

of the mineralized zone, if it exists.

The property has no record of production.

#### SUNSHINE

The Sunshine claim is in sec. 32, T. 9 S., R. 14 W., and sec. 5, T. 10 S., R. 14 W. (Fig. 11). The property is a patented claim now owned by R. A. Wellborn of Grant but formerly owned by J. L. Templeman.

The deposit is a narrow quartz vein in gneiss and is exposed in an adit about 40 feet long. The vein strikes N. 65° W. and dips 72° SW., conformable to the trend of the country rock. The vein seems to be a short lens, which attains a maximum width of about 3 feet. The vein quartz is slightly stained by oxidation products of copper and iron. A few small blebs of chalcopyrite and a few small grains of a sulfide mineral tentatively identified as tetrahedrite were also noticed.

An old shaft, estimated to be 50 feet deep, has been sunk in line with the vein and about 150 feet west of the adit portal. The vein probably does not extend to the shaft, however, as no vein minerals were found on the dump at the shaft.

In 1914 and 1915, the mine produced 29 tons of ore, which yielded 2,289 pounds of copper, 1,480 pounds of lead, 528 ounces of silver, and 1 ounce of gold, the total recorded production.

#### OTHER MINES

Under this title are descriptions of isolated mines that because of their geographic location cannot be included within a mining district but are within the Beaverhead Montana mining region.

#### AJAX

The Ajax mine is situated at the head of Big Swamp Creek in a glacial amphitheater partly occupied by Ajax and Lena Lakes. The mine is about 22 miles southwest of Wisdom and is accessible only by small 4-wheel-drive jeeps during the summer months. The mine workings are at an altitude of about 9,000 feet.

The deposit was located in 1874 by W. S. Burnett, who named it the Carrie Leonard. The location seemingly was allowed to lapse, and in the early 80's it was relocated by Frank Brown, who named it the Ajax. The claims were subsequently acquired by Alva J. Noyes, the first settler in the Big Hole Valley. The trials and tribulations of owning the Ajax mine were described by Noyes in his book "Ajax",

a story of early-day life in the Big Hole Valley.

A stamp mill was built at the property during the late 90's but proved unsatisfactory because so much of the gold was lost. In 1903, the Montana-Ajax Company, capitalized at \$1 million, was organized to operate the properties. B. F. White was elected president, and Noyes, secretary. The old mill was torn down and in 1903 a new 10-stamp mill was erected in its place. Each stamp weighed 1,050 pounds; other equipment included two Wilfley tables. During the brief period of operation, the mill produced several bricks of gold, but the operation was not profitable. In 1905, the last brick poured was valued at \$1,160 (Sassman, 1941, p. 286). The property consists of three patented claims, the Ajax, Ajax Extension, and Edna and Edith, now owned by H. E. Morse of Dillon, Montana.

The deposit consists of a quartz-filled fissure vein, exposed for several thousand feet along the south wall of the cirque and clearly visible from Ajax Lake. The vein strikes N. 68° E. and dips 34° SE. The width of the vein is 3 to 5 feet and the vein filling is principally quartz stained with iron oxide. Ore minerals are free-milling gold and galena. Copper-stained fragments of vein quartz were found on some of the dumps.

The country rock is gray to green medium-grained quartzite containing seams of magnetite. The formation strikes N. 15° E. and dips 15° SE.

The mine workings consist of four adits (Fig. 12); three upper adits driven on the vein and a lower fourth adit driven to crosscut the vein at depth. A rockslide has completely buried the lower adit, and only a small part of the dump is visible. The upper workings were not visited by the writer, but according to an old report, No. 1 adit is the highest and was driven for a distance of 131 feet on the vein. From the adit, two inclined raises were driven on the vein to surface. No. 2 adit, about 160 feet below No. 1, was driven on the vein for a distance of 222 feet. A raise on the vein connects to No. 1 adit. No. 3 adit is about 160 feet below No. 2, and extends about 250 feet from portal. It was driven on the vein for 136 feet, and from it two winzes were sunk to a depth of 12 feet. The portal of No. 4 adit is not visible, but an old mine map of the property indicates that it must have reached its objective.

In 1904, the ore being mined averaged about \$7.19, the principal value being in gold. The total ore remaining in 1904, however, averaged only \$4.27 per ton.

