

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from El Paso Natural Gas Company's Southman Canyon Unit No. 5 well, drilled 363 feet North of South line and 1726 feet West of East line, sec. 28, T. 10 S., R. 24 E., Uintah County, Utah

Surface elevation 5,382 feet

mahogany shale bed 4452'

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
		Weight percent		Spent shale	Gas + loss	Oil	Water			
Laramie	Thier	Oil	Water							
SBR60-974-80	0-70					No Oil				
SBR60-981-90	80-180					No Oil				
SBR60-991	180-190					Trace				
SBR60-992-01	190-290					No Oil				
SBR60-1002	290-300					b				
SBR60-1003	370-380	64750	0.9	1.9	96.5	0.7	2.4a	4.6	None	
SBR60-1004	390-400	64751	1.0	1.7	96.5	.8	2.7a	4.1	None	
SBR60-1005	400-410	64752	1.1	1.8	96.3	.8	3.0a	4.3	None	
SBR60-1006	410-420	64753	1.2	1.7	96.7	.4	3.0a	4.1	None	
SBR60-1007	420-430	64754	.7	1.5	97.0	.8	1.8a	3.6	None	
SBR60-1008	430-440	64755	.9	2.5	95.5	1.1	2.4a	6.0	None	
SBR60-1009	440-450	64756	.7	3.2	95.1	1.0	1.8a	7.7	None	
SBR60-1010	450-460	64757	1.5	2.5	95.2	.8	3.8a	6.1	None	
SBR60-1011	460-470	64758	1.2	2.9	95.4	.5	3.2a	7.0	None	
SBR60-1012	470-480	64759	1.9	2.1	95.5	.5	5.0a	4.9	None	
SBR60-1013	480-490	64760	2.3	1.9	95.1	.7	6.0	4.6	0.913	None
SBR60-1014	490-500	64761	3.6	2.1	93.1	1.2	9.4	5.0	.913	None
SBR60-1015	500-510	64762	1.9	3.1	94.3	.7	5.0a	7.3	None	
SBR60-1016	510-520	64763	2.6	2.4	93.9	1.1	6.9	5.8	.913	None
SBR60-1017	520-530	64764	2.4	2.7	94.0	.9	6.3a	6.5	None	
SBR60-1018	530-540	64765	1.2	1.2	94.7	2.9	3.2a	2.9	None	
SBR60-1019	540-550	64766	2.5	2.3	93.9	1.3	6.5	5.5	.921	None
SBR60-1020	550-560	64767	3.0	1.4	94.6	1.0	7.8	3.5	.920	None
SBR60-1021	560-570	64768	2.5	1.5	95.1	.9	6.4	3.6	.920	None
SBR60-1022	570-580	64769	2.2	1.0	95.1	1.7	5.6	2.4	.927	None
SBR60-1023	580-590	64770	3.0	1.5	94.6	.9	7.7	3.6	.929	None
SBR60-1024	590-600	64771	3.1	1.7	94.1	1.1	8.0	4.2	.926	None
SBR60-1025	790-800	64772	2.5	1.8	94.6	1.1	6.3a	4.4	None	
SBR60-1026	800-810	64773	4.2	1.3	93.3	1.2	11.0	3.2	.906	None
SBR60-1027	810-820	64774	3.7	1.9	93.2	1.2	9.8	4.6	.905	None

a - Specific gravity estimated due to insufficient oil.

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

Drill cutting samples received June 5, 1961 assays made on air-dried samples.

Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. SBR-3061P

February 23, 1960

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OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from El Paso Natural Gas Company's Southman Canyon Unit No. 5 well, drilled 363 feet North of South line and 1726 feet West of East line, sec. 28, T. 10 S., R. 24 E., Uintah County, Utah

