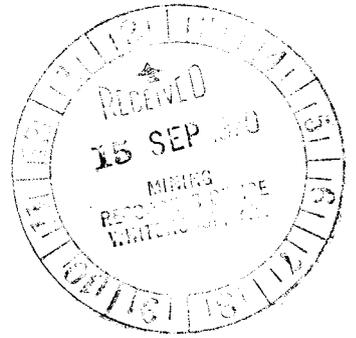


REPORT  
ON  
MAGNETOMETER SURVEY  
POT CLAIM GROUP  
WHITEHORSE MINING DISTRICT, Y. T.



Location

62° 00' North Lat.

137° 52' West Long.

NTS Coordinates 115 I/4

For

AMAX EXPLORATION, INC.,  
601-535 Thurlow Street,  
Vancouver 5, B. C.

Report By: G. M. De Paoli

Supervision: Wm. M. Dolan, P. Eng.

Work Period: June 20 to July 6, 1970

This report has been examined by the Geological Evaluation Unit and is recommended to the Commission to be considered as representing a value of the amount of \$1,107.

*[Signature]*  
Regional Mining Engineer

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

*[Signature]*  
Commissioner of Yukon Territory



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## SUMMARY

The ground magnetometer survey undertaken on the Maloney Creek Property, Y. T. was useful in defining some geologic structure as well as aiding in differentiating between two main rock types. It also pinpointed areas of magnetic concentration which may serve as some help in outlining the zone of alteration evident on the property.

## INTRODUCTION - Maloney Creek

The Maloney Creek Copper Prospect is located approximately 128 miles north west of Whitehorse in the Yukon Territory. The property consists of a rectangular block of 48 claims (Pot #1 - #48 inclusive) and covers a north westerly trending ridge and valley. The group was staked in September 1969 for Amax Exploration Inc., as a result of reconnaissance exploration. In the absence of major lakes the only access is by helicopter. Connection is normally made with fixed winged aircraft servicing the Casino airstrip to the north-west about 80 miles.

## GENERAL GEOLOGY

In the Dawson-Carmacks Range tertiary extrusive and sub-plutonic rocks occur in both north-west and north-east trending belts. Several porphyry copper occurrences were discovered before 1969, the best known being Casino Mines.

The Cu and Cu-Mo mineralization occurs in acid intrusive plugs and stocks which form within the tertiary post-orogenic basalt, andesite, rhyolite association of the area. Emplacement of the intrusive plugs is thought to be contemporaneous with dacitic to rhyolitic flows.

