

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole drilled
in SE1/4SE1/4NW1/4 of sec 15, T 18 N, R 108 W, Sweetwater County, Wyoming

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 feet

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks
			Weight percent		Gal per ton			Tendency to		
Laramie	Their		Oil	Water	Spent shale	Gas + loss	Oil ^{1/}	Water	coke	
SBR71-7273	40- 50	60875	0.0	3.1	95.3	1.6	No oil	7.3	None	
SBR71-7274	50- 60	60876	.0	3.4	95.9	.7	No oil	8.1	None	
SBR71-7275	60- 70	60877	.0	3.3	96.0	.7	No oil	7.8	None	
SBR71-7276	70- 80	60878	.0	3.5	95.7	.8	No oil	8.3	None	
SBR71-7277	80- 90	60879	.0	3.4	95.2	1.4	No oil	8.1	None	
SBR71-7278	90-100	60880	.0	3.1	95.9	1.0	No oil	7.4	None	
SBR71-7279	100-110	60881	.0	2.1	96.0	1.9	No oil	5.1	None	
SBR71-7280	110-120	60882	.0	3.0	95.6	1.4	No oil	7.3	None	
SBR71-7281	120-130	60883	.0	2.8	96.0	1.2	No oil	6.8	None	
SBR71-7282	130-140	60884	.0	3.2	95.8	1.0	No oil	7.6	None	
SBR71-7283	140-150	60885	.0	3.6	96.0	.4	No oil	8.7	None	
SBR71-7284	150-160	60886	.0	2.8	96.6	.6	No oil	6.7	None	
SBR71-7285	160-170	60887	.0	2.4	97.1	.5	No oil	5.7	None	
SBR71-7286	170-180	60888	.0	2.7	97.2	.1	No oil	6.5	None	
SBR71-7287	180-190	60889	.0	2.8	97.1	.1	No oil	6.7	None	
SBR71-7288	190-200	60890	.0	2.9	97.0	.1	No oil	6.9	None	
SBR71-7289	200-210	60891	.0	2.7	97.0	.3	No oil	6.4	None	
SBR71-7290	210-220	60892	.0	2.7	97.1	.2	Trace	6.4	None	
SBR71-7291	220-230	60893	.7	1.3	96.7	1.3	1.9a	3.1	None	
SBR71-7292	230-240	60894	.2	2.2	96.3	1.3	.5a	5.3	None	
SBR71-7293	240-250	60895	.0	2.7	97.1	.2	Trace	6.5	None	
SBR71-7294	250-260	60896	.5	2.4	96.7	.4	1.2a	5.8	None	
SBR71-7295	260-270	60897	.0	2.0	96.9	1.1	No oil	4.7	None	
SBR71-7296	270-280	60910	.0	2.9	97.0	.1	Trace	7.0	None	
SBR71-7297	280-290	60911	.0	2.6	97.1	.3	Trace	6.1	None	
SBR71-7298	290-300	60912	.0	2.6	96.7	.7	Trace	6.2	None	
SBR71-7299	310-320	60913	.0	2.7	97.0	.3	Trace	6.5	None	
SBR71-7300	320-330	60914	.0	2.9	96.7	.4	Trace	6.9	None	
SBR71-7301	330-340	60915	.0	2.8	96.7	.5	No oil	6.6	None	
SBR71-7302	340-350	60916	.0	2.7	97.0	.3	Trace	6.4	None	

^{1/} footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 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		
SBR71-7303	350-360	60917	0.0	2.1	97.7	0.2	No oil	4.9	None	
SBR71-7304	360-370	60918	.0	2.7	97.1	.2	No oil	6.5	None	
SBR71-7305	370-380	60919	.0	2.1	97.7	.2	No oil	5.0	None	
SBR71-7306	380-390	60920	.0	2.2	97.3	.5	No oil	5.3	None	
SBR71-7307	390-400	60921	.0	2.2	97.4	.4	Trace	5.2	None	
SBR71-7308	400-410	60922	.0	1.4	97.7	.9	No oil	3.3	None	
SBR71-7309	410-420	60923	.0	1.5	98.4	.1	No oil	3.5	None	
SBR71-7310	420-430	60924	.0	1.6	98.3	.1	Trace	4.0	None	
SBR71-7311	430-440	60925	.0	2.6	97.2	.2	Trace	6.3	None	
SBR71-7312	440-450	60926	.0	2.4	97.4	.2	Trace	5.8	None	
SBR71-7313	450-460	60927	.0	2.2	97.3	.5	Trace	5.3	None	
SBR71-7314	460-470	60928	.0	2.3	97.5	.2	Trace	5.6	None	
SBR71-7315	470-480	60929	.0	1.6	97.9	.5	No oil	3.9	None	
SBR71-7316	480-490	60930	.0	1.7	98.0	.3	No oil	4.1	None	
SBR71-7317	490-500	60931	.0	2.3	97.4	.3	No oil	5.4	None	
SBR71-7318	500-510	60932	.0	2.4	97.2	.4	No oil	5.8	None	
SBR71-7319	510-520	60933	.0	2.1	97.7	.2	No oil	5.1	None	
SBR71-7320	520-530	60934	.1	2.4	97.3	.2	.2a	5.8	None	
SBR71-7321	530-540	60935	.0	2.4	96.5	1.1	Trace	5.8	None	
SBR71-7322	540-550	60936	.0	1.8	97.1	1.1	Trace	4.3	None	
SBR71-7323	550-560	60937	1.6	2.0	95.4	1.0	4.1a	4.8	None	
SBR71-7324	560-570	60938	1.6	2.0	95.8	.6	4.3a	4.8	None	
SBR71-7325	570-580	60939	1.5	2.0	95.2	1.3	3.8a	4.8	None	
SBR71-7326	580-590	60940	.6	2.7	96.0	.7	1.6a	6.4	None	
SBR71-7327	590-600	60941	1.4	2.2	95.7	.7	3.5a	5.3	None	
SBR71-7328	600-610	60942	1.0	2.4	95.5	1.1	2.6a	5.8	None	
SBR71-7329	610-620	60943	.4	1.7	97.3	.6	.9a	4.1	None	
SBR71-7330	620-630	60944	.3	2.0	97.0	.7	.8a	4.8	None	
SBR71-7331	630-640	60945	.2	2.0	97.1	.7	.6a	4.8	None	
SBR71-7332	640-650	60946	.0	2.1	97.7	.2	Trace	4.9	None	

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 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			Gal per ton					
Laramie	Their	Oil	Water	Spent shale	Gas + loss	Oil ¹ /	Water			
SBR71-7333	650-660	60947	0.0	1.8	97.9	0.3	No oil	4.2	None	
SBR71-7334	660-670	60948	.1	1.8	97.3	.8	.3a	4.3	None	
SBR71-7335	670-680	60949	.1	1.7	97.6	.6	.3a	4.1	None	
SBR71-7336	680-690	60950	.2	2.1	97.5	.2	.4a	5.0	None	
SBR71-7337	690-700	60951	.0	1.9	97.8	.3	No oil	4.5	None	
SBR71-7338	700-705	60952	.0	1.7	98.0	.3	Trace	4.1	None	
SBR71-7339	705-710	60953	.0	1.1	97.7	1.2	No oil	2.7	None	
SBR71-7340	710-715	60954	.0	2.0	97.8	.2	Trace	4.8	None	
SBR71-7341	715-720	60955	.0	1.8	97.9	.3	No oil	4.2	None	
SBR71-7342	720-725	60956	.0	2.2	97.7	.1	Trace	5.4	None	
SBR71-7343	725-730	60958	.0	1.7	97.3	1.0	No oil	4.1	None	
SBR71-7344	730-735	60959	.5	1.0	97.1	1.4	1.4a	2.3	None	
SBR71-7345	735-740	60960	1.5	1.4	96.0	1.1	3.8a	3.4	None	
SBR71-7346	740-745	60961	.6	2.1	96.0	1.3	1.6a	5.0	None	
SBR71-7347	745-750	60962	1.1	1.9	95.1	1.9	2.8a	4.6	None	
SBR71-7348	750-755	60963	3.1	2.1	92.9	1.9	7.9	5.0	0.943	None
SBR71-7349	755-760	60964	3.1	2.3	92.4	2.2	7.9	5.5	.949	None
SBR71-7350	760-765	60965	3.3	1.9	92.0	2.8	8.4	4.6	.927	None
SBR71-7351	775-780	60966	2.3	2.2	92.3	3.2	5.8	5.4	.942	None
SBR71-7352	780-785	60967	5.3	2.9	89.3	2.5	13.5	7.0	.943	None
SBR71-7353	785-790	60968	4.3	3.3	89.8	2.6	10.8	7.9	.954	None
SBR71-7354	790-795	60969	3.6	2.4	91.9	2.1	9.1	5.9	.942	None
SBR71-7355	795-800	60970	4.0	2.5	91.5	2.0	10.4	6.0	.925	None
SBR71-7356	800-805	60971	4.7	2.4	90.9	2.0	12.1	5.8	.924	None
SBR71-7357	805-810	60972	4.9	2.3	90.1	2.7	12.7	5.5	.923	None
SBR71-7358	810-815	60973	5.2	2.4	89.9	2.5	13.5	5.8	.924	None
SBR71-7359	815-820	60974	4.0	3.1	90.9	2.0	10.4	7.4	.928	None
SBR71-7360	820-825	60975	3.8	2.3	91.7	2.2	9.8	5.6	.928	None
SBR71-7361	825-830	60976	4.9	2.1	90.8	2.2	12.8	4.9	.924	None
SBR71-7362	830-835	60977	5.0	1.9	90.8	2.3	13.0	4.6	.925	None

