

REPORT ON MAGNETOMETER SURVEY

<u>ON</u>

TWIN CREEK (NBC) GROUP

P.N. 163

Latitude 55^o40'N Longitude 125^o20'W

N.T.S. 93-H-11

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<u>Illustration</u>

119-72-1 Ground Magnetometer Survey (in pocket)

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TWIN CREEK (NBC) GROUP

INTRODUCTION

An MF-1 magnetometer survey was carried out by K. H. Christiansen and R. McPhee over parts of seventeen Twin Cr. claims between July 6th and August 9th, 1972.

LOCATION AND ACCESS

The claim group is situated approximately at Longitude 125°20'W and Latitude 55°40'N at the headwaters of Twin Creek. Surface transportation is possible to the mouth of Twin Creek, but access to the property is best effected by helicopter for the intervening six miles.

PROPERTY

The claim group under option to Falconbridge Nickel Mines Limited consists of 26 located Twin claims which were staked in August 1969 and recorded in the name of W. R. Bacon.

SCOPE OF SURVEY

The magnetic survey was carried out on lines cut from a base line bearing N63°W from Twin #35 to Twin #43 in a N27°E direction. The grid lines are 400 ft. apart and readings taken on 21 cross-lines totalling 54,400 ft. at 50 ft. intervals.

PURPOSE OF SURVEY

Earlier geological interpretation suggested that a pyritic halo surrounded the copper mineralization known on the group. Minor magnetite related to pyroxene bands was also identified accompanying chalcopyrite on the group.

Because over 90% of the area is covered with overburden, it seemed likely that a magnetometer survey might help define the copper target.

METHOD OF SURVEY

Magnetic readings were taken with a Sharpe MF-1 Fluxgate Magnetometer with a sensitivity of 10 gammas per scale division. A system of base stations was established and a close check was kept on the diurnal variations.

GEOLOGY

Massive Takla volcanics outcrop patchily throughout the southern part of the map area. These are intruded by granitic rocks of the Hogem Batholith which outcrops to the north and northwest. A series of coarsegrained feldspar porphyry dykes intrude the granite along a strike direction of 155° to 165° .

Scattered sulphide mineralization is generally noticed in the vicinity of the intrusive/volcanic contact. The sulphides occur as disseminated fine grains and to a lesser degree, as fracture fillings. No strongly developed fracture systems were observed.

MINERALIZATION

The rusty iron staining apparent on talus slopes and the occasional outcrop is chiefly due to disseminated pyrite. The occasional areas of copper mineralization located showed fine-grained chalcopyrite usually lesser and never greater in quantity than the accompanying pyrite. Occasional isolated fractures carry magnetite and sulphides.

MAGNETOMETER RESULTS

The contoured magnetometer readings show two apparently anomalous zones: one, extending in a N65 $^{\rm O}$ W direction 1000 ft. north of the base line and extending from 24+00E to 8+00W, is a weak to moderate anomaly reaching a maximum amplitude in the 2500 gamma range; the other, occurring between 28+00W and 40+00W and striking roughly N60 $^{\rm O}$ E, reaches a maximum of 4300 gammas.

The first anomaly mentioned above coincides roughly with quartzfeldspar porphyry dykes. The other anomaly to the northwest appears to be coincident with the contact of the undifferentiated volcanics with the coarse-grained granodiorite to the northwest.

CONCLUSIONS

The results of the magnetometer survey tend to outline changes in rock type rather than significant changes in mineralization. In the first case, the mineralization associated with the quartz-feldspar porphyry dykes is not significant. In the other case, however, the anomaly coincides with the outcrop of the coarse-grained granodiorite and suggests that an extension of the magnetometer survey to the northwest may well be warranted.

D. H. Brown

Vancouver, B.C. September 15, 1972

