

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Sinclair Oil and Gas Company's Henderson No. 3 Test Hole drilled (1500 feet N/S
1500 feet W/E) of sec. 16, T. 10 S., R. 15 E., Duchesne County, Utah

Surface elevation 7077.0 feet

Sample number			Yield of product							Specific gravity of oil at 60°/60°F.	Properties of spent shale		Remarks
			Weight percent		Spent shale			Gal. per ton			Tendency to coke		
			Oil	Water				Gas + loss	Oil ^{1/}			Water	
Laramie	Their	Run No.	Oil	Water	Spent shale	Gas + loss	Oil ^{1/}	Water					
SBR63-14492	2200.0-2205.0	92833	0.0	0.7	98.3	1.0	No Oil	1.6			None		
SBR63-14493	2205.0-2207.2	92834	.0	1.7	97.8	.5	No Oil	4.1			None		
SBR63-14494	2207.2-2207.8	92835	1.2	.1	97.2	1.5	3.1a	.1			None		
SBR63-14495	2207.8-2211.8	92836	.0	1.1	98.4	.5	No Oil	2.6			None		
SBR63-14496	2211.8-2214.3	92837	.0	.3	99.1	.6	No Oil	.7			None		
SBR63-14497	2214.3-2217.7	92838	.7	.1	98.8	.4	1.8a	.4			None		
SBR63-14498	2240.0-2243.0	92839	.2	.9	98.8	.1	.5a	2.2			None		
SBR63-14499	2243.0-2247.0	92840	.1	1.9	97.8	.2	.2a	4.7			None		
SBR63-14500	2247.0-2247.5	92841	2.0	1.5	95.8	.7	5.2a	3.6			None		
SBR63-14501	2256.0-2260.0	92842	.2	2.2	97.0	.6	.5a	5.2			None		
SBR63-14502	2260.0-2269.3	92843	.1	3.1	96.1	.7	.3a	7.4			None		
SBR63-14503	2269.3-2269.6	92844	1.8	1.7	95.3	1.2	4.8a	4.1			None		
SBR63-14504	2270.0-2277.0	92845	.2	3.2	95.7	.9	.6a	7.7			None		
SBR63-14505	2279.3-2280.8	92846	3.4	2.0	93.6	1.0	9.0	4.8	0.905		None		
SBR63-14506	2280.8-2282.0	92847	2.7	2.2	94.1	1.0	7.0	5.3	.906		None		
SBR63-14507	2282.0-2283.0	92848	7.0	1.2	90.5	1.3	18.5	3.0	.906		None		
SBR63-14508	2283.0-2284.0	92849	9.5	1.7	86.8	2.0	25.1	4.1	.904		None		
SBR63-14509	2284.0-2285.5	92850	10.0	1.7	86.5	1.8	26.8	4.0	.896		None		
SBR63-14510	2285.5-2287.0	92851	2.0	1.3	95.1	1.6	5.4	3.1	.905		None		
SBR63-14511	2287.0-2290.0	92852	.9	1.8	96.0	1.3	2.3a	4.4			None		
SBR63-14512	2290.0-2295.0	92853	1.8	1.5	95.3	1.4	4.6a	3.7			None		
SBR63-14513	2295.0-2297.0	92854	2.7	2.4	93.7	1.2	7.1	5.6	.909		None		
SBR63-14514	2297.0-2298.3	92855	.7	1.5	96.4	1.4	1.8a	3.7			None		
SBR63-14515	2299.0-2300.0	92856	.3	.7	98.6	.4	.8a	1.7			None		
SBR63-14516	2303.0-2306.0	92857	.5	.7	98.3	.5	1.2a	1.8			None		
SBR63-14517	2306.0-2308.0	92858	.6	.9	97.2	1.3	1.4a	2.3			None		
SBR63-14518	2308.0-2310.0	92859	.4	1.0	98.2	.4	.9a	2.4			None		
SBR63-14519	2310.0-2312.0	92860	.6	1.0	97.9	.5	1.5a	2.5			None		
SBR63-14520	2312.0-2315.0	92861	.6	1.2	97.5	.7	1.7a	2.9			None		
SBR63-14521	2315.0-2318.0	92862	.5	1.5	97.6	.4	1.3a	3.6			None		

See footnotes at end of table.

