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Metall Mining Corporation FAX

FRIDAY 4 NOVEMBER, 1994

Date: Tuesday 4 October 1994

DR. ERIC HOFFMAN

To: **Dan Sleeth** **Act Labs, 1336 Sandhill Drive**
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No. of Pages including this one: 4

RE: INAA ANALYSES OF BARK SAMPLES

- 1992 Results too high
- back ground is too high
- typically backgrounds are 0.1 - 0.3 ppb.
- Hoffman thinks, because the 1992 backgrounds are way too high, that the samples were contaminated, either by dust during drying or by equipment during milling

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- This may explain why the background is high but the highest anomalies are where we expect them.
- It doesn't explain why the 1993 survey failed to detect anomalies between or beyond the 1992 ones.
- This he cannot explain.

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Dan Sleeth
Act Labs,
1336 Sandhill Drive
Ancaster, Ont. L9G 4V5

Dear Dan,

As I told you on the phone, for the last 3 years we have had biogeochem samples analysed by ActLabs through Min-En Labs in Vancouver. The analyses in question are ActLab invoice #s 4267, ActLab work order # 4280,
5380 5450,
5401 5462,
and 5408 5474.
I am having some difficulty interpreting 1992 and 1993 biogeochemical survey results, and am not certain I should continue using this method for Au exploration.

There is much more gold in samples taken and analysed in 1992 than those analysed from essentially the same area in 1993. The following map shows line profiles of Au biogeochemistry, with the areas sampled and analysed in 1992 indicated; all other samples were taken and analysed in 1993. Veining and mineralization in the eastern part of the area is fairly continuous and is exposed all along a ridge that strikes approximately north-south, and on the basis of the 1992 sampling alone, seemed to produce a biogeochemical Au anomaly 900m long. However, the 1993 fill-in samples did not contain any anomalous Au values, yet they were taken from the same kind of trees (lodgepole pine), on the same type of rock and vein system, with roughly the same type and depth of soil. All the samples from 1992 and 1993 were sent to Min-En for sample prep, which Wilfred Tsang assures me was the same procedure of drying and grinding (no ashing). It appears to me that either the analytical method must have changed, or the Au mineralization is not continuous whereas the veining is, or the Au content of tree bark depends on the month or weather. The 1992 samples were taken in June and July, but the 1993 samples were taken in July and August. You report a detection limit of 0.1 ppb Au for both sets of samples, but the 1992 analyses were much more responsive.

Can you explain the remarkable difference between the 1992 and 1993 analyses? It appears to me that the analytical method must have changed somehow. You mentioned on the phone that you had changed reactors at some time, and then changed the tube that you used in the McMaster reactor, and thus changed the neutron flux, but that this should have improved the detection limit. You also said that the cooling times and counting times remained constant. Were the detectors changed, was one coaxial and the other coplanar? Were the same standards used? Were the gamma ray spectra analysed in the same way: were peak heights used one year, and integrated peak areas the other year? Were the same corrections made for interfering isotopes?

Given that geology and rock geochemistry indicate a continuous Au mineralized zone through the area, if all of the sample preparation and INAA analytical methods were identical both years, I shall be forced to conclude that either the Au content of tree bark varies with the weather, or that INAA biogeochemical response is too erratic to be trusted as a Au exploration method.

Yours sincerely,

David Love

WOLF Au BIOGEOCHEMISTRY