

4131

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

N.T.S. - 82 F 8

116° 06', 49° 20'

GEOPHYSICAL SURVEYS

ICE GROUP

COOPER LAKE AREA

FORT STEELE M.D., B.C.

January, 1973

John M. Hamilton, P. Eng.

WORK PERFORMED DURING THE PERIODS

FEBRUARY 28 - MARCH 18, 1972

AND JANUARY 15 - JANUARY 19, 1973

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

No. 4131 MAP

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ATTACHMENTS

Statutory Declaration Relating to Expenditures

Statement of Expenditures

- #1 Plate 1: Claim Location Map Scale 1:50,000
- #2 Plate 2: Magnetometer Survey Plan 1" = 400'
- #3 Plate 3: E.M. Response Profiles 1" = 200'

SUMMARY

Seven line-miles of magnetometer traverses were conducted on the Ice Group of mineral claims near Cooper Lake to investigate an airborne magnetic anomaly mapped by the Geological Survey of Canada.

An elongate 2000 gamma, west-north westerly striking anomaly about 4000 feet long was outlined. Subsequently, 0.8 miles of electromagnetometer traverses were conducted to search for conductivity associated with the magnetic body. No conductors were located.

INTRODUCTION

The 24 claim Ice Group is located 12 miles due west of Moyie Lake and 19½ miles south-west of Cranbrook, B.C. near Cooper Lake. The claim group and geophysical grid are located over a triangular shaped aeromagnetic anomaly which was found by the G.S.C. in this area. A magnetometer survey was done to locate the source of the aeromagnetic anomaly on the ground surface. Some E.M. traverses were also done in the area. This report discusses the geophysical work.

GEOLOGY

The survey area is underlain by the Precambrian Aldridge formation within the Purcell anticlinorium. This formation has thickness of approximately 15,000 feet, and consists of fine-grained argillites and quartzites intruded by many sills, and fewer dykes, of gabbroic to dioritic composition. The sills are generally non-magnetic in character. An elongate north-south trending intrusive exists near the survey area.

GEOPHYSICAL SURVEYS

(a) Methods

The magnetic survey was carried out in early March, 1972 by A. Hagen using a Sharpe MF-1 vertical force fluxgate magnetometer. This magnetometer has a maximum sensitivity of 20 gammas per scale division and a maximum readability of 5 gammas and measures the vertical component of the earth's magnetic field. The readings were taken at 100 foot intervals on flagged compass lines through the bush. Previously established base stations were read at least every two hours, to monitor the effects of diurnal variation and instrument drift. The electromagnetic traverses were done by J. Hayles assisted by T. Kauppinen using a Geonics EM-17 electromagnetometer, a horizontal loop system which was operated at a frequency of 1600 cps and a coil spacing of 200 feet.

(b) Data Presentation

The following data is included with this report:

Plate 1: Claim location map, 1:50,000

Plate 2: Magnetometer survey plan, 1" = 400'

Plate 3: E.M. Response Profiles, 1" = 100'

...continued...

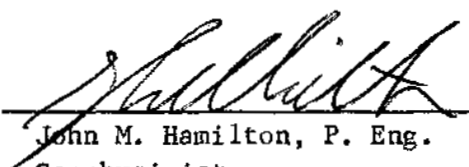
(c) Results

The ground magnetic survey shown on Plate 2 shows an elongate narrow magnetic anomaly aligned approximately north-west. The anomaly is approximately 4,000 feet long and reaches over 2000 gammas above background. A second intermittent magnetic anomaly appears to occur sub-parallel to its northern edge, but more detailed magnetic traverses could possibly alter the contour pattern to include this in the main anomaly.

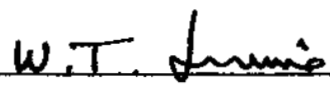
Graphical analysis of profiles across strike of the anomaly suggest the causative body is an almost vertical tabular body approximately 125 feet thick. The indicated depth to top is between 50 and 100 feet.

Electromagnetic profiles were obtained on three lines in the central portion of the magnetic body, and are plotted in conjunction with magnetic profiles on Plate 3. No E.M. responses suggestive of bed-rock conductors were located.

