DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

MAP SHOWING LOCATIONS OF MINES AND PROSPECTS IN THE DILLON 1°×2° QUADRANGLE, IDAHO AND MONTANA

By

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Pamphlet to accompany Miscellaneous Investigations Series Map I–1803–C

Table 1.--Recorded and estimated production of base and precious metals in mining districts and areas in the Dillon $1^{o}x2^{o}$ quadrangle, Idaho and Montana

[Production of other commodities are listed in footnotes. All monetary values are given in dollars at time of production. Dashes indicate no information available. Numbers in parentheses are estimates by the authors or by those cited as sources of data in list that follows table 2. <, less than; s.t., short tons]

District/area name	Years	Ore (s.t.)	Gold (oz)	Silver (oz)	Copper (lb)	Lead (lb)	Zinc (lb)		Value (dollars)	Sources of data
					Idaho					
Carmen Creek district	1870's-1901	---	---	---	---	---	---		(50,000)	141, 226
	1902-1980	---	---	---	---	---	---		(unknown)	
								Total	(50,000)	
Eldorado district	1870's-1911	---	17,500	---	---	---	---		(350,000)	123, 226
	1912-1954	---	(13,000)	(8,000)	---	---	---		(300,000)	
								Total	(650,000)	
Eureka district	1880's-1956	---	(13,500)	12,366	(2,680,000)	57,994	(4,000)		(4,000,000)	173
								Total	(4,000,000)	
Gibbonsville district	1877-1893	---	---	---	---	---	---		(unknown)	
	1894-1907	---	(83,500)	---	---	---	---		(1,670,000)	123, 226
	1908-1980	---	---	---	---	---	---		(<10,000)	123
								Total	(2,000,000)	
Kirtley Creek district	1870's-1890	---	2,000	---	---	---	---		40,500	173
	1890's-1909	---	---	---	---	---	---		(<10,000)	
	1910-1918	---	24,300	---	---	---	---		(500,000)	123
	1919-1931	---	---	---	---	---	---		(unknown)	
	1932-1947	---	2,146	---	---	---	---		(75,000)	173
								Total	(620,000)	
McDevitt district	1800's-1980	---	---	---	---	---	---		(80,000)	
								Total	(80,000)	
North Fork area	1800's-1980	---	---	---	---	---	---		(unknown)	
								Total	(<10,000)	
Pratt Creek district	1870's-1900	---	---	---	---	---	---		(50,000)	
								Total	(50,000)	
Sandy Creek district	1800's-1900	---	---	---	---	---	---		(unknown)	
	1901-1954	19,613	4,055	4,433	71,359	166,179	---		(310,000)	173, 200
								Total	(310,000)	

Montana										
Anaconda Range area	1880's-1980	---	---	---	---	---	---	Total	(<100,000) (<100,000)	
Argenta district	1864-1901	---	---	---	---	---	---		(1,500,000)	
	1902-1965	311,796	72,241	562,159	604,135	18,189,939	2,009,366		5,522,962	88
								Total	(7,000,000)	
Baldy Mtn. district	1864-1874	---	---	---	---	---	---		(unknown)	
	1875-1885	---	---	(57,000)	---	---	---		(61,200)	200
	1886-1901	---	---	---	---	---	---		(unknown)	
	1902-1965	1,324	348	3,418	4,986	80,901	6,700		27,479	88
								Total	(100,000)	
Bannack district	1862	---	(30,000)	---	---	---	---		(600,000)	200
	1863-1876	---	(150,000)	---	---	---	---		(3,000,000)	200
	1877-1901	---	---	---	---	---	---		(unknown)	
	1902-1961	124,687	40,108	113,776	92,930	138,147	880		1,136,455	88
								Total	(5,000,000)[1]	
Beaverhead Mtns. area	1870's-1901	---	---	---	---	---	---		(unknown)	
	1902-1965	2,043	1,088	10,470	127,819	243,107	---		(100,000)	88
								Total	(100,000)	
Big Hole Divide area	1902-1965	1,236	---	445	206,282	---	---		(<10,000)	88
								Total	(<10,000)	
Birch Creek district	1864-1901	---	---	---	---	---	---		(<10,000)	200
	1902-1965	23,186	308	43,744	1,771,824	5,464	---		244,004	88
								Total	(250,000)	
Blacktail Mtns. area	---	---	---	---	---	---	---		(<10,000)	
								Total	(<10,000)	
Blue Wing district	1864-1901	---	---	---	---	---	---		(4,500,000)	
	1902-1965	32,190	479	469,951	47,670	287,995	125,794		489,035	88
								Total	(5,000,000)[1]	200
Butte district	1800's-1980	---	---	---	---	---	---		(unknown)[2]	
								Total	(unknown)[2]	
Calvert Hill district	1956-1959	---	---	---	---	---	---		(8,000,000)[3]	88
								Total	(8,000,000)[3]	

Table 1.--Recorded and estimated production of base and precious metals in mining districts and areas in the Dillon 1°x2° quadrangle, Idaho and Montana--Continued

District/area name	Years	Ore (s.t.)	Gold (oz)	Silver (oz)	Copper (lb)	Lead (lb)	Zinc (lb)		Value (dollars)	Sources of data
Divide Creek district	1866-1943	---	---	---	---	---	---		(<50,000)	
								Total	(<50,000)	
Elkhorn district	1872-1901	---	---	---	---	---	---		(unknown)	
	1902-1965	53,373	1,184	208,593	383,580	857,679	4,800		327,439	88
								Total	(500,000)	
French Gulch district	1864-1869	---	250,000	---	---	---	---		(5,000,000)	139
	1870-1959	---	---	---	---	---	---		(10,000)	139
								Total	(5,000,000)	
Greenhorn Range area	1863-1941	---	---	---	---	---	---		(unknown)	
	1942-1946	---	1,977	---	---	---	---		69,200	139
								Total	(100,000)[4]	
Hecla district	1873-1965	656,078	18,250	13,384,722	8,271,136	112,482,388	3,831,254		19,651,111	88
								Total	(20,000,000)	
Highland district	1866-1959	---	(110,000)	---	---	---	---		(2,200,000)	197
								Total	(2,200,000)	
Homestake district	1864-1901	---	---	---	---	---	---		(50,000)	
	1902-1942	1,042	1,881	27,823	1,209	4,245	---		35,379	188
								Total	(85,000)	
Little Pipestone district	1905-1934	---	542	67	---	---	---		11,291	188
								Total	11,291	
Lost Creek district	1952-1956	---	---	---	---	---	---		(400,000)[5]	88
								Total	(400,000)	
McCartney Mtn.	1800's-1900	---	---	---	---	---	---		(<100,000)	
								Total	(<100,000)	
Melrose district	1870's	---	---	---	---	---	---		(750,000)	11
	1880-1901	---	---	---	---	---	---		(unknown)	
	1902-1980	---	---	---	---	---	---		(100,000)[6]	
								Total	(800,000)	

Monument district	1902-1965	493	114	10,181	98,982	49,862	---		37,798	88
								Total	37,798	
Moose Creek district	1866-1950	---	---	---	---	---	---		(300,000)	197
								Total	(300,000)	
Moose Lake district	1880's-1980	---	---	---	---	---	---		(<100,000)	
								Total	(<100,000)	
Pioneer district	1862-1940	---	---	---	---	---	---		(10,000)	200
								Total	(10,000)	
Pioneer Mtns. area	1800's-1930	---	---	---	---	---	---		(unknown)	
	1931-1941	1,088	944	1,392	421	---	400		(40,000)	88
								Total	(40,000)	
Pipestone district	1921-1942	641	241	4,657	2,786	13,371	---		12,085	188
									(15,000)	
Pipestone Pass area	1870's	---	2,500	---	---	---	---		(50,000)	188
								Total	(50,000)	
Polaris district	1886	(300,000)	---	(61,000)	---	---	---		(60,000)	242
	1887-1901	---	---	---	---	---	---		(300,000)	200
	1902-1965	4,884	312	120,023	20,937	11,140	12,100		138,899	88
	1966-1980	---	---	---	---	---	---		(unknown)	
								Total	(500,000)	
Quartz Hill-Vipond district	1868-1901	---	---	---	---	---	---		(unknown)	
	1902-1965	57,221	1,118	1,024,485	198,991	72,032	500		841,413	88
								Total	(2,000,000)	
Renova district	1896-1912	---	60,023	---	---	---	---		1,282,052	242
	1932-1953	---	102,036	---	---	---	---		(3,000,000)	123
								Total	(4,280,000)	
Rochester district	1868-1903	---	---	---	---	---	---		(2,000,000)	196
	1904-1932	10,768	3,800	114,344	2,589,344	---	---		461,381	196
								Total	(2,500,000)	
Rock Creek district	1928-1929	87	1	647	12,629	---	---		2,467	88
	1953-1957	---	---	---	---	---	---		(12,000,000)[7]	88
								Total	(12,000,000)	
Ruby Range area	1902-1944	---	---	---	---	---	---		(350,000)[8]	88
	1948-1981	---	---	---	---	---	---		(30,000,000)[9]	
								Total	(30,000,000)	

Table 1.--Recorded and estimated production of base and precious metals in mining districts and areas in the Dillon 1°x2° quadrangle, Idaho and Montana--Continued

District/area name	Years	Ore (s.t.)	Gold (oz)	Silver (oz)	Copper (lb)	Lead (lb)	Zinc (lb)		Value (dollars)	Sources of data
Sheridan district	1864-1900	---	---	---	---	---	---		(1,000,000)	
	1901-1935	66,633	29,115	185,044	151,661	1,445,503	294,452		902,243	135
	1936-1952	---	3,400	---	---	---	---		120,000	123
								Total	(2,000,000)	
Siberia district	1864-1959	---	(250,000)	---	---	---	---		(5,000,000)	139
								Total	(5,000,000)	
Silver Star district	1867-1932	18,301	10,769	18,850	---	347,130	---		(2,500,000)	196
								Total	(2,500,000)	
South Boulder district	1800's-1904	---	---	---	---	---	---		(unknown)	
	1905-1935	214,149	53,377	113,938	1,088,111	---	---		(5,500,000)	135, 222
								Total	(5,500,000)	
Sula area	---	---	---	---	---	---	---		(<10,000)	
								Total	(<10,000)	
Tidal Wave district	1864-1900	---	---	---	---	---	---		(1,000,000)	
	1901-1935	47,376	30,568	143,037	150,109	2,801,820	21,873		996,315	135
	1936-1959	---	2,800	---	---	---	---		(98,000)	123
								Total	(2,100,000)	
Upper Basin Creek district	1870's	---	---	---	---	---	---		(unknown)	182
								Total	(<10,000)	
Virginia City district	1863-1959	---	(500,000)	---	---	---	---		(10,000,000)	
								Total	(10,000,000)[10]	

Whitehall	1890-1901	---	28,000	---	---	---	---		560,000	123
(Cardwell)	1902-1957	186,652	71,850	176,772	290,796	4, 830,947	439,311		3,105,545	188
district	1958-1972	---	---	---	---	---	---		(unknown)	
	1973-1978	80,000	2,500	300	---	---	---		(440,000)[11]	
	1983	1,714,000	79,700	15,000	---	---	---		26,700,000[11]	
	1984	---	72,000	12,000	---	---	---		(23,000,000)[11]	
								Total	(53,800,000)	
Wisdom district	1869-1901	---	(100)	---	---	---	---		(2,000)	88
	1902-1965	2,371	1,205	35,964	6,932	160,592	---		55,132	88
								Total	(60,000)	
Total estimated production from Dillon quadrangle									(195,400,000)	

[1]Estimates of total production range from $2,000,000 to $7,000,000 (Sassman, 1941, p. 215).

[2]No information is available for the few mines of the Butte district included in the Dillon quadrangle.

[3]1956-57: Produced 102,800 tons of ore averaging 1.13 percent WO_3. 1959: Produced 10,000 tons of ore ranging from 0.66 to 1.47 percent WO_3.

[4]A "significant" amount of talc produced by the Willow Creek mine during the 1970's (Berg, 1976) is not included in this estimate. Production figures are confidential.

[5]1952-56: Produced 21,150 tons of ore averaging 0.18 percent WO_3.

[6]An unknown amount of phosphate is not in this estimate. The Maiden Rock and Canyon Creek mines may have produced several million dollars in phosphate through the mid-1960's.

[7]1953-57: Browns Lake mine produced 625,107 tons of ore averaging 0.35 percent WO_3.

[8]Graphite production during war years: 1917-1920 and 1944 (Geach, 1972, p. 155).

[9]Estimated value of talc produced during 1948-1981 (U.S. Bureau of Mines, 1948-81).

[10]Estimate of production from the Dillon quadrangle portion of Alder Gulch is based on known production from dredging during 1899-1922 (Lyden, 1948), combined with amount of gold calculated from total area of dredge tailings, known depths, and grade of gravel mined.

[11]Recent production figures for Golden Sunlight mine were compiled from U.S. Bureau of Mines (1984).

Table 2.--Mines and prospects, Dillon 1°x2° quadrangle, Montana and Idaho

[Note: Sites are plotted by site numbers on the maps. Commodities present are listed in approximate decreasing order of importance. Codes for commodities present, status, deposit type, host rock(s) and associated igneous rocks are explained and sources of data are listed following this table. References cited in district and area descriptions are listed in Sources of Data. ---, no data or not applicable. Symbols shown for host rock and associated igneous rocks are not necessarily the same as those shown on the geologic base map, as a result of generalizing the geologic map]

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
	Carmen Creek (Freeman) district, Idaho								
	The rocks underlying the Carmen Creek district are quartzite, quartzitic slate, and schist of Middle Proterozoic age intruded by the Cretaceous or Tertiary Carmen stock along the west slope of the Beaverhead Mountains. These rocks are covered in the valleys by tuffaceous Tertiary sediments and by Quaternary gravels. Lode deposits in the metasedimentary rocks are of two types: gold-quartz fissure fillings in quartzite (Oro Cache mine) and gold-copper replacement deposits along shear zones in schist (Carmen Creek mine). Sulfide minerals in the ore are pyrite, chalcopyrite, galena, and sphalerite; gold occurs with the sulfides. The Oro Cache mine, opened about 1897, is the only property of significance. More than 5,000 ounces of gold were probably produced in the decade following its discovery (Umpleby, 1913).								
001	Bell prospect	45-16-07	113-43-54	Cu, Au	11	2	Quartzite (Yy)	---	141
002	Carmen Creek mine	45-17-09	113-44-12	Au, Ag, Cu	11	3	Quartzite (Yy)	---	141, 226
003	Drilling Development prospect	45-15-45	113-44-17	Zn, Pb, Ag, Cu	11	2	Quartzite (Yy)	Quartz porphyry (Yqp)	34
004	Freeman Gulch placer (Bell mine placer)	45-16-12	113-44-48	Au, Ag	03	3	Alluvium (Qal)	---	141
005	Golway Gulch mine (Halcomb Creek mine)	45-16-34	113-45-37	Cu	11	2	Quartzite (Yy)	---	141
006	Iron Dike prospect (Dike mine)	45-15-48	113-45-37	Pb, Zn, Cu, Au, Ag	11	2	Quartzite (Yy)	Quartz diorite (Yqd)	5, 9, 141
007	Mine (Name unknown)	45-16-56	113-44-05	Cu, Au	11	2	Quartzite (Yy)	---	173
008	Oro Cache mine (Ore Cash, Freeman)	45-17-05	113-41-32	Au, Ag, Pb, Cu, Zn	11	3	Quartzite (Ym)	---	26, 141, 226
009	Schumaker-Olson mine	45-19-10	113-44-50	Au	11	3	Quartzite (Ym)	---	27
010	Twin Cabin mine	45-19-43	113-44-32	Pb, Ag, Au	11	3	Quartzite (Ym)	Diorite (Kd)	141, 173

Eldorado (Bohannon, Whimpey Creek) district, Idaho

The Eldorado district is underlain by Middle Proterozoic quartzite and schist of the Yellowjacket Formation and Lemhi Group. Along the Lemhi River valley are tuffaceous Tertiary sandstones and shales. Lode deposits in quartzite are fissure-filling quartz veins containing pyrite, chalcopyrite, galena, and, rarely, native gold. Placer mining along Bohannon Creek was more profitable than lode mining in the mountains; the three stream terrace levels along Bohannon Creek produced $350,000 in gold from 1895 to 1911 (Umpleby, 1913). The Ranger mine was probably the main lode mine. Development at the Ranger began about 1880, and production continued sporadically through the 1930's. Most of the 1,872 ounces of gold and 6,916 ounces of silver credited to lode mines from the district came from the Ranger (Peters, 1980).

011	Anderson occurrence (Geertson Creek claims)	45-12-13	113-42-44	Cu	11	1	Quartzite (Yy)	---	6, 148
012	Bohannon Creek placer (Bohannon Bar)	45-08-57	113-42-44	Au, Ag	03	3	Alluvium (QTal)	---	6, 35, 137, 226
013	East Bohannon prospect	45-11-37	113-38-05	Cu, Au, Pb	11	2	Quartzite (Yl)	---	173
014	Eldorado mine	45-14-29	113-40-30	Au, Cu, Pb	11	3	Quartzite (Yl)	---	6, 44, 141, 226
015	Geertson Creek placer	45-11-02	113-43-49	Au, Ag	03	3	Alluvium (QTal)	---	32, 35, 137
016	Hungry Hill mine (Mountain View, Jerry Hurley property)	45-12-20	113-40-30	Cu, Au, Ag	11	3	Quartzite (Yl)	---	6
017	Jackson mine (Erikson, Geertson Creek claims)	45-13-05	113-43-15	Cu	11	3	Quartzite (Yy)	---	6, 148
018	Ranger mine	45-14-30	113-41-00	Au, Ag, Pb, Cu	11	3	Quartzite (Yy)	---	6, 44, 226
019	Sundog prospect	45-13-02	113-38-42	Cu, Au, Pb	11	2	Quartzite (Yl)	---	173
020	Whimpey Creek copper prospect (Mendota Group)	45-11-25	113-37-00	Cu, Au	11	2	Quartzite (Yl)	---	173, 218
021	Whimpey Creek lead-silver prospect	45-10-52	113-37-10	Pb, Ag	11	2	Quartzite (Yl)	---	173

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
	Eureka (Salmon City, Jessie Creek, Aurora, Rattlesnake, Iron Creek) district, Idaho								
	Bedrock in the Salmon River Mountains and Lemhi Range is mostly quartzite of the Yellowjacket Formation that has been intruded by granite of Middle Proterozoic age and shallow intrusions of Eocene age. Adjacent valleys and lower mountain slopes are underlain by volcanic and sedimentary deposits of Eocene and younger age. Mineral deposits are mostly veins in quartzite, containing chiefly silver, lead, and gold, although the largest mine in the district, the Pope-Shenon, produced copper and silver. The Pope-Shenon produced at least 2.6 million pounds of copper, beginning in 1908 (Anderson, 1956). Numerous deposits of coal, sandstone, and bentonite near Salmon were mined for local use in the early 1900's. Placer gold production has been small. Several small secondary uranium deposits are known in rhyolite and in carbonaceous sediments of Tertiary age. A copper-molybdenum porphyry prospect at the north end of the district (Bobcat Gulch prospect) has been explored by drilling which began in 1977.								
022	Andrews mine	45-10-41	113-56-01	Ag, Pb, Au	11	3	Quartzite (Yy)	---	30
023	Armstrong prospect (Donna No. 1)	45-04-52	113-55-38	U	10	2	Rhyolite (Tc)	Rhyolite (Tc)	16, 178, 244
024	Bob Moore Creek placer (Moore Creek)	45-12-15	113-55-00	Au, Ag	03	3	Alluvium (QTal)	---	137
025	Bob Moore Creek prospect	45-12-45	113-58-55	Au, Cu, Pb, W	11	2	Quartzite (Yy)	---	6
026	Bob Moore Creek uranium prospect	45-12-30	113-55-48	U	10	2	Sandstone (Tt)	Granite (Ygr)	173
027	Bobcat Gulch prospect (Napolean Ridge)	45-21-23	113-59-37	Cu, Mo	05	2	Quartz diorite (Tqd)	Quartz diorite (Tqd)	48, 173
028	Bromide silver lodes	45-14-12	113-56-05	Ag	11	2	Quartzite (Yy)	Granite (Ygr)	173
029	Contact claim group (Bell, Diamond Creek)	45-17-40	113-56-50	REE, Th, U, Au	10	2	Quartzite (Yy)	Granite (Ygr)	1, 7, 9, 150, 211, 212, 237
030	Copper Mountain mine	45-06-22	113-59-50	Cu	11	3	Quartzite (Yy)	---	94
031	Delmar mine	45-15-43	113-57-40	Au, Cu, Pb	11	3	Quartzite (Yy)	Granite (Ygr)	8, 9, 226
032	Deriar Creek placer	45-14-25	113-53-55	Au, Ag	03	3	Alluvium (Qal)	---	137
033	E-Dah-How claim group (Donna Lou, Leesburg Uranium, Inc., Skyline)	45-03-57	113-54-10	U	10	3	Rhyolite (Tc)	Rhyolite (Tc)	7, 244
034	Eaglesnest occurrence (Eagles Nest, Williams Creek)	45-05-10	113-56-07	U	10	2	Rhyolite (Tc)	Rhyolite (Tc)	213, 244
035	Edwards coal mine	45-10-29	113-57-09	Coal	13	3	Shale (Tt)	---	26

036	Fenster Creek placer	45-13-52	113-53-53	Au, Ag	03	3	Alluvium (Qal)	---	137
037	Forget-Me-Not prospect (Bird Creek prospect)	45-18-40	113-56-23	Au	11	2	Quartzite (Yy)	---	9
038	G. W. Oliver coal mine	45-11-03	113-56-18	Coal	13	3	Shale (Tt)	---	46, 226
039	Lang claim	45-20-55	113-59-56	Au	11	2	Quartzite (Yy)	---	9
040	Lemhi group	45-06-35	113-58-58	Cu	11	2	Quartzite (Yy)	---	173
041	Lemhi River placer	45-09-29	113-49-46	Au, Ag	03	3	Alluvium (Qal)	---	137
042	Lemhi Valley bentonite	45-07-55	113-48-53	Ben	13	3	Shale (Tt)	---	5, 16
043	Lucky prospect (Frank Burch claim)	45-16-40	113-57-48	Au, Th	11	2	Granite (Ygr)	Granite (Ygr)	7, 9
044	McConnell-Sargent claims	45-05-01	113-53-35	U, V	10	3	Rhyolite (Tc)	Rhyolite (Tc)	107, 177
045	McKinley lode	45-16-46	113-56-18	Au	11	2	Quartzite (Yy)	Granite (Ygr)	173
046	Mine (Name unknown)	45-12-35	113-58-30	Au	11	2	Quartzite (Yy)	---	173
047	Mine (Name unknown)	45-13-05	113-56-40	Au	11	3	Granite (Ygr)	Granite (Ygr)	173
048	Napolean Gulch placer	45-21-23	113-57-10	Au, Ag	03	3	Alluvium (Qal)	---	173
049	Pollard coal mine (Chips Creek)	45-10-52	113-56-28	Coal	13	3	Shale (Tt)	---	4, 26
050	Pope-Shenon mine (Grandview, Eureka)	45-04-31	113-51-20	Cu, Ag, Au, Zn	11	3	Quartzite (Yy)	Vitrophyre (Tc)	4, 5, 35, 43, 47, 191
051	Prospect (Name unknown)	45-12-01	113-55-55	Th, REE	09	2	Granite (Ygr)	Granite (Ygr)	173
052	Prospect (Name unknown)	45-16-27	113-55-37	Au	11	2	Quartzite (Yy)	---	173
053	Queen of the Hills mine (Amagosa, Queen and Crescent)	45-14-35	113-56-40	Au, Pb, Cu, W	11	3	Granite (Ygr)	Granite (Ygr)	5, 25, 214, 226
054	Red Bird lodes	45-20-32	113-57-03	Au	11	2	Quartzite (Yy)	---	173
055	Rocket-Dolly group (Rocket, Seloma, Little Maud)	45-18-42	113-56-02	Au	11	2	Quartzite (Yy)	---	9
056	Salmon bentonite mine	45-07-20	113-51-53	Ben	13	3	Siliceous shale, sandstone (Tt)	---	5, 16

