

MAGNETOMETER SURVEY REPORT  
on the  
FETCH, HASTEN and BASIN MINERAL CLAIMS  
Macmillan Pass Area

Watson Lake and Mayo Mining Districts  
Yukon Territory

Longitude: 130°12'W

Latitude: 63°06'N

Map Sheet: N.T.S. 105-0-1

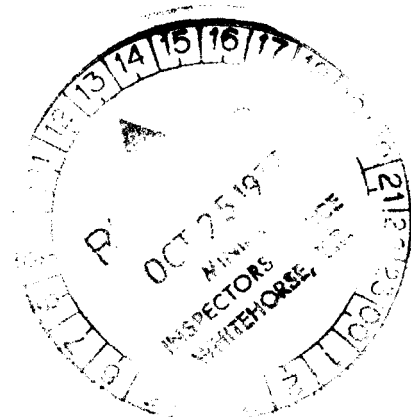
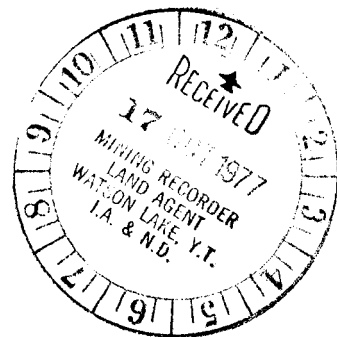
by

Edward J. Debicki

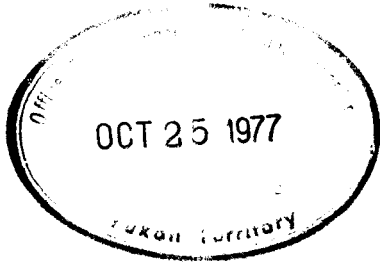
District Geologist, Northwestern Canada

CANADIAN NICKEL COMPANY LIMITED

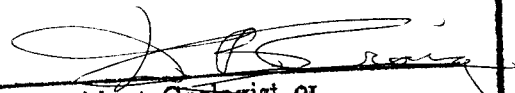
May 17, 1977 - July 9, 1977



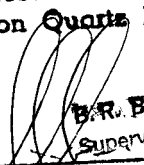
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


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 \$ 22,500.00

  
~~Resident Geologist or  
Resident Mining Engineer~~

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

  
B.R. BAXTER  
Supervising Mining Recorder

  
Commissioner of Yukon Territory

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Claim Location Map - Scale: 1 inch = 65 miles

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Magnetic Survey - Sheet F-7 - Scale: 1" = 200'

Magnetic Survey - Sheet F-8 - Scale: 1" = 200'

Magnetic Survey - Sheet G-7 - Scale: 1" = 200'

Magnetic Survey - Sheet G-8 - Scale: 1" = 200'

Magnetic Survey - Sheet H-7 - Scale: 1" = 200'

Magnetic Survey - Sheet H-8 - Scale: 1" = 200'

Magnetic Survey - Sheet J-7 - Scale: 1" = 200'

Magnetic Survey - Sheet J-8 - Scale: 1" = 200'

## INTRODUCTION

The FETCH, HASTEN and BASIN claim groups were staked by Welcome North Mines Ltd. (N.P.L.) during July and August, 1976. The groups, consisting of 68 claims, are adjacent to and south of the JASON claim group held by the Ogilvie Joint Venture and where drill intersections of Pb-Zn-Ag have been reported.

The FETCH, HASTEN and BASIN claim groups were acquired under option by Canadian Nickel Company Limited during 1977. Exploration to date has consisted of a magnetometer survey and geological survey. Additional staking of FETCH 21-25 and HASTEN 25-34 was carried out during June, 1977, bringing to 83 the total number of claims.

## LOCATION AND ACCESS

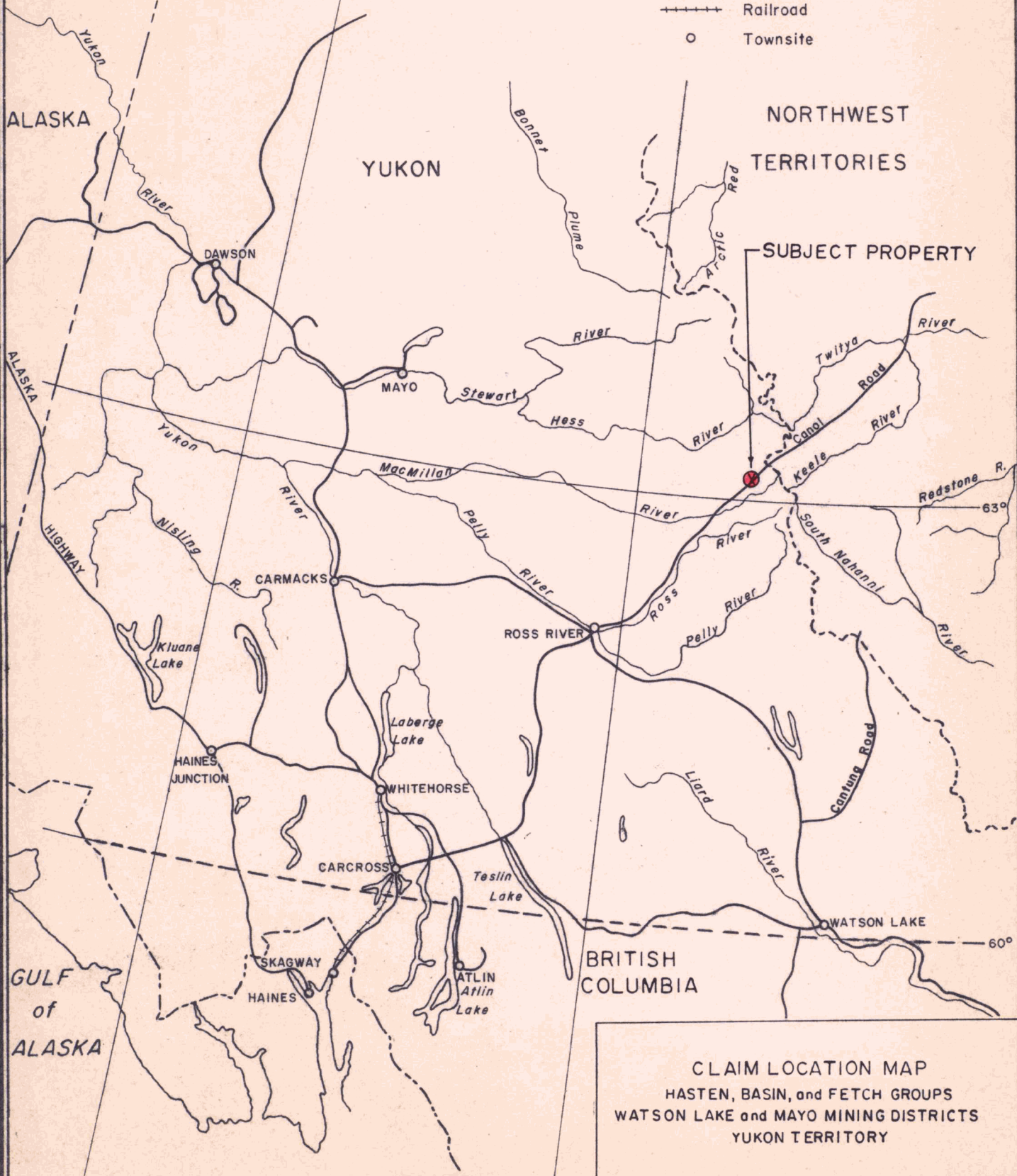
The FETCH and HASTEN claim groups are situated in the Mayo Mining District, Yukon Territory; the BASIN claim group is situated in the Watson Lake Mining District, Yukon Territory. The claim groups lie within N.T.S. area 105-0-1 at 130°12'W longitude and 63°06'N latitude. Ross River, Yukon Territory, is located approximately 105 air miles to the southwest of the claim groups.

