History of the Greyhound Mine, Custer County, Idaho

Victoria E. Mitchell

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Staff Report 97-6
April 1997

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. 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 The information in this report is from a number of published and unpublished sources in the Idaho Geological Survey's mineral property files.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 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 Greyhound Mine, Custer County, Idaho

Victoria E. Mitchell[1]

The Greyhound Mine is in the Seafoam Mining district in northwestern Custer County (Figure 1). The property is near the head of Sulphur Creek, a tributary of Rapid River. Elevation at the mine ranges from about 7,000 feet at the lower end (where the original mill was built) to 8,500 feet on the ridge above (Figure 2).

The vein is in a shear zone in the Idaho batholith (Figure 3). The ore zone is crushed granite impregnated with quartz and silver-bearing sulfides or sulfantimonides which make up 20 to 30 percent of the total vein. The vein strikes N. 20°-30° W. and dips about 75° W. It ranges in width from 1 foot to over 8 feet (Umpleby and Livingston, 1920).

The first mineral discoveries in the Greyhound Ridge area were made in 1880. Prospecting the following three summers located a number of interesting mineral occurrences. When the Greyhound was discovered is not recorded, but Jesus Urquides and John Danskin spent the summer of 1885 hauling ore from the mine to the Clayton smelter (Wells, 1983). The Greyhound Mining & Milling Co, Ltd., was incorporated on September 2, 1902. The company controlled the mine until 1940.

In 1904, the Greyhound Mountain Mining and Milling Company developed a "fine" reserve of smelting ore by drifting on a vein that ranged from 5 to 15 feet in width and averaged $19 a ton in gold, silver, and lead. A sawmill was also built on the property. The company installed a 40 ton-per-day pyritic smelter during 1905. An unsuccessful test run was made late in the fall. Results showed that the smelter needed more equipment, but it was not possible to haul the necessary items in by wagon that late in the year.