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
Eureka (Salmon City, Jessie Creek, Aurora, Rattlesnake, Iron Creek) district, Idaho--Continued									
057	Salmon City coal occurrence	45-10-15	113-55-24	Coal	13	1	Carbonaceous slate, sandstone (Tt)	---	73
058	Salmon sandstone quarry	45-09-23	113-56-10	Stn	13	3	Siliceous shale, sandstone (Tt)	---	5
059	Salmon sandstone quarry south	45-08-55	113-56-01	Stn	13	3	Siliceous shale, sandstone (Tt)	---	5, 24
060	Salmon sandstone quarry east	45-11-27	113-52-05	Stn	13	3	Siliceous shale, sandstone (Tt)	---	5
061	Shoo Fly mine (Sims mine)	45-18-20	113-59-17	Au	11	3	Quartzite (Yy)	---	9, 226
062	Silverton prospect	45-12-50	113-57-48	Pb, Ag, Cu, Zn	11	3	Quartzite (Yy)	Granite (Ygr)	5, 191
063	Simer prospect	45-17-13	113-56-10	Th, U, REE, F	09	2	Granite (Ygr)	Granite (Ygr)	7, 9
064	Sparkplug kyanite prospect	45-12-25	113-58-16	Kyn	13	2	Quartzite (Yy)	---	173
065	Starlight prospect	45-15-05	113-56-22	Au	11	2	Quartzite (Yy)	Granite (Ygr)	173
066	Tendoy mine	45-15-33	113-56-15	Au	11	3	Quartzite (Yy)	Granite (Ygr)	173
067	Tormey mine (Greenhorn, Tormay, Tornay)	45-06-20	113-58-55	Cu, Au, Ag	11	3	Quartzite (Yy)	---	5, 191, 226
068	Wallace Creek placer (Gilt Edge placer)	45-15-54	113-57-25	Au, Ag	03	3	Alluvium (Qal)	---	9, 137
069	Wickham mine (Maverick, Liberty Bell No. 3)	45-17-50	113-55-46	Au	11	2	Quartzite (Yy)	---	9

Gibbonsville (Dahlonega) district, Idaho

Bedrock consists of thick-bedded argillite and quartzite of the Lemhi and Missoula Groups and the Yellowjacket Formation, a few diorite sills and dikes, and minor Tertiary volcanic rocks. The Lemhi and Missoula Group rocks strike northwest and dip steeply northeast. Numerous steep faults trend north, northwest, and northeast. Ore deposits, chiefly gold lodes, occur in quartzite and argillite as narrow, east-trending veins that are broken by numerous faults. The primary vein minerals are auriferous pyrite and chalcopyrite in a gangue of quartz and local calcite. Many gold placer deposits near Gibbonsville have been extensively developed. Since its discovery in 1877, the district has produced more than $2 million in gold, most of which (an estimated 83,500 ounces) came from the A. D. & M. mine (Umpleby, 1913).

070	A. D. & M. mine (Keystone, Huron, American Development)	45-33-30	113-55-07	Au, Cu	11	3	Quartzite (Yy)	Diorite (Td)	29, 31, 132, 226
071	Anderson Creek placer	45-33-23	113-55-25	Au, Ag	03	3	Alluvium (QTal)	---	137, 226
072	Belle placer (Upper Dahlonega Cr.)	45-33-12	113-50-50	Au, Ag	03	3	Alluvium (QTal)	---	137
073	Big Eagle prospect	45-30-15	113-50-02	Au	11	2	Quartzite (Yl)	---	173
074	Big Four mine (Cyanide Gulch mine)	45-32-28	113-55-18	Au	11	3	Quartzite (Yy)	---	45, 173
075	Cardiff Giant group	45-33-12	113-55-09	Au	11	3	Quartzite (Yy)	---	173
076	Chamelion lode (Bull of the Woods)	45-32-01	113-59-45	Au	11	3	Quartzite (Yy)	---	226
077	Chief Claim mine	45-34-00	113-55-23	Au	11	3	Quartzite (Yy)	Diorite (Td)	226
078	Clara Morris group	45-34-18	113-55-12	Au	11	3	Quartzite (Yy)	Diorite (Td)	141, 226
079	Corn Beef group	45-33-10	113-55-48	Au	11	2	Quartzite (Yy)	---	132, 238
080	Dahlonega copper prospect	45-33-18	113-59-41	Cu	11	2	Quartzite (Yl)	---	173
081	Dahlonega Creek placer (Lower Dahlonega Cr.)	45-33-32	113-52-20	Au, Ag	03	3	Alluvium (QTal)	---	137, 192
082	Diane group	45-34-28	113-54-53	Au, Cu	11	2	Quartzite (Yy)	Diorite (Td)	173
083	Ditch Creek placer (Bull of the Woods placer)	45-32-20	113-59-30	Au, Ag	03	2	Alluvium (Qal)	---	173
084	Dot claims	45-33-38	113-58-13	U	10	2	Quartz latite (Tql)	Quartz latite (Tql)	7
085	Dunton prospect	45-31-37	113-49-50	Au	11	2	Quartzite (Yl)	---	173
086	Gold Coin prospect	45-31-38	113-51-25	Au	11	?	Quartzite (Yl)	---	173
087	Golden Reward mine (Lick Creek mine)	45-32-08	113-53-13	Au	11	2	Quartzite (Yy)	---	141
088	Goldfield prospect	45-30-23	113-55-55	Au	11	2	Quartzite (Yl)	---	173
089	Great Western group	45-32-12	113-56-24	Au	11	2	Granodiorite (Tgd)	Granodiorite (Tgd)	173
090	Hammerean Creek placer	45-34-25	113-59-35	Au, Ag	03	2	Alluvium (Qal)	---	137

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				Gibbonsville (Dahlonega) district, Idaho—Continued					
091	Hardway prospect	45-32-22	113-53-17	Au	11	2	Quartzite (Yy)	---	226, 232
092	Highland placer (Trowbridge Bar)	45-31-03	113-55-55	Au, Ag	03	3	Alluvium (QTal)	---	137
093	Hughes Creek placer (Idaho Warren placer)	45-30-05	113-59-45	Au, Ag	03	3	Alluvium (QTal)	---	76, 219
094	Johnson Gulch prospect	45-33-58	113-58-50	Cu	11	2	Quartzite (Yl)	---	173
095	Koper Kyute group	45-39-50	113-56-15	Cu	11	2	Quartzite (Ym)	---	173
096	Little Sheep Creek placer	45-30-15	113-53-11	Au, Ag	03	3	Alluvium (Qal)	---	137
097	Maybe lode	45-30-44	113-57-45	Cu, Ag	11	2	Quartzite (Yl)	---	173
098	McGovern placer (North Fork placer)	45-32-30	113-55-55	Au, Ag	03	3	Alluvium (QTal)	---	137
099	Moon prospect	45-33-12	113-57-40	Cu, U, Au	10	2	Quartzite (Yl)	---	7, 59, 150, 225
100	Moose Creek placer (Little Moose Creek)	45-39-30	113-58-00	Au, Ag	03	2	Alluvium (Qal)	---	137
101	North Fork Salmon River placer at Pierce Creek	45-37-25	113-57-52	Au, Ag	03	3	Alluvium (QTal)	---	137
102	North Star prospect	45-32-17	113-56-00	Cu, Ag	11	2	Granodiorite (Tgd)	Granodiorite (Tgd)	173
103	Occurrence (Name unknown)	45-32-12	113-56-45	Cu	11	1	Quartzite (Yy)	---	173
104	Paroc claim	45-33-18	113-58-15	Cu	11	3	Quartzite (Yl)	---	173
105	Pierce Creek placer	45-37-59	113-57-03	Au, Ag	03	3	Alluvium (QTal)	---	137
106	Powder Gulch prospect	45-31-24	113-54-52	Au	11	2	Quartzite (Yy)	---	173
107	Prospect (Name unknown)	45-32-12	113-59-45	Cu	11	2	Quartzite (Yy)	---	173
108	Ransack Creek placer	45-30-24	113-59-44	Au, Ag	03	3	Alluvium (QTal)	---	137
109	Red Fox placer (Gregg-Bently claims)	45-36-20	113-57-52	Au, Ag	03	3	Alluvium (QTal)	---	232

110	Red Star mine	45-31-40	113-53-10	Au, Ag	11	3	Quartzite (Yy)	---	232
111	Roland and Taylor group	45-34-10	113-55-30	Au, W, Cu	11	3	Quartzite (Yl)	Diorite (Yd)	132, 134, 226
112	Smith placer	45-38-36	113-58-19	Au, Ag	03	3	Alluvium (Qal)	---	137
113	Surprise group (Wilhite uranium, Bitterroot uranium)	45-33-24	113-57-55	U, Cu	10	2	Quartzite (Yl)	---	7, 60, 69, 226
114	Three Mile Creek placer	45-34-17	113-51-56	Au, Ag	03	3	Alluvium (Qal)	---	137
115	Twin Brothers mine (Twin Sisters)	45-32-50	113-55-30	Au, Cu	11	3	Quartzite (Yy)	---	141, 226
116	Vine Creek placer	45-36-50	113-58-15	Au, Ag	03	3	Alluvium (Qal)	---	137
117	4th of July lode	45-29-13	113-55-53	Cu	11	2	Quartzite (Yy)	---	173

Kirtley Creek district, Idaho

Quartzite and argillite of the Yellowjacket Formation, broken by thrust faults and north- and northwest-trending steep faults, occupy the highest parts of the Beaverhead Mountains. Tertiary sediments occupy the lower mountain slopes. Quaternary alluvium and terraces cut in tuffaceous Tertiary sediments were mined using hydraulic giant and dredge at times between 1890 and 1918. The district, at that time, was the most productive placer area in Idaho. About 26,000 ounces of gold were produced. Veins in Middle Proterozoic quartzites, worked near the head of Kirtley Creek, contain pyrite, chalcopyrite, galena, and free gold in a quartz gangue (Koschmann and Bergendahl, 1968).

118	Copper Bullion	45-14-01	113-44-25	Cu	11	2	Quartzite (Yy)	---	173
119	Kirtley Creek placer (Washington Iron Works)	45-12-33	113-47-07	Au, Ag	03	3	Alluvium (QTal)	---	4, 15, 31, 32, 34, 137, 219, 226
120	White Horse mine (Confidence group, Tin Day, Searchlight)	45-15-23	113-41-25	Au, Ag, Cu, Pb	11	3	Quartzite (Yy)	---	6, 27, 141, 226

McDevitt district, Idaho

The northern Lemhi Range and the west flank of the Beaverhead Mountains are composed of quartzitic rocks of the Yellowjacket Formation (Middle Proterozoic). The intervening Lemhi Valley is underlain by Tertiary volcanic and sedimentary rocks. Mineral deposits include auriferous copper vein and replacement deposits in shear zones cutting the quartzitic rocks, and northeast-striking thorite-bearing veins in quartzite on the northern outskirts of the Lemhi Pass thorium district (centered about 3 miles south of the Dillon quadrangle). The Harmony mine was the major copper producer.

121	Apex vein	45-00-36	113-30-10	Th, REE	09	2	Quartzite (Yy)	---	211

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				McDevitt district, Idaho--Continued					
122	Harmony mine (Contention, Leap Year, Anderson group, Income group, Continental)	45-00-52	113-49-36	Cu, Ag, Au	11	3	Quartzite (Yy)	---	5, 33, 84, 190
123	Idaho thorium showing No. 3	45-00-02	113-34-02	Th, REE	09	2	Quartzite (Yy)	---	7
124	Last Chance occurrence	45-00-02	113-33-37	Th, Cu	09	1	Quartzite (Yy)	---	7, 203
125	Pattee Creek workings	45-00-08	113-33-37	Cu	11	2	Quartzite (Yy)	---	204
126	Porterfield prospect	45-02-02	113-49-50	Cu	11	2	Quartzite (Yy)	Vitrophyre (Tc)	5, 191
				North Fork (Fourth-of-July, Boyle Creek districts) area, Idaho					
	The area is underlain by Middle Proterozoic quartzite, Tertiary sedimentary deposits, and part of the Carmen stock, a Cretaceous-Tertiary granodiorite. Ore deposits are mainly veins in quartzite containing base and precious metals in the form of sulfides. Production has been small.								
127	Copper Queen (E-Z copper)	45-25-55	113-59-45	Cu	11	2	Quartzite (Yy)	---	173
128	Fourth-of-July Creek placer	45-24-10	113-51-48	Au, Ag	03	3	Alluvium (Qal)	---	137
129	Little Thompson Gulch prospect	45-24-11	113-56-15	Au, Ag	11	2	Volcanics (Tc)	Granodiorite (Tgd)	173
130	Nineteen-Hundred lode	45-25-44	113-49-00	Au, Cu, Pb	11	2	Quartzite (Yl)	---	173
131	O'Neil Gulch prospect (Rattlesnake claim group)	45-23-33	113-55-39	Au, Ag	11	3	Quartzite (Yy)	Granodiorite (Tgd)	173
132	Orofino lode	45-29-54	113-49-21	Au	11	2	Quartzite (Ym)	---	173
133	Rathburn Gulch prospect	45-27-05	113-59-17	Au	11	2	Quartzite (Yl)	---	173
134	Sheep Creek mine	45-26-53	113-49-26	Au	11	3	Quartzite (Yl)	---	9
135	Sheep Creek placer	45-29-45	113-49-33	Au, Ag	03	3	Alluvium (QTal)	---	9, 137
136	Silver Star property	45-20-09	113-49-51	Au, Cu, Pb, Zn	11	3	Quartzite (Yy)	---	9, 228
137	Smitty prospect	45-27-05	113-49-50	Au	11	2	Quartzite (Yl)	---	9

138	Sunrise prospect	45-27-19	113-50-54	Au	11	2	Quartzite (Y1)	---	173
139	Tower Creek placer (Boyle Creek)	45-19-50	113-52-40	Au, Ag	03	3	Alluvium (Qal)	---	90
140	Wagonhammer prospect	45-24-26	113-55-50	Au, Ag	11	2	Volcanics (Tc)	Volcanics (Tc)	173
141	White Azalea claim	45-22-05	113-56-40	Au	11	2	Quartzite (Yy)	---	9
142	Wilcox prospect	45-21-05	113-54-32	U	10	2	Volcanics (Tc)	Volcanics (Tc)	7, 173

Pratt Creek district, Idaho

Highly faulted quartzites of the Yellowjacket Formation form the highest mountain slopes, and Tertiary and Quaternary deposits mantle the lower slopes. Mineral deposits consist mainly of scattered gold prospects on quartz veins in quartzite, which contain pyrite, chalcopyrite, galena, and sphalerite. Production has been small.

143	Baker lignite mine	45-05-12	113-42-10	Coal	13	3	Shale, sandstone (Tt)	---	6, 121
144	Clearwater group	45-06-42	113-38-28	Au, Ag, Pb, Cu	11	3	Quartzite (Yy)	---	217
145	Kenny Nuclear prospect	45-03-01	113-35-49	Pb, Cu, Zn	11	1	Quartzite (Yy)	---	45
146	Lucky Strike prospect	45-04-46	113-34-08	Au, Pb, Cu	11	3	Quartzite (Yy)	---	6, 232
147	Pratt Creek placer	45-04-45	113-41-34	Au, Ag	03	3	Alluvium (QTal)	---	137
148	Sandy Creek placer	45-06-00	113-37-00	Au, Ag	03	3	Alluvium (Qal)	---	6, 137
149	Sunflower prospect	45-08-50	113-39-48	Au, Cu, Pb	11	2	Quartzite (Yy)	---	6
150	War Eagle prospect	45-08-55	113-36-50	Au, Pb, Cu, Ag	11	2	Quartzite (Yy)	---	6, 173
151	Whimpey Creek placer	45-06-03	113-42-30	Au, Ag	03	2	Alluvium (QTal)	---	137

Sandy Creek district, Idaho

Quartzite of the Yellowjacket Formation is cut locally by diorite dikes and granitic intrusions. Lode deposits, found in the metasedimentary rocks, are fissure fillings of quartz with variable amounts of pyrite, chalcopyrite, and galena. Gold occurs with the sulfides. The Goldstone mine, discovered in the early 1890's, is the principal mine in the district. This mine produced most, if not all, of the 4,055 ounces of gold, 4,433 ounces of silver, 71,359 pounds of copper, and 166,179 pounds of lead credited to the district from 1901 through 1954 (Peters, 1980).

152	Climax mine (IMJ property, Bonanza copper)	45-08-07	113-34-59	Au, Pb, Ag	11	3	Quartzite (Yy)	---	28
153	Goldstone mine	45-08-37	113-34-55	Au, Ag, Cu, Pb	11	3	Quartzite (Yy)	---	6, 200, 226
154	Grizzley prospect	45-06-00	113-34-45	Cu, Ag, Pb	11	2	Quartzite (Yy)	---	173

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				Sandy Creek district, Idaho--Continued					
155	Lone Star prospect	45-06-52	113-35-18	Cu, Ag, Pb	11	2	Quartzite (Yy)	---	173
156	Virginia mine	45-06-30	113-34-50	Au, Pb, Cu	11	3	Quartzite (Yy)	Syenodiorite (Ts)	6, 173
				Anaconda Range area, Montana					
	The Anaconda Range, in the northwest part of the map area, is composed mainly of Tertiary and Cretaceous monzogranite, granodiorite, and quartz monzonite stocks and batholiths. The igneous rocks intrude thrust-faulted Middle Proterozoic age quartzite, argillite, and limestone. A series of high-angle normal faults bound the range on the east. Mineral deposits present include two prospects on veins and a stockwork molybdenum deposit, all of which have had little development.								
157	East Fork prospect	45-59-24	113-13-26	Au	11	2	Granodiorite (Kgd)	Granodiorite (Kgd)	75
158	Hauseman mine	45-49-25	113-34-45	Au	11	2	Monzogranite (Kmg)	Monzogranite (Kmg)	75, 88
159	Lower Seymour Lake molybdenum occurrence	45-59-59	113-11-05	Mo, Ag, W	05	1	Granodiorite (Kgd)	Granodiorite (Kgd)	75
				Argenta (Montana) district, Montana					
	In the south-central part of the quadrangle; folded and complexly faulted sedimentary strata of Middle Proterozoic and Paleozoic age are intruded by a stock of monzogranite and by sills and dikes of andesite and dacite of Late Cretaceous and Tertiary age. Mineral deposits include replacements and veins in carbonate rock, veins in siliceous sedimentary rocks, and disseminations in carbonate and intrusive rocks. The principal deposits, mainly lead and silver, are replacements and veins in carbonate rocks adjacent to the Argenta stock. The district was discovered in 1864 and production continued for more than 100 years; the Hand group of mines was the largest producer.								
160	Argenta pyrophyllite prospect	45-16-58	112-51-48	Pyp	08	2	Monzogranite (Kmg)	Monzogranite (Kmg)	171
161	Badger gold group (North Ermont)	45-16-42	112-54-30	Au, Ag, Cu	11	3	Dolomite (Dj)	---	88, 91
162	Bell Ranch clay prospect	45-16-07	112-48-13	Clay	13	2	Tuffaceous sediments (Tt)	Tuffaceous sediments (Tt)	199, 210
163	Bella mine (Whopper mine)	45-16-47	112-51-23	Ag, Pb, Cu	11	3	Monzogranite (Kmg)	Monzozgranite (Kmg)	205
164	Capital mine (Cave Gulch)	45-20-53	112-51-06	Pb, Ag, Cu, Zn, Au	11	3	Quartzite (Ym)	---	88

165	Carbonate mine	45-18-43	112-52-49	Au, Ag, Pb, Zn	11	3	Quartzite (Of)	---	88, 125
166	Cave Creek phosphate prospect	45-20-00	112-49-11	P	13	2	Phosphorite (Pp)	---	66, 221
167	Comstock lode	45-16-30	112-54-55	Sb, Pb, Zn, Ag	11	3	Limestone (Mm)	---	64
168	Coolidge mine (St. Joseph claim)	45-18-30	112-52-26	Ag, Au, Pb, Zn, Cu	11	3	Dolomite (Dj)	---	88, 205
169	Copper Bell mine	45-17-08	112-51-38	Pb, Cu, Ag, Au	11	3	Monzogranite (Kmg)	Monzogranite (Kmg)	88, 200, 206
170	Dexter mine	45-18-56	112-51-50	Ag, Pb	11	3	Shale (Dt)	Monzogranite (Kmg)	88, 152, 200, 206
171	Ermont mine (Ermont No. 2, 19)	45-15-58	112-54-51	Au, Ag, Cu, Sb	11	3	Dolomite (Dj)	Andesite (Ta)	12, 88, 119, 125, 200
172	Ferdinand mine	45-16-52	112-51-19	Ag, Cu, Pb, Zn, Au	11	3	Monzogranite (Kmg)	Monzogranite (Kmg)	88, 206, 242
173	Fisher mine	45-18-49	112-51-09	Au, Ag, Pb	11	2	Monzogranite (Kmg)	Monzogranite (Kmg)	64
174	Flemings halloysite prospect	45-15-15	112-54-20	Clay	13	2	Volcanics (Tv)	Volcanics (Tv)	88
175	Fluorite No. 1 (Grand Deposit No. 17)	45-15-45	112-57-00	Ba, F	13	2	Shale (IPMa)	---	88
176	French and Watson Gulch placer	45-21-00	112-54-05	Au, Ag	03	3	Alluvium (Qal)	---	139, 200
177	Frying Pan Basin placer	45-16-50	112-45-30	Au, Ag	03	3	Alluvium (Qal)	---	139
178	Galena mine	45-18-45	112-51-22	Ag, Pb	11	2	Limestone (Mm)	Monzogranite (Kmg)	138
179	Gladstone-Argenta mine (Gladstone group)	45-18-35	112-53-15	Au, Ag, Pb	11	3	Shale (Ym)	---	88, 91, 206
180	Golden Era mine	45-19-05	112-53-07	Au, Ag, Pb	11	3	Shale (Ym)	---	88, 115, 200 206
181	Goldfinch group (Gold Finch, Dutchman, Jack)	45-18-28	112-53-59	Ag, Pb, Au, Cu, Zn	11	3	Shale (Ow)	Andesite (Ka)	88, 115, 200
182	Goldsmith mine	45-17-13	112-52-28	Au, Ag, Pb, Zn, Cu	11	3	Limestone (Mm)	Monzogranite (Kmg)	88, 200

