

History of the Mines on Estes Mountain, Custer County, Idaho

Victoria E. Mitchell

Staff Report 97-12
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 The information in this report is from a number of published and unpublished sources in the Idaho Geological Survey's mineral property files.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.

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INTRODUCTION

Estes Mountain (elevation 9,643 feet) is located on the east side of Jordan Creek in the Yankee Fork mining district in central Custer County (Figure 1). Mines have been located all the way to the summit (Figure 2). The deposits are breccia veins and lodes, with the ore minerals confined to a half dozen zones of complexly fractured and extensively altered volcanic rock (Figure 3). The more important ore minerals are argentite, electrum, and gold, with local concentrations of silver sulfantimonides and silver selenides. Gangue minerals are mostly quartz and calcite (Anderson, 1949).

Ore was discovered on Estes Mountain in 1875, when Curtis Estes discovered the Charles Wain lode at the very top of the mountain. The mine shipped small amounts of very rich ore soon after its discovery, but never was a major producer. Other discoveries followed, including the Hidden Treasure, the Montana, and the McFadden. The mines in the district have been worked intermittently up to the present. As of 1990, most of the properties on Estes Mountain were owned by U.S. Antimony Corporation. Hecla Mining Company did some exploration drilling in the

¹Idaho Geological Survey, Main Office at Moscow, University of Idaho, Moscow.

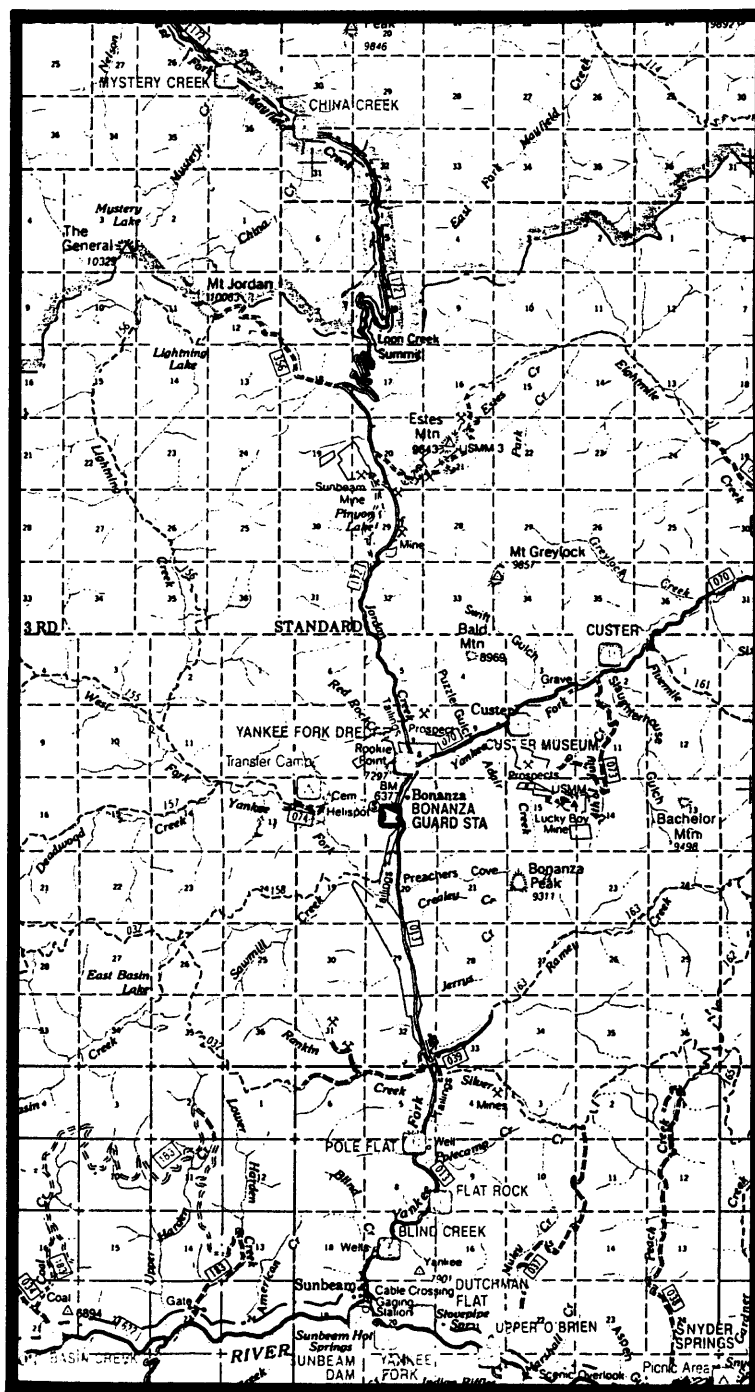


Figure 1. Location map of the Estes Mountain area, Custer County, Idaho (U.S. Forest Service Challis National Forest map, scale $\frac{3}{8}$ inch = 1 mile).