Access to the claim groups is by way of the North Canal Road (summer traffic only) from Ross River, Yukon. The road transects the claim group and forms the boundary between the Watson Lake and Mayo Mining Districts. Access within the claim group is by foot or by helicopter. A base camp was situated on claim FETCH 21 (YA15167) between the South Macmillan River and the North Canal Road at Mile 268.1. An airstrip is located near Macmillan Pass, alongside the North Canal Road, approximately seven miles north of the base camp location.

# SOUTHERN YUKON TERRITORY

Scale 1 inch = 65 miles

- International Boundary
- Provincial Boundary
- Highway
- +++++ Railroad
- Townsite



CLAIM LOCATION MAP  
 HASTEN, BASIN, and FETCH GROUPS  
 WATSON LAKE and MAYO MINING DISTRICTS  
 YUKON TERRITORY

TOPOGRAPHY AND CLIMATE

The claim groups are situated within the Hess Mountains region of the Selwyn Mountains. The elevation difference between the claim groups is approximately 1,900 feet, with the highest point approximately 5,650 feet above sea level. All areas of the claim groups are accessible by foot. Slopes range from 0° to 45°, with slopes of 25° to 35° occurring in most areas of talus and outcrop.

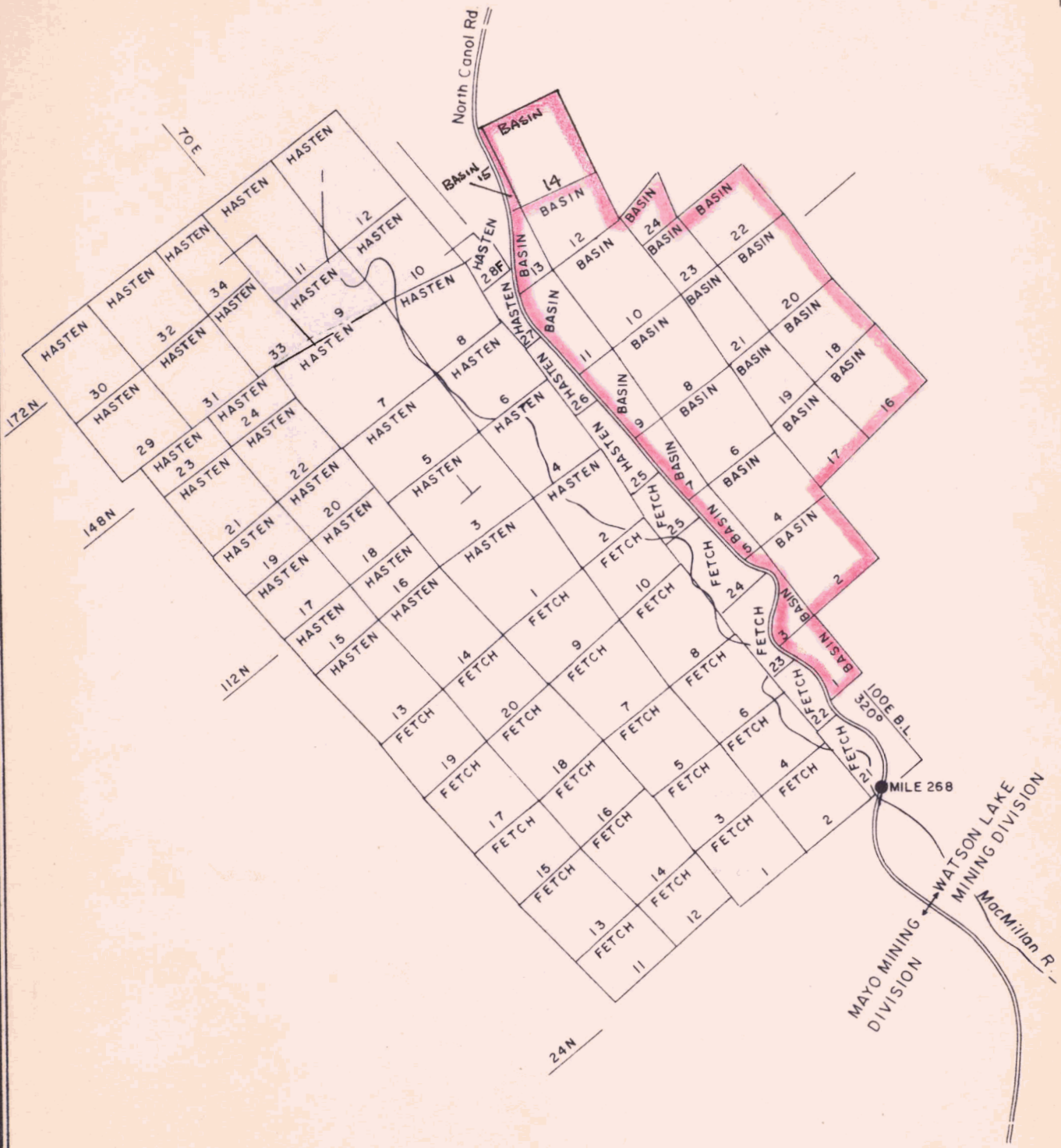
During the latter part of May and during June the weather was mainly cool and overcast, with frequent rain, snow and hail falls. The early part of July was characterized by cool weather, again with rain and snow falls; the latter part of July was warm and mainly sunny.