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				Argenta (Montana) district, Montana—Continued					
183	Goodview mine	45-18-25	112-52-57	Ag, Au, Pb, Zn, Cu	11	3	Limestone (Ow)	---	88
184	Graybird mine	45-17-07	112-51-13	Pb	11	3	Limestone (IPMa)	Monzogranite (Kmg)	88
185	Groundhog mine	45-18-49	112-52-37	Au, Pb, Ag, Cu	11	3	Quartzite (Of)	---	95, 206
186	Hand group (Mauldin mine, Brownell, Anaconda, Iron Mtn. mine)	45-17-12	112-51-53	Ag, Au, Pb, Cu, Zn	11	3	Limestone (Mm)	Monzogranite (Kmg)	88, 185, 200, 206, 246
187	Jack Rabbit mine	45-17-10	112-51-32	Ag, Cu, Pb, Au	11	3	Monzogranite (Kmg)	Monzogranite (Kmg)	88, 200, 206
188	Joker mine	45-18-50	112-52-44	Pb, Ag, Au	11	2	Quartzite (Of)	---	206
189	Legal Tender mine	45-17-42	112-53-28	Ag, Pb	11	3	Dolomite (Dj)	---	88, 200
190	May Day mine	45-19-10	112-52-27	Au, Ag, Cu, Pb, Zn	11	3	Shale (Ym)	---	65, 88
191	McDonald claim (Colin McDonald claim)	45-17-30	112-53-25	Ag, Pb	11	3	Dolomite (Dj)	---	88, 206
192	Midnight mine (Midnite mine)	45-18-25	112-53-08	Au, Ag, Pb	11	3	Shale (Ym)	---	126, 206, 242
193	Nelson prospect	45-14-22	112-53-42	Au, Ag, Pb	11	2	Andesite (Ka)	Andesite (Ka)	195
194	Payday claim	45-19-15	112-52-27	Au, Ag, Pb, Cu, Zn	11	3	Shale (Ym)	---	88
195	Polar Bear mine	45-18-48	112-52-10	Pb, Au, Ag	11	2	Dolomite (Dj)	---	206
196	Rattlesnake Creek placer (Argenta placer)	45-16-50	112-51-30	Au, Ag	03	3	Alluvium (Qal)	---	139, 200, 241
197	Rena mine	45-18-51	112-52-58	Au, Ag, Pb, Zn, Cu	11	3	Shale (Ym)	---	88, 200
198	Rosemont mine	45-19-10	112-51-02	Ag, Au, Pb, Cu	11	3	Limestone (Mm)	Monzogranite (Kmg)	88
199	Silver Rule mine	45-19-05	112-57-00	Ag, Pb	11	2	Limestone (Mm)	---	88, 200

200	Sir Walter Scott group (Argenta Mining Co. mine)	45-16-50	112-52-35	Au, Ag, Cu, Pb, Bi	11	3	Limestone (Mm)	Monzogranite (Kmg)	97, 200, 206
201	Spanish mine	45-17-45	112-53-24	Ag, Pb	11	3	Dolomite (Dj)	---	88, 200, 206
202	Stapleton mine	45-18-49	112-52-40	Au, Ag, Pb	11	2	Dolomite (Dj)	---	205
203	Starlight claim	45-17-38	112-53-53	Ag, Pb, Au	11	3	Dolomite (Dj)	---	88
204	Storm King mine (Lucky Strike)	45-18-29	112-53-35	Au, Ag, Pb	11	3	Quartzite (Ꞓf)	---	88
205	Sylvia mine	45-18-19	112-53-28	Ag, Au, Pb, Zn, Cu	11	3	Quartzite (Ꞓf)	---	88
206	Tuscarora group (Governor Tilden)	45-18-47	112-52-19	Au, Ag, Cu, Pb, Zn	11	3	Dolomite (Dj)	Andesite (Ka)	88, 200, 206
207	Virginia Gulch mine (Stinson, Stimson)	45-18-47	112-55-25	Au, Ag, Pb, Mn	11	3	Limestone (IPMa)	---	88
208	Watson Gulch mine	45-21-40	112-54-45	Au	11	2	Latite porphyry (Tlp)	Latite porphyry (Tlp)	138, 169
209	White Lime group	45-18-49	112-51-09	Lst	13	2	Limestone (Mm)	---	65
210	Yellow Band group (Park, Cross, Discovery)	45-20-06	112-54-15	Au, Ag, Cu, Pb, Zn	11	3	Dolomite (Dj)	---	88
211	Yellow Bird mine (West Ermont)	45-16-20	112-54-38	Ag, Pb, Cu, Au, Sb	11	3	Dolomite (Dj)	Andesite (Ka)	88

Baldy Mountain (Bald Mountain) district, Montana

Middle Proterozoic quartzite and Paleozoic limestone, shale, and quartzite have been intruded by Cretaceous granodiorite of the Pioneer batholith. This district is in the south-central part of the map area. Gold, silver, and base metals occur in vein and replacement deposits in Cambrian and Devonian carbonate rocks. The amount of ore mined is not known, but it was probably small. Carbonate rocks also host scheelite deposits in skarn, although no production is known.

212	Agnes lode	45-19-19	113-02-16	W	07	2	Limestone (Ꞓh)	Granodiorite (Kgd)	167
213	Bob Harrison mine	45-20-09	113-06-13	Ag, Pb, Zn	11	2	Dolomite (Dj)	---	249
214	Dillon mine	45-18-00	113-02-20	Au, Ag, Cu, Pb, Zn	11	3	Limestone (Ꞓh)	---	88, 200
215	Durham Bull	45-18-05	113-02-10	Cu, Ag, Au, Zn	11	2	Limestone (Pzu)	---	88
216	Dyce Creek placer (Dyer Creek)	45-15-26	113-02-07	Au, Ag	03	3	Alluvium (Qal)	---	88, 139, 200

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
Baldy Mountain (Bald Mountain) district, Montana—Continued									
217	Echo lode	45-19-20	113-02-12	W, Cu	07	2	Limestone (Mm)	Granodiorite (Kgd)	167
218	Elsie claim (Else)	45-18-44	113-03-32	Au, Ag, Cu	11	2	Diorite (Td)	Diorite (Td)	88, 249
219	Fairy Queen	45-18-36	113-02-43	Au	11	2	Granodiorite (Kgd)	Granodiorite (Kgd)	249
220	Faithful group (Old Favorite)	45-18-05	113-01-23	Pb, Zn, Cu, Ag, Au, V	11	3	Limestone (Θh)	---	88, 184, 200
221	Grizzly Bear	45-18-15	113-03-30	Ag, Cu, Au, Pb, Zn	11	2	Dolomite (Dj)	---	88
222	Hazel prospect	45-20-00	113-02-23	W, Mo	07	2	Limestone (Mm)	Granodiorite (Kgd)	167
223	Hi Dakota	45-21-02	113-01-55	Ag	11	2	Quartzite (Ym)	Granodiorite (Kgd)	249
224	Jodie claim	45-17-53	113-03-57	Cu, Pb	11	2	Dolomite (Dj)	---	249
225	Little Hawk mine (Bartholdi)	45-19-10	113-03-12	W, Cu	07	2	Limestone (Mm)	Granodiorite (Kgd)	167
226	Mayflower claim	45-17-45	113-03-30	Au, Ag, Pb, Zn, Cu	11	2	Limestone (Θh)	---	249
227	Miss Grundy	45-18-55	113-04-32	Au	11	2	Dolomite (Dj)	---	88
228	Nick Preen mine	45-18-55	113-01-54	Ag, Pb, Cu, Zn, Au	11	2	Limestone (Mm)	---	88, 249
229	Osterly prospect	45-18-55	113-02-00	Cu, Pb	11	2	Limestone (Mm)	---	88
230	Prospect (Name unknown)	45-18-34	113-04-57	Au	11	2	Dolomite (Dj)	---	249
231	Sunrise claim	45-18-10	113-01-30	Au, Ag, Cu, Pb	11	2	Limestone (Pzu)	Diorite (Kd)	88
232	Virginia claim	45-19-00	113-02-30	Au	07	2	Granodiorite (Kgd)	Granodiorite (Kgd)	167
233	Wild Bat prospect	45-18-40	113-02-25	Cu, Ag, Au	07	2	Limestone (Mm)	Granodiorite (Kgd)	88

Bannack (Bannock, White's Bar) district, Montana

The Bannack district, famous for gold placer deposits along Grasshopper Creek, is underlain by folded and faulted sedimentary rocks of Mississippian to Cretaceous age that follow a north-trending structural grain. They are intruded by several small masses of granodiorite, two of which are exposed in the valley of Grasshopper Creek. Limestones of the Madison Group are the most widespread sedimentary rocks and the most important hosts of ore. The eastern part of the district is covered by Cretaceous and Tertiary volcanic rocks. Lode ores are chiefly in carbonate rocks adjacent to granodiorite. Garnet-rich skarn is common at the contact, and the best ore occurs as replacement deposits on the limestone side of the skarn. Fractures surrounding apophyses of granodiorite localized the ore bodies. Ores consisted of native gold in quartz veins, auriferous pyrite, and minor amounts of chalcopyrite, galena, and sphalerite. The Grasshopper Creek placers were discovered in 1862, and the first significant mining in Montana ensued. Approximately 500,000 ounces of gold has been produced from this district, about 80 percent from placers.

234	Bea Ann claim	45-09-44	112-58-28	Au	11	2	Limestone (Mm)	Granodiorite (Kgd)	88
235	Blue Grass mine	45-09-35	112-58-26	Au, Ag	11	3	Limestone (Mm)	Granodiorite (Kgd)	88, 206
236	Excelsior mine	45-08-58	112-58-42	Ag, Au, Cu, Bi, Mn	11	3	Limestone (Mm)	Granodiorite (Kgd)	88, 138, 242
237	Gold Bug mine (Dakota mine)	45-09-34	112-58-30	Au, Ag, Cu, Pb	11	3	Limestone (Mm)	Granodiorite (Kgd)	88, 182, 206
238	Golden Leaf group (Sleeping Princess, Bannack mine, New York-Montana)	45-09-19	112-59-05	Au, Ag, Cu, Pb, Zn	11	3	Limestone (Mm)	Granodiorite (Kgd)	18, 63, 88, 205, 206, 242
239	Grasshopper Creek placer (Bannack placer)	45-09-59	112-58-26	Au, Ag	03	3	Alluvium (QTal)	---	20, 47, 113, 139, 182, 193, 242
240	Grasshopper prospect	45-09-20	112-55-00	Cu, Mo, Au, Ag, Zn	05	2	Dacite porphyry (Kdp)	Dacite porphyry (Kdp)	146
241	Hendricks-Graeter mine (Bannack-Apex mine)	45-09-20	112-59-45	Au, Ag, Cu, Pb	11	3	Limestone (Mm)	Granodiorite (Kgd)	88, 206
242	Hillside placer mine (Thompson mine)	45-09-07	112-59-07	Au, Ag, Cu, Zn	11	3	Limestone (Mm)	Granodiorite (Kgd)	138
243	Hope placer	45-09-50	112-59-50	Au, Ag	03	3	Alluvium (QTal)	---	233
244	Laurilene No. 1	45-09-45	112-58-41	Au	11	2	Limestone (Mm)	Granodiorite (Kgd)	88
245	Lookout mine	45-09-38	112-58-35	Au, Ag, Cu	11	3	Limestone (Mm)	Granodiorite (Kgd)	206, 242
246	Missouri prospect	45-08-53	112-57-20	Au	11	2	Tuff (Kt)	---	138

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				Bannack (Bannock, White's Bar) district, Montana—Continued					
247	Pioneer mine	45-09-28	112-58-43	Au, Ag, Cu, Zn	11	3	Limestone (Mm)	Granodiorite (Kgd)	88, 184, 206
248	Washington mine	45-09-26	112-58-40	Au, Ag	11	3	Limestone (Mm)	Granodiorite (Kgd)	184, 206
				Beaverhead Mountains area (Mulky, Big Swamp Creek, South Fork Big Hole), Montana					
	The east slope of the Beaverhead Mountains, in the southwest part of the map area, is composed of Middle Proterozoic quartzite and argillite of the Missoula and Lemhi Groups; they are intruded by mafic sills and dikes, probably also Proterozoic. The mountains were deeply incised by glaciers. The Beaverhead Mountains are an uplifted block broken by thrust and steep faults. Lode ores are in vein and replacement deposits in quartzite and basic intrusives situated in zones of complex faulting and fracturing along the crest of the range. Galena-rich ores containing silver and gold are most common. Small amounts of ore have been mined.								
249	Ajax mine (Carrie Leonard)	45-19-25	113-43-26	Au, Ag, Pb, Cu	11	3	Quartzite (Yl)	Diorite (Yd)	158, 200
250	Copper Queen claims	45-14-00	113-35-30	Cu, Pb	11	2	Quartzite (Ym)	Diabase (Yda)	154
251	Dark Horse mine (Darkhorse)	45-10-02	113-35-18	Au, Ag, Cu, Pb, Zn	11	3	Quartzite (Yl)	---	27, 88, 226
252	Darkhorse Creek placer (Mulchey Creek)	45-10-09	113-32-00	Au, Ag	03	3	Alluvium (Qal)	---	139
253	Jackson mine	45-17-13	113-40-57	Au, Ag, Cu, Pb, Zn	11	3	Quartzite (Ym)	Diorite (Yd)	88
254	Jahnke mine (Montana Oreway, Straight Tip)	45-11-21	113-35-13	Pb, Cu, Ag, Au, W	11	3	Quartzite (Yl)	Diorite (Yd)	88, 200
255	Miner Creek placer	45-17-27	113-38-10	Au, Ag	03	3	Alluvium (Qal)	---	200
256	Ranger mine (Slag-A-Melt)	45-22-18	113-40-21	Pb, Cu, Mo	11	3	Quartzite (Ym)	Granodiorite (Kgd)	88
				Big Hole Divide area (North Bloody Dick), Montana					
	This area, in the southwest part of the map area, is composed of quartzites of the Missoula and Lemhi Groups (Middle Proterozoic) overlain locally by tuffaceous Tertiary sedimentary rocks. Two Cretaceous-Tertiary stocks intrude the Missoula Group quartzites near the center of the area, but neither of these are known to be associated with mineralization. The Saginaw mine is the only significant mine in the area. Small amounts of copper-silver ore have been shipped since its discovery in 1894.								

257	Buffalo Creek barite occurrence	45-10-10	113-11-35	Ba	13	1	Quartzite (Ym)	---	40
258	Saginaw mine	45-13-48	113-26-50	Cu, Ag	11	3	Quartzite (Ym)	Diorite (Yd)	88, 200

Birch Creek (Utopia, Farlin) district, Montana

This district, in the central part of the map area, is at the edge of a large southeastward-trending protrusion of the Pioneer batholith, along its contact with Paleozoic carbonate rocks. Skarn, developed locally at the contact, contains varying quantities of scheelite, magnetite, chalcopyrite, and molybdenite. Scheelite and molybdenite are most common in the Amsden Formation, chalcopyrite in the Madison Group, and magnetite in the Hasmark Formation (or Pilgrim Dolomite). The only mine having sizable production is the Indian Queen, which produced 1,729,204 lbs of copper and 42,219 oz of silver (Geach, 1972) from an ore body consisting of garnet-epidote skarn in Mission Canyon Limestone. Most of the metals were mined in 1903 and 1904. Magnetite ore from the Jumbo Group was probably mined for use as flux in nearby smelters.

259	Armstrong Gulch placer	45-23-51	112-52-15	Au, Ag	03	3	Alluvium (Qal)	---	49
260	Birch Creek placer	45-24-08	112-49-40	Au, Ag	03	3	Alluvium (Qal)	---	200
261	Buster mine	45-23-04	112-53-03	Ag, Au, Pb, Cu, Zn	11	2	Dolomite (Ꞵh)	---	88
262	Copper Contact claims	45-24-10	112-48-20	W	07	2	Limestone (Mm)	Granodiorite (Kgd)	88, 167
263	Florence and Lilly	45-22-40	112-50-00	Ag	11	2	Dolomite (Dj)	---	88
264	Glowworm and Greenhorn claims	45-25-17	112-48-05	Cu, W, Mo	07	2	Limestone (PMa)	Granodiorite (Kgd)	88, 167
265	Gold Nugget	45-23-46	112-49-10	Mo, W	07	2	Limestone (Mm)	Granodiorite (Kgd)	167
266	Greenstone mine	45-24-47	112-48-09	Cu, Ag, Au, W	07	3	Limestone (PMa)	Granodiorite (Kgd)	88, 167, 243
267	Haggerty claim	45-23-34	112-49-20	W, Mo	07	2	Limestone (Mm)	Granodiorite (Kgd)	167
268	Indian Queen mine	45-23-52	112-49-10	Ag, Cu, Au, Pb, W	07	3	Limestone (Mm)	Granodiorite (Kgd)	88, 120, 167, 200, 216, 242
269	Jumbo Group (Birch Cr. Iron mine)	45-23-30	112-50-30	Fe, W	07	3	Dolomite (Ꞵh)	Granodiorite (Kgd)	70, 88, 167, 200
270	Rocky Hueep prospect	45-23-55	112-50-56	W	07	2	Granodiorite (Kgd)	Granodiorite (Kgd)	167
271	Sheep Creek placer	45-23-12	112-52-32	Au, Ag	03	3	Alluvium (Qal)	---	49
272	Stanfield prospect	45-23-20	112-49-36	W	07	2	Limestone (Mm)	Granodiorite (Kgd)	167

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				Blacktail Mountains area, Montana					
This range, along the southern edge of the map area, is a block uplift composed of thrust-faulted Paleozoic sedimentary rocks overlying Archean gneiss. These rocks are covered in the western half of the range by volcanic rocks.									
273	Dalys Spur	45-05-08	112-46-47	Sil	13	3	Quartzite (IPq)	---	37, 56
274	Golden Fleece claims	45-03-10	112-37-00	Ba	13	1	Limestone (Mm)	---	40, 169
275	Noble claim group	45-02-15	112-35-09	Cu	11	2	Dolomite (Dj)	---	88, 91, 169
276	Prospect (Name unknown)	45-02-04	112-40-45	Mn	02	2	Limestone (Pp)	---	88
				Blue Wing district, Montana					
Paleozoic strata here are apparently thrust over volcanic rocks of Cretaceous age. This district is located in the south-central part of the map area. Fine-grained Upper Cretaceous granodiorite and andesite were intruded concordantly along the thrust and have bleached and recrystallized the limestone. The Mississippian Mission Canyon Limestone (lowest formation of Madison Group (Mm)), the oldest of the sedimentary rocks explored, as shown by drilling, lies above the volcanic rocks. Ore bodies are veins and replacement deposits in the bleached Mission Canyon and veins in granodiorite.									
277	Artic claim	45-12-24	112-58-01	Ag, Pb	11	3	Limestone (Mm)	Granodiorite (Kgd)	88
278	Charter Oak mine	45-10-05	112-57-25	Ag, Pb, Cu, Au, Zn	11	3	Limestone (Mm)	Granodiorite (Kgd)	88, 205, 224
279	Cold Spring Creek placer (Blue Wing placer)	45-10-20	112-55-50	Au, Ag	03	3	Alluvium (Qal)	---	139
280	Cottontail mine (Huron mine)	45-11-25	112-57-08	Ag, Au, Pb, Zn, Cu	11	3	Limestone (Mm)	Granodiorite (Kgd)	88, 182, 205, 224
281	Del Monte mine (Bonaparte mine)	45-11-42	112-57-27	Ag, Au, Cu, Pb	11	3	Granodiorite (Kgd)	Granodiorite (Kgd)	88, 183, 200, 205, 242
282	Ingersoll group (Bob Ingersol)	45-10-24	112-57-20	Ag, Pb, Cu, Au, Zn	11	3	Limestone (Mm)	Granodiorite (Kgd)	88, 91, 205
283	Iron Mask mine	45-11-20	112-56-51	Ag, Pb, Cu, Zn	11	3	Granodiorite (Kgd)	Granodiorite (Kgd)	88, 138, 205
284	Jeanette claim	45-10-48	112-57-25	Ag, Pb, Cu, Zn, Au	11	3	Limestone (Mm)	---	88
285	Kent group (Blue Wing, Bannack Chief)	45-11-14	112-56-58	Ag, Au, Pb, Cu, Zn	11	3	Limestone (Mm)	Granodiorite (Kgd)	88, 182, 200, 205, 242

286	Leonie Tunnel prospect	45-11-44	112-57-14	Ag	11	2	Granodiorite (Kgd)	Granodiorite (Kgd)	138
287	Logan mine (Lone Star, Silver Star, Skeets)	45-10-37	112-57-07	Ag, Pb, Cu, Zn	11	3	Limestone (Mm)	Granodiorite (Kgd)	88, 138, 205
288	New Departure mine (Blue Dot)	45-11-52	112-55-15	Ag, Au, Pb, Cu, Zn	11	3	Limestone (Mm)	Granodiorite (Kgd)	88, 138, 183, 200, 205, 242
289	Pomeroy mine (Brick Pomeroy, Silver Buckle)	45-11-56	112-57-58	Au, Ag, Pb, Cu, Zn	11	3	Limestone (Mm)	Granodiorite (Kgd)	88, 138, 182, 200, 205
290	Prospect (Name unknown)	45-13-10	112-56-45	Ag, Pb	11	2	Quartzite (IPq)	---	88
291	Randall mine	45-10-58	112-57-21	Ag, Au, Pb	11	3	Limestone (Mm)	---	88, 205
292	Stevenson mine	45-11-42	112-55-57	Ag	11	3	Limestone (Mm)	Granodiorite (Kgd)	205
293	Taylor mine	45-14-00	112-59-17	Au	11	2	Limestone (Mm)	---	138
294	Wheal Rose mine	45-11-39	112-56-05	Ag, Pb	11	3	Limestone (Mm)	---	88, 205

Butte (Summit Valley) district, Montana

Only the southern fringe of the district, south of Butte, is within the Dillon quadrangle. The Upper Cretaceous Butte Quartz Monzonite forms the principal bedrock. It is intruded by dikes and sheets of aplite, quartz porphyry, dacite, and rhyolite and overlain by tuffaceous deposits of Tertiary age. The concentric alteration zoning of the Butte district extends slightly into the Dillon quadrangle, and is probably responsible for the base- and precious-metal mines containing manganese listed here. These mines, which date from the late 1800's, are not well known, and their locations are probably accurate only to within a mile.

