

TABLE OF CONTENTS



Page

Introduction

1

Control Grid.

1

General Geology

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

\$2100.00

*[Signature]*

Resident Geologist or  
Resident Mining Engineer

Geological Mapping  
Conclusions

1

2

Magnetometer Survey  
Equipment  
Method of Survey  
Conclusions

Considered as representation work under  
Section 53 (4) Yukon Quartz Mining Act.

*[Signature]*  
Commissioner of Yukon Territory

2

2

2

3

References

3

Figure 1 - Location Sketch

In Report

Figure 2 - Geological Map

In Report

Figure 3 - Table of Formations

In Report

Figure 4 - Interpreted Cross Section

In Pocket

Figure 5 - Magnetic Map

In Pocket



## INTRODUCTION

This report describes the results of geological mapping and a magnetometer survey done from July 12 to August 31, 1973, for Whitehorse Copper Mines Ltd.

Field work was done by G.C. McDonald, B.Sc., P.O. Box 701, 5959 Student Union Mall, Vancouver 8, B.C., under the supervision of the writer.

The property, consisting of eight full claims and five fractional claims, is located three miles due west of Mile 909 of the Alaska Highway. A power line to C.N.T. Radar Site on McIntyre Mountain crosses the property from east to west.

Figure 1 is a location sketch of the area.

## CONTROL GRID

A grid cut in May 1973, provided control for all mapping and magnetometer readings. The base line (37W) at  $312^{\circ} 23' 50''$  is located at approximately the center of the property. Cross lines are located at 400' intervals, with stations every 100'. A tie line (49W) runs from 20N to 64N.

## GENERAL GEOLOGY

The property is underlain by rocks of the Lewes River group consisting of limestone, quartzite and feldspathic grit. These rocks are intruded on the west side of the property by cretaceous granodiorite of the coast range intrusive complex. Minor skarn was found near the contact of the above mentioned units. Post cretaceous porphyritic dacite dykes intrude all other rock units. Selected references to the general geology of the area are listed at the end of this report.

## GEOLOGICAL MAPPING

The property was mapped between July 12 to August 6, 1973, a scale of 1" to 100' using the cut grid for control. Particular attention was directed to:

- a) Accurately locating the diorite sediments contact on the west side of the property.
- b) Delineating any skarn zones found.
- c) Establishing the structure of the quartzite - limestone sequence with a view to predicting the location of quartzite-limestone contacts with diorite at depth. Such environments are considered favorable loci for mineralization on the Whitehorse Copper Belt.

All lines were traversed and areas of outcrops were followed to completely delineate them. It is estimated that more than 90% of outcrops were observed. Samples collected were compared with samples of similar rock types from other areas of the Copper Belt.

Figure 2 is a Geological Map of the area.

Figure 3 is a table of rock formations.

Figure 4 is an interpreted cross section of the area.

### Conclusions

Bedding trends in the quartzites and limestones were not generally apparent. However, bedding in the limestone in the area of Parker Lake indicates a northerly strike with dips  $17^{\circ}$  to  $28^{\circ}$  to the west. There appears to be two limestone bands separated by a band of feldspathic quartzite. Areas where these quartzite-limestone contacts are close to the diorite, may be favorable areas for mineralization. Because of the probable depth of these contacts they could only be tested by diamond drilling.

### MAGNETOMETER SURVEY

#### Equipment

McPhar MF-1, Magnetometer value of the vertical component of earths magnetic field read directly from meter.

#### Method of Survey

Stations along the base line were read at 100' intervals. A base station value was assigned for station 40N on the base line and all other readings were adjusted for diurnal variation. Final values were then assigned to all stations on the base line. Readings were then made at 100'

intervals on all cross lines, all readings were adjusted by tying into stations on the base line.

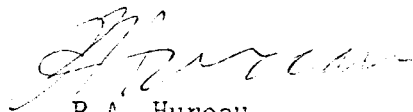
Figure 5 is a contoured magnetic map of the area.

