

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Humble Oil and Refining Company's Badlands Cliff Unit No.2 well drilled in C. SW 1/4
NE 1/4 1980 feet S/N 1980 feet W/E of Sec. 22, T. 11 S., R. 14 E., Duchesne County, Utah

Elevation - 7243 KB

Sample number		Run No.	Yield of product				Gal. per ton		Specific gravity of oil at 60°/60° F.	Properties of spent shale Tendency to coke	Remarks
			Weight percent		Spent shale	Gas + loss					
Laramie	Their		Oil	Water					Oil	Water	
SBR61-7885-87	70-100						c				
SBR61-7888-90	110-140						c				
SBR61-7891	140-150						b				
SBR61-7892	180-190	74962	4.5	3.1	91.4	1.0	11.7	7.4	0.918	None	
SBR61-7893	190-200	74963	3.8	2.8	92.4	1.0	10.2	6.7	.897	None	
SBR61-7894	200-210	74964	3.3	3.0	92.6	1.1	8.8	7.2	.904	None	
SBR61-7895	210-220	74965	2.5	3.0	93.8	.7	6.6	7.2	.896	None	
SBR61-7896	220-230	74966	1.2	3.1	95.1	.6	3.0a	7.4		None	
SBR61-7897	230-240	74967	1.6	2.7	95.1	.6	4.1a	6.5		None	
SBR61-7898-7901	250-290						c				
SBR61-7902-05	300-340						c				
SBR61-7906	340-350	74968	1.3	2.6	95.1	1.0	3.4a	6.2		None	
SBR61-7907	350-360	74969	2.6	3.1	93.2	1.1	7.2	7.4	.882 /	None	
SBR61-7908	360-370	74970	3.1	2.5	93.7	.7	8.2	6.0	.898	None	
SBR61-7909	370-380	74971	.9	1.9	96.6	.6	2.4a	4.6		None	
SBR61-7910	380-390	74972	2.6	1.6	94.8	1.0	7.0	3.8	.905	None	
SBR61-7911	390-400	74973	.5	1.7	97.1	.7	1.4a	4.1		None	
SBR61-7912	400-410						b				
SBR61-7913-15	410-440						Trace				
SBR61-7916-17	440-460						b				
SBR61-7918-19	460-480						Trace				
SBR61-7920-21	480-500						c				
SBR61-7922	500-510						b				
SBR61-7923-24	510-530						No oil				
SBR61-7925-28	530-570						b				
SBR61-7929	570-580						Trace				
SBR61-7930	580-590						b				
SBR61-7931	590-600						Trace				
SBR61-7932-33	600-620						b				
SBR61-7934	620-630						c				

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 August 14, 1961; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Humble Oil and Refining Company's Badlands Cliff Unit No.2 well (Con.)

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
SBR61-7935	630- 640						No oil			
SBR61-7936-38	640- 670						b			
SBR61-7939	670- 680						Trace			
SBR61-7940	680- 690						b			
SBR61-7941-42	690- 710						Trace			
SBR61-7943-46	710- 750						b			
SBR61-7947	750- 760						Trace			
SBR61-7948-49	760- 780						No oil			
SBR61-7950	780- 790						c			
SBR61-7951	790- 800						b			
SBR61-7952	1000-1010						b			
SBR61-7953	1010-1020						No oil			
SBR61-7954	1020-1030						Trace			
SBR61-7955-57	1030-1060						No oil			
SBR61-7958	1060-1070						Trace			
SBR61-7959-61	1070-1100						No oil			
SBR61-7962	1100-1110						b			
SBR61-7963	1110-1120						No oil			
SBR61-7964-68	1120-1170						Assay			
SBR61-7969	1170-1180						Trace			
SBR61-7970	1180-1190						No oil			
SBR61-7971	1190-1200						Assay			
SBR61-7972	1200-1210						Trace			
SBR61-7973-75	1210-1240						No oil			
SBR61-7976	1240-1250						b			
SBR61-7977	1250-1260						No oil			
SBR61-7978	1260-1270						Trace			
SBR61-7979	1270-1280						Assay			
SBR61-7980	1280-1290						No oil			
SBR61-7981	1290-1300						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