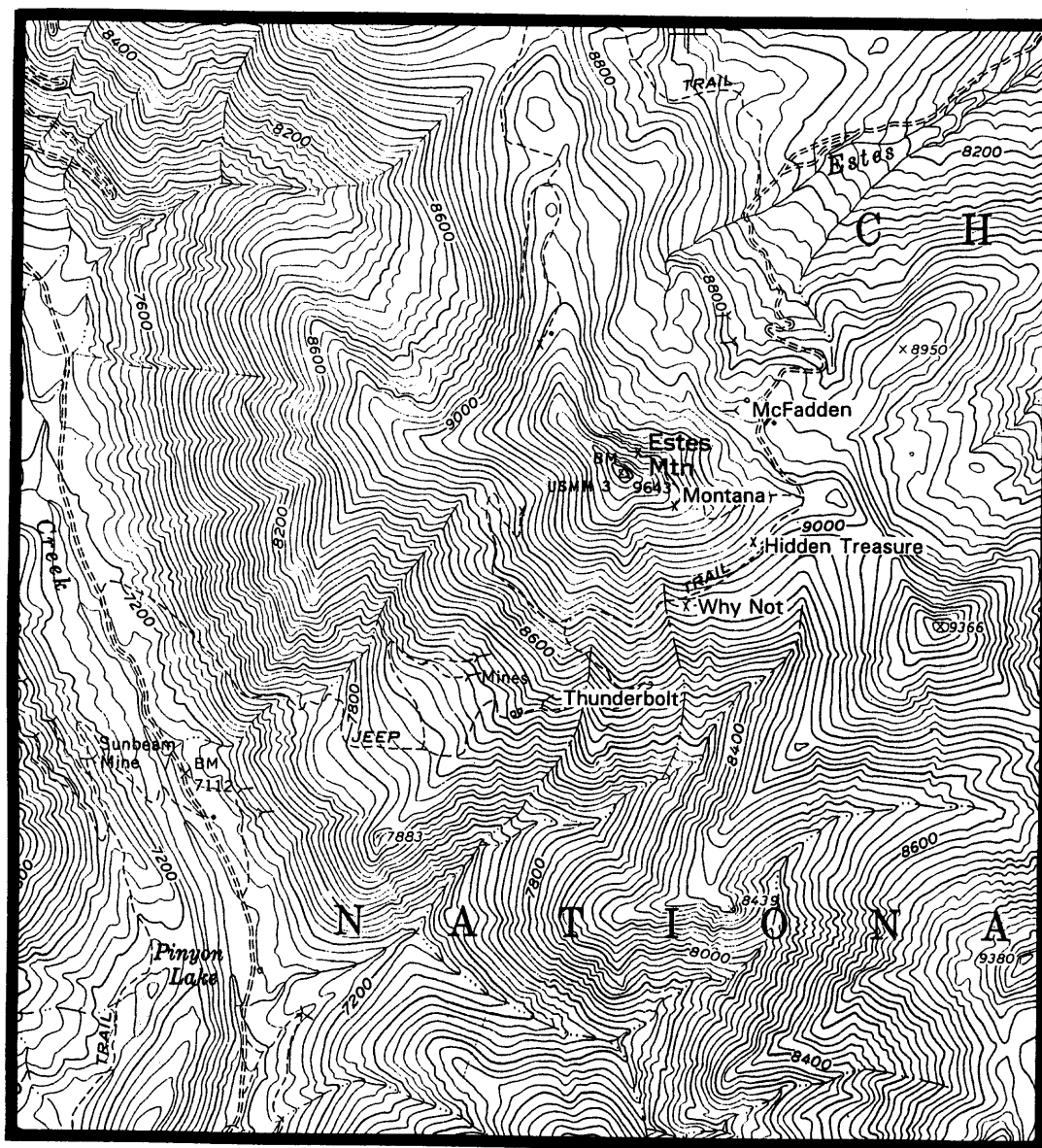


Figure 2. Topographic map of the Estes Mountain area (U.S. Geological Survey Custer 7.5-minute topographic map).