### Conclusions

Although no magnetic anomalies were found which may be of obvious economic interest, readings over diorite in the west portion of the claim group were in the order of 400 gammas higher than readings over adjacent sedimentary rocks. Extrapolation from contact outcrop areas based on magnetics can reasonably outline the sediments-diorite contact quite accurately. This would be of help if an attempt was made to locate mineralization by deep drilling.

Annex A is a list of expenditures for the project.

Respectfully submitted,



R.A. Hureau,  
Geologist.

WHITEHORSE COPPER MINES LTD.

- References:
- Wheeler, J.O. - 1961 Whitehorse  
Map Area Yukon Territory  
Geol. Surv. Can  
Mem 312
  - Kindle, E.D. - Copper & Iron Resources  
of the Whitehorse Copper Belt  
Geol. Surv. Can  
Paper 63-41

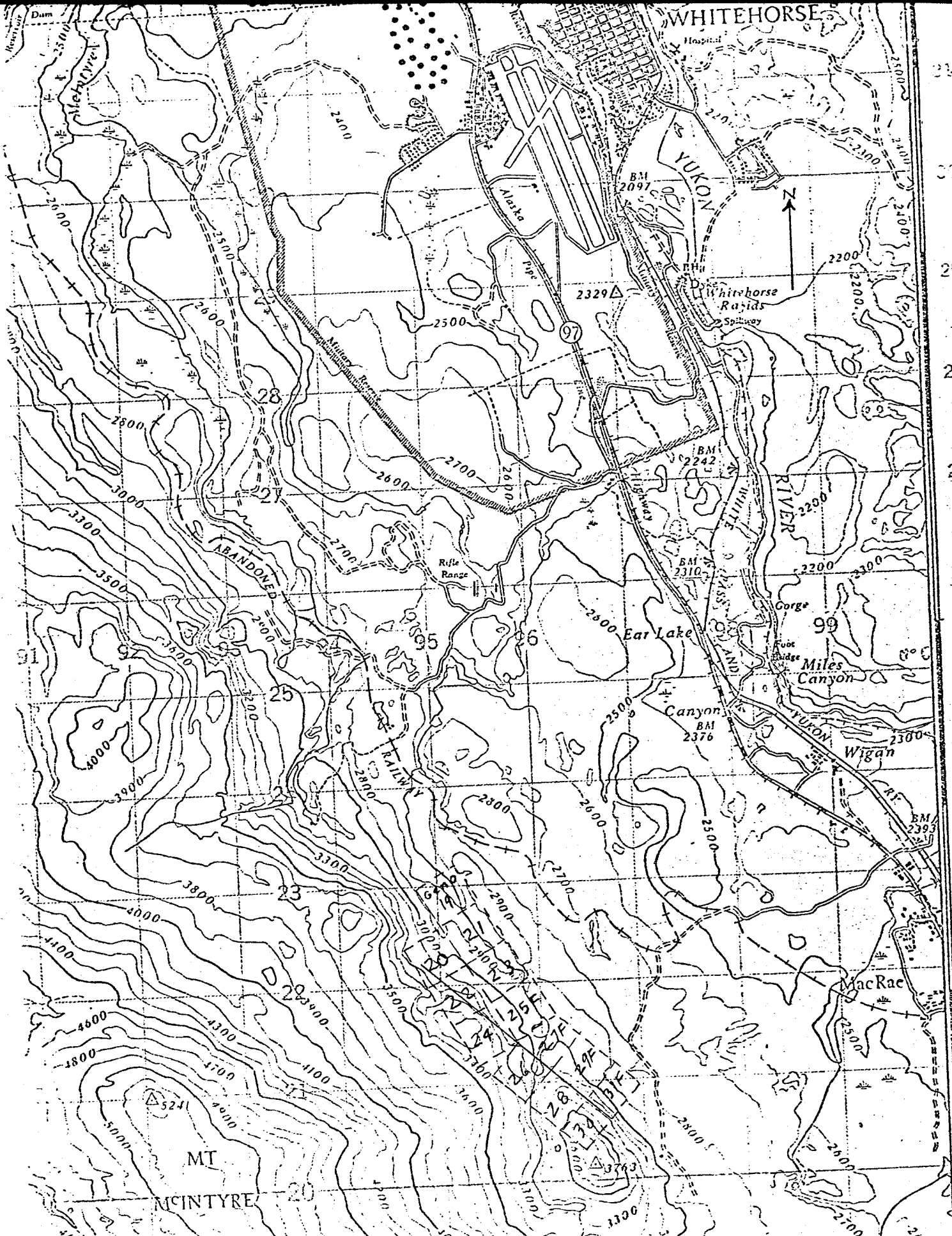


FIG 1  
 LOCATION Sketch  
 Geno Claims 19-31  
 Jan 74 A.H. 1:50,000

GEOLOGICAL LEGEND

CENOZOIC

QUATERNARY

PLEISTOCENE & RECENT

- Q ALLUVIUM, GLACIAL DRIFT
- 10 MILES CANYON BASALT

POST CRETACEOUS

INTRUSIVE DYKES OR SILLS

- 9a ACIDIC GRANITIC, APLITE, FELSITE, 9a - MAY PREDATE SKARN
- 9b BASIC ANDESITE, DIORITE, POST-ORE, 9b - PORPHYRY

MESOZOIC

CRETACEOUS

COAST INTRUSIVES

- 8 DIORITE 8a - ALTERED (ENDOSKARN)  
8b - MINERALIZED ENDOSKARN, MALACHITE, CHALCOPYRITE, BORNITE
- 7 7g-GRANITE, 7b-GRANODIORITE, 7m-QUARTZ MONZONITE

LOWER JURASSIC & LATER

- 6 LABERGE GROUP

UPPER TRIASSIC


LEWES RIVER GROUP (METAMORPHOSED)

