History of the Princess Blue Ribbon Mine, Camas County, Idaho

Victoria E. Mitchell

Staff Report 00-13
June 2000

Idaho Geological Survey
Morrill Hall, Third Floor
University of Idaho
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INTRODUCTORY NOTE

This report was prepared under a cooperative agreement with the U.S. Bureau of Land Management (BLM), Idaho State Office, 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 selected mines on BLM-administered lands in Idaho. The information in this report is from a number of published and unpublished sources in the Idaho Geological Survey's mineral property files.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 annual reports made by the companies to 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 Princess Blue Ribbon Mine, Camas County, Idaho

Victoria E. Mitchell[1]

The Princess Blue Ribbon Mine is in the Willow Creek mining district about 27 miles southwest of Hailey and 25 miles northeast of Fairfield. The mine is near the eastern border of Camas County, on the ridge between Beaver Creek and Little Beaver Creek, at an elevation of about 6,500 feet (Figure 1). The host rock for the mine is a potassium-rich biotite-hornblende granodiorite of the Idaho batholith that has been intruded locally by younger dike rocks (Figure 2). In this area, the granodiorite intruded rocks of the Permian Dollarhide Formation (Worl and others, 1991).

The deposit is a mesothermal gold-quartz vein with accompanying base metals. The gold is associated with pyrite, which is the most common sulfide mineral present. Other sulfides include galena, chalcopyrite, and sphalerite. The vein varies from 2 to 15 feet in thickness and can be traced for over 1,000 feet. It strikes N. 61-75° W. and dips about 40° NE., and segments of the vein have been offset by post-mineral faulting (Milner, 1950).

The Princess Blue Ribbon was discovered about 1915 (Milner, 1950). The mine produced a little gold and silver ore in 1921. In 1922, the mine produced smelting ore which contained nearly equal values of gold and silver, plus a little copper and lead. The ore averaged $15.59 in gold (about 0.75 ounce per ton at the then-current gold price of $20.67 an ounce) and 8.96 ounces of silver to the ton. A small amount of ore was also shipped in 1923.