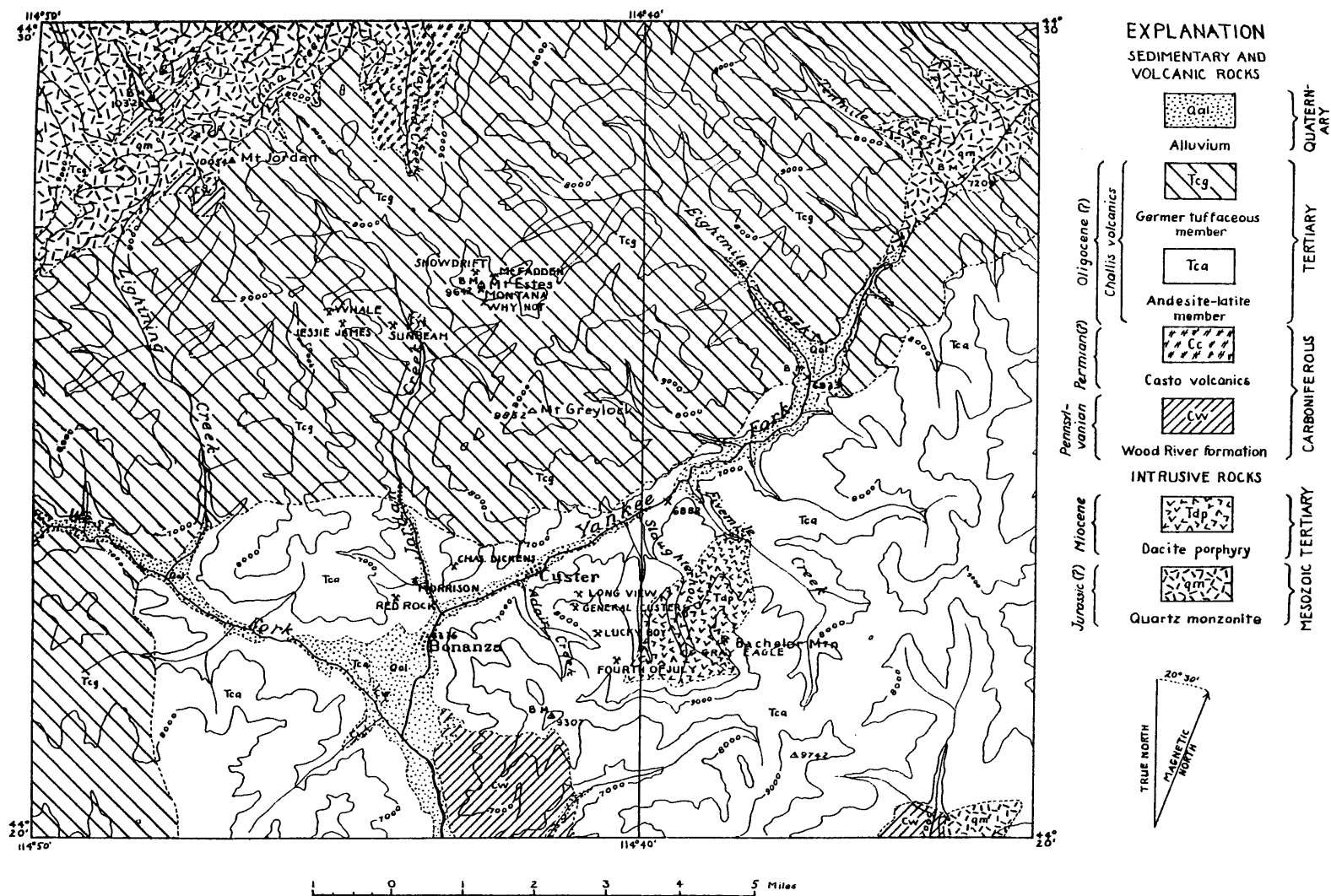


Figure 3. Topographic and geologic map of Estes Mountain and vicinity (Figure 2 from Anderson, A.L., 1949, Idaho Bureau of Mines and Geology Pamphlet 83).

area in 1992 and 1993.

