

# History of the Mountain King Mine, Custer County, Idaho

Victoria E. Mitchell

Staff Report 97-13  
April 1997

Idaho Geological Survey  
Morrill Hall, Third Floor  
University of Idaho  
Moscow, Idaho 83844-3014

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## INTRODUCTORY NOTE

This report was prepared under a cooperative agreement with the U.S. Forest Service, Region IV, as part of a project to identify and describe inactive and abandoned mines in the state of Idaho. Work on this project included preparing detailed histories of mines in Region IV that had significant recorded production. The information in this report is from a number of published and unpublished sources in the Idaho Geological Survey's mineral property files. Where not otherwise noted, most of the mine production data is drawn from the U.S. Geological Survey's (USGS) annual volumes on *Mineral Resources of the United States* (1882-1923) and the equivalent volumes produced by the U.S. Bureau of Mines (USBM) (*Mineral Resources of the United States*, 1924-1931, and *Minerals Yearbook*, 1932 to present). Information on underground workings and mine equipment is generally from the annual reports of the Idaho Inspector of Mines (IMIR) published from 1899 to 1979. After 1974, the Mine Inspector's office was known as the Mine Safety Bureau, a section of the Idaho Department of Labor and Industrial Services. Detailed accounts of mine operations are, for the most part, drawn from the annual reports prepared by the companies for the State Inspector of Mines; these reports were required by law and the information contained in them formed the basis of the Mine Inspector's annual reports. Reports of recent developments are taken from the Idaho Geological Survey's (IGS) annual reports on the developments in mining and minerals in Idaho (from 1984 to present) or from similar reports produced by the Survey's predecessor, the Idaho Bureau of Mines and Geology (IBMG) from 1975 to 1984. Other published sources are referenced in the text. A complete bibliography is included at the end of the report. Where direct quotations are taken from source materials, the original spelling and grammar are preserved even in cases where they do not conform to currently accepted usage.

# History of the Mountain King Mine, Custer County, Idaho

Victoria E. Mitchell<sup>1</sup>

The Mountain King Mine is in northwestern Custer County about 1½ miles west of Sheep Mountain (Figure 1), on the northwest side of the ridge at an elevation of about 8,500 feet (Figure 2). It is in the Sheep Mountain mining district, just east of the boundary between the Seafoam and Sheep Mountain districts.

The deposit is a siliceous replacement vein 2 to 8 feet thick in a large roof pendant within the Idaho batholith (Figure 3). The vein is 110 feet long. It strikes N. 76° W. and dips 48° S., approximately parallel to the bedding in the pendant. Minerals found in the main vein are argentiferous galena, pyrite, sphalerite, and chalcopyrite in a siliceous gangue. All of the ore was contained in the limestone of the roof pendant, but mineralization also occurred along the contact with the batholith. In addition, sparsely disseminated sulfides were found in the batholith and in quartzites in the roof pendant (Cater and others, 1973).

The property was located in the 1880s. At least two shipments of high-grade, hand-picked ore were delivered to the Ketchum smelter in 1884. Additional shipments were recorded in 1890 and 1892. The Mountain King produced considerable high-grade ore during the "early days of the camp," with the amount varying from \$80,000 to \$500,000 (Umpleby and Livingston, 1920). The mine (which was referred to as the King Property) was described from Umpleby's visit in 1913 (p. 19):

The ore consists of silver-bearing galena (some of which contained as much as 170 ounces of silver to the ton), pyrite, sphalerite, and a little chalcopyrite in a quartz gangue, and occurred as a replacement of limestone. The principal ore body was in the form of a pipe or chimney in a dark blue, medium-bedded, siliceous and argillaceous