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

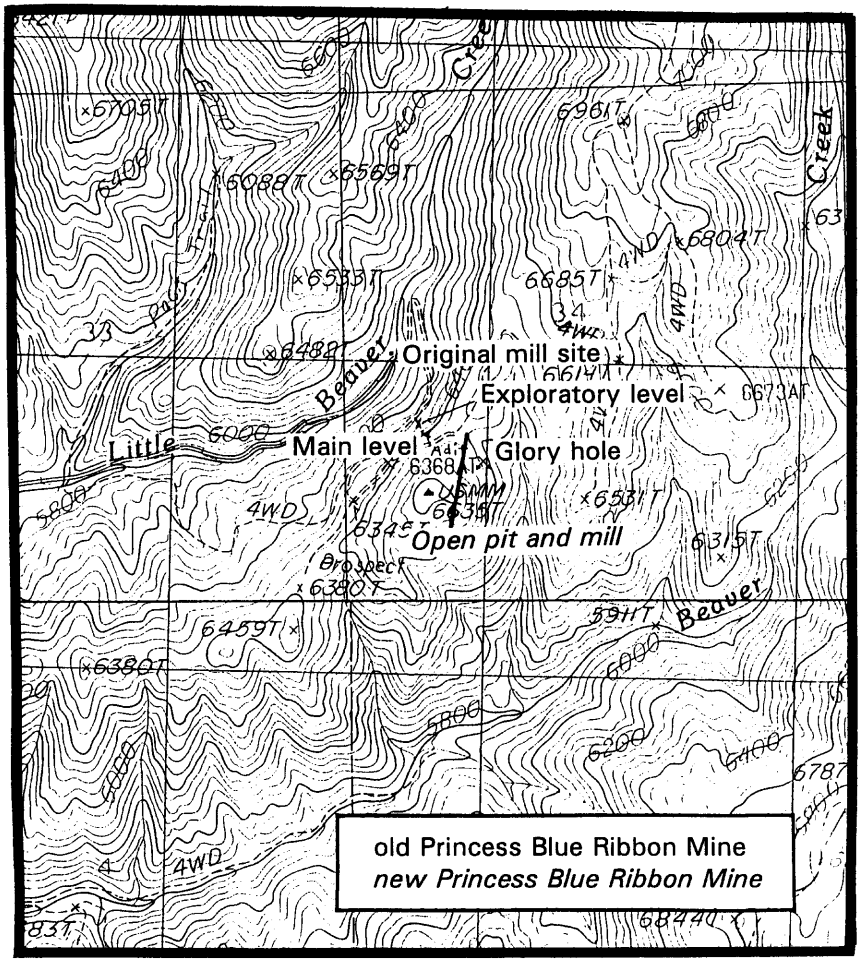

Figure 1. Topographic map of the Princess Blue Ribbon Mine (U.S. Geological Survey Beaver Creek 7.5-minute quadrangle).

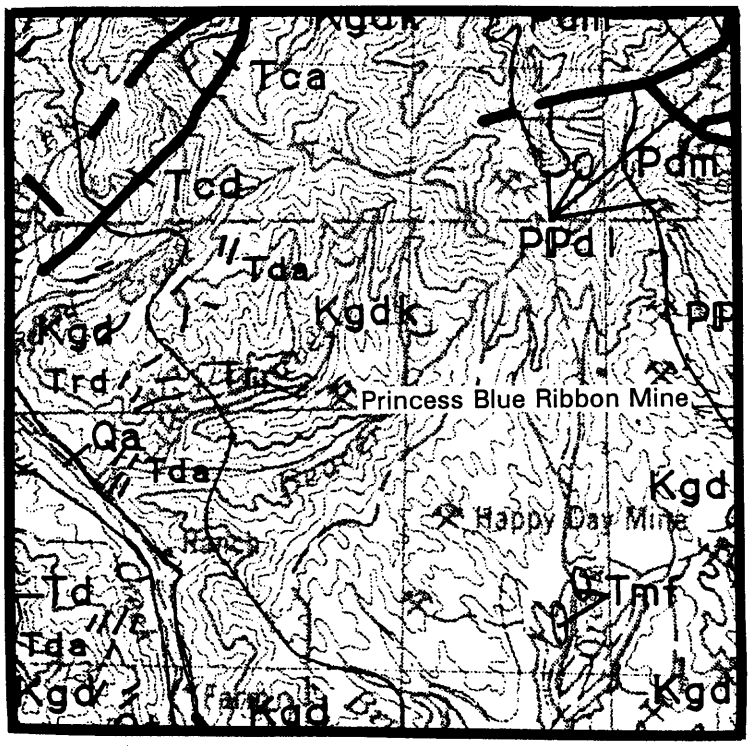

Figure 2. Geologic map of the Princess Blue Ribbon Mine, scale approximately 1:125,000. Kgdk = potassium-rich hornblende-biotite granodiorite; Kgd = biotite granodiorite; PPdl, Pdm = Dollarhide Formation (lower and middle members); Tca, Tcd = Challis Volcanics (andesite, dacite); Tr, Trd, Tda = dike rocks (rhyolite, rhyodacite, andesite; Tmf = ferrolatite of Square Mountain; Qa = alluvium. Heavy lines are normal faults (Worl and others, 1991).

Consolidated Mines Syndicate was organized in 1924 as a holding company for a number of properties in the Boise Basin. On January 26, 1927, Consolidated Mines merged with Monetary Metals Co. (The lists of corporate officers for the two companies were strikingly similar even before the merger.) Monetary Metals had operated the Washington and Subrosa mines in the Boise Basin since the company was organized in 1921. During the closing months of 1927, the Consolidated Mines' officers (except for the president and secretary) and directors all resigned, causing considerable difficulty in maintaining the company's operations.

