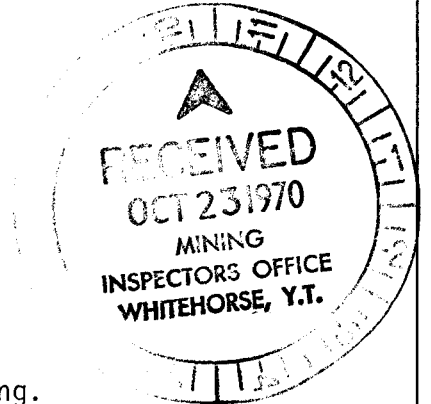


A GEOCHEMICAL REPORT

on

THE HAY CLAIMS 1-90

DAWSON RANGE  
WHITEHORSE MINING DIVISION  
YUKON



62°42' N. Lat., 138°10' W. Long.

(N.T.S. Sheet 115-J-9)

This report has been examined by the Geological Evaluation Unit and is recommended to the Commissioner to be considered as representation work in the amount of

\$4,142.20

by J.B. Craig  
Resident Geologist or  
Resident Mining Engineer

T.L. Sadler-Brown  
E.O. Chisholm, S.P. Eng Yukon Quartz Mining Act.

[Signature]  
Commissioner of Yukon Territory

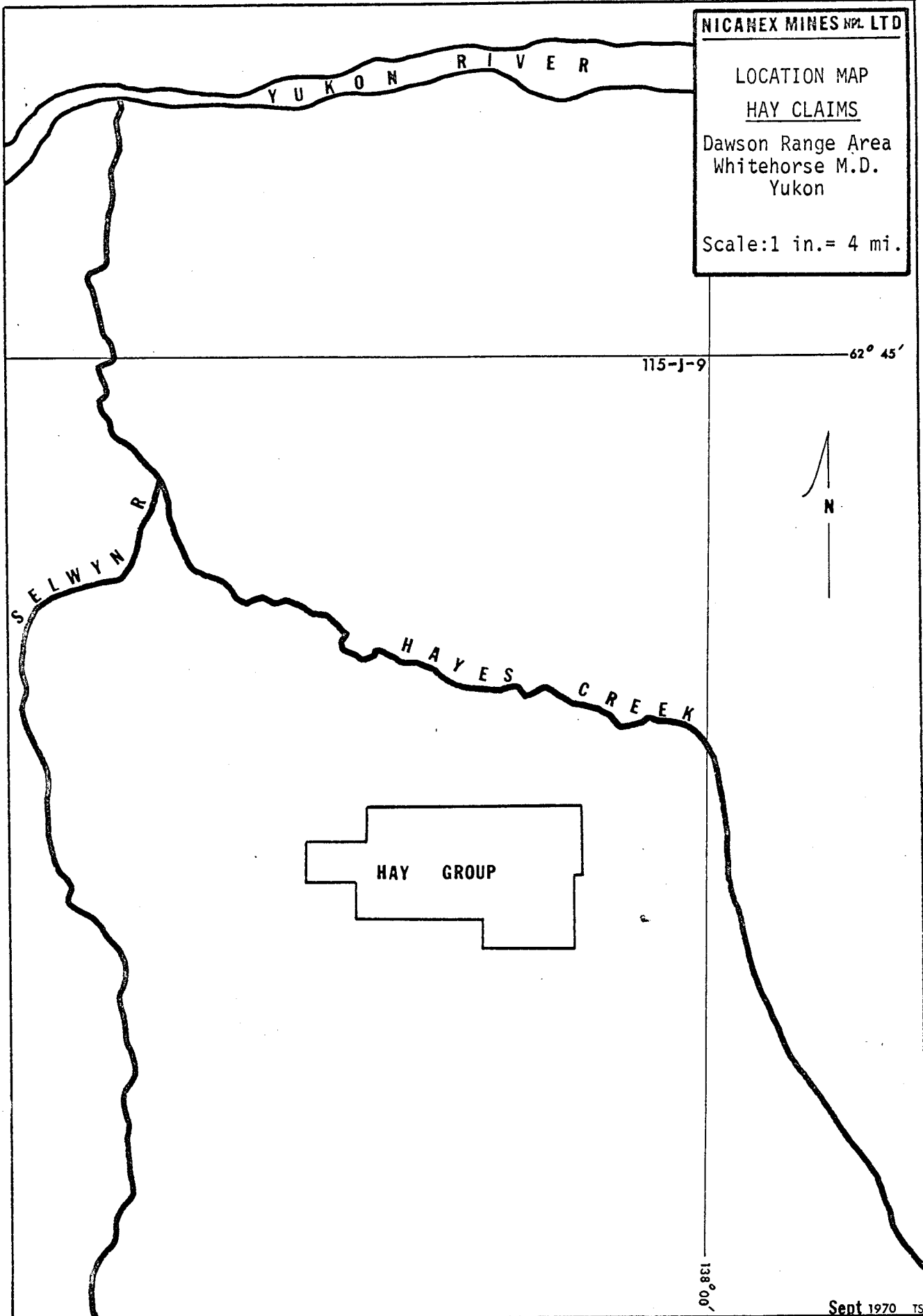
JUNE 30TH - JULY 15TH, 1970

NICANEX MINES NPL LTD

LOCATION MAP  
HAY CLAIMS

Dawson Range Area  
Whitehorse M.D.  
Yukon

Scale: 1 in. = 4 mi.



