

## OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

20' of 15 1/2" ✓

Samples from Miami Oil Producers, Incorporated No. 1 Miami-State 513 well drilled in  
SW1/4SW1/4 (663 feet N/S 661 feet E/W) of sec 2, T 11 S, R 15 E, Duchesne County, Utah

Elev. of Mb. 5474

Surface elevation 7,124 feet

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F		Properties of spent shale	Remarks
			Weight percent		Gas + loss	Gal per ton		Tendency to coke		
Laramie	Their		Oil	Water		Spent shale		Oil 1/	Water	
SBR68-5132	450-480						Trace			
SBR68-5133-35	480-570									
SBR68-5136	570-600	31287	0.7	1.5	96.9	0.9	1.9a	3.5	None	
SBR68-5137	600-630	31288	.3	1.7	97.9	.1	.8a	4.1	None	
SBR68-5138	630-660	31289	1.2	2.2	96.3	.3	3.1a	5.3	None	
SBR68-5139	660-690	31290	1.3	2.0	96.0	.7	3.3a	4.9	None	
SBR68-5140	690-720	31291	1.2	2.1	96.2	.5	3.0a	5.0	None	
SBR68-5141	720-750	31292	.8	2.0	96.7	.5	2.1a	4.8	None	
SBR68-5142	750-780	31293	.8	1.8	96.8	.6	2.0a	4.3	None	
SBR68-5143	780-810	31294	1.7	1.9	95.4	1.0	4.5a	4.6	None	
SBR68-5144	810-840	31295	1.8	1.7	93.0	3.5	4.6a	4.1	None	
SBR68-5145	840-870	31296	.9	1.5	96.8	.8	2.4a	3.6	None	
SBR68-5146	870-900	31297	.9	1.8	96.6	.7	2.3a	4.3	None	
SBR68-5147	900-930	31298	.6	2.0	96.5	.9	1.5a	4.8	None	
SBR68-5148	930-960	31299	.6	1.9	96.5	1.0	1.6a	4.6	None	
SBR68-5149	960-990	31300	.6	2.4	96.1	.9	1.6a	5.8	None	
SBR68-5150	990-1020	31301	.8	1.7	96.6	.9	2.0a	4.1	None	
SBR68-5151	1020-1050	31302	1.0	2.0	95.8	1.2	2.7a	4.8	None	
SBR68-5152	1050-1080						b			
SBR68-5153-56	1080-1200						c			
SBR68-5157	1200-1230	31303	.5	2.1	96.6	.8	1.3a	5.0	None	
SBR68-5158	1230-1260	31304	1.0	2.3	96.1	.6	2.7a	5.5	None	
SBR68-5159	1290-1320	31305	1.8	2.0	95.1	1.1	4.6a	4.8	None	
SBR68-5160	1320-1350	31306	1.5	1.9	95.7	.9	4.0a	4.6	None	
SBR68-5161	1350-1380	31307	1.1	1.5	96.9	.5	2.8a	3.6	None	
SBR68-5162	1380-1410	31308	1.2	1.0	96.9	.9	3.2a	2.4	None	
SBR68-5163	1410-1440	31309	.3	1.8	96.6	1.3	.9a	4.3	None	
SBR68-5164	1440-1470	31310	.4	2.0	97.0	.6	.9a	4.8	None	
SBR68-5165	1470-1500						b			
SBR68-5166-74	1500-1570						Trace			

See footnote at end of table.

Drill cutting samples received September 26, 1967; Assays made on air-dried samples.

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Samples from Miami Oil Producers, Incorporated No. 1 Miami-State 513 well (con.)