Surface elevation 5,382 feet

			Yield of product						Specific gravity of oil at 60°/60° F.	Properties of spent shale Tendency to cokes	Remarks
Sample number		Run No.	Weight percent		Spent shale	Gas + loss	Gal. per ton				
			Oil	Water			Oil	Water			
Laramie	Their										
SBR60-1028	820- 830	64775	3.7	1.7	93.2	1.4	9.7	4.1	0.923	None	
SBR60-1029	830- 840	64776	4.3	.8	94.0	.9	11.1	1.9	.923	None	
SBR60-1030	840- 850	64777	4.3	1.0	93.7	1.0	11.3	2.3	.924	None	
SBR60-1031	850- 860	64778	5.8	.7	93.2	.3	15.1	1.6	.921	None	
SBR60-1032	860- 870	64779	6.6	.6	92.8	.0	17.3	1.3	.913	None	
SBR60-1033	870- 880	64780	9.5	.9	87.7	1.9	25.0	2.0	.911	None	
SBR60-1034	880- 890	64781	4.2	.6	93.6	1.6	10.9	1.6	.921	None	
SBR60-1035	890- 900	64782	5.6	.8	91.8	1.8	14.7	1.8	.916	None	
SBR60-1036	900- 910	64783	6.9	.6	90.7	1.8	18.3	1.4	.908	None	
SBR60-1037	910- 920	64784	6.8	.6	90.8	1.8	18.0	1.4	.910	None	
SBR60-1038	920- 930	64785	7.9	.6	89.6	1.9	20.9	1.4	.910	None	
SBR60-1039	930- 940	64786	20.3	.8	74.8	4.1	54.0	2.0	.901	Medium	
SBR60-1040	940- 950	64787	10.4	.5	86.7	2.4	27.4	1.2	.905	Slight	
SBR60-1041	950- 960	64788	9.3	.6	88.0	2.1	24.8	1.5	.903	Slight	
SBR60-1042	960- 970	64789	7.8	.4	89.0	2.8	20.8	.9	.906	None	
SBR60-1043	970- 980	64790	5.6	.5	90.1	3.8	14.7	1.3	.909	None	
SBR60-1044	980- 990	64791	6.4	.6	91.6	1.4	16.8	1.6	.911	None	
SBR60-1045	990-1000	64792	4.1	.8	94.1	1.0	10.8	1.8	.912	None	
SBR60-1046	1000-1010	64793	3.5	.6	95.5	1.4	9.0	1.6	.917	None	
SBR60-1047	1010-1020	64794	4.1	.8	94.0	1.1	10.7	1.8	.916	None	
SBR60-1048	1020-1030	64795	3.7	.6	94.8	.9	9.7	1.4	.919	None	
SBR60-1049	1030-1040	64796	4.3	.8	94.0	.9	11.3	1.8	.915	None	
SBR60-1050	1040-1050	64797	3.2	.6	95.1	1.1	8.4	1.6	.908	None	
SBR60-1051	1050-1060	64798	3.3	.7	95.1	.9	8.7	1.7	.904	None	
SBR60-1052	1060-1070	64799	3.3	.6	95.0	1.1	8.8	1.4	.907	None	
SBR60-1053	1070-1080	64800	3.2	1.3	94.0	1.5	8.4	3.1	.915	None	
SBR60-1054	1080-1090	64801	3.7	1.5	93.2	1.6	9.6	3.6	.915	None	
SBR60-1055	1090-1100	64802	3.0	1.3	93.9	1.8	7.8	3.1	.921	None	
SBR60-1056	1100-1110	64803	3.4	1.3	93.9	1.4	8.9	3.1	.917	None	
SBR60-1057	1110-1120	64804	3.2	1.2	94.2	1.4	8.3	2.9	.923	None	

Drill cutting samples received June 5, 1959; assays made on air-dried samples.