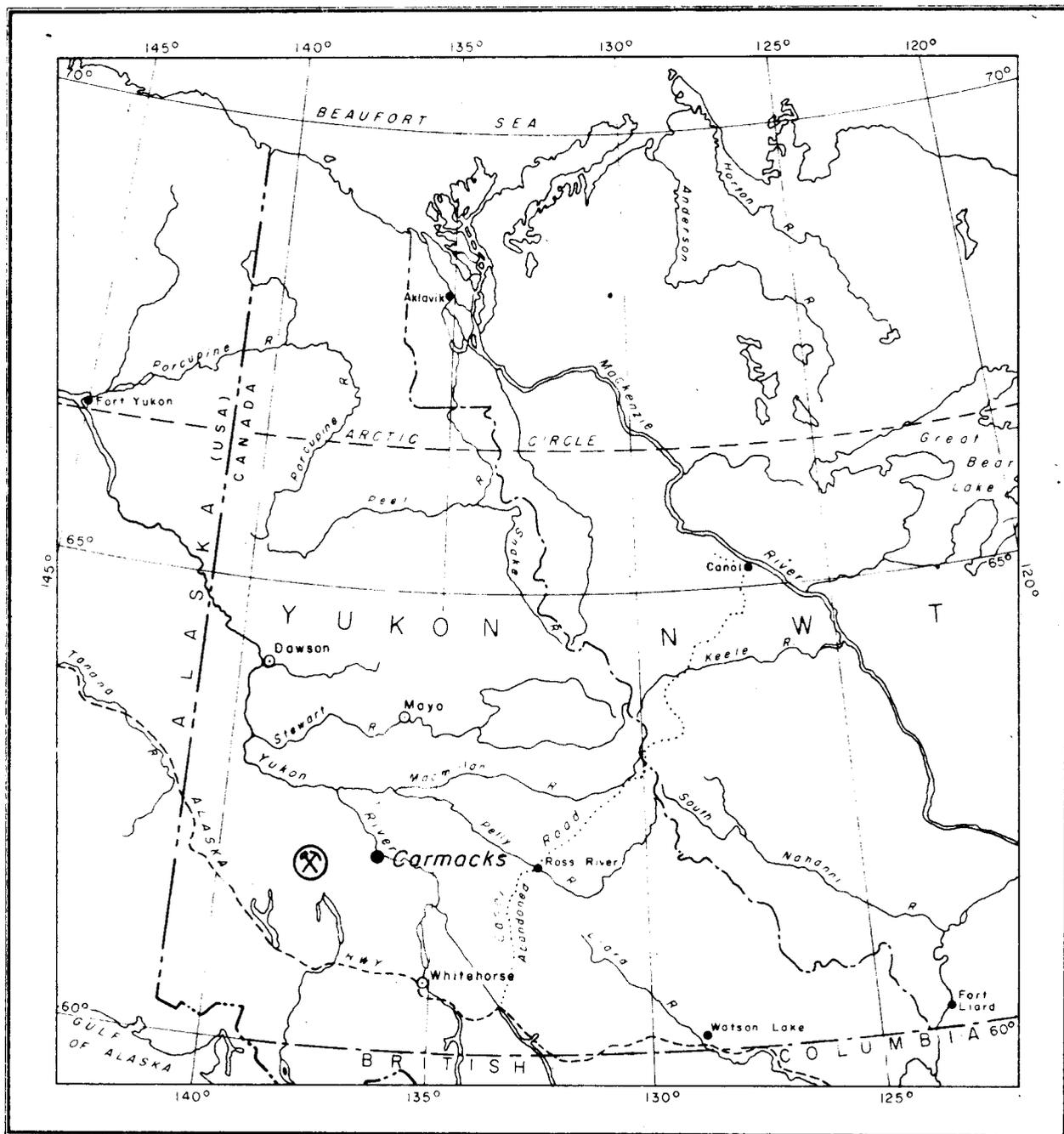
These flows occur over large areas and the bulk of them are thought to be of an ignimbritic character. The ignimbrites and small intrusive plugs show a co-linear geographic relationship suggesting that both were emplaced along the same fissure systems.

Evidence of leaching is widespread in the rocks of the Dawson Carmacks Range and at Casino a secondary enrichment blanket is evident.

## MAGNETOMETER SURVEY

### Introduction and Theory

Visible outcrop on the property indicates an altered quartz diorite surrounded by the metamorphosed Precambrian Yukon Group (locally mainly comprised of quartz-mica schists).



AMAX EXPLORATION INC.

**MALONEY CREEK COPPER PROSPECT**

WHITEHORSE MINING DISTRICT — YUKON

**LOCATION MAP**

SCALE 1" = 120 MILES

Accurate mapping of the property is hampered by the rubbly form of outcrops, characteristic of a permafrost environment, plus appreciable overburden as one descends into the valley.

The magnetometer survey was undertaken in an attempt to aid in mapping the rock types as well as defining some of the structure; also to outline localized areas of high magnetite content. Often in an unstable alteration environment original magnetite may be converted to hematite or limonite or redistribute at the periphery of the alteration.

### Control Grid

Control for the survey consisted of a cut and picketed grid. A 12,000 ft. east-west baseline with north-south cross lines eight hundred feet apart was established. The cross lines extend 4,500 ft. north and south from the baseline. In the central portion of the grid more detail was obtained by reducing the line spacing to four hundred feet. (See Plan Map Figure 3). In all a total of 32 line miles were surveyed.

### Instrument and Procedure

The instrument employed was the Model MF-2 magnetometer manufactured by Sharpe Instruments, a division of Scintrex Limited, Downsview, Ontario. It operates on the fluxgate principle measuring the vertical component of the earth's magnetic field.

