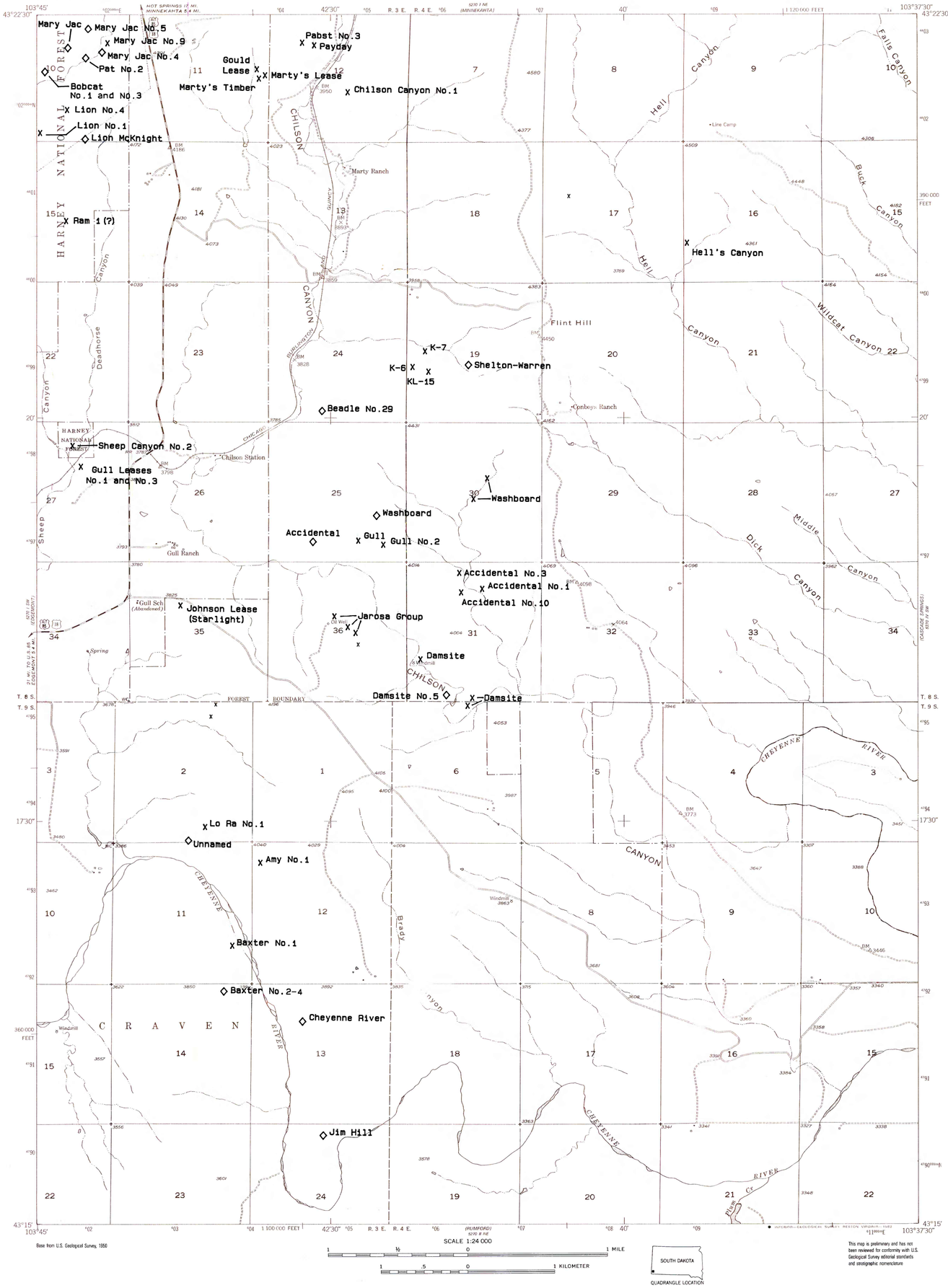
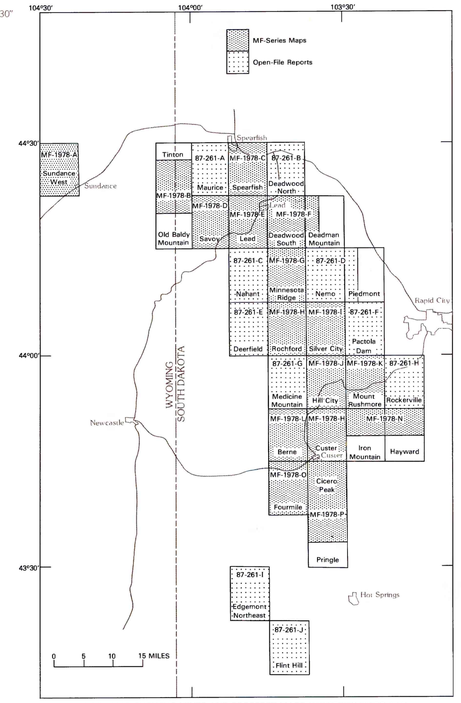
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

OPEN-FILE REPORT
OF 87-261-J



Base from U.S. Geological Survey, 1956

This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature



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 and size of symbol. Alternate names or synonyms in parentheses. If there is enough space on the map, the entire mine name and synonyms are shown; otherwise, mine name may be abbreviated and synonyms deleted from map. Full mine names and all synonyms are shown in the "Alphabetic list of mines"

X **Large pit**

◇ **Mine**--Approximate location shown. Open pit, shaft, adit, or other type of opening

Prospect

X **Pit**

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 An earlier unpublished version of this set of maps was the data base from which plate 4 (scale 1:250,000) of DeWitt and others (1986) was compiled.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 Yambrick helped digitize much of the information.