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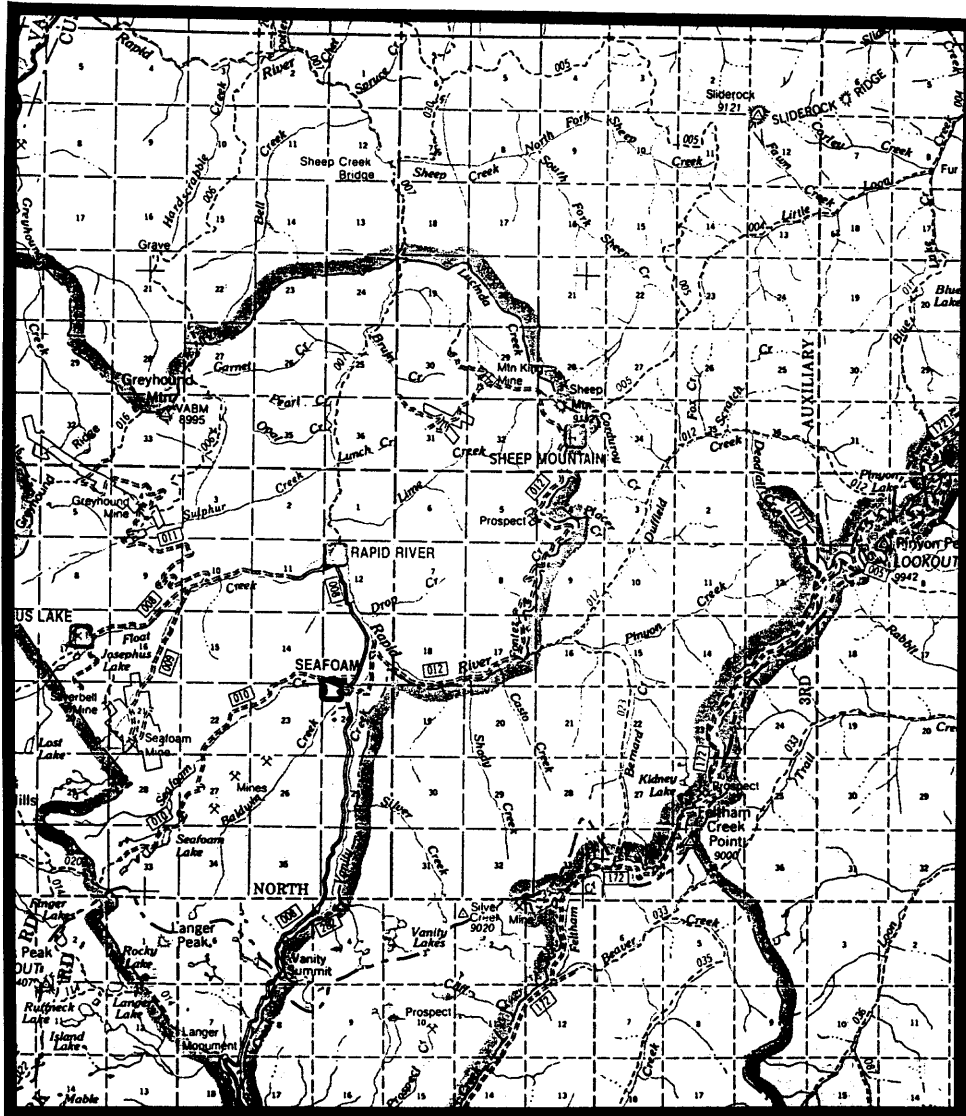


Figure 1. Location map of the Mountain King Mine and vicinity, Custer County, Idaho (U.S. Forest Service Challis National Forest map, scale  $\frac{3}{8}$  inch = 1 mile.)

Figure 2. Topographic map of the Mountain King Mine (U.S. Geological Survey Greyhound Mountain 7.5-minute quadrangle).

