutting samples received January 20, 1961; assays made on air-dried samples.

Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. SBR-3494P Sheet No. 4 of 7 sheets July 10, 1961

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Phillips Petroleum Company's Uteland Butte No. 3 well (Con.)

Derrick Floor elevation 5,383 feet

Sample number		Run	Yield of product						Specific gravity	Properties of spent shale	
			Weight percent				Gal. per ton				
Laramie	Their	No.	Oil	Water	Spent shale	Gas + loss	Oil	Water	of oil at 60°/60° F.	Tendency to coke	Remarks
SBR61-5306	1630-1640	73644	3.1	0.7	94.0	2.2	8.2	1.6	0.905	None	
SBR61-5307	1640-1650	73645	2.6	1.0	95.3	1.1	6.8	2.4	.920	None	
SBR61-5308	1650-1660	73646	2.7	1.0	94.8	1.5	7.2	2.3	.903	None	
SBR61-5309-10	1660-1680						Trace				
SBR61-5311-12	1680-1700						No Oil				
SBR61-5313	1700-1710						Trace				
SBR61-5314	1710-1720						No Oil				
SBR61-5315	1720-1730	73659	3.4	.8	95.0	.8	8.9	1.9	.906	None	
SBR61-5316	1730-1740	73660	2.5	.7	96.2	.6	6.5	1.7	.907	None	
SBR61-5317	1740-1750	73661	2.5	1.0	95.4	1.1	6.6	2.4	.909	None	
SBR61-5318	1750-1760	73662	2.0	.8	95.9	1.3	5.3	1.9	.913	None	
SBR61-5319	1760-1770	73663	2.3	.9	95.9	.9	6.2	2.2	.907	None	
SBR61-5320	1770-1780	73664	3.2	.9	95.0	.9	8.5	2.2	.914	None	
SBR61-5321	1780-1790	73665	2.9	.9	95.0	1.2	7.8	2.2	.908	None	
SBR61-5322	1790-1800	73666	.9	.9	97.3	.9	2.3a	2.2		None	
SBR61-5323	1800-1810	73667	2.4	.7	96.1	.8	6.2	1.8	.918	None	
SBR61-5324	1810-1820	73668	1.7	1.0	96.6	.7	4.4a	2.4		None	
SBR61-5325-26	1820-1840						b				
SBR61-5327-28	1840-1860						Trace				
SBR61-5329-30	1860-1880						No Oil				
SBR61-5331-32	1880-1900						Trace				
SBR61-5333-34	1900-1920						c				
SBR61-5335	1920-1930	73669	1.0	1.8	96.3	.9	2.6a	4.2		None	
SBR61-5336	1930-1940	73670	2.0	2.7	94.5	.8	5.1a	6.5		None	
SBR61-5337	1940-1950						b				
SBR61-5338-39	1950-1970						c				
SBR61-5340-41	1970-1990						b				
SBR61-5342-43	1990-2010						No Oil				
SBR61-5344	2010-2020						b				
SBR61-5345	2020-2030						No Oil				

a - Specific gravity estimated due to insufficient oil.
b - Less than 1.0 gallon of oil per ton of shale.
c - More than 1.0 but less than 3.0 gallons of oil per ton of shale.

Drill cutting samples received January 20, 1961; assays made on air-dried samples.

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Phillips Petroleum Company's Uteland Butte No. 3 well (Con.)