The tree line on the claim groups is approximately 4,500 feet above sea level. Below the tree line, the area is forested by fir, black spruce, willow and arctic black birch. Mosses and lichens cover much of the claim groups above the tree line.

CLAIMS COVERED

Work was carried out on all claims which were not overstaked onto previously existing claims. All work was performed by personnel of Canadian Nickel Company Limited.

<u>Claims</u>	<u>Record Numbers</u>	<u>Mining District</u>
FETCH 1-16	YA5963 - YA5978	Mayo
FETCH 17-20	YA6144 - YA6147	Mayo
FETCH 21-25	YA15167 - YA15171	Mayo
HASTEN 1-4	YA6140 - YA6143	Mayo
HASTEN 5-24	YA5943 - YA5962	Mayo
HASTEN 25-28F	YA15172 - YA15175	Mayo
HASTEN 29-34	YA15325 - YA15330	Mayo
BASIN 1-24	YA192 - YA215	Watson Lake
	<u>Total: 83 claims</u>	



CLAIM MAP  
WELCOME NORTH OPTION  
SOUTH GROUP  
HASTEN, BASIN, and FETCH GROUPS  
WATSON LAKE - MAYO MINING DIVISIONS  
YUKON TERRITORY

2640 0 1320 2640 FT.  
1" = 2640'

105-0-1 7/77

All claims are held at present by Canadian Nickel Company Limited except FETCH 21-25 and HASTEN 25-28F which are in the process of being transferred to Canadian Nickel at the time of writing this report.

## GEOLOGY

The stratigraphic succession in the claim groups area has been defined by Clyde Smith of Ventures West Capital, after approximately five summers' field work in the area; he considers the TOM and JASON Pb-Zn-Ag deposits to lie within a small miogeosynclinal basin about six miles by eight miles in extent on the margin of a larger geosynclinal basin. Many of the units present show strong lateral variations in facies type and in thickness. Syndepositional faulting may have been responsible for at least part of the variation observed. A generalized stratigraphic section is given below:

CRETACEOUS	Unit 5	Hornblende-biotite granodiorite
<hr/>		
	Unit 4	Orange-to-buff weathering siltstone and fine-grained sandstone, with well-developed parallel and cross laminations and, in places, characteristics of turbidites.
DEVONIAN- MISSISSIPPIAN (Besa River Formation)	Unit 3	Silvery weathering carbonaceous-to-siliceous shale, without internal stratification except very near the base where parallel laminations are present. Up to four spotted barite horizons occur in this unit (unit hosting TOM and JASON Pb-Zn-Ag mineralization).
	Unit 2	Polymictic conglomerate, with the majority of pebbles of chert. Grain size, percent of pebbles, pebble composition and unit thickness are variable. Unit 2 is approximately 500 feet thick at the TOM and JASON properties, and is absent elsewhere.
	Unit 1	Siliceous-to-carbonaceous shale and silty argillite. The rock is laminated, weathers light-to-dark-grey and is brown-to-black on fresh surfaces.
<hr/>		
ORDOVICIAN-SILURIAN (Road River Formation)		Black limestones, chert, and graptolitic shales.

Rocks of the Road River Formation are not exposed on the claim groups, although they are exposed immediately to the north on the JASON claim group.

Generally, the succession of Paleozoic sedimentary rocks strike northwest and dip gently away from the centre of the claim groups in an antiform. The South Macmillan River flows along the anticlinal valley developed in the area. A large pluton of Cretaceous hornblende-biotite granodiorite lies on the east boundary of the claim group.

Mineralization in the claim groups area occurs at two levels within the stratigraphic succession. The MOOSE barite deposit, which lies to the southwest of the claim groups, occurs within rocks of Unit 1. The TOM and JASON lead-zinc-silver deposits and the TEA barite deposit occur within rocks of Unit 3. No lead, zinc or silver mineralization was found on the claim group, although barite was found on the eastern portion of the claim area.

## MAGNETOMETER SURVEY

### (a) Survey Techniques

A grid, consisting of 18,400 feet (3.49 line miles) of base line trending 320° and 159,600 feet (30.13 line miles) of cross-lines, was established on the FETCH, HASTEN and BASIN claim groups during May and June, 1977. Cross-lines were spaced 800 feet apart, with 100-foot stations.

Magnetometer readings were taken every 100 feet on the entire grid during June and July, 1977. A Scintrex magnetometer, model MF-1 Fluxgate, was used to carry out the survey.

Base stations were established at the camp as well as at several locations along the base lines. All readings have been corrected for diurnal drift.

The results of the magnetometer survey have been plotted and contoured on the maps in the back pockets of this report.

(b) Interpretation

The magnetometer survey was carried out to determine whether magnetic characteristics, indicative of particular stratigraphic units or structural trends, could be used to trace stratigraphy and structure in overburden- and talus-covered areas on the claim groups.

The results of the magnetometer survey are essentially flat except for one area. In general, magnetics vary about 200 gammas above a background of around 1,000 gammas, throughout the survey area. In the southeast corner of the claim groups, magnetic differences of about 600 gammas are attributable to minor pyrrhotite in rusty weathering siliceous siltstone of Unit 4d. The pyrrhotite has formed as a result of contact metamorphism between the sediments and the Cretaceous granodiorite intrusive.

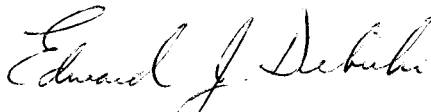
RECOMMENDATIONS

The magnetometer survey has not proven to be a useful exploration tool in distinguishing stratigraphic units and structural trends on the FETCH, HASTEN and BASIN claim groups. This is attributable to the lack of magnetic components associated with any of the stratigraphic units or structural elements.

