



Locations of prospects in this quadrangle were taken from Shapfro and Gries (1970) and Sofronoff (1979). Because many quadrangles, or parts of quadrangles, have not been mapped in as much detail as other quadrangles, comparison of the density of prospects from one quadrangle to another, or even within one quadrangle, is not warranted. As an example, part of a quadrangle may be shown on the map as having more prospects than another part, but the first part may have been mapped in greater detail than the second part. Similarly, a part of a quadrangle may have many prospects that are not shown on this map because the original source of information did not show prospect pits.

Geologic data for the map are from Connolly and O'Harra (1929), Barton (1909), Barton and Paige (1925), DeWitt and others (1968), Fisher (1969), Irving (1899), Irving, Emmons, and Jaggar (1904), Jaggar (1904), Kitchner (1904), Kulkik (1965), Lisenbee (1981 and unpub. data, 1986), Meier (1983), Norton (1983), Parkhill (1976), Shapfro and Gries (1968, 1970), Simmons (1912), and Sofronoff (1979).

PRECISION OF LOCATION INFORMATION

All mine symbols except the unfilled diamond (◇) indicate that the location of the deposit is known within a 200-foot radius. The type opening at a mine (adit, shaft, open pit, trench, and others) is designated by one of ten different symbols. The unfilled diamond symbol indicates that the location is known only to within a 1/4 mile radius, and that the type of mine opening is unknown. Mines and prospects whose locations could not be verified to within less than a 1/4 mile radius were not plotted on the map.

PATENTED CLAIM AND MINE LISTS

Patented mining claims are listed both numerically and alphabetically. Mines are listed alphabetically. For ease in locating the claim or mine on the map, the legal description (section, township, range) is given.

Each patented claim on the map is represented by a number keyed to the numeric and alphabetic listings. Where possible, the claim numbers are plotted approximately in the center of the claim and parallel to its long axis.

Boundaries between adjacent claims are not shown. An asterisk (*) following a claim number indicates that most of the claim is in this quadrangle, but it extends into the adjacent quadrangle. A dollar sign (\$) following a claim number indicates that most of the claim is in the adjacent quadrangle, but part of it is in this quadrangle. Claims outlined with a solid line are patented lode claims; claims outlined with a dotted line are patented placer claims. Many placer workings on unpatented claims have not been plotted on the map, principally because the workings lacked a name.

On the map, the most common or most used name of a mine is normally next to its mine symbol. If there is space, any alternate names or synonyms are in parentheses following the most common name. On some maps, where space does not permit showing the first name or any alternate names, the names are shown by a single letter, two letters, or an abbreviation of the name; the mines are keyed to that letter or abbreviation in the alphabetic and numeric lists. Mines with more than one name have the alternate name(s) or synonym(s) shown in parentheses in the alphabetic lists. The first alternate name or synonym is also alphabetized in the alphabetic list of mines; second or third alternate names are not alphabetized. Uncertain alternate names are not alphabetized and are followed by a query (?).

CLASSIFICATION OF MINES AND DEPOSITS

Mines and deposits are categorized according to geologic criteria of age, environment of formation, and contained metals, as in DeWitt and others (1986), p. 52-53. Deposit-type letter designations (M, S, and so on) corresponding to those in DeWitt and others (1986) for deposit types are used in the alphabetic list of mines. The criteria used for the deposit types are briefly summarized below and are explained more fully in DeWitt and others (1986).

PRINCIPAL TYPES OF DEPOSITS

M-High-calcium limestone is a bedded sedimentary deposit formed in a shallow water marine environment about 250-350 Ma (million years ago). Precipitation of calcium carbonate from seawater and accumulation of organisms rich in calcium carbonate created the deposits.

S and T-Vein and replacement deposits occur predominantly in Paleozoic strata as discordant to concordant bodies containing base and precious metals. Mineralization took place in an epithermal environment about 50-60 Ma by hydrothermal alteration and metallization of wall rocks near Tertiary intrusive bodies. S, base metal-rich deposits containing lead, zinc, and silver, and minor amounts of copper and gold. T, precious metal-rich deposits containing gold and minor amounts of silver, lead, zinc, and copper.