Total recorded production from these mines was 8,657 tons of ore and 40 tons of old tailings. This material yielded 2,565 ounces of gold, 86,416 ounces of silver, 70,363 pounds of copper, 20,497 pounds of lead, and 200 pounds of zinc (Table 1). Data on recent production from this area by U.S. Antimony Corporation are not available.

FRANKLIN GROUP (WHY NOT MINE AND RELATED PROPERTIES)

According to Anderson (1949), the Franklin Group consisted of three mines — the Why Not, the Hidden Treasure, and the Thunderbolt (Figures 1 and 2). The Hidden Treasure was one of the earliest mines in the area. By 1881, it was developed to a depth of 75 feet, and the ore ran \$50 to \$250 per ton (Strahorn, 1881). The Hidden Treasure produced minor amounts of ore during the 1930s and 1940s, probably concurrent with operations at the Why Not. (See Table 2 for companies operating the mines during this period.) The Thunderbolt is one of the properties owned by U.S. Antimony on Estes Mountain (McHugh and others, 1991).

The Why Not produced small amounts of high-grade silver ore or of copper-lead ore rich in gold and silver between 1920 and 1924, and in 1929 and 1930. In 1921, the main adit on the property was 600 feet long. The mine also produced ore in 1925 (Anderson, 1949). The MacGinniss-Walker Metals Co. developed the property between 1926 and 1929. In 1927, the main tunnel was 700 feet long. Estes Mountain Gold, Inc., took over the mine in 1929 and shipped a small tonnage of exceptionally high-grade ore. Lessees shipped ore from the Why Not in 1939 which was worth \$500.00 per ton.

Total production from the Why Not and its related mines was 330 tons of ore, which yielded 901 ounces of gold, 36,417 ounces of silver, 12,208 pounds of copper, and 11,948 pounds of lead. The mines were worked between 1920 and 1942.

MONTANA MINE

The Montana was the most productive mine on Estes Mountain. It is on the south slope a few hundred feet below the summit (Figures 1 and 2). The mine was located in 1877 and produced \$337,000, mostly in gold, in the next few years (Anderson, 1949). The vein was from 4 to 16½ feet wide, and the first-class samples assayed between \$2,000 and \$3,500 a ton (Strahorn, 1881). Because the owners mined only the highest grade, at least some shipments of the Montana's ore were valued at \$1,700 per ton (Luebbert, 1978). One lot of 20 tons yielded \$60,000. In

Table 1. Total production from mines on Estes Mountain.

Mine	Ore	Old Tailings (tons)	Gold (ounces)	Silver (ounces)	Copper (pounds)	Lead (lbs)	Zinc (lbs)
Hidden Treasure Mine (1932-1942)	10	---	40.90	263	19	---	---
McFadden Mine (1884-1982)	6,590	40	477.89	37,875	58,155	8,549	200
Montana Mine (1913-1917)	1,737	---	1,186.37	12,124	---	---	---
Why Not Mine (1920-1941)	320	---	859.76	36,154	12,189	11,948	---
Total	8,657	40	2,564.92	86,416	70,363	20,497	200

Table 2. Companies working at the Franklin Group Mines.

Company Name	Officer	Date Incorporated	Charter Forfeited	Year(s) at Mine
Why Not Mining Co.	1	1	1	1
MacGinniss-Walker Metals Co.	John MacGinniss, President	May 25, 1925	1	1925-1929
Estes Mountain Gold, Inc.	J. L. Bills, President-Manager	July 17, 1929	1931	1929-1931

¹Information not available in IGS's files.

1881, the main shaft was at least 155 feet deep, with an interior level connected to a winze 40 feet to the east (Strahorn, 1881).

In November 1896, Henry McCornick (later superintendent of the Lucky Boy Mine) took a bond on the Montana, but dropped his plans for the mine after evaluating how badly the mine's owners had mismanaged it. Spokane, New York, and Colorado interests leased the property for short periods the following year. Constellation Mining Company of Boise worked the property during the summer of 1899. The Hartford Gold and Copper Mining Company operated the mine in 1901 and purchased it the following year (Luebbert, 1978).

The Montana was again for sale in 1903. The Mine Inspector gave the following description of the mine (1903 IMIR, p. 44-45):

The Montana, on another splendid fissure in rhyolite and accompanied with a phonolite dike, has been opened through an incline shaft to a depth of five hundred feet. This considerable development was all done by a horse whim and produced ore to the value of \$350,000, every pound of which was shipped to market by pack train at great expense and still paid a margin of fully forty per cent profit.

