File 13

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Prophyry Creek
M-494

Memorandum

March 10, 1980

COMMENTS ON
"REVIEW OF THE PROPHYRY CREEK
MOLYBDENUM PROSPECT
OMINECA MINING DIVISION, B.C."
S. R. WALLACE, 2/26/1980

MR. JOHN H. SPOTTS:
San Francisco

The distinction between deuteric and "true" hydrothermal used by Wallace is, in simplified genetic terms, the distinction between simple, single intrusion and complex, multiple intrusions. Although Wallace suggested that the sulfide mineralization-alteration may be a deuteric process and thus, a more or less single intrusive event (p.5 of Wallace's report), contrary evidence is cited by Wallace in p.3 and p.5 as marked. Nevertheless, based on the descriptions on alteration and "low" molybdenum values, I tend to concur with Wallace's assessment that the ore rocks drilled are 1500 to 2000 feet away from a porphyry molybdenite stockwork - if one exists in the area.

In the absence of a geologic map, geochemical and drill hole data I would restrict my suggestions/comments to the following:

1. Chevron Standard should pin down the source of soil molybdenum anomalies. If the anomalies are real, one may want to ponder over two considerations:

   A. Structural complexity such that the "block" being drilled may have been moved, and

   B. The possibility that moly-anomalous soils may have been transported, as Wallace noted some covers of glacial debris in the area (p.4).

2. Geochemical enrichment of molybdenum in soils does occur in organic-rich soils, perhaps with a combination of high pH condition as documented by Horsnail and Elliot (1971, Canadian Inst. Mining and Metallurgy Spec. Vol. II). However, I don't think it could happen in the Prophyry Creek prospect, because in quartz monzonite rocks, with pyrite abundant enough to produce "color anomaly" (p.3, Wallace's report) in mineralized zones, the surface water that oxidized molybdenite is likely to have a pH of less than 4 to 5. The combination of low pH and iron oxides produced by oxidation of pyrite and other sulfides would immobilize and precipitate most of the molybdenum compounds in surface water, and thus prevent any meaningful enrichment down the soil profile or down slope.

3. The data summarized by Wallace, partially illustrated in the enclosed geologic sketch, do not seem to eliminate the possibility that the molybdenite-associated dacitic and aplitic dikes (noted by Folk, in p.5 of Wallace's report) are indications of an undiscovered molybdenite stockwork.

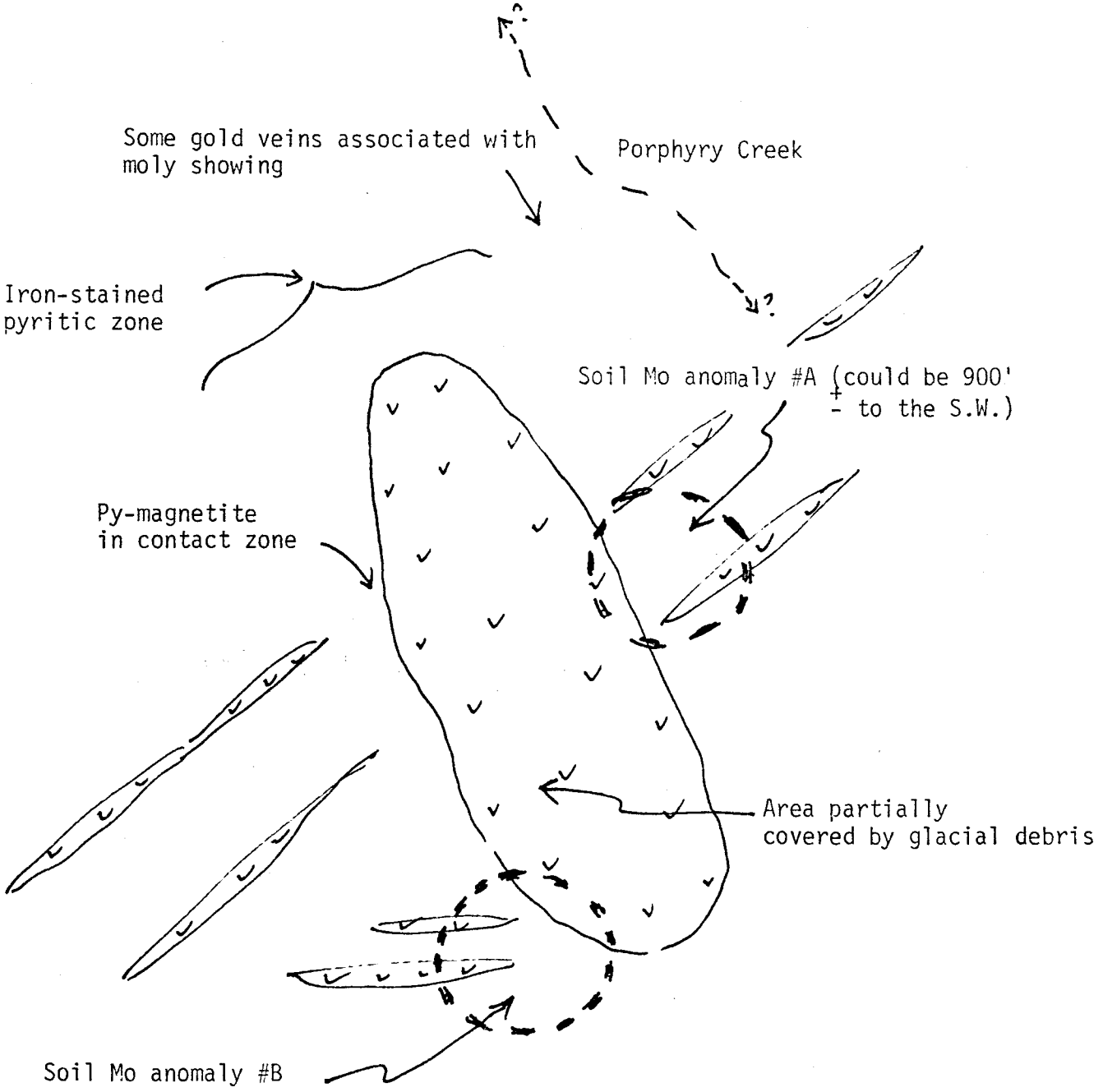
4. It would be helpful in assessing the ore potential in the prospect area if we had soil and/or rock geochemical data on F, W, and Sn, a fracture density map, and an alteration-mineralization map covering metavolcanic country rocks.

5. I feel uncomfortable in making most of the comments stated above without looking at the rocks. In this context, I feel strongly that to fully capitalize the expertise of experts such as Wallace, and thus increase the cost effectiveness, we should have him on the ground, and in addition, follow him with 2 to 3 prepared and coordinated sponges to soak up information that would eventually put us one step ahead of others in molybdenum exploration.

ISHIUNG J. WU

IJW:sr

cc: M. A. Goldstein
J. S. Phillips



Explanation

Cut by aplite, dacite, feldspar ± quartz porphyry

Country rocks: Interm. metavolcanics

Intrusion: Merium-grained porphyritic biot.-quartz monzonite

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0 1000'

Porphyry Creek Moly Prospect
Omineca Mining Div., B.C.
Deducted from written description of S. R. Wallace, 2-26-80 report on Porphyry Creek Mo Prospect for Chevron Standard, Limited.

I.J. Wu 3/6/80