The MF-2 circuitry is temperature compensated to less than 1 gamma per °C from -40°C to +40°C.

The MF-2 measurement range is from +100,000 gammas to -100,000 gammas and, on the most sensitive scale, the sensitivity is 20 gammas per scale division or a readability of 10 gammas.

The MF-2 is a hand held instrument requiring only coarse levelling.

The MF-2 magnetic latitude adjustment was employed to establish a background of approximately +300 gammas in the survey area.

The east-west base line was surveyed at 100 ft. station intervals. Surveying of the baseline began at the origin working westerly then returning to the origin and making the necessary diurnal corrections. In a similar fashion, the value for the eastern section of the baseline were obtained. Using the corrected values of the baseline stations as references, 100 ft. station intervals were read on the cross lines. The operator, in doing the cross lines, would begin at the baseline, proceed northerly or southerly to the end of the line, cross over to the adjacent line, return to the baseline and loop back to his starting point. This enabled him to apply reference and diurnal corrections to his readings.

The corrected values were annotated and contoured at 200 gamma intervals. An arbitrary 500 gammas were added to each value to eliminate negative values from the map. The final map at a scale of 1" = 500' is Figure 3 (enclosed).

Results and Discussions

The magnetic data portrays a central west-north west trending belt of anomalous magnetite surrounded by an area of negligible magnetic expression.

The magnetite belt averages about 700 gammas above background. Within it are localized highs assumed to reveal structural trends.

Crude increased magnetic correlation with known outcrops of the quartz diorite is observed.

The Yukon Group is characterized by a weak magnetic signature.

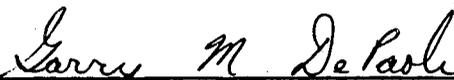
The areas of high magnetic relief suggest two possible fault directions. Those are west-north west and north south.

The north south fault set appears to post date and displace the west-north west trend. The deduced boundaries of the magnetic features and suspected faults are illustrated by Figure 4.

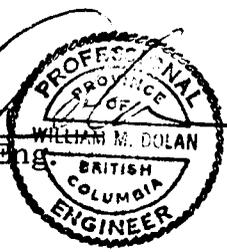
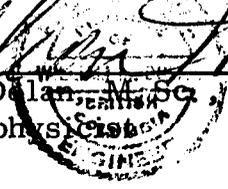
CONCLUSIONS

The survey is considered to outline the quartz diorite plug. The structure revealed may assist in explaining the control of the mineralization.