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			Weight percent		Spent shale	Gas + loss		Gal per ton			Tendency to coke
Laramie	Their		Oil	Water					Oil/	Water	
SBR71-7363	835- 840	60978	3.2	1.2	93.7	1.9	8.4	2.9	0.923	None	
SBR71-7364	840- 845	60979	4.3	1.5	92.4	1.8	11.2	3.6	.918	None	
SBR71-7365	845- 850	60980	3.6	1.4	93.0	2.0	9.4	3.4	.918	None	
SBR71-7366	850- 855	60981	3.4	1.6	93.2	1.8	8.7	3.8	.925	None	
SBR71-7367	855- 860	60982	3.9	1.1	93.9	1.1	10.1	2.8	.924	None	
SBR71-7368	860- 865	60983	4.1	1.2	93.2	1.5	10.6	3.0	.919	None	
SBR71-7369	865- 870	60984	5.6	1.3	91.1	2.0	14.6	3.2	.918	None	
SBR71-7370	870- 875	60985	6.5	1.4	90.9	1.2	17.0	3.5	.913	None	
SBR71-7371	875- 880	60986	4.0	2.4	92.6	1.0	10.5	5.9	.916	None	
SBR71-7372	880- 885	60987	5.1	1.7	92.8	.4	13.2	4.0	.912	None	
SBR71-7373	885- 890	60988	6.8	1.4	90.8	1.0	17.6	3.4	.920	None	
SBR71-7374	890- 895	60989	4.2	1.1	93.6	1.1	10.9	2.8	.919	None	
SBR71-7375	895- 900	60990	1.6	2.0	96.0	.4	4.1a	4.8		None	
SBR71-7376	900- 905	60991	6.3	1.2	91.2	1.3	16.4	2.8	.922	None	
SBR71-7377	905- 910	60992	6.8	1.3	90.7	1.2	17.7	3.2	.915	None	
SBR71-7378	910- 915	60993	6.1	1.8	90.8	1.3	16.0	4.3	.918	None	
SBR71-7379	915- 920	60994	3.3	1.2	94.0	1.5	8.5	3.0	.933	None	
SBR71-7380	920- 925	60995	3.4	1.1	93.8	1.7	8.7	2.6	.943	None	
SBR71-7381	925- 930	60996	3.4	1.6	93.3	1.7	8.8	3.8	.927	None	
SBR71-7382	930- 935	60997	8.1	1.7	87.4	2.8	21.0	4.1	.923	None	
SBR71-7383	935- 940	60998	8.2	1.6	88.5	1.7	21.2	4.0	.922	None	
SBR71-7384	940- 945	60999	8.7	1.6	86.5	3.2	22.6	3.8	.922	None	
SBR71-7385	945- 950	61000	8.0	1.9	87.4	2.7	20.9	4.4	.922	None	
SBR71-7386	950- 960	61001	2.1	.9	95.3	1.7	5.6	2.0	.924	None	
SBR71-7387	960- 970	61002	5.4	1.0	91.7	1.9	14.1	2.3	.920	None	
SBR71-7388	970- 980	61003	6.0	1.2	90.5	2.3	15.6	2.9	.920	None	
SBR71-7389	980- 990	61004	7.5	1.6	90.0	.9	19.4	3.8	.920	None	
SBR71-7390	990-1000	61005	5.0	1.3	91.8	1.9	12.9	3.1	.921	None	
SBR71-7391	1000-1010	61006	5.9	1.2	90.8	2.1	15.3	2.9	.920	None	
SBR71-7392	1010-1020	61007	2.2	1.8	94.8	1.2	5.7	4.2	.919	None	

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

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Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 feet

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			Weight percent		Spent shale	Gas + loss		Gal per ton		
Laramie	Their		Oil	Water					Oil ¹ /	Water
SBR71-7393	1020-1030	61008	2.1	1.7	94.8	1.4	5.3	4.2	0.925	None
SBR71-7394	1030-1040	61009	2.2	1.9	94.2	1.7	5.8	4.6	.919	None
SBR71-7395	1040-1050	61010	5.7	2.8	88.6	2.9	14.7	6.7	.925	None
SBR71-7396	1050-1060	61011	5.2	2.7	89.0	3.1	13.5	6.5	.925	None
SBR71-7397	1060-1070	61012	5.1	2.8	89.4	2.7	13.2	6.7	.924	None
SBR71-7398	1070-1080	61013	2.4	1.3	95.0	1.3	6.1	3.1	.925	None
SBR71-7399	1080-1090	61014	2.6	1.6	94.0	1.8	6.8	3.8	.923	None
SBR71-7400	1090-1100	61015	2.4	1.2	94.9	1.5	6.2	2.9	.920	None
SBR71-7401	1100-1110	61016	3.9	1.5	92.7	1.9	10.1	3.6	.917	None
SBR71-7402	1110-1120	61017	4.9	1.6	91.1	2.4	12.9	3.8	.917	None
SBR71-7403	1120-1130	61018	4.5	1.2	91.5	2.8	11.7	3.0	.913	None
SBR71-7404	1130-1140	61019	7.7	1.1	87.4	3.8	20.2	2.8	.913	None
SBR71-7405	1140-1150	61020	8.7	1.6	85.4	4.3	22.7	3.8	.915	None
SBR71-7406	1150-1160	61021	8.4	1.4	87.3	2.9	22.1	3.2	.915	None
SBR71-7407	1160-1170	61022	2.0	1.9	94.8	1.3	5.2a	4.6		None
SBR71-7408	1170-1180	61023	2.4	2.0	94.4	1.2	6.3	4.7	.915	None
SBR71-7409	1180-1190	61024	2.0	1.7	95.1	1.2	5.3a	4.0		None
SBR71-7410	1190-1200	61025	4.7	1.3	91.6	2.4	12.1	3.1	.919	None
SBR71-7411	1200-1210	61026	5.1	1.9	91.1	1.9	13.3	4.6	.915	None
SBR71-7412	1210-1220	61027	4.8	1.7	91.4	2.1	12.6	4.0	.917	None
SBR71-7413	1220-1230	61028	1.7	3.2	93.1	2.0	4.5a	7.7		None
SBR71-7414	1230-1240	61029	1.9	3.3	93.5	1.3	4.9a	7.9		None
SBR71-7415	1260-1270	61030	1.7	2.7	92.9	2.7	4.5a	6.6		None
SBR71-7416	1270-1280	61031	6.4	2.3	86.7	4.6	16.7	5.5	.926	None
SBR71-7417	1280-1290	61032	7.9	2.1	86.3	3.7	20.6	4.9	.922	None
SBR71-7418	1290-1300	61033	8.6	2.3	86.5	2.6	22.4	5.5	.920	None
SBR71-7419	1300-1310	61034	2.9	2.7	92.4	2.0	7.6	6.4	.918	None
SBR71-7420	1310-1320	61035	2.7	2.5	92.8	2.0	7.0	6.0	.920	None
SBR71-7421	1320-1330	61036	.2	3.5	95.1	1.2	.6a	8.4		None
SBR71-7422	1330-1340	61037	.0	2.3	95.6	2.1	Trace	5.5		None

See footnote at end of table.

