

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from DeKalb Agricultural Association's Uintah Unit Well No. 4 drilled 1801 feet South of North,
1947 feet West of East of sec. 23, T. 10 S., R. 21 E., Uintah County, Utah

SW NE
10' of 30'.
55' of 25g.
375' of 15g.
UR213

Kelly Bushing elevation 5,277 feet

Mahogany Marker 3477'

Sample number	Run No.	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		
Laramie	Their	Oil	Water		Gas + loss	Oil		Water	
SBR61-7568	980- 990					No oil			
SBR61-7569	990-1000					b			
SBR61-7570-71	1000-1020					c			
SBR61-7572	1020-1030	74811	0.5	1.3	97.8	0.4	1.4a	3.1	None
SBR61-7573	1030-1040	74812	.8	1.3	97.4	.5	2.0a	3.2	None
SBR61-7574	1040-1050	74813	.7	1.4	97.5	.4	1.9a	3.4	None
SBR61-7475-76	1050-1070					b			
SBR61-7577	1070-1080					Trace			
SBR61-7578-80	1080-1140					b			
SBR61-7581	1140-1160					Trace			
SBR61-7582	1160-1170	74814	.9	.3	98.2	.6	2.4a	.6	None
SBR61-7583	1170-1180	74815	.9	.3	98.2	.6	2.3a	.7	None
SBR61-7584	1180-1190	74816	1.1	.6	97.6	.7	2.8a	1.4	None
SBR61-7585	1190-1200	74817	1.2	.4	97.7	.7	3.0a	1.0	None
SBR61-7586	1200-1210	74818	1.2	.4	97.8	.6	3.2a	1.0	None
SBR61-7587	1210-1220	74819	1.1	.7	97.7	.5	3.0a	1.7	None
SBR61-7588	1220-1230	74820	1.3	.6	97.7	.4	3.3a	1.5	None
SBR61-7589	1230-1240	74821	1.3	.7	97.6	.4	3.4a	1.8	None
SBR61-7590	1240-1250	74822	1.8	.6	96.9	.7	4.7a	1.6	None
SBR61-7591	1250-1260	74823	1.7	.7	97.0	.6	4.4a	1.7	None
SBR61-7592	1260-1270	74824	2.0	.7	96.4	.9	5.3a	1.6	None
SBR61-7593	1270-1280	74825	1.5	.4	97.3	.8	3.8a	1.0	None
SBR61-7594	1280-1290	74826	.6	.3	98.8	.3	1.4a	.7	None
SBR61-7595	1290-1300	74827	.5	.4	98.8	.3	1.2a	1.0	None
SBR61-7596	1300-1310	74828	1.4	.5	97.6	.5	3.5a	1.2	None
SBR61-7597	1310-1320	74829	1.6	.3	97.5	.6	4.3a	.7	None
SBR61-7598	1320-1330	74830	1.6	.3	97.3	.8	4.1a	.7	None
SBR61-7599	1330-1340	74831	1.5	.2	97.6	.7	4.0a	.5	None
SBR61-7600	1340-1350	74832	1.7	.2	97.8	.3	4.3a	.5	None
SBR61-7601	1350-1360	74833	1.7	.1	97.7	.5	4.4a	.4	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 June 6, 1961; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from DeKalb Agricultural Association's Uintah Unit well No. 4 (Con.)