Geological mapping is being carried out simultaneously with the magnetometer survey and the results of the geological survey are covered in a separate report.

Recommended further exploration will consist of a soil sampling survey in overburden-covered areas, and vertical and horizontal loop electromagnetic surveys to be completed before the conclusion of the 1977 field season.

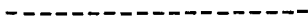
Respectfully submitted,  
CANADIAN NICKEL COMPANY LIMITED.



Edward J. Debicki,  
District Geologist, NW Canada.

Dated: October 3, 1977.

A P P E N D I C E S



APPENDIX 1 - PERSONNEL

Personnel employed during the course of this work:

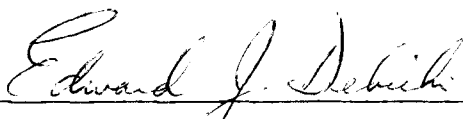
E. J. Debicki	41 Ketz Road, Whitehorse, Yukon. Y1A 3V3
W. O. Manson	Box 1135, Copper Cliff, Ontario. POM 1N0
T. Little	c/o D. Blake, Penage Road, Whitefish, Ontario.
G. Eden	98 Roblin Street, Timmins, Ontario.
R. L. Debicki	41 Ketz Road, Whitehorse, Yukon. Y1A 3V3
J. P. Restoule	20 Athlone Road, Cambridge, Ontario. N1R 1H8
G. Multamaki	40 Norden Crescent, Sault Ste. Marie, Ontario. P6B 1T1
M. Festeryga	130 Pinecrest Road, Apt. 1511, Ottawa, Ontario.
F. Godfrey	189 William Street, Kingston, Ontario.
J. D. Williams	3029 Rue La Forest, Apt. 11, Ste. Foy, Quebec. G1W 1L6
K. Baldry	1121 Terra Court, Port Coquitlam, B.C. V3B 4Z9
M. Greer	P.O. Box 5033, Whitehorse, Yukon.
W. Marsaw	c/o Canadian Nickel Co. Ltd., Copper Cliff, Ontario. POM 1N0

APPENDIX 2 - CERTIFICATE OF QUALIFICATIONS

I, EDWARD J. DEBICKI, of the City of Whitehorse, in the Yukon Territory,  
HEREBY CERTIFY:

1. THAT I reside at 41 Ketz Road, Whitehorse, Yukon Territory, Y1A 3V3.
2. THAT I am a graduate of McMaster University with a degree of Bachelor of Science (1971).
3. THAT I am District Geologist, Northwestern Canada, with Canadian Nickel Company (subsidiary of Inco Metals Company) of Copper Cliff, Ontario, POM 1N0.
4. THAT I have practised my profession as a geologist for six (6) years, having worked in Ontario, Quebec, Northwest Territories and the Yukon.
5. THAT I visited the property discussed in this report and that the work described in this report was carried out under my supervision.
6. THAT I am an Associate Member of the Geological Association of Canada.

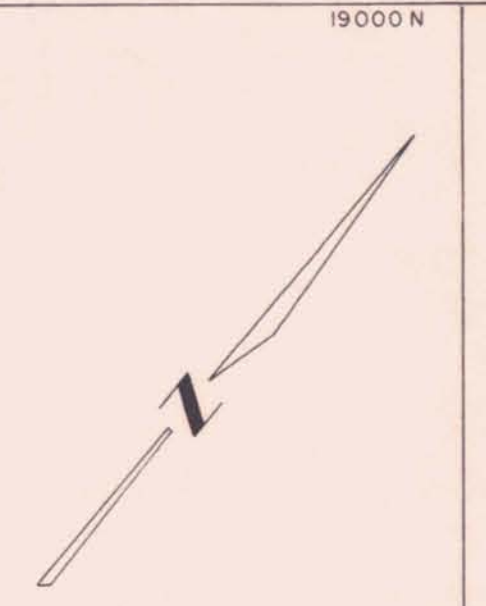
DATED at Whitehorse, Yukon, this 3rd day of October, 1977.