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			Weight percent		Spent shale	Gas + loss		Gal per ton			Tendency to coke
Laramie	Their		Oil	Water					Oil ¹ / _{Water}		
SBR71-7423	1340-1350	61038	2.7	1.8	92.4	3.1	7.0	4.4	0.922	None	
SBR71-7424	1350-1360	61039	3.9	1.6	92.5	2.0	10.2	3.8	.925	None	
SBR71-7425	1360-1370	61040	.9	2.3	95.9	.9	2.4a	5.6		None	
SBR71-7426	1370-1380	61041	.6	2.1	95.8	1.5	1.6a	4.9		None	
SBR71-7427	1380-1390	61042	.3	2.7	96.4	.6	.8a	6.4		None	
SBR71-7428	1390-1400	61043	.9	2.6	94.6	1.9	2.2a	6.4		None	
SBR71-7429	1400-1401	61054	.0	3.7	89.1	7.2	Trace	8.8		None	Start core
SBR71-7430	1401-1402	61044	.1	6.2	90.7	3.0	.1a	14.9		None	
SBR71-7431	1402-1403	61045	6.9	1.9	88.6	2.6	18.0	4.6	.919	None	
SBR71-7432	1403-1404	61046	8.0	1.7	87.3	3.0	21.0	4.2	.913	None	
SBR71-7433	1404-1405	61047	4.8	1.5	91.3	2.4	12.7	3.6	.919	None	
SBR71-7434	1405-1406	61048	.0	3.4	95.8	.8	No oil	8.1		None	
SBR71-7435	1406-1407	61049	.0	2.5	97.1	.4	No oil	6.0		None	
SBR71-7436	1407-1408	61050	.0	1.6	98.2	.2	No oil	3.9		None	
SBR71-7437	1408-1409	61051	.0	1.5	98.1	.4	No oil	3.5		None	
SBR71-7438	1409-1410	61052	.0	2.0	97.2	.8	Trace	4.8		None	
SBR71-7439	1410-1411	61053	.0	2.1	97.1	.8	Trace	5.0		None	
SBR71-7440	1411-1412	61055	.0	1.9	96.8	1.3	No oil	4.5		None	
SBR71-7441	1412-1413	61056	.0	1.8	97.3	.9	No oil	4.3		None	
SBR71-7442	1413-1414	61057	.0	2.3	96.5	1.2	No oil	5.6		None	
SBR71-7443	1414-1415	61058	.0	3.5	95.4	1.1	No oil	8.3		None	
SBR71-7444	1415-1416	61059	.0	3.1	95.6	1.3	Trace	7.5		None	
SBR71-7445	1416-1417	61060	.7	1.5	96.8	1.0	1.7a	3.6		None	
SBR71-7446	1417-1418	61061	1.0	.6	96.7	1.7	2.6a	1.3		None	
SBR71-7447	1418-1419	61062	.0	3.7	95.4	.9	No oil	8.8		None	
SBR71-7448	1419-1420	61063	.0	2.5	95.2	2.3	No oil	6.1		None	
SBR71-7449	1420-1421	61064	.0	1.9	96.8	1.3	No oil	4.5		None	
SBR71-7450	1421-1422	61065	.0	1.4	97.4	1.2	No oil	3.5		None	
SBR71-7451	1422-1423	61066	.0	1.7	96.9	1.4	No oil	4.1		None	
SBR71-7452	1423-1424	61067	.0	1.2	97.3	1.5	No oil	2.9		None	

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 feet

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks
			Weight percent		Gal per ton			Tendency to		
Laramie	Their		Oil	Water	Spent shale	Gas + loss	Oil ¹ /	Water	coke	
SBR71-7453	1424-1425	61068	0.0	1.6	97.4	1.0	No oil	3.7	None	
SBR71-7454	1425-1426	61069	.0	1.7	97.6	.7	No oil	4.1	None	
SBR71-7455	1426-1427	61070	.0	1.9	97.5	.6	No oil	4.4	None	
SBR71-7456	1427-1428	61071	.0	2.0	96.5	1.5	No oil	4.9	None	
SBR71-7457	1428-1429	61072	.0	1.6	97.4	1.0	No oil	3.8	None	
SBR71-7458	1429-1430	61073	.0	1.1	97.7	1.2	No oil	2.6	None	
SBR71-7459	1430-1431	61074	.0	1.5	96.5	2.0	No oil	3.7	None	
SBR71-7460	1431-1432	61075	.0	1.8	97.1	1.1	No oil	4.4	None	
SBR71-7461	1432-1433	61076	.0	1.8	97.1	1.1	No oil	4.4	None	
SBR71-7462	1433-1434	61077	.0	1.8	96.0	2.2	No oil	4.3	None	
SBR71-7463	1434-1435	61078	.0	1.9	96.9	1.2	No oil	4.6	None	
SBR71-7464	1435-1436	61079	.0	2.2	96.4	1.4	No oil	5.4	None	
SBR71-7465	1436-1437	61080	.0	1.1	96.9	2.0	No oil	2.6	None	
SBR71-7466	1437-1438	61081	.0	2.2	96.9	.9	No oil	5.2	None	
SBR71-7467	1438-1439	61082	.0	2.2	96.7	1.1	No oil	5.2	None	
SBR71-7468	1439-1440	61083	.0	2.0	96.7	1.3	No oil	4.8	None	
SBR71-7469	1440-1441	61084	.0	1.9	96.5	1.6	No oil	4.5	None	
SBR71-7470	1441-1442	61085	.0	2.1	96.8	1.1	No oil	5.1	None	
SBR71-7471	1442-1443	61086	.0	1.8	96.8	1.4	No oil	4.2	None	
SBR71-7472	1443-1444	61087	.0	1.5	97.6	.9	No oil	3.6	None	
SBR71-7473	1444-1445	61088	.0	1.5	97.7	.8	No oil	3.6	None	
SBR71-7474	1445-1446	61089	.0	2.0	97.1	.9	No oil	4.8	None	
SBR71-7475	1446-1447	61090	.0	1.5	97.7	.8	No oil	3.6	None	
SBR71-7476	1447-1448	61091	.0	1.6	97.0	1.4	No oil	3.8	None	
SBR71-7477	1448-1449	61092	.0	1.6	97.6	.8	No oil	3.8	None	
SBR71-7478	1449-1450	61093	.0	1.7	97.4	.9	No oil	4.0	None	
SBR71-7479	1450-1451	61094	.0	1.9	97.2	.9	No oil	4.5	None	
SBR71-7480	1451-1452	61095	.0	2.0	97.4	.6	No oil	4.7	None	
SBR71-7481	1452-1453	61096	.0	2.1	97.2	.7	No oil	5.1	None	
SBR71-7482	1453-1454	61097	.0	1.4	97.8	.8	No oil	3.4	None	

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 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/	Water
SBR71-7483	1454-1455	61098	0.0	1.9	97.1	1.0	No oil	4.5		None
SBR71-7484	1455-1456	61099	.0	2.0	97.3	.7	No oil	4.9		None
SBR71-7485	1456-1457	61100	.0	2.0	97.3	.7	No oil	4.8		None
SBR71-7486	1457-1458	61101	.0	1.9	97.4	.7	No oil	4.6		None
SBR71-7487	1458-1459	61102	.0	1.5	97.1	1.4	No oil	3.5		None
SBR71-7488	1459-1460	61103	.4	2.7	94.6	2.3	1.1a	6.5		None
SBR71-7489	1460-1461	61104	3.3	1.0	93.8	1.9	8.6	2.4	0.920	None
SBR71-7490	1461-1462	61105	4.4	1.8	91.7	2.1	11.4	4.3	.921	None
SBR71-7491	1462-1463	61106	2.4	2.5	93.5	1.6	6.2	6.0	.913	None
SBR71-7492	1463-1464	61107	.3	4.5	92.5	2.7	.7a	10.8		None
SBR71-7493	1464-1465	61108	.0	2.7	96.0	1.3	Trace	6.5		None
SBR71-7494	1465-1466	61109	.0	2.3	95.6	2.1	No oil	5.6		None
SBR71-7495	1466-1467	61110	.0	2.7	95.1	2.2	Trace	6.5		None
SBR71-7496	1467-1468	61111	.0	2.3	96.7	1.0	Trace	5.5		None
SBR71-7497	1468-1469	61112	.2	3.9	94.2	1.7	.5a	9.3		None
SBR71-7498	1469-1470	61113	.1	3.6	94.2	2.2	.2a	8.5		None
SBR71-7499	1470-1471	61114	1.7	1.8	95.0	1.5	4.5a	4.3		None
SBR71-7500	1471-1472	61115	4.0	1.3	92.6	2.1	10.4	3.0	.929	None
SBR71-7501	1472-1473	61116	3.3	1.1	92.9	2.7	8.6	2.6	.920	None
SBR71-7502	1473-1474	61117	4.1	1.4	92.4	2.1	10.6	3.4	.923	None
SBR71-7503	1474-1475	61118	2.7	1.5	94.4	1.4	7.0	3.6	.923	None
SBR71-7504	1475-1476	61119	3.3	1.4	93.1	2.2	8.5	3.4	.927	None
SBR71-7505	1476-1477	61120	3.6	1.0	93.6	1.8	9.2	2.4	.922	None
SBR71-7506	1477-1478	61121	3.2	1.7	93.5	1.6	8.3	4.1	.916	None
SBR71-7507	1478-1479	61122	3.9	1.1	92.8	2.2	10.3	2.5	.912	None
SBR71-7508	1479-1480	61123	3.0	1.5	93.7	1.8	7.9	3.6	.919	None
SBR71-7509	1480-1481	61124	2.1	1.7	94.7	1.5	5.6	4.1	.917	None
SBR71-7510	1481-1482	61125	.8	2.1	95.8	1.3	2.2a	5.0		None
SBR71-7511	1482-1483	61126	1.8	1.6	95.6	1.0	4.6a	3.8		None
SBR71-7512	1483-1484	61127	5.5	1.3	91.5	1.7	14.5	3.1	.910	None