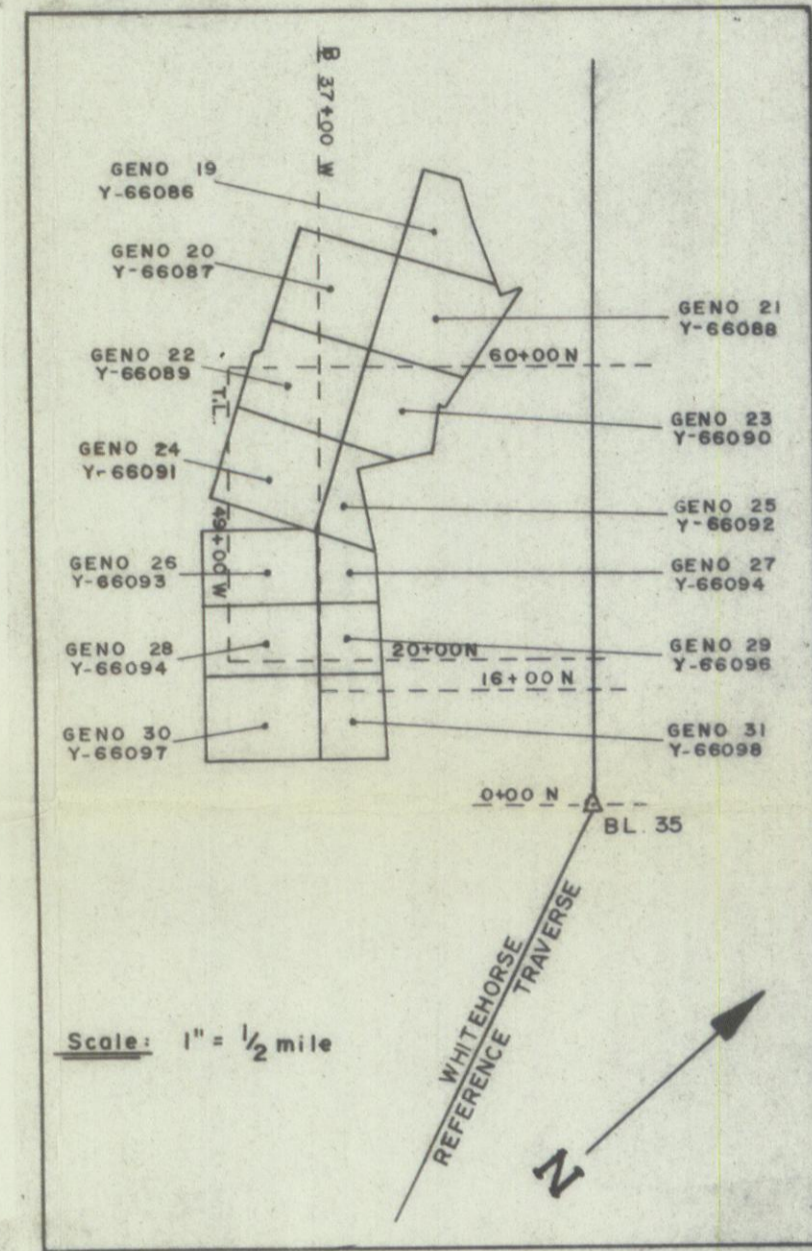
- 5 LIMESTONE AND/OR DOLOMITE, 5b - CARBONACEOUS LIMESTONE
- 4 SEDIMENTS-NON CALCAREOUS 4q - QUARTZITE, 4g - GREYWACKE,  
4k - ARKOSE
- 3 SKARN - BARREN, WITH ..... a - ACTINOLITE t - TREMOLITE
- 2 MINERALISED SILICATE SKARN ..... c - CHLORITE w - WOLLASTONITE
- 1 MINERALISED MAGNETITE SKARN ..... d - DIOPSIDE z - ZOISITE  
e - EPIDOTE M - MAGNETITE  
f - FELDSPAR H - HEMATITE  
g - GARNET C - CHALCOPYRITE  
s - SERPENTINE B - BORNITE  
 V - VALERIITE

ANNEX A

EXPENDITURES ON GENO CLAIMS 19-31, 1973-74

G. McDonald P.O. Box 701 Student Union Mall Vancouver 8, B.C.	July 13 - Aug. 28	Geological Mapping Magnetometer Survey Compilation and Drafting of Data
	1.4 Mos. @ \$ 7.50/Mo.	\$ 1050
Len Dahl P.O. Box 4280 Whitehorse, Y.T.	Drafting	
	0.4 Mos. @ \$ 8.25/Mo.	\$ 330
A. Hureau P.O. Box 4280 Whitehorse, Y.T.	Supervision and Report	
	0.3 Mos. @ \$12.00/Mo.	\$ 360
		TOTAL \$ 1740
