

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Farmer's Union Central Exchange, Incorporated's Twin Buttes Unit Well No. 1 drilled in the NE1/4SE1/4 (2180 feet FSL, 1980 feet FWL) of sec. 33, T 14 N, R 109 W, Sweetwater County, Wyoming

Kelly Bushing elevation 6,906 feet

Sample number		Run No.	Yield of product				Specific gravity of oil at 60°/60° F	Properties of spent shale		Remarks
			Weight percent		Gas + loss	Gal per ton		Tendency to coke		
Laramie	Their		Oil	Water		Spent shale			Oil ^{1/}	Water
SBR75-21827-62	30-430						No Oil			
SBR75-21863	440-450	13890	14.7	5.1	76.6	3.6	38.7	12.3	0.908	Slight
SBR75-21864	450-460	13891	3.3	4.6	90.4	1.7	8.9	11.1	.891	None
SBR75-21865	460-470	13892	.7	3.7	93.8	1.8	1.7a	8.9		None
SBR75-21366	470-480						b			
SBR75-21367-77	480-590						No Oil			
SBR75-21878-79	590-610						Trace			
SBR75-21880-84	610-660						No Oil			
SBR75-21885-86	680-700						No Oil			
SBR75-21887-89	720-750						No Oil			
SBR75-21890-91	760-780						No Oil			
SBR75-21892-93	790-810						No Oil			
SBR75-21894	810-820	13893	1.1	2.9	94.3	1.7	2.9a	7.0		None
SBR75-21895-97	830-920						No Oil			
SBR75-21898	920-950						c			
SBR75-21899-903	950-1100						No Oil			
SBR75-21904	1100-1130						b			
SBR75-21905	1130-1160						No Oil			
SBR75-21906	1160-1190	13894	3.4	1.9	92.8	1.9	8.9	4.6	.926	None
SBR75-21907	1190-1220	13895	3.6	3.0	91.9	1.5	9.5	7.2	.911	None
SBR75-21908	1220-1250	13896	3.2	2.8	91.3	2.7	8.5	6.7	.899	None
SBR75-21909	1250-1280	13897	1.2	2.5	95.2	1.1	3.0a	6.0		None
SBR75-21910	1280-1310	13898	1.2	2.7	95.5	.6	3.1a	6.5		None
SBR75-21911	1310-1340	13899	1.6	2.2	95.2	1.0	4.2a	5.3		None
SBR75-21912	1340-1370	13900	.5	1.7	97.5	.3	1.3a	4.1		None
SBR75-21913	1370-1400						c			
SBR75-21914	1400-1430						Trace			
SBR75-21915	1490-1520	13901	1.1	2.3	95.5	1.1	2.9a	5.5		None
SBR75-21916	1520-1550	13902	.7	2.0	95.8	1.5	1.8a	4.8		None
SBR75-21917	1550-1580	13903	2.1	1.8	94.5	1.6	5.6a	4.3		None

See footnote at end of table.

Drill cuttings received November 12, 1975; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Farmer's Union Central Exchange, Incorporated's Twin Buttes Unit Well No. 1