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 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 ¹ /	Water
SBR71-7513	1484-1485	61128	4.8	0.9	91.7	2.6	12.6	2.3	0.913	None
SBR71-7514	1485-1486	61129	2.3	1.7	93.9	2.1	6.0	4.1	.915	None
SBR71-7515	1486-1487	61130	.9	3.0	95.1	1.0	2.3a	7.2		None
SBR71-7516	1487-1488	61131	.1	3.5	94.5	1.9	.3a	8.4		None
SBR71-7517	1488-1489	61132	.2	3.4	95.6	.8	.4a	8.1		None
SBR71-7518	1489-1490	61133	1.4	1.6	94.9	2.1	3.6a	3.8		None
SBR71-7519	1490-1491	61134	5.2	1.8	91.3	1.7	13.6	4.3	.914	None
SBR71-7520	1491-1492	61135	3.9	1.4	92.8	1.9	10.2	3.4	.916	None
SBR71-7521	1492-1493	61136	2.2	2.6	93.2	2.0	5.6	6.2	.918	None
SBR71-7522	1493-1494	61137	.1	3.6	94.7	1.6	.3a	8.6		None
SBR71-7523	1494-1495	61138	.0	3.2	95.3	1.5	No oil	7.6		None
SBR71-7524	1495-1496	61139	.0	3.6	94.6	1.8	No oil	8.6		None
SBR71-7525	1496-1497	61140	.0	3.2	95.2	1.6	Trace	7.7		None
SBR71-7526	1497-1498	61141	.0	2.3	97.2	.5	Trace	5.4		None
SBR71-7527	1498-1499	61142	.0	1.7	97.9	.4	Trace	4.1		None
SBR71-7528	1499-1500	61143	.0	1.8	97.1	1.1	No oil	4.2		None
SBR71-7529	1500-1501	61144	.0	1.8	97.5	.7	No oil	4.3		None
SBR71-7530	1501-1502	61145	.0	2.1	96.5	1.4	No oil	5.1		None
SBR71-7531	1502-1503	61146	.0	2.6	96.3	1.1	Trace	6.3		None
SBR71-7532	1503-1504	61147	.5	3.0	95.8	.7	1.3a	7.2		None
SBR71-7533	1504-1505	61148	2.3	2.0	94.4	1.3	6.1	4.8	.913	None
SBR71-7534	1505-1506	61149	.8	2.5	95.1	1.6	2.1a	6.0		None
SBR71-7535	1506-1507	61150	.5	3.8	93.3	2.4	1.3a	9.1		None
SBR71-7536	1507-1508	61151	.7	2.7	94.7	1.9	1.9a	6.5		None
SBR71-7537	1508-1509	61152	.3	1.9	96.1	1.7	.9a	4.6		None
SBR71-7538	1509-1510	61153	.7	1.8	96.5	1.0	1.8a	4.3		None
SBR71-7539	1510-1511	61154	1.0	1.4	97.0	.6	2.5a	3.4		None
SBR71-7540	1511-1512	61155	1.8	.9	95.8	1.5	4.7a	2.2		None
SBR71-7541	1512-1513	61156	4.1	1.1	93.1	1.7	10.6	2.6	.922	None
SBR71-7542	1513-1514	61157	9.9	1.6	83.4	5.1	25.7	3.8	.919	None

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 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		
Laramie	Their		Oil	Water					Oil ¹ /		Water	
SBR71-7543	1514-1515	61158	14.2	1.6	79.5	4.7	37.4	3.8	0.911	None		
SBR71-7544	1515-1516	61159	7.0	1.5	88.8	2.7	18.2	3.6	.916	None		
SBR71-7545	1516-1517	61160	8.6	2.0	86.2	3.2	22.4	4.8	.915	None		
SBR71-7546	1517-1518	61161	6.4	1.4	89.3	2.9	16.6	3.4	.917	None		
SBR71-7547	1518-1519	61162	2.5	.9	94.8	1.8	6.4	2.3	.929	None		
SBR71-7548	1519-1520	61163	10.6	1.4	81.8	6.2	27.5	3.4	.918	None		
SBR71-7549	1520-1521	61164	10.1	2.0	83.4	4.5	26.3	4.8	.920	None		
SBR71-7550	1521-1522	61165	5.1	1.2	91.0	2.7	13.1	2.9	.923	None		
SBR71-7551	1522-1523	61166	1.1	1.4	96.0	1.5	2.9a	3.4		None		
SBR71-7552	1523-1524	61167	.4	1.6	96.7	1.3	1.0a	3.8		None		
SBR71-7553	1524-1525	61168	1.1	1.5	95.6	1.8	2.9a	3.6		None		
SBR71-7554	1525-1526	61169	.6	1.0	96.4	2.0	1.7a	2.4		None		
SBR71-7555	1526-1527	61170	1.7	.9	95.8	1.6	4.5a	2.0		None		
SBR71-7556	1527-1528	61171	11.2	1.3	84.1	3.4	29.4	3.1	.912	None		
SBR71-7557	1528-1529	61172	6.4	2.4	87.5	3.7	16.8	5.8	.913	None		
SBR71-7558	1529-1530	61173	.4	2.2	95.6	1.8	1.2a	5.3		None		
SBR71-7559	1530-1531	61174	.6	1.4	96.4	1.6	1.7a	3.4		None		
SBR71-7560	1531-1532	61175	2.3	1.6	93.2	2.9	6.0	3.8	.927	None		
SBR71-7561	1532-1533	61176	2.9	1.6	93.2	2.3	7.5	3.8	.920	None		
SBR71-7562	1533-1534	61177	6.9	1.4	89.5	2.2	18.0	3.4	.912	None		
SBR71-7563	1534-1535	61178	12.8	1.7	81.3	4.2	33.8	4.1	.908	None		
SBR71-7564	1535-1536	61179	5.6	2.0	88.8	3.6	14.6	4.8	.914	None		
SBR71-7565	1536-1537	61180	.9	2.0	94.8	2.3	2.3a	4.8		None		
SBR71-7566	1537-1538	61181	.5	1.6	95.5	2.4	1.3a	3.8		None		
SBR71-7567	1538-1539	61182	.7	2.3	93.8	3.2	1.9a	5.5		None		
SBR71-7568	1539-1540	61183	.6	1.9	95.7	1.8	1.6a	4.6		None		
SBR71-7569	1540-1541	61184	.8	2.0	93.8	3.4	2.0a	4.8		None		
SBR71-7570	1541-1542	61185	1.6	2.8	92.4	3.2	4.1a	6.7		None		
SBR71-7571	1542-1543	61186	1.4	8.5	77.9	12.2	3.5a	20.4		None		
SBR71-7572	1543-1544	61187	.2	17.0	72.1	10.7	.4a	40.7		None		

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Well Bushing elevation 6,568 feet
 Surface elevation 6,562 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		Gal per ton							
Laramie	Their	Oil	Water	Spent shale	Gas + loss	Oil/	Water				
SBR71-7573	1544-1545	61188	2.3	13.0	77.3	7.4	6.1	31.2	0.922	None	
SBR71-7574	1545-1546	61189	7.9	2.2	86.9	3.0	21.0	5.3	.904	None	
SBR71-7575	1546-1547	61190	8.4	2.0	85.0	4.6	22.2	4.8	.911	None	
SBR71-7576	1547-1548	61191	2.8	.6	94.8	1.8	7.4	1.4	.913	None	
SBR71-7577	1548-1549	61192	2.7	.7	95.3	1.3	7.1	1.7	.915	None	
SBR71-7578	1549-1550	61193	3.6	.8	93.8	1.8	9.5	2.0	.909	None	
SBR71-7579	1550-1551	61194	7.0	.7	90.0	2.3	18.6	1.7	.905	None	
SBR71-7580	1551-1552	61195	11.9	1.0	83.8	3.3	31.6	2.4	.902	None	
SBR71-7581	1552-1553	61196	9.2	1.0	86.7	3.1	24.4	2.4	.903	None	
SBR71-7582	1553-1554	61197	1.6	.3	96.9	1.2	4.1a	.8		None	
SBR71-7583	1554-1555	61198	.9	.6	97.9	.6	2.4a	1.3		None	
SBR71-7584	1555-1556	61199	.4	.8	97.6	1.2	1.0a	2.0		None	
SBR71-7585	1556-1557	61200	.8	.5	97.9	.8	2.1a	1.2		None	
SBR71-7586	1557-1558	61201	1.3	.6	97.5	.6	3.4a	1.4		None	
SBR71-7587	1558-1559	61202	9.4	1.0	86.9	2.7	24.8	2.4	.909	None	
SBR71-7588	1559-1560	61203	.4	1.4	97.2	1.0	1.1a	3.4		None	
SBR71-7589	1560-1561	61204	.0	1.5	97.6	.9	No oil	3.7		None	
SBR71-7590	1561-1562	61205	.0	1.1	97.0	1.9	No oil	2.7		None	
SBR71-7591	1562-1563	61206	.0	1.5	97.9	.6	No oil	3.7		None	
SBR71-7592	1563-1564	61207	.0	1.9	97.3	.8	No oil	4.5		None	
SBR71-7593	1564-1565	61208	.0	1.9	97.0	1.1	No oil	4.6		None	
SBR71-7594	1565-1566	61209	.0	2.1	96.6	1.3	No oil	4.9		None	
SBR71-7595	1566-1567	61210	.0	1.5	98.0	.5	No oil	3.5		None	
SBR71-7596	1567-1568	61211	.0	1.4	98.6	.0	No oil	3.3		None	
SBR71-7597	1568-1569	61212	.0	2.2	96.7	1.1	No oil	5.2		None	
SBR71-7598	1569-1570	61213	.0	3.1	95.3	1.6	No oil	7.4		None	
SBR71-7599	1570-1571	61214	.0	1.9	97.2	.9	No oil	4.6		None	
SBR71-7600	1571-1572	61215	.0	1.0	96.8	2.2	No oil	2.4		None	
SBR71-7601	1572-1573	61216	.0	1.9	97.2	.9	No oil	4.6		None	
SBR71-7602	1573-1574	61217	.0	1.5	97.9	.6	No oil	3.5		None	

