

WELLS DRILLED IN THE FERRIS QUADRANGLE, WYOMING, AS OF JANUARY 1, 1972

[Compiled from U.S. Geological Survey records. Remarks: Abd., abandoned; BOPD, barrels of oil per day; IP, initial production; MCFGPD, thousand cubic feet gas per day; strata called "Steele" and "Niobrara" are subdivisions of the Cody Shale of this report; "Dakota" sand as reported may include rocks now assigned to the Mowry Shale, Muddy Sandstone Member of the Thermopolis Shale, lower part of Thermopolis Shale, and (Cleverly Formation)]

Number on map	Operator	Well	Location			Year drilling ceased	Total depth (ft)	Reported lowest strata reached	Remarks
			Section	T. N.	R. W.				
1	Unknown	----	NW¼ 4	25	86	-----		Abd.	
2	New York Oil Co.	1	NW¼NW¼ 5	25	86	1920	3,080	Frontier	Abd.
3	Domino-Wyoming Oil Co.	-----	NW¼NW¼ 5	25	86	-----		Abd.	
4	Utah Oil and Refining Co.	1	SW¼SE¼ 5	25	86	1920	1,635	Frontier	Abd.
5	Producers and Refiners Corp.	1	NW¼NE¼ 7	25	86	1931	2,665	"Niobrara"	Abd. Oil show.
6	Emery Oil Syndicate	1	SW¼SW¼ 8	25	86	1921	4,578	Frontier	Abd.
7	Unknown	-----	NE¼SE¼ 8	25	86	-----		Abd.	
8	General Petroleum Corp.	1-8-D	SE¼SE¼ 8	25	86	1924	4,075	Frontier	Abd.
9	---Do.	2-8-D	SE¼SE¼ 8	25	86	1924	348	"Steele"	Abd.
10	Miller-Schultz	1	SW¼NW¼ 9	25	86	1921	3,790	"Niobrara"	Abd. Oil show.
11	General Petroleum Corp.	1	SW¼SW¼ 9	25	86	1920	3,100	---do.	Abd. Oil well. IP, 100 BOPD.
12	Unknown	----	SW¼ 9	25	86	-----		Abd.	
13	General Petroleum Corp.	2	NW¼NW¼ 16	25	86	1924	3,700	"Niobrara"	Abd. oil well.
14	---Do.	1	NW¼NW¼ 16	25	86	1920	5,465	Frontier	Abd. oil well. IP, 450 BOPD. G.P. Dome field discovery.
15	Unknown	-----	NW¼ 16	25	86	-----		Abd.	
16	J. G. Dyer	1	E¼NE¼ 17	25	86	1952	6,288	Jelm	Abd.
17	General Petroleum Corp.	1-17-D	NW¼NE¼ 17	25	86	1920	4,920	Frontier	Abd.
18	Unknown	-----	NW¼SE¼ 17	25	86	-----		Abd.	
19	Texas Production Co.	1	SW¼SW¼ 1	25	87	1920	3,505	Mowry	Abd.
20	Midwest Refining Co.	1	NE¼SE¼ 2	25	87	1921	2,600	Frontier	Abd.
21	General Petroleum Corp.	2	SW¼SE¼ 2	25	87	1920	2,355	"Niobrara"	Abd.
22	---Do.	1	SW¼NW¼ 3	25	87	1919	2,843	Frontier	Abd.
23	Wyoming-Kansas Oil Co.	1	NW¼SE¼ 3	25	87	1919	3,230	---do.	Abd.
