



ARCS: 440-01

TO: W.R. SMYTH

March 13, 1989

RE: VISIT TO Mt. Milligan (Phil-Heidi Claims) PROPERTY MARCH
8TH AND 9TH

On March 8th & 9th I visited the Mt. Milligan Cu-Au property of Lincoln Resources Inc. in the company of E.L. Faulkner. C.M. Rebagliati, consulting geologist is in charge of the project and he kindly toured us around and discussed property geology with us.

Lincoln currently have 3 drills working around the clock. Two are occupied in 100 M step out drilling on the "66 zone" (Au) while the third is testing the western flank of the MBX monzonite stock. Approximately 40- men are in camp. The company has spent \$1.3M since November 1/88, and are currently in the middle of another 1.1M program.

GEOLOGY

- The Mt. Milligan property is clearly a very large alkalic porphyry system in Takla volcanics. Two K-Ar samples have been submitted by T. Schroeter and results should be available soon. They should give ages of $\pm/90$ m.a. Mineralization occurs within and around a modest sized (< 1km diameter) "stock" of porphyritic monzonite.
- Drilling to date has been almost exclusively in the surrounding volcanics and therefore little is known about the amount of mineralization in the "stock" and on the continuity and exact shape/size of this body.
- The volcanic rocks consist roughly of 50% pyroxene porphyry flows, 30% lapilli turfs and breccias and 20% finer grained massive and bedded tuffs. This is not a very proximal assemblage. As well, the drill sections show only 10-15% intrusives mostly in the form of pre- or intra-mineral dykes and sills. The volcanics dip moderately to the east and appear to be right-side-up. No folding has been detected.
- There is no sign of molybdenite, very little quartz veining, and no sign of any supergene alteration.

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- Hydrothermal alteration of the volcanic and intrusive rocks includes potassic alteration (biotite and K-spar) closer to the stock, and prophylic alteration farther out. In the southern part of the "66 Zone" potassic alteration appears again, suggesting the presence of another stock to the south or at depth.
- Albite-epidote alteration, usually widespread in other alkalic systems, and earlier than potassic, appears to be limited to zones of fracturing and to be later than potassic alteration at Mt. Milligan.

GENERAL COMMENTS

- The company is doing a very good job of core logging, understanding of rocks, alteration etc. mostly because of the energy and experience of the consultant, Mark Rebagliati. They have, however, done only a limited amount of petrography and chemical study due to the intensity and urgency of the program, and likely will not do much in the future.
- Drilling so far has been widely spaced (100 m) and amounts to roughly 50,000 ft.. This has undoubtedly contributed to an oversimplified picture of the system. Fill-in drilling will have to be done probably at 30 m centers, implying at least 150,000 ft. In all probability difficulties and complexities will surface then, and the current picture of a large open pit might change. We might end up with one or more smaller pits..... or no pits at all....or a very major deposit if everything pans out.
- Whatever will happen, this remains a major alkalic Cu-Au System in an area still relatively poorly known and in which a number of other similar deposits are found, such as Windy, Tas, Col, Takla Rainbow etc.

RECOMMENDATIONS

- G.S.B. should do a study on this property this summer because:
 - In excess of 50,000 ft of core are available.
 - Not much is known about the deposit and the exploration community could significantly benefit from a study by us

• From the point of view of understanding the deposit better in broader perspective, several questions need to be answered such as:

1. Are the volcanics "average" Takla or a special K-rich site?

2. Are the intrusives on Mt. Milligan, 3 miles to the north, genetically related? What is the petrogenesis?.

3. Can even a rough comparison/ contrast be made with other systems in the Omineca/Quesnel/Nicola belts?

- Ideally a geologist with considerable prophyry experience should do this job, and Andre' Panteleyev would be the natural choice.
- If this is not possible, the District Geologist could do the job with my direct input and co-operation, and the interaction of Mark Rebagliati. The output could be a paper for Geological Fieldwork 1989 or, at the latest, Exploration Part B, co-authored by Ted Faulkner, Mark and myself. The job could probably be done with 3 weeks in the field and 4-6 weeks study and write-up time.

I would appreciate your reaction/comments to this report.



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VAP/bb

cc: W.J. McMillan
T.G. Shroeter
E.L. Faulkner