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Location Map	(i)
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## I N T R O D U C T I O N

### LOCATION AND ACCESS

The Hay Group consists of 90 contiguous mineral claims located in the Dawson Range of the west central Yukon. They are situated about 6 miles southeast of the junction of Hayes Creek and the Selwyn River, and on N.T.S. Sheet 115-J-9.

Access to the area is most conveniently gained by helicopter, either from the Mayo road near Minto or Midway Lodge some 30 miles to the east, or from Casino Airstrip, 20 miles to the west. The latter however is serviced only by air. Large loads can be moved onto the property most economically using the combination of helicopter and float plane service to the Yukon River at Selwyn about 12 miles north of the property.

### PHYSIOGRAPHY

The claims are at an elevation of about 3500 to 4000 feet above sea level on an irregular plateau cut by many small streams and a few larger ones such as Hayes Creek and the Selwyn River occupying deeply incised valleys. Relief on the plateau area itself is to the order of a few hundred feet, though the larger valley bottoms may be 1500 to 2000 feet below the mean plateau elevation.

Forest cover is generally light with spruce predominating. Pine trees occur in the drier areas and underbrush consisting of buckbrush and willow is generally light to moderate. Large areas barren of trees and brush and sup-

porting only a form of bunch grass and moss occur in the central and extreme western part of the property. These may be attributed to locally poor drainage and the fact that they are on ground with a general northward slope. Drainage elsewhere in the group is good and is handled by three stream systems all flowing into Hayes Creek.

#### GENERAL GEOLOGICAL SETTING

The claims were staked on the basis of aeromagnetic and geological formation and cover an area underlain by the granitic rocks typical of the Dawson Range. These are generally coarse to medium grained biotite granodiorites or granites with some medium grained hornblende diorite and granodiorite. They often form castle-like outcrops on the high ridges and can consequently be readily recognized from a distance or from air photographs. The regional geological trend in the area is NW/SE conforming with that of the magnetics.

Except for ridges, steep slopes and some valley bottoms, outcrop is not common and overburden, both eluvial and alluvial in origin probably covers over 95% of the claim area. In addition, immediately beneath the "A" soil horizon, and in some places actually layered within it, is an horizon of whitish volcanic ash similar to that found in varying thicknesses throughout the territory. No important geological boundaries have to be recognized on the property though judging from the air photographs, faulting is common in the area.

## HISTORY

There are no known records or indications of previous work being done on the Hay claims. During the 1920's and 1930's however there was activity just to the north in the valleys of Hayes Creek and the Selwyn River which were being investigated for placer gold. Some work appears to have been done a mile or two northeast of the claims on tributaries of Hayes Creek called Sonora Gulch and Klines Gulch.

More recently helicopter supported reconnaissance stream sampling surveys have been carried out and some drainages near the west end of the claims were sampled but neither the results nor the identity of the organization involved is known.

## G E O C H E M I C A L   S U R V E Y

Between June 30th and July 15th, 1970 a four-man sampling crew employed by Nicanex Mines Ltd. carried out a soil sampling survey of the entire claim area. The crew consisted of Party Chief, B.R. Patnode of Whitehorse, G. Etzel of Whitehorse and J.E. Chisholm and R. Shenkarow of Vancouver.

A total of almost 900 samples were taken at intervals of 200 feet along lines spaced at 800 foot intervals. All lines were put in using chain and compass and marked with flagging tape. A centrally located east/west

claim line was used as a base line and the cross lines were turned off at 90° from this and run both north and south, the orientation considered to parallel the topographic contours most effectively.

Samples were taken of the "B" soil horizon using a long handled mattock and placed in kraft paper bags numbered with the grid line and station. They were then sent to Bondar and Clegg Ltd. of Whitehorse and North Vancouver where they were dried, sifted to -80 mesh then tested for copper content, using the hot perchloric nitric acid method of extraction and an atomic absorption unit for carrying out determinations.

Results quoted in parts per million copper were then plotted at a scale of 1000 ft. to the inch (later reduced to 1600 ft. to the inch) and interpreted using field notes taken by the samplers. These included such information as direction of drainage, nature of soil, colour, general physiography, etc. so the data could be weighted accordingly.

Background values were from 10 to 29 p.p.m. copper for the claim area. Using a threshold value of 30 p.p.m., only two weak anomalies occur on the claims. They are located south of the base line on line 56W and in the extreme northeast corner of the grid on lines 72E and 80E (on claims 2, 4 and possibly 6).