During 1927, Consolidated Mines took control of the Princess Blue Ribbon. (See Table 1 for companies and individuals operating at the mine.) The company employed nine men at the mine and spent five months driving a lower tunnel on the property. The mine had three tunnels. The No. 1 was 170 feet long, the No. 2 was 225 feet, and the No. 3 was 115 feet.

Development work continued in 1928 and 1929. In 1928, the company shipped one test car of siliceous gold ore and opened "a large body of commercial ore" on the 200-foot level of the mine. In 1929, the lengths of the tunnels were listed as: No. 1, 170 feet; No. 2, 415 feet; No. 3, 350 feet; and No. 4, 225 feet. Ross (1930) stated that total development was about 1,000 feet. At the time of his visit, the ore in the No. 2 tunnel consisted of discontinuous lenses of vein quartz and minor siderite that contained bunches of coarse galena. The No. 3 tunnel had not yet found ore, and in the No. 4 tunnel, which was just above creek level, a short winze exposed a lens of siderite and pyrite. Ross noted that seven carloads of ore were reported to have been shipped "in the early days" from the irregular workings on and near the crest of the hill.

Consolidated Mines Syndicate shipped one car of first-class lead ore and one car of lead-zinc milling ore from the mine in 1930. The company operated the mine for ten months and did 1,000 feet of development, including sinking a short vertical shaft from the lower tunnel. Work was suspended in November.

The company conducted a small amount of development work in the early part of 1931 before suspending all operations. At that time, the equipment at the mine was listed as a 60-horsepower gas-driven compressor, a Richmond Machinery Prospectors 20-horsepower air-driven hoist, and "complete mining equipment and camp" (1931 IMIR, p. 114). Tunnels 1-3 were the same lengths as previously reported, the No. 6 tunnel was 575 feet long, and the lengths of the other tunnels (which were apparently not accessible) were not given. The mine had three intermediate levels, but the company did not report their lengths.

The mine remained closed until 1939, with the company performing only the necessary assessment work in the interim. A major factor in the closure was the low price of metals in the early 1930s. Prices hit all-time record lows in 1932, with silver averaging 27.9 cents an ounce and lead selling for 3.2 cents a pound. The price of gold was raised to $35.00 an ounce in 1935 and the price of silver almost doubled over that of the previous year after passage of the Silver Purchase Act of 1934, but base metal prices remained low for the rest of the decade.

Table 1. Companies and individuals operating at the Princess Blue Ribbon Mine.

Company Name	Officer	Date Incorporated	Charter Forfeited	Year(s) at Mine
Consolidated Mines Syndicate	Frank E. Johnesse, President	May 6, 1924; reinstated Dec. 12, 1940	Nov. 30, 1940; Nov. 30, 1959	1927-1959
The Royal Mining Corporation, Ltd.	James O. Galloway, President-Manager	March 29, 1940	Nov. 30, 1942	1940-1941
Frank E. Mayol	---	---	---	1943
J. R. Davies & Sons	---	---	---	1947-1957(?)[2]
Boyd Wilmouth, owner	---	---	---	dates not known
Solomon Mining Company	[1]	[1]	[1]	1986
Precious Metals Technology	Phil Cash	[1]	[1]	1987-present[3]

[1]Data not available in Idaho Geological Survey's files.
[2]Ending date was 1957 or later, but the exact date is not known.
[3]Owner of record in 1994.

The 1936 IMIR noted that Consolidated Mines was planning to reopen the mine "in the near future." However, the compressor was removed from the property in 1937, and company reports for 1937 and afterward rated the hoist at 10 horsepower, suggesting some of the equipment had been removed or downgraded.

In the summer of 1939, one or two lessees began rehabilitating the mine. They cleaned out the portal to the No. 6 tunnel and made repairs on the road. In addition, several cars of gold ore from the surface outcrops were shipped to Salt Lake City for smelting. Total development at the mine was approximately 3,700 feet of workings, consisting of 233 feet of shafts, 390 feet of raises, and 3,077 feet of tunnels, crosscuts, and drifts.