Alphabetic list of mines

[Deposit-type letter designations are explained in the text]

Deposit Type	Name	Location
T	Beaver Ridge Gravel Pit	Sec. 22 T5N R1E
T	Cleopatra	Sec. 16 T5N R2E
T	Eleventh Hour	Sec. 19 T5N R2E
T	Gravel Pit	Sec. 19 T5N R2E
T	Hungry Hollow Gravel Pit	Sec. 29 T6N R2E
M	Quarry	Sec. 19 T6N R2E
T	Unnamed (American Mining)	Sec. 19 T5N R2E
T	Victoria Gold Mining	Sec. 17 T5N R2E

Alphabetic list of patented claims

[Asterisk (*) indicates that part of claim extends into adjacent quadrangle; dollar sign (\$) indicates that most of claim is in the adjacent quadrangle]

Claim number	Name of Claim	Location
082	Abi	Sec. 21 T5N R2E
0825	Alt	Sec. 21 T5N R2E
056	Atilla	Sec. 16 T5N R2E
069	Bath	Sec. 16 T5N R2E
047	Bell	Sec. 16 T5N R2E
060	Black Bird	Sec. 16 T5N R2E
079	Black Thorn	Sec. 21 T5N R2E
058	Blue Bird	Sec. 16 T5N R2E
081	Blue Crow	Sec. 21 T5N R2E
030	Boulder Fr.	Sec. 20 T5N R2E
071	Boulders	Sec. 16 T5N R2E
064	Buffalo	Sec. 16 T5N R2E
035	Cameo No.2	Sec. 20 T5N R2E
036	Cameo No.4	Sec. 20 T5N R2E
037	Cameo No.6	Sec. 20 T5N R2E
041	Cameo No.8	Sec. 20 T5N R2E
0075	Cascade Placer	Sec. 19 T5N R2E
075	Campore	Sec. 21 T5N R2E
063	Cesar	Sec. 16 T5N R2E
073	Chent	Sec. 16 T5N R2E
068	Cleopatra	Sec. 16 T5N R2E
062	Cleopatra	Sec. 16 T5N R2E
0838	Congress Placer	Sec. 9 T5N R2E
0815	Eli and Fisherman	Sec. 21 T5N R2E
050	Elkhorn No.1	Sec. 9 T5N R2E
0514	Elkhorn No.2	Sec. 9 T5N R2E
024	Erma	Sec. 19 T5N R2E
009	Erma	Sec. 19 T5N R2E
0325	Erma No.2, Favorite Fr., and May Queen	Sec. 19 T5N R2E
0815	Fisherman and Eli	Sec. 21 T5N R2E
048	Funston	Sec. 9 T5N R2E
0495	Funston No.1	Sec. 9 T5N R2E
0465	Funston No.2	Sec. 9 T5N R2E
065	Gofor	Sec. 16 T5N R2E
1018	Golden Nugget No.4	Sec. 9 T5N R1E
1028	Golden Nugget No.5	Sec. 9 T5N R1E
1038	Golden Nugget No.6	Sec. 9 T5N R1E
0328	Good Luck	Sec. 21 T5N R2E
031	Good Luck Fr.	Sec. 20 T5N R2E
076	Harmony	Sec. 16 T5N R2E
040	High	Sec. 16 T5N R2E
033	Hobo Fr.	Sec. 21 T5N R2E
020	Huston	Sec. 20 T5N R2E
061	Jay Bird	Sec. 16 T5N R2E
0318	Jumbo Fr.	Sec. 20 T5N R2E
022	Knot	Sec. 17 T5N R2E
046	Lone Star	Sec. 17 T5N R2E
010	Lucky Boy No.2	Sec. 19 T5N R2E
0325	Magneta No.2, Favorite Fr., and May Queen	Sec. 21 T5N R2E
018	Maine No.1	Sec. 20 T5N R2E
019	Maine No.2	Sec. 20 T5N R2E
039	Mark Anthony	Sec. 16 T5N R2E
034	May Queen No.2	Sec. 21 T5N R2E
0325	May Queen, Magneta No.2, and Favorite Fr.	Sec. 21 T5N R2E
057	Mt. Croix	Sec. 21 T5N R2E
0504	Monro and Potatoe Bug	Sec. 9 T5N R2E
074	Monro and Potatoe Bug	Sec. 9 T5N R2E
055	New Pine	Sec. 16 T5N R2E
0014	No.1 Summer	Sec. 21 T5N R1E
0775	On Guard and Old Ironsides	Sec. 21 T5N R2E
0775	On Guard and Old Ironsides	Sec. 21 T5N R2E
074	Osaka and Moscoe	Sec. 16 T5N R2E
072	Owls Roost	Sec. 16 T5N R2E
0494	Peelless	Sec. 9 T5N R2E
052	Pine No.3	Sec. 9 T5N R2E
053	Pine No.5	Sec. 9 T5N R2E
029	Po	Sec. 20 T5N R2E
0504	Potatoe Bug and Mono	Sec. 9 T5N R2E
023	Proctor	Sec. 20 T5N R2E
066	Red Cross	Sec. 16 T5N R2E
045	Rip Rap	Sec. 17 T5N R2E
028	River	Sec. 20 T5N R2E
039	Royal	Sec. 20 T5N R2E
021	Sam	Sec. 20 T5N R2E
026	San Antonio Fr.	Sec. 20 T5N R2E
078	Sardona	Sec. 21 T5N R2E
077	Sometimes	Sec. 21 T5N R2E
041	Spearfish	Sec. 17 T5N R2E
042	Spearfish No.1	Sec. 17 T5N R2E
043	Spearfish No.2	Sec. 17 T5N R2E
044	Spearfish No.3	Sec. 17 T5N R2E
084	Spearfish Placer	Sec. 17 T5N R2E
070	St. Croix	Sec. 16 T5N R2E
011	Star	Sec. 17 T5N R2E
013	Star No.1	Sec. 17 T5N R2E
014	Star No.3	Sec. 17 T5N R2E
015	Star No.4	Sec. 17 T5N R2E
016	Star No.6	Sec. 17 T5N R2E
017	Star No.7	Sec. 17 T5N R2E