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

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Surface elevation 5,382 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	Thier		Oil	Water					Oil	Water	
SBR60-1058	1120-1130	64805	2.7	1.5	94.3	1.5	7.0	3.6	0.916	None	
SBR60-1059	1130-1140	64806	2.2	1.7	94.9	1.2	5.7a	4.1		None	
SBR60-1060	1140-1150	64807	2.0	1.5	87.2	9.3	5.1a	3.5		None	
SBR60-1061	1150-1160	64808	5.2	1.5	91.9	1.4	13.6	3.5	.920	None	
SBR60-1062	1160-1170	64809	4.9	1.5	92.3	1.3	12.7	3.7	.915	None	
SBR60-1063	1170-1180	64810	4.0	2.2	92.1	1.7	10.4	5.3	.914	None	
SBR60-1064	1180-1190	64811	4.4	1.7	92.6	1.3	11.5	4.0	.915	None	
SBR60-1065	1190-1200	64812	4.1	1.8	92.3	1.8	10.8	4.3	.917	None	
SBR60-1066	1200-1210	64813	1.4	1.3	94.4	2.9	3.8a	3.1		None	
SBR60-1067	1210-1220	64814	1.3	1.0	94.8	2.9	3.3a	2.4		None	
SBR60-1068	1220-1230	64815	3.2	1.5	94.4	.9	8.4	3.6	.906	None	
SBR60-1069	1230-1240	64816	2.0	1.2	95.9	.9	5.2a	2.9		None	
SBR60-1070	1240-1250	64817	1.8	1.1	95.1	2.0	4.6a	2.6		None	
SBR60-1071	1250-1260	64818	2.1	1.0	96.1	.8	5.4	2.4	.903	None	
SBR60-1072	1260-1270	64819	1.7	.8	96.7	.8	4.5a	1.9		None	
SBR60-1073	1270-1280	64820	1.6	1.3	96.5	.6	4.1a	3.1		None	
SBR60-1074	1280-1290	64821	1.7	1.1	96.3	.9	4.4a	2.6		None	
SBR60-1075	1290-1300	64822	1.8	1.2	95.1	1.9	4.6a	3.0		None	
SBR60-1076	1300-1310	64823	2.4	1.2	95.3	1.1	6.4	2.9	.902	None	
SBR60-1077	1310-1320	64824	4.7	1.4	92.2	1.7	12.3	3.4	.907	None	
SBR60-1078	1320-1330	64825	4.6	1.4	92.6	1.4	12.2	3.5	.904	None	
SBR60-1079	1330-1340	64826	4.6	1.4	92.3	1.7	12.2	3.4	.907	None	
SBR60-1080	1340-1350	64827	3.6	1.5	93.7	1.2	9.5	3.6	.899	None	
SBR60-1081	1350-1360	64828	3.5	1.4	93.8	1.3	9.3	2.9	.902	None	
SBR60-1082	1360-1370	64829	3.5	1.4	94.0	1.1	9.2	3.5	.902	None	
SBR60-1083	1370-1380	64830	3.0	1.3	94.7	1.0	7.9	3.1	.910	None	
SBR60-1084	1380-1390	64831	2.5	1.7	95.2	.6	6.6	3.5	.903	None	
SBR60-1085	1390-1400	64832	2.0	2.1	95.1	.8	5.2a	4.0		None	
SBR60-1086	1400-1410	64833	.9	3.7	94.8	.6	2.2a	7.2		None	
SBR60-1087	1410-1420	64834	4.9	2.3	91.3	1.5	12.9	4.3	.915	None	

a - Specific gravity estimated due to insufficient oil

Drill cutting samples received June 5, 1959; assays made on air-dried samples.
Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. 3063P

February 23, 1960

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from El Paso Natural Gas Company's Southman Canyon Unit No. 5 well, drilled 363 feet North of South line and 1726 feet West of East line, sec. 28, T. 10 S., R. 24 E., Uintah County, Utah