The Montana still has a handsome shoot of oxidized ore near the bottom of the shaft. It is ninety feet long and three to eight feet wide, all of which contains good milling values. Spots of the Bonanza argentite ore that used to yield an average shipping value of one to three thousand dollars per ton in gold and silver are also shown, and there is no reason to doubt that other bodies of this class of ore will be uncovered by the further exploration of this clean cut vein.

The Montana is still owned by the original locators who spent their profits with a lavish hand while they were coming easy and were unable to properly equip the mine with the necessary machinery when it got too deep for hand work.

According to the 1904 IMIR (p. 55), a "strong company, composed of eastern capitalists and well known local mining men" had taken over the Montana. The mine was reopened in 1905 (Anderson, 1949). In March work started on a 2,000-foot crosscut to intercept the vein at depth (Luebbert, 1978). During 1905, the tunnel reached a length of 1,100 feet, and an air compressor was installed at the property. The 1907 IMIR noted (p. 75-76):

On the opposite side of Jordan Creek from the Golden Sunbeam, on the steep slopes of Estes Mountain, the Montana group, embracing an extensive area of rich mineral territory, is undergoing development through a deep crosscut tunnel under the management of Mr. A. J. Czizek. This tunnel is designed to cut a series of half a dozen well known fissures that have been developed at shallow depth, and have each produced ore containing bonanza values. This is especially true of the Montana vein, which is credited with producing several hundred thousand dollars worth of shipping ore that ranged in value from \$100 to a \$1,000 per ton in gold and silver. This big tunnel is equipped with an air compressor and has gained a total length of 1,800 feet. At 1,700 feet in from the portal it encountered a well-defined fissure vein at a point 1,000 feet vertically under the surface. This fissure was four feet wide, where it was intersected by the tunnel, and carries average values of about \$40.00 per ton in gold and silver, with a pay streak a foot wide that yields \$150.00 per ton. This vein, however, is only one of the series which the tunnel was started to develop, and not the most important one by any means. The great depth at which it was penetrated, however, should mean an extensive reserve of valuable ore between that point and its apex, and demonstrates that these fissures carry their values to great depth.

However, the ore strike was apparently very small, and the company discontinued the work (Luebbert, 1978).

In 1913, a small amount of rich ore was produced from the Montana by a lessee. In 1914, the Oster lease located a shoot of high-grade milling ore. The lessee

shipped a small carload which netted \$300 per ton. The ore, which was treated by amalgamation and concentration, ran 9 ounces of silver to 1 ounce of gold. The mine was developed to a depth of 500 feet.

The Montana was leased to the Custer Slide Mining & Development Co. in 1915. The company produced and shipped some ore which did not reach the smelter until 1916. The shipment contained 8 to 23 ounces of gold and 53 to over 1,000 ounces of silver per ton. An aerial tram was constructed to connect the Montana with the Golden Sunbeam mill on the opposite side of Jordan Creek.

The Montana was the only important mine in the district during 1917. It produced several hundred tons of ore, which was treated by amalgamation and concentration. The people who owned the Montana purchased the Sunbeam during the year.

The mine was closed in 1918 and remained closed until it was acquired by U.S. Antimony. According to Anderson (1949), the Montana produced about \$396,000 before closing in 1918. The workings were inaccessible at the time of Anderson's visit, but he reported that they had included six tunnels and levels, each separated by about 50 feet, reaching to a depth of 565 feet.

From 1913 to 1917, total recorded production from the Montana was 1,737 tons of ore, which yielded 1,186.37 ounces of gold and 12,124 ounces of silver. No records are available for production before 1913.

McFADDEN MINE

The McFadden Mine is in a cirque on the northeast side of Estes Mountain (Figures 1 and 2). The mine was discovered in 1878 and has been worked at intervals ever since. By 1913, Umpleby credited the McFadden with having produced about \$200,000 of ore. The mine had about 2,000 feet of tunnels and a 500-foot shaft. A 10-stamp mill was located on Eightmile Creek, 3 miles below the mine.

