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October 7, 1963

Mr. D.L. Saymour
Silver Titan Project
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Dear Dave:

The following refers to your letter of September 27, re the geochemical data from the Mayo area:

1. Reconnaissance Stream Sediment Sampling --

I fully concur with your recommendation that these samples be analysed under laboratory conditions. As no orientation has been done in the area to determine the optimum analytical technique(s), I would suggest that the samples be analysed for copper, zinc, and lead (in view of your remarks), by the following methods:

- (i) cold extraction (Cx)
- (ii) cold acid extraction (CxHCl) and
- (iii) hot acid extraction (HCl).

If you wish, the samples ($\pm 5g$ of -80 mesh) could be sent to our Laboratory with the relevant maps and I will then provide an interpretation, as well as suggestions, for follow-up work upon completion of the analyses.

I do not think any useful purpose will be served by analysing these samples for mercury. Incidentally, the modes of occurrence and dispersion mechanisms of mercury are the same as for other metals, plus, of course, the additional gaseous phase.

2. Detailed and semi-detailed Grid Sampling --

All your comments regarding the mercury analyses reflect the weakness of the instrument, i.e. interferences from other substances (organic, etc.) that absorb at the same wave length as Hg. Wet chemical techniques are specific, but not sufficiently sensitive.

The only method of overcoming these difficulties is differential analyses by spectro techniques. Our organization has developed such an instrument and we will be installing it in our analytical laboratory shortly. If a sufficient demand exists, we intend to develop a portable field instrument.

Mr. D.L. Saymour

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The Lemaire instrument can best be used on samples with no organic material and also in areas where the contrast between background and anomalous values is greater than the interferences.

Comments on results from Area "A" --

The geochemical results to date suggest two anomalous zones striking in a north-easterly direction and flanking the resistivity anomaly (see attached map). The data are sufficiently interesting to warrant further analytical and field work.

In order to establish regional background and to determine whether a local background effect is present, it is suggested that alternate sample lines be extended both ways for about 500 feet. It is also suggested that the samples be quantitatively analysed for total Cu, Zn and Pb (fusion) and CxCu, CxZn, and CxPb. These results will establish the precise distribution pattern (and ratios) of metals and this information should be related to the topography (very important!) and geophysical data. A limited program of profile sampling in critical zones will provide valuable information on the nature of the anomalies (hydromorphic or indigenous) and hence the location of sub-outcropping mineralization. It is further suggested that this information be obtained prior to the proposed pitting programme because it is possible that re-interpretation of the geochemical data could provide additional and/or alternative targets.

I will conclude with best wishes and hope that my comments have been of some use to you. Please do not hesitate to contact me if I can be of any assistance.

With kindest personal regards,

Yours sincerely,

BARRINGER RESEARCH LIMITED



D. Richard Clews

DRC/mc
Encl.