	Company Overheads @ <sup>5</sup> / <del>29</del> %	\$ 435
		TOTAL \$ 2175

  
(Mrs.) G. Allen,  
Accountant.



**GEOLOGICAL LEGEND**

**CENOZOIC**  
 QUATERNARY  
 PLEISTOCENE & RECENT

0 ALLUVIUM, GLACIAL DRIFT  
 10 MILES CANYON BASALT

POST CRETACEOUS  
 INTRUSIVE DYKES OR SILLS

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 COAST INTRUSIVES

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LOWER JURASSIC & LATER

6 LABERGE GROUP

UPPER TRIASSIC  
 LEWES RIVER GROUP (METAMORPHOSED)

5 LIMESTONE AND/OR DOLOMITE, 5b - CARBONACEOUS LIMESTONE  
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 3 SKARN - BARREN, WITH  
 2 MINERALISED SILICATE SKARN  
 1 MINERALISED MAGNETITE SKARN

a - ACTINOLITE	t - TREMOLITE
c - CHLORITE	w - WOLLASTONITE
d - DIOPSIDE	z - ZOIISITE
e - EPIDOTE	m - MAGNETITE
f - FELDSPAR	h - HEMATITE
g - GARNET	c - CHALCOPYRITE
s - SERPENTINE	b - BORNITE
	v - VALERIITE