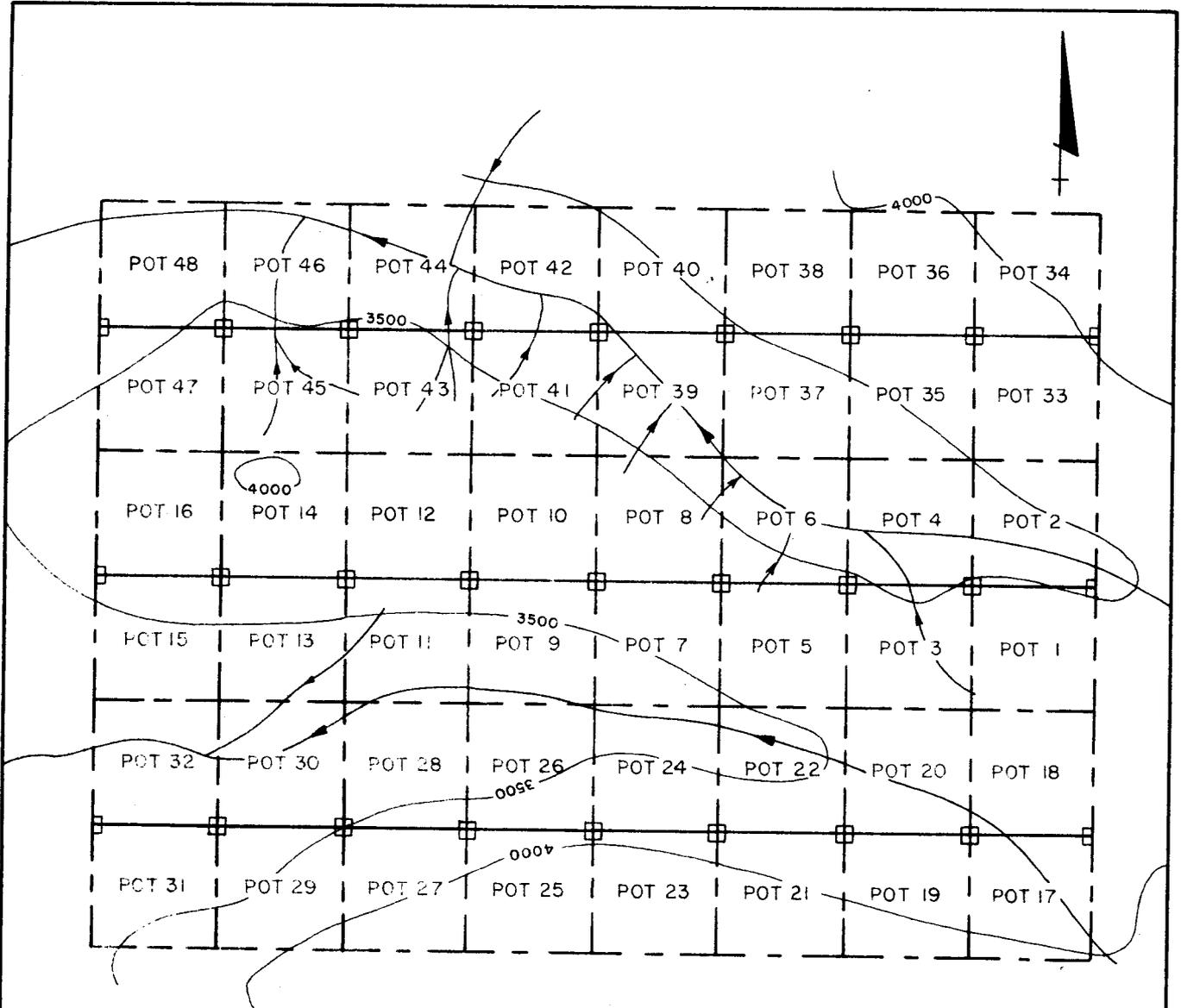
The exact relationship between the magnetite and mineralization cannot be determined owing to a paucity of diagnostic outcrop.

  
\_\_\_\_\_  
G. M. De Paoli, B. Sc.  
Geophysicist

  
\_\_\_\_\_  
Wm. M. Dolan, M. Sc., P. Eng.  
Chief Geophysicist

Expiry Date: June 1, 1971      Expiry Date: June 24, 1971



· AMAX EXPLORATION INC.