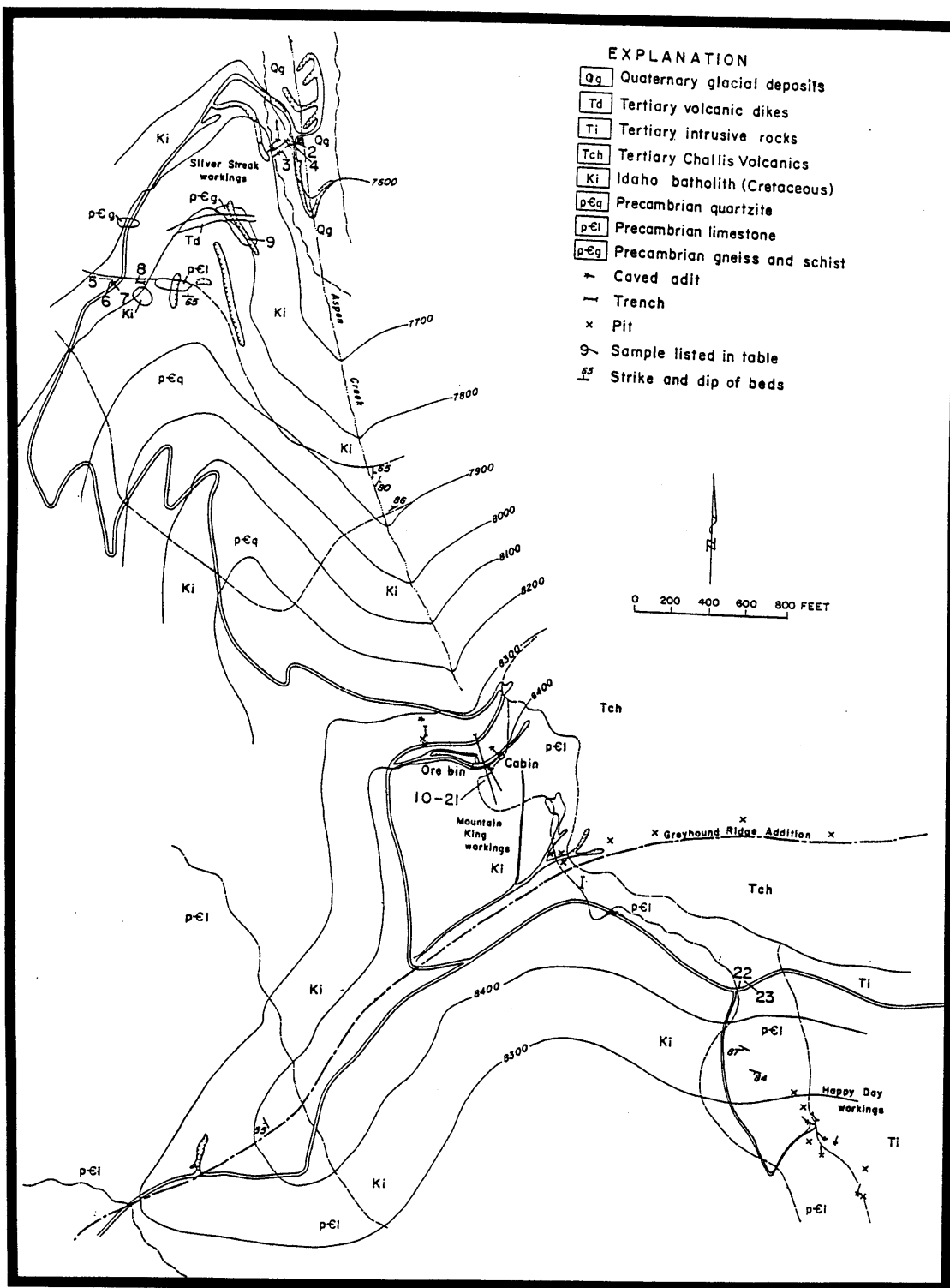


Figure 3. Geologic map of the Mountain King Mine (Figure 51 in Cater and others, 1973).



limestone and at the present time the outcrop appears as a caved area about 30 feet across.

The mine was opened up by two tunnels of which the upper one is now caved and the lower one eighty feet below, evidently comprised about 800 feet of workings, to judge from the dump. It is evident that from the upper tunnel this ore body was stoped to the surface in several places, the stope being reported as 60 to 70 ft. long and 8 to 12 ft. wide. In the lower tunnel the ore split into east-west veins which were apparently unproductive.