Assay - Sample contained more than 3.0 gallons of oil per ton of shale

Drill cutting samples received August 14, 1961; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Humble Oil and Refining Company's Badlands Cliff Unit No.2 well (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
		Oil	Water				Oil	Water		
Laramie	Their									
SBR61-7982-84	1300-1330					No oil				
SBR61-7985	1330-1340					Trace				
SBR61-7986	1340-1350					No oil				
SBR61-7987	1400-1410					Trace				
SBR61-7988	1410-1420					c				
SBR61-7989-91	1420-1450					No oil				
SBR61-7992	1450-1460					Assay				
SBR61-7993	1460-1470					No oil				
SBR61-7994	1470-1480					Assay				
SBR61-7995-8000	1480-1540					b				
SBR61-8001	1540-1550	74974	6.7	3.0	88.1	2.2	18.1	7.2 ¹²⁰	0.890	None
SBR61-8002	1550-1560	74975	5.3	3.1	90.0	1.6	14.3	7.4	.888	None
SBR61-8003	1560-1570	74976	2.9	2.7	93.5	.9	7.7	6.5	.889	None
SBR61-8004	1570-1580	74977	1.9	2.7	94.1	1.3	4.9a	6.5		None
SBR61-8005	1580-1590						b			
SBR61-8006	1590-1600	74978	3.0	2.8	92.6	1.6	7.7a	6.8 ¹³⁵		None
SBR61-8007	1600-1610	74979	3.2	2.4	92.1	2.3	8.3a	5.8		None
SBR61-8008	1610-1620	74980	2.7	2.9	92.6	1.8	7.1a	6.9		None
SBR61-8009	1620-1630	74981	1.4	2.6	94.3	1.7	3.8a	6.2		None
SBR61-8010	1630-1640	74982	25.3	2.5	67.1	5.1	66.8	6.0	.906	Slight
SBR61-8011	1640-1650	74983	8.4	4.8	83.4	3.4	22.2	11.4	.913	None
SBR61-8012	1650-1660	74984	7.6	3.7	84.9	3.8	19.8	8.9	.914	None
SBR61-8013	1660-1670						b			
SBR61-8014	1670-1680	74985	1.2	1.8	96.2	.8	3.0a	4.3		None
SBR61-8015	1680-1690						b			
SBR61-8016	1690-1700	74986	1.1	2.5	95.2	1.2	2.8a	6.1		None
SBR61-8017	1700-1710	74987	.2	2.6	97.1	.1	.6a	6.2		None
SBR61-8018	1710-1720	74988	1.8	1.1	96.7	.4	4.6a	2.7		None
SBR61-8019	1720-1730	74989	.8	2.6	95.9	.7	2.0a	6.4		None
SBR61-8020	1730-1740	74990	2.6	2.8	93.3	1.3	6.8a	6.7		None

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Assay - Sample contained more than 3.0 gallons of oil per ton of shale

Drill cutting samples received August 14, 1961; assays made on air-dried samples

Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. SBR-3506P Sheet No.3 of 5 sheets, September 11, 1961

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Humble Oil and Refining Company's Badlands Cliff Unit No.2 well (Con.)

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				
Laramie	Their		Oil	Water					Oil	Water
SBR61-8021-27	1740-1810						No oil			
SBR61-8028-30	1810-1840						b			
SBR61-8031-55	1840-2090						No oil			
SBR61-8056	2090-2100						Trace			
SBR61-8057-64	2100-2180						No oil			
SBR61-8065-67	2190-2220						No oil			
SBR61-8068	2220-2230	74991	0.9	2.6	96.0	0.5	2.4a	6.2	None	
SBR61-8069	2230-2240						No oil			
SBR61-8070-72	2250-2280						No oil			
SBR61-8073-74	2280-2300						b			
SBR61-8075-76	2300-2320						c			
SBR61-8077	2320-2330	74992	1.7	2.2	95.7	.4	4.5a	5.3	None	
SBR61-8078	2340-2350	74993	2.5	1.6	95.5	.4	6.7	3.8	0.884	None
SBR61-8079	2350-2360	74994	1.9	1.7	95.8	.6	5.0a	4.0	None	
SBR61-8080	2360-2370	74995	1.1	2.8	95.2	.9	2.9a	6.7	None	
SBR61-8081-82	2370-2390						c			
SBR61-8083	2390-2400	74996	1.3	3.6	93.8	1.3	3.4a	8.6	None	
SBR61-8084	2400-2410	74997	.9	2.4	96.3	.4	2.4a	5.7	None	
SBR61-8085-90	2410-2470						b			
SBR61-8091-98	2470-2550						No oil			
SBR61-8099-8100	2550-2570						Trace			
SBR61-8101	2570-2580	74998	2.7	2.0	94.5	.8	7.3	4.8	.888	None
SBR61-8102	2580-2590	74999	2.6	2.1	94.4	.9	7.0	4.9	.889	None
SBR61-8103	2590-2600	75000	3.0	2.0	94.1	.9	8.1	4.8	.890	None
SBR61-8104	2600-2610	75001	2.6	2.0	94.6	.8	7.1	4.8	.888	None
SBR61-8105-06	2610-2630						b			
SBR61-8107	2630-2640						Trace			
SBR61-8108-23	2640-2800						No oil			
SBR61-8124-50	2810-3080						No oil			
SBR61-8151	3080-3090						Trace			

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OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Humble Oil and Refining Company's Badlands Cliff Unit No.2 well (Con.)

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
SBR61-8152	3090-3100						No oil			
SBR61-8153	3100-3110	75002	0.8	2.8	95.9	0.5	2.1a	6.7	None	
SBR61-8154	3110-3120	75003	.9	2.8	95.7	.6	2.4a	6.7	None	
SBR61-8155	3120-3130	75004	.7	2.7	95.9	.7	1.9a	6.5	None	
SBR61-8156	3130-3140	75005	.4	2.3	96.9	.4	1.1a	5.4	None	
SBR61-8157	3140-3150	75006	.7	1.9	97.0	.4	1.7a	4.7	None	
SBR61-8158	3150-3160	75007	.3	2.4	96.9	.4	.7a	5.9	None	
SBR61-8159	3160-3170	75008	.5	2.2	96.8	.5	1.3a	5.3	None	
SBR61-8160-64	3170-3220						Trace			
SBR61-8165	3220-3230						c			
SBR61-8166-67	3230-3250						b			
SBR61-8168-69	3250-3270						Trace			
SBR61-8170-74	3270-3320						No oil			
SBR61-8175-76	3320-3340						Trace			
SBR61-8177-85	3340-3430						No oil			
SBR61-8186-87	3430-3450						Trace			
SBR61-8188-8232	3450-3900						No oil			

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