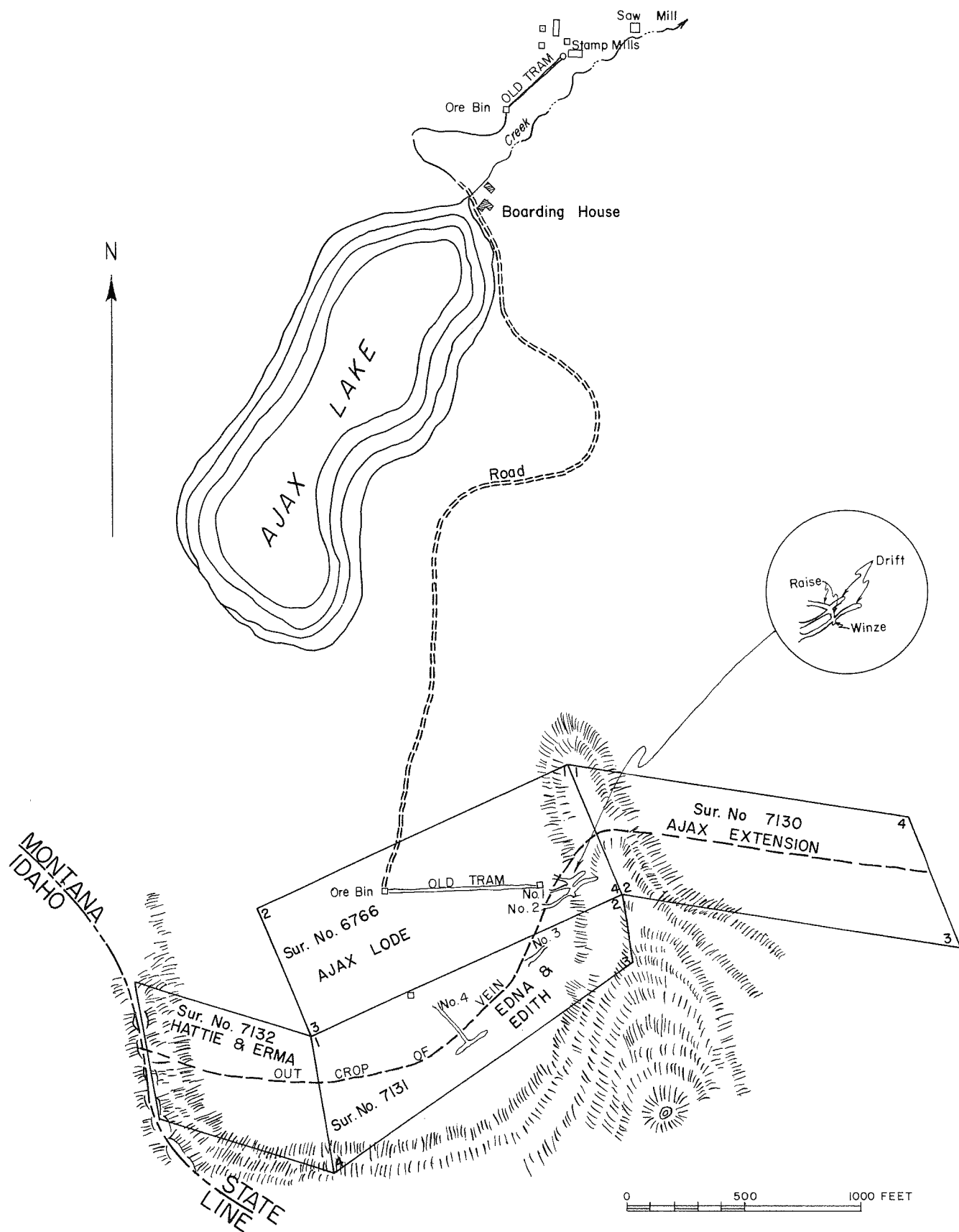


Figure 12.—Map of mine workings, Ajax mine.

Total recorded production from the Ajax, which is for the period 1902-40, is 1,643 tons of ore, which yielded 140,239 pounds of lead, 276 pounds of copper, 7,621 ounces of silver, and 979 ounces of gold. Of this amount, 1,200 tons of ore that yielded 120,000 pounds of lead, 7,200 ounces of silver, and 630 ounces of gold was mined in 1902.

DARK HORSE

The Dark Horse mine is situated at the head of Bloody Dick Creek in a glacial cirque developed just below the crestline of the Beaverhead Mountains. The mine is at an altitude of about 9,000 feet and can be reached by jeep road up Dark Horse Creek from a country road connecting Jackson and Horse Prairie.