The workings were either caved or too dangerous to enter. Umpleby also found the remains of a small mill which contained "some improvised jigs."

Hecla Mining Company optioned the Mountain King in 1926 and promptly announced the discovery of "one of the principal new lead-silver ore exposures opened in the State during the year." The mine had two tunnels connected by a 70-foot raise. The No. 1 tunnel was 250 feet long, and the No. 2 tunnel was 800 feet long. Hecla maintained an active development program during the early months of 1927, but surrendered its option in August. When Ross visited the property in 1929, much of the material piled on the dump appeared to be very high grade lead ore, but it contained enough zinc to cause processing problems. (Figure 4 shows a map of the lower workings at the time of Ross's visit.)

The Mountain King produced ore in 1939. During 1945, the mine was leased to John Larson and Earl Shirts, who operated the mine for a few months and shipped 141 tons of zinc-lead-silver ore to Midvale, Utah, for treatment. Lessees (Fred and Earl Shirts) operated from 1946 to 1954, shipping ore every year except 1950. The short working season and the distance the ore had to be transported forced them to mine only the highest grade material. In four months' work in 1948, they shipped 467 tons of ore, which contained 58 ounces of gold, 6,734 ounces of silver, 2,426 pounds of copper, 91,594 pounds of lead, and 136,241 pounds of zinc. In 1949, the mine was worked during the summer months. From 170 tons of ore, the mine produced 12 ounces of gold, 3,992 ounces of silver, 1,215 pounds of copper, 49,112 pounds of lead, and 58,894 pounds of zinc. The Mountain King shipped 660 tons of zinc-lead ore to a concentrating mill in Utah in 1951 and produced 532 tons of ore in 1952. Two hundred eighty-five tons of ore containing 13 ounces of gold, 4,464 ounces of silver, 2,462 pounds of copper, 68,252 pounds of lead, and 100,112 pounds of zinc was shipped from the property in 1953. In 1954, the Mountain King produced 53 tons of lead-zinc ore. This ore yielded 7 tons of lead concentrate, which contained 1 ounce of gold, 579 ounces of silver, 100 pounds of copper, and 6,900 pounds of lead; and 10 tons of zinc concentrate, which contained 1 ounce of gold, 116 ounces of silver, 100 pounds of copper, 500 pounds of lead, and 10,400 pounds of zinc.

A Defense Minerals Exploration Administration contract was awarded to Fred and Earl Shirts on October 8, 1954, to explore the Mountain King. The contract was for \$31,305, with 50 percent government participation, and ran for two years. No significant discoveries were reported from this work.