295	Anna mine	45-58-55	112-33-30	Au, Ag	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	184
296	Best Hope mine	45-58-30	112-36-10	Au, Ag, Pb, Zn, Mn	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	91
297	Blue Vein mine	45-58-33	112-35-20	Au, Cu	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	91
298	Despatch mine	45-59-50	112-32-42	Mn	02	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	230
299	Good Luck mine	45-58-57	112-32-10	Au, Ag	11	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	64
300	Janney pegmatites	45-54-38	112-28-34	REE	09	1	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	162
301	Rising Sun claims	45-59-47	112-28-37	Au, Ag, Pb, Cu, Mn	11	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	231

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				Butte (Summit Valley) district, Montana—Continued					
302	Shorty mine (Addition)	45-55-29	112-26-03	Au, Ag, Cu	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	184
				Calvert Hill district, Montana					
	Near the northern end of the Pioneer batholith, in the north-central part of the map area, Cretaceous or Tertiary quartz monzonite intrudes sedimentary rocks ranging in age from Middle Proterozoic to Late Cretaceous. Ore deposits are tungsten-bearing skarns and base- and precious-metal veins in upper Paleozoic carbonates near quartz monzonite contacts. In 1956 and 1957 about 102,800 tons of ore averaging 1.13 percent WO_3 was mined from the Calvert mine; at least 10,000 tons has been mined since (Geach, 1972).								
303	Calvert mine (Red Buttons)	45-50-54	113-09-05	W, Be	07	3	Limestone (IPMa)	Granodioirite (Kgd)	88, 127
304	Fool Hen prospect	45-49-08	113-07-45	W	07	2	Limestone (IPMa)	Granodiorite (Kgd)	88, 179
305	White Cap mine	45-50-55	113-10-00	Ag, Au, Cu, Pb, W	11	3	Dolomite (Pp)	---	88
				Divide Creek (Fleecer) district, Montana					
	This district, in the north-central part of the map area, is underlain by intrusive rocks of the Boulder batholith and by two associated bodies, the Humbug and Mt. Fleecer stocks. The batholith and the stocks intrude sedimentary rocks ranging in age from Mississippian to Late Cretaceous. The district is bisected by a north-trending graben filled with Tertiary sedimentary deposits. Ore deposits include fissure fillings closely associated with quartz porphyry or aplite dikes cutting quartz monzonite, and vein and replacement deposits in Paleozoic rocks near contacts with the stocks or the batholith. Production of metals is believed to be small. Before 1900, travertine in Tertiary sediments and Madison limestone were mined for use as flux at the Glendale smelter (near the Hecla district).								
306	Brown claim group	45-44-37	112-42-00	F	13	2	Dolomite (Θh)	---	208
307	Cayuga claim	45-46-50	112-46-18	Cu	11	3	Quartzite (Kk)	Quartz monzonite (Kqm)	242
308	Climax lode (Apex, Clipper)	45-51-50	112-38-04	Au, Ag	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	126, 184, 197
309	Gold Chief lode	45-52-56	112-39-30	Cu	11	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	233
310	Lame Rabbit lode	45-53-08	112-37-12	Au, Ag	11	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	233
311	Lime Rock claim group	45-46-12	112-41-50	Lst	13	3	Limestone (Mm)	---	208

312	Mary Francis claim	45-48-11	112-39-38	Au	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	197
313	Star group	45-49-40	112-49-55	Au, Ag, Cu	07	3	Limestone (Mm)	Granodiorite (Kgd)	151, 169, 242
314	Travertine prospect	45-46-30	112-43-40	Trav	13	3	Sediments (Tt)	---	172
315	Warren prospect	45-46-07	112-42-03	W	07	2	Limestone (Mm)	Quartz monzonite (Kqm)	235

Elkhorn district, Montana

Hornblende-biotite granodiorite of the Pioneer batholith is mineralized along the north-trending Comet fault in this district, located near the center of the map area. The batholith in this vicinity is cut locally by small dikes and irregular masses of quartz porphyry and alaskite. The ores are in quartz fissure veins mostly west of the Comet fault. Veins are generally several feet thick and continuous, but ore shoots seem to be small and scattered. Sulfide minerals are pyrite, tennantite, galena, sphalerite, chalcopyrite, wolframite, and molybdenite. Although the initial discoveries were made and mining was done in the 1870's, the most active period was from 1913 to about 1930. Metals, chiefly silver, valued at about $500,000 have been produced from the district. Exploration in recent years has focused on tungsten and molybdenum prospects.

316	Comet group	45-27-30	113-02-47	Ag, Au, Cu, Pb, Zn	11	3	Granodiorite (Kgd)	Granodiorite (Kgd)	88, 242
317	Eclipse and Oro Grande claims	45-27-45	113-04-10	Mo	11	2	Granodiorite (Kgd)	Granodiorite (Kgd)	88
318	Elkhorn mine (Old Elkhorn, Boston and Montana group)	45-29-24	113-02-20	Ag, Cu, Pb, Mo	11	3	Granodiorite (Kgd)	Granodiorite (Kgd)	88, 89, 106, 183, 200, 242
319	Guy mine	45-27-33	113-04-15	Ag, Cu, Zn, Au, Pb, Mo	11	3	Granodiorite (Kgd)	Granodiorite (Kgd)	88
320	McConnell group (Wellman)	45-26-50	113-04-50	Ag, Pb, Cu, Zn, Au	11	3	Granodiorite (Kgd)	Granodiorite (Kgd)	88, 242
321	Park mine	45-29-00	113-02-51	Ag, Au, Cu, Zn, Pb, W	11	3	Granodiorite (Kgd)	Granodiorite (Kgd)	88, 98, 167, 242
322	Red Rock mine	45-27-30	113-04-54	Ag, Cu, Au	11	3	Granodiorite (Kgd)	Granodiorite (Kgd)	88

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				French Gulch district, Montana					
	Bedrock in this district, in the center of the north part of the map area, is Missoula Group quartzite, a Tertiary or Cretaceous pluton, and Tertiary volcanic rock. Quaternary alluvium in the headwaters of French Gulch and its tributaries have been mined for placer gold intermittently from 1864 to the present. The lode source of the gold was probably narrow quartz veins in the pluton and quartzite. The total placer gold has not been ascertained, and estimates of early production vary considerably. Estimates for the period 1864-1870 range from $1 million to $5 million (Lyden, 1948).								
323	French Gulch placer	45-57-15	113-01-20	Au, Ag	03	3	Alluvium (Qal)	---	10, 139, 182
				Greenhorn Range area, Montana					
	Archean gneiss, schist, amphibolite, and marble form the bedrock in this area, along the southeast edge of the map area. Mineral deposits include talc replacement bodies in marble, gold placers, and quartz veins bearing chiefly copper minerals. Since 1970, talc has been mined at the Willow Creek mine in significant quantities (Berg, 1976).								
324	Barton Creek placer	45-12-50	112-04-21	Au, Ag	03	3	Alluvium (Qal)	---	139, 183
325	Braunzell and Elby prospect	45-11-10	112-03-49	U	10	1	Gneiss (Aqf)	---	74, 244
326	Bull Frog mine	45-12-50	112-00-53	Cu	11	2	Amphibolite (Aam)	---	38
327	Doubtful claim	45-08-08	112-03-52	Talc, Chl	08	2	Marble (Am)	---	38
328	Gardner mine	45-13-35	112-02-55	Au, Ag, Pb	11	3	Gneiss (Aqf)	---	222
329	Greenhorn claim	45-06-40	112-01-17	Talc	08	2	Marble (Am)	---	38
330	Greenhorn Creek placer	45-07-41	112-01-25	Au, Ag	03	3	Alluvium (Qal)	---	139
331	Idaho Creek placer	45-11-04	112-04-55	Au, Ag	03	3	Alluvium (Qal)	---	139, 183
332	Lost Lode mine (Davy Creek, Davy Gulch mine)	45-14-53	112-04-05	Mn	02	3	Marble (Am)	---	140, 220
333	Pettus claims	45-05-45	112-00-53	Talc	08	2	Marble (Am)	---	57
334	Prospect (Name unknown)	45-07-10	112-02-12	Cu	11	2	Gneiss (Aqf)	---	38
335	Ruby claim	45-08-30	112-03-30	Talc, Chl	08	2	Marble (Am)	Diabase (Ada)	38
336	Silver Bell claim	45-08-45	112-02-20	Cu	11	2	Gneiss (Aqf)	---	38
337	Willow Creek mine (Ruby Ridge, Talc Ridge)	45-06-41	112-00-45	Talc	08	3	Marble (Am)	---	38, 163

Hecla (Bryant, Trapper) district, Montana

Paleozoic sedimentary rocks form the flanks of a dome less than 1 mile north of the Pioneer batholith in this district, near the center of the map area. Paleozoic units are thinned on the flanks of the dome and are folded disharmonically and cut by thrust, tear, and normal faults. Ore deposits are chiefly replacement bodies localized by fractures and minor fold crests. The deposits are in favorable stratigraphic zones near the middle of the Hasmark Formation, at the top of the Hasmark directly beneath the Red Lion Formation, and near the middle of the Jefferson Dolomite, as interpreted by E-an Zen (U.S. Geological Survey unpub. mapping). Since its discovery in 1872, about $20 million in ore has been produced from the district (Geach, 1972).

338	Big Four mine	45-36-10	112-55-06	Au, Ag, Pb, Cu, Zn	11	3	Dolomite (Ꞓh)	---	117
339	Cleve-Avon group	45-36-18	112-54-46	Au, Ag, Pb	11	3	Dolomite (Ꞓh, Dj)	---	88, 117, 183, 242, 243
340	Hecla-Silver King group	45-35-14	112-55-51	Au, Ag, Pb, Zn, Cu	11	3	Dolomite (Ꞓh)	---	88, 117, 242, 243
341	Keokirk-Elm Orlu group (Keokuk, Elm or Lou)	45-35-30	112-56-10	Ag, Cu, Au	11	3	Dolomite (Ꞓh)	---	88, 117, 183
342	Lion Mountain group	45-36-16	112-55-52	Ag, Pb, Zn, Cu, Au	11	3	Dolomite (Ꞓh, Dj)	---	88, 117, 200
343	Trapper mine	45-35-46	112-54-50	Pb, Ag, Au, Cu, Zn	11	3	Dolomite (Ꞓh)	---	88, 117, 183

Highland (Fish Creek, Red Mountain) district, Montana

Bedrock of this district, in the northeast part of the map area, consists of slate and quartzite of the Belt Supergroup and Paleozoic limestone, sandstone, and shale along the southeast border of the Boulder batholith. Ore deposits include veins, chimneys, and irregular contact deposits in marbleized Paleozoic limestone and irregular veins in quartz monzonite near the limestone contact. Sulfide ore consists of chalcopyrite, bornite, galena, pyrite, pyrrhotite, arsenopyrite, tetradymite, argentite, and pyrargyrite. Much of the ore was oxidized and contained native gold and silver and oxidized copper and iron minerals. Fish Creek placers were important producers of gold; the Butte Highlands mine was a major producer, mainly of gold.

344	Ballarat mine	45-47-26	112-29-03	Au	11	3	Limestone (Ꞓm)	---	197
345	Bear Cat prospect	45-48-04	112-27-30	Au, Ag, Cu	07	3	Limestone (Ꞓm)	Diorite (Kd)	197
346	Brooks prospect	45-48-15	112-29-36	Au	07	3	Dolomite (Dj)	Diorite (Kd)	197
347	Butte Highlands mine (Only Chance, Nevin mine, Murphy mine)	45-47-50	112-30-56	Au, Ag, Cu, Pb, Zn	11	3	Dolomite (Ꞓm)	Diorite (Kd)	156, 197
348	E. X. L. claim	45-47-55	112-26-11	Au	07	3	Limestone (Ꞓm)	Diorite (Kd)	197
349	Fish Creek placer (Highland placer)	45-47-30	112-27-05	Au, Ag	03	3	Alluvium (Qal)	---	2, 14, 139, 197
350	Highland View claim	45-48-30	112-28-25	Au, Ag, Pb, Zn	07	3	Limestone (Mm)	Diorite (Kd)	156, 197

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				Highland (Fish Creek, Red Mountain) district, Montana--Continued					
351	Overlook	45-49-28	112-27-20	Au, Ag, Cu, W	07	2	Limestone (Mm)	Quartz monzonite (Kqm)	197
352	Ozark prospect	45-47-43	112-29-05	Au, Ag	11	3	Limestone (Cm)	---	197
353	Ready Cash (Paymaster, U.S. Gold)	45-48-55	112-27-20	Au, Ag, Cu, Pb, Zn	07	3	Limestone (Mm)	Quartz monzonite (Kqm)	197
354	Red Wing mine	45-48-27	112-28-47	Au	11	3	Diorite (Kd)	Diorite (Kd)	197
355	Scenic lode	45-48-40	112-23-26	Au, Ag	11	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	233
356	Table Mtn. prospect	45-44-43	112-28-32	Zn, Ag, Pb	06	2	Argillite (Yg)	---	169
357	Templeman claim	45-47-20	112-28-31	Au, Ag, Pb, Zn	11	3	Limestone (Cm)	---	197
358	Upper Hells Canyon placer	45-43-18	112-27-30	Au, Ag	03	3	Alluvium (QTal)	---	139
				Homestake district, Montana					
	Quartz monzonite of the Boulder batholith, intruded by numerous aplite, pegmatite, and diabase dikes, underlies this district in the northeast part of the map area. Ore deposits include gold placers and quartz veins containing gold, silver, and base metals. Veins containing gold and silver are short and irregular but are locally rich. Production from these mines has probably been small.								
359	Blackwell mine (Kendall, Homestake)	45-57-48	112-24-44	Au	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	188
360	Evening Star mine	45-58-02	112-24-48	Ag, Au	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	188
361	Flagg placer (Flag)	45-57-12	112-24-48	Sil, Au, Ag, Cs, Zn	03	3	Alluvium (Qal)	---	188
362	Gold Bug mine	45-57-12	112-23-42	Ag, Au, Cu	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	188
363	Harriet mine	45-57-31	112-24-28	Au, Ag	11	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	188
364	Homestake Creek placer	45-56-40	112-24-20	Au, Ag	03	3	Alluvium (Qal)	---	188
365	Montana mine	45-57-34	112-23-45	Au, Ag, Pb	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	91, 188, 220

366	Mountain Chief mine	45-57-39	112-25-01	Ag, Au, Cu	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	188
367	Nannie Brown mine	45-57-47	112-25-23	Au, Ag	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	188
368	Nellie-Mascot group	45-57-20	112-23-05	Au, Ag, Pb	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	91, 188
369	Pay Rock mine	45-57-37	112-24-01	Au, Ag, Pb, Cu	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	188
370	Welch quarry	45-56-14	112-19-55	Stn	13	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	188

Little Pipestone district, Montana

Bedrock in this district, located in the northeast part of the map area, consists of Paleozoic sedimentary rocks that were intruded by monzogranite and granodiorite of the Boulder batholith. Little is known about the ore deposits, and the only minerals known to have been produced from the district are placer gold and gem-quality amethyst. Production has been small.

371	Little Pipestone Creek placer	45-51-06	112-15-24	Au, Ag	03	3	Alluvium (Qal)	---	188
372	Moscow prospect	45-49-50	112-21-00	Ag, Pb, Zn	11	2	Lamprophyre (Kl)	Lamprophyre (Kl)	169
373	Pohndorf mine	45-52-09	112-21-10	Gem	13	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	102
374	Toll Mountain lode	45-49-45	112-24-00	Mo	05	2	Granodiorite (Kgd)	Quartz monzonite (Kqm)	233

Lost Creek district, Montana

Metamorphism of rock along the contact between the Pioneer batholith and the Amsden Formation (Mississippian and Pennsylvanian) has produced a garnet-epidote skarn that locally contains scheelite in this district, located near the center of the map area. Scheelite is commonly disseminated in the garnet, especially where it is andradite rich (Collins, 1977). Tungsten was discovered at Lost Creek in 1907. During the 1950's, 21,150 tons of 0.18 percent WO_3 ore was produced (Pattee, 1960).

375	Adams Peak claims (Twin Adams Mountain claims)	45-28-34	112-48-15	W	07	2	Limestone (IPMa)	Granodiorite (Kgd)	167
376	Lost Creek mine	45-29-14	112-48-13	W, Mo	07	3	Limestone (IPMa)	Quartz monzonite (Kqm)	58, 127, 130, 167

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
	McCartney Mountain (McCarthy) district, Montana								
	A Late Cretaceous or Tertiary quartz monzonite stock has intruded folded and thrust-faulted Cretaceous sedimentary rocks in this district, located in the center of the east part of the map area. This complex is surrounded by a veneer of Tertiary and Quaternary volcanic and sedimentary rocks. Ore deposits include silver-bearing galena in quartz veins in hornfels and in the quartz monzonite stock. Oxidized ores rich in silver were exploited in the late 1800's. Small amounts of silver-lead ore were shipped to smelters prior to the 1940's. Drilling in 1980 and 1981 has been done on molybdenum occurrences on claims originally staked as part of the Silver King mine.								
377	Ira White prospect	45-30-58	112-35-51	Ag, Pb, Au	11	3	Hornfels (Ku)	Quartz monzonite (Kqm)	186
378	McCartney Creek placer (McCarthy Creek)	45-34-20	112-36-10	Au, Ag	03	3	Alluvium (Qal)	---	139
379	McCartney Mountain molybdenum prospect	45-31-10	112-35-35	Mo	05	2	Hornfels (Ku)	Granodiorite (Kgd)	169
380	Monte Clark mine	45-30-56	112-33-35	Ag, Pb	11	3	Sandstone (Td)	Andesite (Ta)	186
381	Mueller mine (Muellor)	45-31-15	112-35-08	Ag, Au, Pb	11	3	Sandstone (Ku)	Quartz monzonite (Kqm)	126, 186
382	Polly Jane group	45-30-50	112-38-30	Ag, Pb, Mo	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	184
383	Silver King mine	45-31-15	112-35-27	Ag, Mo	11	3	Sandstone (Ku)	Quartz monzonite (Kqm)	186
384	Sodak mine (Hogback group, GOB mine)	45-24-06	112-35-57	Mn	02	3	Quartzite (IPq)	Andesite (Ta)	88
385	Vermont mine	45-30-30	112-35-50	Ag, Pb, Au	11	3	Sandstone (Ku)	Quartz monzonite (Kqm)	186
386	Victory group	45-24-38	112-35-10	Mn	02	3	Shale (Pp)	----	229

Melrose (Camp Creek, Soap Gulch, Wickiup Creek, Galena) district, Montana

East of the broad Big Hole River valley, in the northeast part of the map area, Paleozoic strata dip west and southwest and are in depositional contact with Archean crystalline rocks. Farther north the Archean rocks are faulted against conglomerate, quartzite, and argillite of Middle Proterozoic age. The Hell Canyon pluton of the Boulder batholith intrudes the Archean and Proterozoic rocks at the east end of the district. West of the Big Hole River valley, Paleozoic and Mesozoic strata are folded around northwest axes, and Cretaceous sediments have been intruded by a granodiorite pluton. The valley is underlain by Tertiary and Quaternary deposits. Gold placers in Soap and Camp Gulches were unproductive, due in part to water shortages. The most productive lode deposits have been quartz veins containing pyrite, chalcopyrite, and argentiferous galena, such as the Clipper-Columbia, and replacement silver-lead deposits in the Meagher Limestone, such as the Jackrabbit. Lode mining was well established by the 1880's, when many of the mines provided ores to the Glendale smelter. The smelter closed in 1900, but several of these mines continued making small ore shipments to other smelters until the late 1940's. Production has been small. Gossan, mined as smelter flux prior to 1900 at the King and Queen claims, formed by weathering of massive sulfide deposits in lower Belt strata. Since 1913 substantial amounts of phosphate have been produced from the Phosphoria Formation at the Maiden Rock and Canyon Creek mines.

387	Apex No. 2 claim	45-43-20	112-35-36	Cu, Ag	11	2	Shale (Yg)	---	157
388	Berlin mine	45-40-23	112-42-06	Au, Ag, Pb	07	3	Shale (Kk)	Quartz monzonite (Kqm)	49, 88, 242
389	Calvin mine (Commonwealth Lead Mining Co. mine)	45-38-11	112-35-40	Ag, Au, Pb, Zn, Cu	11	3	Dolomite (Ꞓm)	---	11, 129, 142, 196, 242
390	Camp Creek placer	45-42-00	112-31-54	Au, Ag	03	3	Alluvium (Qal)	---	139
391	Canyon Creek phosphate mine (Fertilizer lode)	45-41-30	112-45-25	P	13	3	Phosphorite (Pp)	---	65, 67, 174
392	Canyon Creek quarry	45-42-06	112-44-16	Sil	13	3	Quartzite (Pq `	---	126
393	Carnotite claim	45-40-14	112-37-43	U	10	2	Limestone (Ꞓp)	---	51, 225
394	Christainsen group	45-41-32	112-39-33	Ag, Cu	11	3	Schist (Yc)	---	196, 242
395	Clipper-Columbia group	45-43-27	112-33-19	Cu	11	3	Argillite (Yg)	---	197, 242
396	Emma Nevada mine	45-41-51	112-38-42	Ag	11	3	Argillite (Yc)	---	196, 242
397	Gold King mine	45-41-16	112-38-57	Au, Ag, Cu, Pb	11	3	Limestone (Ꞓp)	---	196
398	Jackrabbit mine (Jack Rabbit)	45-38-47	112-35-59	Pb, Zn, Ag	11	3	Limestone (Ꞓm)	---	142
399	King and Queen claims	45-42-30	112-34-34	Fe	06	3	Argillite (Yc)	---	242
400	Little group	45-41-17	112-38-45	Cu	11	3	Schist (As)	---	196
401	Maiden Rock mine	45-41-43	112-44-03	P	13	3	Phosphorite (Pp)	---	174, 220
402	Maiden Rock quarry	45-42-27	112-44-34	Lst	13	3	Limestone (Mm)	---	172
403	Old Glory mine	45-42-43	112-38-40	Ag	11	3	Argillite (Yg)	---	197

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
Melrose (Camp Creek, Soap Gulch, Wickiup Creek, Galena) district, Montana—Continued									
404	Pandora mine	45-42-04	112-36-35	Ag, Pb	11	3	Quartzite (Ylh)	---	197
405	Peabody mine (George Peabody)	45-39-15	112-37-09	Ag, Pb, Au	11	3	Dolomite (Ɛm)	---	11, 196
406	R and M claim	45-37-58	112-37-08	U	10	2	Mudstone (Du)	---	51, 225
407	Richard Mullens property	45-38-48	112-37-20	Ag, Pb, Au	11	2	Dolomite (Dj)	---	81
408	Rochester-Camp Creek Divide placer	45-41-35	112-30-10	Au, Ag	03	3	Alluvium (QTal)	---	139
409	Short Shift mine	45-41-12	112-30-22	Au	11	2	Gneiss (Aqf)	---	169
410	Soap Gulch barite occurrence	45-40-35	112-39-04	Ba	13	1	Dolomite (Dj)	---	40
411	Soap Gulch placer	45-42-25	112-37-00	Au, Ag	03	3	Alluvium (Qal)	---	139
412	Uranium claims	45-36-13	112-36-13	U	10	2	Mudstone (Du)	---	51, 225, 244
Monument (Bloody Dick, Beaverhead) district, Montana									
A fault slice of highly sheared Early Proterozoic crystalline rock between allochthonous Lemhi Group quartzites is host to masses of vein quartz that contain secondary copper minerals in this district, located along the south edge of the map area. Lodes, discovered in the 1870's or 1880's, produced about 500 tons of shipping ore before the mines closed in 1929 (Geach, 1972).									
413	Jung Frau mine	45-00-15	113-20-35	Cu, Ag, Ba	11	3	Gneiss (Xg)	---	88
414	Monument mine	45-00-01	113-19-18	Cu, Ag, Au	11	3	Schist (Xg)	---	88, 200
415	Sunshine claim	45-00-05	113-20-24	Cu, Ag, Pb, Au	11	3	Gneiss (Xg)	---	88
Moose Creek (Moosetown, Humbug) district, Montana									
Belt strata and Paleozoic strata, intruded by the monzongranite Humbug stock, underlie the district, located in the northeast part of the map area. Ore deposits include gold placers, and veins and replacements in Paleozoic carbonates near the monzogranite contact. The placers have been intermittently worked, with production estimated at several hundred thousand dollars in gold since 1866 (Dingman, 1932). Lode mines were discovered by 1868, and small shipments of ore were produced until the 1930's.									
416	Copper Hill mine	45-43-15	112-40-12	Cu, Ag	11	3	Argillite (Yc)	---	42
417	Day and Harvey mine	45-45-59	112-35-30	Au, Ag, Cu	11	3	Limestone (Ɛm)	---	197, 242

418	Elkhorn-Buckhorn claim	45-49-26	112-36-03	Ag, Pb, Zn	11	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	197
419	Gold Dust claim	45-43-36	112-41-13	Ag	11	3	Quartzite (Yg)	---	197
420	Gold Hill group (Montreal group, Free gold)	45-45-48	112-32-12	Au, Ag, Cu	11	3	Argillite (Yh)	Quartz monzonite (Kqm)	197, 242
421	Lower Moose Creek placer	45-43-13	112-41-18	Au, Ag	03	3	Alluvium (Qal)	---	71, 139
422	Mary Ann property	45-46-54	112-34-15	Au, Ag	11	3	Dolomite (Dj)	Quartz monzonite (Kqm)	197
423	Silver Glance	45-45-55	112-31-50	Ag	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	197
424	Sunset claim	45-45-50	112-35-10	Au, Ag	11	3	Limestone (Ɛm)	---	197
425	Tucker Creek phosphate	45-47-45	112-37-00	P	13	3	Phosphorite (Pp)	---	67
426	Upper Moose Creek placer	45-46-15	112-34-40	Au, Ag	03	3	Alluvium (Qal)	---	71, 139
427	Van Dorstan claims (Buckhorn, Mohawk)	45-46-10	112-32-40	Ag, Au, Cu	11	3	Limestone (Ɛh)	---	197
428	Wildcat claim	45-47-03	112-34-17	Au, Ag	11	3	Dolomite (Dj)	---	197

Moose Lake district, Montana

Quartzite, limestone, and argillite, mainly of the Missoula Group and Helena Formation of the Belt Supergroup (Middle Proterozoic), are cut by numerous faults and are intruded by Cretaceous and (or) Tertiary igneous rocks consisting mostly of granodiorite, and monzogranite in this area, located in the northwest part of the map area. Mineral deposits consist of quartz fissure veins in granodiorite and in Belt quartzite. At the Senate mine, chalcopyrite, pyrite, and galena occur in quartz veins and sparsely disseminated in the wall rocks; production is reported to be small, although the exact amount is unknown.

