



INDEX MAP SHOWING MINES AND PROSPECT MAPS (MF-SERIES MAPS AND OPEN-FILE REPORTS) IN THE BLACK HILLS REGION

**EXPLANATION**

Mine—Location known. Distinguished from prospect by name of mine next to symbol. Alternate names or synonym(s) in parentheses. If there is enough space on the map, the entire mine name and synonym(s) are shown; otherwise, mine name may be abbreviated and synonym(s) deleted from map. Full mine names and all synonyms are shown in the "Alphabetic list of mines".

Adit

Open pit or other type of opening

Quarry

Gravel pit

Mine—Approximate location shown. Open pit, shaft, adit, or other type of opening

Prospect

Shaft

Pit

Multiple pits

Patented claim—See alphabetic and numeric lists of patented claims. Asterisk (\*) indicates part of claim extends into adjacent quadrangle. Dollar sign (\$) indicates most of claim in adjacent quadrangle. Boundaries between claims not shown.

Lode claim—Orientation of number parallel to long axis of claim.

Placer claim—Number approximately in center of claim.

**INTRODUCTION**

This map is one in a set of 26 maps (see index map) at 1:24,000 scale of the Black Hills region of South Dakota and Wyoming on which are shown a geologic classification of mines, a bibliography of mineral deposits, and locations of active and inactive mines, prospects, and patented mining claims. Some of these maps have been published as U.S. Geological Survey Miscellaneous Field Studies Maps (MF-series) and some as U.S. Geological Survey Open-File Reports (OF-series); see index map. An earlier unpublished version of this set of maps was the data base from which plate 4 (scale 1:250,000) of DeWitt and others (1986) was compiled. Subsequent to that publication the set has been revised and updated and prospects and patented claims have been added. These revised and more detailed 1:24,000-scale maps should be used for the equivalent areas of plate 4 of DeWitt and others (1986).

J. J. Norton, J. A. Redden, J. P. Gries, and W. L. Roberts reviewed the set of maps. Rob Yarnbrick helped digitize much of the information.

**SOURCES OF INFORMATION**

Outlines of patented mining claims were obtained from 1:24,000-scale Forest Service Status Plats, available for inspection at the U.S. Forest Service, Rocky Mountains Region, 11,117 West 8th Avenue, Denver, CO 80225. Names of patented claims were obtained from the Pennington County Courthouse, Rapid City, South Dakota. Claims have been located as accurately as possible, but this map is not to be used for legal nor precise locations of mining claims.

Locations of mines and prospects were compiled from all available published and unpublished data. The locations of active and inactive mines in this quadrangle were taken from Allman (1940), Bayley (1972), Connolly (1933), Connolly and O'Barra (1929), Evans (1931), Fricke (1982), Harrer (1966), Norton (unpub. data, 1986), O'Barra (1902), Townsend (1931), U.S. Bureau of Mines (1954, 1986), and U.S. Geological Survey, Zeitner (1977). Also, in some instances, different sources of information gave conflicting location information for mines with the same name. Where possible, this conflict was resolved by comparing the name of the mine to adjacent patented claims, by comparing the description of the deposit to the known geology and topography of the area, or by communication with past owners of the property. In some instances, a unique location was not possible with existing information; in that event the most logical location was chosen. The location of some or many mines on this map may differ from those in present data bases such as the U.S. Bureau of Mines Mineral Inventory Location System (MILS) or

the U.S. Geological Survey Mineral Resources Data System (MRDS), formerly the Computerized Resources Information Bank (CRIB).

Locations of prospects in this quadrangle were taken from Bayley (1972), Marin (1983), and Norton (unpub. data, 1986). 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 Bayley (1972).

Darton and Paige (1925), DeWitt and others (1986), Fantone (1983), Fricke (1982), Harrer (1966), Kleinkopf and Ruden (1975), Marin (1983), Norton (unpub. data, 1986), Redden and Norton (1975), and Shaddrick (1971).

**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 of 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 name, 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 maps, 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, any alternate name, the name is 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 listing. 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 may not be 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 (A, C, and so on) corresponding to those in DeWitt and others (1986) for deposit types are shown 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**

A—Archean and Proterozoic tectonic iron-formations are stratiform metasedimentary deposits of iron and silica that were formed in a submarine environment about 1.8-2.2 Ga (billion years ago). The metals were concentrated in sedimentary rocks by volcanic or chemical processes.

