

## OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Phillips Petroleum Company's No. 1975 ST Feature well drilled in NW 1/4, NW 1/4, of sec. 5, T. 11 S., R. 17 E., Duchesne County, Utah

Surface elevation 6,316 feet

Mahogany marker 4516'

Surface elevation 8,910 feet

Highway marker 4516'

Sample number		Run No.	Yield of product				Gal. per ton		Specific gravity of oil at 60°/60° F.	Properties of		Remarks
			Weight percent		Spent shale	Gas + loss				spent shale		
Laramie	Their		Oil	Water					Oil	Water		Tendency to coke
SBR61-2702-42	20-430						No Oil					
SBR61-2743-44	430-450						Trace					
SBR61-2745	450-460						c					
SBR61-2746-48	460-490						Trace					
SBR61-2749-55	490-560						No Oil					
SBR61-2756-61	560-620						Trace					
SBR61-2762	620-630						No Oil					
SBR61-2763	630-640						Trace					
SBR61-2764-65	640-660						b					
SBR61-2766	700-710						b					
SBR61-2767-69	710-740						Trace					
SBR61-2770-71	740-760						b					
SBR61-2772	760-770	72108	0.4	3.3	95.6	0.7	1.1a	7.8			None	
SBR61-2773	770-780	72109	2.6	2.6	93.8	1.0	6.9	6.2	0.895		None	
SBR61-2774	780-790	72110	2.2	1.9	95.0	.9	6.0	4.6	.888		None	
SBR61-2775	790-800	72111	1.9	1.9	95.5	.7	5.0a	4.6			None	
SBR61-2776	800-810	72112	1.7	1.8	95.5	1.0	4.4a	4.3			None	
SBR61-2777	810-820	72113	1.9	1.6	95.7	.8	5.0a	3.8			None	
SBR61-2778	820-830	72114	1.9	1.4	96.0	.7	5.0a	3.2			None	
SBR61-2779	830-840	72115	1.6	1.6	96.3	.5	4.0a	3.8			None	
SBR61-2780	840-850	72116	1.2	1.9	96.4	.5	3.0a	4.6			None	
SBR61-2781	850-860	72117	1.3	1.8	96.2	.7	3.5a	4.3			None	
SBR61-2782	860-870	72118	1.3	1.6	96.1	1.0	3.3a	4.0			None	
SBR61-2783	870-880	72119	1.5	1.8	96.1	.6	3.9a	4.4			None	
SBR61-2784	880-890	72120	1.5	1.9	95.5	1.1	3.9a	4.6			None	
SBR61-2785	890-900	72121	1.1	1.6	96.4	.9	2.7a	4.0			None	
SBR61-2786	900-910	72122	1.1	2.4	95.5	1.0	2.9a	5.7			None	
SBR61-2787	910-920	72123	1.4	1.6	96.6	.4	3.7a	4.0			None	
SBR61-2788	920-930	72124	1.2	1.7	96.9	.2	3.2a	4.1			None	
SBR61-2789	930-940	72125	.7	3.5	95.3	.5	1.9a	8.3			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 October 24, 1960; assays made on air-dried samples.

## OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Phillips Petroleum Company's No. 1975 ST Feature well

Surface elevation 6,316 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	Water	
SBR61-2790	940- 950	72126	1.2	1.9	96.6	0.3	3.2a	4.6		None	
SBR61-2791	950- 960	72127	1.2	1.8	96.5	.5	3.1a	4.3		None	
SBR61-2792	960- 970	72128	1.4	1.5	96.5	.6	3.8a	3.6		None	
SBR61-2793	970- 980	72129	1.6	2.0	95.9	.5	4.1a	4.8		None	
SBR61-2794	980- 990	72130	2.0	1.9	95.7	.4	5.2a	4.6		None	
SBR61-2795	990-1000	72131	1.5	1.9	94.8	1.8	4.0a	4.6		None	
SBR61-2796	1000-1010	72132	1.4	1.9	95.8	.9	3.7a	4.4		None	
SBR61-2797	1010-1020	72133	1.4	2.0	95.6	1.0	3.6a	4.7		None	
SBR61-2798	1020-1030	72134	1.1	1.6	97.0	.3	2.9a	3.7		None	
SBR61-2799	1030-1040	72135	.9	1.3	97.5	.3	2.4a	3.1		None	
SBR61-2800	1040-1050	72136	.8	3.0	95.4	.8	2.0a	7.3		None	
SBR61-2801	1050-1060	72137	1.0	1.6	96.6	.8	2.5a	3.8		None	
SBR61-2802	1060-1070	72138	1.1	1.0	96.2	1.7	2.8a	2.5		None	
SBR61-2803-14	1070-1190						c				
SBR61-2815	1190-1200	72139	1.4	1.6	96.8	.2	3.8a	3.8		None	
SBR61-2816	1200-1210	72140	1.0	1.5	97.2	.3	2.6a	3.6		None	
SBR61-2817-20	1210-1250						c				
SBR61-2821	1250-1260	72141	.5	2.1	96.9	.5	1.4a	5.0		None	
SBR61-2822	1260-1270	72142	1.4	2.0	95.7	.9	3.7a	4.8		None	
SBR61-2823	1270-1280	72143	1.2	1.9	96.5	.4	3.1a	4.6		None	
SBR61-2824	1280-1290	72144	.9	1.7	96.8	.6	2.2a	4.1		None	
SBR61-2825	1290-1300	72145	1.0	1.9	96.6	.5	2.7a	4.6		None	
SBR61-2826	1300-1310	72146	1.4	2.0	96.0	.6	3.7a	4.8		None	
SBR61-2827	1310-1320	72147	.8	1.7	97.2	.3	2.1a	4.0		None	
SBR61-2828	1320-1330	72148	1.2	1.9	96.4	.5	3.2a	4.4		None	
SBR61-2829	1330-1340	72149	.7	1.5	97.4	.4	1.8a	3.6		None	
SBR61-2830	1340-1350	72150	1.2	1.7	96.5	.6	3.1a	4.1		None	
SBR61-2831	1350-1360	72151	.8	1.2	97.3	.7	2.0a	2.9		None	
SBR61-2832-35	1360-1400						c				
SBR61-2836	1400-1410	72152	1.8	2.2	95.1	.9	4.7a	5.3		None	

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

Drill cutting samples received October 24, 1960; assays made on air-dried samples.

Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. SBR-3466P Sheet No. 2 of 6 sheets April 6, 1961

## OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Phillips Petroleum Company's No. 1975 ST Feature well

Surface elevation 6,316 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		
			Oil	Water			Oil	Water			
Laramie	Their										
SBR61-2837	1410-1420						c				
SBR61-2838	1420-1430	72153	1.0	1.1	97.4	0.5	2.5a	2.6		None	
SBR61-2839	1430-1440	72154	1.3	1.3	96.1	1.3	3.4a	3.1		None	
SBR61-2840	1440-1450	72155	1.7	1.8	95.9	.6	4.5a	4.3		None	
SBR61-2841	1450-1460	72156	1.9	1.9	96.0	.2	4.8a	4.6		None	
SBR61-2842	1460-1470	72157	2.5	1.6	95.2	.7	6.6	3.8	0.919	None	
SBR61-2843	1470-1480	72158	2.8	1.9	94.5	.8	7.5	4.6	.915	None	
SBR61-2844	1480-1490	72159	2.9	1.7	94.8	.6	7.8	4.1	.907	None	
SBR61-2845	1490-1500	72160	3.1	1.5	94.8	.6	8.1	3.7	.907	None	
SBR61-2846	1500-1510	72161	1.4	1.7	96.2	.7	3.7a	4.1		None	
SBR61-2847	1510-1520	72162	1.6	1.2	96.4	.8	4.0a	2.9		None	
SBR61-2848	1520-1530	72163	1.9	1.9	95.6	.6	4.8a	4.6		None	
SBR61-2849	1530-1540	72164	1.3	1.6	96.6	.5	3.4a	4.0		None	
SBR61-2850	1540-1550	72165	1.0	1.3	97.1	.6	2.7a	3.1		None	
SBR61-2851	1550-1560	72166	1.4	1.5	96.2	.9	3.8a	3.6		None	
SBR61-2852	1560-1570	72167	1.7	1.5	96.0	.8	4.5a	3.6		None	
SBR61-2853	1570-1580	72168	1.3	1.4	96.4	.9	3.4a	3.2		None	
SBR61-2854	1580-1590	72169	1.9	1.7	95.4	1.0	5.0a	4.0		None	
SBR61-2855	1590-1600						b				
SBR61-2856	1600-1610						Trace				
SBR61-2857	1610-1620						b				
SBR61-2858	1620-1630	72170	1.8	1.6	95.7	.9	4.6a	3.8		None	
SBR61-2859	1630-1640	72171	2.0	1.1	96.7	.2	5.2a	2.6		None	
SBR61-2860	1640-1650	72172	1.0	2.0	96.8	.2	2.6a	4.8		None	
SBR61-2861	1650-1660	72173	1.6	1.6	95.9	.9	4.2a	3.8		None	
SBR61-2862	1660-1670	72174	1.0	.7	98.0	.3	2.5a	1.8		None	
SBR61-2863	1670-1680						b				
SBR61-2864	1680-1690	72175	1.4	.2	97.9	.5	3.5a	.6		None	
SBR61-2865	1690-1700	72176	1.7	1.2	96.7	.4	4.5a	2.9		None	
SBR61-2866-67	1700-1720						Trace				

