

September 10th, 1969.

MEMORANDUM

To: W.R. Bacon

From: J.C. Stephen

Re: Preliminary Report - Twin Claim Group

The Twin group consists of 54 claims at the headwaters of Twin Creek, south of the Omineca River. Claims were staked on July 21, 24 inclusive and on August 4th on the basis of limited silt sampling and scattered visible copper mineralization. All claims were recorded August 7th.

Geological mapping was carried out between July 28th and August 16th by Colin Harivel and Newton Orr, using air photos for control.

A preliminary topographic map on a scale of 1"=400' was prepared from air photos by McElhanney Surveying and Engineering Ltd. during August but was not available in the field until after August 16th.

J.C. Stephen examined the property July 29th and 30th, August 22nd and August 25th.

GEOLOGY

The claims are underlain by massive volcanic formations intruded by granodiorite of the Hogen batholith. Both the volcanics and granodiorite are cut by quartz feldspar porphyry dykes. No structures are evident to indicate conclusively the attitude of these volcanics. They are, however, believed to strike  $160^{\circ}$  in the northwest portion of the property,  $130^{\circ}$  west of the head of Twin Creek and about  $100^{\circ}$  on the ridge south of the head of Twin Creek. Dips are supposed to be moderate to the southwest.

The contact zone along the granodiorite is considerably altered resulting in a wide gradational contact zone. This contact probably dips to the south or southwest.

The north face of the peak south of the head of Twin Creek exhibits a strong gossan; this is a relatively narrow (20-75 feet) zone well fractured and mineralized with pyrite.

#### MINERALIZATION

Pyrite and chalcopyrite mineralization occur in a number of zones. These are indicated on the map by numbers and are briefly described below.

(1) The hillside shows a gossan of limited extent. Pyrite and chalcopyrite mineralization occur in a pink to reddish intrusive rock probably related to the quartz feldspar dykes. This intrusive dyke strikes easterly but its extent and dip are obscured by talus. Mineralization occurs on fractures and is accompanied by significant magnetite.

Chalcopyrite also occurs in dark green volcanics with little or no pyrite. The rock does not appear rusty and mineralization is evident only on close examination. Locally, areas of 1% copper are estimated.

The zone occupies an area of possibly 1000 feet by 200 but much of this area is obscured by talus and many of the outcrops are of very low grade.

- Attitude of the zone is not known but is presumed to
- (a) be confined to a horizon in the volcanics dipping with the hillside and therefore of small tonnage, or
  - (b) be related to the acidic intrusive. Being fracture filling in the sill or dyke and in the adjoining volcanics. Extent of the mineralization in this case could be considerable if the acid intrusive dips steeply into the hillside.

(2) This is a small gossan about 300' by 100' high. It occurs on the south face of what is evidently a large mass of slide material. Sparse pyrite and chalcopyrite mineralization occur in an acid dyke and in adjoining volcanics on both contacts.

(3) A single outcrop of feldspar porphyry occurs in a talus area. Minor pyrite and chalcopyrite mineralization occurs in talus on both sides of this outcrop.

(4) At the upper contact of the east-west pyrite gossan a zone of chalcopyrite mineralization occurs in dark green volcanics. The mineralization occurs as rather "splasy" fracture filling. Width and attitude of the zone is obscure, partly because the steep face consists of many large loose blocks and is a poor place to climb,

and partly because the mineralization is only evident on freshly broken material. Width is estimated at 12 feet although some minor mineralization may be found beyond this.

Some fragments containing malachite were found some 200 feet vertically above this zone.

Size of the zone is limited and grade is low. Only a small proportion would grade 1% copper.

#### GEOCHEMISTRY

High silt sample results were obtained in the creeks northwest of zone (1). In the vicinity of the head of Twin Creek, east of zone (2) and in the cirque on the north side of the mountain north of zone (2).

The highest results were obtained in the vicinity of the fork in Twin Creek 1600' southeast of zone (2). Talus and overburden obscure the area and a soil sample program is being carried out to aid in investigation.

Scattered manganese staining suggests absorption of copper ions is possible with resulting anomalies much stronger than warranted by the sulphide mineralization present.

#### CONCLUSIONS

No areas of ore grade mineralization have been outlined. No controlling structure has been recognized although presence of acidic dykes is thought to be significant. No correlation has been found between the pyritic gossan on the south side of the valley and copper mineralization.

Unless the prospecting and sampling done by McBeath produces more favourable results, no further work is recommended.