Kelly Bushing elevation 6,906 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			
SBR75-21918	1580-1610	13904	6.1	2.2	89.8	1.9	16.0	5.3	0.917	None		
SBR75-21919	1700-1730	13905	5.7	2.7	89.4	2.2	14.9	6.5	.917	None		
SBR75-21920	1730-1760	13906	7.6	2.6	87.3	2.5	20.2	6.2	.909	None		
SBR75-21921	1760-1790	13907	4.5	2.9	90.4	2.2	11.9	7.0	.905	None		
SBR75-21922	1790-1820	13908	2.8	3.2	92.5	1.5	7.6	7.7	.894	None		
SBR75-21923	1820-1850	13909	2.5	2.5	92.6	2.4	6.6	6.0	.902	None		
SBR75-21924	1850-1880	13910	3.7	2.7	91.9	1.7	9.9	6.5	.903	None		
SBR75-21925	1880-1910	13911	2.1	2.5	93.3	2.1	5.6	6.0	.899	None		
SBR75-21926	1910-1940	13912	3.4	2.6	92.3	1.7	9.0	6.2	.903	None		
SBR75-21927	1940-1970	13913	2.8	4.0	91.1	2.1	7.4	9.6	.914	None		
SBR75-21928	1970-2000	13914	8.3	2.5	86.7	2.5	21.8	6.1	.912	None		
SBR75-21929	2000-2020	13915	2.4	2.8	92.5	2.3	6.5	6.7	.903	None		
SBR75-21930	2020-2040	13916	2.8	2.6	91.7	2.9	7.4	6.2	.907	None		
SBR75-21931	2040-2060	13917	1.0	4.0	94.2	.8	2.5a	9.6		None		
SBR75-21932	2060-2080	13918	1.4	3.8	93.9	.9	3.7a	9.1		None		
SBR75-21933	2080-2100	13919	1.3	3.6	93.8	1.3	3.3a	8.6		None		
SBR75-21934	2100-2120	13920	1.0	3.3	93.8	1.9	2.6a	7.9		None		
SBR75-21935	2120-2140	13921	1.0	3.5	93.7	1.8	2.6a	8.4		None		
SBR75-21936	2140-2160	13922	.7	4.0	93.9	1.4	1.8a	9.6		None		
SBR75-21937	2160-2180	13923	1.7	3.1	93.5	1.7	4.5a	7.4		None		
SBR75-21938	2180-2200	13924	1.2	3.4	94.0	1.4	3.1a	8.1		None		
SBR75-21939	2200-2210	13925	1.3	3.2	93.7	1.8	3.3a	7.7		None		
SBR75-21940	2210-2220	13926	3.4	3.3	91.7	1.6	9.2	7.9	.897	None		
SBR75-21941	2220-2230	13927	1.4	3.3	94.1	1.2	3.7a	7.9		None		
SBR75-21942	2230-2240	13928	1.5	3.7	93.9	.9	3.8a	8.9		None		
SBR75-21943	2240-2250	13929	1.0	3.4	94.1	1.5	2.7a	8.1		None		
SBR75-21944	2250-2260	13930	1.2	2.9	94.3	1.6	3.1a	7.0		None		
SBR75-21945	2260-2270	13931	1.4	3.6	94.5	.5	3.6a	8.6		None		
SBR75-21946	2270-2280	13932	3.1	2.0	91.7	3.2	8.2	4.8	.896	None		
SBR75-21947-48	2280-2300						No Oil					

See footnote at end of table.

Drill cuttings received November 12, 1975; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED RETORT METHOD

Samples from Farmer's Union Central Exchange, Incorporated's Twin Buttes Unit Well No. 1

Kelly Bushing elevation 6,297 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	
SBR75-21949	2300-2310					c				
SBR75-21950	2310-2320					b				
SBR75-21951	2320-2330					No Oil				
SBR75-21952	2330-2340	13933	3.2	2.1	92.8	1.9	8.5	5.0	0.906	None
SBR75-21953	2340-2350	13934	1.3	2.1	95.0	1.6	3.5a	5.0		
SBR75-21954	2380-2390	13935	1.6	1.8	95.0	1.6	4.1a	4.3		None
SBR75-21955	2390-2400	13936	1.4	1.5	95.2	1.9	3.7a	3.6		None
SBR75-21956-57	2400-2420						No Oil			
SBR75-21958	2420-2430	13937	1.7	.5	95.3	2.5	4.4a	1.2		None
SBR75-21959	2430-2440	13938	.6	.8	96.8	1.8	1.4a	1.9		None
SBR75-21960	2440-2450	13939	1.6	.7	96.6	1.1	4.2a	1.7		None
SBR75-21961	2450-2460	13940	.8	.6	96.9	1.7	2.0a	1.4		None
SBR75-21962	2460-2470	13941	1.1	.9	96.7	1.3	2.8a	2.2		None
SBR75-21963	2470-2480	13942	1.1	1.9	95.9	1.1	2.8a	4.6		None
SBR75-21964-66	2480-2510						No Oil			
SBR75-21967	2510-2520	13943	8.0	1.5	87.7	2.8	21.0	3.6	.910	None
SBR75-21968	2520-2530	13944	2.6	.9	93.4	3.1	6.8	2.2	.918	None
SBR75-21969	2530-2540	13945	2.6	1.0	94.2	2.2	6.8	2.4	.917	None
SBR75-21970	2540-2550	13946	1.7	1.4	95.5	1.4	4.3a	3.4		None
SBR75-21971-74	2550-2590						No Oil			
SBR75-21975	2590-2600	13947	1.2	1.9	95.4	1.5	3.2a	4.6		None
SBR75-21976	2600-2610	13948	.9	1.7	94.8	2.6	2.5a	4.1		None
SBR75-21977	2610-2620	13949	1.1	1.7	95.5	1.7	2.8a	4.1		None
SBR75-21978	2620-2630	13950	1.0	1.9	93.9	3.2	2.7a	4.6		None
SBR75-21979	2630-2640	13951	1.9	1.6	95.3	1.2	4.9a	3.8		None
SBR75-21980	2640-2650	13952	1.0	2.3	95.4	1.3	2.7a	5.5		None
SBR75-21981	2650-2660	13953	1.0	2.5	95.3	1.2	2.7a	6.0		None
SBR75-21982	2660-2670	13954	.7	3.4	94.3	1.6	1.8a	8.1		None
SBR75-21983	2670-2680	13955	.5	1.9	94.9	2.7	1.2a	4.6		None
SBR75-21984	2680-2690	13956	12.6	2.0	79.6	5.8	33.0	4.8	.918	None