Core samples received September 11, 1963; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Sinclair Oil and Gas Company's Henderson No. 3 Test Hole (con.)

Surface elevation 7077.0 feet

Sample number			Yield of product							Specific gravity of oil at 60°/60°F.	Properties of spent shale		Remarks
			Weight percent			Gal. per ton					Tendency to coke		
			Oil	Water	Spent shale	Gas + loss	Oil ^{1/}	Water					
Laramie	Their	Run No.	Oil	Water	Spent shale	Gas + loss	Oil ^{1/}	Water					
SBR64-366	2318.0-2320.0	93606	0.7	0.6	97.6	1.1	1.9a	1.4			None		
SBR64-367	2320.0-2322.0	93607	.4	1.0	97.6	1.0	1.1a	2.4			None		
SBR64-368	2322.0-2324.0	93608	.6	.9	97.5	1.0	1.6a	2.0			None		
SBR64-369	2324.0-2325.0	93609	2.3	1.4	95.7	.6	6.1	3.2	0.905		None		
SBR64-370	2329.0-2331.0	93610	1.9	.8	96.0	1.3	4.8a	2.0			None		
SBR64-371	2331.0-2333.0	93611	4.3	1.0	93.9	.8	11.3	2.5	.899		None		
SBR64-372	2333.0-2334.0	93612	15.3	.5	81.5	2.7	40.8	1.2	.902		None		
SBR64-373	2334.0-2335.0	93613	14.4	.2	82.0	3.4	38.1	.6	.904		None		
SBR64-374	2335.0-2336.0	93614	21.9	.8	73.0	4.3	58.4	1.8	.901		Slight		
SBR64-375	2336.0-2337.7	93615	16.9	.5	79.7	2.9	44.8	1.2	.902		Slight		
SBR64-376	2337.7-2339.5	93616	5.6	.5	92.4	1.5	14.7	1.2	.912		None		
SBR64-377	2339.5-2340.5	93617	11.7	.5	85.7	2.1	31.0	1.1	.908		None		
SBR64-378	2340.5-2342.0	93618	5.3	.1	93.2	1.4	13.9	.1	.913		None		
SBR64-379	2342.0-2343.0	93619	10.3	.6	87.3	1.8	27.3	1.3	.905		None		
SBR64-380	2343.0-2344.0	93620	5.1	.7	92.6	1.6	13.9	1.7	.890		None		
SBR64-381	2344.0-2344.5	93621	5.0	.8	92.5	1.7	13.2	1.8	.916		None		
SBR64-382	2345.0-2346.0	93622	4.1	.2	94.3	1.4	10.8	.6	.906		None		
SBR64-383	2346.0-2347.0	93623	2.4	.7	96.0	.9	6.4	1.6	.909		None		
SBR64-384	2347.0-2348.0	93624	1.6	.5	96.5	1.4	4.1a	1.3			None		
SBR64-385	2348.0-2349.0	93625	1.5	1.3	96.5	.7	3.9a	3.1			None		
SBR64-386	2349.0-2350.4	93626	3.0	.6	95.1	1.3	8.0	1.3	.908		None		
SBR64-387	2350.4-2351.6	93627	9.7	.6	87.9	1.8	25.5	1.3	.913		None		
SBR64-388	2351.6-2352.6	93628	2.0	1.3	94.6	2.1	5.2a	3.1			None		
SBR64-389	2352.6-2353.5	93629	1.4	1.4	96.5	.7	3.8a	3.4			None		
SBR64-390	2353.5-2354.5	93630	1.5	.2	96.7	1.6	4.0a	.4			None		
SBR64-391	2354.5-2355.6	93631	1.5	.2	96.8	1.5	3.8a	.6			None		
SBR64-392	2355.6-2357.2	93632	.8	.3	97.4	1.5	2.1a	.7			None		
SBR64-393	2357.2-2358.3	93633	1.0	1.0	97.2	.8	2.7a	2.3			None		
SBR64-394	2358.3-2359.3	93634	1.4	.4	96.6	1.6	3.6a	1.0			None		
SBR64-395	2359.3-2360.0	93635	8.0	.2	90.2	1.6	21.7	.5	.889		None		