The company started building a wagon road from Cape Horn to the mine

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

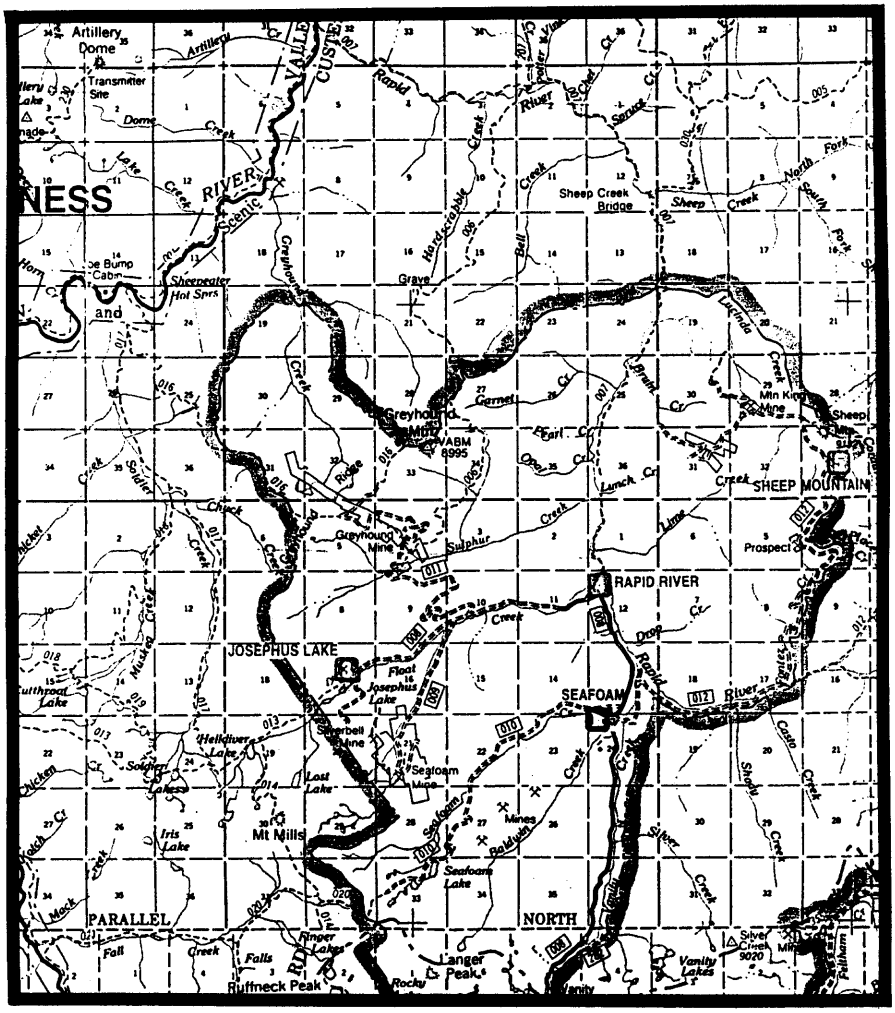

Figure 1. Location map of the Greyhound Mine and vicinity, Custer County, Idaho (U.S. Forest Service Challis National Forest map, scale 3/8 inch = 1 mile.)

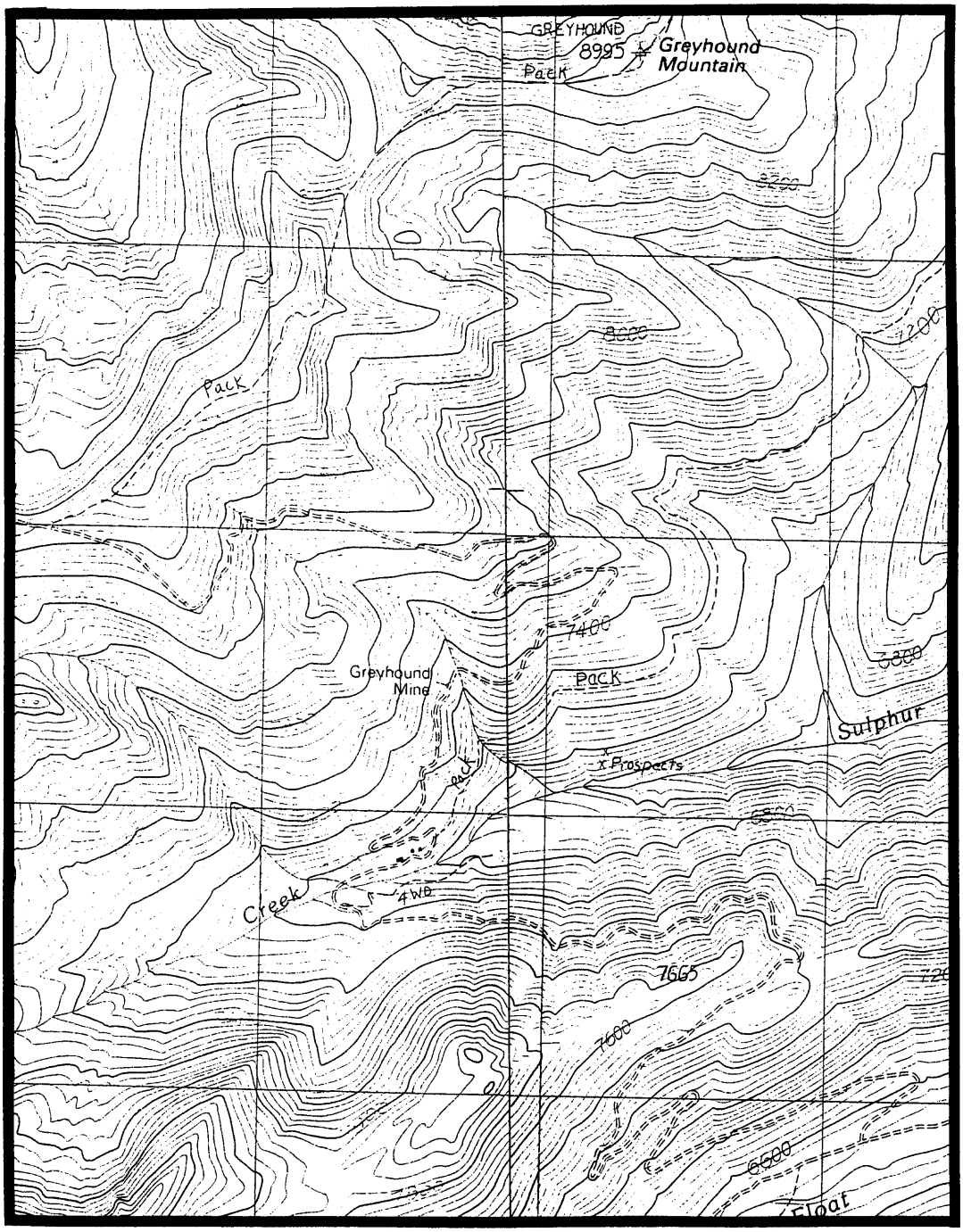

Figure 2. Topographic map of the Greyhound Mine (U.S. Geological Survey Soldier Creek and Greyhound Mountain 7.5-minute quadrangles).