C—Proterozoic carbonate-, silicate-, and sulfide-facies iron-formations are syngenetic stratiform deposits of gold, silver, and arsenic formed in a submarine environment about 1.8-2.2 Ga. The metals were concentrated in sedimentary and volcanoclastic rocks by biologic, sedimentologic, or hydrothermal processes.

D—Proterozoic veins and shear zones are discordant deposits of gold, silver, lead, and minor amounts of zinc, copper, and arsenic formed in a metamorphic and tectonic environment about 1.6-1.9 Ga. Hydrothermal solutions concentrated the metals in metasedimentary rocks.

Q—Tertiary and Recent placers are bedded sedimentary deposits of gold and cassiterite formed in a terrestrial environment by rivers and streams transporting and concentrating heavy minerals in stream channels.

R—Cambrian colluvium is a stratabound deposit of iron formed in a surface weathering environment about 500 Ma. Extensive weathering and minimal transport of the underlying Precambrian rocks resulted in accumulations of iron-rich debris and fine-grained material near the base of the Cambrian strata.

**REFERENCES CITED**

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Kleinkopf, M. D., and Redden, J. A., 1975, Bouguer gravity, aeromagnetic, and general geologic maps of part of the Black Hills of South Dakota and Wyoming: U.S. Geological Survey Geophysical Investigations Map GP-903, scale 1:250,000.

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

Redden, J. A., and Norton, J. J., 1975, Precambrian geology of the Black Hills, in U.S. Congress, Senate Committee on Interior and Insular Affairs, Mineral and water resources of South Dakota: U.S. 94th Congress, last session, p. 21-28.

Shaddrick, David, 1971, Metaconglomerates in the eastern Black Hills of South Dakota: Rapid City, South Dakota School of Mines and Technology, M.S. thesis, 85 p.

Townsend, D., 1931, Placer mining operations near Sheridan: Black Hills Engineer, v. 19, p. 333-343.

U.S. Bureau of Mines, 1954, Black Hills mineral atlas, South Dakota, Part 1: U.S. Bureau of Mines Information Circular 668, 123 p.

U.S. Bureau of Mines, 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.

Zeitner, J. G., 1977, Placer gold in the Black Hills: Lapidary Journal, v. 31, p. 1476, 1478, 1480, 1482, 1484, 1486.

**Alphabetic list of mines**

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

Deposit Type	Name of Mine	Location
D	Ashley and Nyswanger (Dexter Claims)	Sec. 1 T1N R5E
D	Copper Glance (Poisoned Ox)	Sec. 2 T1N R5E
D	Dexter Claims	Sec. 2 T1N R5E
R,A	(Ashley and Nyswanger)	Sec. 2 T1N R5E
D	Green Granite Quarry	Sec. 29 T2N R6E
R,A	Neppers	Sec. 2 T1N R5E
D	Poisoned Ox (Copper Glance)	Sec. 2 T1N R5E
R,A	Poznansky Iron	Sec. 29 T2N R6E
D	Shanks Gulch Gravel Pit	Sec. 3 T1N R5E
D	Unnamed	Sec. 30 T1N R5E
Q	Unnamed	Sec. 22 T1N R5E
Q	Unnamed (1)	Sec. 1 T1N R5E
Q	Unnamed (2)	Sec. 1 T1N R5E
D	Unnamed	Sec. 36 T2N R5E
D	Unnamed	Sec. 21 T1N R5E
R	Unnamed	Sec. 5 T2N R5E