In 1888, James McFadden became the sole owner of the mine. (See Table 3 for companies and individuals operating at the McFadden Mine). McFadden and two Denver men formed the Yankee Fork Gold Mining Company in 1894, with McFadden managing the mine. A 5-stamp mill was built in 1897. The mine was leased to two Bonanza men in 1899 and was sold in January 1901 to the Boston-based Hartford Copper and Gold Mining Company. In October, the company doubled the size of the mill. After the expansion, the mill processed thirty tons of ore a day, which yielded \$20 to \$30 of bullion per ton of ore (Luebbert, 1978).

The McFadden was worked during 1901, 1902, and 1903, and the stamp mill operated "constantly" (IMIR, 1901). According to the 1905 IMIR (p. 46):

On . . . the strike of the Montana vein system, to the north, the McFadden Mine has been developed during the past year, at its lower level, known as the Bellamy, or

Table 3. Companies and individuals operating at the McFadden Mine.

Company Name	Officer	Date Incorporated	Charter Forfeited	Year(s) at Mine
James McFadden	---	---	---	before 1888-? ¹
Yankee Fork Gold Mining Company	1	1	1	1894-1901
Hartford Copper and Gold Mining Company	1	1	1	1901-1904
McFadden Mines Corp.	D.F. Bice, President	Sept. 16, 1936	1937	1936-1937
Estes Gold Mines, Inc.	Harvey Evans, President	July 25, 1956	1968(?)	1956-1968(?)
Agau Mines, Inc.	John C. Lawrence, President	August 27, 1968	now U.S. Antimony Corp.	1968- ²
U.S. Antimony Corp.	John C. Lawrence, President	1	1	¹ -present ³

¹Information is not available in IGS's files.

²Date when Agau Mines became U.S. Antimony is unknown.

³Owner of record in 1994.

No. 5 tunnel, where a good pay streak of rich ore has been disclosed, and values of \$39.00 gold, and 500 ounces silver have been encountered in a pay streak several inches wide, contained in an ore shoot that is said to be 300 feet long and 5 to 7 feet wide that carries an average value of \$7.00 in gold, accompanied with good silver values also.

Overexpansion, major mill repairs, and unanticipated expenses stretched Hartford's resources to the limit. Eventually, the company defaulted on its mortgage payments. McFadden reclaimed the mine in 1904 and operated it seasonally for several more years (Luebbert, 1978).

Lessees shipped a car of rich silver ore containing "considerable" gold from the McFadden property in 1929 (USBM). In 1936, the McFadden was rehabilitated by Jay Burnett (or Burnette), who was working a crew of fifteen men. The ore was milled at A.F. and E.E. Reamsnyder's 60-ton custom concentrator (location unknown). McFadden Mines Corp. stated that the mine was worked for ninety days during the year, but that the company was dissatisfied with how the operations had been managed.

Lessees worked the mine in 1937. The Yankee Fork, one of the claims in the McFadden Group, produced ore in 1939 and 1942. In 1949, ore was shipped from the Altura, another claim in the McFadden Group.

When Anderson (1949) visited the property in 1947, the workings were inaccessible. At that time, they consisted of three tunnels, totalling about 2,000 feet, and an inclined shaft about 500 feet long sunk from the lower tunnel.

Lessees worked parts of the McFadden between 1953 and 1956. The mine was worked by Hilmer Lindburg and partners from June to October 1953 and by Charles H. Heisen in 1954 and 1956. In 1955, D.E. Bell developed the B & M Mine, apparently an adjoining claim, for 2 months. He did about 250 feet of tunnel work, and 5 tons of gold-silver ore was shipped to a smelter. Estes Gold Mines, Inc., worked the Yankee Fork in 1956.

In 1960, Estes Gold Mines reported that the mine was developed by one tunnel, one shaft, and six drifts. The tunnel was 400 feet long, and the inclined shaft was 500 feet long, with a vertical depth of 300 feet. The mine also had two intermediate levels about 150 feet apart. One was 300 feet long and the other was 60 feet long. Total development was given as 2,500 feet. Plant equipment included a Denver Pride 50-ton ball mill and a flotation plant.

Total recorded production for the McFadden Mine between 1884 and 1982 is 6,590 tons of ore and 40 tons of old tailings. From this material, 478 ounces of gold, 37,875 ounces of silver, 58,155 pounds of copper, 8,549 pounds of lead, and 200 pounds of zinc were obtained.

