



Energy, Mines and  
Resources Canada  
Geological Survey  
of Canada Sector

Énergie, Mines et  
Ressources Canada  
Secteur de la Commission  
géologique du Canada

803626  
Kerr-  
Sulphurets

601 Booth Street  
Ottawa, Ontario  
K1A 0E8

November 25, 1988

R.S. Hewton  
Exploration Manager  
Western Canadian Mining Corporation  
1170-1055 West Hastings Street  
Vancouver, B.C.  
V6E 2E9

Dear Bob:

Thank you for your letter of October 3, petrographic data, and press release.

I am happy to see that the pyrrhotite-chalcopyrite mineralization near the glacier contains gold. I will try to make sure that my samples from the area get into the next batch of analyses. If the Au contents of the narrow pyrrhotite-chalcopyrite veins are consistently high, the spacing of the veins is not too great, and disseminated sulphides occur between the veins the area could prove interesting.

I would be a little careful of John Payne's interpretation of sample RSH-ROD-1 as a latite lapilli tuff. Most of the description is also consistent with this being an intrusive breccia. Spene, apatite, and K-feldspar and hornblende phenocrysts are very characteristic of intrusive rocks in the area. Also there are several clearly intrusive dykes into pale altered, hornfelsic sedimentary rocks in the area with no obvious layered or massive volcanic units. As far as I am concerned the evidence still supports the idea that this is a rather unusual, sulphide-bearing, well-milled ("pebble"), intrusive breccia.

The drill results on the copper deposit are very encouraging. I hope that your preliminary feasibility studies and metallurgical tests are also favourable. My preliminary opinion about this deposit, based on brief core and outcrop examinations, mineralogy, metal content, location, attitude, dimensions, and presence of supergene chalcocite, is that this is mainly a large, metamorphosed, highly deformed vein (mainly quartz) swarm appendage of an even larger porphyry Cu (Au,Ag,Mo) system below and/or to the north. The mineral suite of pyrite-chalcopyrite-bornite-chalcocite (hypogene)-tennantite-enargite-molybdenite, identified by Don Harris, is characteristic of the advanced

Canada

argillic suite found in and adjacent to some porphyry copper deposits, such as Butte, El Salvador, Lepanto, Frieda River, Recsk, and Bor (see enclosed paper by Sillitoe, 1983, that explains the relationship). A huge Au-rich porphyry copper deposit (at 1.5%Cu equivalent cutoff contains in situ reserves of 163 million tonnes with 1.7gAu/t and 0.8%Cu and a phase I mining reserve of 66.1 million tonnes 2.0gAu/t and 0.83%Cu (Mining Journal, July 15, 1988, p.41) has been discovered at Lepanto). Note that Dick Sillitoe (p.349) predicted the existence of such a deposit at Lepanto. Of course, the faults and deformation make such modeling difficult at Sulphurets but exploration to date supports a reasonable level of optimism. The supergene chalcocite at the Kerr is probably pre-Pleistocene.

We hope to get to Vancouver about the time of the Roundup and, if convenient, we would like to spend at least a half day with you. Besides the 1988 geological base map and 1988 grid, that Bruce mentioned in his letter of October 27, remember that I would also like to obtain a copy (preferably on stable base) of the ~1:5 000(?) orthophoto map. I had difficulty locating some of my 1988 sample sites on the old geological and topographic bases.

I recently returned from China and had a very successful 13-day, IUGS/Unesco Deposit Modeling Program workshop on stratabound copper deposits and very informative visits to two major copper districts (Baiyingchang and Zhongtiaoshan). We have produced a 531-page workshop notebook on stratabound copper deposits, which I am attempting to have GSC management support upgrading and release of the volume. No word yet but hopefully something can be done with it.

Keep in touch and hope to see you in February.

Very best regards.

Sincerely,



R.V. Kirkham

/jq

cc: S.B. Ballantyne  
D.C. Harris  
R.F.J. Scoates