  
Edward J. Debicki

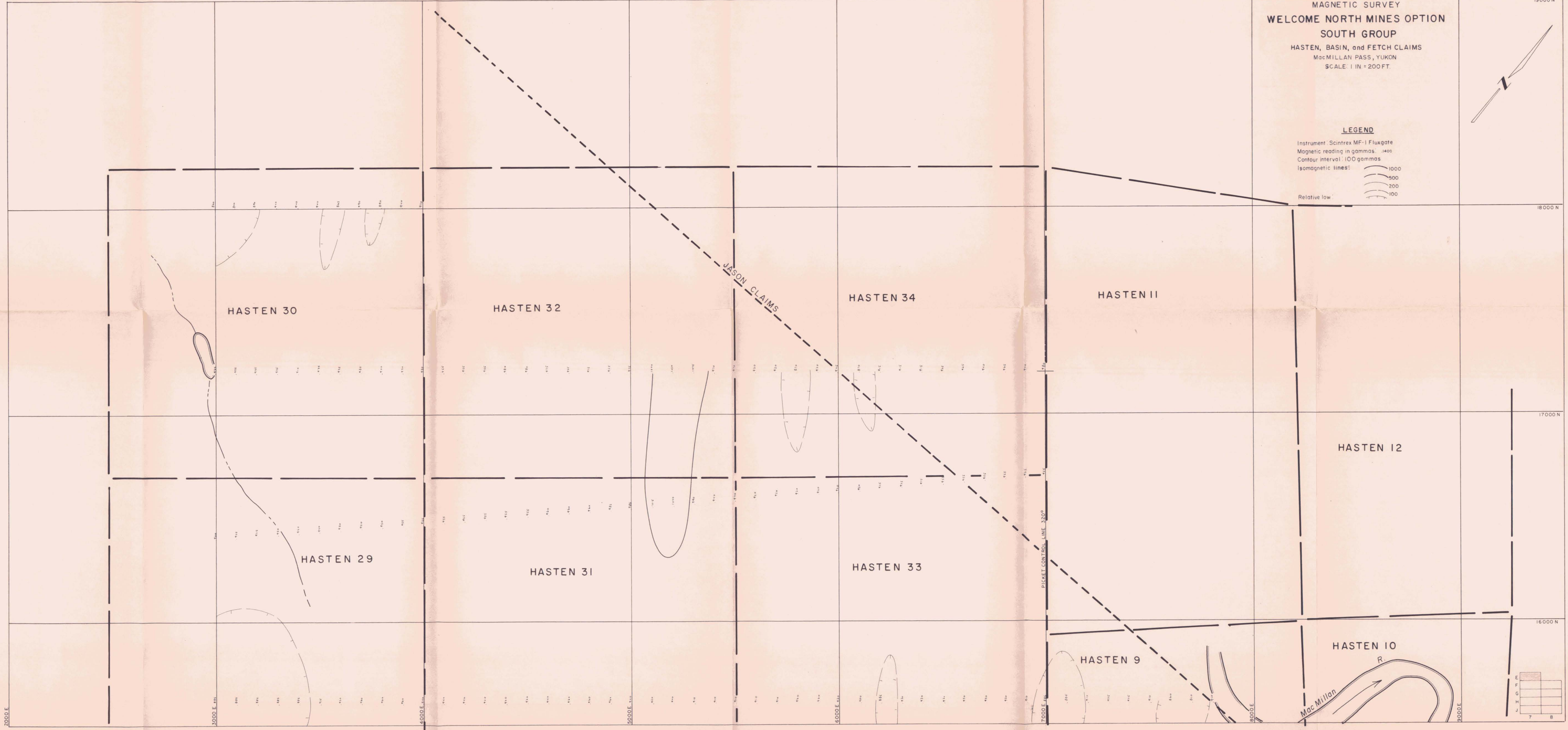
M A P S

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MAGNETIC SURVEY  
**WELCOME NORTH MINES OPTION**  
**SOUTH GROUP**  
 HASTEN, BASIN, and FETCH CLAIMS  
 MacMILLAN PASS, YUKON  
 SCALE 1 IN = 200 FT.



**LEGEND**  
 Instrument: Scintrex MF-1 Fluxgate  
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 Contour interval: 100 gammas  
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 Relative low

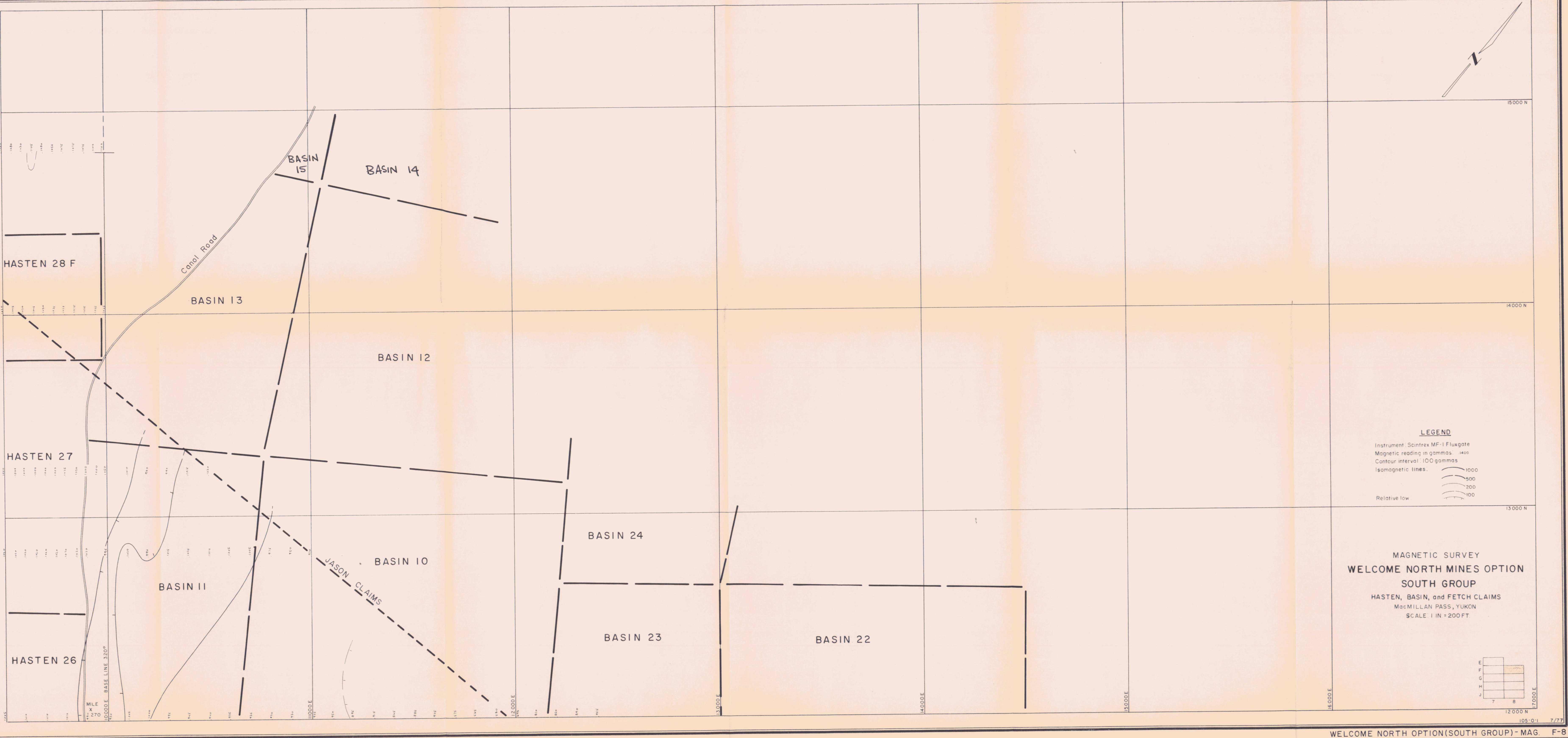
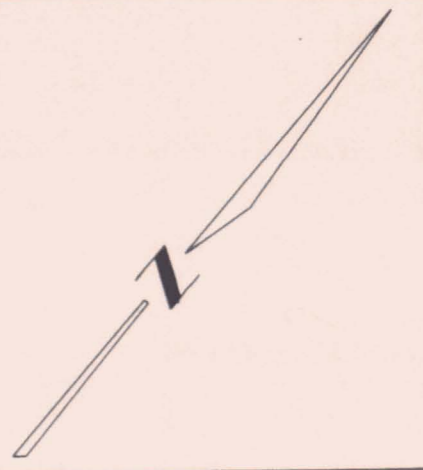


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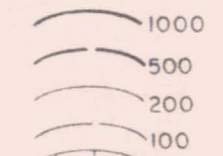

MAGNETIC SURVEY  
**WELCOME NORTH MINES OPTION**  
 SOUTH GROUP  
 HASTEN, BASIN, and FETCH CLAIMS  
 MacMILLAN PASS, YUKON  
 SCALE: 1 IN. = 200 FT.