Figure 3. Geology of the Seafoam mining district and vicinity, Custer County, Idaho. Kgd, Kgdp, Kgdh, Kgdph = Cretaceous biotite granodiorite; Klg = Cretaceous leucocratic granite; rp, rpc, rpq, rps = roof pendants; Tdc = Eocene diorite complex; Td, Ta, Tr = Tertiary dikes; Tg, Tr (larger letters) = Tertiary granite and intrusive rhyolite; Qm = glacial deposits; Qa = Quaternary alluvium (Fisher and others, 1983).

during the summer of 1906. The cost of packing coke 15 miles by mule from Cape Horn made the cost of operating the smelter prohibitively expensive. The Mine Inspector also mentioned a plan to build a railroad into the Stanley area. This never happened. The nearest railroad to the Greyhound was in Ketchum, which was 105 miles away by a wagon road that crossed three summits.

In 1908, the company installed a 10-stamp mill to treat the ore because the smelter had not proved profitable (Figure 4).

The 1909 IMIR described the Greyhound as follows (p. 49-50):

> Several well defined fissure veins, quartz-filled and carrying silver sulphide associated with iron pyrite, arsenopyrite and some galena, occurring in schist, have been developed. The main vein, on which most of the work has been performed, is opened by tunnel workings and surface cuts for 4,500 feet in length. This vein is from 5 to 15 feet in width, strikes north 25 degrees west, and dips to the west at an angle of 60 degrees. Nine tunnels, over an elevation of 2,000 feet, have been driven upon this vein and a lower tunnel from the mill level has been started, which will open up the ore bodies at 600 feet lower depth. The silver values in this vein are claimed to run from a few ounces to 2,000 ounces per ton, as high as $8 per ton in gold and from 4 to 7 per cent lead.
>
> A mill and smelter has recently been constructed upon the property. The milling process consists of crushing the ore through a Blake crusher, passing it through ten 1,050-pound stamps, with double discharge made of special heavy design, with splash boards on the outside of the screens, the crushed material from which is passed to two Dorr Rake classifiers, working in incline troughs. The slimes overflow at the lower end and the thickened pulp is raked out at the upper end. The classifiers are coupled in tandem, and the thickened pulp from the last machine is washed prior to its passing to the vanners; the slime from these classifiers and the water used in washing the thickened pulp are passed directly to settling tanks, where, by means of steam pipe coils in the bottom of the tanks, which is a patent process invented by the manager, Steve Smith, the solid matter is precipitated to the bottom of the tanks. When the tanks are filled with slimes and water and the solid matter settled, the clear water is decanted off by means of a vertical row of holes, fitted with plugs, which are drawn successively, beginning at the top. While one of these tanks is being emptied, the other accommodates the material from the classifiers. After the solid matter has accumulated in the tank to sufficient depth, the material is dried by continuing the flow of steam through the coils, and the dried material shoveled out and smelted with the first-class ore from the mine and concentrates from the vanners, which are briquetted in a round water jacket furnace of 40-ton daily capacity. This furnace is also of special heavy design, the air for which is supplied to the furnace cold by a No. 3 Green positive blower. Charcoal, with the addition of a very little coke, is used as fuel.
>
> The ores necessary for flux are had from adjacent properties, including some very nice galena running as high as 80 per cent lead, with silver values ranging from 1 to 2 1-2 ounces to the unit of lead, and from $16 to $60 in gold, which is had from the Hardscrabble mine, about four miles distant, and suitable iron, high in manganese and excellent lime, is easily obtainable.

The mill began operating in November 1909, but soon afterwards, a heavy snowstorm kept some necessary supplies from reaching the mine. Mill and smelter operations ended for the year.