## MALONEY CREEK COPPER PROSPECT

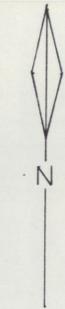
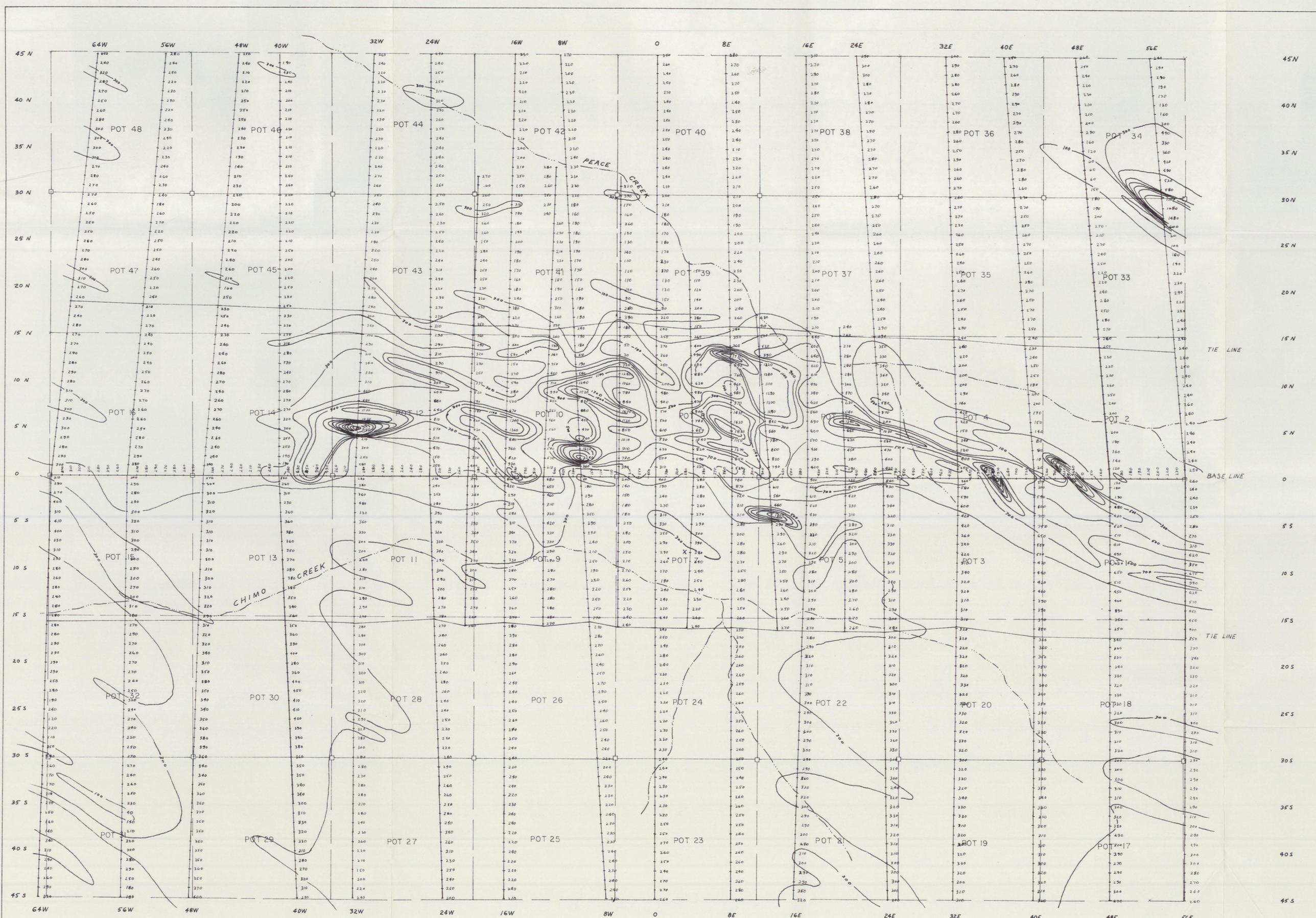
WHITEHORSE MINING DISTRICT — YUKON