REFERENCES CITED

Allsman, P. T., 1940, Reconnaissance of gold-mining districts in the Black Hills, South Dakota: U.S. Bureau of Mines Bulletin 427, 146 p.

Connolly, J. P., 1927, The Tertiary mineralization of the northern Black Hills: South Dakota School of Mines and Technology Bulletin 15, 130 p.

Connolly, J. P., and O'Harra, G. C., 1929, The mineral wealth of the Black Hills: South Dakota School of Mines and Technology Bulletin 16, 418 p.

Darton, N. H., 1909, Geology and water resources of the northern portion of the Black Hills and adjoining regions in South Dakota and Wyoming: U.S. Geological Survey Professional Paper 65, 105 p.

Darton, N. H., and Kelcey, Sidney, 1925, Central Black Hills [quadrangle], South Dakota: U.S. Geological Survey Geologic Atlas of the United States, Folio 219, 34 p.

DeWitt, Ed., Redden, J. A., Wilson, Anna Burack, and Buscher, David, 1986, Mineral resource potential and geology of the Black Hills National Forest, South Dakota and Wyoming, with a section on Salable commodities, by J. S. Hersh, U.S. Forest Service: U.S. Geological Survey Bulletin 1580, 133 p.

Fisher, J. K., 1969, Geology of the Citadel Rock area, Lawrence County, South Dakota: Rapid City, South Dakota School of Mines and Technology, M.S. thesis, 58 p.

Irving, J. D., 1899, A contribution to the geology of the northern Black Hills: New York Academy of Science Annals, v. 12, no. 9, p. 187-340.

Irving, J. D., and Emmons, S. F., 1904, Mining geology, Part 2 of Irving, J. D., Emmons, S. F., and Jaggar, T. A., Jr., Economic resources of the northern Black Hills: U.S. Geological Survey Professional Paper 26, p. 43-222.

Irving, J. D., Emmons, S. F., and Jaggar, T. A., 1904, Economic resources of the northern Black Hills: U.S. Geological Survey Professional Paper 26, 222 p.

Jaggar, T. A., Jr., 1901, The laccoliths of the Black Hills, with a chapter on Experiments illustrating intrusion and erosion, by Ernest Howe: U.S. Geological Survey Twenty-first Annual Report, Part 3, p. 163-303.

Emmons, S. F., and Jaggar, T. A., Jr., Economic resources of the northern Black Hills: U.S. Geological Survey Professional Paper 26, p. 1-42.

Kirchner, J. G., 1971, The petrography and petrology of the phonolite porphyry intrusions of the northern Black Hills, South Dakota: Des Moines, University of Iowa Ph.D. dissertation, 197 p.

Kulkik, J. W., 1965, Stratigraphy of the Deadwood Formation, Black Hills, South Dakota and Wyoming: Rapid City, South Dakota School of Mines and Technology, M.S. thesis, 263 p.

Lindgard, A. L., and Roberts, W. L., 1970, Utilization of mine dumps in the Black Hills, South Dakota, Carbonate Camp, Spokane, and Galena districts: South Dakota Academy of Science Proceedings, v. 49, p. 9-30.

Lisenbee, A. L., 1981, Studies of the Tertiary intrusions of the northern Black Hills uplift, South Dakota and Wyoming: a historical review, in Rich, F. J., ed., Geology of the Black Hills, South Dakota and Wyoming: American Geological Institute, p. 106-125.