See footnotes at end of table.

Core samples received September 11, 1963; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Sinclair Oil and Gas Company's Henderson No. 3 Test Hole (con.)

Surface elevation 7077.0 feet

Surface elevation 7077.0 feet			Yield of product						Specific gravity of oil at 60°/60°F.	Properties of spent shale Tendency to coke	Remarks
Sample number		Run No.	Weight percent		Spent shale	Gas + loss	Gal. per ton				
Laramie	Their		Oil	Water			Oil ^{1/}	Water			
SBR64-396	2360.0-2361.0	93636	6.6	0.2	91.5	1.7	17.5	0.5	0.899	None	
SBR64-397	2361.0-2362.0	93637	6.2	.2	91.8	1.8	16.6	.4	.895	None	
SBR64-398	2362.0-2363.2	93638	3.0	1.2	94.5	1.3	8.0	2.9	.899	None	
SBR64-399	2363.2-2363.7	93639	3.3	.6	94.9	1.2	8.7	1.4	.912	None	
SBR64-400	2364.0-2365.2	93640	2.9	.6	95.5	1.0	7.7	1.6	.906	None	
SBR64-401	2365.2-2366.2	93641	1.2	1.5	96.5	.8	3.1a	3.6		None	
SBR64-402	2366.2-2367.5	93642	1.3	1.2	96.3	1.2	3.3a	2.9		None	
SBR64-403	2367.5-2368.7	93643	1.2	1.7	96.3	.8	3.3a	4.1		None	
SBR64-404	2368.7-2370.3	93644	2.7	1.0	95.4	.9	7.0	2.4	.918	None	
SBR64-405	2370.3-2371.2	93645	6.5	.9	90.5	2.1	17.0	2.0	.920	None	
SBR64-406	2371.2-2372.1	93646	2.2	.8	95.9	1.1	5.8	1.9	.915	None	
SBR64-407	2372.1-2373.0	93647	1.3	1.2	96.9	.6	3.3a	2.9		None	
SBR64-408	2373.0-2374.5	93648	.3	.5	98.6	.6	.7a	1.3		None	
SBR64-409	2374.5-2375.6	93649	.2	1.1	98.5	.2	.6a	2.6		None	
SBR64-410	2375.8-2377.4	93650	1.3	1.1	96.9	.7	3.4a	2.5		None	
SBR64-411	2377.4-2378.6	93651	.7	1.0	98.0	.3	1.9a	2.3		None	
SBR64-412	2388.0-2389.0	93652	.6	.9	97.9	.6	1.5a	2.3		None	
SBR64-413	2389.0-2391.3	93653	1.0	1.1	97.5	.4	2.5a	2.8		None	
SBR64-414	2391.3-2392.0	93654	7.9	.5	90.0	1.6	20.8	1.2	.911	None	
SBR64-415	2392.0-2393.0	93655	1.5	1.1	96.3	1.1	3.9a	2.5		None	
SBR64-416	2393.0-2394.0	93656	1.0	1.0	97.3	.7	2.7a	2.3		None	
SBR64-417	2394.0-2395.0	93657	1.0	1.2	97.5	.3	2.7a	2.9		None	
SBR64-418	2395.0-2396.0	93658	.5	.9	98.0	.6	1.4a	2.2		None	
SBR64-419	2396.0-2397.0	93659	.8	1.1	97.8	.3	2.0a	2.8		None	
SBR64-420	2397.0-2398.0	93660	.9	.9	97.7	.5	2.4a	2.2		None	
SBR64-421	2398.0-2399.0	93661	1.1	.4	97.5	1.0	2.9a	.8		None	
SBR64-422	2399.0-2400.0	93662	1.3	1.2	97.0	.5	3.5a	2.9		None	
SBR64-423	2400.0-2400.5	93663	4.0	1.5	93.9	.6	10.5	3.6	.909	None	
SBR64-424	2400.5-2401.3	93664	12.4	1.2	84.7	1.7	32.7	2.9	.907	None	
SBR64-425	2401.3-2402.0	93665	3.9	1.3	94.2	.6	10.2	3.1	.908	None	