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 feet

Sample number		Run No.	Yield of product						Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks
			Weight percent			Gal per ton				Tendency to		
Laramie	Their		Oil	Water	Spent shale	Gas + loss	Oil ^{1/}	Water		coke		
SBR71-7603	1574-1575	61218	0.0	1.6	97.0	1.4	No oil	3.8		None		
SBR71-7604	1575-1576	61219	.0	2.0	96.9	1.1	No oil	4.9		None		
SBR71-7605	1576-1577	61220	.0	2.1	97.1	.8	No oil	4.9		None		
SBR71-7606	1577-1578	61221	.0	1.7	97.1	1.2	No oil	4.0		None		
SBR71-7607	1578-1579	61222	.0	1.8	97.2	1.0	No oil	4.2		None		
SBR71-7608	1579-1580	61223	.4	1.2	96.7	1.7	.9a	2.9		None		
SBR71-7609	1580-1581	61224	.7	.9	97.0	1.4	1.8a	2.0		None		
SBR71-7610	1581-1582	61225	1.3	1.1	96.8	.8	3.4a	2.6		None		
SBR71-7611	1582-1583	61226	9.7	1.1	86.3	2.9	25.5	2.6	0.914	None		
SBR71-7612	1583-1584	61227	9.7	.8	86.1	3.4	25.3	1.9	.921	None		
SBR71-7613	1584-1585	61228	3.2	1.2	93.8	1.8	8.3	2.9	.920	None		
SBR71-7614	1585-1586	61229	.7	2.5	94.9	1.9	1.8a	6.0		None		
SBR71-7615	1586-1587	61230	.0	2.4	95.4	2.2	Trace	5.8		None		
SBR71-7616	1587-1588	61231	.3	2.1	96.0	1.6	.9a	5.0		None		
SBR71-7617	1588-1589	61232	.2	2.4	95.6	1.8	.5a	5.8		None		
SBR71-7618	1589-1590	61233	.4	2.1	95.5	2.0	.9a	5.0		None		
SBR71-7619	1590-1591	61234	.9	1.6	96.2	1.3	2.2a	3.8		None		
SBR71-7620	1591-1592	61235	1.3	2.5	94.3	1.9	3.5a	6.0		None		
SBR71-7621	1592-1593	61236	1.8	13.0	77.5	7.7	4.6a	31.2		None		
SBR71-7622	1593-1594	61237	9.8	2.4	84.2	3.6	25.9	5.8	.911	None		
SBR71-7623	1594-1595	61238	15.0	2.4	77.5	5.1	39.4	5.8	.914	None		
SBR71-7624	1595-1596	61239	.9	3.0	94.1	2.0	2.2a	7.2		None		
SBR71-7625	1596-1597	61240	.5	3.4	94.1	2.0	1.4a	8.1		None		
SBR71-7626	1597-1598	61241	.0	3.8	93.2	3.0	Trace	9.1		None		
SBR71-7627	1598-1599	61242	.8	2.1	95.3	1.8	2.1a	5.0		None		
SBR71-7628	1599-1600	61243	1.3	1.5	95.6	1.6	3.4a	3.6		None		
SBR71-7629	1600-1601	61244	1.3	5.4	89.5	3.8	3.5a	12.9		None		
SBR71-7630	1601-1602	61245	.0	17.8	71.3	10.9	No oil	42.8		None		
SBR71-7631	1602-1603	61252	10.0	4.5	79.7	5.8	26.2	10.8	.911	None		
SBR71-7632	1603-1604	61253	10.0	1.4	84.8	3.8	26.5	3.4	.908	None		

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 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
Laramie	Their		Oil	Water					Oil	Water	
SBR71-7633	1604-1605	61254	2.4	1.1	93.3	3.2	6.4	2.6	0.913	None	
SBR71-7634	1605-1606	61255	4.1	1.1	92.7	2.1	10.7	2.6	.917	None	
SBR71-7635	1606-1607	61256	4.5	1.5	91.9	2.1	11.8	3.6	.915	None	
SBR71-7636	1607-1608	61257	10.8	1.3	83.3	4.6	28.4	3.1	.915	None	
SBR71-7637	1608-1609	61260	14.1	1.2	80.9	3.8	37.1	2.9	.908	None	
SBR71-7638	1609-1610	61261	5.2	3.4	88.6	2.8	13.9	8.1	.901	None	
SBR71-7639	1610-1611	61262	.0	3.0	94.4	2.6	Trace	7.3		None	
SBR71-7640	1611-1612	61263	.0	2.9	94.7	2.4	No oil	6.8		None	
SBR71-7641	1612-1613	61264	.0	4.9	93.1	2.0	Trace	11.8		None	
SBR71-7642	1613-1614	61265	.0	3.7	94.0	2.3	No oil	9.0		None	
SBR71-7643	1614-1615	61266	.0	5.5	91.8	2.7	No oil	13.1		None	
SBR71-7644	1615-1616	61267	.0	4.9	91.9	3.2	Trace	11.8		None	
SBR71-7645	1616-1617	61270	.4	5.7	91.2	2.7	1.0a	13.7		None	
SBR71-7646	1617-1618	61271	.6	4.8	90.6	4.0	1.6a	11.5		None	
SBR71-7647	1618-1619	61272	.5	4.1	92.4	3.0	1.4a	9.8		None	
SBR71-7648	1619-1620	61273	.6	2.7	94.4	2.3	1.5a	6.5		None	
SBR71-7649	1620-1621	61274	7.1	1.7	88.5	2.7	18.8	4.1	.906	None	
SBR71-7650	1621-1622	61275	10.9	2.0	82.7	4.4	28.9	4.8	.903	None	
SBR71-7651	1622-1623	61276	.9	2.2	95.3	1.6	2.2a	5.3		None	
SBR71-7652	1623-1624	61277	.0	1.3	96.5	2.2	No oil	3.2		None	
SBR71-7653	1624-1625	61278	.0	2.2	96.3	1.5	No oil	5.3		None	
SBR71-7654	1625-1626	61279	.0	2.3	96.2	1.5	No oil	5.5		None	
SBR71-7655	1626-1627	61280	.1	2.5	95.7	1.7	.2a	6.0		None	
SBR71-7656	1627-1628	61281	.0	2.3	96.4	1.3	No oil	5.5		None	
SBR71-7657	1628-1629	61282	.0	2.1	97.1	.8	No oil	4.9		None	
SBR71-7658	1629-1630	61283	.0	1.9	96.3	1.8	Trace	4.6		None	
SBR71-7659	1630-1631	61284	.0	2.1	96.5	1.4	No oil	5.0		None	
SBR71-7660	1631-1632	61285	.0	2.0	96.6	1.4	Trace	4.9		None	
SBR71-7661	1632-1633	61286	.7	2.4	95.1	1.8	1.7a	5.8		None	
SBR71-7662	1633-1634	61287	.9	2.5	94.8	1.8	2.2a	6.0		None	