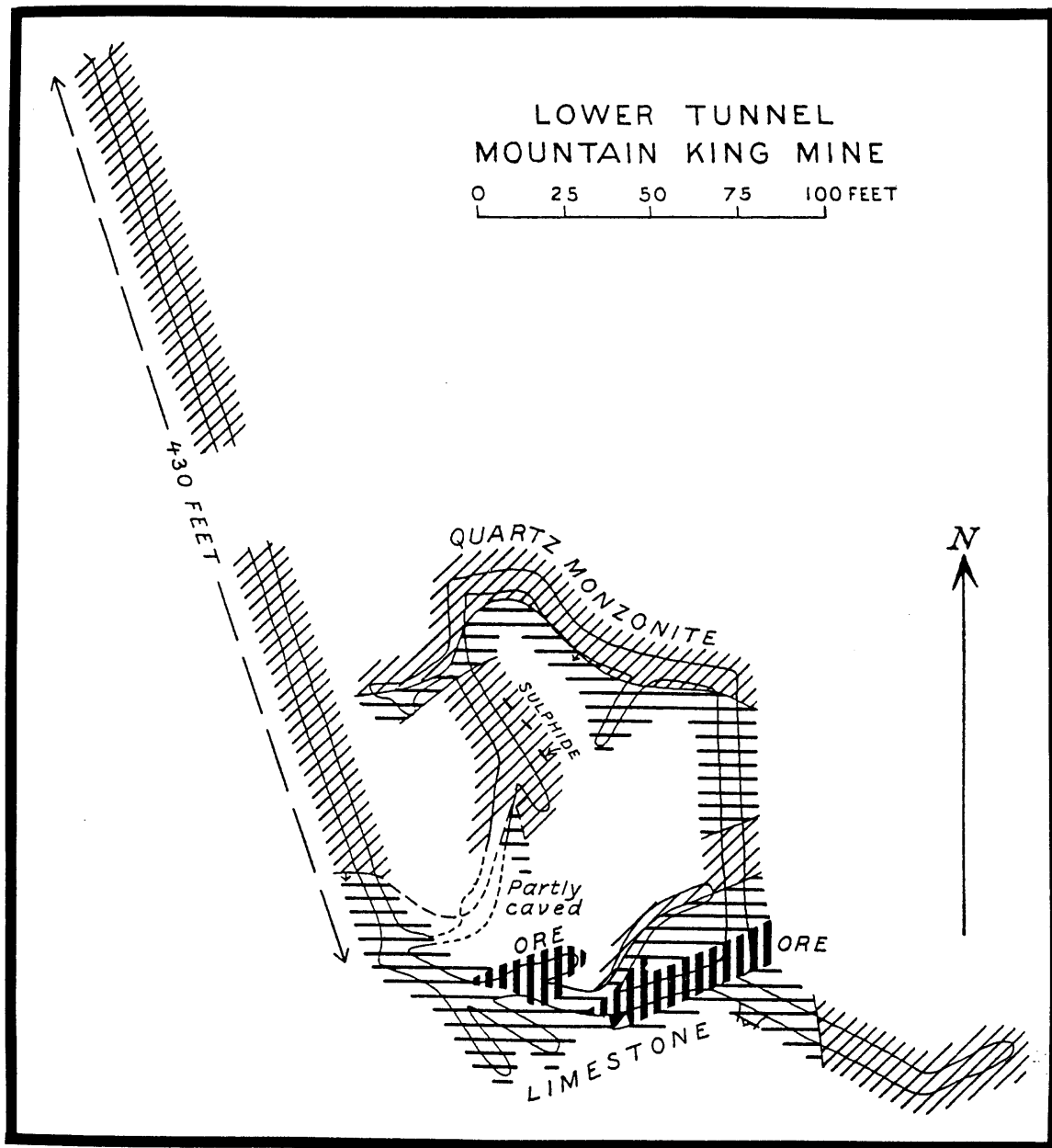


Figure 4. Lower tunnel of the Mountain King Mine, around 1930 (Figure 3 from *The Seafoam Mining District in Ross*, 1930).

The property was sold to Lee Hopkins and others in 1967 (Cater and others, 1973). The new owners restaked the mine to cover a much larger area, including the old Silver Streak and Happy Day properties (Figure 3). The workings, totaling 1,650 feet in length, were on three levels spaced at 50-foot intervals (Figure 5). The 100 level was caved, and the internal 150 level was not safe to enter (Cater and others, 1973). Ore had been stoped from all three levels. No mining or milling equipment was on the property. A drilling project in 1968 intersected mineralized rock but missed the main vein.

Assays of material taken from the main Mountain King vein showed a trace to 0.2 ounce gold per ton, 0.15 to 28.0 ounces of silver per ton, a trace to 0.52 percent copper, a trace to 50.2 percent lead, and a trace to 12.7 percent zinc (Cater and others, 1973). From this, the potential resource for the mine was estimated at 10,000 tons below the 200 level, 15,000 tons in the footwall of the vein, and 35,000 tons south of a granitic dike that cuts the vein.