See footnotes at end of table.

Core samples received September 11, 1963; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Sinclair Oil and Gas Company's Henderson No. 3 Test Hole (con.)

Surface elevation 7077.0 feet

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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 ^{1/}	Water
SBR64-426	2402.0-2403.0	93666	0.5	0.7	98.7	0.1	1.2a	1.7		None
SBR64-427	2403.0-2405.0	93667	.6	.8	98.3	.3	1.7a	1.8		None
SBR64-428	2405.0-2407.0	93668	.9	1.8	97.1	.2	2.2a	4.4		None
SBR64-429	2407.0-2409.0	93669	1.4	1.6	96.2	.8	3.6a	4.0		None
SBR64-430	2409.0-2410.0	93670	.8	1.6	97.0	.6	2.0a	3.8		None
SBR64-431	2410.0-2412.0	93671	.2	.8	98.9	.1	.5a	2.0		None
SBR64-432	2412.0-2413.2	93672	.0	.7	98.6	.7	No Oil	1.7		None
SBR64-433	2413.2-2414.6	93673	1.0	1.2	97.6	.2	2.6a	2.9		None
SBR64-434	2414.6-2417.0	93674	.0	1.0	98.8	.2	No Oil	2.3		None
SBR64-435	2417.0-2418.2	93675	.0	1.3	98.6	.1	No Oil	3.2		None
SBR64-436	2421.0-2424.0	93676	.0	2.1	97.4	.5	Trace	5.0		None
SBR64-437	2424.0-2428.0	93677	.0	1.9	97.9	.2	Trace	4.5		None
SBR64-438	2428.0-2430.0	93678	.0	1.7	97.2	1.1	No Oil	4.1		None
SBR64-439	2430.0-2435.0	93679	.0	1.2	98.0	.8	No Oil	2.9		None
SBR64-440	2435.0-2439.0	93680	.0	1.7	97.3	1.0	No Oil	4.2		None
SBR64-441	2439.0-2441.3	93681	.0	.5	99.2	.3	No Oil	1.2		None
SBR64-442	2441.3-2445.0	93682	1.0	.1	98.0	.9	2.6a	.2		None
SBR64-443	2445.0-2447.8	93683	.6	.7	98.2	.5	1.6a	1.6		None
SBR64-444	2447.8-2449.8	93684	.0	1.7	97.8	.5	No Oil	4.2		None
SBR64-445	2449.8-2453.8	93685	.5	.0	98.9	.6	1.3a	.0		None
SBR64-446	2453.8-2455.2	93686	.1	.1	99.4	.4	.2a	.4		None
SBR64-447	2455.2-2457.2	93687	.2	.4	99.0	.4	.6a	.8		None
SBR64-448	2457.2-2459.0	93688	.2	.2	99.0	.6	.6a	.5		None
SBR64-449	2459.3-2460.2	93689	.6	.6	98.4	.4	1.6a	1.3		None
SBR64-450	2460.2-2461.5	93690	.1	.1	99.2	.6	.4a	.1		None
SBR64-451	2461.5-2462.7	93691	.4	.6	98.5	.5	1.1a	1.4		None
SBR64-452	2462.7-2463.4	93692	1.0	.5	97.9	.6	2.5a	1.3		None
SBR64-453	2463.4-2464.4	93693	10.5	1.3	85.1	3.1	27.8	3.1	0.905	None
SBR64-454	2464.4-2465.4	93694	5.2	1.5	91.9	1.4	14.0	3.5	.890	None
SBR64-455	2465.9-2467.0	93695	2.0	1.4	95.8	.8	5.5	3.4	.887	None

