BEAR LAKE - CANICO BEAR CLAIMS - AUGUST 7th and 8th 1974

On Wednesday, August 7th, I flew to the Bear Lake airstrip on the scheduled T.P.A. Otter flight from Smithers. The trip takes approximately 50 minutes. I was met at the plane by Marc Gidluck, geologist in charge for CANICO. From there we took a 5 minute truck ride to the Canico base camp. There we discussed Canico's current program on their BEAR claims which total more than 130.

After dinner we flew up to the Bear property which is located at an elevation of 5500 feet on a northwesterly trending ridge approximately 4000 feet in length which forms part of the Tsaytut Spur immediately, to the west of Bear Lake. The topography is rugged with steep slopes bounding the entire ridge. Outcrop is abundant and rock chip sampling has been the main geochemical tool used. An induced polarization survey has also been completed over the property.

At the drill camp I examined diamond drill core from four holes, each completed to a predetermined depth of 500 feet. The geologist in charge of the drill program is Ed Hunter. The remainder of the crew consists of 4 drillers, a cook, and an assistant to the geologist. All supplies for the drill camp are ferried from the lower base camp by a Jet Ranger 206 helicopter on charter contract. A regular grub run is made on Thursdays from Smithers.

A total of six angle diamond drill holes are painned, each to a predetermined depth of 500 feet. Canico's method of assaying is to assay a complete unsplit 10 foot section of core except for <u>one</u> representative specimen which is saved. They are using a very old (relict) "A" standard drill. If any part of it breaks down they are prepared to end the present drill program and leave the drill on the property forever. No parts are available for the drill. Nevertheless, drilling so far has been very good, with core recovery averaging over 90%. The drilling is not being done on a grid basis rather the spotting of the holes is intended to test favourable I.P. and rock geochemical anomalous zones.For example, the closest two holes are 750 feet apart and the next closest are 2000 feet apart. page 2

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Geologically, three main intrusive rock types appear to host coppermolybdenum mineralization:

Syenodiorite
Quartz monzonite porphyry
Alaskite

The syenodiorite is intruded by the quartz monzonite porphyry which is in turn intruded by alaskite. The syenodiorite is equigranular, fine to medium grained in texture. In the field it is distinguished from the monzonite partly by its finer grained texture. In the field it looks like a typical diorite; however, when stained with sodium cobaltinitrate solution it is shown to to be distingly potassic and lacking quartz. The hand specimen is dark grey in colour.

The quartz monzonite porphyry has distinctive euhedral phenocrysts of potash feldspar up to as much as 1-1/2 inches in diameter. Otherwise the rock has typical equigranular, medium grained texture with about equal proportions of biotite books and hornblende (average 5% by volume).

The alaskite is a 'typical' alaskite, i.e. composed mainly of potash feldspar and quartz - no mafics. It appears to occur mainly near the contact of quartz monzonite porphyry and sympodiorite.

Several other interesting variations in rock type have been noted in drill core. These include a dark greenish-black rock composed mainly of a felted matter of chloritized biotite which may represent local concentrations of mafics within the magma, and a lamprophyre dyke.

Large gossan zones exist within the volcanic rocks at the outer margins. Two of these gossans are in rhyolite. These gossans apparently have been sampled by other companies.

The mineralization is **g**ood and exciting. Ore minerals are simple - chalcopyrite and molybdenite. A minor amount of tetrahedrite was noted in one drill hole. The chalcopyrite and molybdenite occur both on fractures (dry and filled with quartz) and as disseminations. The molybdenite is more confined to fractures and fracture fillings. page 3

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Significant quartz veining exists in all three major rocks types. The average width of quartz veins observed in drill core is 1/4 inch; however, some veins are 1/2 inch wide. All veins carry some amounts of chalcopyrite and/or molybdenite. The rocks are in general quite fresh. However, wherever the alteration appears to increase, the mineralization appears to get better. The best correlation exists when the alteration is strong saussurite (+ sericite?) which gives the rock an apple green colour. This area or zone of alteration may be correlative with the 'classic' potassic zone in porphyry coppers. A subdivision of the zone may be termed the quartz-pyrite-sericite zone. Pyrite is ubiquitous. A good I.P. low, Slows Frequency effect values in the high my up to 11 and in the low at 2. Locally there is very strong vertical fracturing. Mineralization appears to be constant with depth. However, some of the holes exhibit weathering down as far as 250 feet in depth. Malachite staining is significant. The estimated average grade of core and rock samples examined is 0.345% Cu and 0.03 to 0.07% MoS2. Actual channel rock chip samples have returned assays of up to 0.8% Cu and 0.08% MoS2. No assays of drill core have been received by Canico yet.

The age and name of the host intrusive body is uncertain. Other intrusive bodies in the area have been correlated with the Katsberg intrusions of Tertiary age. According to Canico and from observation of the only two outcrops of Katsberg intrusions that I have seen, I would tend to agree with the Canico people that the intrusive which they are working on may not be of the Katsberg type, but in fact may be of an older age. Thus, I think the Department of Mines should obtain an age date from Canico's intrusive body.as soon as possible.

The type and significance of mineralization discovered to date by Canico is new to the area and thus very significant. Canico impresses the need for complete confidentiality as they are still not sure what they are looking at.

This Bear property should be a priority in mapping by the Department of Mines.

Total 1974 ddh = 7 with "A" standard machine plus 3 short X-ray = 4149 ft.



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