RESUME OF MAPPING DONE ON N.B.C. HI GROUP, 1970

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The Hi claim group is situated north of Tchentlo Lake, immediately west of Mount Nation

The area consists of a series of NW trending ridges and valleys of moderate relief. Extensive areas are presently covered with a blanket of till

Local vegetation is predominately coniferous - including spruce, balsam, and pine - with patches of poplars present on well drained terrain. Alders occur commonly as undergrowth, alongside streams, and in swampy areas. The southeastern portion of the property is in a relatively recent burn area.

This burn in the southeastern part of the claim group contains most of the outcrop exposed on the property, so much of our mapping time was spent in this sector of the Hi Group. Mapping control for the map area included a cut-line grid system (not cut in the burn area) and blueprint 1:400 scale copies of airphotos. All mapping was done between May 27 and June 25, 1970.

Two main rock types were observed on the property: (1) a group of intrusive rocks, and (2) an area of volcanic rocks bordering the intrusives and intruded by the latter.

The commonest and most widespread variety of intrusive mapped in the burn area has been given the field name green diorite on the basis of texture and apparent composition, although it could, in fact, be a monzonite, depending upon the proportion of orthoclase feldspar present. Grain size is variable. The rock contains varying amounts of pink feldspar

in fresh surface. Rocks in which more than 50% of the feldspar present is pink have been designated pink diorite in the field. This pink diorite appears to grade conformably into green diorite. It appears as though the 'typical' green diorite has undergone alteration to yield the pink variety. One can find many places where pink feldspar alteration has commenced along fractures in green diorite. The process is carried a step further in pink diorite areas, where graditional 'veins' of coarse-grained pink feldspar occur in the pink diorite.

Lenses or pods of an intrusive rock composed almost entirely of coarse-grained pyroxene, and given the name pyroxenite, were observed in green diorite near the eastern boundary of the map area. The extent of this basic phase is difficult to ascertain as it is identical in weathered surface appearance to the green diorite in which it is found.

North of the burn area, across a stream valley on the next ridge, lies an extensive outcrop area of syenite. This rock is very consistant in appearance over a large area, and quite distinct from the green diorite found to the south in the burn area. The syenite is cut by feldspar porphry dikes. It is possible that the linear valley which separates these two rock types is a fault, but this cannot ~~to~~ be demonstrated conclusively because of the absence of outcrop along the (swampy) valley.

A single intrusive outcrop in the burn area has been called gabbro. It seems to be strictly a local occurrence within the intrusive, and was seen

nowhere else.

The green and pink diorites exposed in the burn area are in contact with volcanic rocks. The volcanic - intrusive contact is poorly exposed, and could not be found in outcrop. The changeover occurs abruptly, however, and is unconformable - in one outcrop volcanic fragments are found within the intrusive rocks.

In general, the volcanic rocks are dark green, fine - grained homogeneous rocks in which individual flows, bedding, etc., cannot be distinguished.

However, there seems be a recognizable belt of porphyritic volcanic rock running close by the contact with the intrusive. Further south pyroclastic flows are encountered near the property boundary.

The volcanic rocks appear to be cut off to the east of the burn map area by the intrusive rocks, but this cannot be directly observed due to the masking effect of till.

All rocks within the map area are magnetic. Observed sulfide mineralization is restricted to pyrite and the odd speck of chalcopyrite. Nowhere were economic concentrations of sulfides seen.

Pyrite occurs in both the green diorite and the volcanics as (1) disseminated specks and (2) concentrated along fractures.

Chalcopyrite was seen only in the intrusive rocks, usually occurring with pyrite and sometimes associated with epidote alteration. Nowhere did sulfides total as much as 1% of the rock. The syenite was completely devoid of sulfide

mineralization.

Epidotization is common throughout the map area. Some fractures, in both volcanic and intrusive rocks, have calcite associated with them. Black biotite alteration is occasionally seen in the intrusive rocks.

The area showed no abundant copper mineralization; however, the possibility of finding a more extensively fractured and altered area with copper mineralization along veinlets and fractures cannot be eliminated. Geophysical and geochemical results support this possibility (but unfortunately off of the outcrop area where everything is covered by till). SULPHIDES have been indicated on the map wherever they were discerned in outcrop or sample ~~under~~ examination. There appears to be a zone roughly parallel to BL 58NE, between 136 + 78 NW, where there is relatively speaking a 'concentration' of sulfides (mostly pyrite).

In general, the volcanic - intrusive contact we have mapped lies reasonably close to the contact of the Hogem batholith with volcanics shown on the map accompanying G.S.C. Memoir 252 by J.E. Armstrong.

John Douglas

4/7/70

Cam: This is a short summary of our mapping on the ~~Hi~~ Group, to accompany our 1:400 scale map. Should you have any further questions, we'ld be pleased to try & answer them.