See footnote at end of table.

Drill cuttings received November 12, 1975; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Farmer's Union Central Exchange, Incorporated's Twin Buttes Unit Well No. 1

Kelly Bushing elevation 6,906 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			
SBR75-21985	2690-2700	13957	1.3	2.2	93.8	2.7	3.5a	5.3		None	
SBR75-21986	2700-2710	13958	9.7	1.8	85.3	3.2	25.6	4.3	0.904	None	
SBR75-21987	2710-2720	13959	2.6	1.6	93.1	2.7	7.0	3.8	.901	None	
SBR75-21988	2720-2730	13960	3.4	2.2	92.7	1.7	9.0	5.3	.901	None	
SBR75-21989	2730-2740	13961	5.0	.9	91.3	2.8	13.2	2.2	.901	None	
SBR75-21990	2740-2750	13962	4.6	1.9	91.1	2.4	12.2	4.6	.900	None	
SBR75-21991	2750-2760	13963	5.4	1.2	90.9	2.5	14.4	2.9	.905	None	
SBR75-21992	2760-2770	13964	4.8	1.0	91.1	3.1	12.6	2.4	.911	None	
SBR75-21993	2770-2780	13965	3.0	2.2	93.2	1.6	7.9	5.3	.903	None	
SBR75-21994	2780-2790	13966	9.7	1.8	85.0	3.5	25.7	4.3	.904	None	
SBR75-21995	2790-2800	13967	12.2	1.4	83.3	3.1	32.4	3.4	.900	None	
SBR75-21996	2800-2810	13968	9.9	1.5	84.9	3.7	26.3	3.6	.903	None	
SBR75-21997	2810-2820	13969	4.9	2.5	89.8	2.8	12.9	6.0	.913	None	
SBR75-21998	2820-2830	13970	3.3	2.8	91.5	2.4	8.8	6.7	.895	None	
SBR75-21999	2830-2840	13971	1.5	2.6	94.9	1.0	3.9a	6.2		None	
SBR75-22000	2840-2850	13972	3.0	2.2	93.6	1.2	8.0	5.3	.900	None	
SBR75-22001	2850-2860	13973	1.1	1.8	95.0	2.1	3.0a	4.3		None	
SBR75-22002	2860-2870	13974	3.0	1.7	93.3	2.0	8.1	4.1	.906	None	
SBR75-22003	2870-2880	13975	3.2	2.8	92.2	1.8	8.6	6.7	.901	None	
SBR75-22004	2880-2890	13976	1.9	3.3	93.0	1.8	4.9a	7.9		None	
SBR75-22005	2890-2900	13977	1.8	2.4	93.9	1.9	4.8a	5.8		None	
SBR75-22006	2900-2910	13978	1.6	1.8	94.4	2.2	4.2a	4.3		None	
SBR75-22007	2910-2920	13979	2.4	1.6	93.5	2.5	6.4	3.8	.904	None	
SBR75-22008	2920-2930	13980	.8	2.4	92.9	3.9	2.2a	5.8		None	
SBR75-22009	2930-2940	13981	2.2	2.2	92.2	3.4	5.9	5.3	.901	None	
SBR75-22010	2940-2950	13982	1.0	2.4	94.3	2.3	2.5a	5.8		None	
SBR75-22011	2950-2960	13983	2.4	2.0	92.8	2.8	6.3	4.7	.912	None	
SBR75-22012	2960-2970	13984	3.4	1.6	92.6	2.4	9.0	3.8	.910	None	
SBR75-22013	2970-2980	13985	2.1	2.3	93.2	2.4	5.6	5.5	.898	None	
SBR75-22014	2980-2990	13986	3.3	2.2	92.7	1.8	8.8	5.3	.900	None	

See footnote at end of table.