429	Clipper lode	45-56-55	113-34-10	Ag, Cu, Au	11	2	Quartzite (Ym)	---	75
430	Copper Mountain lode	45-59-17	113-32-55	Ag, Cu, Pb, Zn	11	2	Quartzite (Yms)	---	75
431	Hidden Lake prospect	45-56-03	113-31-15	W, Au, Cu	07	1	Calcareous quartzite (Ym)	Granodiorite (Kgd)	75, 235
432	Ivanhoe Lake prospects	45-59-00	113-32-35	Ag, Pb	11	2	Quartzite (Ym)	---	75
433	Johnson claim	45-57-17	113-32-53	Ag, Cu, Pb, Au	11	2	Quartzite (Ym)	---	75
434	Luke claims	45-59-56	113-27-57	Ag, Pb	11	2	Quartzite (Yms)	---	75
435	Mayflower lode	45-59-20	113-32-15	Ag, Cu, Pb, Zn	11	2	Quartzite (Yms)	---	75
436	Pine Squirrel claim	45-58-12	113-33-25	Ag, Au	11	2	Quartzite (Yms)	---	75

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				Moose Lake district, Montana—Continued					
437	Ripple Lake prospect	45-56-00	113-33-32	Ag, Cu, Au	11	2	Quartzite (Yms)	---	75
438	Rock Rabbit and Sunbeam claims	45-59-52	113-27-27	Au, Ag, Cu, Pb	11	2	Quartzite (Yms)	---	75
439	Senate mine	45-59-32	113-33-00	Cu, Ag, Pb, Ba	11	3	Quartzite (Yms)	---	75, 164, 231
440	South Clipper prospect	45-56-42	113-34-15	Ag, Cu, Au	11	2	Quartzite (Ym)	---	75
441	Warren Peak prospect (Jasper and Mattlich claims)	45-59-25	113-27-50	Ag, Pb	11	2	Quartzite (Ym)	---	75, 231
				Pioneer (Rescue, Trail Creek) district, Montana					
	This district, situated along the Montana-Idaho State line, is underlain by Lemhi Group and Missoula Group quartzite that have been intruded by Cretaceous or Tertiary two-mica granite of the Idaho batholith. Erosional remnants of Tertiary gravel remain along Ruby Creek and north of the North Fork of the Big Hole River. Ore deposits are chiefly gold placers derived, at least in part, from the Tertiary gravel. Gold placers, discovered on Pioneer Creek in 1862 and on most other creeks by the 1880's, have been intermittently worked since, but production has been small.								
442	Cow Creek placer	45-32-40	113-46-12	Au, Ag	03	3	Alluvium (Qal)	---	245
443	Jumper No. 1 claim	45-33-40	113-44-04	Fe	12	3	Quartzite (Ym)	---	88
444	May Creek placer	45-38-53	113-47-45	Au, Ag	03	3	Alluvium (Qal)	---	139
445	Moosehorn mine	45-33-35	113-43-54	Ag, Cu, Fe	11	3	Quartzite (Ym)	---	88
446	Nugget Creek (Nugget Bar placer, Ruby Creek)	45-33-08	113-48-05	Au, Ag	03	3	Alluvium (Qal)	---	169
447	Pioneer Creek placer (Ruby Creek)	45-32-54	113-47-34	Au, Ag	03	3	Alluvium (Qal)	---	139, 200
448	Placer Creek placer	45-39-26	113-39-47	Au, Ag	03	3	Alluvium (Qal)	---	139
449	Trail Creek placer	45-40-03	113-49-10	Au, Ag	03	3	Alluvium (Qal)	---	139
				Pioneer Mountains area					
	The Pioneer Mountains area, in the center of the map area, contains scattered mines and prospects that are not included in identified mining districts. The area is largely underlain by Proterozoic quartzite (probably allochthonous), Paleozoic sedimentary rocks, and Cretaceous plutons related to the Pioneer batholith. Deposits include base- and precious-metal veins discovered and developed during the late 1800's, stockwork molybdenum deposits discovered since 1967, a stratabound copper occurrence, and barite veins.								

450	Amaden lode	45-25-12	112-59-30	Mo, Cu	05	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	153
451	Armor Creek molybdenum prospect (Odell claim group)	45-32-18	113-10-27	Mo, Ag	05	2	Quartzite (Ym)	Granodiorite (Kgd)	41
452	Atlas mine	45-40-06	113-01-24	Cu	11	2	Dolomite (Ym)	---	88
453	Baldy Lake breccia	45-35-56	113-16-00	Cu, Mo, Ag, Pb, Zn	05	1	Quartzite (Ym)	Granodiorite (Kgd)	41
454	Bear Paw claim (Ibex mine)	45-35-10	113-14-32	Ag, Cu, Pb, Mo	11	2	Tonalite (TKt)	Tonalite (TKt)	41, 88
455	Black Lion molybdenum prospect	45-37-52	113-00-41	Mo	05	1	Granite (TKg)	Granite (TKg)	145, 169
456	Blackmore prospect	45-25-40	112-59-38	Mo	05	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	167
457	Bobsled and OCJ claim	45-31-17	113-03-24	Mo	11	2	Alaskite (Kal)	Alaskite (Kal)	88
458	Crystal Park molybdenum prospect (Hot Springs Creek, Price Creek)	45-28-35	113-05-50	Mo	05	1	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	170
459	Dickie Hills barite occurrence	45-51-55	113-04-35	Ba	13	1	Quartzite (Ym)	---	40
460	Indian Girl claim	45-38-50	113-12-00	Ag, Cu	11	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	41
461	Jacobson Meadows	45-31-30	113-02-40	Cu, Ag, Mo	05	1	Granodiorite (Kgd)	Granodiorite (Kgd)	170
462	Joe Maurice mine	45-36-20	113-01-20	Cu	11	2	Dolomite (Θh)	---	41
463	Lively mine	45-32-56	113-00-02	Pb, Ag, Zn, Cu	11	3	Granodiorite (Kgd)	Granodiorite (Kgd)	88, 169
464	Lucky Jim Beam group (Shoestring lode claims)	45-27-06	113-16-42	Ba	13	3	Quartzite (Ym)	---	40
465	Monaghan prospect (Birch Creek, Pear Lake)	45-26-10	112-59-38	Mo	05	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	88, 122
466	North Star mine	45-51-10	113-05-06	Au, Ag, Cu	11	3	Quartzite (Ym)	---	88
467	Old Tim Creek molybdenum prospect	45-25-00	113-12-36	Mo	05	2	Quartzite (Ym)	---	170

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				Pioneer Mountains area--Continued					
468	Pacman claims	45-26-40	113-22-00	Cu, Ag	06	2	Quartzite (Ym)	---	169, 227
469	Prospect (Name unknown)	45-45-05	112-51-38	P	12	2	Phosphorite (Pp)	---	169
470	Prospect (Name unknown)	45-38-15	112-45-10	Mn	02	2	Limestone (Td)	---	169
471	Star and Star Extension mine (Moonlight)	45-47-22	113-01-38	Au, Ag, Cu, Pb, Zn	11	3	Quartzite (Ym)	---	41, 88
472	Stone Creek molybdenum prospect (Stone Horse, COB claims)	45-41-20	113-12-10	Mo	05	2	Quartzite (Ym)	---	41
				Pipestone (Big Pipestone Creek) district, Montana					
	Bedrock of the district, in the northeast corner of the map area, consists of quartz monzonite of the Boulder batholith intruded by numerous alaskite stocks. Mineral deposit types present are quartz fissure veins containing free gold, mineralized zones in brecciated and recemented quartz monzonite, and a gold placer. Quartz veins have produced some ore but the brecciated zones have not been successfully worked. Lode mining was conducted mainly between 1921 and 1942, when 241 ounces of gold and 4,657 ounces of silver were produced (Roby, and others, 1960). Placer mining activity has been minor.								
473	Aluise lode	45-58-17	112-19-02	Au	11	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	233
474	Big Chief mine	45-58-55	112-22-05	Au	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	188
475	Big Pipestone Creek placer	45-54-20	112-15-45	Au, Ag	03	3	Alluvium (Qal)	---	188
476	Blue Rock lode	45-59-01	112-18-19	Au, Ag	11	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	233
477	Bluebell mine (Marsh mine)	45-57-57	112-19-08	Au	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	188
478	Easter Lillie mine (Ogle mine)	45-56-12	112-14-25	Pb, Ag, Au, Cu, Zn	11	2	Diorite (Kd)	Diorite (Kd)	180
479	Grubstake lode	45-58-55	112-18-23	Au, Ag, Cu, Pb	11	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	233
480	Jupiter mine	45-53-03	112-18-07	Ag, Au, Cu	11	3	Diorite (Kd)	Diorite (Kd)	188
481	King mine	45-58-52	112-16-28	Ag, Pb	11	2	Alaskite (Kal)	Alaskite (Kal)	169

482	Lucky Irishman lode (Jefferson)	45-58-23	112-15-35	Ag, Au	11	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	233
483	Mascot lode	45-58-58	112-18-19	Au, Ag	11	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	233
484	Mine (Name unknown)	45-55-15	112-15-57	Au, Ag	11	3	Diorite (Kd)	Andesite (Ka)	169
485	Silver Queen mine	45-57-31	112-16-39	Ag	11	2	Granodiorite (Kgd)	Granodiorite (Kgd)	233
486	Sixteen-to-one mine (High Grade)	45-53-03	112-18-40	Au	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	188
487	Spire Rock mine	45-57-13	112-17-17	Au	11	2	Alaskite (Kal)	Alaskite (Kal)	169

Pipestone Pass (Donald) area, Montana

This area, along the continental divide in the northeast part of the map area, is underlain by igneous rocks of the Boulder batholith, which include the Butte Quartz Monzonite and younger, more leucocratic igneous bodies intruding it. Molybdenite, pyrite, and minor chalcopyrite occur as disseminated flakes, crystals along fractures, and crystals in miarolitic cavities in alaskite, leucogranite, and pegmatite at several sites near Pipestone Pass. Minor gold placering occurred in the 1870's. Molybdenum prospects date from the 1950's.

488	Blacktail Creek placer	45-52-51	112-27-33	Au, Ag	03	3	Alluvium (Qal)	---	188
489	Clark prospect	45-51-37	112-27-55	Mo	05	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	209
490	Ogle claims	45-51-30	112-26-45	Mo	05	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	233

Polaris (Lost Cloud, Beaverhead) district, Montana

The Polaris district is located in the south-central part of the map area. The known ore deposit is associated with a N. 60° E.-trending mineralized fault zone that separates Middle Proterozoic quartzite on the northwest side from bleached, recrystallized dolomite of Cambrian or Devonian age on the southeast side. Ore occurs in veins adjacent to the main fault. Most of the ore was oxidized, but tetrahedrite and minor galena and sphalerite are probable primary sulfides. The district was an important silver producer between 1883 and 1900 when it produced $250,000 (Geach, 1972). Production since 1900 has been small and sporadic.

491	Billings Creek placer	45-22-13	113-05-30	Au, Ag	03	3	Alluvium (Qal)	---	169
492	Polaris mine (Silver Fissure)	45-22-01	113-05-06	Ag, Cu, Au, Pb, Zn	11	3	Limestone (Mm)	---	68, 88, 126, 242
493	Silver King mine	45-21-48	113-05-00	Ag, Cu, Au, Pb, Zn	11	3	Limestone (Mm)	---	68, 88

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
	Quartz Hill-Vipond (Vipond Park) district, Montana								
	Paleozoic strata that underlie this district, in the center of the northern part of the map area, have been folded about northwest-trending axes and broken by northwest- and north-northeast- to northeast-trending faults. Ore deposits are veins and replacement bodies mainly in the Cambrian Hasmark Formation. The veins trend north-northeast and northeast. Production from the district between 1867 and 1962 has totaled an estimated $2 million, of which the bulk has come from silver-rich replacement deposits in the Lone Pine mine. Deposits there were localized by fractures in the Hasmark Formation and near a fold crest beneath the less permeable Red Lion Formation (Cambrian). The Cannivan stock, a multi-phase Late Cretaceous-Early Tertiary intrusion ranging from granodiorite to quartz monzonite, forms skarn at its contact with Paleozoic carbonates and hosts the Cannivan Gulch stockwork molybdenum deposit discovered in 1968 (Hammitt and Schmidt, 1982).								
494	Aurora mine	45-43-24	112-54-10	Ag, Cu, Au	11	3	Dolomite (Ꞓh)	---	88, 93
495	Blue Bell mine (Blue Belt)	45-40-12	112-59-20	Au, Ag, Pb, Cu, V	11	2	Dolomite (Dj)	---	88
496	Bonanza mine	45-43-22	112-53-59	Ag	11	3	Dolomite (Dj)	---	93
497	Burgierosa group (G-W mine)	45-42-20	112-56-51	Ag, Au, Cu, Pb, Zn	11	3	Dolomite (Ꞓh)	---	88, 93, 247
498	Cannivan Gulch deposit	45-39-17	112-57-20	W, Ag, Au, Mo	05	2	Quartz monzonite (Kqm), Skarn (Dj, Ꞓh)	Quartz monzonite (Kqm)	88, 96, 167, 202
499	Churchill mine	45-46-41	112-52-26	Ag, Pb, Au	11	2	Limestone (Mm)	Granodiorite (Kgd)	88
500	East Aurora mine	45-43-24	112-54-04	Ag	11	2	Dolomite (Ꞓh)	---	88, 93
501	Faithful mine (Julian Wegener)	45-41-32	112-56-50	Ag, Pb, Au, Cu	11	3	Quartzite (Ym)	---	17, 88
502	Gold Coin mine	45-41-10	112-58-35	Au	11	3	Argillite (Ꞓsh)	---	88
503	Gray Jockey mine	45-41-42	112-55-55	Ag, Au, Cu, Pb	11	3	Limestone (Ꞓh)	---	88, 182
504	Great Western mine	45-43-08	112-54-08	Ag	11	3	Dolomite (Ꞓh)	---	88, 93
505	Keystone mine	45-45-03	112-54-46	Au, Ag	11	3	Dolomite (Dj)	---	64, 88
506	Limekiln Gulch quarry	45-45-52	112-52-10	Lst	13	3	Limestone (Mm)	---	95
507	Log Cabin lode	45-41-44	112-56-50	Ag, Pb, Cu, Zn	11	3	Limestone (Ꞓh)	---	64, 88

508	Lone Pine mine (Quartz Hill, Jay Hawk, Argyle)	45-42-56	112-53-48	Ag, Au, Cu, Pb, Zn	11	3	Dolomite (Ꞵh)	---	88, 91, 93, 95, 136, 184, 200, 223
509	Monte Cristo mine	45-43-52	112 54-09	Ag, Cu, Pb, Au	11	3	Dolomite (Ꞵh)	---	88, 93
510	Pettingale mine (Pettingill, Rushwhite Tunnel)	45-43-18	112 53-57	Ag	11	3	Dolomite (Ꞵh)	---	88
511	Queen of the Hills mine	45-40-26	112-57-12	Au, Ag, Cu, Pb, Zn	11	3	Granite gneiss (Xg)	Granodiorite (Kgd)	88, 124, 155, 160, 200, 242
512	Sheep Mountain prospect	45-40-50	112-58-30	Ag, Pb, Au, Cu, Zn	11	3	Limestone (Ꞵh)	---	88
513	Titanus mine	45-43-35	112-54-10	Ag	11	3	Limestone (Ꞵh)	---	88, 93
514	Tuxedo mine	45-42-50	112-56-15	Ag, Au, Pb, Zn	11	2	Limestone (Ꞵh)	---	88, 93
515	Twin Fir prospect	45-42-58	112-54-06	Ag	11	2	Limestone (Ꞵh)	---	93

Renova (Cedar Hollow, Bone Basin) district, Montana

Rocks in this district, near the northeast corner of the map area, are Middle Proterozoic arkosic sandstone and argillite overlain by Paleozoic sandstone, shale, and limestone. Cretaceous volcanic rocks are also present. Dikes of andesite and quartz porphyry cut the sedimentary rock. Veins cutting Proterozoic rock form most mineral deposits; however, the Mayflower mine, operating from 1896 to 1905, and the most productive in the district, contained chiefly telluride ore along a bedding fault in Paleozoic limestone. It produced about $1,250,000, mainly gold (Winchell, 1914).

516	Birsch's mine (Perry mine)	45-44-22	112-05-02	Ag, Pb	11	2	Limestone (Dj)	---	159
517	Florence mine (Cook mine)	45-45-52	112-05-40	Au, Ag, Cu, Pb, Zn, Fe, Cr	11	3	Limestone (Ꞵm)	---	86
518	Gold Hill group	45-47-06	112-05-55	Au, Ag, Cu	11	3	Sandstone (Ylh)	---	184, 242
519	Iron King claim (Lepp, Sunbeam)	45-46-25	112-07-15	Fe, Mn	12	3	Shale (Ꞵw)	---	166, 181
520	Mayflower mine	45-47-38	112-00-05	Au, Te, Ag	11	3	Limestone (Ꞵm)	Andesite (Ka)	52, 135, 184, 222, 242
521	Perry Canyon tungsten prospect	45-45-05	112-07-45	W, Mo	07	2	Limestone (Dj)	Quartz monzonite (Kqm)	235
522	Surprise mine	45-47-40	112-05-35	Au	11	3	Sandstone (Ylh)	Quartz porphyry (Kqp)	36, 242

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				Rochester (Rabbit) district, Montana					
	Rocks in this district, near the center of the eastern part of the map area, are dominantly schist and gneiss of Archean age that are locally intruded by small plutons of quartz monzonite, diorite, and aplite related to the Boulder batholith. Ore deposits are mostly northeast-trending veins in gneiss and schist; they contain gold, silver, arsenopyrite, pyrite, and lesser amounts of lead, zinc, and copper minerals in a quartz gangue. Much of the ore has been oxidized to a depth of 600 feet and consists of quartz, limonite, and oxidized copper and lead minerals. Discovered during the 1860's, the district reached its peak between 1935 and 1942. Gold production has totaled about 100,000 ounces, from at least 40 mines (Sahinen, 1939). The Watseca mine was the largest.								
523	Ajax mine	45-36-41	112-32-28	Pb	11	3	Schist (As)	---	196
524	Anything mine	45-36-50	112-28-55	Au, Ag, Pb, Cu	11	3	Gneiss (Aqf)	---	196
525	April claims	45-35-58	112-28-25	Mo	05	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	169
526	Beacon Light mine	45-36-45	112-30-38	Cu	11	3	Schist (As)	---	196
527	Big Bonanza	45-38-10	112-29-21	Au	11	3	Gneiss (Aqf)	---	184, 196
528	Brazill claim	45-37-50	112-29-17	Au, Ag	11	2	Schist (As)	---	196
529	Buffalo mine	45-37-13	112-28-50	Au	11	3	Gneiss (Aqf)	---	196
530	Carpenter mine (Nellie Gray, Abbie Alice)	45-37-25	112-29-07	Au	11	3	Gneiss (Aqf)	---	196
531	Champion mine	45-37-00	112-30-30	Au, Ag, Cu, Pb	11	3	Schist (As)	---	196
532	Cooper mine	45-35-45	112-30-18	Pb, Ag	11	3	Schist (As)	---	196, 242
533	Eclipse mine	45-35-35	112-29-40	Pb, Ag	11	3	Schist (As)	---	196
534	Elgin mine	45-37-29	112-29-39	Au, Ag	11	3	Gneiss (Aqf)	---	196
535	Emma mine	45-35-54	112-30-58	Ag, Pb, Au, Cu, Zn	11	3	Granite (Aqf)	---	184, 196, 246
536	Germania mine	45-36-10	112-27-29	Au, Ag	11	3	Schist (As)	---	196, 242
537	Gold Nugget claim	45-37-30	112-29-30	Au, Ag	11	3	Schist (As)	---	196
538	Independence claim	45-37-00	112-30-05	Au, Ag	11	3	Schist (As)	---	196
539	Index mine	45-36-47	112-30-57	Au, Ag	11	3	Schist (As)	---	196
540	Longfellow mine	45-36-10	112-30-25	Au, Ag, Pb, Cu	11	3	Gneiss (Aqf)	---	196, 242

541	Mutch mine	45-35-48	112-28-51	Au, Ag, Pb, Cu, V	11	2	Gneiss (Aqf)	---	196
542	New mine	45-36-23	112-30-52	Au, Ag	11	3	Schist (As)	---	196, 242
543	Picard mine	45-37-50	112-29-41	Au	11	3	Schist (As)	---	196
544	Rochester Creek placer	45-35-00	112-28-10	Au, Ag	03	3	Alluvium (Qal)	---	139
545	Shoemaker mine	45-35-31	112-30-05	Au, Ag	11	3	Schist (As)	---	196
546	Shortfellow mine	45-36-05	112-30-48	Au, Ag, Pb, Cu, Zn	11	3	Schist (As)	---	169
547	Silver Note claim	45-37-05	112-29-42	Au, Ag	11	3	Schist (As)	---	196
548	Sugar Bowl claim	45-37-45	112-29-10	Au, Ag	11	2	Gneiss (Aqf)	---	196
549	Sunrise mine	45-35-52	112-30-14	Pb, Ag	11	3	Schist (As)	---	196
550	Upper Rochester Creek placer (Klondike Creek)	45-39-40	112-31-05	Au, Ag	03	3	Alluvium (Qal)	---	139
551	Watseca mine	45-37-12	112-30-19	Au, Pb, Cu, Zn	11	3	Schist (As)	---	184, 196, 242

Rock Creek (Browns Lake) district, Montana

The Rock Creek district, near the center of the map area, is at the east margin of the Pioneer batholith, where Cretaceous monzogranite and granodiorite have intruded Mississippian and Pennsylvanian Amsden Formation. Calc-silicate skarn locally contains scheelite. The Browns Lake mine, discovered in 1942, was the leading tungsten producer in Montana from 1954 through 1956. The property produced, through 1957, 625,107 tons, averaging 0.35 percent WO_3 (Pattee, 1960).

