Province of
British Columbia

Ministry of
Energy, Mines and
Petroleum Resources

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March 14, 1983

FILE
HIGHMONT

Messrs. Tsang and Sandford
Highmont Operating Corporation
P. O. Box 3000
Logan Lake, B. C.
VOK 1WO

Dear Louis & Gerry:

Thank you once again for your time and courtesies on March 10, 1983. The samples gathered have been sent off for staining and thin section.

Megascopically the following has been observed,

GW 10-83 - 5350 - #1 - the QFP is characterized by epidote, chlorite, calcite alteration with later hematite, quartz, calcite veinlets.

GW 11-83 - 5350 - #2 - Skeena contains montmorillinite, chlorite, epidote and biotite alteration with K-spar minor calcite veins; magnetite also occurs along fractures in the Skeena.

GW 12-83 - 5350 #2 - Skeena with no K-spar veining (same sample location as GW 11) - epidote, chlorite and calcite veinlets occur.

GW 13-83 - 5350 #3 - Skeena with montmorillinite with chlorite, sericite and minor calcite.

GW 14-83 - 5310 #1 - Skeena with K-spar - sphene, biotite, chlorite, epidote and calcite.

GW 15-83 - 5310 #2 - K-spar, seric, chl, calc & bio.

GW 16-83 - 5310 #3 - Skeena with tourmaline, chl, epi, bio, and montmorillite.

GW 17-83 - 5310 #4 - grandodio with chl, K-spar, course hble, sphene and montmorillinite.

Epidote is usually in minor quantity. Argillic alteration is not obvious in hand specimen unless one has worked with the rocks from day to day but is suspected in many of these rocks due to clouding. The lime-green colour of the plagioclases is probably due to sericite or sericite/ calcite.

We enclose page 163 of the C.I.M. Porphyry Deposits. Special Volume 15 which has the Highmont alteration zones described. Reed and Jambor suggest that the pervasive biotitization which characterizes the potassic alteration is restricted to the copper rich zones and that sericitic envelopes (phyllic) around veinlets has a "general spatial correlation with the sulphide deposits."

There is no way that you should not be able to improve on the work of Reed and Jambor with the exposures available in the pit. The pit should be divided into small segments and the alteration minerals recorded every day. The ideal situation would be to have the fractures, grades and alteration minerals computerized. If computers are not available this work is possible manually but it would take the better part of the day for one man until familiarization was attained. Furthermore, imprinting of one alteration pattern, timing and particularly timing of mineralization associated with a particular fracture attitude could only be determined by someone working in the pit on a day to day basis.

Incidentally, GW 17 - 5310 #4 with the coarse hble is suggestive of a Chattaway phase.

The grandodiorite with the sharp walled veinlets with hematite/Q/etc., is similar to breccias seen in the Gnawed Mountain area.

When the thin sections are returned we will attempt a more detailed report on the alteration in these rocks and stained rocks will be forwarded as soon as received.

As a general comment, from this office we can guarantee you that no information would be released either publicly, privately or within our own Ministry without your company being supplied with the information first hand.

Wishing you good speed in the interpretation and correlation of fractures, alteration and sulphide mineralization, we remain,

Yours truly,

Gordon P. E. White, P.Eng.
District Geologist

GPEW/lc

cc: Dr. W. J. McMillan
Dr. V. Preto

LOG NO: 18 Mar. GEO 2
ACTION: WJM
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