Drill cuttings received November 12, 1975; assays made on air-dried samples

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Samples from Farmer's Union Central Exchange, Incorporated's Twin Buttes Unit Well No.1

Kelly Bushing elevation 6,906 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		
SBR75-22015	2990-3000	13987	1.0	2.3	95.5	1.2	2.6a	5.5		None		
SBR75-22016	3000-3010	13988	.8	2.0	95.2	2.0	2.0a	4.8		None		
SBR75-22017	3010-3020	13989	5.3	1.2	90.4	3.1	14.2	2.9	0.904	None		
SBR75-22018	3020-3030	13990	5.4	1.7	90.6	2.3	14.3	4.1	.898	None		
SBR75-22019	3030-3040	13991	7.2	1.5	88.4	2.9	19.3	3.5	.898	None		
SBR75-22020	3070-3080	13992	3.9	1.4	92.2	2.5	10.2	3.5	.907	None		
SBR75-22021	3080-3090	13993	2.1	1.5	93.9	2.5	5.5	3.6	.904	None		
SBR75-22022	3090-3100	13994	7.9	1.2	88.0	2.9	21.0	2.9	.906	None		
SBR75-22023	3100-3110	13995	3.3	.9	93.7	2.1	8.7	2.3	.908	None		
SBR75-22024	3110-3120	13996	.5	1.3	96.7	1.5	1.3a	3.1		None		
SBR75-22025	3120-3130	13997	5.6	1.1	90.5	2.8	14.8	2.6	.907	None		
SBR75-22026	3130-3140	13998	.8	.9	96.6	1.7	2.0a	2.2		None		
SBR75-22027	3140-3150	13999	8.5	.7	89.2	1.6	22.4	1.7	.912	None		
SBR75-22028	3150-3160	14000	4.3	1.3	92.4	2.0	11.4	3.1	.911	None		
SBR75-22029	3160-3170	14001	3.9	1.3	93.5	1.3	10.4	3.1	.906	None		
SBR75-22030	3170-3180	14002	4.0	1.8	92.8	1.4	10.6	4.3	.897	None		
SBR75-22031	3180-3190	14003	6.9	1.7	88.4	3.0	18.0	4.1	.919	None		
SBR75-22032	3190-3200	14004	10.0	1.7	84.9	3.4	26.4	4.1	.908	None		
SBR75-22033	3200-3210	14005	5.6	1.2	89.8	3.4	14.9	2.9	.908	None		
SBR75-22034	3210-3220	14006	7.1	2.3	88.2	2.4	18.8	5.5	.902	None		
SBR75-22035	3220-3230	14007	6.7	1.6	88.4	3.3	17.7	3.8	.906	None		
SBR75-22036	3230-3240	14008	5.1	2.1	90.9	1.9	13.3	5.0	.912	None		
SBR75-22037	3240-3250	14009	2.4	2.1	94.5	1.0	6.5	5.0	.902	None		
SBR75-22038	3250-3260	14010	2.4	2.7	92.3	2.6	6.4	6.5	.888	None		
SBR75-22039	3260-3270	14011	3.3	1.5	93.5	1.7	8.8	3.6	.894	None		
SBR75-22040	3270-3280	14012	2.0	1.4	93.6	3.0	5.4	3.4	.892	None		
SBR75-22041	3280-3290	14013	2.3	2.4	93.2	2.1	6.0	5.8	.900	None		
SBR75-22042	3290-3300	14014	3.7	2.3	91.8	2.2	9.7	5.5	.919	None		
SBR75-22043	3300-3310	14015	3.3	2.1	93.1	1.5	8.7	5.0	.916	None		
SBR75-22044	3310-3320	14016	3.3	2.1	91.7	2.9	8.7	5.0	.917	None		

See footnote at end of table.