Surface elevation 7,124 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 <sup>1/</sup>	Water	
SBR68-5175	1570-1580	31311	1.3	1.6	96.2	0.9	3.3a	3.7		None	
SBR68-5176	1580-1590	31312	1.5	2.1	95.5	.9	3.8a	5.0		None	
SBR68-5177	1590-1600	31313	1.4	1.9	95.8	.9	3.8a	4.6		None	
SBR68-5178-79	1600-1620						b				
SBR68-5180	1620-1630	31314	4.0	2.2	92.2	1.6	10.6	5.3	0.911	None	
SBR68-5181	1630-1640	31315	4.3	1.9	92.6	1.2	11.2	4.6	.911	None	
SBR68-5182	1640-1650	31316	5.7	1.8	90.7	1.8	15.0	4.3	.908	None	
SBR68-5183	1650-1660	31317	6.1	1.3	91.1	1.5	16.1	3.1	.907	None	
SBR68-5184	1660-1670	31318	4.1	1.5	93.0	1.4	10.9	3.5	.905	None	
SBR68-5185	1670-1680	31319	4.3	1.4	92.4	1.9	11.5	3.4	.908	None	
SBR68-5186	1680-1690	31320	1.6	1.6	95.7	1.1	4.2a	3.8		None	
SBR68-5187	1690-1700	31321	2.0	1.6	95.2	1.2	5.3a	3.8		None	
SBR68-5188	1700-1710	31322	2.1	1.6	95.3	1.0	5.3a	3.8		None	
SBR68-5189	1710-1720	31323	1.7	1.1	95.7	1.5	4.5a	2.6		None	
SBR68-5190-91	1720-1740						b				
SBR68-5192	1740-1750						Trace				
SBR68-5193	1750-1760						No Oil				
SBR68-5194-95	1760-1780						c				
SBR68-5196	1780-1790	31324	1.2	1.9	96.3	.6	3.2a	4.6		None	
SBR68-5197	1800-1810	31325	1.7	1.1	96.1	1.1	4.4a	2.6		None	
SBR68-5198	1810-1820	31326	1.8	1.3	96.2	.7	4.6a	3.1		None	
SBR68-5199	1820-1830	31327	2.4	1.5	95.3	.8	6.5	3.6	.898	None	
SBR68-5200	1830-1840	31328	.9	1.0	97.6	.5	2.4a	2.3		None	
SBR68-5201-06	1840-1900						b				
SBR68-5207-08	1900-1920						Trace				
SBR68-5209-11	1920-1950						b				
SBR68-5212	1950-1960						Trace				
SBR68-5213	1960-1970						b				
SBR68-5214	1970-1980						Trace				
SBR68-5215-17	1980-2010						b				

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Samples from Miami Oil Producers, Incorporated No. 1 Miami-State 513 well (con.)

Surface elevation 7,124 feet

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 <sup>1/</sup>	Water		
SBR68-5218	2010-2020					c					
SBR68-5219-21	2020-2050					b					
SBR68-5222-27	2050-2110					Trace					
SBR68-5228-31	2110-2150					b					
SBR68-5232	2150-2160					Trace					
SBR68-5233	2160-2170					b					
SBR68-5234-36	2170-2200					c					
SBR68-5237-39	2200-2230					b					
SBR68-5240	2230-2240					c					
SBR68-5241	2240-2250					b					
SBR68-5242	2250-2260					Trace					
SBR68-5243-46	2260-2300					No Oil					
SBR68-5247-50	2300-2340					Trace					
SBR68-5251-58	2340-2420					b					
SBR68-5259-61	2420-2450					Trace					
SBR68-5262-65	2450-2490					c					
SBR68-5266-70	2490-2540					b					
SBR68-5271	2540-2550					c					
SBR68-5272-74	2550-2580					b					
SBR68-5275-76	2580-2600					c					
SBR68-5277-79	2600-2630					b					
SBR68-5280-81	2630-2650					c					
SBR68-5282-84	2650-2680					b					
SBR68-5285	2680-2690					Trace					
SBR68-5286-5309	2690-2930					No Oil					
SBR68-5310-11	2930-2950					Trace					
SBR68-5312-13	2950-2970					No Oil					
SBR68-5314-20	2970-3040					b					
SBR68-5321	3040-3050					Trace					
SBR68-5322-24	3050-3080					No Oil					