Meier, Laurence, 1981, Geology of the Crow Peak area, Lawrence County, South Dakota: Rapid City, South Dakota School of Mines and Technology, M.S. thesis, 69 p.

Norton, J. J., 1983, Bald Mountain gold mining region, northern Black Hills, South Dakota: U.S. Geological Survey Open-File Report 83-791, 32 p.

O'Harra, G. C., 1902, The mineral wealth of the Black Hills: South Dakota School of Mines and Technology Bulletin 6, 88 p.

Parkhill, T. A., 1976, Geology of the Tertiary igneous rocks in the Richmond Hill intrusive complex, northern Black Hills, South Dakota: Rapid City, South Dakota School of Mines and Technology, M.S. thesis, 45 p.

Shapfro, L. H., and Gries, J. P., 1968, Ore deposits in Paleozoic rocks, northern Black Hills, South Dakota, in Black Hills area, Montana, Wyoming: Geological Association of America, 20th Field Conference, p. 179-185.

1970, Ore deposits in rocks of Paleozoic and Tertiary age, northern Black Hills, South Dakota: U.S. Geological Survey Open-File Report 70-300, 235 p.

Simmons, Jesse, 1912, Victoria Mine and mill, Black Hills, South Dakota: Mining and Engineering World, v. 37, p. 571-572.

Sofronoff, S. E., 1979, Geology, alteration and mineralization of the Carbonate mining district and surrounding area, Lawrence County, South Dakota: Rapid City, South Dakota School of Mines and Technology, M.S. thesis, 150 p.

U.S. Bureau of Mines, 1954, Black Hills mineral atlas, South Dakota, Part 1: U.S. Bureau of Mines Information Circular 1688, 123 p.

1986, Mineral Inventory Location System (MILS): U.S. Bureau of Mines active computer file data available from U.S. Bureau of Mines, Intermountain Field Operations Center, Building 20, Denver Federal Center, Denver, CO 80225.

U.S. Geological Survey, 1986, Mineral Resources Data System (MRDS), formerly Computer Resources Information Bank, (CRIB): U.S. Geological Survey active computer file data available from U.S. Geological Survey, Branch of Resource Analysis, Building 25, Denver Federal Center, Denver, CO 80225.

Wilhelm, A. B., Bowers, J. R., Jones, D. T., and Patel, S. R., 1978, Map of mineral claims of the northern Black Hills, Lawrence County, South Dakota, Map no. 1-4, scale 1:19,200: South Dakota School of Mines and Technology, Mining Engineering Department Map, available for inspection at Lawrence County Courthouse, Deadwood, SD 57732.

Numerical list of patented claims

[Asterisk (*) indicates that part of claim extends into adjacent quadrangle; dollar sign (\$) indicates that most of claim is in the adjacent quadrangle]