In 1940, Consolidated Mines Syndicate sold a one-half interest in the Princess Blue Ribbon to J. K. Vaught of Fairfield (Milner, 1950). Also in 1940, the mine was leased to the Royal Mining Corporation, which began operations on April 1, 1940. The company employed a crew of 20 men at the mine. Work included cleaning out more of the old workings and constructing new buildings. Two portable 210-cubic-foot Gardner Denver compressors were used at the mine. Ore totaling 6,204 tons was produced from both surface and underground workings and shipped to Salt Lake City smelters. (The

company's annual report to the Idaho Inspector of Mines listed total development at the mine as 52,000 feet, a typographic error that was repeated in the IMIR for the year.)

Royal Mining Corporation continued to operate the mine in 1941. They shipped 988 tons of gold ore and 44 tons of lead ore to Utah smelters. Most of the ore came from open-pit operations in the "glory hole." About 10,000 yards of overburden were moved, and the bottom of the open pit broke into a stope leading off the No. 1 tunnel. Work during the year included building a 200-foot, metal-lined ore shoot, constructing ore bins at the No. 3 and No. 1 portals, and laying about 400 feet of rails in the mine. New equipment was installed for underground mining, including pipe lines for the compressors. The company built a bunkhouse large enough to house fifty men, repaired or rebuilt some of the older buildings, and weatherproofed everything. They also set up an assay plant and had 10,000 feet of sawed mine timbers on the property. Total (open) workings at the mine were approximately 530 feet of tunnels. The No. 1 tunnel was 225 feet long, the No. 2 tunnel was 275 feet long, the No. 3 tunnel was caved at the portal, and the No. 6 tunnel was open for 195 feet, with the remaining 450 feet inaccessible. One intermediate level, 45 feet above the No. 2 tunnel, was open for about 40 feet. The balance of the old workings were caved, and the company noted that it was often necessary to drive new tunnels beside the old workings to get to the ore. The company planned to install a 50-ton-per-day (tpd) oil flotation and cyanide mill to process the ore, noting the ore grade was not high enough for direct shipping. Reserves were estimated at 50,000 tons of milling ore with an average value of $10 a ton. Royal's lease was canceled in the second half of 1941; according to Consolidated Mines, the cancellation was because Royal had not done much work.

The mine was inactive in 1942. Frank Johnesse, president of Consolidated Mines, died in late 1941 or early 1942. The company's report to the Idaho Inspector of Mines for 1942 stated that, because of Johnesse's death, the property was for sale.

The mine was leased to Frank E. (or G.) Mayol of Seattle, Washington, in 1943. Other lessees may also have been working the mine at the same time. The mine shipped 479 tons of siliceous gold ore to the smelter at Garfield, Utah, during the year. In addition to the gold, silver, copper, and lead, the ore averaged more than 80 percent silica and was greatly desired by the smelting company for use as a flux. In spite of this, the lease was canceled and the mine was inactive for the next three years.

J. R. Davies & Sons leased the mine on February 10, 1947. The lease was for five years and called for the payment of a 5 percent royalty on production. During early 1947, Davies repaired the roads and bridges, fixed some of the buildings, and began cleaning and retimbering the mine workings.

Davies operated the mine for most of 1948. A gravity concentration mill, which treated 191 tons of zinc-lead-gold ore during the year, was installed. In addition, 105 tons of gold-lead ore was shipped to smelters in Utah.

During 1949, Davies ran 463 tons of zinc-lead-gold ore through the mill and shipped 23 tons of gold-lead ore to a smelter. Thirty tons of lead smelting ore was shipped to Utah in 1950.

Davies' lease expired on August 25, 1950, and was apparently not renewed. The mine was idle in 1951. However, on March 11, 1952, Davies was given a new lease and an option to buy a one-half interest in the mine for $10,000, with a down payment of $2,500. A small quantity of lead ore was shipped from the mine during 1952 and for each of the following three years. The property was still under lease in 1957, but Consolidated Mines Syndicate forfeited its charter on December 1, 1959. Little, if anything, was done on the mine for the next two decades.