Drill cuttings received November 12, 1975; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Farmer's Union Central Exchange, Incorporated's Twin Buttes Unit Well No. 1

Kelly Bushing elevation 6,906 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		
SBR75-22045	3320-3330	14017	3.0	2.1	92.7	2.2	7.7	5.0	0.916	None		
SBR75-22046	3330-3340	14018	4.8	1.7	91.2	2.3	12.5	4.1	.922	None		
SBR75-22047	3340-3350	14019	6.5	2.3	88.7	2.5	17.4	5.5	.903	None		
SBR75-22048	3350-3360	14020	6.7	2.2	88.9	2.2	17.7	5.3	.903	None		
SBR75-22049	3360-3370	14021	5.5	1.9	89.6	3.0	14.7	4.6	.898	None		
SBR75-22050	3370-3380	14022	6.3	2.5	88.5	2.7	16.8	6.0	.904	None		
SBR75-22051	3380-3390	14023	4.5	2.0	91.4	2.1	12.1	4.8	.896	None		
SBR75-22052	3390-3400	14024	3.0	2.5	92.4	2.1	7.9	6.0	.906	None		
SBR75-22053	3400-3410	14025	3.7	3.8	88.8	3.7	9.4	9.1	.951	None	Coal	
SBR75-22054	3410-3420	14026	3.2	1.9	92.0	2.9	8.4	4.6	.916	None		
SBR75-22055	3420-3430	14027	2.6	2.4	93.0	2.0	7.0	5.8	.911	None		
SBR75-22056	3430-3440	14074	2.1	1.8	94.0	2.1	5.7	4.3	.907	None		
SBR75-22057	3440-3450	14029	2.1	2.1	93.2	2.6	5.5	5.0	.904	None		
SBR75-22058	3450-3460	14030	1.4	2.3	94.0	2.3	3.7a	5.5		None		
SBR75-22059	3460-3470	14031	2.4	2.5	91.4	3.7	6.0	6.0	.950	None	Coal	
SBR75-22060	3470-3480	14032	2.8	3.0	91.2	3.0	6.9	7.2	.960	None	Coal	
SBR75-22061	3480-3490	14033	2.3	2.6	91.8	3.3	5.9	6.2	.950	None	Coal	
SBR75-22062	3500-3510	14034	4.1	2.8	90.4	2.7	10.7	6.7	.908	None		
SBR75-22063	3510-3520	14035	4.8	3.5	88.5	3.2	12.5	8.4	.925	None		
SBR75-22064	3520-3530	14036	2.4	2.3	92.4	2.9	6.1	5.5	.925	None		
SBR75-22065	3530-3540	14037	1.5	2.5	93.8	2.2	3.9a	6.0		None		
SBR75-22066	3540-3550	14038	4.3	6.0	84.0	5.7	10.6	14.4	.974	None	Coal	
SBR75-22067	3560-3570	14039	7.3	8.0	77.1	7.6	17.7	19.2	.987	None	Coal	
SBR75-22068	3570-3580	14040	4.5	5.5	83.7	6.3	11.1	13.2	.968	None	Coal	
SBR75-22069	3580-3590	14041	2.3	3.4	90.2	4.1	6.0a	8.3		None		
SBR75-22071	3600-3610	14043	4.2	4.7	85.9	5.2	10.5	11.3	.963	None	Coal	
SBR75-22072	3610-3620	14044	4.3	5.0	85.8	4.9	10.7	12.0	.960	None	Coal	
SBR75-22073	3620-3630	14045	3.8	5.0	85.9	5.3	9.4	12.0	.959	None	Coal	
SBR75-22074	3630-3640	14046	2.7	4.4	88.4	4.5	6.9	10.5	.949	None	Coal	
SBR75-22075	3640-3650	14047	2.6	4.4	89.7	3.3	6.7	10.5	.946	None	Coal	

See footnote at end of table.