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## OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Phillips Petroleum Company's No. 1975 ST Feature well

Surface elevation 6,316 feet

Sample number	Run No.	Yield of product		Spent shale	Gas + loss	Specific gravity of oil at 60°/60° F.		Properties of spent shale Tendency to coke	Remarks
		Weight percent	Gal. per ton						
Laramie	Their	Oil	Water			Oil	Water		
SBR61-2868	1720-1730					b			
SBR61-2869	1730-1740					No Oil			
SBR61-2870	1740-1750					Trace			
SBR61-2871	1750-1760	72177	4.5	1.2	93.3	1.0	11.9	2.9	0.916
SBR61-2872	1760-1770	72178	2.4	1.4	95.3	.9	6.4	3.4	.913
SBR61-2873	1770-1780	72179	1.5	.9	97.2	.4	3.8a	2.2	None
SBR61-2874	1780-1790	72180	.8	1.7	97.0	.5	2.2a	4.1	None
SBR61-2875	1790-1800	72181	2.4	1.2	95.8	.6	6.3	3.0	.898
SBR61-2876	1800-1810	72182	10.1	.7	87.3	1.9	26.6	1.8	.906
SBR61-2877	1810-1820	72183	6.1	.8	91.7	1.4	16.2	2.0	.897
SBR61-2878	1820-1830	72184	4.2	1.3	93.5	1.0	11.1	3.1	.898
SBR61-2879	1830-1840	72185	3.4	.9	94.8	.9	9.0	2.3	.904
SBR61-2880	1840-1850	72186	3.7	.6	94.6	1.1	9.7	1.4	.910
SBR61-2881	1850-1860					Trace			
SBR61-2882	1860-1870	72187	2.0	.6	97.1	.3	5.1a	1.4	None
SBR61-2883	1870-1880	72188	.6	.7	98.6	.1	1.5a	1.7	None
SBR61-2884	1880-1890	72189	1.8	.5	97.5	.2	4.7a	1.2	None
SBR61-2885	1890-1900	72190	2.0	.6	96.1	1.3	5.1a	1.6	None
SBR61-2886	1900-1910	72191	2.1	.3	97.3	.3	5.6	.7	.918
SBR61-2887	1910-1920	72192	.9	.2	98.3	.6	2.2a	.6	None
SBR61-2888	1920-1930					c			
SBR61-2889	1930-1940	72193	3.1	1.2	94.9	.8	8.2	2.8	.905
SBR61-2890	1940-1950	72194	.8	.8	98.2	.2	2.2a	1.8	None
SBR61-2891	1950-1960	72195	3.1	1.3	94.5	1.1	8.3	3.1	.909
SBR61-2892	1960-1970	72196	1.9	1.1	96.1	.9	5.1a	2.6	None
SBR61-2893	1970-1980	72197	5.3	.9	92.3	1.5	14.1	2.0	.905
SBR61-2894	1980-1990	72198	4.1	1.2	93.3	1.4	11.0	2.8	.899
SBR61-2895	1990-2000	72199	1.0	.6	97.7	.7	2.5a	1.6	None
SBR61-2896	2000-2010					c			
SBR61-2897-98	2010-2030					b			