The area on line 56W is located in a poorly drained topographic depression and is only marginally anomalous at best. The area on claims 2 and 4 is on a northwest facing slope and is reasonably well drained.

D I S C U S S I O N

The anomaly on line 56W is very weak and this, coupled with the fact that it is situated in a depression, suggests that it represents an area where ions are concentrated for reasons other than the presence of an underlying sulphide body.

The anomalous area at the north ends of lines 72E and 80E is also quite weak although one sample ran 115 p.p.m. copper. Taking into consideration, however, that the samples were taken 200 feet apart and on lines 800 feet apart, it is suggested that a fairly low cut-off be used when selecting area for further work. The samples from this area came from reasonably well drained ground and very likely have a sulphide source. The present survey gives no indication as to the size or nature of this source as it barely detected the fringe of it.

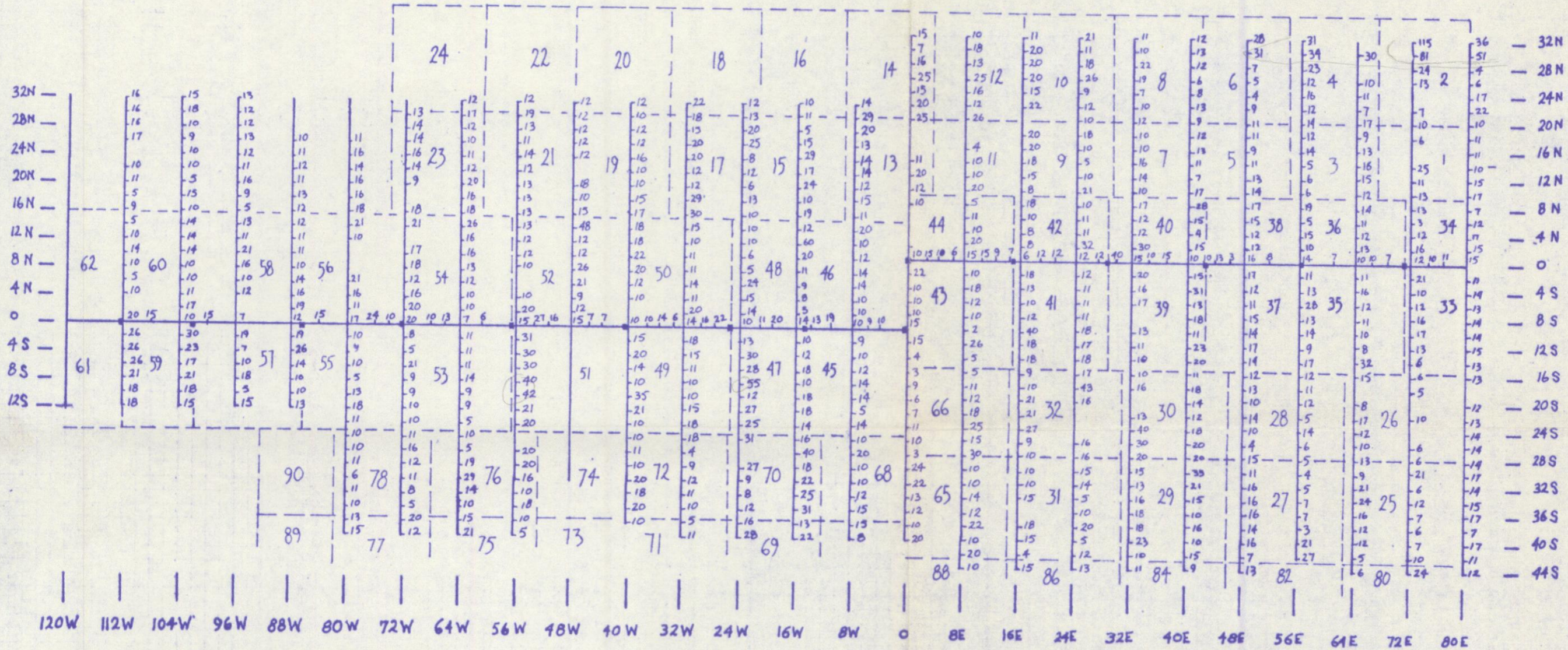
CONCLUSIONS AND RECOMMENDATIONS

Only one small area covered by the present survey is considered to have any potential value as a source of copper mineralization and that is the small elongate anomaly at the north ends of lines 72E and 80E. Follow-up geochemical survey work and prospecting are recommended to determine the nature of the source of the copper ions and to test its size. This could be done by a detailed geochemical sampling program done on a controlled grid using lines at 400 foot intervals and stations at 100 foot intervals. The program envisioned would be fairly limited involving only 200 or so samples and could be carried out by a crew of two in less than one week. Should the results of this work warrant it, a more ambitious program could then be planned.

Respectfully submitted,

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COPPER GEOCHEMISTRY  
Soil Sample Grid, HAY Claims  
Dawson Range, Yukon Territory

Scale 1600' to the inch  
July 1970 *[Signature]* TLSB