Drill cuttings received November 12, 1975; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Farmer's Union Central Exchange, Incorporated's Twin Buttes Unit Well No. 1

Kelly Bushing elevation 6,906 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				
SBR75-27076	3650-3660	14048	2.5	3.5	90.2	3.8	6.3	8.4	0.939	None	Coal	
SBR75-22077	3660-3670	14049	5.4	6.1	82.2	6.3	14.2a	14.6		None		
SBR75-22078	3670-3680	14050	5.6	7.0	80.4	7.0	13.8	16.8	.976	None	Coal	
SBR75-22079	3680-3690	14051	4.4	5.8	83.8	6.0	10.9	13.9	.964	None	Coal	
SBR75-22080	3690-3700	14052	5.8	7.0	80.0	7.2	14.2	16.8	.975	None	Coal	
SBR75-22081	3700-3710	14053	3.4	5.0	85.7	5.9	8.4	12.0	.968	None	Coal	
SBR75-22082	3710-3720	14093	3.9	5.0	86.9	4.2	9.8	12.0	.962	None	Coal	
SBR75-22083	3720-3730	14055	3.5	4.0	85.9	6.6	8.7	9.6	.969	None	Coal	
SBR75-22084	3730-3740	14056	2.0	3.5	91.7	2.8	5.0	8.4	.965	None	Coal	
SBR75-22085	3750-3760	14057	1.5	1.7	94.4	2.4	3.8a	4.1		None		
SBR75-22086	3760-3770	14058	1.3	1.5	95.4	1.8	3.4a	3.6		None		
SBR75-22087	3770-3780	14059	2.6	2.0	92.3	3.1	6.5	4.8	.966	None	Coal	
SBR75-22088	3780-3790	14060	.9	1.0	95.4	2.7	2.3a	2.3		None		
SBR75-22089	3790-3800	14061	1.5	2.0	94.9	1.6	3.8a	4.8		None		
SBR75-22090	3800-3810	14062	.5	1.2	97.2	1.1	1.3a	2.9		None		
SBR75-22091	3810-3820	14063	.3	1.5	97.5	.7	.9a	3.6		None		
SBR75-22092	3820-3830	14064	1.1	2.0	94.9	2.0	2.9a	4.8		None		
SBR75-22093	3830-3840	14065	1.0	1.9	95.6	1.5	2.5a	4.6		None		
SBR75-22094	3840-3850	14094	1.2	2.5	94.3	2.0	3.2a	6.0		None		
SBR75-22095	3850-3860	14067	1.0	1.8	95.3	1.9	2.7a	4.3		None		
SBR75-22096	3860-3870	14068	.8	2.0	95.7	1.5	2.1a	4.8		None		
SBR75-22097	3870-3880	14069	11.2	2.4	82.5	3.9	29.4	5.8	.913	None		
SBR75-22098	3880-3890	14070	12.0	2.8	81.5	3.7	31.6	6.7	.908	None		
SBR75-22099	3890-3900	14071	7.4	2.8	86.2	3.6	19.2	6.7	.926	None		
SBR75-22100	3900-3910	14072	4.8	2.8	89.5	2.9	12.4	6.6	.928	None		
SBR75-22101	3910-3920	14073	4.5	2.4	90.6	2.5	11.7	5.8	.921	None		
SBR75-22102	3920-3930	14075	4.5	2.3	90.8	2.4	11.8	5.5	.914	None		
SBR75-22103	3930-3940	14076	4.2	1.6	90.8	3.4	11.1	3.8	.911	None		
SBR75-22104	3940-3950	14077	1.4	1.6	95.8	1.2	3.7a	3.8		None		
SBR75-22105	3950-3960	14095	1.7	1.5	95.7	1.1	4.5a	3.6		None		

See footnote at end of table.

Drill cuttings received November 12, 1975; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Farmer's Union Central Exchange, Incorporated's Twin Buttes Unit Well No. 1