SOURCES OF INFORMATION

There are no patented mining claims in the Flint Hill 7 1/2 minute quadrangle.

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 Bell and Bales (1955), Bell and Post (1971), Braddock (1955), Gott, Wolcott, and Bowles (1974), Roberts and Rapp (1965), Trusdell, Daddazio, and Martin (1982), U.S. Bureau of Mines (1955, 1986), and U.S. Geological Survey (1986). 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 Bell and Post (1971) and Braddock (1955). 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 napped 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 Bell and Bales (1955), Bell and others (1956), Bell and Post (1971), Bidgood (1973), Bowles (1968), Bowles and others (1980), Bright (1955), Cuppels (1962), DeWitt and others (1986), Gott, Wolcott, and Bowles (1974), Gries (1974), Hall (1955), Lang (1963), Lisenbee (1985), Page and Redden (1952), Renfro (1969), Schnabel (1956), and Shawe and Granger (1965).

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.

MINE LISTS

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 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 (O, CO, 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

O--Roll-front deposits in Cretaceous rocks are stratabound accumulations of uranium and vanadium that were formed in a near surface, locally reducing environment. Low temperature, bicarbonate-rich fluids containing minor amounts of selenium and molybdenum moved down-dip through the host rocks and precipitated ore minerals in carbon-rich horizons.

CO--Coal deposits in the Cretaceous Inyan Kara Group are stratabound accumulations of organic remains that formed in a fresh-water environment about 100-150 Ma (million years ago). Organic substances, mostly plant remains, were modified into subbituminous coal and carbon-rich sedimentary rocks.

REFERENCES CITED

Bell, Henry, and Bales, W. E., 1955, Uranium deposits in Fall River County, South Dakota: U.S. Geological Survey Bulletin 1009-G, p. 211-233.

Bell, Henry, Gott, G. B., Post, E. V., and Schnabel, R. W., 1956, Lithologic and structural control of uranium deposition in the southern Black Hills, South Dakota: U.S. Geological Survey Professional Paper 300, p. 345-349.

Bell, Henry, III, and Post, E. V., 1971, Geology of the Flint Hill quadrangle, Fall River County, South Dakota: U.S. Geological Survey Bulletin 1063-M, p. 505-586.

Bidgood, T. W., 1973, Alteration associated with sandstone-type uranium mineralization in the Black Hills, South Dakota and Wyoming: Rapid City, South Dakota School of Mines and Technology, M.S. thesis, 35 p.

Bowles, C. G., 1968, Theory of uranium deposition from artesian water in the Edgemont district, southern Black Hills, in Black Hills area, South Dakota, Montana, Wyoming: Wyoming Geological Association Guidebook, 20th Annual Field Conference, p. 125-130.

Bowles, C. G., Reimer, G. M., Been, J. M., and Murrey, D. G., 1980, Helium investigations in the Edgemont uranium district, southern Black Hills, South Dakota and Wyoming: U.S. Geological Survey Open-File Report 80-1077, 30 p.

Braddock, W. A., 1955, Map showing distribution and occurrences of uranium deposits in part of the Edgemont mining district, Fall River County, South Dakota: U.S. Geological Survey Mineral Investigations Field Studies Map MF-39, scale 1:48,000.

Bright, J. H., 1955, Gould uranium mine of the southern Black Hills, South Dakota [abs.]: Geological Society of America Bulletin, v. 66, p. 1672-1673.

Cuppels, N. P., 1962, Geologic environment of an oxidized uranium deposit in the Black Hills, South Dakota: U.S. Geological Survey Bulletin 1063-C, p. 61-83.

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. Dersch, U.S. Forest Service: U.S. Geological Survey Bulletin 1980, 135 p.

Gott, G. B., Wolcott, D. E., and Bowles, C. G., 1974, Stratigraphy of the Inyan Kara Group and localization of uranium deposits, southern Black Hills, South Dakota and Wyoming: U.S. Geological Survey Professional Paper 763, 57 p.

Gries, J. P., 1974, Mineral resources of the Black Hills area, South Dakota and Wyoming: U.S. Bureau of Mines Information Circular 8660, 61 p.

Hall, Ralph, 1955, Geology of the uranium deposits of the southern Black Hills: U.S. Atomic Energy Commission Report RME-1065, 30 p.

Lang, W. J., 1963, Oxidized uranium deposits of the southern Black Hills, South Dakota: Tucson, The University of Arizona, M.S. thesis, 64 p.

