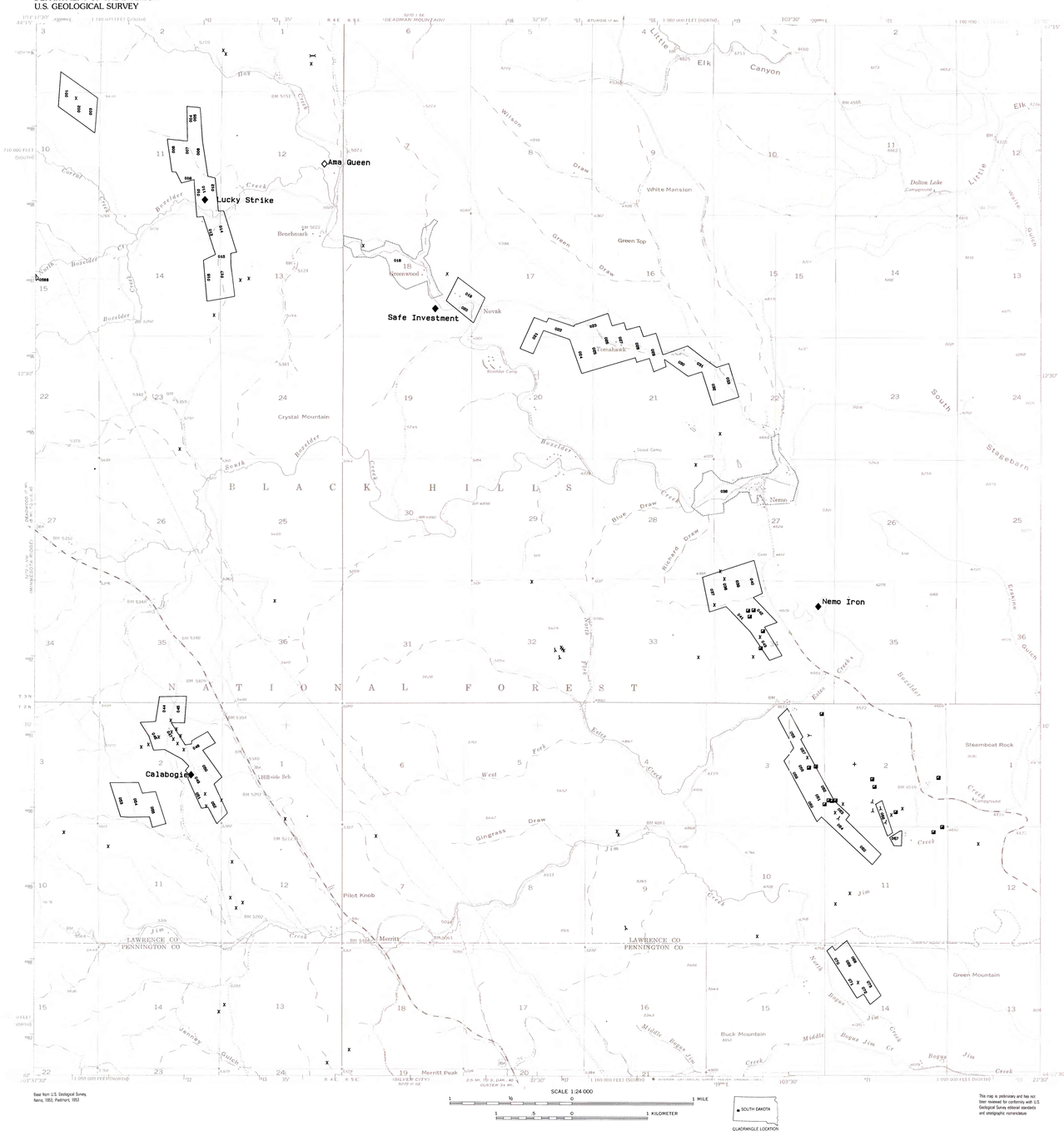
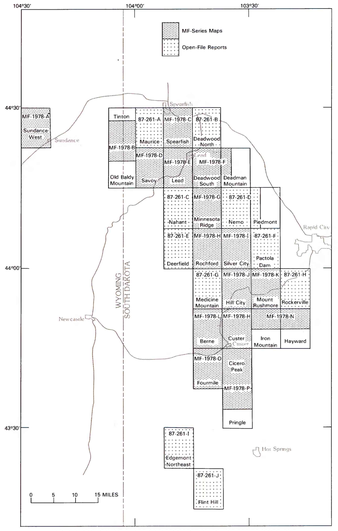
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

