

September 10th, 1970.

PROPOSAL  
re  
JEAN AEROMAGNETIC SURVEY

LOCATION AND TOPOGRAPHY

The Jean aeromagnetic survey is proposed to cover an intrusive stock staked by N.B.C. Syndicate. The stock is some 10 miles in length and  $2\frac{1}{2}$  miles in width and is located at the head of Jean Marie Creek in the Nation Lakes area of B.C. See Map Sheet 93N, Manson River.

The property is 50 miles north of Fort St. James and lies in the broad valley south of Mt. Alexander. Elevations vary from about 3400' to about 4500' in the area to be flown. Slopes are generally moderate, resembling Pre-Cambrian topography except in the area on the south side of the valley immediately west of the head of Jean Marie Creek. Here the south contact of the intrusive body lies on a relatively steep hillside cut by two or three deep north flowing creeks. The south side of the valley is heavily timbered with mature balsam, spruce, etc. Much of the remaining area is covered by immature second growth, largely pine.

PURPOSE

An aeromagnetic survey is proposed to give as detailed magnetic information as practical over the area of the intrusive. The approximate contacts of the intrusive are indicated on the accompanying Government aeromagnetic map. Mineralization in the intrusive has been noted in several places associated with local magnetic lows within the region of relative magnetic high.

## GEOLOGY

An intrusive stock has been outlined intruding a series of Triassic volcanics and sediments. No detailed mapping of the intruded formations is available and only very sparse geological information is available regarding the intrusive body due to lack of outcrop. The outline of the stock is known from interpretation of the published aeromagnetic map with limited geologic corroboration mainly along the south contact.

The intrusive is of approximate granodiorite composition. Within the area of relative magnetic high it varies from granodiorite toward diorite. Within the relative magnetic low it appears to be represented by a rather micaceous granodiorite to granite.

The region is generally quartz-poor.

The granodiorite complex is intruded by several grey feldspar porphyry dykes. Orientation of these dykes is for practical purposes unknown. Some of them may be in the order of 100 feet wide. They are more common in the east half of the intrusive area and extend well into the surrounding sediments and volcanics.

Magnetite occurs as a small percentage, well disseminated in the original intrusive body. It also occurs as fine fracture filling and there is some evidence to indicate the feldspar porphyry dykes are magnetite poor with irregular magnetic highs in the intruded granodiorite along their contacts.

One small exposure of volcanics mineralized with pyrite, chalcopyrite shows apparently younger, very fine fractures filled with magnetite. Ground work by prospectors with a Minimag may indicate this area to be a magnetic low rather than the expected high.

Copper and molybdenite mineralization occurs in fracture zones in the granodiorite. Main fracture systems strike  $025^{\circ}$  and  $090^{\circ}$  dipping vertically; and at  $070^{\circ}$ - $090^{\circ}$  dipping  $20^{\circ}$  south and at  $025^{\circ}$  dipping  $020^{\circ}$  east.

Several other fracture systems are probably important locally.

Propylitisation and sausseritization occur in areas of mineralization. Fractures are commonly marked by K feldspar and hematite with or without accompanying pyrite chalcopyrite and molybdenite.

Ground magnetic work in limited areas indicates these zones of alteration and mineralization are marked by magnetic lows of about 300 gamma intensity over widths of a few feet to several hundred feet.

Overburden along the slopes on the south side of the valley is generally in the order of 0 to 20 feet. In the main valley and on the gentle north side of the valley glacial drift may reach depths of over 100 feet as indicated by the deep valley of the main west flowing creek.

