

## OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Phillips Petroleum Company's Flat Rock well No. 4 drilled in NE1/4NW1/4  
(660 feet S/N 1878 feet E/W) of sec. 30, T. 14 S., R. 20 E., Uintah County, Utah

5' of 25 gal.  
77' of 15 gal.  
wh 257

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-1/	Water	
SRR63-14212-13	0- 10						c				
SRR63-14214	10- 15	92764	1.2	1.9	95.9	1.0	3.2a	4.6		None	
SRR63-14215	15- 20	92765	1.6	.8	96.3	1.3	4.1a	2.0		None	
SRR63-14216	20- 25	92766	2.4	1.2	95.2	1.2	6.3	2.8	0.916	None	
SRR63-14217	25- 30	92767	2.1	1.0	96.4	.5	5.5	2.4	.917	None	
SRR63-14218	30- 35	92768	2.3	1.1	96.0	.6	5.9	2.6	.916	None	
SRR63-14219	35- 40	92769	2.0	1.1	96.3	.6	5.1a	2.7		None	
SRR63-14220	40- 45	92770	1.8	1.1	96.5	.6	4.8a	2.5		None	
SRR63-14221-23	45- 60						c				
SRR63-14224	60- 65	92771	.6	.7	98.4	.3	1.5a	1.6		None	
SRR63-14225	65- 70	92772	7.1	1.7	88.2	3.0	18.7	4.1	.908	None	
SRR63-14226	70- 75	92773	2.1	2.7	94.2	1.0	5.7	6.5	.894	None	
SRR63-14227	75- 80	92774	1.8	.5	97.0	.7	4.6a	1.2		None	
SRR63-14228	80- 85	92775	2.2	.3	96.7	.8	5.6	.8	.921	None	
SRR63-14229	85- 90	92776	2.3	.3	97.2	.2	5.9	.8	.925	None	
SRR63-14230	90- 95	92777	2.5	.4	96.3	.8	6.4	1.0	.923	None	
SRR63-14231	95-100	92778	2.5	.4	96.3	.8	6.4	1.1	.921	None	
SRR63-14232	100-105	92779	1.7	.1	97.4	.8	4.3a	.2		None	
SRR63-14233	105-110	92780	2.5	.4	96.9	.2	6.6	1.0	.928	None	
SRR63-14234	110-115						d				
SRR63-14235	115-120	92781	2.1	.2	96.9	.8	5.5	.5	.927	None	
SRR63-14236	120-125						d				
SRR63-14237	125-130	92782	2.0	.4	97.0	.6	5.2a	1.1		None	
SRR63-14238	130-135	92783	1.7	.4	97.0	.9	4.4a	1.0		None	
SRR63-14239	135-140						d				
SRR63-14240	140-145	92784	1.0	.9	97.6	.5	2.7a	2.0		None	
SRR63-14241	145-150	92785	1.2	1.0	97.0	.8	3.2a	2.4		None	
SRR63-14242	150-155	92786	.9	.6	97.0	1.5	2.4a	1.4		None	
SRR63-14243	155-160	92787	1.4	.9	97.0	.7	3.6a	2.2		None	
SRR63-14244-45	160-170						d				

See footnotes at end of table.

Drill cutting samples received June 28, 1963; assays made on air-dried samples

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Samples from Phillips Petroleum Company's Flat Rock well No. 4 (Con.)

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	Oil <sup>1/</sup>	Water		Tendency to Coke		
Laramie	Their		Oil	Water								
SRR63-14246	170-175						b					
SRR63-14247	175-180						Trace					
SRR63-14248-51	180-200						c					
SRR63-14252	200-205	92788	1.4	1.1	97.0	0.5	3.6a	2.6		None		
SRR63-14253	205-210	92789	1.6	.8	96.8	.8	4.1a	1.9		None		
SRR63-14254	210-215	92790	1.6	1.2	96.9	.3	4.1a	2.9		None		
SRR63-14255	215-220	92791	1.9	.8	96.6	.7	4.9a	1.9		None		
SRR63-14256	220-225	92792	1.5	1.0	96.7	.8	4.0a	2.4		None		
SRR63-14257	225-230	92793	1.6	.7	96.9	.8	4.1a	1.8		None		
SRR63-14258	230-235	92794	1.6	1.2	96.6	.6	4.1a	2.9		None		
SRR63-14259-61	235-250						c					
SRR63-14262	250-255						No oil					
SRR63-14263	255-260						Trace					
SRR63-14264	260-265						c					
SRR63-14265-68	265-285						No oil					
SRR63-14269	285-290						Trace					
SRR63-14270	290-295						No oil					
SRR63-14271	295-300						Trace					
SRR63-14272-73	300-310						No oil					
SRR63-14274	310-315	92795	.5	2.7	96.3	.5	1.4a	6.5		None		
SRR63-14275	315-320	92796	3.1	1.4	94.0	1.5	8.3	3.4	0.909	None		
SRR63-14276	320-325	92797	3.7	2.2	92.4	1.7	9.7	5.4	.906	None		
SRR63-14277	325-330	92798	9.7	2.4	85.8	2.1	25.4	5.8	.913	None		
SRR63-14278	330-335	92799	5.5	2.5	90.4	1.6	14.4	6.0	.911	None		
SRR63-14279	335-340	92800	2.5	6.0	90.0	1.5	6.6a	14.2		None		
SRR63-14280	340-345						c					
SRR63-14281	345-350						b					
SRR63-14282-83	350-360						c					
SRR63-14284	365-370	92801	4.8	3.3	89.7	2.2	12.6a	7.9		None		
SRR63-14285-86	375-385						c					