Kelly Bushing elevation 5,277 feet

Kelly Bushing elevation 5,277 feet

Sample number		Run No.	Yield of product				Cal. per ton		Specific gravity of oil at 60°/60° F.	Properties of spent shale		Remarks
			Weight percent		Spent shale	Gas + loss				Tendency to coke		
			Laramie	Their			Oil	Water			Oil	
SBR61-7602	1360-1370	74834	2.2	0.4	96.8	0.6	5.8	0.8	0.923	None		
SBR61-7603	1370-1380	74835	2.3	.3	96.7	.7	6.0	.7	.919	None		
SBR61-7604	1380-1390	74836	2.3	.2	96.9	.6	5.9	.6	.921	None		
SBR61-7605	1390-1400	74837	2.5	.3	96.5	.7	6.4	.8	.925	None		
SBR61-7606	1400-1410	74838	2.4	.3	96.4	.9	6.2	.7	.927	None		
SBR61-7607	1410-1420	74839	2.4	.5	96.7	.4	6.2	1.2	.925	None		
SBR61-7608	1420-1430	74840	2.6	.4	96.3	.7	6.7	1.0	.925	None		
SBR61-7609	1430-1440	74841	2.6	.4	96.1	.9	6.8	1.0	.924	None		
SBR61-7610	1440-1450	74842	2.6	.4	96.2	.8	6.7	1.0	.923	None		
SBR61-7611	1450-1460	74843	2.1	.5	96.7	.7	5.5	1.1	.921	None		
SBR61-7612	1460-1470	74844	2.4	.4	96.6	.6	6.1	1.1	.920	None		
SBR61-7613	1470-1480	74845	2.4	.5	96.2	.9	6.4	1.1	.918	None		
SBR61-7614	1480-1490	74846	2.4	.4	96.8	.4	6.2	1.0	.920	None		
SBR61-7615	1490-1500	74847	2.6	.4	96.4	.6	6.7	1.1	.921	None		
SBR61-7616	1500-1510	74848	2.5	.4	96.5	.6	6.5	1.0	.921	None		
SBR61-7617	1510-1520	74849	2.4	.5	96.6	.5	6.3	1.1	.921	None		
SBR61-7618	1520-1530	74850	2.6	.3	96.3	.8	6.8	.7	.920	None		
SBR61-7619	1530-1540	74851	2.8	.3	96.0	.9	7.2	.8	.919	None		
SBR61-7620	1540-1550	74852	2.7	.5	96.0	.8	6.9	1.2	.920	None		
SBR61-7621	1550-1560	74853	3.2	.3	95.7	.8	8.2	.8	.925	None		
SBR61-7622	1560-1570	74854	2.8	.3	96.3	.6	7.1	.8	.925	None		
SBR61-7623	1570-1580	74855	2.8	.4	96.4	.4	7.3	1.0	.927	None		
SBR61-7624	1580-1590	74856	3.0	.4	96.1	.5	7.7	1.0	.927	None		
SBR61-7625	1590-1600	74857	3.2	.3	95.9	.6	8.2	.8	.926	None		
SBR61-7626	1600-1610	74858	3.1	.4	95.9	.6	8.0	.9	.927	None		
SBR61-7627	1610-1620	74859	3.0	.4	95.8	.8	7.9	.8	.925	None		
SBR61-7628	1620-1630	74860	3.2	.4	95.5	.9	8.2	1.0	.925	None		
SBR61-7629	1630-1640	74861	2.4	.2	96.6	.8	6.2	.6	.928	None		
SBR61-7630	1640-1650	74862	3.6	.5	95.7	.2	9.3	1.1	.925	None		
SBR61-7631	1650-1660	74863	3.6	.7	95.0	.7	9.4	1.7	.926	None		

Drill cutting samples received June 6, 1961; assays made on air-dried samples

Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. SBR-3505P Sheet No. 2 of 7 sheets, September 5, 1961

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from DeKalb Agricultural Association's Uintah Unit well No. 4 (Con.)