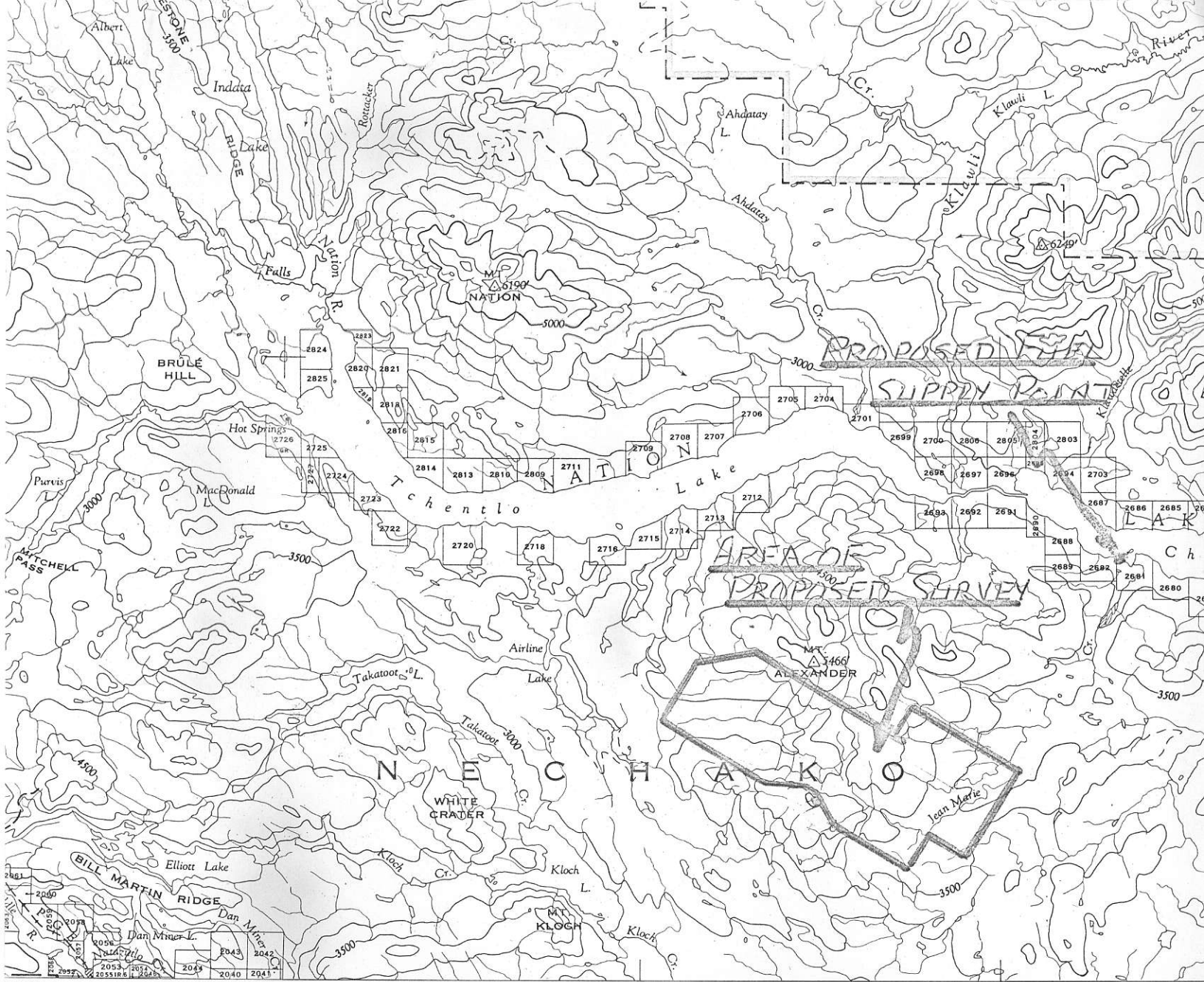
#### MISCELLANEOUS

Fort St. James provides all normal small town facilities including hotel and charter aircraft. Fuel for helicopter operation may be delivered by truck (65 miles) and barge (15 miles) to the mouth of Jean Marie Creek on Chuchi Lake until freeze-up near the end of October.

N.B.C. Syndicate presently rents a small house in Fort St. James as a base. Two or possibly three extra personnel could be accommodated there.

The region was photographed by the B.C. Government during 1969 on a scale of 1320' per inch.

J.C. Stephen/ic

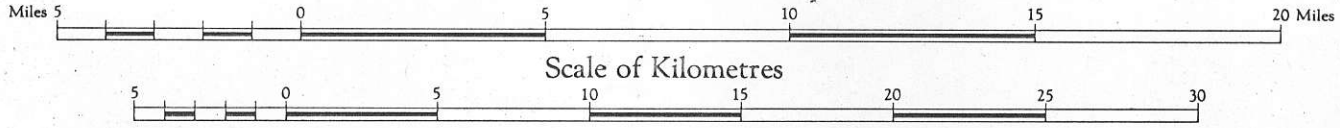


To Fort St. James      15'      125° 00'      45'

# MANSON RIVER

BRITISH COLUMBIA  
CASSIAR LAND DISTRICT

Scale 1:250,000 or approximately 1 Inch to 4 Miles



Magnetic Declination approximately 26°59' East at centre of sheet, 1969.  
Decreasing approximately 4'05" annually

W. R. YOUNG, CHIEF GEOGRAPHER

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