Some work was done at the Princess Blue Ribbon Mine during 1980. In 1981 parts of the old workings were renovated, and plans were made to build a mill the following year. Exploration and development work was carried out for the next several years. Solomon Mining Company explored the mine in 1986.

In 1987, Precious Metals Technology took over the mine and in 1988 started production from an open-pit on the property (Figures 3, 4, and 5). The companyy installed a 100-tpd flotation plant and a vat-leach cyanide mill at the site (Figures 6 and 7). The gold occurred both in pyrite and as fine free gold in veins in an oxidized zone exposed in the mine pit.

The company operated the mill for most of 1989, but the bulk of the material processed was from the Camas Mine 13 miles away in the Hailey gold belt. Little ore was produced from the Princess Blue Ribbon itself.

The mine was closed in March 1990, after a flood destroyed the tailings dam at the mine. Debris washed into Big Beaver Creek, Willow Creek, and Camas Creek. The closure caused a sharp increase in local unemployment and consequent economic problems in the area. Although the mine employed only 30 people with a monthly payroll of $120,000, it was the largest employer in the county. The tailings dam was rebuilt and another dam was added upstream. However, the Idaho Department of Environmental Quality (DEQ) did not approve the dams, which provoked a disagreement between the mine owner and DEQ as to how the dams should be built. The layoffs at the mine were a decided economic hardship for the county and its residents, and the County Commissioners declared an economic emergency in June. The mine has not reopened.

During 1990, the Princess Blue Ribbon mill processed ore from the Camas Mine, and Precious Metals announced in March that it intended to move the mill to that location. However, permits for the new millsite had to come from DEQ and from federal agencies which were in dispute with the company. These difficulties created major obstacles for the move.

In 1991, Precious Metals Technology continued negotiations over the $27,500 fine imposed by DEQ for the company's failure to post a $9,000 bond to cover the damage caused by the dam failure. In December, the company agreed to pay a $5,000 fine for violating state water quality standards and to submit plans for reclaiming Big Beaver and Willow Creeks. By 1993, the original claimants of the mine had moved to McLean, Virginia. Storage sheds at the mine had been vandalized and equipment left at the site stolen. Erosion at the mine site was also a problem.

Figure 3. Aerial view of the Princess Blue Ribbon in 1987, looking west down Little Beaver Creek. The new cuts in the left center are the first stages of Precious Metals Technology's open-pit operation. The tailings impoundment is below the left side of the excavated area. The line of dumps going down the hill into the creek are the original workings. The original mill site is just upstream from the oval patch of trees in Little Beaver Creek in the lower right (photograph by Earl H. Bennett, Idaho Geological Survey).

Figure 4. Open pit at the Princess Blue Ribbon Mine in 1988 (photograph by Earl H. Bennett, Idaho Geological Survey).