Kelly Bushing elevation 5,277 feet

			Yield of product						Specific gravity	Properties of		
Sample number		Run	Weight percent		Spent shale	Gas + loss	Gal. per ton		of oil at 60°/60° F.	spent shale	Tendency to coke	Remarks
Laramie	Their	No.	Oil	Water			Oil	Water				
SBR61-7632	1660-1670	74864	3.9	0.4	94.9	0.8	10.0	1.1	0.927	None		
SBR61-7633	1670-1680	74865	3.9	.5	95.1	.5	10.1	1.1	.926	None		
SBR61-7634	1680-1690	74866	3.6	.5	94.9	1.0	9.4	1.2	.925	None		
SBR61-7635	1690-1700	74867	3.7	.4	95.1	.8	9.7	.8	.919	None		
SBR61-7636	1700-1710	74868	4.0	.4	94.6	1.0	10.4	1.0	.924	None		
SBR61-7637	1710-1720	74869	4.1	.4	94.4	1.1	10.5	1.1	.922	None		
SBR61-7638	1720-1730	74870	4.0	.4	94.6	1.0	10.4	1.0	.925	None		
SBR61-7639	1730-1740	74871	4.1	.4	94.6	.9	10.6	1.0	.918	None		
SBR61-7640	1740-1750	74872	4.5	.6	94.0	.9	11.7	1.3	.923	None		
SBR61-7641	1750-1760	74873	4.5	.5	94.0	1.0	11.6	1.3	.925	None		
SBR61-7642	1760-1770	74874	4.2	.6	94.2	1.0	10.9	1.4	.923	None		
SBR61-7643	1770-1780	74875	9.4	.6	88.3	1.7	24.7	2.5	.915	None		
SBR61-7644	1780-1790	74876	10.0	.7	87.4	1.9	26.5	1.7	.905	None		
SBR61-7645	1790-1800	74877	11.2	.7	86.0	2.1	29.8	1.7	.901	None		
SBR61-7646	1800-1810	74878	9.9	.7	87.7	1.7	26.4	1.7	.897	None		
SBR61-7647	1810-1820	74879	7.9	.6	90.3	1.2	21.0	1.3	.903	None		
SBR61-7648	1820-1830	74880	7.0	.5	91.2	1.3	18.5	1.2	.903	None		
SBR61-7649	1830-1840	74881	6.4	.3	91.8	1.5	17.0	.7	.903	None		
SBR61-7650	1840-1850	74882	6.1	.5	92.5	.9	16.2	1.1	.907	None		
SBR61-7651	1850-1860	74883	6.2	.4	92.2	1.2	16.3	1.0	.908	None		
SBR61-7652	1860-1870	74884	6.5	.5	91.9	1.1	17.1	1.2	.908	None		
SBR61-7653	1870-1880	74885	6.6	.5	91.7	1.2	17.4	1.2	.912	None		
SBR61-7654	1880-1890	74899	6.2	.5	92.2	1.1	16.3	1.2	.914	None		
SBR61-7655	1890-1900	74887	6.4	.6	91.8	1.2	16.8	1.4	.915	None		
SBR61-7656	1900-1910	74888	5.9	.5	92.1	1.5	15.7	1.1	.906	None		
SBR61-7657	1910-1920	74889	6.2	.4	92.3	1.1	16.3	1.1	.906	None		
SBR61-7658	1920-1930	74890	6.3	.5	92.0	1.2	16.5	1.2	.908	None		
SBR61-7659	1930-1940	74900	6.5	.6	91.6	1.3	17.0	1.6	.909	None		
SBR61-7660	1940-1950	74901	6.2	.7	91.6	1.5	16.4	1.7	.909	None		
SBR61-7661	1950-1960	74902	6.0	.7	91.9	1.4	15.9	1.7	.910	None		

Drill cutting samples received June 6, 1961; assays made on air-dried samples

Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. SBR-3505P Sheet No.3 of 7 sheets, September 5, 1951

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from DeKalb Agricultural Association's Uintah Unit well No. 4 (Con.)

Kelly Bushing elevation 5,277 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										
SBR61-7662	1960-1970	74903	5.6	0.8	92.2	1.4	14.8	1.8	0.913	None	
SBR61-7663	1970-1980	74904	5.5	.7	92.6	1.2	14.5	1.6	.913	None	
SBR61-7664	1980-1990	74905	4.9	.8	93.0	1.3	12.8	1.8	.914	None	
SBR61-7665	1990-2000	74906	5.7	.8	91.8	1.7	15.0	1.9	.910	None	
SBR61-7666	2000-2010	74907	2.9	.9	95.1	1.1	7.5	2.2	.920	None	
SBR61-7667	2010-2020	74908	2.9	1.0	95.0	1.1	7.6	2.4	.920	None	
SBR61-7668	2020-2030	74909	3.1	1.0	94.8	1.1	8.2	2.3	.908	None	
SBR61-7669	2030-2040	74910	2.7	.8	95.1	1.4	7.0	1.9	.912	None	
SBR61-7670	2040-2050	74911	2.7	1.1	95.2	1.0	7.2	2.6	.910	None	
SBR61-7671	2050-2060	74912	3.4	.8	94.8	1.0	9.0	2.0	.907	None	
SBR61-7672	2060-2070	74913	2.7	.8	95.5	1.0	7.2	1.8	.906	None	
SBR61-7673	2070-2080	74914	2.6	1.1	95.1	1.2	6.7	2.7	.913	None	
SBR61-7674	2080-2090	74915	2.3	1.1	96.0	.6	6.1a	2.5		None	
SBR61-7675-82	2090-2170						Trace				
SBR61-7683	2170-2180						b				
SBR61-7684	2180-2190	74916	.7	1.4	97.3	.6	1.9a	3.4		None	
SBR61-7685	2190-2200	74917	.7	1.4	97.2	.7	1.8a	3.4		None	
SBR61-7686	2200-2210	74918	1.5	.6	97.3	.6	3.9a	1.4		None	
SBR61-7687	2210-2220	74919	1.5	.6	97.2	.7	4.0a	1.4		None	
SBR61-7688	2220-2230	74920	1.6	.6	97.1	.7	4.1a	1.4		None	
SBR61-7689	2230-2240	74921	1.5	.5	97.1	.9	3.9a	1.3		None	
SBR61-7690	2240-2250	74922	1.6	.5	97.1	.8	4.1a	1.3		None	
SBR61-7691	2250-2260	74923	2.3	1.1	95.8	.8	6.0	2.6	.903	None	
SBR61-7692	2260-2270	74924	1.4	.6	97.0	1.0	3.8a	1.4		None	
SBR61-7693	2270-2280	74925	2.5	1.2	95.4	.9	6.7	2.9	.905	None	
SBR61-7694	2280-2290	74926	1.8	1.9	95.2	1.1	4.7a	4.6		None	
SBR61-7695	2290-2300	74927	1.8	1.7	96.0	.5	4.7a	4.1		None	
SBR61-7696	2300-2310	74928	.4	2.5	97.0	.1	1.1a	6.0		None	
SBR61-7697	2310-2320	74929	.4	2.5	97.0	.1	1.0a	6.0		None	
SBR61-7698-99	2320-2340						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 June 6, 1961; assays made on air-dried samples

Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. SBR-3505P Sheet No. 4 of 7 sheets, September 5, 1961

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from DeKalb Agricultural Association's Uintah Unit well No. 4 (Con.)

Kelly Bushing elevation 5,277 feet

Kelly Bushing elevation 5,277 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	
SBR61-7700-02	2340-2370						Trace			
SBR61-7703-07	2370-2420						No oil			
SBR61-7708	2420-2430	74930	1.0	1.5	97.0	0.5	2.6a	3.6		None
SBR61-7709	2430-2440	74931	1.1	1.5	96.9	.5	2.8a	3.6		None
SBR61-7710	2440-2450	74932	1.0	1.5	96.9	.6	2.6a	3.6		None
SBR61-7711	2450-2460	74933	1.4	1.7	96.5	.4	3.5a	4.1		None
SBR61-7712	2460-2470	74934	1.4	1.5	96.4	.7	3.6a	3.6		None
SBR61-7713	2470-2480	74935	1.3	1.7	96.7	.3	3.4a	4.1		None
SBR61-7714	2480-2490	74936	2.2	1.6	95.7	.5	5.8	3.8	0.902	None
SBR61-7715	2490-2500	74937	2.6	1.5	95.1	.8	7.0	3.6	.903	None
SBR61-7716	2500-2510	74938	.9	1.1	97.5	.5	2.3a	2.6		None
SBR61-7717-18	2510-2530						c			
SBR61-7719	2530-2540						b			
SBR61-7720-21	2540-2560						c			
SBR61-7722	2560-2570						Trace			
SBR61-7723	2570-2580						c			
SBR61-7724	2580-2590						Trace			
SBR61-7725	2590-2600						b			
SBR61-7726-27	2600-2620						Trace			
SBR61-7728-38	2620-2730						No oil			
SBR61-7739	2730-2740						Trace			
SBR61-7740	2740-2750						b			
SBR61-7741-48	2750-2830						Trace			
SBR61-7749-52	2830-2870						b			
SBR61-7753-54	2870-2890						Trace			
SBR61-7755	2890-2900						b			
SBR61-7756-58	2900-2930						No oil			
SBR61-7759-62	2930-2970						Trace			
SBR61-7763	2970-2980	74989	.6	2.8	96.0	.6	1.6a	6.7		None
SBR61-7764	2980-2990	74940	.4	2.9	95.0	1.7	1.0a	7.0		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 June 6, 1961; assays made on air-dried samples

Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. SBR-3505P Sheet No.5 of 7 sheets, September 5, 1961

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from DeKalb Agricultural Association's Uintah Unit well No.4 (Con.)

