

April 2nd, 1968.

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Re: EMPIRE MERCURY

The following is a summary of my impressions gained from conversation with Mr. D. Morgan and from examination of various plans and drill records.

Mr. Dave Morgan, representing Empire Mercury Mines, provided a copy of (1) a surface contour map showing claims and the general camp and adit locations, (2) a surface geology map of a rather generalized nature prepared by Rubin Verzosa and (3) ten sections showing percussion drill holes with interpretation of the drill results on two pages representing the 4000 and 4100 foot elevations. Items (2) and (3) were sent to Dominion Blueprint for production of sepia copies.

The main workings consist of a series of adits on the west side of Mud Creek. The best overall representation of these adits is Figure 7 in Bulletin 5 of the B.C. Dept. of Mines. Mr. Morgan states the main adit (No. 2 adit) has stood well and is accessible as shown on this plan. The air is reported good. Mr. Morgan has also, in his possession, larger scale plans of this adit showing the geology.

Percussion drilling totalling 23,206 feet was done on the Empire Mercury ground. Most of this was done in the vicinity of the main workings but I was told some of the drilling was done on showings on the Grizzly and Unna claims. No plans or sections of these areas were shown.

The drilling was done under contract on section line trending NE-SW. Holes were drilled (about 2" diameter) at  $-45^{\circ}$  in a NE direction. All drilling was done wet. Sludge samples were collected for each 10 foot run and the hole was supposedly blown clean after each run. The sludge samples are said to have been dried on a metal plate over an open wood fire and were assayed on the property. No details of the assay method were available from Mr. Morgan. The drill logs were briefly examined and consist essentially of a log sheet showing footage, weight of sample and assay in pounds of mercury per ton. Mr. Morgan states check assays done in Vancouver returned higher results than those reported from the property. No documents were shown to substantiate this.

Three aspects of the program raise grave doubts as to the validity of the drilling results.

- (1) The assaying done on the property - of whatever nature - is open to question since values of 0.2 to 0.6 pounds Hg per ton are reported for virtually every sample. The highest assay reported is 4.2 pounds per ton. The geological evidence points to mineralization in relatively narrow zones and stringers and it is doubtful whether disseminated mineralization is present over the indicated widths.

- (2) Percussion drilling, even when the hole is really blown clean after each 10 foot run, would tend to distribute values over greater than true width. However on this property the rock is extensively shattered and altered and it is probable that significant losses of material would be caused by washing drill cuttings into shears and fractures in the rock. There would be a tendency for preferential loss of cinnibar due to its high specific gravity and probable finely divided state after drilling.
- (3) Heating of samples over an unregulated wood fire could produce significant losses.

It is stated (M of M 1966 p.138) "Cinnibar and native mercury occur in a shear zone....." The writer was shown two specimens of a highly fractured altered green volcanic rock with cinnibar and significant quantities of native mercury. Native mercury may not form a significant part of the overall value of this deposit but where present it is probably lost in the process of percussion drilling and high temperature drying of sludge samples.

Bulletin No. 5 indicates a southwest dip for the mineralized fault zones. Interpretation of the drill intersections by Dr. Skerl bears this out and indicates a dip varying from 67° SW on section D to 40° SW on section G. Due to the faulted nature of the ground these dips are open to question.

Drill results indicate a zone of mineralization northeast of No. 2 adit and at about the same elevation. Mr. Morgan states Dr. Skerl has recommended a series of crosscuts at about 50 foot intervals in the north wall of No. 2 adit to extend to the drill indicated zones for bulk sampling purposes. Total crosscut footage is estimated at 660 feet. If results were encouraging an adit is proposed about 200 feet lower in elevation to be driven northwesterly along the mineralized zone. Mr. Morgan will try to procure a copy of Dr. Skerl's report for our use.

Skerl's estimate of cost is about \$60,000 but Morgan feels \$100,000 would be more in line with present day costs. These figures apparently include some allowance for further work on the Grizzly and Unna showings.

I feel the information indicates a relatively narrow small tonnage situation. Exploration would probably be difficult by any method - even wire line drilling could result in significant core loss and would be subject to loss of fines and possible poor water return due to badly fractured ground. This is however likely to be the best method of exploration of the Unna and Grizzly zones, ~~and~~ would be cheaper than crosscutting from No. 2 adit. This type of drilling is probably necessary to justify a crosscut from No. 2 adit and probable drifting along the zone indicated by percussion drilling.

Except for the map by Verzosa, which does not indicate the extent of actual rock outcrop, there is no evidence of anything other than surface prospecting. It is possible a soil survey might be of value.