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Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. SBR-3466P Sheet No. 4 of 6 sheets April 6, 1961

## OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Phillips Petroleum Company's No. 1975 ST Feature well

Surface elevation 6,316 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		Spent shale	Gas + loss				Gal. per ton
Laramie	Their		Oil	Water					Oil	Water
SBR61-2899- 2904	2030-2090						No Oil			
SBR61-2905-06	2090-2110						Trace			
SBR61-2907	2110-2120						c			
SBR61-2908-11	2120-2160						Trace			
SBR61-2912	2160-2170						c			
SBR61-2913-15	2170-2200						No Oil			
SBR61-2916	2200-2210						b			
SBR61-2917	2210-2220						No Oil			
SBR61-2918	2220-2230						Trace			
SBR61-2919-20	2230-2250						No Oil			
SBR61-2921-22	2250-2270						Trace			
SBR61-2923	2270-2280						No Oil			
SBR61-2924-25	2280-2300						c			
SBR61-2926	2300-2310						b			
SBR61-2927-38	2310-2430						No Oil			
SBR61-2939	2430-2440						Trace			
SBR61-2940	2440-2450						c			
SBR61-2941-45	2450-2500						No Oil			
SBR61-2946-49	2500-2540						b			
SBR61-2950	2540-2550						No Oil			
SBR61-2951	2550-2560						b			
SBR61-2952-54	2560-2590						c			
SBR61-2955-59	2590-2640						No Oil			
SBR61-2960	2640-2650						Trace			
SBR61-2961	2650-2660						b			
SBR61-2962-63	2660-2680						c			
SBR61-2964-84	2680-2690						No Oil			
SBR61-2985-86	2890-2910						c			
SBR61-2987	2910-2920						No Oil			
SBR61-2988	2920-2930						Trace			

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 October 24, 1960; assays made on air-dried samples.

## OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Phillips Petroleum Company's No. 1975 ST Feature well

Surface elevation 6,316 feet

Sample number		Run No.	Yield of product					Specific gravity of oil at 60°/60° F.	Properties of		Remarks
			Weight percent		Spent shale	Gas + loss	Gal. per ton		Tendency to coke		
			Oil	Water			Oil			Water	
Laramie	Their										
SBR61-2989	2930-2940						b				
SBR61-2990- 3000	2940-3050						No Oil				
SBR61-3001	3050-3060						b				
SBR61-3002-14	3060-3190						No Oil				
SBR61-3015	3190-3200						b				
SBR61-3016-27	3200-3320						No Oil				
SBR61-3028	3320-3330						b				
SBR61-3029-42	3330-3470						No Oil				
SBR61-3043-44	3470-3490						b				
SBR61-3045-91	3490-3960						No Oil				
SBR61-3092	3960-3970	72200	2.7	0.9	95.2	1.2	7.5	2.2	0.859	None	
SBR61-3093	3970-3980	72201	2.5	1.2	95.0	1.3	6.8	2.9	.876	None	
SBR61-3094	3980-3990	72202	1.6	1.5	95.8	1.1	4.1a	3.6		None	
SBR61-3095	3990-4000	72203	3.0	1.6	94.2	1.2	8.0	3.8	.909	None	
SBR61-3096	4000-4010	72204	3.0	1.3	94.7	1.0	8.0	3.1	.893	None	
SBR61-3097	4010-4020	72205	2.1	1.6	95.1	1.2	5.6	3.8	.885	None	
SBR61-3098	4020-4030	72206	1.2	1.0	97.0	.8	3.3a	2.4		None	
SBR61-3099	4030-4040						b				
SBR61-3100-04	4040-4090						No Oil				
SBR61-3105-06	4090-4110						b				
SBR61-3107	4110-4120						No Oil				
SBR61-3108	4120-4130						c				
SBR61-3109-11	4130-4160						Trace				
SBR61-3112	4160-4170						No Oil				
SBR61-3113	4170-4180						Trace				
SBR61-3114-15	4180-4200						b				
SBR61-3116-17	4200-4220						c				
SBR61-3118-23	4220-4280						b				

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Geological Center, Laramie, Wyoming, Illustration No. SBR-3466P Sheet No. 6 of 6 sheets April 6, 1961