Kelly Bushing elevation 6,906 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			Gal per ton				
Laramie	Their	Oil	Water	Spent shale	Gas + loss	Oil ^{1/}	Water				
SBR75-22106	3960-3970	14079	0.9	1.1	96.8	1.2	2.3a	2.6		None	
SBR75-22107	3970-3980	14080	1.3	1.5	96.3	.9	3.3a	3.6		None	
SBR75-22108	3980-3990	14081	2.8	1.6	94.0	1.6	7.3a	3.8		None	
SBR75-22109	3990-4000	14082	2.0	1.9	94.1	2.0	5.1a	4.6		None	
SBR75-22110	4000-4010	14083	2.2	1.7	94.9	1.2	5.8	4.1	0.925	None	
SBR75-22111	4010-4020	14084	1.6	1.6	95.1	1.7	4.2a	3.8		None	
SBR75-22112	4020-4030	14085	1.6	1.4	95.7	1.3	4.2a	3.4		None	
SBR75-22113	4030-4040	14087	1.6	1.4	95.6	1.4	4.3a	3.4		None	
SBR75-22114	4040-4050	14088	.5	1.8	95.8	1.9	1.3a	4.3		None	
SBR75-22115	4050-4060	14089	.3	1.9	95.8	2.0	.9a	4.4		None	
SBR75-22116	4060-4070	14091	1.9	1.8	94.5	1.8	5.1a	4.2		None	
SBR75-22117	4070-4080	14092	1.9	1.6	95.2	1.3	5.0a	3.8		None	
SBR75-22118	4080-4090	14099	4.5	3.7	88.0	3.8	11.0	8.9	.988	None	Coal
SBR75-22119	4090-4100	14100	2.3	2.1	93.5	2.1	5.7	5.0	.956	None	Coal
SBR75-22120	4100-4110	14101	2.0	1.9	94.7	1.4	5.1a	4.6		None	
SBR75-22121	4110-4120	14102	3.5	3.9	89.0	3.6	8.4	9.3	.989	None	Coal
SBR75-22123	4130-4140	14103	2.4	2.5	92.9	2.2	6.0	5.9	.973	None	Coal
SBR75-22124	4140-4150	14104	1.7	2.0	94.6	1.7	4.4a	4.8		None	
SBR75-22125	4150-5160	14105	.7	1.5	96.6	1.2	1.9a	3.6		None	
SBR75-22126	4160-4170	14106	.9	1.8	96.0	1.3	2.2a	4.3		None	
SBR75-22127	4170-4180	14107	.6	.9	96.6	1.9	1.6a	2.2		None	
SBR75-22128	4180-4190	14109	2.0	1.5	93.4	3.1	5.1a	3.6		None	
SBR75-22129	4190-4200	14110	1.1	1.2	96.7	1.0	2.9a	2.9		None	
SBR75-22130	4200-4210	14111	1.5	1.0	95.3	2.2	4.0a	2.4		None	
SBR75-22131	4210-4220	14112	2.0	2.2	93.6	2.2	5.2a	5.4		None	
SBR75-22132	4220-4230	14113	.8	1.0	96.4	1.8	2.1a	2.4		None	
SBR75-22133	4230-4240	14114	1.6	1.2	94.3	2.9	4.3a	2.9		None	
SBR75-22134	4240-4250	14115	1.1	1.3	96.3	1.3	2.9a	3.2		None	
SBR75-22135	4250-4260	14116	2.6	1.3	94.0	2.1	6.7a	3.1		None	
SBR75-22136	4260-4270	14117	1.1	1.5	95.8	1.6	2.9a	3.6		None	

See footnote at end of table.

Drill cuttings received November 12, 1975; assays made on air-dried samples

OIL-SHALE ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Farmer's Union Central Exchange, Incorporated's Twin Buttes Unit Well No. 1