**LEGEND**  
 Instrument: Scintrex MF-1 Fluxgate  
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 Contour interval: 100 gammas  
 Isomagnetic lines:  
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 Relative low



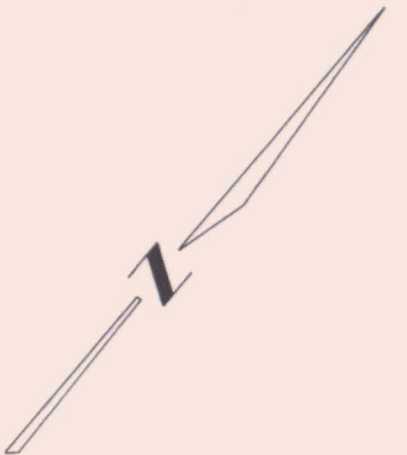


**LEGEND**

Instrument: Scintrex MF-1 Fluxgate  
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Contour interval: 100 gammas  
Isomagnetic lines:   
Relative low: 

MAGNETIC SURVEY  
**WELCOME NORTH MINES OPTION**  
SOUTH GROUP  
HASTEN, BASIN, and FETCH CLAIMS  
MacMILLAN PASS, YUKON  
SCALE: 1 IN = 200 FT

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HASTEN 17

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HASTEN 3

HASTEN 4

HASTEN 26

HASTEN 15

HASTEN 16

HASTEN 2

HASTEN 25

HASTEN 13

HASTEN 14

HASTEN 1

**LEGEND**  
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 Isomagnetic lines:  
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 Relative low

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 HASTEN, BASIN, and FETCH CLAIMS  
 MacMILLAN PASS, YUKON  
 SCALE 1 IN. = 200 FT.

FETCH 19

FETCH 20

FETCH 9

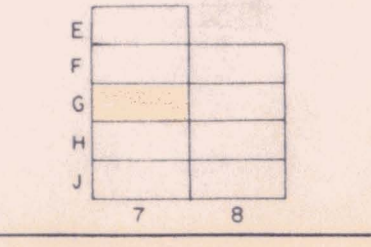
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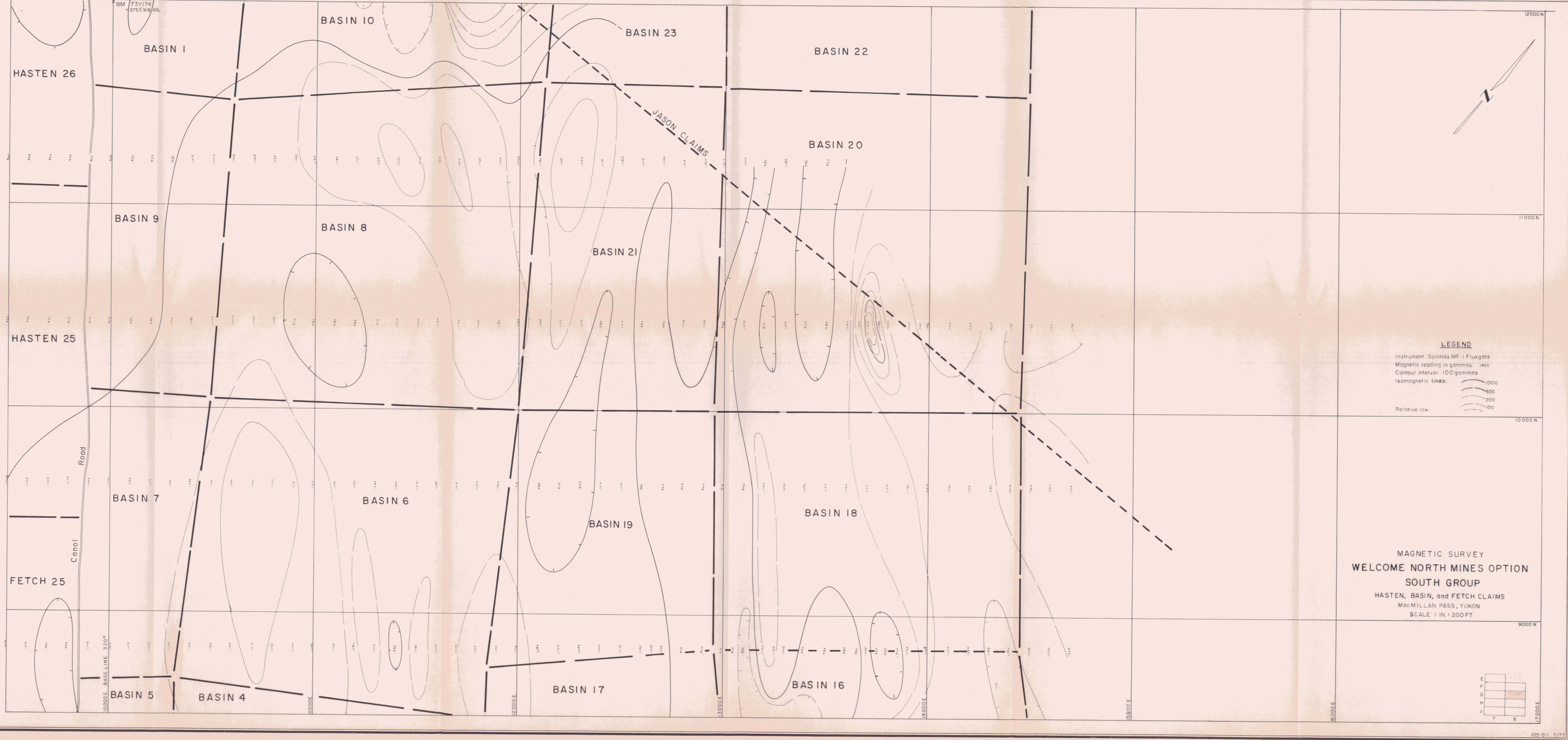
FETCH 25