**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
022	Adonis No.1	Sec. 26 T1N R5E
023	Adonis No.2	Sec. 26 T1N R5E
028	Adonis No.3	Sec. 23 T1N R5E
012	Adonis No.4	Sec. 26 T1N R5E
011	Adonis No.5	Sec. 23 T1N R5E
004	Aurora	Sec. 29 T2N R6E
003	Bertha	Sec. 20 T2N R6E
025	Big Bend Placer	Sec. 8 T1N R6E
032	Chicago No.1	Sec. 23 T1N R5E
033	Chicago No.2	Sec. 23 T1N R5E
034	Chicago No.3	Sec. 22 T1N R5E
034	Chicago No.4	Sec. 22 T1N R5E
035	Chicago No.6	Sec. 22 T1N R5E
036	Chicago No.7	Sec. 22 T1N R5E
031	Chicago No.9	Sec. 23 T1N R5E
0405	Clear Creek Placer	Sec. 23 T1N R5E
005	Fort Meade Hydraulic Placer	Sec. 8 T1N R6E
010	Lionette Lode	Sec. 25 T1N R5E
025	Lucky Jim No.1	Sec. 26 T1N R5E
026	Lucky Jim No.2	Sec. 26 T1N R5E
009	Mary E. Lode	Sec. 19 T1N R6E
037	New Homestake No.1	Sec. 22 T1N R5E
037	New Homestake No.2	Sec. 22 T1N R5E
030	New Homestake No.3	Sec. 23 T1N R5E
030	New Homestake No.4	Sec. 22 T1N R5E
039	New Homestake No.5	Sec. 23 T1N R5E
007	Norse Placer	Sec. 9 T1N R6E
001	Pelham Lode No.4	Sec. 19 T2N R6E
002	Pelham Lode No.6	Sec. 20 T2N R6E
038	Queen of the Hills No.1	Sec. 22 T1N R5E
038	Queen of the Hills No.2	Sec. 22 T1N R5E
029	Queen of the Hills No.3	Sec. 23 T1N R5E
008	Rubensite Lode	Sec. 22 T1N R5E
0415	Saxon Placer	Sec. 34 T1N R5E
015	Sunshine Lode No.1	Sec. 26 T1N R5E
016	Sunshine Lode No.2	Sec. 26 T1N R5E
017	Sunshine Lode No.3	Sec. 26 T1N R5E
020	Sunshine Lode No.4	Sec. 26 T1N R5E
019	Sunshine Lode No.5	Sec. 26 T1N R5E
018	Sunshine Lode No.6	Sec. 26 T1N R5E
014	Sunshine Lode No.7	Sec. 26 T1N R5E
027	Sunshine Lode No.8	Sec. 26 T1N R5E
021	Sunshine Lode No.9	Sec. 26 T1N R5E
013	Sunshine Lode No.10	Sec. 26 T1N R5E

**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
001	Pelham Lode No.4	Sec. 19 T2N R6E
002	Pelham Lode No.6	Sec. 20 T2N R6E
003	Bertha	Sec. 20 T2N R6E
004	Aurora	Sec. 29 T2N R6E
005	Fort Meade Hydraulic Placer	Sec. 8 T1N R6E
006	Big Bend Placer	Sec. 8 T1N R6E
007	Norse Placer	Sec. 9 T1N R6E
008	Rubensite Lode	Sec. 22 T1N R5E
009	Mary E. Lode	Sec. 19 T1N R6E
010	Lionette Lode	Sec. 25 T1N R5E
011	Adonis No.5	Sec. 23 T1N R5E
012	Adonis No.4	Sec. 26 T1N R5E
013	Sunshine Lode No.10	Sec. 26 T1N R5E
014	Sunshine Lode No.7	Sec. 26 T1N R5E
015	Sunshine Lode No.1	Sec. 26 T1N R5E
016	Sunshine Lode No.2	Sec. 26 T1N R5E
017	Sunshine Lode No.3	Sec. 26 T1N R5E
018	Sunshine Lode No.6	Sec. 26 T1N R5E
019	Sunshine Lode No.5	Sec. 26 T1N R5E
020	Sunshine Lode No.4	Sec. 26 T1N R5E
021	Sunshine Lode No.9	Sec. 26 T1N R5E
022	Adonis No.1	Sec. 26 T1N R5E
023	Adonis No.2	Sec. 26 T1N R5E
024	New Homestake No.4	Sec. 26 T1N R5E
025	Lucky Jim No.1	Sec. 26 T1N R5E
026	Lucky Jim No.2	Sec. 26 T1N R5E
027	Sunshine Lode No.8	Sec. 26 T1N R5E
028	Adonis No.3	Sec. 23 T1N R5E
029	Queen of the Hills No.3	Sec. 23 T1N R5E
030	New Homestake No.3	Sec. 23 T1N R5E
031	Chicago No.9	Sec. 23 T1N R5E
032	Chicago No.1	Sec. 23 T1N R5E
033	Chicago No.2	Sec. 23 T1N R5E
034	Chicago No.4	Sec. 22 T1N R5E
035	Chicago No.3	Sec. 22 T1N R5E
035	Chicago No.5	Sec. 22 T1N R5E
036	Chicago No.8	Sec. 22 T1N R5E
036	Chicago No.7	Sec. 22 T1N R5E
037	New Homestake No.2	Sec. 22 T1N R5E
037	New Homestake No.1	Sec. 22 T1N R5E
038	Queen of the Hills No.2	Sec. 22 T1N R5E
038	Queen of the Hills No.1	Sec. 22 T1N R5E
039	New Homestake No.5	Sec. 22 T1N R5E
0405	Clear Creek Placer	Sec. 22 T1N R5E
0415	Saxon Placer	Sec. 34 T1N R5E

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

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