In 1980, a limited diamond-drilling program was carried out near the Mountain King Mine to find extensions of the orebody. Additional exploration or assessment work was done on the mine between 1984 and 1986, including filing applications for patenting the claims.

The Mountain King was examined by an Idaho Geological Survey geologist in 1994 as part of an evaluation of abandoned and inactive mines in southern Idaho. Figures 6 and 7 show the mine at that time.

Between 1884 and 1965, recorded production for the Mountain King was 3,445 tons of ore. An additional 20 tons of old tailings was also processed. From this material, the mine yielded 156 ounces of gold, 63,558 ounces of silver, 15,090 pounds of copper, 759,125 pounds of lead, and 799,054 pounds of zinc.

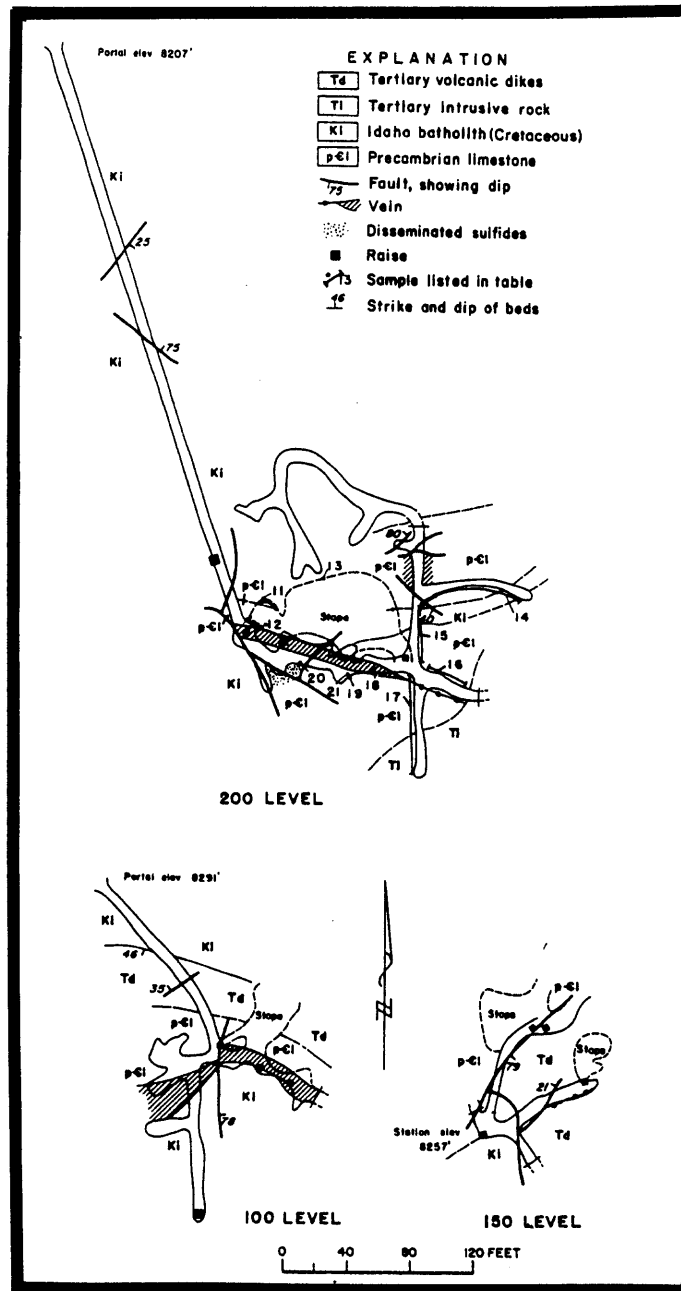


Figure 5. Underground workings of the Mountain King Mine, around 1970 (Figure 52 in Cater and others, 1973).





Figure 6. Area around the collapsed adit at the Mountain King Mine (Idaho Geological Survey photograph by Falma J. Moye).





Figure 7. Lower portal and collapsed adit at the Mountain King Mine (Idaho Geological Survey photograph by Falma J. Moyer).

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