U.S. ANTIMONY CORPORATION

In 1980, Yankee Fork Silver and Gold Company (a subsidiary of U.S. Antimony Corporation) processed material from the dumps of its properties on Estes Mountain. The company operated a 300-tons-per-day (tpd) gold mill in Preachers Cove on the Yankee Fork of the Salmon River (Figures 4 and 5). In addition to processing dump material, the company also started a tunnel on its Estes Mountain property in 1981. A 100-tpd vat leach cyanide mill was constructed near the concentrating plant and tested in 1982. The company conducted underground mining operations on Estes Mountain between 1982 and 1989, as well as processing material from the dumps (Figure 6).

In 1985, U.S. Antimony mined the Contact orebody at the Estes Mountain Mine through the Castle tunnel. The company produced about 50 tpd and planned to increase this to 100 tpd. The ore contained about 0.09 ounce of gold and 11.8 ounces of silver per ton. The mine was worked only eight months out of the year because of the high elevation. High-grade ore was discovered during 1985. Assays ran up to 0.78 ounce of gold and 124 ounces of silver per ton with substantial base metals. Two new



Figure 4. U.S. Antimony's mill at Preachers Cove, 1989 (Idaho Geological Survey photograph).

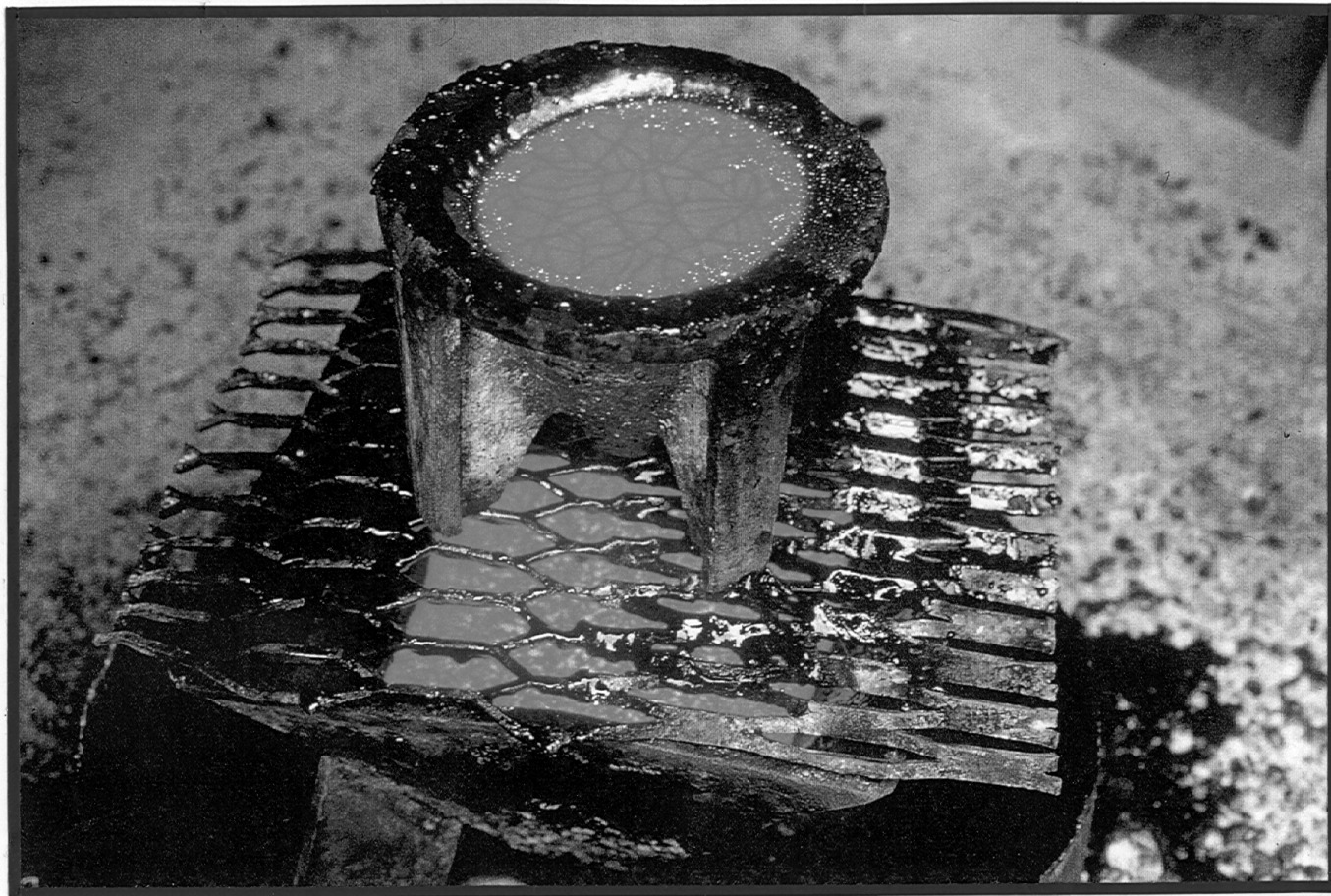