24	Unknown	-----	NW¼NW¼ 9	25	87	-----		Abd.	
25	Mountain States Drilling Co.	1	SE¼NW¼ 9	25	87	1953	6,028	Tensleep	Abd.
26	U.S. Waugh	1	NE¼NW¼ 11	25	87	1921	500	"Steele"	Abd.
27	Westates Petroleum Corp.	1	SW¼SE¼ 12	25	87	1949	7,361	Tensleep	Abd.
28	Ohio Oil Co.	1	NE¼NE¼ 13	25	87	1919	3,300	Frontier	Abd.
29	Unknown	-----	NE¼ 13	25	87	-----		Abd.	
30	Ohio Oil Co.	1	SE¼ 13	25	87	----	175	-----	Abd.
31	Rocky Mountain Gas Co.	3	SW¼SE¼ 7	26	86	1949	4,364	Tensleep	Abd.
32	---do.	2	NW¼NE¼ 16	26	86	1948	1,165	Mowry	Abd. Gas show.
33	---do.	1	NW¼NE¼ 17	26	86	1948	2,611	Chugwater	Abd. gas well. IP, 139 MCFGPD.
34	R. W. O'Meara	1	NE¼NW¼ 17	26	86	1965	4,416	Tensleep	Abd.
35	J. W. Sorrells, Jr.	1	SE¼NW¼ 17	26	86	1959	2,611	Nugget	Abd.
36	British American Producing Co.	1	NW¼SE¼ 17	26	86	1946	1,105	Frontier	Abd.
37	Columbia Oil Co.	1	SW¼SW¼ 28	26	86	1924	2,576	---do.	Abd.
38	Unknown	-----	NW¼ 30	26	86	-----		Abd.	
39	Producers and Refiners Corp.	9	SW¼SW¼ 30	26	86	1924	1,978	Muddy	Abd. oil well. IP, 45 BOPD.
40	Midwest Oil Corp.	1	SW¼SW¼ 30	26	86	1959	1,070	-----	Abd. oil well. IP, 6 BOPD.
41	---do.	1	NE¼NW¼ 31	26	86	1959	1,138	Mowry	Abd.
42	General Petroleum Corp.	1-31-B	NE¼NW¼ 31	26	86	1922	3,005	Frontier	Abd. Gas show.
43	---do.	5	NE¼ 31	26	86	-----		Abd.	
44	---do.	4	SW¼ 31	26	86	-----		Abd.	
45	---do.	3	NE¼SE¼ 31	26	86	-----		Abd.	
46	Unknown	-----	SE¼ 31	26	86	-----		Abd.	
47	General Petroleum Corp.	2	SW¼SE¼ 31	26	86	1921	4,015	Mowry	Abd.
48	Dillon Oil Co.	1	SW¼NE¼ 22	26	87	----	3,300	Frontier	Abd.
49	Unknown	-----	NE¼ 23	26	87	-----		Abd.	
50	Producers and Refiners Corp.	3-A	SE¼SE¼ 23	26	87	1919	1,120	Frontier	Abd.
51	---do.	7	SE¼SE¼ 23	26	87	1922	2,355	Sundance	Abd. gas well. IP, 3,000 MCFGPD.
52	---do.	20	SW¼SW¼ 24	26	87	1924	575	"Niobrara"	Abd.
53	---do.	3-X	NW¼NW¼ 25	26	87	1922	455	Frontier	Abd.
54	---do.	5	NW¼NW¼ 25	26	87	1920	1,825	"Dakota"	Abd. oil well. IP, 85 BOPD.
55	---do.	3	NW¼NW¼ 25	26	87	1922	1,877	---do.	Abd. oil well. IP, 195 BOPD.
56	---do.	11	NE¼NW¼ 25	26	87	1922	1,845	---do.	Abd. oil well. IP, 287 BOPD.
57	Unknown	-----	NW¼ 25	26	87	-----		Abd.	