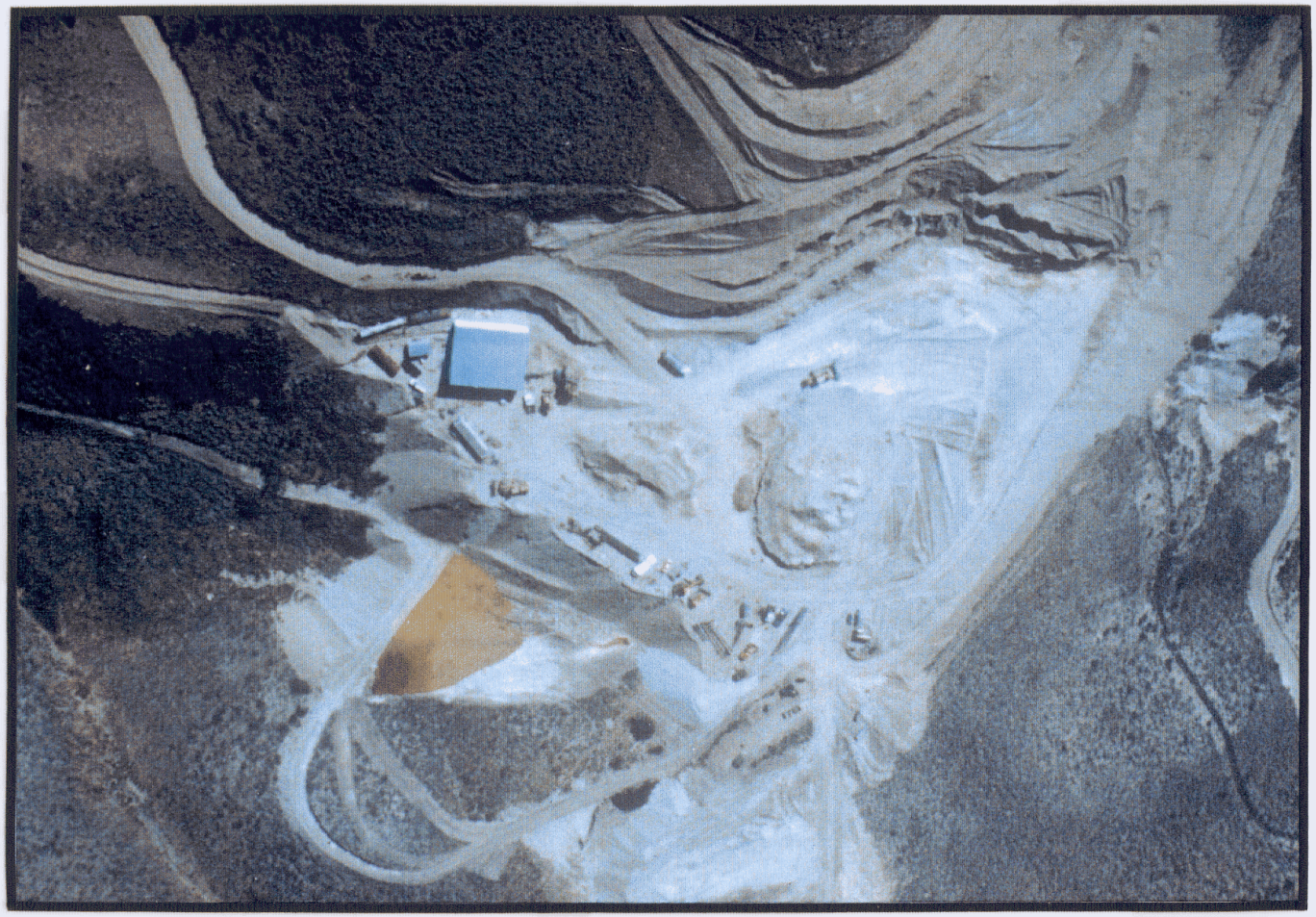

Figure 5. Aerial view of the Princess Blue Ribbon Mine in 1988. The open pit is in the right center, and the cyanide plant and flotation mill are in large building with blue roof. Note the half-filled tailings impoundment below the buildings (photograph by Earl H. Bennett, Idaho Geological Survey).

