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Memo To: E. T. Kimura **cc:** B. Barde

From: R. H. Pinsent

Date: August, 28th, 1989

Subject: Standard Peak Cu,Zn,Ag "Massive Sulphide" Deposit; 82M

I attach copies of memoranda concerning the mineral potential of the Standard Peak property prepared by David Mallalieu on 14th, 16th and 21st August, 1898.

The Standard Peak "massive sulphide" deposit is one of several "Besshi-type" mineral occurrences located in a restricted package of Lower Paleozoic, Lardeau Formation, volcanic and sedimentary strata north of Revelstoke, B.C.. Other deposits include the Montgomery, the Keystone and the past producing mine at Goldstream. David considers that the Standard Peak property is one of the most interesting undeveloped "massive sulphide" occurrences he has evaluated and visited this year. He recommends it for option. I support his recommendation but feel we should give considerable thought as to how we handle the property.

The Standard Peak area has been mapped by Trygve Hoy of the B.C.D.M. (Geology of the Goldstream Area; Bulletin 71; 1979) and by Brian Hughes of Noranda Exploration Ltd. (Assessment Report on the Geochemistry, Geophysics and Diamond Drilling; Standard Property; 1976). Their work has shown that the bulk of the mineralization occurs in a 150 to 200 metre thick band of amphibolitic "greenstone" located within a thicker package which is comprised of calcareous and locally graphitic sediment. The rocks are isoclinally folded. Both limbs dip at a moderate angle (25 to 45 degrees) to the east. The fold is reported to display a gentle northerly (3 to 4 degree) plunge.

Noranda examined an old mineral occurrence from the turn of the Century and identified a considerable number of additional mineral showings on both limbs of the anticline while exploring the property in 1976. Most of the showings consist of narrow (0.2 to 1.0, some up to 7.0 metre) lenses of massive pyrrhotite with chalcopyrite and (?) secondary pyrite. Metal grades are variable. Copper contents range up to 10%. Values of 1.5 to 2.0 % are more common.

The Standard Peak property covers a package comprised of shallow water sediment which was probably originally deposited in a back-arc basin. The basin appears to have rifted and filled with ultramafic to mafic magma. The presence of significant mineralization on both sides of a fold axis illustrates that there was widespread hydrothermal activity associated with the rift event. Most of the known showings are too narrow and low-grade to be considered economic but the package as a whole is an attractive exploration target.

At issue, is whether the work conducted by Noranda was an adequate test of the economic potential of the property and, if not, whether or not PDI has the capability to significantly improve on the earlier work. There are two aspects to this. Was Noranda able to define all possible exploration targets and did they adequately test the ones they found?

Noranda constructed a grid in 1976. The Company mapped the area, collected soil samples (at 100 metre intervals on lines spaced 100 metres apart), conducted a CEM geophysical survey (1830 hz with a coil separation of 75 metres and readings taken at intervals of 25 metres) and a nine hole (889 metre) diamond drill programme. In 1977 the Company added two additional drill holes (186 metre). The work was not well documented for the public record but Noranda have been approached and they have indicated some willingness check their files for additional data.

David visited the property (see attachments) and is of the opinion that much of the area mapped is either well exposed or covered with a minor amount of residual soil. He feels that the geological map Noranda prepared is probably fairly accurate although, without outcrop locations, it is difficult to assess what was actually mapped and what was extrapolated.

The soil geochemical survey carried out by Noranda was not particularly useful. In the absence of till, the sample spacing was far too wide to detect narrow bands of mineralization.

The CEM survey was similarly unsuccessful in locating mineralization over and above that previously known. In this case the presence of graphite in the sediment caused a considerable amount of interference.

Noranda drilled two principal targets. They drilled seven holes beneath an adit on the old Standard showing on the west limb of the fold and three holes to test the results of an earlier (undocumented) drill programme on a narrow belt of sulphide on the east limb. Noranda failed to find the downdip extension of the Standard showing in 1976. The Company concluded that it was offset by a small fault and redrilled the area in 1977. They again failed to locate the lens they expected. The east limb drill programme located mineralization comparable in width and grade to that found at surface, confirming the presence of a sheet of mineralization.

In my opinion, the Standard Peak property has not been fully evaluated. The geology map may be good but the only showings known appear to be those located by prospecting. There is no evidence that either geochemistry or geophysics has been applied with any real care. Mineralization is widespread and many targets have not yet been tested at all.

I think we should ask Noranda for more detailed data, if available, and consider what ground exploration techniques we might wish to employ in both identifying new targets and evaluating the old ones.

R. H. Pinsent

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1 Sept

When Dave Mallalieu initially suggested that the Standard Basin prop. near Revelstoke might be interesting esp. from a geological aspect, I talked to Lawrie about it. He was involved in the drill program on this prop. for Noranda. His comment, based on his exposure, was that the mineralization appeared to be narrow & Noranda could not see where or whether there is potential for thicker horizons. The mineralization is very good, and the geol. is interesting but Noranda walked away because of the forementioned reasons.

At any rate from our perspective, and with a "new look," we would have ^{to} demonstrate a logical model whereby a thicker zone of mineralization would possibly be searched.

In Dave's absence, I was wondering whether Jerry Rayner may have some ideas. We could also get together with Lawrie and obtain more in-depth ideas on his experience. Also Bruno and his crew have examined some prop. in the Goldstream Camp and they may have some ideas.