552	Browns Lake mine (Ivanhoe mine)	45-31-19	112-50-10	Cu, W, Mo	07	3	Limestone (IPMa)	Monzogranite (Kmg)	13, 88, 104, 105, 131, 167, 236
553	Fluorescent claims (Star claims, Mammoth adit)	45-31-48	112-51-18	W	07	3	Limestone (IPMa)	Monzogranite (Kmg)	105, 167
554	Lentung prospect	45-31-00	112-49-30	W	07	2	Limestone (IPMa)	Monzogranite (Kmg)	169

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				Ruby Range area					
	Complexly folded Archean metamorphic rocks strike mainly northeast and are cut by northwest-trending normal faults in this area, occupying the southeast part of the map area. The metamorphic rocks consist of gneiss, schist, phyllite, marble, and quartzite intruded by younger Precambrian rocks including quartzofeldspathic gneiss, aplite, pegmatite, peridotite, and diabase; quartz veins may also be Precambrian. In the northeast these older rocks are unconformably overlain by Cambrian, Devonian, and Mississippian sedimentary rocks that are cut by major northwest-trending faults. The entire range is flanked by thick alluvial fans and fluvial terraces of Tertiary or early Quaternary age. The most important mineral deposits are talc bodies that formed by replacement of Archean marble and magnetite bodies in Archean bedded iron-formation. Copper, manganese, asbestos, nickel, chromite, and uranium occur in subeconomic quantities. Graphite was discovered in 1899; about 2,250 tons was produced between 1902 and 1920 (Geach, 1972). Talc production began in 1942 and has continued to the present.								
555	Amazon mine	45-12-41	112-21-46	Cu	11	3	Gneiss (Aqf)	---	64
556	American Chemet mine (Rebbish and Ike)	45-09-25	112-24-13	Talc	08	3	Marble (Am)	---	39
557	Apex mine	45-09-39	112-24-13	Talc	08	2	Marble (Am)	---	64
558	Banning-Jones mine (Banjo mine)	45-08-05	112-31-49	Talc	08	3	Marble (Am)	---	39, 88
559	Beaverhead mine (Sierra strip mine)	45-13-31	112-18-09	Talc	08	3	Marble (Am)	---	39, 85, 163
560	Bennett-Owen claims	45-14-35	112-17-15	Talc	08	1	Marble (Am)	---	163
561	Birds Nest graphite	45-06-27	112-28-37	Grp	13	3	Gneiss (Aqf)	---	88
562	Black Magic mine	45-15-31	112-08-40	Mn, Cu, Pb	02	2	Marble (Am)	---	112, 144
563	Bozo-Zobo mine	45-07-42	112-30-05	Talc	08	3	Marble (Am)	---	39
564	Carter Creek iron mine	45-09-12	112-27-35	Fe	01	2	Iron-formation (Ai)	---	22, 54, 70, 88, 103, 110
565	Crescent prospect	45-04-48	112-31-39	Talc, Grp	08	2	Marble (Am)	---	103, 118
566	Crystal graphite mine	45-06-10	112-30-18	Grp	13	3	Gneiss (Aqf)	Pegmatite (Ap)	21, 53, 77, 103, 241
567	Dillon nickel prospect (Wolf Creek deposit)	45-05-01	112-24-14	Ni, Cr	12	2	Peridotite (Apr)	---	88, 103, 207
568	Gem claim	45-15-55	112-19-10	Talc	08	2	Marble (Am)	---	163
569	Gopher claims	45-09-50	112-25-45	Talc	08	2	Marble (Am)	---	163

570	Hanson Spring prospect	45-09-55	112-27-14	Talc	08	2	Marble (Am)	---	163
571	Kelly iron mine	45-17-17	112-09-30	Fe	01	3	Iron-formation (Ai)	---	22, 54, 111
572	Lausche mine	45-15-15	112-20-32	Talc	08	2	Marble (Am)	---	57
573	Montana onyx quarry	45-04-51	112-12-55	On	13	3	Volcanics (Tv)	Volcanics (Tv)	91
574	Occurrence (Name unknown)	45-11-12	112-25-00	Asb	13	1	Marble (Am)	---	103
575	Occurrence (Name unknown)	45-11-34	112-26-33	Asb	13	1	Marble (Am)	---	103
576	Occurrence (Name unknown)	45-02-30	112-23-30	Cu	12	1	Gneiss (Aqf)	---	103
577	Occurrence (Name unknown)	45-02-35	112-25-15	Cu	12	1	Gneiss (Aqf)	---	103
578	Occurrence (Name unknown)	45-03-03	112-24-57	Cu	12	1	Gneiss (Aqf)	---	103
579	Occurrence (Name unknown)	45-03-41	112-24-40	Cu	12	1	Gneiss (Aqf)	---	103
580	Occurrence (Name unknown)	45-04-02	112-25-04	Cu	12	1	Gneiss (Aqf)	---	103
581	Occurrence (Name unknown)	45-08-45	112-31-22	Cu	12	1	Gneiss (Aqf)	---	103
582	Occurrence (Name unknown)	45-10-15	112-25-00	Cu	12	1	Gneiss (Aqf)	---	103
583	Occurrence (Name unknown)	45-10-41	112-24-55	Cu	12	1	Gneiss (Aqf)	---	103
584	Occurrence (Name unknown)	45-11-47	112-24-35	Cu	12	1	Gneiss (Aqf)	---	103
585	Occurrence (Name unknown)	45-12-03	112-24-58	Cu	12	1	Gneiss (Aqf)	---	103
586	Occurrence (Name unknown)	45-06-23	112-29-30	Grp	13	1	Gneiss (Aqf)	---	103
587	Occurrence (Name unknown)	45-06-39	112-32-42	Mn	02	1	Marble (Am)	---	103
588	Occurrence (Name unknown)	45-07-31	112-30-54	Mn	02	1	Marble (Am)	---	103
589	Occurrence (Name unknown)	45-12-40	112-20-50	Mn	02	1	Marble (Am)	---	103
590	Occurrence (Name unknown)	45-05-00	112-32-31	Talc	08	1	Marble (Am)	---	103
591	Occurrence (Name unknown)	45-05-19	112-32-23	Talc	08	1	Marble (Am)	---	103
592	Occurrence (Name unknown)	45-05-58	112-32-30	Talc	08	1	Marble (Am)	---	103
593	Occurrence (Name unknown)	45-06-02	112-32-05	Talc	08	1	Marble (Am)	---	103
594	Occurrence (Name unknown)	45-06-37	112-32-24	Talc	08	1	Marble (Am)	---	103
595	Occurrence (Name unknown)	45-06-50	112-33-08	Talc	08	1	Marble (Am)	---	103

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				Ruby Range area--Continued					
596	Occurrence (Name unknown)	45-07-48	112-27-26	Talc	08	1	Marble (Am)	---	103
597	Occurrence (Name unknown)	45-08-55	112-26-05	Talc	08	1	Marble (Am)	---	103
598	Occurrence (Name unknown)	45-09-22	112-29-18	Talc	08	1	Marble (Am)	---	103
599	Occurrence (Name unknown)	45-09-46	112-29-03	Talc	08	1	Marble (Am)	---	103
600	Occurrence (Name unknown)	45-14-00	112-17-49	Talc	08	1	Marble (Am)	---	103
601	Owen-McGovern prospect	45-06-40	112-25-20	Talc	08	2	Marble (Am)	---	163
602	Prospect (Name unknown)	45-15-08	112-06-48	Cu	12	2	Gneiss (Aqf)	---	38
603	Prospect (Name unknown)	45-07-25	112-32-53	Mn	02	2	Marble (Am)	---	88
604	Prospect (Name unknown)	45-07-49	112-32-12	Mn	02	2	Marble (Am)	---	88
605	Regal mine (Keystone mine)	45-10-18	112-25-31	Talc	08	3	Marble (Am)	Diabase (Ada)	163
606	Ruby Peak talc occurrence	45-18-45	112-13-38	Talc	08	1	Marble (Am)	---	163
607	Ruby View mine	45-13-30	112-17-20	Talc	08	2	Marble (Am)	---	57, 65
608	Sauberbier mine	45-06-45	112-24-35	Talc	08	3	Marble (Am)	---	163
609	Smith-Dillon mine	45-07-23	112-32-32	Talc	08	3	Marble (Am)	---	88, 161, 163, 171
610	Snow White mine	45-15-15	112-19-18	Talc	08	2	Marble (Am)	---	65
611	Spring Creek prospect	45-15-50	112-21-10	Talc	08	2	Marble (Am)	---	163
612	Sweetwater Creek uranium occurrence	45-03-17	112-14-48	U	10	1	Volcanics (Tv)	Volcanics (Tv)	244
613	Sweetwater mine (Estelle mine)	45-08-25	112-23-53	Talc	08	3	Marble (Am)	---	39
614	Treasure mine (Treasure Chest, Treasure State)	45-13-41	112-18-34	Talc	08	3	Marble (Am)	---	39, 85, 163

615	Valley View prospect	45-06-20	112-32-03	Talc	08	2	Marble (Am)	---	163
616	Whitney claim	45-14-53	112-18-30	Talc	08	2	Marble (Am)	---	57

Sheridan (Brandon, Ramshorn, Horse Creek, Wisconsin Creek, Mill Creek, Indian Creek, Quartz Hill, Bivens) district, Montana

This district, along the eastern edge of the map area, is underlain by Archean schist, gneiss, quartzite, marble, and iron-formation that are intruded by small quartz monzonite stocks and porphyry dikes and sills of Late Cretaceous or Tertiary age. Base- and precious-metal deposits consist of veins and replacement bodies in Archean rocks, chiefly marble. The chief sulfide minerals are pyrite, arsenopyrite, chalcopyrite, galena, and tetrahedrite in a gangue of quartz and small amounts of siderite. Iron, talc, chromite, thorite, and manganese are also present in the Archean rocks, but have not yet been exploited. Lode mines, discovered as early as 1864, produced gold ore steadily until about 1952. From 1905 to 1952 about 33,500 ounces of gold was produced, and of this about 2,100 ounces came from placers (Koschmann and Bergendahl, 1968).

617	Agitator-Concentrator mine	45-26-10	112-03-28	Au, Ag	11	3	Marble (Am)	---	91, 135, 222
618	Betsy Baker mine	45-27-22	112-01-07	Au, Ag, Pb	11	3	Gneiss (Aqf)	---	222, 242
619	Big Chief prospect	45-31-04	112-06-45	Mica, Be	13	3	Pegmatite (Ap)	Pegmatite (Ap)	102
620	Bivens Gulch placer (Bevin, Bivin)	45-24-00	112-03-33	Au, Ag	03	3	Alluvium (Qal)	---	139
621	Bivens Gulch talc prospect	45-24-26	112-03-15	Talc	08	2	Marble (Am)	---	163
622	Broadgauge-Tamarack mine	45-28-52	112-07-49	Au, Ag	11	3	Marble (Am)	Quartz monzonite (Kqm)	124, 135, 222
623	Buckeye mine (Victoria mines)	45-28-18	112-08-00	Pb, Zn, Au, Ag, Cu	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	91, 184, 222, 246
624	California Creek placer	45-23-05	112-02-39	Au, Ag, TaNb	03	3	Alluvium (Qal)	---	61, 82, 139, 183
625	Copper Mountain iron	45-25-42	112-02-35	Fe	01	2	Iron-formation (Ai)	---	22, 54, 109
626	Currant Creek iron	45-28-22	112-01-45	Fe	01	2	Iron-formation (Ai)	---	109
627	Dictator and Belle Union prospect (Copper Mountain mine)	45-25-32	112-02-19	Cu	11	3	Marble (Am)	---	65
628	Fairview mine	45-31-30	112-08-09	Au, Ag, Pb, Zn, Mn	11	3	Marble (Am)	Quartz monzonite (Kqm)	91, 135, 222, 242
629	Goldschmidt group (Steiner)	45-27-00	112-02-45	Au, Ag, Mn	11	3	Marble (Am)	---	135

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
	Sheridan (Brandon, Ramshorn, Horse Creek, Wisconsin Creek, Mill Creek, Indian Creek, Quartz Hill, Bivens) district, Montana--Continued								
630	Grandview prospect	45-23-39	112-02-26	Talc	08	2	Marble (Am)	---	163
631	Harris Creek placer	45-23-40	112-02-50	Au, Ag	03	3	Alluvium (Qal)	---	139, 183
632	Harris Creek talc prospect	45-23-40	112-02-50	Talc	08	2	Marble (Am)	---	163
633	Horse Creek talc prospect	45-25-50	112-07-36	Talc, Cu	08	2	Marble (Am)	---	163
634	Hunt's claim	45-23-45	112-01-45	Ag, Au, Pb, Zn	11	2	Schist (As)	---	128
635	Indian Creek placer	45-31-25	112-04-42	Au, Ag	03	3	Alluvium (Qal)	---	139
636	Jonquil mine	45-31-55	112-06-35	Au, Cu, Pb	11	3	Marble (Am)	---	222
637	Lakeshore mine (Gladstone)	45-35-04	112-07-05	Au, Ag, Pb, Cu	11	3	Gneiss (Aqf)	Diorite (Kd)	135, 222, 242
638	Latest Out mine	45-26-35	112-06-50	Au	11	3	Gneiss (Aqf)	Quartz diorite (Tqd)	128
639	Leiter mine	45-33-02	112-06-50	Au, Ag	11	3	Gneiss (Aqf)	---	222, 242
640	Lucky Strike mine	45-31-54	112-04-44	Au, Ag	11	3	Gneiss (Aqf)	---	50, 222
641	Mill Creek placer	45-28-48	112-02-45	Au, Ag	03	3	Alluvium (Qal)	---	139, 183
642	Montana mine (Montana Mining Co. mine)	45-34-32	112-07-20	Au	11	2	Schist (As)	---	242
643	Nash group	45-26-40	112-05-58	Cr	04	1	Amphibolite (Aam)	---	55, 116, 128, 201, 215
644	Noble mine (Company mine)	45-32-12	112-06-30	Au, Ag, Cu, Zn	11	3	Marble (Am)	Quartz porphyry (Kqp) and lamprophyre (Kl)	222, 242
645	Occidental mine (High Up, Oxidental)	45-31-22	112-02-40	Au, Ag, Cu, Pb, Zn	11	3	Marble (Am)	---	50, 184, 220, 246
646	Paymaster mine	45-26-54	112-01-10	Ag, Pb, Zn	11	2	Marble (Am)	---	169
647	Quartz Hill mine	45-29-52	112-03-06	Au	11	3	Marble (Am)	Quartz monzonite (Kqm)	222

648	Ramshorn Creek placer	45-27-55	112-00-30	Au, Ag	03	3	Alluvium (Qal)	---	101, 139, 183
649	Red Pine mine	45-31-18	112-05-01	Au, Ag, Cu, Pb	11	3	Marble (Am)	---	91, 135, 222
650	Sage Hen mine	45-26-34	112-07-27	Au, Ag, Zn	11	3	Marble (Am)	Quartz diorite (Tqd)	128
651	Sandstrom mine	45-27-08	112-05-11	Ag	11	3	Marble (Am)	---	128
652	Silver Bullion mine	45-27-30	112-05-23	Ag, Au	11	3	Marble (Am)	Amphibolite (Aam)	128, 184
653	Smuggler mine (Emma B. mine)	45-28-57	112-02-18	Au, Ag, Cu	11	3	Gneiss (Aqf)	Quartz monzonite (Kqm)	97, 91, 222
654	Spuhler Gulch deposit	45-33-45	112-05-38	Talc, Grp	13	2	Marble (Am)	---	230
655	Spuhler mine	45-33-34	112-05-58	Au, Ag	11	3	Marble (Am)	---	169
656	Sunbeam mine	45-31-41	112-03-10	Au	11	3	Marble (Am)	---	147
657	Sunnyside mine	45-30-20	112-05-25	Au, Ag, Pb	11	3	Gneiss (Aqf)	---	222
658	Toledo mine	45-29-09	112-07-27	Au, Ag, Pb, Cu, Zn	11	3	Marble (Am)	Aplite (Kap)	222, 242
659	Wisconsin Creek placer	45-30-10	112-10-10	Au, Ag	03	3	Alluvium (Qal)	---	83, 91, 139, 183
660	Wright's claim	45-26-28	112-06-23	Ag, Pb	11	2	Marble (Am)	---	128
661	Wy-Mont claims	45-23-50	112-04-35	Th	09	2	Gneiss (Aqf)	---	80

Siberia (German Gulch) district, Montana

Plutons of intermediate composition have intruded Middle Proterozoic, Paleozoic, and Mesozoic strata in this area, on the north edge of the map area. Tertiary volcanic rocks cover part of the district. German Gulch was a major placer-gold producer. The silicified and pyritized Cretaceous argillite was probably the source of the placer gold and the altered rock area is currently being developed as a lode mine at the Beal lode.

662	Beal lode	45-57-15	112-52-50	Au	11	3	Argillite (Kc)	---	89, 169
663	German Gulch placer (Siberia placer)	45-58-04	112-50-26	Au, Ag	03	3	Alluvium (Qal)	---	139, 182
664	Hungry Hill mine	45-55-50	112-55-40	Pb, Cu	11	2	Limestone (Ch)	---	151
665	Mooney claims	45-58-01	112-44-17	U	10	2	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	23, 74, 149, 234
666	Occurrence (Name unknown)	45-56-57	112-42-52	REE	09	1	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	230

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				Silver Star (Iron Rod) district, Montana					
	Bedrock in this district, in the northeast part of the map area, consists dominantly of schist and gneiss of Early Proterozoic age that are locally overlain by metamorphic and sedimentary rocks that range in age from Middle Proterozoic to Pennsylvanian. All older rocks are intruded by monzogranite and granodiorite of the Boulder batholith, by smaller bodies of diorite and aplite, and by dikes and sills of silicic rocks, all of Cretaceous or Tertiary age. The most important ore deposits occur in northeast-trending veins in gneiss and schist (Sahinen, 1939). These veins were mined for gold and silver; also present are arsenopyrite, pyrite, and subordinate amounts of lead, zinc, and copper minerals in a quartz gangue. Contact deposits at the Broadway and Hudson mines form irregular shoots in Paleozoic limestone along the granodiorite contact. The Green Campbell and the Broadway, both discovered in the 1860's, were the major mines.								
667	Aurora mine (Aurora and Borealis)	45-40-55	112-20-40	Au, Ag, Pb, Cu, Mn	11	3	Gneiss (Aqf)	---	128, 184, 196
668	Aurora chromite occurrence	45-40-53	112-20-05	Cr	04	1	Gneiss (Aqf)	---	55, 128
669	Baccharat mine	45-39-32	112-19-57	Au, Pb, Cu	11	3	Gneiss (Aqf)	---	196
670	Bedford mine	45-40-50	112-19-18	Au	11	3	Gneiss (Aqf)	---	128, 182
671	Broadway mine (Victoria mine)	45-41-47	112-18-50	Au, Ag, Cu, Pb, Zn	07	3	Limestone (Θh)	Granodiorite (Kgd)	78, 91, 143, 184, 196, 242
672	Clancy mine	45-42-45	112-20-35	Cu	07	2	Limestone (Θh)	Granodiorite (Kgd)	64
673	Clipper mine	45-39-33	112-19-42	Au, Ag, Pb	11	3	Gneiss (Aqf)	---	128
674	Cricket mine	45-40-19	112-19-40	Au, Ag	11	3	Gneiss (Aqf)	---	128, 240
675	Edgerton mine	45-41-45	112-19-37	Au, Ag, Cu, Pb	11	3	Gneiss (Aqf)	---	196, 224
676	Galena mine	45-41-06	112-19-36	Pb, Ag	11	2	Gneiss (Aqf)	---	128
677	Golden Antler mine	45-39-35	112-19-00	Chl	08	3	Gneiss (Aqf)	---	39
678	Green Campbell mine	45-41-45	112-19-55	Au, Ag, Cu	11	3	Gneiss (Aqf)	---	78, 196
679	Hells Canyon placer	45-38-50	112-22-08	Au, Ag	03	3	Alluvium (Qal)	---	139
680	Hudson Group	45-41-40	112-18-37	Au, Ag, Cu, Pb, Zn	07	3	Limestone (Θh)	Granodiorite (Kgd)	78, 196, 242
681	Iron Rod Group (Golden Rod)	45-39-17	112-19-10	Au, Ag, Cu, Pb	11	3	Gneiss (Aqf)	Lamprophyre (Kl)	78, 91, 182, 196, 242

682	Julia Lee mine (Cannon Ball mine)	45-40-38	112-23-16	Ag, Au	11	3	Monzogranite (Kmg)	Monzogranite (Kmg)	224
683	Keystone mine	45-41-57	112-19-06	Au, Ag, Cu	07	3	Gneiss (Aqf)	Granodiorite (Kgd)	99, 100
684	Mammoth mine	45-37-12	112-19-52	Au, Ag, Pb, Cu	11	2	Gneiss (Aqf)	---	196
685	Mohawk mine (Chromite mine)	45-40-42	112-19-39	Cr	04	3	Gneiss (Aqf)	---	184
686	Moonlight mine	45-40-19	112-19-55	Au, Ag	11	3	Gneiss (Aqf)	---	196, 239
687	Moonlight chromite occurrence	45-40-18	112-19-43	Cr	04	1	Gneiss (Aqf)	---	55, 128
688	Rhyolite mine	45-41-36	112-19-39	Au, Pb, Cu	11	2	Gneiss (Aqf)	---	196
689	Shamrock mine	45-42-38	112-19-45	Au, Ag, Cu	07	3	Gneiss (Aqf)	Granodiorite (Kgd)	220
690	Silver King mine	45-37-01	112-20-56	Au, Ag, Pb, Cu	11	3	Gneiss (Aqf)	---	101, 196
691	Silver Star mine (Morning Star, Star mine)	45-41-00	112-19-20	Au, Ag	11	3	Gneiss (Aqf)	---	128, 196
692	Stella mine	45-40-38	112-20-35	Au, Ag	11	3	Gneiss (Aqf)	---	91, 128, 196

South Boulder (Mammoth) district, Montana

Bedrock in this district, located along the east edge of the map area, consists of Archean quartzofeldspathic gneiss intruded by the Cretaceous age Tobacco Root batholith. Most mineral deposits are gold or copper in quartz veins or ore shoots in gneiss, or in quartz monzonite of the batholith near gneiss contacts. Ore minerals include chalcopyrite, bornite, argentiferous galena, pyrite, sphalerite, and molybdenite. Gold mines operating during the late 1800's, such as the Mammoth, profitably mined oxidized ores, but when these ores were exhausted, efforts to treat sulfide ores were unsuccessful and the district became unproductive (Winchell, 1914). Subsequent development concentrated on properties with copper veins, such as the Bismark mine.