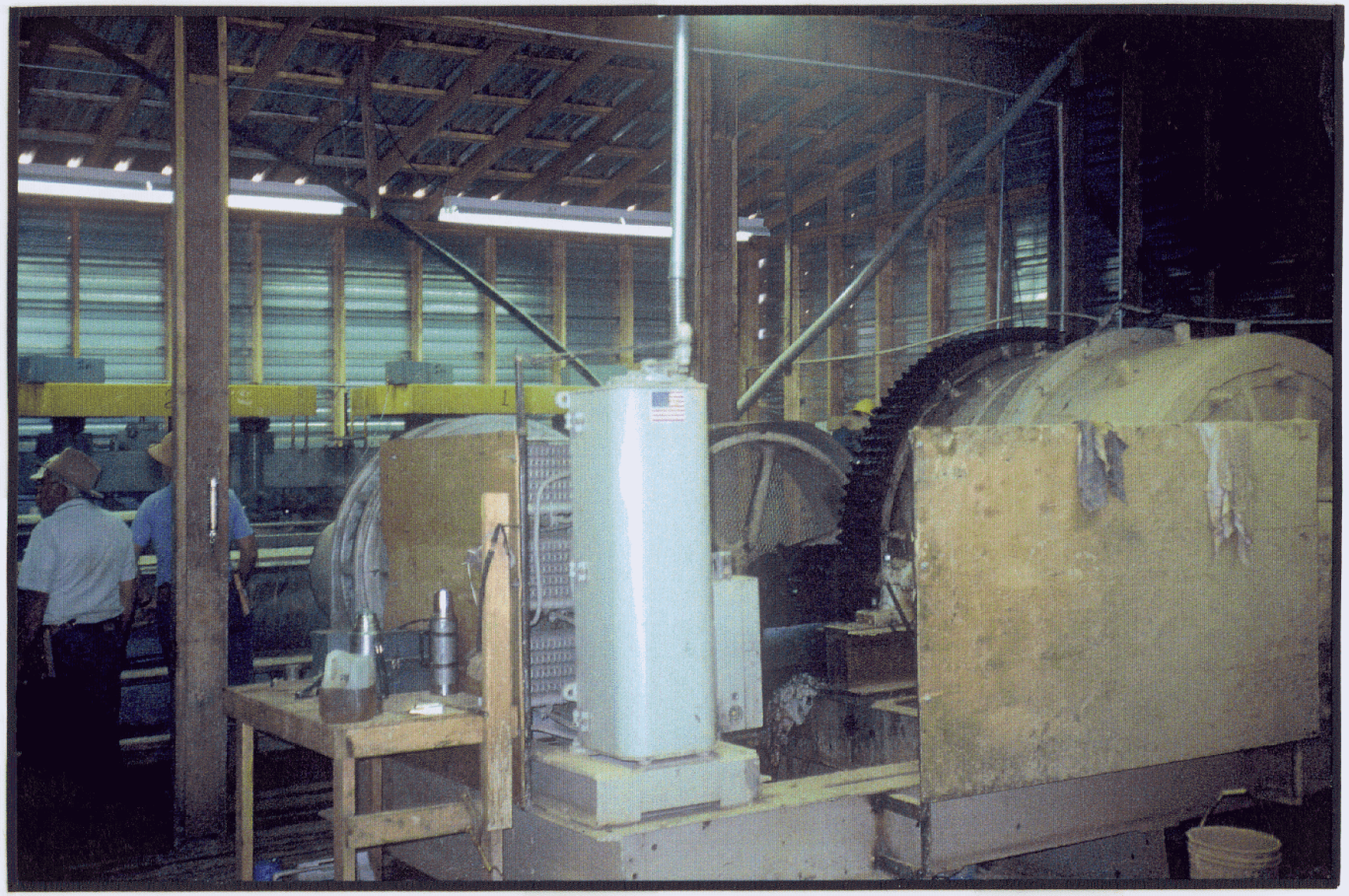

Figure 6. Interior view of the mill at the Princess Blue Ribbon in 1988 (photograph by Earl H. Bennett, Idaho Geological Survey).

Figure 7. Interior view of cyanide plant at the Princess Blue Ribbon in 1988 (photograph by Earl H. Bennett, Idaho Geological Survey).

Between 1921 and 1963 the Princess Blue Ribbon produced 9,626 tons of ore and 3 tons of mill cleanings. This material yielded 3,601 ounces of gold, 36,648 ounces of silver, 31,651 pounds of copper, 323,954 pounds of lead, and 4,480 pounds of zinc. Statistics for later production are not available.

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