Derrick Floor elevation 5,383 feet

Sample number		Run	Yield of product						Specific gravity	Properties of spent shale	
			Weight percent				Gal. per ton				
Laramie	Their	No.	Oil	Water	Spent shale	Gas + loss	Oil	Water	of oil at 60°/60° F.	Tendency to coke	Remarks
SBR61-5346-48	2030-2060						Trace				
SBR61-5349	2060-2070						b				
SBR61-5350	2070-2080						c				
SBR61-5351-52	2080-2100						b				
SBR61-5353-68	2100-2260						No Oil				
SBR61-5369	2260-2270						b				
SBR61-5370-73	2270-2310						c				
SBR61-5374	2310-2320						b				
SBR61-5375-78	2320-2360						No Oil				
SBR61-5379-80	2360-2380						b				
SBR61-5381	2390-2400						Trace				
SBR61-5382-88	2400-2470						No Oil				
SBR61-5389	2470-2480						b				
SBR61-5390-98	2480-2570						No Oil				
SBR61-5399	2570-2580						Trace				
SBR61-5400-01	2580-2600						No Oil				
SBR61-5402-05	2610-2650						No Oil				
SBR61-5406-08	2650-2680						b				
SBR61-5409-23	2680-2830						No Oil				
SBR61-5424	2830-2840						b				
SBR61-5425-26	2840-2860						No Oil				
SBR61-5427-28	2860-2880						b				
SBR61-5429-32	2890-2930						No Oil				
SBR61-5433-34	2930-2950						b				
SBR61-5435	2950-2960						c				
SBR61-5436-50	2960-3110						No Oil				
SBR61-5451	3110-3120						b				
SBR61-5452-54	3120-3150						No Oil				
SBR61-5455	3150-3160						Trace				
SBR61-5456-65	3160-3260						No Oil				

b - Less than 1.0 gallon of oil per ton of shale.
c - More than 1.0 but less than 3.0 gallons of oil per ton of shale.

Drill cutting samples received January 20, 1961; assays made on air-dried samples.

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Phillips Petroleum Company's Uteland Butte No. 3 well (Con.)

Derrick Floor elevation 5,383 feet

Sample number		Run	Yield of product						Specific gravity	Properties of spent shale	
			Weight percent				Gal. per ton		of oil at	Tendency to	
Laramie	Their	No.	Oil	Water	Spent shale	Gas + loss	Oil	Water	60°/60° F.	coke	Remarks
SBR61-5466-67	3260-3280						Trace				
SBR61-5468-74	3280-3350						No Oil				
SBR61-5475	3350-3360						Trace				
SBR61-5476	3360-3370						No Oil				
SBR61-5477	3380-3390						b				
SBR61-5478	3390-3400						Trace				
SBR61-5479-81	3400-3430						No Oil				
SBR61-5482	3430-3440						Trace				
SBR61-5483-94	3440-3560						No Oil				
SBR61-5495	3560-3570						Trace				
SBR61-5496	3570-3580						b				
SBR61-5497	3580-3590	73671	1.5	1.6	96.1	0.8	3.9a	3.8		None	
SBR61-5498	3590-3600	73672	1.1	1.9	96.0	1.0	2.9a	4.6		None	
SBR61-5499	3600-3610	73673	3.4	2.0	93.3	1.3	8.9	4.8	0.905	None	
SBR61-5500	3610-3620	73674	2.2	1.3	95.1	1.4	5.8	3.1	.908	None	
SBR61-5501	3620-3630	73675	2.9	1.8	94.2	1.1	7.9	4.3	.887	None	
SBR61-5502	3630-3640	73676	3.1	1.7	93.8	1.4	8.3	4.1	.893	None	
SBR61-5503	3640-3650	73677	2.3	1.3	95.2	1.2	6.3	3.1	.895	None	
SBR61-5504	3650-3660	73678	1.6	1.3	95.7	1.4	4.0a	3.1		None	
SBR61-5505	3660-3670	73679	1.1	2.3	96.3	.3	2.8a	5.5		None	
SBR61-5506	3670-3680						c				
SBR61-5507-10	3680-3720						Trace				
SBR61-5511	3720-3730						b				
SBR61-5512	3730-3740						Trace				
SBR61-5513-14	3740-3760						No Oil				
SBR61-5515-17	3760-3790						b				
SBR61-5518	3790-3800	73680	1.4	2.3	95.8	.5	3.6a	5.5		None	
SBR61-5519	3800-3810	73681	1.2	2.1	96.4	.3	3.2a	5.0		None	
SBR61-5520-27	3810-3890						b				
SBR61-5528-29	3890-3910						Trace				

a - Specific gravity estimated due to insufficient oil.
b - Less than 1.0 gallon of oil per ton of shale.
c - More than 1.0 but less than 3.0 gallons of oil per ton of shale.

Drill cutting samples received January 20, 1961; assays made on air-dried samples.