58	Producers and Refiners Corp.	8	SE¼NW¼ 25	26	87	1922	1,885	"Dakota"	Abd. oil well. IP, 196 BOPD.
59	---do.	10	SE¼NW¼ 25	26	87	1924	2,595	Sundance	Abd. oil well. IP, 48 BOPD.
60	---do.	4	SW¼NE¼ 25	26	87	1919	1,781	"Dakota"	Abd. oil well. IP, 75 BOPD. East Ferris field discovery
61	---do.	22	SE¼NW¼ 25	26	87	1923	1,845	---do.	Abd. Oil show in Muddy.
62	Sinclair Wyoming Oil Co.	25	SE¼NW¼ 25	26	87	1942	5,057	Tensleep	Abd.
63	Producers and Refiners Corp.	20	SE¼NW¼ 25	26	87	1924	598	Frontier	Abd.
64	---do.	13	SW¼NE¼ 25	26	87	1922	1,800	"Dakota"	Abd. oil well. IP, 38 BOPD.
65	---do.	6	NE¼SW¼ 25	26	87	1920	1,855	---do.	Abd. gas well. IP, 13,000 MCFGPD.
66	---do.	14	SW¼NE¼ 25	26	87	1922	1,935	---do.	Abd. gas well. IP, 3,000 MCFGPD.
67	---do.	19	NW¼SE¼ 25	26	87	1928	4,600	Tensleep	Abd. oil well. IP, 198 BOPD.
68	---do.	1	NW¼SE¼ 25	26	87	1922	1,730	"Dakota"	Abd. oil well. IP, 16 BOPD.
69	---do.	17	NW¼SE¼ 25	26	87	1926	2,446	Morrison	Abd. oil well. IP, 10 BOPD.
70	---do.	15	NW¼SE¼ 25	26	87	1922	1,885	"Dakota"	Abd. gas well. IP, 5,000 MCFGPD.
71	---do.	16	SE¼SE¼ 25	26	87	1925	2,960	Sundance	Abd. oil well. IP, 29 BOPD.
72	---do.	1	SE¼SE¼ 25	26	87	1922	2,155	"Dakota"	Abd. gas well. IP, 23,000 MCFGPD.
73	---do.	8-A	NE¼NE¼ 26	26	87	1921	2,994	---do.	Abd.
74	---do.	12	SW¼NE¼ 26	26	87	1923	2,386	---do.	Abd. gas well. IP, 7,000 MCFGPD.
75	---do.	2	SE¼NW¼ 26	26	87	1918	2,342	---do.	Abd. gas well. IP, 10,000 MCFGPD. West Ferris field discovery
76	---do.	24	SW¼NW¼ 26	26	87	1928	4,623	Goose Egg	Abd. gas well. IP, 1,000 MCFGPD.
77	Sinclair Oil and Gas Co.	23	SW¼NW¼ 27	26	87	1925	3,067	Sundance	Abd. gas well. IP, 4,000 MCFGPD.
78	Producers and Refiners Corp.	1	SW¼NW¼ 35	26	87	1922	3,500	Mowry	Abd.
79	Sand Hills Oil Co.	1	NE¼NE¼ 35	26	87	1920	2,920	---do.	Abd.
80	Producers and Refiners Corp.	2	NW¼NE¼ 36	26	87	1921	2,881	Sundance	Abd.
81	National Cooperative Refining Assoc.	1	SW¼SE¼ 36	26	87	1957	4,420	Frontier	Abd.
82	British American	3	SE¼ 8	26	86	1947	785	---do.	Abd. Stratigraphic test hole.
83	Unknown	-----	SW¼NE¼ 25	26	87	-----		Abd.	
84	---do.	-----	SW¼NE¼ 25	26	87	-----		Abd.	
85	---do.	-----	NW¼SW¼ 25	26	87	-----		Abd.	
86	---do.	-----	NW¼SE¼ 25	26	87	-----		Abd.	