693	Bismark mine	45-36-45	112-02-46	Ag, Pb, Cu, Au, Zn, Mo	11	3	Gneiss (Aqf)	Granodiorite (Kgd)	159, 222, 242
694	Bonanza mine	45-39-46	112-01-58	Au	11	2	Gneiss (Aqf)	---	159
695	Castle Rock prospect	45-35-35	112-05-57	Au, Ag, Pb	11	2	Gneiss (Aqf)	---	159
696	Craig prospect	45-36-29	112-06-13	Au, Ag, Cu, Pb, Zn	11	2	Gneiss (Aqf)	---	159
697	Curly Bill-Curly Bill No. 2	45-35-04	112-04-42	Au	11	2	Gneiss (Aqf)	---	159
698	Curly Bill No. 3	45-35-36	112-04-56	Au, Ag, Cu	11	2	Gneiss (Aqf)	---	159

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				South Boulder (Mammoth) district, Montana--Continued					
699	General Jackson mine	45-35-17	112-05-53	Au, Ag, Pb	11	2	Gneiss (Aqf)	---	159
700	Granite Mountain prospect	45-34-10	112-02-10	Cu, Mo	05	2	Granodiorite (Kgd)	Granodiorite (Kgd)	159
701	Highland Mary prospect	45-40-05	112-02-38	Au, Ag	11	2	Gneiss (Aqf)	---	159
702	Inha prospect	45-35-23	112-00-34	Ag, Pb, Cu, Zn	11	2	Gneiss (Aqf)	---	159
703	Lester Baker and Billie prospects, Moggolian (Mogullian) mine	45-35-50	112-00-55	Au, Ag, Pb	11	2	Granodiorite (Kgd)	Granodiorite (Kgd)	159, 242
704	Mammoth mine (Leviathon mine)	45-40-02	112-00-47	Au, Ag, Cu	11	3	Gneiss (Aqf)	---	91, 135, 159, 222, 242
705	Midnight prospect	45-35-40	112-05-40	Au, Ag	11	2	Gneiss (Aqf)	---	159
706	Mountain Boy mine	45-40-04	112-01-30	Au, Ag	11	2	Gneiss (Aqf)	---	159
707	Old Cabin prospect	45-36-08	112-05-20	Au, Ag	11	2	Gneiss (Aqf)	---	159, 227
708	Quartz City prospect	45-37-00	112-03-00	Ag, Cu, Pb, Mo	11	2	Gneiss (Aqf)	---	159
709	Nicholson mine and Baugus-Hughes No. 1 prospect (Ridgeway)	45-35-43	112-00-48	Au, Ag, Cu, Pb	11	3	Granodiorite (Kgd)	Granodiorite (Kgd)	159, 184, 224
710	Snyder mine (Old Cabin extension)	45-35-55	112-05-40	Au, Cu, Ag	11	3	Gneiss (Aqf)	---	159, 227
711	South Boulder River placer	45-41-30	112-00-40	Au, Ag	03	3	Alluvium (Qal)	---	139
712	Sultana mine	45-37-20	112-01-55	Au, Ag	11	2	Gneiss (Aqf)	---	159, 242
713	White Chief prospect	45-37-17	112-02-18	Au, Ag, Cu, Pb, W	11	2	Gneiss (Aqf)	---	159

Sula area, Montana

This area, in the northwest corner of the map area, is mostly within the Idaho batholith. Only a few mineral occurrences are known. Those listed include beryl occurrences, about which little is known. Locations of the sites are probably accurate only to within 1 mile.

714	Logger claim group (Loggers Camp)	45-51-48	113-46-08	Au, Ag, Cu, Pb, Mo, Be	11	2	Granodiorite (Kgd)	Granodiorite (Kgd)	75
715	Lucky Strike prospect	45-54-27	113-52-33	Be	13	3	Diorite (TKd)	Diorite (TKd)	168
716	Occurrence (Name unknown)	45-52-26	113-58-58	Be	13	1	Granodiorite (Kgd)	Granodiorite (Kgd)	198

Tidal Wave (Twin Bridges, Bear Gulch, Goodrich Gulch, Dry and Wet Georgia Gulches) district, Montana

Small bodies of Cretaceous quartz monzonite and monzonite have intruded Archean gneiss and schist and Paleozoic limestone, sandstone, and shale that had been faulted and tilted in this district in the east-central part of the map area. These rocks are also cut locally by sills of porphyritic granite, syenite, and andesite and by dikes of aplite. The ore deposits in the district are vein and replacement deposits in limestone and veins in gneiss and schist. Sparse deposits occur in the quartz monzonite near its contact with the country rocks. Most of the veins contain gold and lesser amounts of lead, silver, copper, and zinc. Contact metasomatic deposits produced mainly copper and lead, but contain silver and gold as minor constituents.

717	Argenta mine	45-33-00	112-10-35	Au, Ag, Pb, Cu, Zn	11	3	Gneiss (Aqf)	Aplite (Kap)	114, 242
718	Bear Gulch Adit	45-35-35	112-12-18	Au, Ag, Cu, Pb, Zn	11	2	Limestone (Mm)	---	114
719	Bear Gulch placer	45-35-50	112-09-40	Au, Ag	03	3	Alluvium (Qal)	---	139
720	Bielenberg and Higgins mine (Pete and Joe, B & H mine, U.S. Gold Corp. mine)	45-35-38	112-07-50	Au	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	114, 135, 222, 248
721	Bismark-Nugget group	45-32-25	112-11-12	Au, Ag, Pb, Cu, Zn	11	2	Gneiss (Aqf)	---	114
722	Bismuth prospect	45-33-53	112-12-17	Au, Ag, Pb, Cu, Zn	11	2	Gneiss (Aqf)	---	114
723	Black Ace mine	45-32-05	112-11-45	Au, Ag, Cu, Pb, Zn	11	3	Gneiss (Aqf)	---	114
724	Boulder cobalt mine	45-35-53	112-07-16	Au, Ag, Cu	11	3	Gneiss (Aqf)	---	159
725	Bryzant mine (Deutschland mine)	45-32-21	112-13-02	Ag, Pb, Cu, Au, Zn	11	3	Gneiss (Aqf)	---	114, 222
726	Bullidick prospect	45-32-52	112-12-09	Au, Ag, Zn, Cu, Pb	11	2	Gneiss (Aqf)	---	114

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
	Tidal Wave (Twin Bridges, Bear Gulch, Goodrich Gulch, Dry and Wet Georgia Gulches) district, Montana—Continued								
727	Carolina mine	45-33-17	112-11-15	Au, Ag, Cu, Pb, Zn	11	3	Quartzite (Ꝋf)	---	114, 242
728	Cop prospect	45-32-25	112-12-40	Au, Ag, Cu, Pb, Zn	11	3	Gneiss (Aqf)	---	114
729	Corncracker mine	45-32-20	112-12-22	Au, Ag, Cu	11	3	Gneiss (Aqf)	---	114, 135, 222
730	Crystal Lake Mining Co. property (Goldie, Elenora)	45-33-10	112-10-40	Au, Ag, Pb	11	3	Gneiss (Aqf)	---	114, 222, 242
731	Diamond Hitch mine	45-32-05	112-09-49	Au, Ag, Pb	11	2	Gneiss (Aqf)	---	220
732	Dry Georgia Gulch placer	45-32-05	112-13-00	Au, Ag	03	3	Alluvium (Qal)	---	139
733	Dullea prospect	45-32-17	112-10-51	Au, Ag, Cu, Pb, Zn	11	3	Gneiss (Aqf)	---	114
734	Ella mine	45-32-33	112-11-13	Au, Ag, Pb, Cu, Zn	11	3	Gneiss (Aqf)	Andesite (Ka)	91, 114, 242
735	Empire State prospect	45-32-38	112-12-20	Au, Ag, Pb, Cu, Zn	11	2	Gneiss (Aqf)	---	114
736	Falcon prospect	45-31-45	112-12-18	Au, Ag, Zn, Cu, Pb	11	2	Gneiss (Aqf)	---	114
737	Fork prospect	45-32-02	112-12-49	Au, Ag, Pb, Zn, Cu	11	2	Gneiss (Aqf)	---	114
738	Goodrich Gulch placer	45-33-23	112-11-20	Au, Ag	03	3	Alluvium (Qal)	---	139
739	Hamilton prospects (Hamilton No. 1 and 2)	45-36-10	112-09-27	Pb, Zn	11	2	Gneiss (Aqf)	Syenite porphyry (Ksp)	114
740	Hawkeye mine	45-32-54	112-12-00	Ag, Pb, Zn	11	3	Limestone (Ꝋm)	---	135, 220
741	Heller prospect	45-31-35	112-12-20	Au, Ag, Cu, Pb, Zn	11	3	Gneiss (Aqf)	---	114
742	High Ridge mine (Hi-Ridge, Highridge)	45-32-32	112-11-53	Au, Ag, Cu, Pb, Zn	11	3	Shale (Ꝋw)	---	114, 135, 222, 242

743	Johnston-Moffet mine	45-36-14	112-11-15	Cu, Ag, Au	07	3	Limestone (Mm)	Quartz monzonite (Kqm)	79, 187
744	Kathleen prospect	45-39-10	112-07-42	Au, Ag	11	2	Limestone (Ɛm)	Quartz monzonite (Kqm)	159
745	Kreuger Property (Edwin Forest)	45-34-35	112-13-02	Au, Ag, Cu, Pb, Zn	11	3	Gneiss (Aqf)	---	114
746	Little Bear Gulch properties (Little Bear, Grouse, Copper King)	45-35-37	112-09-45	Au, Ag, Pb	11	3	Dolomite (Ɛm)	Syenite porphyry (Ksp)	114, 222
747	Lone Star prospect	45-33-50	112-10-56	Au, Ag, Cu, Pb, Zn	11	3	Gneiss (Aqf)	---	114
748	Lottie mine	45-33-45	112-11-30	Au, Ag, Cu, Pb, Zn	11	3	Gneiss (Aqf)	Quartz monzonite (Kqm)	91, 114
749	Main Street prospect	45-32-19	112-11-20	Au, Ag, Cu, Pb, Zn	11	3	Limestone (Ɛm)	---	114
750	Mountain View mine	45-32-54	112-12-10	Au, Ag	11	3	Limestone (Ɛm)	---	114
751	New York prospect	45-32-31	112-12-23	Au, Ag, Cu, Pb, Zn	11	2	Gneiss (Aqf)	---	114
752	Ohio mine (Ohio Lode mine)	45-38-05	112-09-20	Au, Ag	11	3	Limestone (Ɛm)	---	147, 159, 227
753	Pearson prospect	45-31-55	112-12-25	Au, Ag, Cu, Pb, Zn	11	2	Gneiss (Aqf)	---	114
754	Plainview prospect	45-33-08	112-13-55	Au, Ag, Cu	11	2	Limestone (Ɛh)	---	114
755	Prospect (Name unknown)	45-39-32	112-08-35	Sb, Au, Ag	11	2	Limestone (Dj)	---	114
756	Red Bell mine	45-33-43	112-10-00	Au, Ag, Pb, Zn	11	3	Gneiss (Aqf)	---	242
757	Rex prospect	45-32-10	112-12-47	Ag, Au, Cu, Pb, Zn	11	2	Gneiss (Aqf)	---	114
758	Richmond group (Eagle, Hummingbird)	45-33-58	112-11-42	Au, Ag, Cu, Pb, Zn	11	3	Shale (Ɛw)	---	114
759	Ruby C prospect	45-36-30	112-10-10	Au	11	2	Limestone (Ɛm)	Granodiorite (Kgd)	69, 169
760	Schmidt prospect	45-34-00	112-08-50	Au, Ag, Pb, Cu, Zn, Mo	11	3	Gneiss (Aqf)	---	114, 135, 242
761	Smith prospect	45-33-25	112-13-25	Ag, Pb	11	3	Limestone (Ɛh)	---	114

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
Tidal Wave (Twin Bridges, Bear Gulch, Goodrich Gulch, Dry and Wet Georgia Gulches) district, Montana—Continued									
762	Strawn mine	45-40-00	112-07-53	Au, Ag	11	3	Limestone (Ꞓm)	---	114, 135, 159, 222
763	Sunflower mine	45-32-32	112-12-00	Ag, Au, Pb, Zn	11	3	Limestone (Ꞓm)	---	114, 135
764	Tidal Wave mine	45-32-58	112-13-25	Ag, Pb, Cu, Zn, Au	11	3	Limestone (Ꞓh)	---	114
765	Tipperary	45-33-20	112-09-30	Au, Ag	11	2	Limestone (Dj)	---	114
766	Topeka mine	45-33-10	112-11-00	Au	11	3	Gneiss (Aqf)	---	99, 242
767	Union mine	45-31-08	112-11-50	Au	11	3	Gneiss (Aqf)	---	227
768	Urbane prospect (Adits No. 2 and 3)	45-33-57	112-11-55	Au, Ag, Cu, Pb, Zn	11	2	Gneiss (Aqf)	---	114
769	Walker prospect	45-31-50	112-12-38	Ag, Au, Cu, Pb, Zn	11	2	Gneiss (Aqf)	---	114
770	White Angel quarry	45-32-44	112-12-19	Lst	13	3	Limestone (Ꞓh)	---	86
Upper Basin Creek district, Montana									
This district, south of Butte, is within the Burton Park and Climax Gulch plutons of the Boulder batholith, and it contains one vein deposit and placer deposits first worked during the 1860's.									
771	Basin Creek placer	45-50-30	112-31-40	Au, Ag	03	3	Alluvium (Qal)	---	139, 182, 197
772	Bear Creek placer	45-50-53	112-33-43	Au, Ag	03	3	Alluvium (Qal)	---	197
773	Golden Surprise mine	45-49-50	112-31-10	Au	11	3	Quartz monzonite (Kqm)	Quartz monzonite (Kqm)	197
Virginia City (Alder Gulch, Williams Gulch) district, Montana									
The Alder Gulch placers, some of which lie along the southeast edge of the map area and extend for about 20 miles, were the longest and most productive ever discovered in Montana. The gold-bearing gravel in Alder Gulch is 30-50 feet deep and is most valuable about 6 feet above the weathered, plastic bedrock (Koschmann and Bergendahl, 1968). The gravels are of Quaternary age, and the gold was derived directly from the thousands of veins in the district (Lyden, 1948), some of which were also productive. The veins occur in Archean gneiss and schist, but may also be associated with Cretaceous or Tertiary aplite. The lodes are quartz veins and stringers that contain auriferous pyrite, galena, sphalerite, chalcopyrite, and lesser amounts of gold telluride, tetrahedrite, argentite, and stibnite. Most of the lode mines are east of the Dillon quadrangle; those located in the Dillon quadrangle part of the district are small producers and are little known.									

774	Alder Gulch placer	45-19-26	112-00-06	Au, Ag	03	3	Alluvium (Qal)	---	19, 47, 108, 113, 139, 165, 193, 200
775	Blue Bell group mine	45-16-15	112-00-46	Ag, Au	11	3	Gneiss (Aqf)	---	97
776	Cook mine (Fortuna)	45-15-42	112-00-05	Au, Ag	11	3	Gneiss (Aqf)	---	222
777	Saint Lawrence Consolidated mine	45-16-32	112-00-03	Au, Ag	11	3	Gneiss (Aqf)	---	126
778	Williams Creek placer	45-15-48	112-00-52	Au, Ag	03	3	Alluvium (Qal)	---	183

Whitehall (Cardwell) district, Montana

The rocks in this district, in the northeast corner of the map area, are shale, sandstone, and sandy limestone of Middle Proterozoic age conformably overlain by a thick sequence of Paleozoic rocks, mainly limestone. The sedimentary rocks are intruded by latite porphyry, andesite, and lamprophyre dikes. Ore occurs in a large breccia body, in veins in the sedimentary rocks, and in the latite porphyry. The ore contains auriferous pyrite, galena, and sphalerite in a quartz gangue. The major mine, the Golden Sunlight, has produced roughly three-quarters of the total recorded gold production of the district through 1959 (100,000 oz) (Koschmann and Bergendahl, 1968).

779	Black Butte claim	45-56-30	112-04-13	Au, Ag, Cu	11	3	Limestone (Ɛm)	---	133
780	Burgoyne's claim	45-54-15	112-01-28	Au, Ag	11	2	Shale (Yg)	Latite porphyry (Klp)	133
781	Camp Owen claim	45-55-02	112-02-08	Pb	11	2	Shale (Yg)	---	133
782	Carbonate mine	45-55-05	112-02-23	Au, Ag, Pb, Cu, Zn	11	3	Shale (Yg)	---	133, 188
783	Columbia claim	45-55-02	112-01-42	Au, Ag, Cu	11	3	Shale (Yg)	---	133
784	Examiner mine	45-55-36	112-02-45	Au, Ag, Cu, Pb, Zn, Mn	11	3	Shale (Yg)	---	133, 188
785	Florence group	45-55-18	112-01-55	Au, Ag, Cu, Pb, Zn	11	3	Shale (Yg)	---	133, 184, 188
786	Gem mine	45-55-24	112-02-23	Au, Ag, Cu, Pb, Zn	11	3	Shale (Yg)	---	133, 188
787	Golden Sunlight mine (Ohio adit)	45-54-22	112-00-51	Au, Ag, Cu	11	3	Shale (Yg)	Latite porphyry (Klp)	3, 62, 72, 133, 175, 176, 188, 189
788	Inspiration mine	45-54-57	112-01-31	Au, Ag, Cu, Pb, Zn	11	3	Shale (Yg)	---	133, 188
789	Ironside mine (Ironsides)	45-55-20	112-02-50	Ag, Pb, Cu, Zn, Au	11	3	Shale (Yg)	---	133

Site No.	Site name (synonyms)	Latitude north	Longitude west	Commodities present	Deposit type	Status	Host rock(s)	Associated igneous rocks	Sources of data
				Whitehall (Cardwell) district, Montana—Continued					
790	Leah mine (Apex and Leah)	45-54-37	112-00-57	Ag, Au, Cu, Pb	11	3	Shale (Yg)	---	133
791	Limerock claim (Long Walk)	45-55-52	112-02-27	Au, Ag, Mn	11	2	Shale (Yg)	---	133
792	Lucky Hit mine	45-54-50	112-01-54	Au, Ag, Cu, Pb	11	3	Shale (Yg)	Andesite (Ta)	92, 133, 188, 246
793	Midnight mine	45-55-48	112-01-52	Au, Ag, Pb, Cu, Zn	11	3	Quartzite (Ɛf)	---	133, 188
794	Mine (Name unknown)	45-54-05	112-01-46	Au, Ag	11	2	Sandstone (Ylh)	Latite porphyry (Klp)	133
795	Minerva mine	45-55-18	112-02-24	Au, Ag, Cu, Pb, Zn	11	3	Shale (Yg)	---	133, 188
796	Parrot mine (Paroll Chief)	45-55-40	112-02-15	Au, Ag, Pb, Cu, Zn, Mn	11	3	Shale (Yg)	---	133, 188
797	Payday claim	45-55-18	112-01-35	Au, Ag, Pb	11	3	Shale (Yg)	---	133
798	Perhaps mine	45-55-37	112-02-07	Au, Ag, Pb, Cu, Zn, Mn	11	3	Shale (Yg)	---	133, 188
799	Pine Tree claim	45-55-44	112-02-15	Au, Ag, Pb, Cu	11	3	Shale (Yg)	---	133
800	Saddle Horse mine	45-55-15	112-01-35	Ag, Au	11	3	Shale (Yg)	---	133
801	Silver Dollar claim	45-55-35	112-01-34	Au, Ag, Pb	11	2	Limestone (Ɛm)	Lamprophyre (Kl)	133
802	South View mine	45-54-35	112-02-10	Au, Ag, Pb, Cu, Zn	11	3	Sandstone (Ylh)	Latite porphyry (Klp)	87, 133, 188
803	Statler's St. Paul Gulch claim	45-54-08	112-02-21	Pb	11	2	Sandstone (Ylh)	---	133
804	Streak-of-luck claim	45-55-29	112-01-58	Au, Ag	11	3	Shale (Yg)	---	133
805	Sunny Corner mine (Sunny, Milburn)	45-54-48	112-02-07	Au, Ag, Cu, Pb, Zn	11	3	Shale (Yg)	Latite porphyry (Klp)	133, 188
806	Sunnyside mine	45-55-27	112-01-44	Au, Ag, Pb, Cu, Zn	11	3	Shale (Yg)	---	64, 91, 133, 188

807	Sunset claim	45-55-12	112-01-28	Au, Ag, Pb, Cu	11	3	Shale (Yg)	---	133
808	Surprise mine	45-55-05	112-02-00	Au, Ag, Cu, Pb, Zn	11	3	Shale (Yg)	---	133, 188
809	Whitehall mine	45-56-00	112-02-50	Ag, Cu, Pb, Zn, Au, Mn	11	3	Shale (Yg)	---	133, 188

Wisdom district, Montana

Granodiorite and tonalite of Cretaceous and Tertiary age intruded quartzite of the Missoula Group in this district in the west-central part of the map area. Aplite and pegmatite occur throughout the granodiorite and tonalite. Numerous small and narrow quartz-pyrite veins cut the plutonic rocks, many of them associated with aplite. Gold and silver are found in some of these veins but the concentrations vary irregularly and individual ore shoots are small. Mining began in 1869 and has continued to the present, but production has been small.