OPEN-FILE REPORT
OF 87-261-D




Base from U.S. Geological Survey, Nemo, 1953, Photorevised, 1983




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 synonyms(s) in parentheses. If there is enough space on the map, the entire mine name and synonyms(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"

◆ **Open pit or other type of opening**

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

**Prospect**

⊣ **Adit**

◪ **Shaft**

X **Pit**

\+ **Multiple pits**

⋈ **Trench**

**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 is 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 An earlier unpublished version of this set of maps was the data base from which plate 4 (scale 1:250,000) of DeWitt and others (1986) was compiled.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. Bob Tambrick 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 most patented claims were obtained from Wilhelm and others (1978). Other names were obtained from the Lawrence County Courthouse, Deadwood, South Dakota, and 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 Allsman (1940), Anonymous (1936), Bayley (1972b), Connolly (1933), Connolly and O'Harra (1929), Harrer (1966), O'Harra (1902), U.S. Bureau of Mines (1954, 1986), and U.S. Geological Survey (1968). 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 (1972a, 1972b), Harrer (1966), and Payne (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 Bayley (1970, 1972a, 1972b), Bush (1982), DeWitt and others (1986), Fantone (1983), Harrer (1966), Hills (1977, 1979), Hills and Delevaux (1977), Kin (1979), Kleinkopf and Redden (1975), Maranate and Spirooa (1979), Redden (1975, 1980, 1981), J. A. Redden (unpub. data, 1986), Redden and Norton (1975), Sussman (1984), Woo (1952), and Zartman, Norton, and Stern (1964).

## 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 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 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 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 (A, 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

A--Archean and Proterozoic taconitic iron-formations are stratiform metasedimentary deposits of iron and silica that were formed in a submarine environment about 2.2-2.5 Ga (billion years ago). The metals were concentrated in sedimentary rocks by volcanic or chemical processes.

S--Proterozoic quartz pebble conglomerates are stratiform metasedimentary deposits of uranium, thorium, and minor amounts of gold and chromium that were formed in a shallow-water fluvial environment about 2.2 Ga. The metals were concentrated in sedimentary rocks by sedimentologic processes and movement of low-temperature fluids.

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.

Z--Phanerozoic vein deposits are discordant to concordant concentrations of base and precious metals formed in a tectonic environment about 65 Ma. Hydrothermal fluids rich in lead, zinc, and silver, and containing minor amounts of gold deposited sulfide minerals in fissures created by uplift of the Black Hills.

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### Alphabetic list of mines