PICKET CONTROL LINE 320°

MacMillan

River





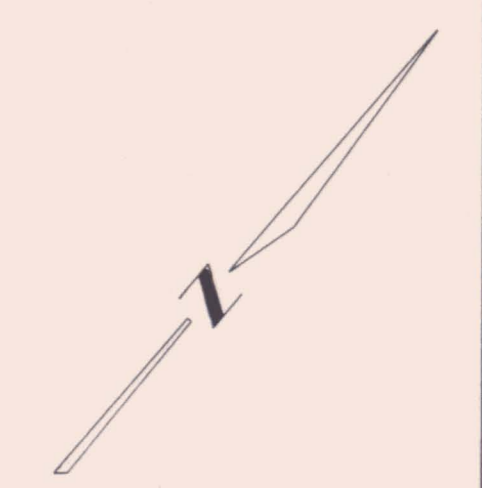
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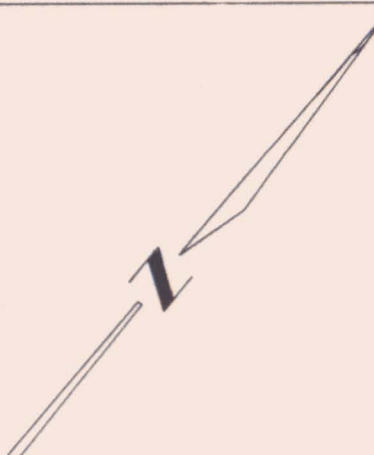


**LEGEND**

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- Contour interval: 100 gammas
- Isomagnetic lines:
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- Relative low

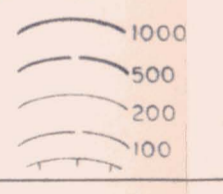
MAGNETIC SURVEY  
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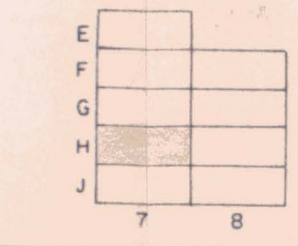


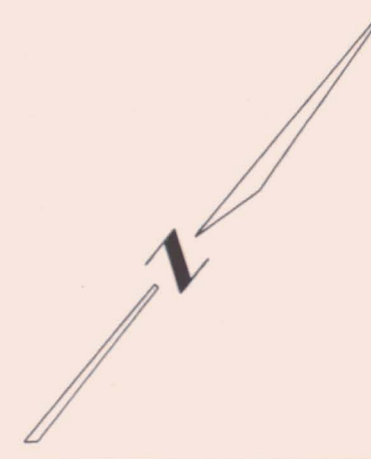
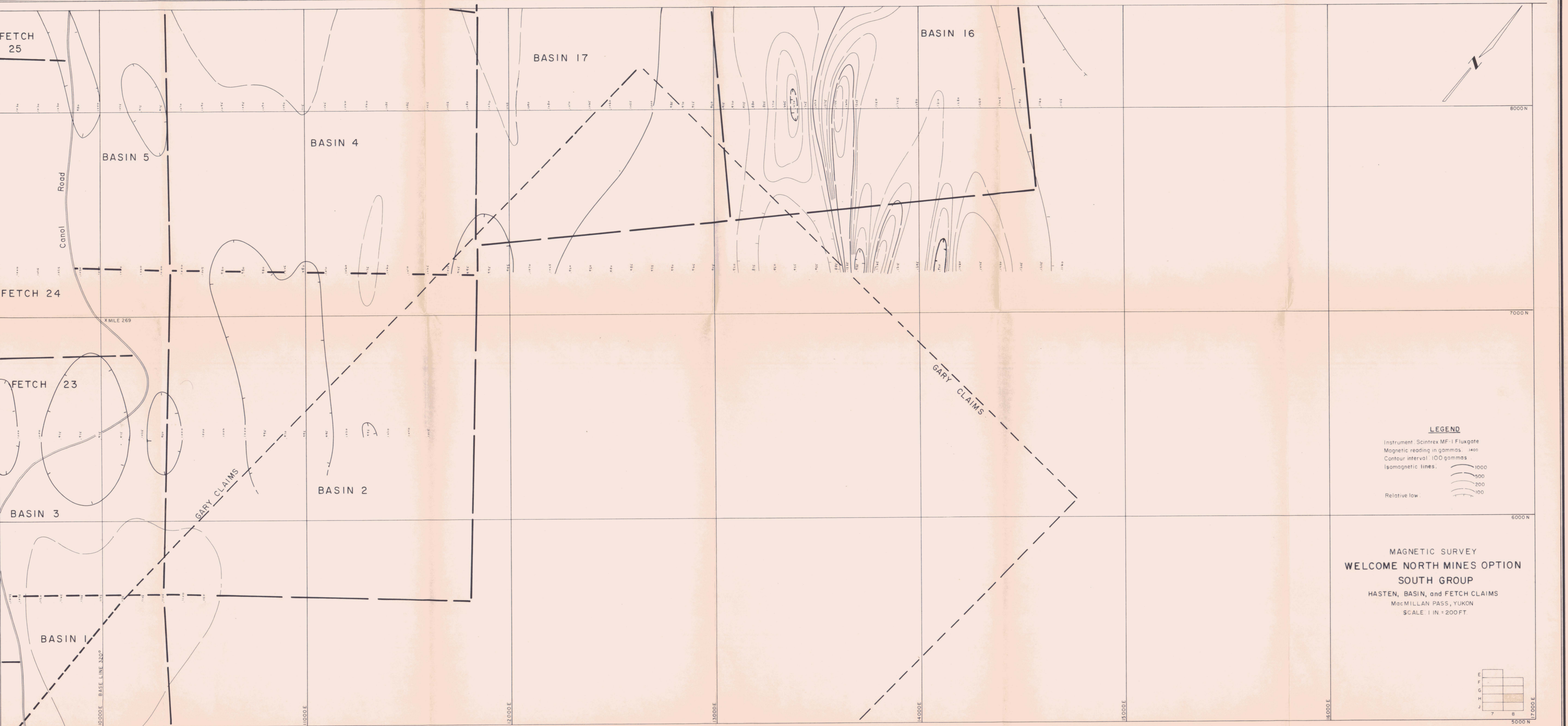
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Magnetic reading in gammas: 1400  
Contour interval: 100 gammas  
Isomagnetic lines:  
Relative low



MAGNETIC SURVEY  
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MacMILLAN PASS, YUKON  
SCALE 1 IN = 200 FT.