FOSSIL COLLECTIONS

USGS locality No.	Fossil locality			Formation	Fossils identified by W. A. Cobban
D2587	NW¼ 24	25	87	Haystack Mountains.	Pelecypods: <i>Inoceramus balticus</i> Boehm. <i>Ostrea</i> sp. Cephalopods: <i>Baculites obtusus</i> Meek. <i>Platoniceras</i> cf. <i>P. intercalare</i> Meek.
D2588	SW¼ 16	25	86	-----do.	Pelecypods: <i>Inoceramus balticus</i> Boehm. <i>Pteris</i> cf. <i>P. linguiformis</i> (Evans and Shumard). <i>Ostrea albertensis</i> Landes. <i>Oxytoma</i> cf. <i>O. nebrascana</i> (Evans and Shumard). Cephalopods: <i>Baculites obtusus</i> Meek. <i>Platoniceras</i> sp.
D2589	NW¼ 24	25	87	-----do.	Pelecypod: <i>Inoceramus</i> sp. Cephalopod: <i>Baculites obtusus</i> Meek.
Not assigned	SE¼ 18	25	86	-----do.	Pelecypod: <i>Crassostrea subtrigonalis</i> (Evans and Shumard). Cephalopod: <i>Baculites</i> cf. <i>B. obtusus</i> Meek.
Not assigned	E¼ 25	26	87	Cody.	Pelecypods: <i>Inoceramus</i> sp. <i>Ostrea congesta</i> Conrad.
Not assigned	NW¼ 25	26	87	-----do.	Pelecypods: <i>Inoceramus</i> sp. <i>Ostrea congesta</i> Conrad.
D4027	SE¼SW¼ 9	26	86	Frontier.	Pelecypod: <i>Inoceramus</i> n. sp. Remarks: This species is found in the basal few feet of the Fort Hays Limestone Member of the Niobrara Formation in eastern Colorado.

ECONOMIC GEOLOGY

This quadrangle was mapped as part of the U.S. Geological Survey program to classify Federal lands as to their mineral resource potential. Future development of the mineral resources in this area may include exploration for oil and gas in untested or deep formations, exploitation of the extensive sand deposits, and prospecting for metallic mineral deposits in the Ferris Mountains.

Oil and gas
As of January 1, 1972, 86 wells had been drilled for oil and gas in the Ferris quadrangle. No records are available for 15 of the dry holes, which were drilled early in the development of the area. Several wells have total depths of less than 1,000 feet and were little more than stratigraphic tests. The deepest wells drilled prior to 1972 reached the Tensleep Sandstone.

Gas was first discovered in this area in 1918 (map, well 75), and oil was first discovered in 1919 (map, well 60). Three fields were developed in the area: G.P. Dome; Ferris, East; and Ferris, West. The fields are along the same structural trend that extends westward to the Lost Soldier field. In addition, a well (map, well 33) on the Big Sandy anticline produced a small amount of gas but was subsequently abandoned.

The G.P. dome field was discovered in August 1920 when the General Petroleum Corp. completed well 1 (map, well 14). This well had an initial production of 450 barrels of oil per day from the producing interval between 3,116 and 3,131 feet. Two other wells (map, wells 11 and 13), completed in 1920 and 1924, are believed to have produced oil from the same zone. The productive zone is reported to be either a lenticular sand (the G.P. sand of drillers' usage) or a fractured shale zone in the Cody Shale. The deepest test of the G.P. dome is the J. G. Dyer well 1 (map, well 16), a dry hole completed in 1952, that bottomed in the Jelm Formation at a depth of 6,288 feet. The field, which reportedly produced about 250,000 barrels of oil over an unknown period of time, was subsequently abandoned until the completion of the Munford Bros. well 1, NE¼NW¼ sec. 16, T. 25 N., R. 86 W., in the adjacent Bradley Peak quadrangle. This well was completed for an initial production of 47 barrels of oil per day from the G.P. sand from the interval between 3,199 and 3,287 feet.

Oil was discovered in the Ferris, East oil and gas field (also known as East Ferris or Ferris field) in August 1919 in the Producers and Refiners Corp. well 4 (map, well 60). This well had an initial production of 75 barrels of oil per day from the interval between 1,615 and 1,781 feet, which was reported as the Dakota sand. In terms of current stratigraphic terminology, Dakota sand as used in the older well records is an economic term that probably represents the interval from the Mowry Shale through the Muddy Sandstone Member of the Thermopolis Shale and in some cases may include the uppermost sandstones of the Cloverly Formation. In March 1920 gas was discovered in the Dakota sand in the Producers and Refiners Corp. well 6 (map, well 65). This well had an initial production of 13 million cubic feet per day.