Figure 5. Cooling molten gold-silver doré, U.S. Antimony's mill at Preachers Cove, 1989 (Idaho Geological Survey photograph).

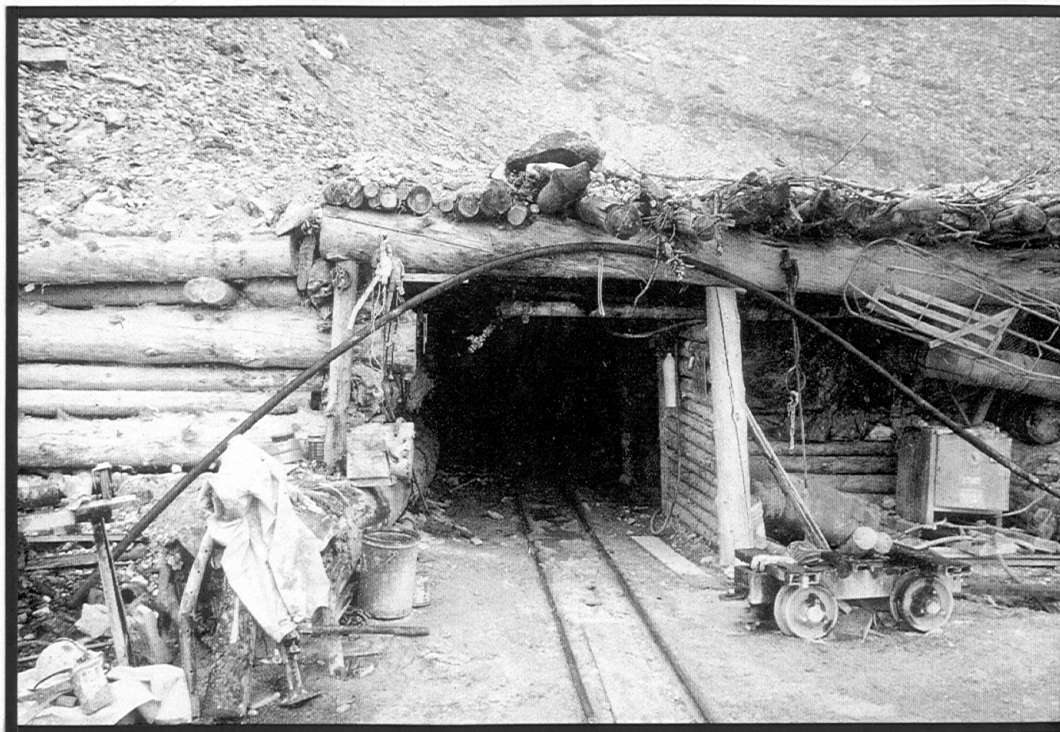


Figure 6. U.S. Antimony's mine at Estes Mountain, 1986 (photograph by Earl Bennett, Idaho Geological Survey).

tunnels, the Halloween and the Kwajalein, were opened near the base of the mountain. The company also produced ore from the Settles and Castle drifts during 1986.

In 1989, Westgold leased the Estes Mountain Mine from U.S. Antimony. Westgold planned to spend \$2 million on the property to earn a 51 percent interest (IGS). Work done in 1989 included detailed mapping and sampling. WestGold mapped, sampled, and prepared drill sites at Estes Mountain in 1990, but put the project on hold late in the year after announcing it was phasing out all of its U.S. operations. Hecla Mining Company has done exploration drilling on Estes Mountain from 1992 to date.

Environmental problems with the Preachers Cove mill caused U.S. Antimony to wind down its operation and clean up the site. The primary concerns were related to cyanide spills and heavy metals contamination from the tailings ponds. Over 90 percent of the chemicals had been neutralized by the end of 1993 and full shutdown was planned for the spring of 1994.

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