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Sample number		Run No.	Yield of product				Gal per ton		Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks
			Weight percent		Spent shale	Gas + loss				Tendency to coke		
			Oil	Water			Oil <sup>1/</sup>	Water				
Laramie	Their											
SBR68-5325	3080-3090						Trace					
SBR68-5326-29	3090-3130						No Oil					
SBR68-5330-31	3130-3150						c					
SBR68-5332	3150-3160						b					
SBR68-5333-49	3160-3330						No Oil					
SBR68-5350	3330-3340						b					
SBR68-5351-56	3340-3400						No Oil					
SBR68-5357-58	3400-3420						Trace					
SBR68-5359-61	3420-3450						No Oil					
SBR68-5362	3450-3460						b					
SBR68-5363-69	3460-3530						No Oil					
SBR68-5370-72	3530-3560						b					
SBR68-5373	3570-3580						b					
SBR68-5374	3580-3590						No Oil					
SBR68-5375	3590-3600						Trace					
SBR68-5376-94	3600-3790						No Oil					
SBR68-5395	3790-3800	31329	1.2	1.1	96.8	0.9	3.0a	2.6		None		
SBR68-5396	3800-3810	31330	1.3	1.6	96.4	.7	3.4a	3.8		None		
SBR68-5397	3810-3820	31331	1.8	1.0	94.3	2.9	4.8a	2.3		None		
SBR68-5398	3820-3830	31332	2.6	.7	95.7	1.0	6.7	1.8	0.917	None		
SBR68-5399	3830-3840	31333	2.4	1.2	95.1	1.3	6.3	3.0	.901	None		
SBR68-5400	3840-3850	31334	3.7	1.0	93.4	1.9	9.7	2.5	.913	None		
SBR68-5401	3850-3860	31335	1.7	.7	96.9	.7	4.5a	1.7		None		
SBR68-5402	3860-3870	31336	.8	.5	98.1	.6	2.1a	1.2		None		
SBR68-5403	3870-3880						No Oil					
SBR68-5404	3880-3890						b					
SBR68-5405-09	3890-3940						No Oil					
SBR68-5410-13	3940-3980						c					
SBR68-5414-15	3980-4000						No Oil					
SBR68-5416-18	4000-4030						Trace					

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Surface elevation 7,124 feet

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		Gas + loss						
			Laramie	Their		Oil	Water	Spent shale			
SBR68-5419-20	4030-4050						b				
SBR68-5421-22	4050-4070						c				
SBR68-5423	4070-4080						b				
SBR68-5424-25	4080-4100						Trace				
SBR68-5426-27	4100-4120						b				
SBR68-5428	4120-4130						No Oil				
SBR68-5429	4130-4140						Trace				
SBR68-5430	4140-4150						No Oil				
SBR68-5431-32	4150-4170						Trace				
SBR68-5433-71	4170-4560						No Oil				
SBR68-5472	4560-4570	31337	1.8	1.4	95.6	1.2	4.6a	3.5		None	
SBR68-5473	4570-4580	31338	1.6	1.7	95.7	1.0	4.3a	4.1		None	
SBR68-5474	4580-4590	31339	.7	1.3	97.5	.5	1.8a	3.1		None	
SBR68-5475	4590-4600	31340	.5	1.1	97.7	.7	1.4a	2.6		None	
SBR68-5476-78	4600-4630						c				
SBR68-5479-80	4630-4650						b				
SBR68-5481	4650-4660						Trace				
SBR68-5482	4660-4670						No Oil				
SBR68-5483	3670-4680						Trace				
SBR68-5484-85	4680-4700						b				
SBR68-5486-87	4700-4720						c				
SBR68-5488-89	4720-4740						b				
SBR68-5490	4740-4750						Trace				
SBR68-5491-95	4750-4800						No Oil				

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

Drill cutting samples received September 26, 1967: Assays made on air-dried samples.