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 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 ¹ /	Water
SBR71-7663	1634-1635	61288	0.9	2.5	94.8	1.8	2.4a	6.0		None
SBR71-7664	1635-1636	61289	1.0	9.0	83.6	6.4	2.7a	21.6		None
SBR71-7665	1636-1637	61290	1.2	3.8	90.4	4.6	3.2a	9.1		None
SBR71-7666	1637-1638	61291	9.4	1.6	85.4	3.6	24.8	3.8	0.907	None
SBR71-7667	1638-1639	61292	1.2	3.4	93.0	2.4	3.0a	8.1		None
SBR71-7668	1639-1640	61293	.0	1.6	97.0	1.4	No oil	3.9		None
SBR71-7669	1640-1641	61294	.0	1.8	96.8	1.4	No oil	4.2		None
SBR71-7670	1641-1642	61295	.2	2.2	95.7	1.9	.4a	5.3		None
SBR71-7671	1642-1643	61296	.0	2.3	95.5	2.2	No oil	5.5		None
SBR71-7672	1643-1644	61297	.1	2.9	95.3	1.7	.2a	6.9		None
SBR71-7673	1644-1645	61298	.8	7.4	87.1	4.7	2.1a	17.7		None
SBR71-7674	1645-1646	61299	.8	5.5	89.1	4.6	2.1a	13.2		None
SBR71-7675	1646-1647	61300	1.5	11.0	79.1	8.4	3.8a	26.4		None
SBR71-7676	1647-1648	61301	2.0	16.1	72.6	9.3	5.1a	38.6		None
SBR71-7677	1648-1649	61302	11.5	4.4	78.8	5.3	30.4	10.5	.908	None
SBR71-7678	1649-1650	61303	3.7	1.2	93.2	1.9	9.9	2.9	.901	None
SBR71-7679	1650-1651	61304	1.1	3.4	92.9	2.6	2.9a	8.1		None
SBR71-7680	1651-1652	61305	.7	2.4	94.6	2.3	1.8a	5.8		None
SBR71-7681	1652-1653	61306	1.1	3.0	93.5	2.4	2.9a	7.2		None
SBR71-7682	1653-1654	61307	2.8	3.0	92.2	2.0	7.5	7.2	.909	None
SBR71-7683	1654-1655	61308	3.2	2.8	91.4	2.6	8.4	6.7	.910	None
SBR71-7684	1655-1656	61309	5.5	2.1	89.2	3.2	14.5	5.0	.909	None
SBR71-7685	1656-1657	61310	3.2	1.8	92.2	2.8	8.4	4.3	.919	None
SBR71-7686	1657-1658	61311	4.8	2.0	90.0	3.2	12.5	4.8	.916	None
SBR71-7687	1658-1659	61312	6.6	2.5	97.4	3.5	17.2	6.0	.916	None
SBR71-7688	1659-1660	61313	4.0	1.6	89.8	4.6	10.5	3.8	.925	None
SBR71-7689	1660-1661	61314	3.5	3.0	90.5	3.0	9.1	7.2	.916	None
SBR71-7690	1661-1662	61315	3.2	2.3	91.9	2.6	8.4	5.5	.917	None
SBR71-7691	1662-1663	61316	2.4	2.2	93.3	2.1	6.1	5.3	.921	None
SBR71-7692	1663-1664	61317	1.2	3.0	94.1	1.7	3.2a	7.2		None

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 feet

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks
			Weight percent		Gal per ton			Tendency to		
Laramie	Their		Oil	Water	Spent shale	Gas + loss	Oil ¹ /	Water	coke	
SBR71-7693	1664-1665	61318	1.4	2.0	93.5	3.1	3.7a	4.8	None	
SBR71-7694	1665-1666	61319	4.2	2.0	90.0	3.8	10.9	4.8	0.919	None
SBR71-7695	1666-1667	61320	2.7	2.5	92.1	2.7	7.1	6.0	.921	None
SBR71-7696	1667-1668	61321	.5	2.8	95.0	1.7	1.4a	6.7		None
SBR71-7697	1668-1669	61322	.6	3.4	94.4	1.6	1.5a	8.1		None
SBR71-7698	1669-1670	61323	.2	2.8	95.1	1.9	.6a	6.7		None
SBR71-7699	1670-1671	61324	.4	4.6	91.9	3.1	1.0a	11.0		None
SBR71-7700	1671-1672	61325	.3	2.5	93.8	3.4	.6a	6.0		None
SBR71-7701	1672-1673	61326	.3	2.9	94.4	2.4	.9a	7.0		None
SBR71-7702	1673-1674	61327	.5	2.2	95.6	1.7	1.2a	5.3		None
SBR71-7703	1674-1675	61328	.8	1.7	95.5	2.0	2.1a	4.1		None
SBR71-7704	1675-1676	61329	2.1	1.0	95.2	1.7	5.8	2.4	.892	None
SBR71-7705	1676-1677	61330	4.3	1.2	92.4	2.1	11.5	2.9	.903	None
SBR71-7706	1677-1678	61331	.6	1.4	96.9	1.1	1.5a	3.4		None
SBR71-7707	1678-1679	61332	.3	1.3	97.1	1.3	.8a	3.1		None
SBR71-7708	1679-1680	61333	1.1	1.5	96.0	1.4	2.8a	3.6		None
SBR71-7709	1680-1681	61334	1.0	1.1	96.3	1.6	2.6a	2.6		None
SBR71-7710	1681-1682	61335	1.4	1.2	95.5	1.9	3.5a	2.9		None
SBR71-7711	1682-1683	61336	3.1	1.2	93.9	1.8	8.5	2.9	.889	None
SBR71-7712	1683-1684	61337	1.1	1.4	96.4	1.1	2.9a	3.4		None
SBR71-7713	1684-1685	61338	.2	2.5	95.2	2.1	.6a	6.0		None
SBR71-7714	1685-1686	61339	.0	3.2	95.3	1.5	Trace	7.7		None
SBR71-7715	1686-1687	61340	.0	3.3	94.7	2.0	Trace	7.9		None
SBR71-7716	1687-1688	61341	.4	2.0	96.8	.8	.9a	4.8		None
SBR71-7717	1688-1689	61342	.6	1.3	96.1	2.0	1.7a	3.1		None
SBR71-7718	1689-1690	61343	.9	1.4	95.9	1.8	2.4a	3.4		None
SBR71-7719	1690-1691	61344	.7	1.2	96.1	2.0	1.9a	2.9		None
SBR71-7720	1691-1692	61345	1.4	.9	96.3	1.4	3.7a	2.2		None
SBR71-7721	1692-1693	61346	.6	1.4	96.7	1.3	1.6a	3.4		None
SBR71-7722	1693-1694	61347	.6	1.5	96.4	1.5	1.6a	3.6		None

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 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
Laramie	Their		Oil	Water					Oil ^{1/}	Water	
SBR71-7723	1694-1695	61348	3.5	1.0	93.7	1.8	9.1	2.4	0.908	None	
SBR71-7724	1695-1696	61349	1.6	.4	96.3	1.7	4.1a	1.0		None	
SBR71-7725	1696-1697	61350	.8	1.3	96.3	1.6	2.0a	3.1		None	
SBR71-7726	1697-1698	61351	.6	1.6	96.6	1.2	1.5a	3.8		None	
SBR71-7727	1698-1699	61352	1.1	1.6	95.6	1.7	2.8a	3.8		None	
SBR71-7728	1699-1700	61353	.9	1.5	95.6	2.0	2.4a	3.6		None	
SBR71-7729	1700-1701	61354	1.1	1.2	95.3	2.4	2.9a	2.9		None	
SBR71-7730	1701-1702	61355	2.0	1.5	94.9	1.6	5.3	3.6	.911	None	
SBR71-7731	1702-1703	61356	1.8	1.4	94.9	1.9	4.7a	3.4		None	
SBR71-7732	1703-1704	61357	.7	4.4	93.4	1.5	1.8a	10.5		None	
SBR71-7733	1704-1705	61358	.0	8.6	89.4	2.0	Trace	20.7		None	
SBR71-7734	1705-1706	61359	.0	8.6	90.0	1.4	Trace	20.6		None	
SBR71-7735	1706-1707	61360	.9	3.0	94.6	1.5	2.2a	7.2		None	
SBR71-7736	1707-1708	61361	.8	1.6	95.1	2.5	2.2a	3.8		None	
SBR71-7737	1708-1709	61362	.8	1.6	95.8	1.8	2.0a	3.8		None	
SBR71-7738	1709-1710	61363	1.1	2.0	95.5	1.4	2.8a	4.8		None	
SBR71-7739	1710-1711	61364	.0	3.0	95.4	1.6	Trace	7.3		None	
SBR71-7740	1711-1712	61365	.0	2.0	95.6	2.4	Trace	4.8		None	
SBR71-7741	1712-1713	61378	.3	2.0	96.6	1.1	.7a	4.8		None	
SBR71-7742	1713-1714	61379	.1	1.2	98.1	.6	.2a	2.9		None	
SBR71-7743	1714-1715	61380	.3	1.4	97.3	1.0	.6a	3.4		None	
SBR71-7744	1715-1716	61381	.4	1.5	97.2	.9	1.0a	3.6		None	
SBR71-7745	1716-1717	61382	.7	1.5	96.9	.9	1.9a	3.6		None	
SBR71-7746	1717-1718	61383	1.2	1.5	96.1	1.2	3.0a	3.6		None	
SBR71-7747	1718-1719	61384	1.7	2.6	94.0	1.7	4.4a	6.2		None	
SBR71-7748	1719-1720	61385	.3	1.2	96.9	1.6	.8a	2.9		None	
SBR71-7749	1720-1721	61386	.9	2.0	95.7	1.4	2.4a	4.8		None	
SBR71-7750	1721-1722	61387	.7	2.0	95.9	1.4	1.8a	4.8		None	
SBR71-7751	1722-1723	61388	.2	2.0	96.1	1.7	.6a	4.8		None	
SBR71-7752	1723-1724	61389	.0	1.9	97.5	.6	Trace	4.6		None	

