State Department of Geology and Mineral Industries

702 Woodlark Building
Portland, Oregon

MEMORANDUM FOR MR. NIXON: June 30, 1941.

Re: Examination of Number One Quicksilver Property.

In my short examination of the Number One property on June 28th and 29th, I received a number of impressions which I would like to outline to you.

The primary impression was that this quicksilver property, which in the continuity of its main vein simulates a gold-quartz vein, can by no means be sampled and developed by the same methods used in quartz mines.

The vein gouge tends to be of too low a grade to be profitable ore, but high-grade stringers in the gangue, when included in the sampling, should raise the average well into the mineable class. In addition to this, nearly vertically raking high-grade shoots form bonanza bodies whose value and amount cannot be evaluated before mining. The shaft of the Number One goes down on one of the shoots; the Blue Ridge shaft is reported to start on one. The outcrop of a third shoot has been uncovered by bulldozer trench no. 3. Since the distance between the Blue Ridge shaft and the Number One shaft is about 250 feet and the distance between the latter and the ore shoot in #3 cut is about 550 feet, there is a suggestion that a yet undiscovered ore shoot might lie halfway between.

Vertical northwest-trending faults offset the vein about 30 feet in the crosscut 600 feet west of the shaft and cut off the east end of the orebody in #3 cut. No ore was found in #4 cut. A swale in the sloping ridge extends northwesterly from a point east of #3 cut. The vein at the west end of the west drift is on nearly the same strike as the main vein as exposed in the shaft and drifts. It is probable that these conditions are due to landslide faulting from the ridge, which has offset the vein to the southeast, and which would cut off the exposed ore outcrop in #3 cut at a relatively shallow depth.

In the final analysis, it must be emphasized that it is practically an impossibility to block out and evaluate quicksilver ore in advance of mining, at least in this type of deposit. This most definitely does not mean that the mine will prove unprofitable; in fact, it has been stated that the previous development on the Number One property has paid for itself.

In further work on the property, I suggest that:

(1). Detailed maps on a large scale of both surface and underground workings be kept, with all structural features being noted as they are exposed.

(2). Further bulldozer work be restricted to only 1 or 2 more cuts, located midway between the shaft and the orebody in #3 cut.

(3). Several short (5-10 feet) crosscuts be run from drifts on both levels to establish definitely the width of zone, absence or presence of parallel mineralization, and type of hanging and footwall rocks.

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(4). Diamond drilling, if used at all, be restricted to:
- (a) 1 or 2 holes directed at 60° N. 30° W., and located 20' south of the orebody in cut #3.
- (b) Crosscutting holes in the underground workings to prove presence or absence of hypothecated parallel "Blue Ridge" vein.
- (c) It should also be emphasized that a large part of the usefulness of diamond drilling is in the interpretation of structures obtained from the cores.

(5). Development of the #3 cut orebody must take into consideration the probability that it will be cut off within 50 feet of depth by a nearly flat-lying fault and that, if this occurs, the continuation at depth should be found to the northwest.

John Eliot Allen, Geologist

June 30, 1941