Kelly Bushing elevation 5,277 feet

Reilly, Bushing, Cleveland, 3, 27, 1901

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	
SBR61-7765	2990-3000	74941	3.2	2.5	93.0	1.3	8.7	6.0	0.887	None	
SBR61-7766	3000-3010	74942	2.8	2.0	94.2	1.0	7.3	4.8	.906	None	
SBR61-7767	3010-3020	74943	2.8	2.0	94.1	1.1	7.6	4.8	.897	None	
SBR61-7768	3020-3030	74944	1.6	1.7	96.2	.5	4.2	4.1	.897	None	
SBR61-7769-75	3030-3100						Trace				
SBR61-7776-78	3100-3130						No oil				
SBR61-7779	3130-3140						Trace				
SBR61-7780	3140-3150						b				
SBR61-7781	3150-3160						No oil				
SBR61-7782	3160-3170						b				
SBR61-7783	3170-3180						Trace				
SBR61-7784-85	3180-3200						No oil				
SBR61-7786-87	3200-3220						Trace				
SBR61-7788	3220-3230						No oil				
SBR61-7789	3230-3240						b				
SBR61-7790-92	3240-3270						Trace				
SBR61-7793	3270-3280						No oil				
SBR61-7794-95	3280-3300						b				
SBR61-7796	3300-3310						Trace				
SBR61-7797-98	3310-3330						No oil				
SBR61-7799	3330-3340						Trace				
SBR61-7800-03	3340-3380						No oil				
SBR61-7804	3380-3390						Trace				
SBR61-7805-08	3390-3430						No oil				
SBR61-7809-11	3430-3460						b				
SBR61-7812	3460-3470						Trace				
SBR61-7813	3470-3480						No oil				
SBR61-7814-15	3480-3500						Trace				
SBR61-7816	3500-3510						No oil				
SBR61-7817-18	3510-3530						Trace				

b - Less than 1.0 gallon of oil per ton of shale

Drill cutting samples received June 6, 1961; assays made on air-dried samples

Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. SBR-3505P Sheet No.6 of 7 sheets, September 5, 1961

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from DeKalb Agricultural Association's Uintah Unit well No.4 (Con.)

Kelly Bushing elevation 5,277 feet

Sample number	Run	Weight percent		Yield of product		Gal. per ton		Specific gravity of oil at 60°/60° F.	Properties of spent shale Tendency to coke	Remarks
		Oil	Water	Spent shale	Gas + loss	Oil	Water			
Laramie	Their	No.								
SBR61-7819-29	3530-3640					c				
SBR61-7830-34	3640-3690					b				
SBR61-7835	3690-3700					c				
SBR61-7836	3700-3710	74945	1.0	2.5	95.8	0.7	2.6a	6.0	None	
SBR61-7837	3710-3720	74946	1.7	2.7	94.8	.8	4.4a	6.5	None	
SBR61-7838	3720-3730	74947	1.6	2.7	95.1	.6	4.1a	6.5	None	
SBR61-7839	3730-3740	74948	4.1	2.6	92.1	1.2	11.0	6.2	0.896	None
SBR61-7840	3740-3750	74949	4.0	2.5	92.3	1.2	10.9	6.0	.893	None
SBR61-7841	3750-3760	74950	3.6	2.2	93.2	1.0	9.5	5.3	.898	None
SBR61-7842	3760-3770	74951	3.4	2.1	94.1	.4	9.0	5.1	.902	None
SBR61-7843	3770-3780	74952	3.6	2.0	93.8	.6	9.7	4.8	.899	None
SBR61-7844	3780-3790	74953	2.2	1.8	95.2	.8	5.8	4.3	.898	None
SBR61-7845	3790-3800	74954	1.5	2.0	96.1	.4	3.9a	4.8		None
SBR61-7846	3800-3810	74955	1.3	2.3	95.9	.5	3.3a	5.5		None
SBR61-7847	3810-3820					c				
SBR61-7848	3820-3830					b				
SBR61-7849	3830-3840	74956	1.6	2.1	95.8	.5	4.1a	5.1	None	
SBR61-7850	3840-3850	74957	1.6	2.3	95.6	.5	4.2a	5.5	None	
SBR61-7851	3850-3860	74958	1.8	2.0	95.5	.7	4.7a	4.8	None	
SBR61-7852	3860-3870	74959	1.7	2.4	95.3	.6	4.4a	5.8	None	
SBR61-7853	3870-3880	74960	1.6	1.7	96.2	.5	4.3a	4.1	None	
SBR61-7854	3880-3890	74961	.8	1.2	97.5	.5	2.2a	2.9	None	
SBR61-7855-56	3890-3910					c				
SBR61-7857	3910-3920					b				
SBR61-7858	3920-3930					Trace				
SBR61-7859-61	3930-3960					b				
SBR61-7862-72	3960-4070					No oil				
SBR61-7873	4080-4090					No oil				
SBR61-7874-84	4090-4200					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 June 6, 1961; assays made on air-dried samples

Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. SBR-3505P Sheet No. 7 of 7 sheets, September 5, 1961