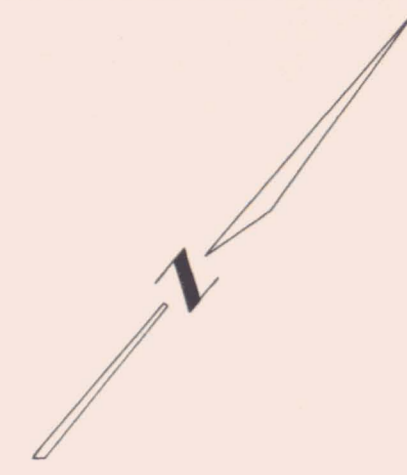




**LEGEND**  
 Instrument: Scintrex MF-1 Fluxgate  
 Magnetic reading in gammas: 1400  
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 Isomagnetic lines: 1000, 500, 200, 100  
 Relative low:

MAGNETIC SURVEY  
**WELCOME NORTH MINES OPTION**  
**SOUTH GROUP**  
 HASTEN, BASIN, and FETCH CLAIMS  
 MacMILLAN PASS, YUKON  
 SCALE 1 IN = 200 FT.

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FETCH 13

FETCH 14

FETCH 3

FETCH 4

FETCH 22

FETCH II

FETCH 12

FETCH I

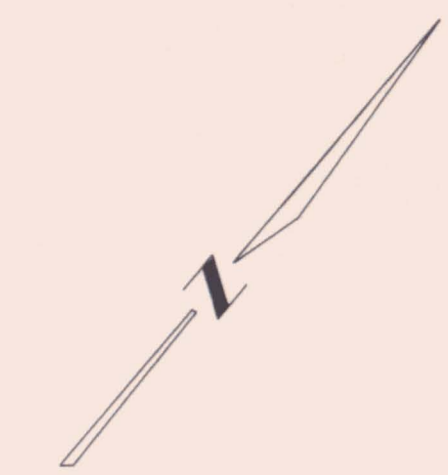
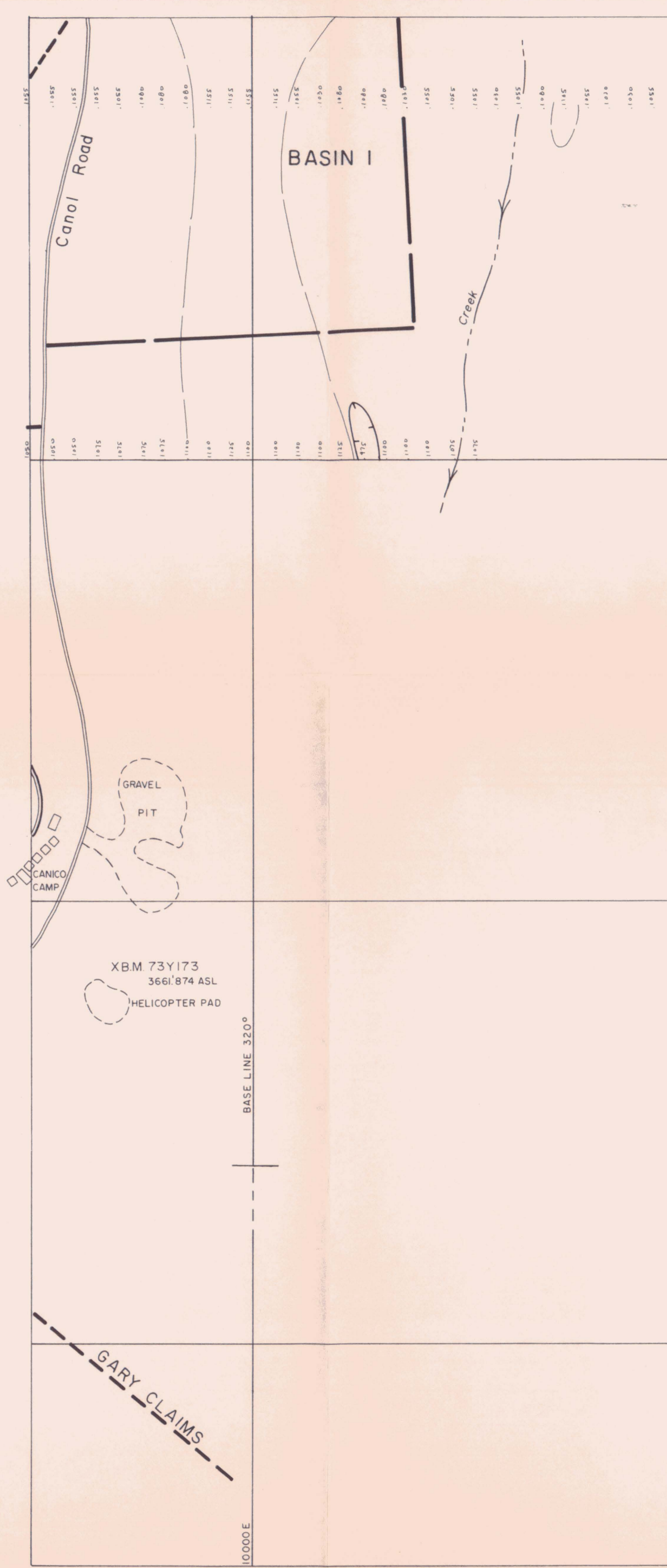
FETCH 2

FETCH 21

MAGNETIC SURVEY  
**WELCOME NORTH MINES OPTION**  
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 HASTEN, BASIN, and FETCH CLAIMS  
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 SCALE: 1 IN. = 200 FT.

**LEGEND**  
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**LEGEND**

- Instrument: Scintrex MF-1 Fluxgate
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 SCALE: 1 IN = 200 FT

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