See footnotes at end of table.

Drill cutting samples received June 28, 1963; assays made on air-dried samples

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Samples from Phillips Petroleum Company's Flat Rock well No. 4 (Con.)

Sample number		Run No.	Yield of product				Cal. per ton		Specific gravity of oil at 60°/60°F.	Properties of spent shale Tendency to coke	Remarks
Laramie	Their		Weight percent		Spent shale	Gas + loss	Oil <sup>1/</sup>	Water			
SER63-14287-91	385- 410						No oil				
SER63-14292	410- 415						b				
SER63-14293-300	415- 455						No oil				
SER63-14301-03	455- 470						b				
SER63-14304-05	470- 480						No oil				
SER63-14306	480- 485	92802	0.7	0.2	98.9	0.2	1.9a	0.5		None	
SER63-14307	485- 490	92803	.5	1.6	97.2	.7	1.4a	3.8		None	
SER63-14308	490- 495						c				
SER63-14309	495- 500	92804	.6	2.1	96.7	.6	1.5a	5.0		None	
SER63-14310	500- 510	92805	.5	2.0	96.8	.7	1.2a	4.8		None	
SER63-14311-13	510- 540						No oil				
SER63-14314	540- 550						b				
SER63-14315-16	550- 570						No oil				
SER63-14317	570- 580						c				
SER63-14318	580- 590						b				
SER63-14319-25	590- 660						No oil				
SER63-14326	660- 670						b				
SER63-14327	690- 700						c				
SER63-14328-29	700- 720						No oil				
SER63-14330	720- 730						c				
SER63-14331-32	730- 750						No oil				
SER63-14333	750- 760	92806	.6	1.1	97.7	.6	1.5a	2.6		None	
SER63-14334	760- 770	92807	.4	1.4	97.8	.4	1.0a	3.4		None	
SER63-14335-36	770- 790						Trace				
SER63-14337-40	790- 830						No oil				
SER63-14341	830- 840						b				
SER63-14342-44	840- 870						No oil				
SER63-14345	870- 880						c				
SER63-14346-71	890-1150						No oil				
SER63-14372	1150-1160						b				

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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 Tendency to coke	Remarks
Laramie	Thief		Weight percent		Spent shale	Gas + loss	Oil	Water			
SNR63-14373	1160-1170						Trace				
SNR63-14374	1170-1180						b				
SNR63-14375	1180-1190						No oil				
SNR63-14376	1190-1200						c				
SNR63-14377-83	1200-1270						No oil				
SNR63-14384	1270-1280						c				
SNR63-14385	1280-1290						Trace				
SNR63-14386-402	1290-1460						No oil				
SNR63-14403	1460-1470						b				
SNR63-14404-11	1470-1550						No oil				
SNR63-14412	1550-1560						Trace				
SNR63-14413	1560-1570						No oil				
SNR63-14414-16	1570-1600						c				
SNR63-14417	1600-1610						b				
SNR63-14418-20	1610-1640						c				
SNR63-14421-22	1640-1660						No oil				
SNR63-14423	1660-1670						b				
SNR63-14424	1670-1680						c				
SNR63-14425-26	1680-1700						Trace				
SNR63-14427-33	1700-1770						No oil				
SNR63-14434-35	1770-1790						b				
SNR63-14436-46	1790-1900						No oil				
SNR63-14447	1900-1910						c				

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

Drill cutting samples received June 28, 1963; assays made on air-dried samples