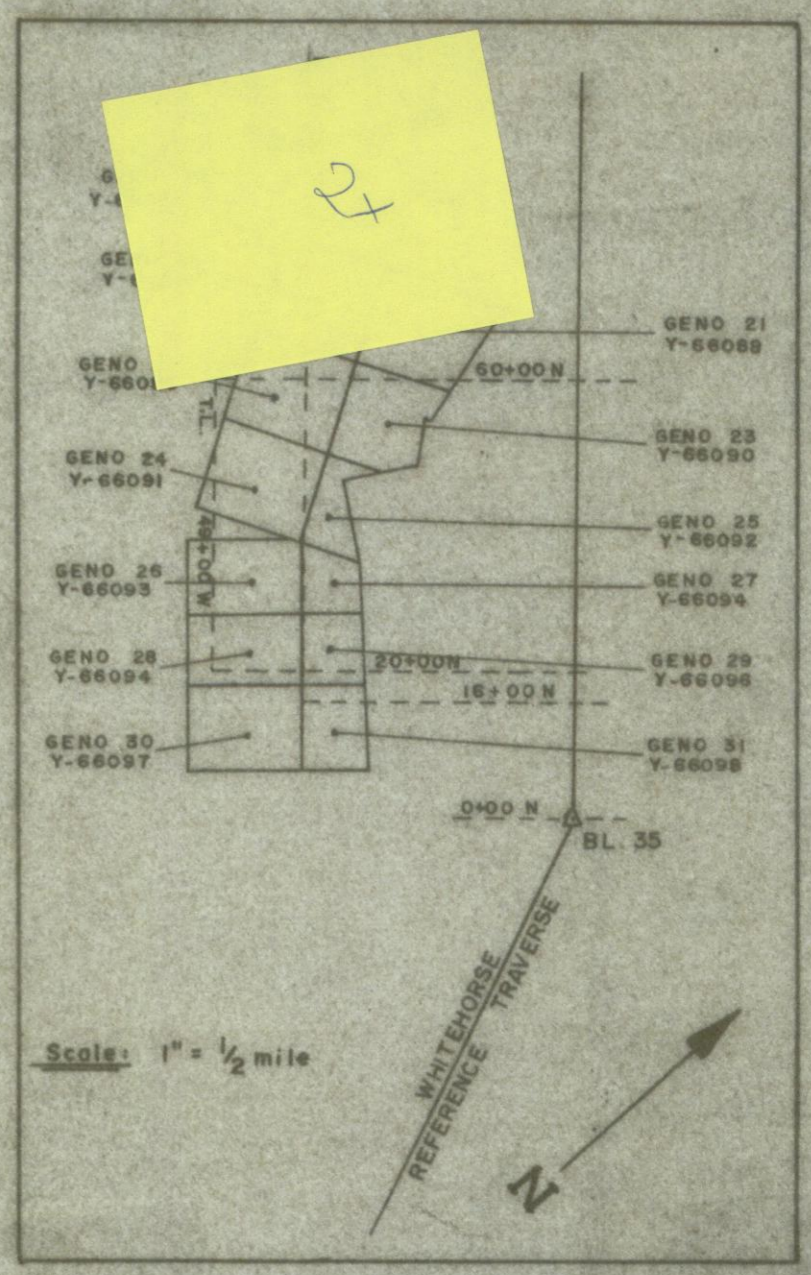
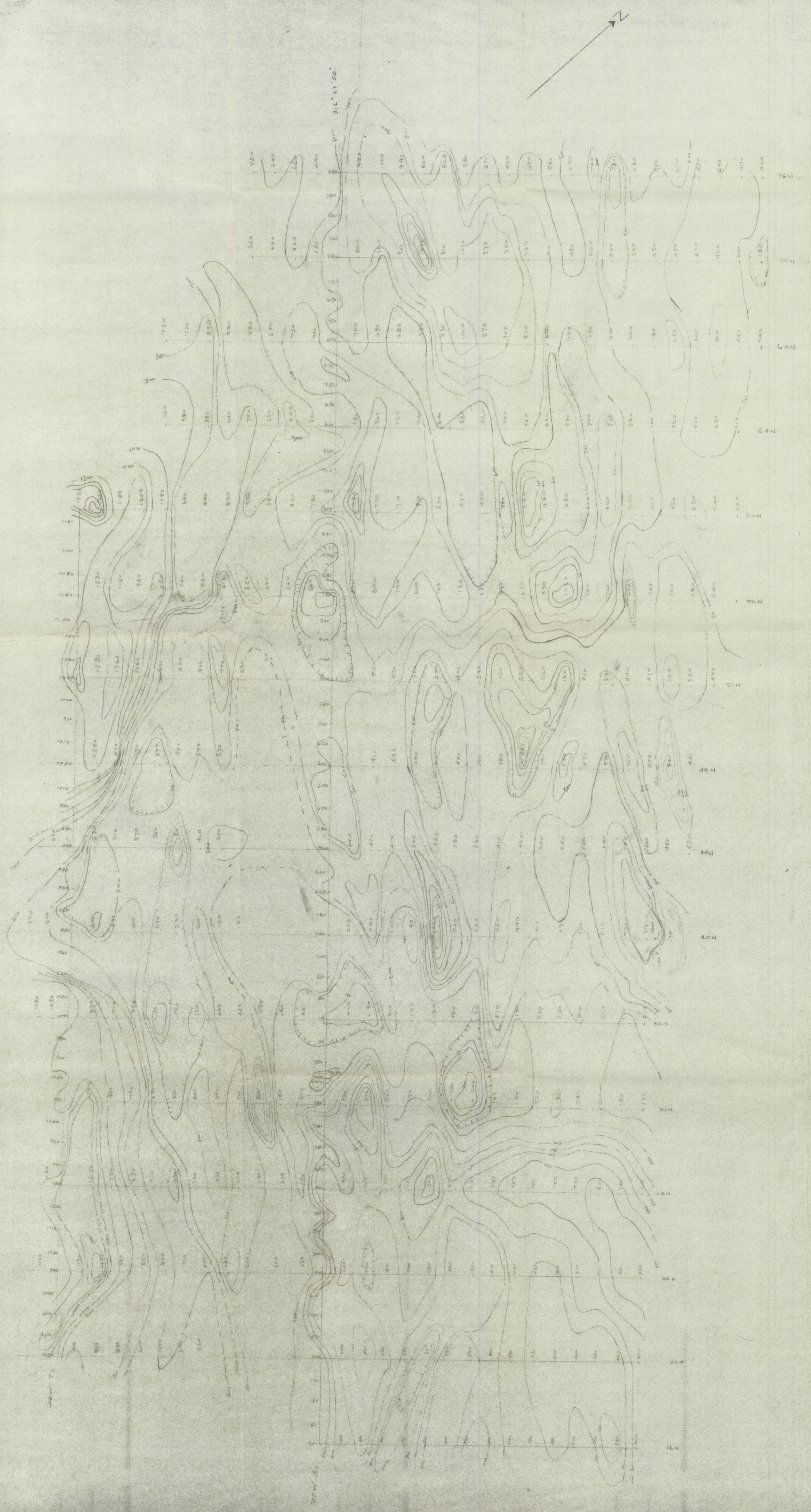


FIG 5

<b>NEW IMPERIAL MINES LTD.</b>		
WHITEHORSE, Y.T.		
<b>MAG. SURVEY - GENO CLAIMS</b>		
DR BY C. H. S. C.	APP'D. BY	REVISIONS
DATE Nov. 1973	SCALE 1" = 200'	C.I. - 100%
REF. NO.	DWG. NO.	