Surface elevation 5,382 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	Thier		Oil	Water					Oil	Water	
SBR60-1088	1420-1430	64835	2.8	2.0	94.1	1.1	7.5	4.8	0.904	None	
SBR60-1089	1430-1440	64836	3.2	1.5	94.2	1.1	8.6	3.6	.904	None	
SBR60-1090	1440-1450	64837	3.4	1.1	93.1	2.4	8.9	2.6	.916	None	
SBR60-1091	1450-1460	64838	1.5	.8	94.7	3.0	3.9a	1.9		None	
SBR60-1092	1460-1470	64839	1.3	1.0	96.9	.8	3.4a	2.3		None	
SBR60-1093	1470-1480	64840	.8	1.1	97.1	1.0	2.7a	2.7		None	
SBR60-1094	1480-1490	64841	.6	1.0	97.7	.7	1.6a	2.3		None	
SBR60-1095	1490-1500	64842	.5	1.1	97.7	.7	1.4a	2.6		None	
SBR60-1096	1500-1510						c				
SBR60-1097-98	1510-1530						b				
SBR60-1099	1530-1540	64843	1.3	1.0	96.9	.8	3.4a	2.4		None	
SBR60-1100	1540-1550	64844	1.4	1.1	96.6	.9	3.5a	2.8		None	
SBR60-1101	1550-1560	64845	1.2	1.1	97.0	.7	3.2a	2.5		None	
SBR60-1102	1560-1570	64846	1.4	1.1	97.0	.5	3.7a	2.5		None	
SBR60-1103	1570-1580						b				
SBR60-1104-07	1580-1620						c				
SBR60-1108	1620-1630	64847	2.1	1.9	95.2	.8	5.7	4.4	.897	None	
SBR60-1109	1630-1640	64848	2.0	1.7	95.8	.5	5.1a	4.0		None	
SBR60-1110	1640-1650	64849	2.1	1.7	95.8	.4	5.4a	4.1		None	
SBR60-1111	1660-1670	64850	1.2	1.6	96.5	.7	3.2a	3.8		None	
SBR60-1112	1670-1680	64851	1.0	1.6	96.9	.5	2.6a	3.8		None	
SBR60-1113	1680-1690	64852	1.7	1.6	96.0	.7	4.4a	3.8		None	
SBR60-1114	1690-1700	64853	2.0	1.5	95.7	.8	5.1a	3.6		None	
SBR60-1115-17	1780-1810						c				
SBR60-1118	1810-1820	64854	1.3	2.1	95.8	.8	3.4a	5.0		None	
SBR60-1119	1820-1830	64855	1.8	1.7	95.7	.8	4.7a	4.0		None	
SBR60-1120	1830-1840	64856	2.0	1.5	95.7	.8	5.4	3.6	.901	None	
SBR60-1121	1840-1850	64857	2.0	1.6	95.5	.9	5.2a	3.9		None	
SBR60-1122	1850-1860	64858	2.1	1.7	95.4	.9	5.4a	4.0		None	
SBR60-1123	1860-1870	64859	2.5	1.6	94.4	1.5	6.5a	3.8		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 5, 1959; assays made on air-dried samples.

Laramie Petroleum Research Center, Laramie, Wyoming, Ill. Station No. SBR-3064P

February 23, 1960

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from El Paso Natural Gas Company's Southman Canyon Unit No. 5 well, drilled 363 feet North of South line and 1726 feet West of East line, sec. 28, T. 10 S., R. 24 E., Uintah County, Utah

Surface elevation 5,382 feet

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				
			Oil	Water			Oil				Water
Laramie	Thier										
SBR60-1124	1870-1880	64860	1.9	1.8	95.3	1.0	4.8a	4.3	None		
SBR60-1125	1880-1890	64861	1.0	1.0	95.6	2.4	2.7a	2.4	None		
SBR60-1126	1890-1900	64862	1.5	1.5	95.8	1.2	3.9a	3.6	None		
SBR60-1127	1900-1910	64863	1.1	2.0	96.1	.8	2.7a	4.8	None		
SBR60-1128	1910-1920	64864	2.2	2.0	96.2	.7	2.8a	4.8	None		
SBR60-1129	1920-1930	64865	1.2	1.5	96.4	.9	3.1a	3.6	None		
SBR60-1130	1930-1940	64866	1.5	1.6	96.1	.8	3.9a	3.8	None		
SBR60-1131	1940-1950	64867	1.9	1.0	96.0	1.1	5.0a	2.4	None		
SBR60-1132-34	1950-1980						b				

a - Specific gravity estimated due to insufficient oil.

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

Drill cutting samples received June 5, 1959; assays made on air-dried samples.

Laramie Petroleum Research Center, Laramie, Wyoming, Illustration No. SBR-3065P

February 23, 1960