

393

BC-393

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COLORADO SCHOOL OF MINES
GOLDEN, COLORADO

NOTES ON GUMAER MINE

COTOPAXI, COLORADO

Sept. 15, 1916

by
Albert J. WolfLOCATION:-

One mile by wagon road northwest of Cotopaxi, Colorado.
(Fremont County.) Elevation 6650 ft. (V.S.G.S.)

EXTENT:-

Either eight or thirteen claims, all patented. Information on this point was not definite.

OWNERSHIP:-

Owned by A. R. Gumaer, Brown Palace Hotel, Denver, Colo.

GENERAL DESCRIPTION:-

The country rock is granite and gneiss. The ore is in granite gneiss, the folia of which dip about 25° to the northeast. The only outcrop occurred at the upper workings where open cuts have opened the gneiss for a thickness of 30 ft. This gneiss is all more or less iron and malachite stained, partial oxidation of the sulphide minerals near the surface having taken place. Two distinct shoots, or more highly mineralized streaks in the gneiss, occur one over the other. A considerable tonnage has been mined from these shoots leaving open, stilled stopes.

The sulphide minerals present in this ore and the ore on the lower tunnel dumps are sphalerite and chalcopryrite. The sphalerite is of the dark brown to black variety (black jack) occurring in coarsely crystalline bunches and streaks. The chalcopryrite is finer grained and scattered through the sphalerite and also through gneiss where no sphalerite occurs. Most of the gangue is gneiss containing a great deal of biotite, but some of it is quartz, probably pegmatite, containing both sulphide minerals mentioned. It is stated that a small percentage of lead also occurs in the ore, but none was observed. The ore from the lower tunnel contained more copper than that from the workings above.

Below the open cuts and stopes is the collar of a shaft. The shaft is full of water to a point something less than one hundred feet. Below the shaft collar, at elevations of about 30 and 80 ft. respectively, are the portals of two tunnels. The shaft manway and both tunnel doors were locked. On the tunnel dumps is a large tonnage of biotite gneiss and quartz containing considerable sphalerite and chalcopryrite in the forms already described. From a cursory inspection of these dumps it would seem that they could be sorted and milled profitably.

Mr. B. S. McCrory, of Cotopaxi, who worked in the mine at different times for many years, gave the information that the mine workings were quite extensive, and that a large tonnage of ore had been shipped. The last work had been done in May, 1916, but apparently this work was not financially successful. Mr. McCrory states the ore shoots are irregular in size and shape and that

Gumaer Mine
Fremont Co., Colo.
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the hanging-wall of the mineralized zone is uncertain. The foot-wall, however, is marked by a stratum of mica schist containing garnets. Also that the foliations of the gneiss will have a regular dip for a certain distance, then make a sudden bend downward and straighten out to the normal dip again. At these bends, states McCrory, the ore will be of higher grade than the average, usually being bodies of solid sphalerite.

Above the shaft is a building containing a blacksmith outfit and a geared hoist. At the lower tunnel is a second blacksmith shop, and at both tunnels are sorting sheds, and ore bins. There is also a building used as office and storehouse, with one end fitted up for slop-copper determinations.

Several hundred feet northeast of the mine workings described is a second shaft. Here there is a large shaft house with boilers, a small Leyner compressor and a good-sized friction hoist. It is stated that this shaft is over 200 ft. deep, but at the time visited was filled within 30 or 40 ft. of the top with water. It was planned to sink this shaft to a depth of 400 ft, where, it was calculated, the ore would be cut on its dip. The material on the shaft dump is granite gneiss containing streaks and scattered grains of pyrite. Water was bailed from this shaft to supply the boilers.

On the Arkansas river is a pump station from which a pipe line (4 or 5 ft. in diameter) extends to the mine. At the mine are the pieces of a large steel tank, probably 40 or 50 ft. in diameter, the tank not having been set up. It is stated that the pump and line were never used. Apparently the intention was to secure a large supply of water for milling purposes.

The road to the mine follows the bottom of a dry gulch and is now completely washed out. This would occur after each hard rain, but the road should not be expensive to repair. There are no heavy grades.

The tonnage and grade of ore on the dumps and the amount of development that must have been done make the mine worthy of a more complete investigation.

Albert G. Wolf

ASSAY OFFICE AND
CHEMICAL LABORATORY OF

J. W. RICHARDS 1118 NINETEENTH STREET

ORE SHIPPERS' AGENT

Denver, Colo., Sept 22 1916

WRITE FOR TERMS

I hereby certify that the samples assayed for George E. Collins
gave the following results:

| NO. | DESCRIPTION | GOLD OZ. PER TON | SILVER OZ. PER TON | COPPER PER CENT (WET) DREIGHT | LEAD PER CENT (WET) (FIRE) | SILICA PER CENT (INSOLUBLE) | IRON PER CENT | ZINC PER CENT | BIARIUM SULPHATE PER CENT | LIME PER CENT | MANGA- NESE PER CENT | REMARKS |
|-----|---------------|---------------------|-----------------------|---|----------------------------------|-----------------------------------|------------------|------------------|---------------------------------|------------------|----------------------------|---|
| | <u>Sample</u> | | | <u>7.05</u> | | | <u>10.1</u> | <u>46.7</u> | | | | <u>Gunner Mine</u> <u>high-grade ore</u> |
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GOLD AT PER OUNCE CHARGES

SILVER AT PER OUNCE \$.....

LEAD AT PER CENT.

COPPER AT PER CENT.

J. W. Richards
ASSAYER

Mr Wolf: - What is this for?

M. B. 2. U.

[Faint handwritten notes]