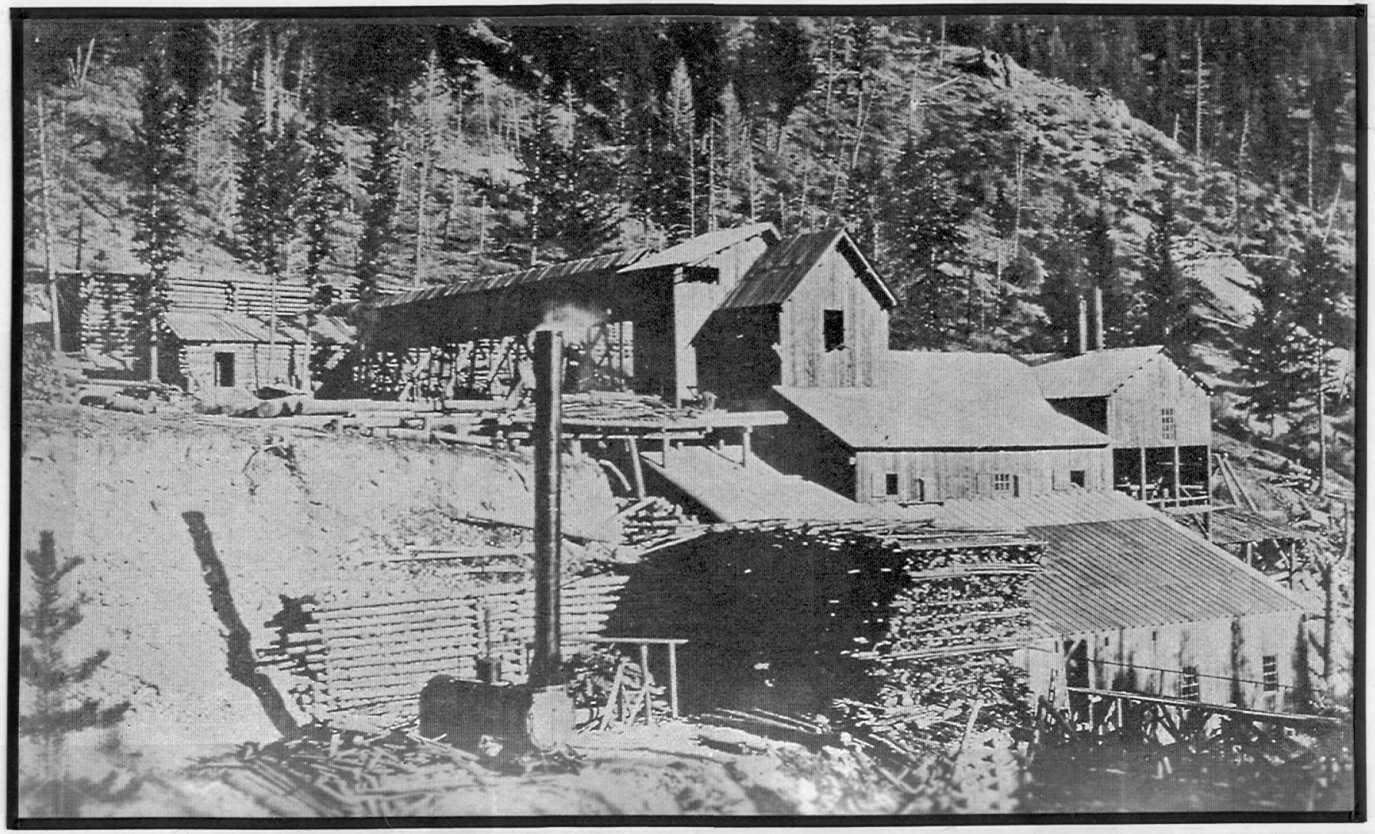

Figure 4. Greyhound mill and smelter, around 1908 (opposite page 48 *in* Moore, F. Cushing, 1910, Eleventh Annual Report of the Mining Industry of Idaho for the Year 1909).

The mill and smelter were only operated for two months during 1910. An extremely late spring delayed operations, and additional flux was needed before the concentrates could be successfully reduced. Lead ore was shipped from the Golconda mine on Sheep Mountain for this purpose. However, the treatment "was not deemed entirely successful" (USGS, 1910 Yearbook, p. 458) and no product was marketed, although ore, concentrate, and matte were on hand at the close of the season. The plant was closed on the first of September.