Available records indicate that a total of 18 wells were productive in the Ferris, East field. Of these, eight wells reportedly produced oil and four produced gas from the Dakota sand; one oil and one gas well reported production from the Sundance Formation, which probably includes both the Sundance and the Nugget of this report; one oil well produced from the Muddy Sandstone Member, one from the Morrison Formation, and one from the Embury Formation of former usage (Goose Egg Formation of this report); and one well did not report the producing interval.

The deepest test on the Ferris, East fold is the Sinclair Wyoming Oil Co. well 25 (map, well 62), abandoned in 1942 as a dry hole at a depth of 5,057 feet in the Tensleep Sandstone. Production from the field is reported to have ceased in 1937 with cumulative production of about 280,000 barrels of oil and a small amount of gas.

Gas was discovered in the Ferris, West gas field (also known as West Ferris or Middle Ferris field) in September 1918 in the Producers and Refiners Corp. well 2 (map, well 75). This well had an initial production of 10 million cubic feet per day from the Dakota sand in the interval between 1,963 and 2,342 feet. Gas was produced from four wells in the Ferris, West field--two reportedly from the Dakota sand and two from the Sundance.

The deepest test on the structure is the Producers and Refiners Corp. well 24 (map, well 76), that bottomed in the Embury (Goose Egg Formation of this report) at a total depth of 4,623 feet. This well, which was completed in 1928, produced gas from the Sundance interval between 2,775 and 2,870 feet. Cumulative gas production from the field was reportedly about 1,700 million cubic feet. The combined gas production from both Ferris, West and Ferris, East was reportedly about 6,200 million cubic feet.

Sand deposits

Extensive unconsolidated sand deposits are present over much of the quadrangle in the form of active dunes migrating toward the northeast, sand ridges, and a relatively thick veneer of sand stabilized by vegetation. Well 27, SW¼SE¼ sec. 12, T. 25 N., R. 87 W., penetrated more than 140 feet of surficial sand, and well 25, SE¼NW¼ sec. 9, T. 25 N., R. 87 W., penetrated about 85 feet of surficial sand.

Two widely separated samples of the dune sands were analyzed to provide information for potential users. The analyses indicate a rather uniform composition. Results are as follows:

Dune sand analyses, in percent

Location of sample	Total Fe		Al ₂ O ₃	CaO	MgO	TiO ₂	H ₂ O ⁺ at 105°C	Loss on ignition at 1000°C
	SiO ₂	calculated as Fe ₂ O ₃						
N¼ sec. 13, T. 25 N., R. 87 W.	82.3	1.1	5.2	1.3	2.3	< 0.1	0.04	0.37
NE¼ sec. 26, T. 26 N., R. 87 W.	83.5	1.0	5.7	4.2	3.5	< 0.1	0.04	0.48

Many small springs and intermittent lakes are found throughout the area which is blanketed by sand deposits. Samples were obtained from the beds of several of the larger lakes and analyzed for sodium. No significant amount of any of the inorganic salts was obtained from the samples.

Prospects

Many small test pits have been dug by prospectors on limonitic shear zones in the Precambrian rocks exposed in the Ferris Mountains. A few contain a trace of pyrite and secondary copper minerals. Quartz veins along shear zones reportedly were prospecting for gold and lead, iron, and copper minerals in secs. 5 and 6, T. 26 N., R. 86 W. (Ferris and Spanish Mine quadrangles). The inactive Spanish mine, in Miners Canyon in sec. 6, T. 26 N., R. 86 W., in the adjacent Spanish Mine quadrangle, contains galena, and reportedly the claim produced some gold prior to 1890. Test pits and trenches in the Bradley Peak quadrangle to the east (Bayley, 1968) in Precambrian rocks were made by prospectors in the search for gold and copper-bearing minerals.

The two prospecting pits shown on the map in secs. 5 and 6, T. 25 N., R. 86 W., were apparently early attempts to obtain the strike and dip of the shale bedrock to ascertain the relative structural position with respect to the Ferris-G.P. dome anticlinal axis.

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