810	Black Bear claim	45-34-20	113-15-05	Ag, Pb, Mo, Cu, Zn	11	2	Quartzite (Ym)	---	41
811	Clara mine (Monty Clinton)	45-34-43	113-22-38	Ag, Au	11	3	Tonalite (TKt)	Tonalite (TKt)	88
812	Coeur d'Alene mine	45-34-50	113-19-30	Ag, Au, Pb, Cu, Zn	11	2	Quartzite (Ym)	---	41
813	Diadem group (Arnold mine)	45-35-06	113-22-15	Au, Ag, Cu, Pb, Zn	11	3	Tonalite (TKt)	Tonalite (TKt)	97
814	Franklin claims	45-36-20	113-18-50	Au, Ag	11	2	Granodiorite (Kgd)	Granodiorite (Kgd)	41
815	Jenney mine (Jennie, Golden Jenny, Michelle Linda)	45-36-05	113-19-50	Au, Ag, Pb, Cu, Zn	11	2	Granodiorite (Kgd)	Granodiorite (Kgd)	41
816	Martin mine	45-33-32	113-15-23	Au, Ag, Cu, Pb, Zn, Mo	11	3	Granodiorite (Kgd)	Granodiorite (Kgd)	41, 88, 200
817	Maynard mine (Shady Rest lode)	45-36-20	113-17-59	Au, Ag, Cu, Pb, Zn	11	3	Granodiorite (Kgd)	Granodiorite (Kgd)	41, 88
818	Shelley	45-36-20	113-19-34	Au	11	2	Granodiorite (Kgd)	Granodiorite (Kgd)	41
819	Steel Creek Bench placer	45-37-20	113-24-30	Au, Ag	03	3	Alluvium (QTal)	---	88, 139
820	Steel Creek placer (Steele Creek)	45-36-00	113-21-00	Au, Ag	03	3	Alluvium (Qal)	---	88, 200
821	Sugar lode claim (Sugarplum, Last Chance, Steel Creek prospect)	45-36-18	113-19-56	Au, Ag, Zn	11	2	Granodiorite (Kgd)	Granodiorite (Kgd)	41, 88

CODES USED IN TABLE 2

COMMODITIES PRESENT

Au	Gold	Coal	Coal (lignite)	Mn	Manganese	Stn	Building stone
Ag	Silver	Cr	Chromium	Mo	Molybdenum	TaNb	Tantalum-niobium
Asb	Asbestos	Cu	Copper	N	Nickel	Te	Tellurium
Ba	Barium	F	Fluorite	On	Onyx	Talc	Talc
Be	Beryllium	Fe	Iron	P	Phosphate	Th	Thorium
Ben	Bentonite	Gem	Gemstone	Pb	Lead	Trav	Travertine
Bi	Bismuth	Grp	Graphite	Pyp	Pyrophyllite	U	Uranium
Cs	Cesium	Kyn	Kyanite	REE	Rare-earth elements	V	Vanadium
Chl	Chlorite	Lst	Limestone	Sb	Antimony	W	Tungsten
Clay	Clay	Mica	Mica	Sil	Silica	Zn	Zinc

DEPOSIT TYPE

01	Bedded iron-formation
02	Manganese veins
03	Placer gold
04	Podiform chromite
05	Porphyry and stockwork (Copper, molybdenum, gold)
06	Shale-hosted massive sulfide (Zinc, lead, silver, iron)
07	Skarn (Copper, silver, tungsten, molybdenum, iron, gold)
08	Talc, pyrophyllite, chlorite
09	Thorium, rare-earth elements, in veins
10	Uranium, various types
11	Vein and replacement deposits of base and and precious metals
12	Miscellaneous metallic occurrences
13	Miscellaneous nonmetallic occurrences

DEVELOPMENT STATUS

1	Occurrence
2	Mine or prospect, no production or production unknown
3	Mine having recorded production

HOST ROCK(S) AND ASSOCIATED IGNEOUS ROCKS

Aa	Andesite (Archean)
Aam	Amphibolite gneiss (Archean)
Ada	Diabase (Archean)
Ai	Iron-formation (Archean)
Am	Marble (Archean)
Ap	Pegmatite (Archean)
Apr	Peridotite (Archean)
Aqf	Quartz-feldspar gneiss (Archean)
As	Schist (Archean)
Cf	Flathead Sandstone (Cambrian)
Ch	Hasmark Formation, Pilgrim Dolomite (Cambrian)
Cm	Meagher Limestone (Cambrian)
Cp	Park Shale (Cambrian)
Csh	Silver Hill Formation (Cambrian)
Cw	Wolsey Shale (Cambrian)
Dj	Jefferson Formation (Devonian)
Dt	Three Forks Formation (Devonian)
Du	Devonian sedimentary rocks, undivided
Ka	Andesite (Cretaceous)
Kal	Alaskite (Cretaceous)
Kap	Aplite (Cretaceous)
Kc	Colorado Group (Cretaceous)
Kd	Diorite (Cretaceous)
Kdp	Dacite porphyry (Cretaceous)
Kg	Granite (Cretaceous)
Kgd	Granodiorite (Cretaceous)
Kk	Kootenai Formation (Cretaceous)
Kl	Lamprophyre (Cretaceous)
Klp	Latite porphyry (Cretaceous)
Kmg	Monzogranite (Cretaceous)
Kqm	Quartz monzonite (Cretaceous)
Kqp	Quartz porphyry (Cretaceous)
Ksp	Syenite porphyry (Cretaceous)
Kt	Tuff (Cretaceous)
Ku	Cretaceous sedimentary rocks, undivided
Mm	Madison Group (Mississippian)
IPMa	Amsden Formation (Mississippian and Pennsylvanian)
Pp	Phosphoria Formation (Permian)
IPq	Quadrant Formation (Pennsylvanian)
Pzu	Paleozoic rocks, undivided
Qal	Alluvium (Quaternary)
QTal	Alluvium (Quaternary and Tertiary)
Ta	Andesite (Tertiary)
Tc	Challis Volcanics (Tertiary)
Td	Diorite (Tertiary)
Tg	Granite (Tertiary)
Tgd	Granodiorite (Tertiary)
TKd	Diorite (Tertiary and Cretaceous)
TKg	Granite (Tertiary and Cretaceous)
TKgd	Granodiorite (Tertiary and Cretaceous)
TKt	Tonalite (Tertiary and Cretaceous)
Tlp	Latite porphyry (Tertiary)
Tqd	Quartz diorite (Tertiary)
Tql	Quartz latite (Tertiary)
Tqp	Quartz porphyry (Tertiary)
Trd	Dinwoody Formation (Triassic)
Ts	Syenodiorite (Tertiary)
Tt	Tuffaceous rocks (Tertiary)
Tv	Tertiary volcanic rocks, undivided
Xg	Granite gneiss (Early Proterozoic)
Yc	Chamberlain Formation (Middle Proterozoic)
Yd	Diorite (Middle Proterozoic)
Yda	Diabase (Middle Proterozoic)
Yg	Greyson Formation (Middle Proterozoic)
Ygd	Granodiorite (Middle Proterozoic)
Ygr	Granite (Middle Proterozoic)
Yh	Helena Formation (Middle Proterozoic)
Yl	Lemhi Group (Middle Proterozoic)
Ylh	LaHood Formation (Middle Proterozoic)
Ym	Missoula Group (Middle Proterozoic)
Yms	Mount Shields Formation (Middle Proterozoic)
Yqd	Quartz diorite (Middle Proterozoic)
Yqm	Quartz monzonite (Middle Proterozoic)
Yqp	Quartz porphyry (Middle Proterozoic)
Yy	Yellowjacket Formation (Middle Proterozoic)

Name	Site No.
4th of July lode	117
A. D. & M. mine	70
Abbie Alice	530
Adams Peak claims	375
Adits No. 2 and 3	768
Agitator-Concentrator mine	617
Agnes lode	212
Ajax mine (Beaverhead Mtns. area)	249
Ajax mine (Rochester district)	523
Alder Gulch placer	774
Aluise lode	473
Amaden lode	450
Amagosa mine	53
Amazon mine	555
American Chemet mine	556
American Development mine	70
Anaconda	186
Anderson Creek placer	71
Anderson group (McDevitt district)	122
Anderson occurrence	11
Andrews mine	22
Anna mine	295
Anything mine	524
Apex	308
Apex No. 2 claim	387
Apex Vein	121
Apex and Leah	790
Apex mine	557
April claims	525
Argenta Mining Co. mine	200
Argenta mine	717
Argenta placer	196
Argenta pyrophyllite prospect	160
Argyle	508
Armor Creek molybdenum prospect	451
Armstrong Gulch placer	259
Armstrong prospect	23
Arnold mine	813
Artic claim	277
Atlas mine	452
Aurora and Borealis	667
Aurora chromite occurrence	668
Aurora mine (Quartz Hill district)	494
Aurora mine (Silver Star district)	667
B and H mine	720
Baccharat mine	669
Badger gold group	161
Baker lignite mine	143
Baldy Lake breccia	453
Ballarat mine	344
Banjo mine	558
Bannack Chief	285
Bannack mine	238
Bannack placer	239
Bannack-Apex mine	241
Banning-Jones mine	558
Bartholdi	225
Barton Creek placer	324
Basin Creek placer	771
Baugus-Hughes No. 1 prospect	709
Bea Ann claim	234
Beacon Light mine	526
Beal lode	662
Bear Cat prospect	345
Bear Creek placer	772
Bear Gulch Adit	718
Bear Gulch placer	719
Bear Paw claim	454
Beaverhead mine	559
Bedford mine	670
Bell Ranch clay prospect	162
Bell group	29
Bell mine placer	4
Bell prospect	1
Bella mine	163
Belle placer	72
Bennett-Owen claims	560
Berlin mine	388
Best Hope mine	296
Betsy Baker mine	618

Name	Site No.
Canyon Creek quarry	392
Canyon Creek phosphate mine	391
Capital mine	164
Carbonate mine (Argenta district)	165
Carbonate mine (Whitehall district)	782
Cardiff Giant group	75
Carmen Creek mine	2
Carnotite claim	393
Carolina mine	727
Carpenter mine	530
Carrie Leonard	249
Carter Creek iron mine	564
Castle Rock prospect	695
Cave Creek phosphate prospect	166
Cave Gulch mine	164
Cayuga claim	307
Chamelion lode	76
Champion mine	531
Charter Oak mine	278
Chief claim mine	77
Chips Creek coal mine	49
Christiansen group	394
Chromite mine	685
Churchill mine	499
Clancy mine	672
Clara Morris group	78
Clara mine	811
Clark prospect	489
Clearwater group	144
Cleve-Avon group	339
Climax lode	308
Climax mine	152
Clipper	308
Clipper lode	429
Clipper mine	673
Clipper-Columbia group	395
Coeur d'Alene mine	812
Cold Spring Creek placer	279
Colin McDonald claim	191
Columbia claim	783

Name	Site No.
Comet group	316
Commonwealth Lead Mining Co. mine	389
Company mine	644
Comstock lode	167
Confidence group	120
Contact group	29
Contention	122
Continental	122
Cook mine (Renova district)	517
Cook mine (Virginia City district)	776
Coolidge mine	168
Cooper mine	532
Cop prospect	728
Copper Bell mine	169
Copper Bullion	118
Copper Contact claims	262
Copper Hill mine	416
Copper King	746
Copper Mountain iron	625
Copper Mountain lode	430
Copper Mountain mine (Eureka district)	30
Copper Mountain mine (Sheridan district)	627
Copper Queen	127
Copper Queen claims	250
Corn Beef group	79
Corncracker mine	729
Cottontail mine	280
Cow Creek placer	442
Craig prospect	696
Crescent prospect	565
Cricket mine	674
Cross	210
Crystal Lake Mining Co. mine	730
Crystal Park molybdenum prospect	458
Crystal graphite mine	566
Curly Bill No. 3	698
Curly Bill-Curly Bill No. 2	697
Currant Creek iron	626
Cyanide Gulch mine	74
Dahlonega Creek placer	81

Name	Site No.
Florence mine	517
Fluorescent claims	553
Fluorite No 1	175
Fool Hen prospect	304
Forget-Me-Not prospect	37
Fork prospect	737
Fortuna	776
Fourth-of-July Creek placer	128
Frank Burch claim	43
Franklin claims	814
Free gold	420
Freeman Gulch placer	4
Freeman mine	8
French Gulch placer	323
French Creek placer	176
Frying Pan Basin placer	177
G-W mine	497
G. W. Oliver coal mine	38
GOB mine	384
Galena mine (Argenta district)	178
Galena mine (Silver Star district)	676
Gardner mine	328
Geertson Creek claims (Anderson occurrence)	11
Geertson Creek claims (Jackson mine)	17
Geertson Creek placer	15
Gem claim	568
Gem mine	786
General Jackson mine	699
George Peabody mine	405
German Gulch placer	663
Germania mine	536
Gilt Edge placer	68
Gladstone	637
Gladstone group	179
Gladstone-Argenta mine	179
Glowworm and Greenhorn claims	264
Gold Bug mine (Bannack district)	237
Gold Bug mine (Homestake district)	362
Gold Chief lode	309
Gold Coin mine	502

Name	Site No.
Gold Coin prospect	86
Gold Dust claim	419
Gold Finch mine	181
Gold Hill group (Moose Creek district)	420
Gold Hill group (Renova district)	518
Gold King mine	397
Gold Nugget	265
Gold Nugget claim	537
Golden Antler mine	677
Golden Era mine	180
Golden Fleece claims	274
Golden Jenny	815
Golden Leaf group	238
Golden Reward mine	87
Golden Rod	681
Golden Sunlight mine	787
Golden Surprise mine	773
Goldfield prospect	88
Goldfinch mine	181
Goldie	730
Goldschmidt group	629
Goldsmith mine	182
Goldstone mine	153
Golway Gulch mine	5
Good Luck mine	299
Goodrich Gulch placer	738
Goodview mine	183
Gopher claims	569
Governor Tilden	206
Graeter mine	241
Grand Deposit No. 17	175
Grandview mine	50
Grandview prospect	630
Granite Mountain prospect	700
Grasshopper Creek placer	239
Grasshopper prospect	240
Gray Jockey mine	503
Graybird mine	184
Great Western group	89
Great Western mine	504

Name	Site No.
Jay Hawk	508
Jeanette claim	284
Jefferson	482
Jenney (Jennie) mine	815
Jerry Hurley property	16
Jodie claim	224
Joe Maurice mine	462
Johnson Gulch prospect	94
Johnson claim	433
Johnston-Moffet mine	743
Joker mine	188
Jonquil mine	636
Julia Lee mine	682
Julian Wegener	501
Jumbo group	269
Jumper No. 1 claim	443
Jung Frau mine	413
Jupiter mine	480
Kathleen prospect	744
Kelly iron mine	571
Kendall	359
Kenny Nuclear prospect	145
Kent group	285
Keokirk-Elm Orlu group	341
Keokuk	341
Keystone	70
Keystone mine (Quartz Hill district)	505
Keystone mine (Silver Star district)	683
Keystone mine (Ruby Range area)	605
King and Queen claims	399
King mine	481
Kirtley Creek placer	119
Klondike Creek placer	550
Koper Kyute group	95
Kreuger property	745
Lakeshore mine	637
Lame Rabbit lode	310
Lang claim	39
Last Chance	821
Last Chance occurrence	124

Name	Site No.
Latest Out mine	638
Laurilene No. 1	244
Lausche mine	572
Leah mine	790
Leap Year	122
Leesburg Uranium Inc. group	33
Legal Tender mine	189
Leiter mine	639
Lemhi River placer	41
Lemhi Valley bentonite	42
Lemhi group	40
Lentung prospect	554
Leonie Tunnel prospect	286
Lepp	519
Lester Baker prospect	703
Leviathon mine	704
Liberty Bell No. 3	69
Lick Creek mine	87
Lilly claim	263
Lime Rock claim group	311
Limekiln Gulch quarry	506
Limerock claim	791
Lion Mountain group	342
Little Bear	746
Little Bear Gulch properties	746
Little Hawk mine	225
Little Maud claim	55
Little Moose Creek placer	100
Little Pipestone Creek placer	371
Little Sheep Creek placer	96
Little Thompson Gulch prospect	129
Little group	400
Lively mine	463
Log Cabin lode	507
Logan mine	287
Logger claim group	714
Loggers Camp	714
Lone Pine mine	508
Lone Star	287
Lone Star prospect (Sandy Creek district)	155

Name	Site No.
Mountain View mine (Tidal Wave district)	750
Mueller (Muellor) mine	381
Mulchey Creek placer	252
Murphy mine	347
Mutch mine	541
Nannie Brown mine	367
Napolean Gulch placer	48
Napolean Ridge prospect	27
Nash group	643
Nellie Gray	530
Nellie-Mascot group	368
Nelson prospect	193
Nevin mine	347
New Departure mine	288
New York prospect	751
New York-Montana	238
New mine	542
Nicholson mine	709
Nick Preen mine	228
Nineteen-Hundred lode	130
Noble claim group	275
Noble mine	644
North Ermont mine	161
North Fork Salmon River placer at Pierce Creek	101
North Fork placer	98
North Star mine	466
North Star prospect	102
Nugget Bar placer	446
Nugget Creek placer	446
O'Neil Gulch prospect	131
Occidental mine	645
Occurrence (Name unknown) (Gibbonsville dist.)	103
Occurrence (Name unknown) (Blacktail Mtns.)	276
Occurrence (Name unknown) (Ruby Range area)	574
Occurrence (Name unknown) (Ruby Range area)	575
Occurrence (Name unknown) (Ruby Range area)	576
Occurrence (Name unknown) (Ruby Range area)	577
Occurrence (Name unknown) (Ruby Range area)	578
Occurrence (Name unknown) (Ruby Range area)	579
Occurrence (Name unknown) (Ruby Range area)	580

Name	Site No.
Occurrence (Name unknown) (Ruby Range area)	581
Occurrence (Name unknown) (Ruby Range area)	582
Occurrence (Name unknown) (Ruby Range area)	583
Occurrence (Name unknown) (Ruby Range area)	584
Occurrence (Name unknown) (Ruby Range area)	585
Occurrence (Name unknown) (Ruby Range area)	586
Occurrence (Name unknown) (Ruby Range area)	587
Occurrence (Name unknown) (Ruby Range area)	588
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Occurrence (Name unknown) (Ruby Range area)	596
Occurrence (Name unknown) (Ruby Range area)	597
Occurrence (Name unknown) (Ruby Range area)	598
Occurrence (Name unknown) (Ruby Range area)	599
Occurrence (Name unknown) (Ruby Range area)	600
Occurrence (Name unknown) (Siberia district)	666
Occurrence (Name unknown) (Sula area)	716
Odell group	451
Ogle claims	490
Ogle mine	478
Ohio adit	787
Ohio (Ohio Lode) mine	752
Old Cabin Extension	710
Old Cabin prospect	707
Old Elkhorn	318
Old Favorite	220
Old Glory mine	403
Old Tim Creek molybdenum prospect	467
Only Chance	347
Ore Cash mine	8
Oro Cache mine	8
Orofino lode	132
Oro Grande claim	317
Osterly prospect	229
Overlook	351

Name	Site No.
Rochester Creek placer	544
Rochester-Camp Creek Divide placer	408
Rock Rabbit claim	438
Rocket claim	55
Rocket-Dolly group	55
Rocky Hueep prospect	270
Roland and Taylor group	111
Rosemont mine	198
Ruby C prospect	759
Ruby Creek placer (Nugget Creek)	446
Ruby Creek placer (Pioneer Creek)	447
Ruby Peak talc occurrence	606
Ruby Ridge	337
Ruby View mine	607
Ruby claim	335
Rushwhite tunnel	510
Saddle Horse mine	800
Sage Hen mine	650
Saginaw mine	258
Saint Lawrence Consolidated mine	777
Salmon City coal occurrence	57
Salmon bentonite mine	56
Salmon sandstone quarry	58
Salmon sandstone quarry east	60
Salmon sandstone quarry south	59
Sandstrom mine	651
Sandy Creek placer	148
Sauberbier mine	608
Scenic lode	355
Schmidt prospect	760
Schumaker-Olson mine	9
Searchlight	120
Seloma claim	55
Senate mine	439
Shady Rest lode	817
Shamrock mine	689
Sheep Creek mine	134
Sheep Creek placer (North Fork area)	135
Sheep Creek placer (Birch Creek district)	271
Sheep Mountain prospect	512

Name	Site No.
Shelley	818
Shoemaker mine	545
Shoestring lode claims	464
Shoo Fly mine	61
Short Shift mine	409
Shortfellow mine	546
Shorty mine	302
Siberia placer	663
Sierra strip mine	559
Silver Bell claim	336
Silver Buckle	289
Silver Bullion mine	652
Silver Dollar claim	801
Silver Fissure	492
Silver Glance	423
Silver King (Hecla district)	340
Silver King mine (McCartney Mountain district)	383
Silver King mine (Polaris district)	493
Silver King mine (Silver Star district)	690
Silver Note claim	547
Silver Queen mine	485
Silver Rule mine	199
Silver Star	287
Silver Star mine	691
Silver Star property	136
Silverton prospect	62
Simer prospect	63
Sims mine	61
Sir Walter Scott group	200
Sixteen-to-one mine	486
Skeets	287
Skyline	33
Slag-A-Melt	256
Sleeping Princess	238
Smith placer	112
Smith prospect	761
Smith-Dillon mine	609
Smitty prospect	137
Smuggler mine	653
Snow White mine	610

Name	Site No.
Twin Cabin mine	10
Twin Fir prospect	515
Twin Sisters mine	115
U.S. Gold	353
U.S. Gold Corp. mine	720
Union mine	767
Upper Dahlonega Creek placer	72
Upper Hells Canyon placer	358
Upper Moose Creek placer	426
Upper Rochester Creek placer	550
Uranium claims	412
Urbane prospect	768
Valley View prospect	615
Van Dorstan claims	427
Vermont mine	385
Victoria mine	671
Victoria mines	623
Victory group	386
Vine Creek placer	116
Virginia Gulch mine	207
Virginia claim	232
Virginia mine	156
Wagonhammer prospect	140
Walker prospect	769
Wallace Creek placer	68
War Eagle prospect	150
Warren Peak prospect	441
Warren prospect	315
Washington Iron Works placer	120
Washington mine	248
Watseca mine	551

Name	Site No.
Watson Gulch mine	208
Watson Gulch placer	176
Welch quarry	370
Wellman	320
West Ermont mine	211
Wheal Rose mine	294
Whimpy Creek copper prospect	20
Whimpy Creek lead-silver prospect	21
Whimpy Creek placer	151
White Angel quarry	770
White Azalea claim	141
White Cap mine	305
White Chief prospect	713
White Horse mine	120
White Lime group	209
Whitehall mine	809
Whitney claim	616
Whopper mine	163
Wickham mine	69
Wilcox prospect	142
Wild Bat prospect	233
Wildcat claim	428
Wilhite uranium	113
Williams Creek occurrence	34
Williams Creek placer	778
Willow Creek mine	337
Wisconsin Creek placer	659
Wolf Creek deposit	567
Wright's claim	660
Wy-Mont claims	661
Yellow Band group	210
Yellow Bird mine	211

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