



May 29th 1973

Mr. W. C. Fothergill,
Mine Manager, KRC Operations,
Mount Copeland Mine,
Box 1700,
REVELSTOKE, B.C.

Dear Bill:

Enclosed is a copy of my paper on the Perry River area. I have coloured the syenites purple and the quartzites yellow for ease of reference.

A comparison of this area with Fyles' Jordan River area suggests:

- (1) Syenite and nepheline syenite have related molybdenite and/or niobium mineralization.
- (2) The syenite bodies are sills or sill-like. That is, they nearly conform with bedding and foliation in adjacent metasedimentary rocks.
- (3) The syenites are near, or in, white quartzites. In both areas the syenites are generally "stratigraphically above" the quartzites.
- (4) In my area, the border of the syenite body against gneiss is enriched in pyrrhotite and forms a gossan zone.
- (5) Syenites may also occur in other stratigraphic horizons and carbonatites (my area) may occur.

When Wheeler's Big Bend sheet is considered, it can be seen that thick quartzites occur elsewhere around Frenchman's Cap Dome but no syenites are mapped. Neither were they mapped in my area (there they were included in an assemblage of mixed granitic gneisses).

From this data, I suggest that other carbonatite, syenite and nepheline syenite bodies which could be expected to have associated molybdenum and/or niobium mineralization would be found by a regional

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mapping - prospecting - geochemical' programme. I would concentrate efforts to find syenites in the vicinity of thick, white quartzites shown on the Big Bend map; stream geochemical sampling would be relatively cheap and quick. The structural geology of any showing should be mapped to see if folds exist where thickening might occur.

I hope these thoughts are of some help. On behalf of Jim and myself thank you again for your co-operation and discussions about the geology of Mount Copeland Mine. Al Caron and Bill Patterson also made our job easier; we appreciated their help.

Yours sincerely,

W. J. McMILLAN Ph.D., P. Eng.,
Geologist

WJMcM:bg

Encl: Perry River paper