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

| Deposit Type | Name of Mine | Location |
|---|---|---|
| D | Ama Queen | Sec. 12 T3N R4E |
| D,Z | Calabogie | Sec. 2 T2N R4E |
| D | Lucky Strike | Sec. 11 T3N R4E |
| A | Nemo Iron | Sec. 34 T3N R5E |
| S | Safe Investment | Sec. 18 T3N 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 |
|---|---|---|
| 001 | Hailstorm No.4 | Sec. 10 T3N R4E |
| 002 | Hailstorm No.3 | Sec. 10 T3N R4E |
| 003 | Hailstorm No.2 | Sec. 10 T3N R4E |
| 004 | Hazel | Sec. 14 T3N R4E |
| 005 | Lillian | Sec. 11 T3N R4E |
| 006 | Funston No.3 | Sec. 11 T3N R4E |
| 007 | Funston No.1 | Sec. 11 T3N R4E |
| 008 | Black Horse | Sec. 11 T3N R4E |
| 009 | Funston Fr. | Sec. 11 T3N R4E |
| 010 | Bird No.3 | Sec. 11 T3N R4E |
| 011 | Bird | Sec. 11 T3N R4E |
| 012 | Bird No.2 | Sec. 11 T3N R4E |
| 013 | White Horse | Sec. 14 T3N R4E |
| 014 | Diamond No.3 | Sec. 13 T3N R4E |
| 015 | Diamond Fr. | Sec. 13 T3N R4E |
| 016 | Diamond | Sec. 14 T3N R4E |
| 017 | Diamond No.2 | Sec. 13 T3N R4E |
| 018 | Florman Placer | Sec. 18 T3N R5E |
| 019 | Oregon No.4 | Sec. 18 T3N R5E |
| 020 | Oregon No.5 | Sec. 18 T3N R5E |
| 021 | Hipissing | Sec. 20 T3N R5E |
| 022 | Lucky Louis | Sec. 17 T3N R5E |
| 023 | Baldy | Sec. 17 T3N R5E |
| 024 | Irene | Sec. 20 T3N R5E |
| 025 | Sheri | Sec. 21 T3N R5E |
| 026 | Alice | Sec. 21 T3N R5E |
| 027 | New Jersey | Sec. 21 T3N R5E |
| 028 | Georgia | Sec. 21 T3N R5E |
| 029 | Cleveland | Sec. 21 T3N R5E |
| 030 | Omen No.5 | Sec. 21 T3N R5E |
| 031 | Omen No.4 | Sec. 21 T3N R5E |
| 032 | Ben Butler | Sec. 21 T3N R5E |
| 033 | Omen | Sec. 22 T3N R5E |
| 034 | Nemo Placer | Sec. 27 T3N R5E |
| 035 | Rose No.4 | Sec. 33 T3N R5E |
| 036 | Rose No.3 | Sec. 34 T3N R5E |
| 037 | Rose No.2 | Sec. 34 T3N R5E |
| 038 | Rose No.1 | Sec. 34 T3N R5E |
| 039 | Rose No.5 | Sec. 34 T3N R5E |
| 040 | Rose No.6 | Sec. 34 T3N R5E |
| 041 | Park No.1 | Sec. 34 T3N R5E |
| 042 | Copper Glint | Sec. 34 T3N R5E |
| 043 | Park No.4 | Sec. 34 T3N R5E |
| 044 | Rose | Sec. 2 T2N R4E |
| 045 | Comstock | Sec. 2 T2N R4E |
| 046 | Fortune | Sec. 2 T2N R4E |
| 047 | Nugget | Sec. 2 T2N R4E |
| 048 | Anaconda | Sec. 2 T2N R4E |
| 049 | Calabogie | Sec. 2 T2N R4E |
| 050 | Clara No.4 | Sec. 2 T2N R4E |
| 051 | Ontario | Sec. 2 T2N R4E |
| 052 | June | Sec. 2 T2N R4E |
| 053 | Madawaska No.2 | Sec. 2 T2N R4E |
| 054 | Madawaska | Sec. 2 T2N R4E |
| 055 | Madawaska No.1 | Sec. 2 T2N R4E |
| 056 | A No.2 | Sec. 3 T2N R5E |
| 057 | Old Age | Sec. 3 T2N R5E |
| 058 | A No.1 | Sec. 3 T2N R5E |
| 058$ | Myrtle No.5 | Sec. 15 T3N R6E |
| 059 | Legal Tender No.1 | Sec. 3 T2N R5E |
| 060 | Tender No.2 | Sec. 3 T2N R5E |
| 061 | Rose | Sec. 3 T2N R5E |
| 062 | Westward | Sec. 3 T2N R5E |
| 063 | Washington | Sec. 3 T2N R5E |
| 064 | Wisconsin | Sec. 3 T2N R5E |
| 065 | Washington Extension | Sec. 11 T2N R5E |
| 062 | Westward | Sec. 3 T2N R5E |
| 013 | White Horse | Sec. 14 T3N R4E |
| 064 | Wisconsin | Sec. 3 T2N 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 |