See footnotes at end of table.

Core samples received September 11, 1963; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Sinclair Oil and Gas Company's Henderson No. 3 Test Hole (con.)

Surface elevation 7077.0 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			Tendency to coke		
			Oil	Water			Oil ^{1/}	Water				
Laramie	Their											
SBR64-456	2467.0-2468.1	93696	0.7	0.8	97.3	1.2	1.8a	2.0	0.898	None		
SBR64-457	2468.1-2469.1	93697	3.7	1.4	93.9	1.0	9.9	3.5		None		
SBR64-458	2472.0-2474.0	93698	2.6	1.3	94.9	1.2	6.9	3.1	.900	None		
SBR64-459	2474.0-2476.8	93699	.4	1.1	97.9	.6	1.0a	2.6		None		
SBR64-460	2476.8-2478.0	93700	1.2	.9	96.8	1.1	3.0a	2.2		None		
SBR64-461	2478.0-2479.0	93701	1.4	1.6	96.1	.9	3.7a	3.8		None		
SBR64-462	2479.0-2480.0	93702	3.3	.8	94.3	1.6	8.7	2.0	.904	None		
SBR64-463	2480.0-2481.0	93703	10.1	.7	86.3	2.9	26.7	1.8	.905	None		
SBR64-464	2481.0-2482.2	93704	4.6	.7	93.3	1.4	12.4	1.6	.900	None		
SBR64-465	2482.2-2483.5	93705	3.4	1.2	94.6	.8	9.2	2.9	.903	None		
SBR64-466	2483.5-2484.0	93706	11.1	1.0	85.1	2.8	29.2	2.4	.912	None		
SBR64-467	2484.0-2485.0	93707	.7	.4	98.5	.4	1.8a	.8		None		
SBR64-468	2485.0-2486.3	93708	.6	.3	98.8	.3	1.4a	.7		None		
SBR64-469	2486.3-2487.1	93709	2.0	1.5	95.5	1.0	5.4	3.6	.911	None		
SBR64-470	2487.1-2488.0	93710	10.6	.9	86.6	1.9	27.5	2.3	.921	None		
SBR64-471	2488.0-2488.7	93711	5.0	.8	93.0	1.2	13.2	1.8	.913	None		
SBR64-472	2488.7-2490.0	93712	1.4	.7	97.3	.6	3.6a	1.7		None		
SBR64-473	2490.0-2491.3	93713	1.3	.8	97.3	.6	3.4a	1.9		None		
SBR64-474	2491.3-2493.2	93714	4.3	1.2	93.2	1.3	11.5	2.9	.897	None		
SBR64-475	2493.2-2495.0	93715	2.0	.9	96.8	.3	5.5	2.2	.882	None		
SBR64-476	2495.0-2496.0	93716	2.2	1.6	95.3	.9	5.9	3.8	.902	None		
SBR64-477	2496.0-2496.8	93717	6.4	2.0	90.5	1.1	16.8	4.7	.913	None		
SBR64-478	2496.8-2497.6	93718	10.2	.8	87.2	1.8	26.7	1.9	.920	None		
SBR64-479	2497.6-2500.0	93719	2.9	.2	96.5	.4	7.9	.4	.884	None		
SBR64-480	2500.0-2501.8	93720	3.1	.0	96.7	.2	8.3	.0	.879	None		
SBR64-481	2501.8-2503.0	93721	1.1	.9	97.8	.2	2.8a	2.2		None		
SBR64-482	2503.0-2503.7	93722	2.6	1.0	95.7	.7	6.9	2.4	.902	None		
SBR64-483	2503.7-2504.6	93723	.7	1.1	97.7	.5	1.8a	2.6		None		
SBR64-484	2504.6-2506.5	93724	1.4	1.4	96.8	.4	3.6a	3.5		None		
SBR64-485	2506.5-2508.3	93725	2.5	1.5	95.3	.7	6.7	3.6	.899	None		