Kelly Bushing elevation 6,906 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				
Laramie	Their		Oil	Water					Oil ^{1/}	Water	
SBR75-22137	4270-4280	14118	2.7	2.5	91.0	3.8	6.9a	6.0		None	
SBR75-22138	4280-4290	14119	2.2	1.8	93.6	2.4	5.7a	4.3		None	
SBR75-22139	4290-4300	14121	1.0	1.7	95.5	1.8	2.6a	4.1		None	
SBR75-22140	4300-4310	14122	.7	1.4	96.8	1.1	1.7a	3.4		None	
SBR75-22141	4310-4320	14123	.5	1.4	96.0	2.1	1.4a	3.4		None	
SBR75-22142	4320-4330	14124	.6	1.8	96.2	1.4	1.6a	4.3		None	
SBR75-22143	4330-4340						Trace				
SBR75-22144-45	4340-4360						b				
SBR75-22146	4360-4370	14125	.2	.8	98.1	.9	.5a	1.9		None	
SBR75-22147	4370-4380	14126	1.2	1.5	95.5	1.8	3.1a	3.7		None	
SBR75-22148	4380-4390	14127	1.1	1.7	95.6	1.6	2.8a	4.1		None	
SBR75-22149	4390-4400	14128	.3	1.0	97.2	1.5	.8a	2.4		None	
SBR75-22150	4400-4410	14129	.5	1.2	97.0	1.3	1.4a	2.9		None	
SBR75-22151	4410-4420	14130	1.5	1.2	95.0	2.3	3.8a	2.9		None	
SBR75-22152	4420-4430	14131	1.3	1.6	95.3	1.8	3.4a	3.8		None	
SBR75-22153	4430-4440	14133	.5	1.4	96.8	1.3	1.3a	3.4		None	
SBR75-22154	4440-4450	14134	1.9	1.7	94.5	1.9	4.9a	4.1		None	
SBR75-22155	4450-4460	14135	1.8	2.1	93.8	2.3	4.8a	5.0		None	
SBR75-22156	4460-4470	14136	.9	1.7	95.9	1.5	2.4a	4.1		None	
SBR75-22157	4470-4480	14137	1.4	1.4	96.2	1.0	3.6a	3.4		None	
SBR75-22159	4500-4510	14138	1.1	1.8	95.3	1.8	3.0a	4.3		None	
SBR75-22160	4510-4520	14139	.8	1.6	96.8	.8	2.0a	3.8		None	
SBR75-22161	4520-4530	14140	.8	1.6	96.9	.7	2.0a	3.8		None	
SBR75-22162	4530-4540	14141	.9	1.7	96.1	1.3	2.2a	4.1		None	
SBR75-22163	4540-4550	14142	1.3	2.1	93.6	3.0	3.3a	5.0		None	
SBR75-22164	4550-4560	14143	1.4	1.8	94.9	2.0	3.5a	4.2		None	
SBR75-22165	4560-4570	14144	.5	1.4	97.0	1.1	1.3a	3.4		None	
SBR75-22166	4570-4580	14145	.3	1.4	95.5	2.8	.8a	3.4		None	
SBR75-22167	4580-4590	14146	.4	1.2	97.7	.7	1.1a	2.9		None	
SBR75-22168	4590-4600	14147	.8	1.4	97.0	.8	2.0a	3.4		None	

See footnote at end of table.

Drill cuttings received November 12, 1975; assays made on air-dried samples

OIL-SHALF ASSAYS BY MODIFIED FISCHER RETORT METHOD

Samples from Farmer's Union Central Exchange, Incorporated's Twin Buttes Unit Well No. 1

Kelly Bushing elevation 6,906 feet

Sample Number	Run	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	No.	Oil	Water	Spent shale	Gas + Loss	Oil ^{1/}	Water	
SBR75-22169	4600-4610	14148	0.5	1.4	96.0	2.1	1.3a	3.4	None
SBR75-22170	4610-4620	14149	.7	1.4	97.4	.5	1.8a	3.4	None
SBR75-22171	4620-2630	14150	.4	2.1	96.5	1.0	1.0a	5.0	None
SBR75-22172	4630-4640	14151	.5	2.0	96.6	.9	1.3a	4.8	None
SBR75-22173	4640-4650	14152	.3	2.8	95.6	1.3	.8a	6.7	None
SBR75-22174	4650-4660	14153	.5	2.9	95.3	1.3	1.3a	6.9	None
SBR75-22175-79	4660-4710						b		
SBR75022181	4720-4730	14154	.2	2.0	96.9	.9	.5a	4.9	None
SBR75-22182-83	4730-4750						b		
SBR75-22184	4750-4760	14155	.1	1.6	96.3	2.0	.2a	3.8	None
SBR75-22185	4760-4770	14156	.2	2.0	97.2	.6	.5a	4.8	None
SBR75-22186	4770-4780	14157	1.1	1.7	94.3	2.9	2.8a	4.1	None
SBR75-22187	4780-4790	14158	.2	2.2	96.8	.8	.6a	5.3	None
SBR75-22188	4790-4800						b		
SBR75-22189	4800-4810						No Oil		
SBR75-22190	4810-4820						b		
SBR75-22191-92	4820-4840						c		
SBR75-22193-94	4840-4860						b		
SBR75-22195	4860-4870						Trace		
SBR75-22196-98	4870-4900						No Oil		
SBR75-22199	4900-4910						Trace		
SBR75-22200	4910-4920	14159	0	2.3	96.6	1.1	.1a	5.5	None
SBR75-22201-03	4920-4950						No Oil		
SBR75-22204	4950-4960						Trace		
SBR75-22205-06	4960-4980						b		
SBR75-22207	4980-4990	14160	.3	3.3	95.6	.8	.9a	7.9	None
SBR75-22208	4990-5000	14161	.2	2.3	95.9	1.6	.5a	5.5	None

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 oil/ton.

Drill cuttings received November 12, 1975; assays made on air-dried samples