Lisenbee, A. L., 1985, Tectonic map of the Black Hills uplift, Montana, Wyoming, and South Dakota: Geological Survey of Wyoming Map Series 13, scale 1:250,000.

Page, L. R., and Redden, J. A., 1952, The carnotite prospects of the Craven Canyon area, Fall River County, South Dakota: U.S. Geological Survey Circular 175, 18 p.

Renfro, A. R., 1969, Uranium deposits in the Lower Cretaceous of the Black Hills: Wyoming uranium issue, Wyoming University Contributions to Geology, v. 8, p. 87-92.

Roberts, W. L., and Rapp, George, Jr., 1965, Mineralogy of the Black Hills: Rapid City, South Dakota School of Mines and Technology Bulletin 18, 268 p.

Schnabel, R. W., 1956, The geology and uranium deposits of the southern Black Hills, South Dakota: Mines Magazine, v. 46, p. 32-36.

Shawe, D. R., and Granger, H. C., 1965, Uranium ore-rolls--an analysis: Economic Geology, v. 60, p. 240-250.

Trusedell, D. B., Daddazio, P. L., and Martin, T. S., 1982, National Uranium Resource Evaluation - Hot Springs quadrangle, South Dakota and Nebraska: U.S. Department of Energy Open-File Report PGJ/F-029(82), 68 p.; available from U.S. Geological Survey, Open-File Services Section, P.O. Box 25425, Denver, CO 80225.

U.S. Bureau of Mines, 1955, Black Hills mineral atlas, South Dakota, Part 2: U.S. Bureau of Mines Information Circular 7707, 208 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.

Alphabetic list of mines

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

Deposit Type	Name of Mine	Location
O	Accidental	Sec. 25 T8S R3E
O	Accidental No.1	Sec. 31 T8S R4E
O	Accidental No.10	Sec. 31 T8S R4E
O	Accidental No.3	Sec. 31 T8S R4E
O	Amy No. 1	Sec. 12 T9S R3E
O	Baxter No.1	Sec. 11 T9S R3E
O	Baxter No.2-4	Sec. 14 T9S R3E
O	Beadle No.29	Sec. 24 T8S R4E
O	Bobcat No.1 and No.3	Sec. 10 T8S R3E
CO	Cheyenne River	Sec. 13 T9S R3E
O	Chilson Canyon No.1	Sec. 12 T8S R4E
O	Damsite	Sec. 31 T8S R4E
O	Damsite	Sec. 6 T9S R4E
O	Damsite No.5	Sec. 31 T8S R4E
O	Gould Lease	Sec. 11 T8S R3E
O	Gull	Sec. 25 T8S R3E
O	Gull Leases No.1 and No.3	Sec. 27 T8S R3E
O	Gull No. 2	Sec. 25 T8S R3E
O	Hell's Canyon Group	Sec. 16 T8S R4E
O	Jarosa Group	Sec. 36 T8S R3E
CO	Jim Hill	Sec. 24 T9S R3E
O	Johnson Lease (Starlight)	Sec. 35 T8S R3E
O	K-6 (Kellogg)	Sec. 19 T8S R4E
O	K-7 (Kellogg)	Sec. 19 T8S R4E
O	KL-15 (Kellogg)	Sec. 19 T8S R4E
O	Kellogg (K-6)	Sec. 19 T8S R4E
O	Kellogg (K-7)	Sec. 19 T8S R4E
O	Kellogg (KL-15)	Sec. 19 T8S R4E
O	Lion	Sec. 10 T8S R3E
O	Lion McKnight	Sec. 10 T8S R3E
O	Lion No. 4	Sec. 10 T8S R3E
O	Lo Ra No.1	Sec. 2 T9S R3E
O	Marty's Lease	Sec. 11 T8S R3E
O	Marty's Timber	Sec. 11 T8S R3E
O	Mary Jac	Sec. 10 T8S R3E
O	Mary Jac No. 4	Sec. 10 T8S R3E
O	Mary Jac No. 5	Sec. 10 T8S R3E
O	Mary Jac No.9	Sec. 10 T8S R3E
O	Pabst No.3	Sec. 12 T8S R4E
O	Pat No.2	Sec. 10 T8S R3E
O	Payday	Sec. 12 T8S R4E
O	Ram 1 (?)	Sec. 15 T8S R4E
O	Sheep Canyon No.2	Sec. 27 T8S R3E
O	Shelton-Warren	Sec. 19 T8S R4E
O	Starlight (Johnson Lease)	Sec. 35 T8S R3E
CO	Unnamed	Sec. 2 T9S R3E
O	Washboard	Sec. 25 T8S R3E
O	Washboard	Sec. 30 T8S R4E

MAP OF MINES, PROSPECTS, AND CLASSIFICATION OF MINERAL DEPOSITS IN THE FLINT HILL 7 ½ MINUTE QUADRANGLE, BLACK HILLS, SOUTH DAKOTA

By
Ed DeWitt, D. P. Buscher, Anna Burack Wilson, and T.M. Johnson

1988