See footnotes at end of table.

Core samples received September 11, 1963; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Sinclair Oil and Gas Company's Henderson No. 3 Test Hole (con.)

Surface elevation 7077.0 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			Tendency to coke		
			Oil	Water			Oil ¹ / Water	Water				
Laramie	Their											
SBR64-486	2508.3-2509.3	93726	0.4	1.4	97.8	0.4	1.2a	3.4			None	
SBR64-487	2509.3-2510.8	93727	1.6	1.8	96.0	.6	4.2a	4.4			None	
SBR64-488	2510.8-2511.8	93728	6.6	1.5	90.6	1.3	17.5	3.6	0.901		None	
SBR64-489	2511.8-2513.0	93729	2.0	1.3	95.7	1.0	5.2	3.1	.903		None	
SBR64-490	2513.0-2514.0	93730	1.4	1.3	96.4	.9	3.7a	3.1			None	
SBR64-491	2514.0-2515.6	93731	1.2	1.0	97.2	.6	3.2a	2.4			None	
SBR64-492	2515.6-2517.0	93732	2.9	.5	95.3	1.3	7.9	1.3	.875		None	
SBR64-493	2517.0-2518.6	93733	2.1	.6	96.1	1.2	5.8	1.4	.878		None	
SBR64-494	2518.6-2519.7	93734	1.3	1.2	96.5	1.0	3.4a	2.8			None	
SBR64-495	2519.7-2521.2	93735	2.0	1.2	96.2	.6	5.1a	2.9			None	
SBR64-496	2521.2-2523.0	93736	.7	.8	97.4	1.1	1.7a	2.0			None	
SBR64-497	2523.0-2524.0	93737	1.7	1.3	96.3	.7	4.5a	3.1			None	
SBR64-498	2524.0-2525.0	93738	1.5	1.4	96.4	.7	4.0a	3.4			None	
SBR64-499	2525.0-2526.0	93739	3.3	.9	94.1	1.7	8.9	2.3	.882		None	
SBR64-500	2526.0-2528.1	93740	3.4	1.2	94.2	1.2	9.2	2.9	.882		None	
SBR64-501	2528.1-2529.2	93741	5.3	1.4	92.0	1.3	14.0	3.4	.901		None	
SBR64-502	2529.2-2530.6	93742	1.2	1.0	97.1	.7	3.1a	2.4			None	
SBR64-503	2530.6-2532.0	93743	1.2	1.3	96.8	.7	3.0a	3.1			None	
SBR64-504	2532.0-2533.2	93744	1.7	.3	97.4	.6	4.5a	.6			None	
SBR64-505	2533.2-2533.9	93745	7.3	.8	90.4	1.5	19.4	1.9	.907		None	
SBR64-506	2533.9-2535.0	93746	.8	.1	98.7	.4	2.1a	.2			None	
SBR64-507	2535.0-2536.0	93747	.4	.5	98.9	.2	1.0a	1.1			None	
SBR64-508	2536.0-2538.0	93748	.0	1.1	98.5	.4	No Oil	2.6			None	

¹/ "a"--indicates specific gravity estimated as 0.92.. Oil yields were estimated by a rapid test-tube method: "No oil", "Trace".

Core samples received September 11, 1963; assays made on air-dried samples