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 feet

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks
			Weight percent		Gal per ton			Tendency to		
Laramie	Their		Oil	Water	Spent shale	Gas + loss	Oil ₁ /	Water	coke	
SBR71-7753	1724-1725	61390	0.6	1.4	96.4	1.6	1.6a	3.4	None	
SBR71-7754	1725-1726	61391	1.2	1.6	95.4	1.8	3.2a	3.8	None	
SBR71-7755	1726-1727	61392	.7	2.5	94.8	2.0	1.8a	6.0	None	
SBR71-7756	1727-1728	61393	1.6	5.8	87.6	5.0	4.1a	14.0	None	
SBR71-7757	1728-1729	61394	5.6	2.0	89.3	3.1	14.9	4.8	0.912	None
SBR71-7758	1729-1730	61395	7.8	.9	87.9	3.4	20.6	2.2	.903	None
SBR71-7759	1730-1731	61396	4.0	.8	93.3	1.9	10.6	1.9	.907	None
SBR71-7760	1731-1732	61397	2.8	.5	94.6	2.1	7.5	1.2	.916	None
SBR71-7761	1732-1733	61398	2.1	.9	94.9	2.1	5.6	2.2	.918	None
SBR71-7762	1733-1734	61399	3.3	1.0	93.9	1.8	8.6	2.4	.918	None
SBR71-7763	1734-1735	61400	2.4	1.3	94.4	1.9	6.2	3.1	.915	None
SBR71-7764	1735-1736	61401	2.4	.6	95.2	1.8	6.2	1.4	.917	None
SBR71-7765	1736-1737	61402	2.7	1.1	94.1	2.1	7.0	2.6	.914	None
SBR71-7766	1737-1738	61403	4.1	1.0	92.7	2.2	10.7	2.3	.920	None
SBR71-7767	1738-1739	61404	4.9	.8	92.1	2.2	13.0	1.9	.908	None
SBR71-7768	1739-1740	61405	3.0	.8	94.9	1.3	7.9	2.0	.904	None
SBR71-7769	1740-1741	61406	5.8	.6	89.8	3.8	15.1	1.4	.914	None
SBR71-7770	1741-1742	61407	3.0	.6	94.3	2.1	7.9	1.4	.910	None
SBR71-7771	1742-1743	61408	2.2	.7	95.5	1.6	5.6	1.8	.922	None
SBR71-7772	1743-1744	61409	1.8	.8	95.9	1.5	4.6a	1.9	None	None
SBR71-7773	1744-1745	61410	2.5	.8	94.8	1.9	6.6	1.8	.922	None
SBR71-7774	1745-1746	61411	3.7	.7	94.1	1.5	9.8	1.6	.905	None
SBR71-7775	1746-1747	61412	5.6	.6	91.9	1.9	14.8	1.6	.905	None
SBR71-7776	1747-1748	61413	8.4	.6	88.8	2.2	22.3	1.4	.899	None
SBR71-7777	1748-1749	61414	6.0	3.0	84.1	6.9	15.7	7.2	.910	None
SBR71-7778	1749-1750	61415	2.0	4.5	89.3	4.2	5.1a	10.8	None	None
SBR71-7779	1750-1751	61416	1.0	3.8	92.1	3.1	2.6a	9.1	None	None
SBR71-7780	1751-1752	61417	1.5	1.6	94.7	2.2	4.0a	3.8	None	None
SBR71-7781	1752-1753	61418	1.6	1.5	95.4	1.5	4.2a	3.6	None	None
SBR71-7782	1753-1754	61419	1.4	3.7	91.2	3.7	3.6a	9.0	None	None

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 feet

Sample number		Run No.	Yield of product						Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks
			Weight percent			Gal per ton				Tendency to		
Laramie	Their		Oil	Water	Spent shale	Gas + loss	Oil/	Water		coke		
SBR71-7783	1754-1755	61420	4.6	2.0	91.1	2.3	12.0	4.8	0.912	None		
SBR71-7784	1755-1756	61421	1.8	2.8	91.3	4.1	4.7a	6.7		None		
SBR71-7785	1756-1757	61422	.9	3.2	93.3	2.6	2.4a	7.7		None		
SBR71-7786	1757-1758	61423	1.1	2.0	95.0	1.9	2.9a	4.8		None		
SBR71-7787	1758-1759	61424	.8	2.7	94.0	2.5	2.1a	6.6		None		
SBR71-7788	1759-1760	61425	.8	2.6	94.4	2.2	2.2a	6.2		None		
SBR71-7789	1760-1761	61426	1.0	3.4	90.2	5.4	2.7a	8.1		None		
SBR71-7790	1761-1762	61427	8.9	1.3	87.2	2.6	23.4	3.1	.908	None		
SBR71-7791	1762-1763	61428	10.0	1.0	86.4	2.6	26.6	2.4	.905	None		
SBR71-7792	1763-1764	61429	4.0	1.1	93.1	1.8	10.5	2.6	.901	None		
SBR71-7793	1764-1765	61430	.8	1.3	95.8	2.1	2.1a	3.1		None		
SBR71-7794	1765-1766	61431	.6	1.9	94.1	3.4	1.7a	4.6		None		
SBR71-7795	1766-1767	61432	.7	1.4	96.8	1.1	1.7a	3.5		None		
SBR71-7796	1767-1768	61433	.6	2.7	87.7	9.0	1.6a	6.5		None		
SBR71-7797	1768-1769	61434	.3	5.6	76.4	17.7	.9a	13.4		None		
SBR71-7798	1769-1770	61435	5.7	1.2	91.4	1.7	15.1	2.8	.906	None		
SBR71-7799	1770-1771	61436	6.4	.9	90.6	2.1	17.0	2.3	.900	None		
SBR71-7800	1771-1772	61437	6.3	.9	89.2	3.6	16.6	2.2	.905	None		
SBR71-7801	1772-1773	61438	4.7	.7	92.3	2.3	12.3	1.7	.911	None		
SBR71-7802	1773-1774	61439	6.0	.9	90.3	2.8	15.6	2.2	.917	None		
SBR71-7803	1774-1775	61440	4.9	.9	89.9	4.3	12.7	2.2	.922	None		
SBR71-7804	1775-1776	61441	3.1	1.2	93.5	2.2	8.1	2.8	.922	None		
SBR71-7805	1776-1777	61442	5.2	1.1	90.6	3.1	13.5	2.6	.925	None		
SBR71-7806	1777-1778	61443	4.4	1.2	91.8	2.6	11.5	2.8	.925	None		
SBR71-7807	1778-1779	61444	5.4	1.1	90.6	2.9	14.2	2.6	.913	None		
SBR71-7808	1779-1780	61445	7.6	1.0	88.8	2.6	20.2	2.3	.905	None		
SBR71-7809	1780-1781	61446	7.3	1.4	87.7	3.6	19.1	3.4	.907	None		
SBR71-7810	1781-1782	61447	8.5	1.4	86.7	3.4	22.5	3.4	.903	None		
SBR71-7811	1782-1783	61448	8.1	1.4	87.0	3.5	21.4	3.4	.904	None		
SBR71-7812	1783-1784	61449	2.4	.9	94.3	2.4	6.3	2.2	.917	None		

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 feet

Sample number		Run No.	Yield of product						Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks
			Weight percent			Gal per ton				Tendency to		
Laramie	Their		Oil	Water	Spent shale	Gas + loss	Oil/	Water		coke		
SBR71-7813	1784-1785	61450	1.3	0.8	96.1	1.8	3.3a	2.0		None		
SBR71-7814	1785-1786	61451	1.3	1.1	96.2	1.4	3.3a	2.6		None		
SBR71-7815	1786-1787	61452	1.8	1.1	95.1	2.0	4.6a	2.6		None		
SBR71-7816	1787-1788	61453	6.9	1.5	88.8	2.8	18.0	3.6	0.915	None		
SBR71-7817	1788-1789	61454	14.1	1.0	81.0	2.9	37.0	2.4	.912	None		
SBR71-7818	1789-1790	61455	8.9	1.0	86.4	3.7	23.6	2.4	.905	None		
SBR71-7819	1790-1791	61456	2.3	.9	94.4	2.4	6.0	2.0	.923	None		
SBR71-7820	1791-1792	61457	.6	.4	96.5	2.5	1.7a	1.0		None		
SBR71-7821	1792-1793	61458	1.1	1.1	95.7	2.1	2.8a	2.6		None		
SBR71-7822	1793-1794	61459	1.3	1.3	95.6	1.8	3.4a	3.1		None		
SBR71-7823	1794-1795	61460	1.8	1.1	95.3	1.8	4.8a	2.6		None		
SBR71-7824	1795-1796	61461	2.0	1.8	93.2	3.0	5.1a	4.3		None		
SBR71-7825	1796-1797	61466	4.8	1.2	91.0	3.0	12.4	3.0	.927	None		
SBR71-7826	1797-1798	61467	9.0	1.1	84.8	5.1	23.6	2.8	.913	None		
SBR71-7827	1798-1799	61468	2.9	1.1	93.9	2.1	7.4	2.8	.924	None		
SBR71-7828	1799-1800	61469	.4	.6	96.6	2.4	1.1a	1.4		None		
SBR71-7829	1800-1801	61470	.6	.6	96.4	2.4	1.6a	1.4		None		
SBR71-7830	1801-1802	61471	.2	1.2	97.4	1.2	.6a	2.9		None		
SBR71-7831	1802-1803	61472	.1	1.2	97.7	1.0	.3a	2.9		None		
SBR71-7832	1803-1804	61473	1.2	1.0	96.0	1.8	3.3a	2.4		None		
SBR71-7833	1804-1805	61474	8.7	1.4	86.2	3.7	22.8	3.4	.911	None		
SBR71-7834	1805-1806	61475	15.5	1.4	79.0	4.1	40.8	3.4	.913	None		
SBR71-7835	1806-1807	61476	11.8	1.2	81.9	5.1	30.8	2.9	.915	None		
SBR71-7836	1807-1808	61477	14.1	1.4	79.9	4.6	36.9	3.4	.914	None		
SBR71-7837	1808-1809	61478	2.4	.7	95.1	1.8	6.2	1.7	.928	None		
SBR71-7838	1809-1810	61479	.6	.7	97.1	1.6	1.5a	1.7		None		
SBR71-7839	1810-1811	61480	.2	.8	98.0	1.0	.6a	1.8		None		
SBR71-7840	1811-1812	61481	.2	.6	98.8	.4	.5a	1.3		None		
SBR71-7841	1812-1813	61482	1.6	.6	96.0	1.8	4.0a	1.6		None		
SBR71-7842	1813-1814	61483	4.2	.9	93.1	1.8	11.0	2.2	.916	None		

