

WILLIAM M. SHARP, P. ENG.
CONSULTING GEOLOGICAL ENGINEER

801388

STE. 808, 900 WEST HASTINGS ST.
VANCOUVER 1, B. C.

February 13, 1967

Mr. R. H. Bates,
Kleanza Mines Ltd. (N.P.L.),
P.O. Box 2110,
Terrace, B.C.

Dear Dick:

Thank you for yours of February 9th, with map of H.M. plots enclosed.

The choice of going to a 100 ml. shaking tube, or decreasing the amount of soil-sample is basically optional. However, the practical advantage of the smaller soil-sample is the saving in time and dithizone test solution. Therefore, I would recommend that you follow whichever procedure you find most convenient and accurate. (Note that results accruing from a 0.2 gram sample may be expressed in terms of those which would result from the 0.5 gram sample by multiplying by $5/2$, or 2.5X)

The H.M. "highs" obtained by you from your Croesus samples may be partly due to the locally-larger copper content. These would correspond to the general 4-5 scale of rubenic values obtained earlier. However, note that similar, or proportional H.M. highs were not generally received on other high-rubenic lines i.e.; southwest of the Dollar zone.

Note that, as a general rule, the H.M. test responds most strongly to zinc - even where it occurs in relatively minor amounts; also that zinc, even when present in minor amounts, gives its typical light-red colouration to the test solution before those due to the presence of other responding metals. When only copper is present, the expected colours are amber to brown; lead often promotes a dark red colouring. Consequently a minor proportion of zinc associated with copper most frequently alters the typical copper tints to non-specific browns or purples. Also note that the H.M. test only gives composite indications, but is most sensitive to zinc.

As it's quite possible that some zinc occurs in the Croesus mineralization I suggest that you have some of these run for total Zn and total Cu by T.S.L. Also, you could select a few representative samples from the other zones for similar checks.

. cont'd -

- 2 -

The H.M. method, subject to confirmation by lab. determinations of total metals, looks as though it will provide useful data. Additional, and fill-in detailed soil sampling across the inferred trends of the Gem and Dollar zones should assist in selecting sites for trenching and/or drilling.

Further geochem. testing along the general westerly, to west-southwesterly Croesus trend may substantiate present inferences of increasing copper mineralization in this direction. In any case, the recommended I.P. survey will still be essential.

I will look forward to receiving further results from you. If you send samples to T.S.L. would you ask them to send me a copy of their reports.

Yours very truly,

W.M. Sharp

WMS/jm

c.c. D.W. Small