

NOTES ON THE GEOLOGY OF THE ALPHA MINE

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INTRODUCTION: This report is supplementary to my report on the Standard Mine since it covers all accessible underground workings on the Surprise, Alpha, and Echo claims, which cover the upward extension of the Standard Lode.

These workings were ^{examined} ~~covered~~ somewhat more hurriedly than those of the Standard mine and only the outstanding features of the geology are platted on the map. In a broad way the Alpha geology is entirely similar to that of the Standard mine.

DESCRIPTION OF WORKINGS: Surprise Tunnel The entire tunnel is in, or bordering, a ~~rather~~ wide, rather flat dipping, ~~and~~ strong shear with a thick graphitic gouge and somewhat irregular ~~gangs~~ walls.

Considerable porphyry shows in the footwall through the central part of the tunnel. This part is weakly mineralized with quartz and there is an occasional small lense of low grade zinc.

As a whole the tunnel is barren and unpromising in appearance.

"V" Tunnel: This tunnel starts as a half-crosscut on a narrow shear, one to three feet thick, showing erratic quartz and calcite and occasional small streaks of lead and zinc. At 160 feet from the portal the tunnel leaves this vein and at 180 feet cuts a five or six foot zone of sheared rock with quartz and calcite which is weakly graphitic and carries a small gouge. This shear or vein strikes N 40° E, ~~strengthens and~~ increases in size and mineralization for some distance but practically pinches out in 350 feet to the northeast.

Through the central part there is considerable quartz and calcite in bands along the hanging wall with lead and zinc in less than commercial quantities.

the drift

About where this vein pinches out ~~it~~ encounters a second striking N 70° E (magnetic) vein three or four feet wide/containing frequent stringers of quartz and spots of lead. To the westward, where it passes through the crosscut, it is weak and ~~is~~ mineralized. This vein has a strike and dip which project it close to the western Robin workings.

The long southeast crosscut from this drift shows some porphyry and a strong graphitic gouge near the end, but nothing of value. The northwest crosscut from the main drift encounters and follows for a short distance a strong graphitic shear with no noted mineralization except rare calcite. This shear is apparently at a lower horizon than that in the Surprise tunnel.

"F" Tunnel : This tunnel is mostly a drift on a strong graphitic shear ten or twelve feet thick, and carrying only a trace of mineralization. It strikes N 25° E and dips 30° south east.

The first northwest crosscut crosses a weak tight shear carrying seams of calcite and quartz. The second northwest crosscut starts on a weak cross shear showing weak mineralization, but it soon dies out. The third northwest crosscut cuts a small probably unimportant shear containing traces of lead. ~~There is~~ The fourth crosscut cuts a small shear containing calcite. These four shears, or veins, ~~are~~ all have different strikes and dips and are probably of small extent and value.

Echo Tunnel: This tunnel starts on a weak, narrow shear which gradually strengthens up to 550 feet from the portal where it passes into the north wall of the drift. The strike is N 25° E; there is practically no mineralization and little gouge.

At six hundred feet from the portal the drift cuts a strong ragged shear with graphitic gouge which has a rather sinuous course N 45° E. It is not evident whether these are ~~two~~ one shear and a bend, or whether there are two intersecting shears,

but the latter is believed to be the case. Going northeast the shear splits and the drift follows the northern branch, which strikes N 40° E and dips 45° southeast. It is a wide zone of rather weak shearing and shows little mineralization, although raises on it appear to have encountered small bodies of ore. Near the east end of the drift it swings sharply to the right and appears to pinch out. There is a small underhand stope at the turn.

The southern branch of the shear is opened by two crosscuts which show a wide shear with a strong graphitic gouge on the hanging wall; it contains a few small quartz stringers but otherwise is practically unmineralized.

GENERAL NOTES: The Standard Lode on Alpha ground is exceptionally wide, upwards of two hundred feet, and the dips are somewhat flatter than usual. Numerous ^{minor} veins and ~~secondary~~ shears occur within the lode and may be either parallel or diagonal to the main lode. Individual ones have a strong tendency to be comparatively short and erratic.

Mineralization is usually quite weak or almost lacking & orebodies where found have been quite small. Very little production has been made, and nothing was noted in the accessible workings to encourage further development.

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