Claim number	Name of Claim	Location
0014	No.1 Summer	Sec. 21 T5N R1E
0024	Summer Fr.	Sec. 21 T5N R1E
0034	Summer No.1	Sec. 21 T5N R1E
0034	Summer No.2	Sec. 21 T5N R1E
0034	Summer No.3	Sec. 21 T5N R1E
0034	Summer No.4	Sec. 21 T5N R1E
0034	Summer No.5	Sec. 21 T5N R1E
0034	Summer No.6	Sec. 21 T5N R1E
0034	Summer No.7	Sec. 21 T5N R1E
0034	Summer No.8	Sec. 21 T5N R1E
0034	Summer No.9	Sec. 21 T5N R1E
0034	Summer No.10	Sec. 21 T5N R1E
0034	Summer No.11 and Summer No.12	Sec. 21 T5N R1E
0034	Summer No.12 and Summer No.11	Sec. 21 T5N R1E
0034	Summer No.16	Sec. 21 T5N R1E
0034	Summer No.17	Sec. 21 T5N R1E
0034	Summer No.18	Sec. 21 T5N R1E
0034	Summer No.19	Sec. 21 T5N R1E
0034	Summer No.20	Sec. 21 T5N R1E
0034	Summer No.21	Sec. 21 T5N R1E
0034	Summer No.22	Sec. 21 T5N R1E
0034	Summer No.23	Sec. 21 T5N R1E
0034	Summer No.24	Sec. 21 T5N R1E
0034	Summer No.25	Sec. 21 T5N R1E
0034	Summer No.26	Sec. 21 T5N R1E
0034	Summer No.27	Sec. 21 T5N R1E
0034	Summer No.28	Sec. 21 T5N R1E
0034	Summer No.29	Sec. 21 T5N R1E
0034	Summer No.30	Sec. 21 T5N R1E
0034	Summer No.31	Sec. 21 T5N R1E
0034	Summer No.32	Sec. 21 T5N R1E
0034	Summer No.33	Sec. 21 T5N R1E
0034	Summer No.34	Sec. 21 T5N R1E
0034	Summer No.35	Sec. 21 T5N R1E
0034	Summer No.36	Sec. 21 T5N R1E
0034	Summer No.37	Sec. 21 T5N R1E
0034	Summer No.38	Sec. 21 T5N R1E
0034	Summer No.39	Sec. 21 T5N R1E
0034	Summer No.40	Sec. 21 T5N R1E
0034	Summer No.41	Sec. 21 T5N R1E
0034	Summer No.42	Sec. 21 T5N R1E
0034	Summer No.43	Sec. 21 T5N R1E
0034	Summer No.44	Sec. 21 T5N R1E
0034	Summer No.45	Sec. 21 T5N R1E
0034	Summer No.46	Sec. 21 T5N R1E
0034	Summer No.47	Sec. 21 T5N R1E
0034	Summer No.48	Sec. 21 T5N R1E
0034	Summer No.49	Sec. 21 T5N R1E
0034	Summer No.50	Sec. 21 T5N R1E
0034	Summer No.51	Sec. 21 T5N R1E
0034	Summer No.52	Sec. 21 T5N R1E
0034	Summer No.53	Sec. 21 T5N R1E
0034	Summer No.54	Sec. 21 T5N R1E
0034	Summer No.55	Sec. 21 T5N R1E
0034	Summer No.56	Sec. 21 T5N R1E
0034	Summer No.57	Sec. 21 T5N R1E
0034	Summer No.58	Sec. 21 T5N R1E
0034	Summer No.59	Sec. 21 T5N R1E
0034	Summer No.60	Sec. 21 T5N R1E
0034	Summer No.61	Sec. 21 T5N R1E
0034	Summer No.62	Sec. 21 T5N R1E
0034	Summer No.63	Sec. 21 T5N R1E
0034	Summer No.64	Sec. 21 T5N R1E
0034	Summer No.65	Sec. 21 T5N R1E
0034	Summer No.66	Sec. 21 T5N R1E
0034	Summer No.67	Sec. 21 T5N R1E
0034	Summer No.68	Sec. 21 T5N R1E
0034	Summer No.69	Sec. 21 T5N R1E
0034	Summer No.70	Sec. 21 T5N R1E
0034	Summer No.71	Sec. 21 T5N R1E
0034	Summer No.72	Sec. 21 T5N R1E
0034	Summer No.73	Sec. 21 T5N R1E
0034	Summer No.74	Sec. 21 T5N R1E
0034	Summer No.75	Sec. 21 T5N R1E
0034	Summer No.76	Sec. 21 T5N R1E
0034	Summer No.77	Sec. 21 T5N R1E
0034	Summer No.78	Sec. 21 T5N R1E
0034	Summer No.79	Sec. 21 T5N R1E
0034	Summer No.80	Sec. 21 T5N R1E
0034	Summer No.81	Sec. 21 T5N R1E
0034	Summer No.82	Sec. 21 T5N R1E
0034	Summer No.83	Sec. 21 T5N R1E
0034	Summer No.84	Sec. 21 T5N R1E
0034	Summer No.85	Sec. 21 T5N R1E
0034	Summer No.86	Sec. 21 T5N R1E
0034	Summer No.87	Sec. 21 T5N R1E
0034	Summer No.88	Sec. 21 T5N R1E
0034	Summer No.89	Sec. 21 T5N R1E
0034	Summer No.90	Sec. 21 T5N R1E
0034	Summer No.91	Sec. 21 T5N R1E
0034	Summer No.92	Sec. 21 T5N R1E
0034	Summer No.93	Sec. 21 T5N R1E
0034	Summer No.94	Sec. 21 T5N R1E
0034	Summer No.95	Sec. 21 T5N R1E
0034	Summer No.96	Sec. 21 T5N R1E
0034	Summer No.97	Sec. 21 T5N R1E
0034	Summer No.98	Sec. 21 T5N R1E
0034	Summer No.99	Sec. 21 T5N R1E
0034	Summer No.100	Sec. 21 T5N R1E

MAP OF MINES, PROSPECTS, AND PATENTED MINING CLAIMS, AND CLASSIFICATION OF MINERAL DEPOSITS IN THE MAURICE 7 1/2 MINUTE QUADRANGLE, BLACK HILLS, SOUTH DAKOTA