# CLAIM MAP

SCALE : 1 inch = 2000 feet

NTS File 115 1 4

Fig 2



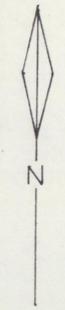
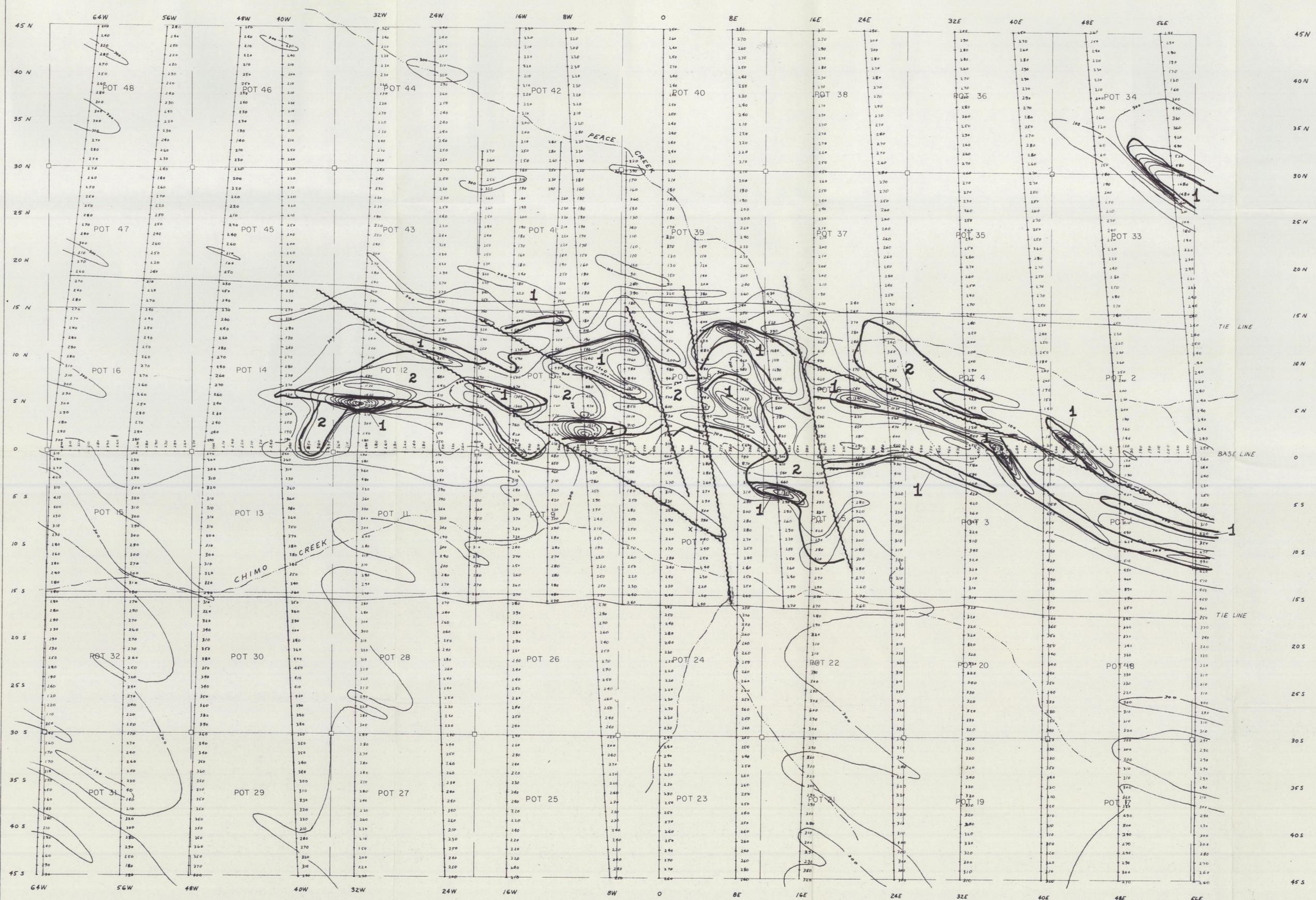
- LEGEND
- CUT LINE AND STATION
  - CONTOUR INTERVAL 200 Y'S
  - X CAMP
  - - - INTERMITTENT CREEK
  - CLAIM LOCATION LINE, CLAIM POST
  - - - CLAIM BOUNDARY LINE



AMAX EXPLORATION INC.  
 MAGNETOMETER SURVEY  
 MALONEY CREEK, YUKON  
 DATE: JULY 2, 1970  
 INSTRUMENT: SCINTREX MF-2 NO. 002133

FIGURE 3

060210



- LEGEND**
- CUT LINE AND STATION
  - CONTOUR INTERVAL 200 Y'S
  - X CAMP
  - - - INTERMITTENT CREEK
  - CLAIM LOCATION LINE, CLAIM POST
  - - - CLAIM BOUNDARY LINE

**MAGNETIC DEDUCTIONS**

- Magnetic Contact
- - - Possible Fault
- 1 Exceptional concentration of magnetite
- 2 Above background concentration of magnetite (probably within the quartz diorite)



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 MAGNETOMETER SURVEY  
 MALONEY CREEK, YUKON

DATE: JULY 2, 1970 SCALE 1"=500'

INSTRUMENT: SCINTREX MF-2 No. 002133

FIGURE 4

060210