According to the 1913 Greyhound Mining & Milling Company report to the Idaho Mine Inspector, the claims had been surveyed for patent, but the company did not apply for patent until 1918. Patent was granted in late 1921 or early 1922. During this period, the company performed only minimum assessment work on its claims.

Umpleby visited the mine in 1913 and described the workings as consisting of one tunnel (the Rufus tunnel) which followed the vein for 560 feet. Ore in the tunnel face ran about 20 ounces of silver per ton. Two stopes branched off the main tunnel. The first was about 100 feet from the portal, about 75 feet long, and about 8 feet wide. According to Umpleby (Umpleby and Livingston, 1920, p. 19-20), it had been worked to "a considerable height above the tunnel," and the ore had averaged about $17 per ton in silver (about 25 to 30 ounces per ton). The second stope was about 200 feet from the portal; no further description of this stope was given. In addition to the stopes, Ross (1930) described several short branches off the main tunnel. He also noted that the mill and smelter had been dismantled.

Lessees worked the property in 1928 and 1929. A car of oxidized lead ore containing considerable silver was shipped to the lead smelter at Midvale, Utah, in 1928. In 1929, two cars of rich silver ore were taken from the dumps and shipped to Garfield, Utah. Ross visited the mine in the summer of 1929. He said the lessees were "expected soon to start stoping on a 4-foot face of ore" exposed in a crosscut in the main tunnel (Ross, 1930, p. 5). However, the property was idle from 1930 to 1937. In 1935, the company reported that the mill and buildings had been "badly wrecked" by vandals, who had carried away some of the equipment. In 1936, the mine was rumored to have been leased by Leverett Davis of Gibbonsville.

In 1937, the property was leased to Gold Producers, Inc. Work was scheduled to begin at the mine as soon as the road was open. However, according to the company report for the following year, the lease was abandoned because of the high antimony content of the ore and the uncertain price of silver. Small amounts of ore were produced by lessees in 1939 and 1940. The Greyhound Mining & Milling Co. forfeited its charter in 1940.

A new mill was completed on the property in 1979 (Figure 5), and lead-silver ore was produced from the mine in 1980. The Yanke Machine Shop did exploration work at the Greyhound in 1986. The company extended the Lower Rufus tunnel 150 feet, for a total length of 1,160 feet, and started a 20-foot raise on one of two small

Figure 5. Greyhound Mine, 1983. The back of the mill was destroyed by a snowslide (photograph by Earl Bennett, Idaho Geological Survey).

ore shoots cut by the tunnel extension. Yanke also applied for patent on 400 acres adjacent to the mine site.

In 1987, Yanke extended the tunnel from 1,167 feet to 1,411 feet and started a three-compartment raise on a new ore shoot discovered at the end of the tunnel. Ore from the new shoot assayed 20 ounces of silver, 3-4 percent zinc, 1.5 percent lead, 0.05 to 0.07 ounce of gold, and a trace of arsenic per ton. Ten 30-ton test batches of ore were run through the mill.

Yanke continued development work on the mine between 1988 and 1990. In 1988, the company made test runs through the mill on a total of about 800 tons of ore. The company improved the mill during 1990. The property was optioned to a Canadian firm in 1991, but only a little surface work was done at the mine during the year. The Greyhound 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, 7, and 8 show the mine at that time.

Total recorded production from the Greyhound Mine between 1916 and 1981 was 5,689 tons of ore. This yielded 42.43 ounces of gold, 13,148 ounces of silver, 682 pounds of copper, 26,994 pounds of lead, and 4,551 pounds of zinc.

Figure 6. Open adit at the Greyhound Mine, 1994 (Idaho Geological Survey photograph by Falma J. Moye).

Figure 7. Ricks of firewood and an old boiler at the Greyhound Mine, 1994. Compare this photograph with Figure 4 (Idaho Geological Survey photograph by Falma J. Moye).

Figure 8. Abandoned ore bin and mill ruins at the Greyhound Mine, 1994. The present mill is in the background (Idaho Geological Survey photograph by Falma J. Moye).

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