|---|---|---|
| 058 | A No.1 | Sec. 3 T2N R5E |
| 056 | A No.2 | Sec. 3 T2N R5E |
| 023 | Abern | Sec. 21 T3N R5E |
| 026 | Alice | Sec. 21 T3N R5E |
| 048 | Anaconda | Sec. 2 T2N R4E |
| 023 | Baldy | Sec. 17 T3N R5E |
| 032 | Ben Butler | Sec. 21 T3N R5E |
| 011 | Bird | Sec. 11 T3N R4E |
| 012 | Bird No.2 | Sec. 11 T3N R4E |
| 010 | Bird No.3 | Sec. 11 T3N R4E |
| 008 | Black Horse | Sec. 11 T3N R4E |
| 049 | Calabogie | Sec. 2 T2N R4E |
| 050 | Clara No.4 | Sec. 2 T2N R4E |
| 029 | Cleveland | Sec. 21 T3N R5E |
| 045 | Comstock | Sec. 2 T2N R4E |
| 042 | Copper Glint | Sec. 34 T3N R5E |
| 016 | Diamond | Sec. 14 T3N R4E |
| 015 | Diamond Fr. | Sec. 13 T3N R4E |
| 017 | Diamond No.2 | Sec. 13 T3N R4E |
| 014 | Diamond No.3 | Sec. 13 T3N R4E |
| 018 | Florman Placer | Sec. 18 T3N R5E |
| 046 | Fortune | Sec. 2 T2N R4E |
| 009 | Funston Fr. | Sec. 11 T3N R4E |
| 007 | Funston No.1 | Sec. 11 T3N R4E |
| 006 | Funston No.3 | Sec. 11 T3N R4E |
| 028 | Georgia | Sec. 21 T3N R5E |
| 066 | Good Hope Mill Site | Sec. 2 T2N R5E |
| 067 | Good Hope Mill Site | Sec. 11 T2N R5E |
| 067 | Good Hope Mill Site | Sec. 11 T2N R5E |
| 002 | Hailstorm No.2 | Sec. 10 T3N R4E |
| 003 | Hailstorm No.3 | Sec. 10 T3N R4E |
| 001 | Hailstorm No.4 | Sec. 10 T3N R4E |
| 004 | Hazel | Sec. 11 T3N R4E |
| 024 | Irene | Sec. 20 T3N R5E |
| 052 | June | Sec. 2 T2N R4E |
| 059 | Legal Tender No.1 | Sec. 3 T2N R5E |
| 005 | Lillian | Sec. 11 T3N R4E |
| 022 | Lucky Louis | Sec. 17 T3N R5E |
| 054 | Madawaska | Sec. 2 T2N R4E |
| 055 | Madawaska No.1 | Sec. 2 T2N R4E |
| 053 | Madawaska No.2 | Sec. 2 T2N R4E |
| 058$ | Myrtle No.5 | Sec. 15 T3N R6E |
| 036 | Nemo Placer | Sec. 27 T3N R5E |
| 027 | New Jersey | Sec. 21 T3N R5E |
| 021 | Nipissing | Sec. 20 T3N R5E |
| 047 | Nugget | Sec. 2 T2N R4E |
| 057 | Old Age | Sec. 3 T2N R5E |
| 033 | Omen | Sec. 22 T3N R5E |
| 031 | Omen No.4 | Sec. 21 T3N R5E |
| 030 | Omen No.5 | Sec. 21 T3N R5E |
| 051 | Ontario | Sec. 2 T2N R4E |
| 020 | Oregon No.5 | Sec. 18 T3N R5E |
| 019 | Oregon No.6 | Sec. 18 T3N R5E |
| 041 | Park No.1 | Sec. 34 T3N R5E |
| 043 | Park No.4 | Sec. 34 T3N R5E |
| 072 | Rio Tinto | Sec. 14 T2N R5E |
| 070 | Rio Tinto Fr. | Sec. 14 T2N R5E |
| 069 | Rio Tinto No.1 | Sec. 14 T2N R5E |
| 071 | Rio Tinto No.2 | Sec. 14 T2N R5E |
| 073 | Rio Tinto No.3 | Sec. 14 T2N R5E |
| 068 | Rio Tinto No.4 | Sec. 14 T2N R5E |
| 044 | Rose | Sec. 2 T2N R4E |
| 061 | Rose | Sec. 3 T2N R5E |
| 040 | Rose No.1 | Sec. 34 T3N R5E |
| 039 | Rose No.2 | Sec. 34 T3N R5E |
| 038 | Rose No.3 | Sec. 34 T3N R5E |
| 037 | Rose No.4 | Sec. 33 T3N R5E |
| 060 | Tender No.2 | Sec. 3 T2N R5E |

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

# MAP OF MINES, PROSPECTS, AND PATENTED MINING CLAIMS, AND CLASSIFICATION OF MINERAL DEPOSITS IN THE NEMO 7 ½ MINUTE QUADRANGLE, AND THE WESTERN ONE-THIRD OF THE PIEDMONT 7 ½ MINUTE QUADRANGLE, BLACK HILLS, SOUTH DAKOTA


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1988