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Anaconda Copper Mining Company

GEOLOGICAL DEPARTMENT

REPORT ON

RECENT DEVELOPMENT

IN THE

WALKER MINE

PLUMAS COUNTY, CALIFORNIA

BY

M. H. GIDEL

Butte, Mont.
Oct. 1920.

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INTRODUCTION

On August 23rd. and 24th., 1920, I took geologic notes in the new work in the Walker Mine. My previous examination was made in December, 1919, since which time considerable development has been done on the Third and Lower levels. The accompanying Long-Section has been prepared from data furnished by Mr. V. A. Hart for the purpose of showing the new ore developed on the Lower level in relation to the ore shoot on the upper levels. Geologic features such as faults and dikes are also shown, and portions of the vein averaging three percent or more in copper are colored red.

NEW DEVELOPMENT

Third Level

On the Third Level the main drift was extended 315 feet north-west on the vein. Three small shoots of ore having a combined length of 155 feet were developed here. See map. From this new drift, a 170 foot diamond drill hole into the hanging-wall cut no mineralization of consequence.

At a point 110 feet north of the winze beyond the intersection of the large ore-shoot and fault, another hole was drilled into the hanging-wall. No vein was found here. The purpose of this work was to determine whether or not the ore-shoot was displaced to the right by the fault.

The main drift southeast was extended 140 feet in irregular oxidized vein.

Adit or Lower Level

From the main crosscut on the Adit Level, the Walker Vein has been developed for a distance of 1400 feet, largely by drifting. A drill-hole from the main crosscut cut 2.1 per cent copper ore, which point marks the present southern limit of development on the vein in the property. The discovery of ore bunches in the first 60 feet of drifting from the crosscut was encouraging in view of the fact that the main ore shoot in the upper workings was several hundred feet farther northwest, and that it had a flat pitch northward between the Third and Fourth levels. In drifting northwest-ward on the vein, a granite dike 40 feet wide was cut. This dike cut the vein and contained inclusions of ore and gneiss near the south contact. The vein was displaced by the granite, presumably to the left, although another vein was found to the right in drill-holes. The vein exposed in the crosscuts to the left (west) north of the dike is quartzy and contains much less sulphide than that portion of the vein south of the dike. The vein cut in the drill-holes to the right or hanging-wall corresponds mineralogically to the vein in drift south of the dike.

In drifting north on the vein, another granite dike six feet wide was cut. Small lenses of ore were developed. It is probable that the south portion of the main ore shoot occurs in the drift between points that are 220 feet and 100 feet south of the raise. For about 100 feet on either side of the raise

the vein contains less than two percent copper. Ore in the raise begins at a point about 35 feet above the sill. From a point 100 feet to 270 feet north of the raise, the ore is 10 to 15 feet wide and averages 3.40 per cent copper. Northward beyond this limit, the vein shows an average copper content under 2.5 percent. A clay seam has appeared on the hanging-wall side of the vein. It is probably the same fault or wall that terminates the ore body on the upper levels.

A portion of the above described drift does not develop the full width of the vein. Assays shown on the map without widths were obtained on car samples from a drift of normal size, that is, five or six feet wide.

From the drift on the lower level five holes were drilled. Two holes 580 feet apart were drilled into the foot-wall. No veins were cut, which fact would lead one to correlate the foot-wall vein in the main crosscut with that drifted on north of the forty foot granite dike.

Three holes were drilled in the hanging-wall side of the drift. The first one is located about 90 feet north of the larger granite dike. A strong vein was cut in this hole which contains ore. Another hole 200 feet north of this cut lean quartz, and a third hole near the raise cut no mineralization. This hanging-wall vein is probably a branch of the main vein, diverging from same to the southeast.

CONCLUSIONS.

Oct. 1920. The ore developed on the Lower level beneath the ore shoot on the Fourth level totals 320 feet in length, has a width of nine to fifteen feet, and contains about 3.3 percent

copper. On the Fourth level the ore shoot is 700 feet long, is 15 to 30 feet wide, and is estimated to contain 4.53 per cent copper. The Lower level shows a split in the ore shoot with lean vein intervening. Briefly stated, the showing of ore on the new Lower level is not as good as that developed on the upper levels of the mine. There is more quartz in the vein on the Lower level than on levels above.

However, there remains the possibility that a flat pitching portion of the ore shoot lies northwest of the present face of the Lower drift on the hanging-wall side of the fault. This is suggested only by the meagre exposure of a wedge-shaped body of ore on the hanging-wall side of the fault near the winze on the Fourth level.

It is probable that more ore can be developed beneath the small shoots exposed in the north end of the Third level. Drifting should be continued in this direction on the Lower level with adequate drilling or crosscutting into either wall at intervals of four hundred or five hundred feet.

Respectfully submitted,

M. H. Giddell.

Butte, Mont.
Oct. 1920.