See footnote at end of table.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 feet

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks	
			Weight percent		Gal per ton			Tendency to			
Laramie	Their		Oil	Water	Spent shale	Gas + loss	Oil ^{1/}	Water	coke		
SBR71-7843	1814-1815	61484	7.6	1.1	89.3	2.0	19.9	2.6	0.913	None	
SBR71-7844	1815-1816	61485	10.7	1.3	85.1	2.9	27.9	3.1	.914	None	
SBR71-7845	1816-1817	61486	12.8	.8	82.6	3.8	33.6	1.9	.911	None	
SBR71-7846	1817-1818	61487	11.8	.9	84.2	3.1	31.3	2.2	.907	None	
SBR71-7847	1818-1819	61488	9.9	.8	86.6	2.7	26.1	1.9	.908	None	
SBR71-7848	1819-1820	61489	12.3	.9	82.4	4.4	32.0	2.2	.919	None	
SBR71-7849	1820-1821	61490	8.0	.9	88.2	2.9	20.9	2.2	.919	None	
SBR71-7850	1821-1822	61491	8.4	.8	87.7	3.1	22.0	1.9	.919	None	
SBR71-7851	1822-1823	61492	5.4	.6	92.2	1.8	14.5	1.4	.899	None	
SBR71-7852	1823-1824	61493	7.0	.3	90.9	1.8	18.5	.8	.903	None	
SBR71-7853	1824-1825	61494	6.0	.6	91.8	1.6	16.0	1.4	.905	None	
SBR71-7854	1825-1826	61495	5.7	.4	92.6	1.3	15.1	1.0	.902	None	
SBR71-7855	1826-1827	61496	6.4	.6	91.0	2.0	16.8	1.6	.903	None	
SBR71-7856	1827-1828	61497	11.8	.9	82.7	4.6	30.9	2.2	.918	None	
SBR71-7857	1828-1829	61498	11.6	.9	83.5	4.0	30.5	2.2	.914	None	
SBR71-7858	1829-1830	61499	9.5	.8	86.3	3.4	24.5	2.0	.923	None	
SBR71-7859	1830-1831	61500	9.6	.9	85.5	4.0	24.9	2.2	.925	None	
SBR71-7860	1831-1832	61501	6.0	.7	90.8	2.5	15.5	1.7	.930	None	
SBR71-7861	1832-1833	61502	5.6	.6	91.7	2.1	14.5	1.4	.930	None	
SBR71-7862	1833-1834	61503	8.4	1.2	89.5	.9	21.8	2.9	.923	None	
SBR71-7863	1834-1835	61504	15.6	1.1	79.4	3.9	40.9	2.6	.916	None	
SBR71-7864	1835-1836	61505	10.9	.6	84.8	3.7	28.3	1.4	.924	None	
SBR71-7865	1836-1837	61506	9.8	.6	85.8	3.8	25.2	1.4	.929	None	
SBR71-7866	1837-1838	61507	9.2	1.0	88.2	1.6	23.8	2.4	.932	None	
SBR71-7867	1838-1839	61508	8.5	1.3	87.3	2.9	21.9	3.1	.931	None	
SBR71-7868	1839-1840	61509	9.9	.9	87.0	2.2	26.0	2.0	.915	None	
SBR71-7869	1840-1841	61510	8.7	2.9	86.3	2.1	23.0	7.0	.910	None	
SBR71-7870	1841-1842	61511	9.3	2.6	85.2	2.9	24.6	6.2	.904	None	
SBR71-7871	1842-1843	61512	8.1	2.2	87.4	2.3	21.3	5.3	.910	None	
SBR71-7872	1843-1844	61513	7.8	2.4	87.6	2.2	20.4	5.8	.914	None	

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Union Pacific Railroad Company's Peru No. 22-15 Corehole (con.)

Kelly Bushing elevation 6,568 feet

Surface elevation 6,562 feet

Sample number		Run No.	Yield of product						Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks
			Weight percent			Gal per ton				Tendency to coke		
Laramie	Their		Oil	Water	Spent shale	Gas + loss	Oil ^{1/}	Water				
SBR71-7873	1844-1845	61514	10.5	2.9	83.8	2.8	27.6	7.0	0.909	None		
SBR71-7874	1845-1846	61515	11.7	2.8	82.8	2.7	30.5	6.7	.915	None		
SBR71-7875	1846-1847	61516	6.3	2.0	90.2	1.5	16.4	4.8	.920	None		
SBR71-7876	1847-1848	61517	5.5	2.5	90.6	1.4	14.5	6.0	.907	None		
SBR71-7877	1848-1849	61518	4.3	1.7	92.9	1.1	11.4	4.1	.902	None		
SBR71-7878	1849-1850	61519	3.1	1.0	94.9	1.0	8.2	2.4	.903	None		
SBR71-7879	1850-1851	61520	2.2	1.0	95.3	1.5	5.9	2.4	.906	None		
SBR71-7880	1851-1852	61521	3.8	1.2	93.9	1.1	9.9	2.9	.915	None		
SBR71-7881	1852-1853	61522	1.6	.5	96.6	1.3	4.1a	1.2		None		
SBR71-7882	1853-1854	61523	2.3	2.6	93.5	1.6	6.1	6.2	.913	None		
SBR71-7883	1854-1855	61524	3.2	1.6	93.7	1.5	8.4	3.8	.910	None		
SBR71-7884	1855-1856	61525	3.4	1.3	93.8	1.5	9.0	3.1	.907	None		
SBR71-7885	1856-1857	61526	3.0	1.2	94.1	1.7	8.0	2.8	.909	None		
SBR71-7886	1857-1858	61527	3.4	1.3	94.4	.9	8.9	3.1	.908	None		
SBR71-7887	1858-1859	61528	3.7	1.2	93.6	1.5	9.9	2.9	.901	None		
SBR71-7888	1859-1860	61529	1.8	.7	94.6	2.9	4.6a	1.7		None		
SBR71-7889	1860-1861	61530	4.7	1.6	91.9	1.8	12.6	3.8	.899	None		
SBR71-7890	1861-1862	61531	3.3	2.3	93.1	1.3	8.7	5.5	.909	None		
SBR71-7891	1862-1863	61532	3.7	2.0	92.6	1.7	9.8	4.8	.906	None		
SBR71-7892	1863-1864	61533	.4	1.4	97.2	1.0	1.2a	3.4		None		
SBR71-7893	1864-1865	61534	2.2	1.7	94.0	2.1	5.8a	4.1		None		
SBR71-7894	1865-1866	61535	1.9	2.1	95.0	1.0	4.9a	5.0		None		
SBR71-7895	1866-1867	61536	6.0	1.4	90.2	2.4	15.8	3.4	.903	None		
SBR71-7896	1867-1868	61537	4.2	1.8	92.4	1.6	11.0	4.3	.906	None		
SBR71-7897	1868-1869	61538	.0	.5	99.2	.3	Trace	1.2		None		
SBR71-7898	1869-1870	61539	.0	.9	98.3	.8	Trace	2.2		None		
SBR71-7899	1870-1871	61540	.0	.9	98.4	.7	No oil	2.1		None		
SBR71-7900	1871-1872	61541	.0	.2	99.1	.7	No oil	.5		None		
SBR71-7901	1872-1873	61542	.0	.3	99.0	.7	No oil	.8		None		

1/ "a"--indicates specific gravity estimated as 0.92.

Core and drill cutting samples received June 26, 1970; Assays made on air-dried samples