The original locators are unknown, but in 1902 a Fred Stuart was one owner. In 1906, the properties were taken over by the Calumont-Montana Mining Company from Duluth. In the fall of 1906, 33 men were employed, and shipments averaged 12 tons of ore a week. In 1909 and later, an adit 2,935 feet long was driven on the Idaho side of the divide to open the mine at a depth of 800 feet below the crest of the divide. The present owner is Laura Cannon of Fallbrook, California.

The country rock in the vicinity of the mine is foliated gray micaceous Precambrian sandstone containing some thin shale beds; it resembles schist. The formation trends N. 62° W. and dips 35° SW.

The mine workings consist of a caved shaft, probably several hundred feet deep, and three short

adits. Two adits about 200 feet north of the shaft explore a weak bedding-plane quartz vein 1 to 2 feet wide containing an occasional speck of bornite or chalcopyrite. The third adit, about 350 feet west of the shaft, was driven north across the trend of the bedding; in about 150 feet from the portal it cuts a green schist zone containing a few narrow stringers of iron-stained quartz. At the time of the visit the long adit on the Idaho side was not known to exist and so was not examined.

Total recorded production from the Dark Horse mine is 294 tons of ore, which yielded 85,739 pounds of copper, 1,611 ounces of silver, and 93 ounces of gold. The ore was produced between 1907 and 1939.

HAUSEMAN

The Hauseman mine is in unsurveyed sec. 22, T. 1 N., R. 16 W. It can be reached by following U. S. Forest Service Trail 371 up Plimpton Creek and crossing over to the next drainage east of the trail.

The property is an unpatented claim, and the deposit seemingly was located by John Hauseman, a recluse who lived in those parts for many years.

The granitic country rock near the mine is part of the great Idaho batholith, which crops out in that part of Beaverhead County.

The mine workings consist of an adit along the creek bottom, which is overgrown with brush. The adit trends N. 22° W., and the size of the dump indicates that it extended about 100 feet. A few small

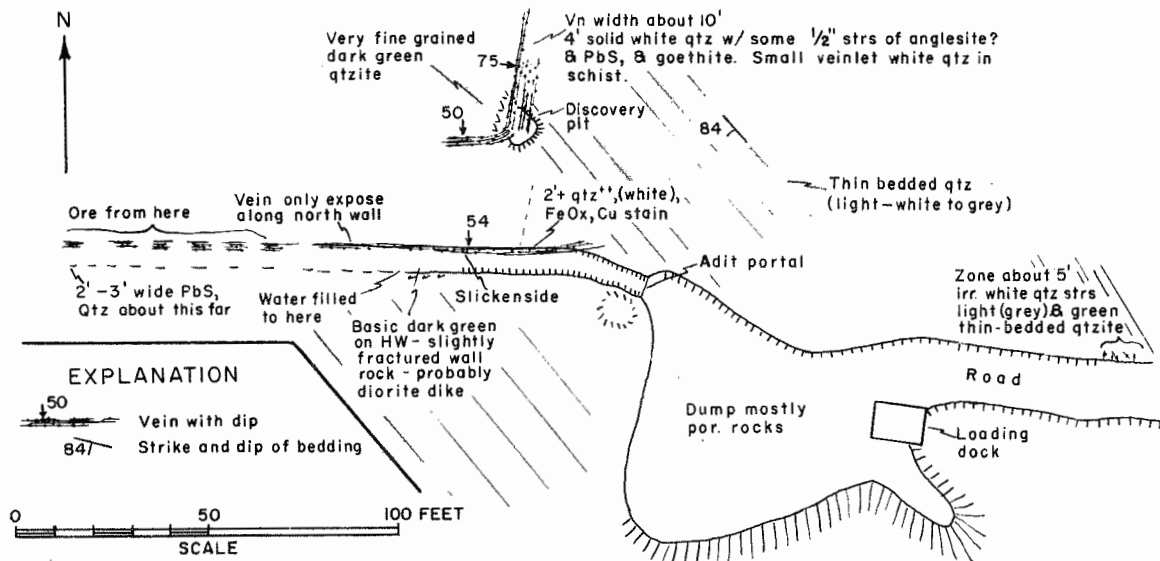


Figure 13.—Geologic sketch of Jackson mine.