Submitted by


John M. Hamilton, P. Eng.
Geophysicist

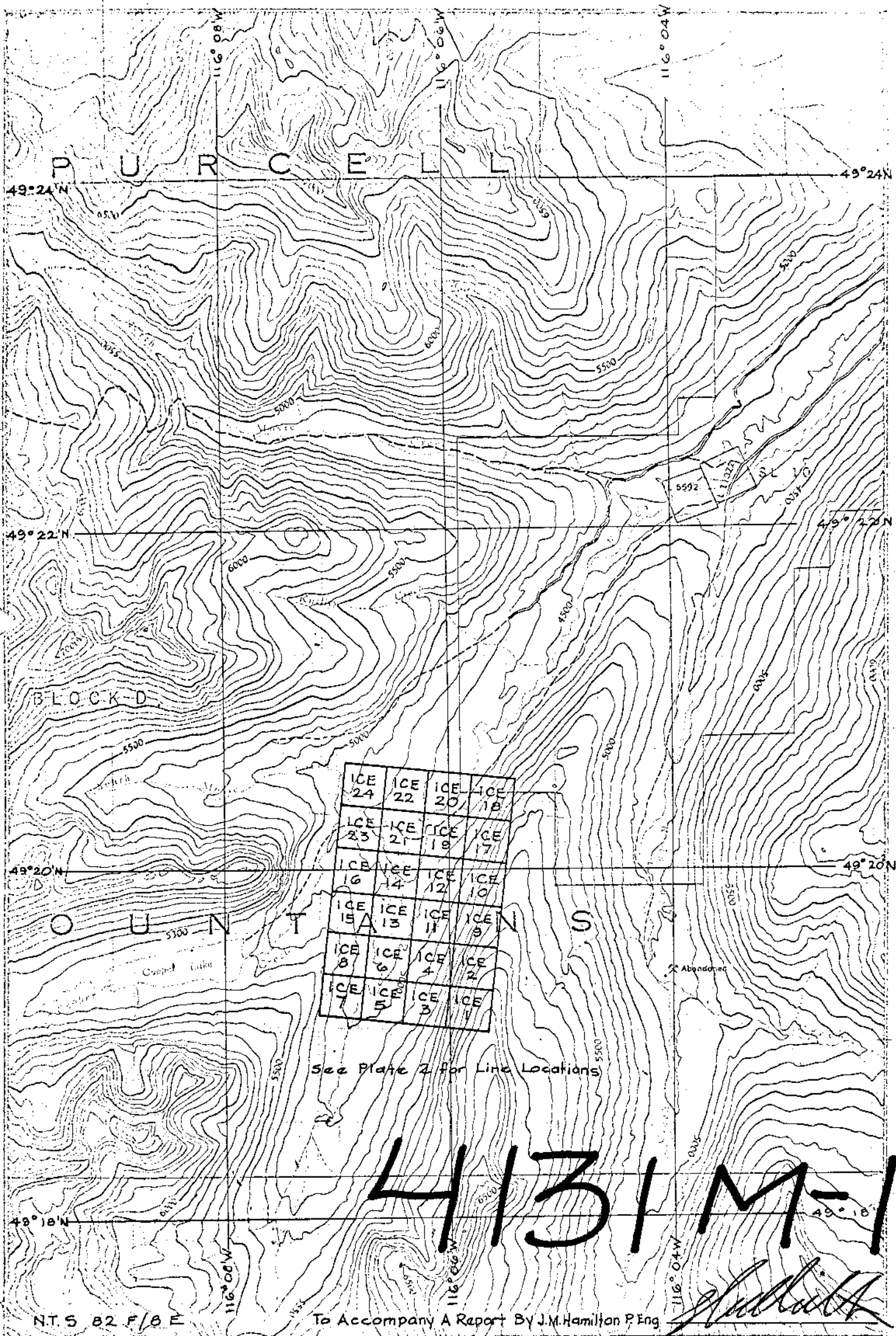
Endorsed for
Release by


W. T. Irvine, P. Eng.
Manager,
Western Exploration

JMH/mjw

DISTRIBUTION

Exploration Administration, Vancouver (1)
Mining Recorder, Cranbrook (2) *2*
Kimberley Exploration Office (1)
Geophysics File, Vancouver (1)



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MINERAL CLAIMS MAP OF
ICE GROUP

FORT STEELE, MINING DIVISION B.C.

Scale: 1" = 1/4 MILE

Date: JAN, 1973

Plate: 1

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
To Wit:

In the Matter of

STATUTORY DECLARATION RELATING
TO EXPENDITURES ON GEOPHYSICAL
SURVEYS OF THE ICE GROUP, FORT
STEELE MINING DIVISION, B.C.

I, JOHN MURRAY HAMILTON, Professional Engineer

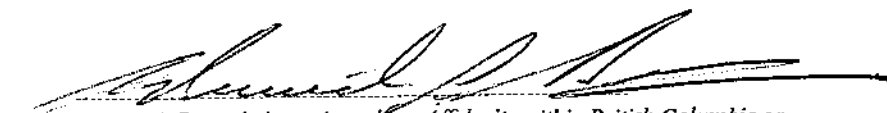
of The City of North Vancouver

in the Province of British Columbia, do solemnly declare that

- 1) Copies of a report regarding geophysical surveys on certain mineral claims situated in the Fort Steele Mining Division are being filed with the Mining Recorder in Cranbrook, B.C.
- 2) Attached hereto, and marked with the letter "A" upon which I have signed my name at the time of declaring hereof, is a statement of expenditures incurred in connection with the said geophysical surveys showing in addition the dates during which those doing the said geophysical surveys performed their work.

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City
of Vancouver, in the
Province of British Columbia, this 27th day
of January 1973, A.D.



A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

C O M I N C O L T D.

EXPLORATION

WESTERN DISTRICT

GEOPHYSICAL SURVEY COSTS

ICE GROUP

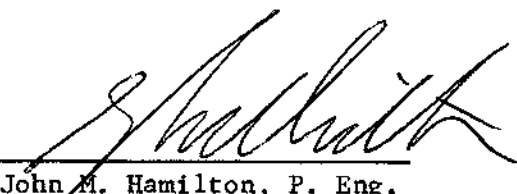
FORT STEELE M.D., 116° 06', 49° 20'

1. Geophysicist's Time:	B.S. Williams, March 1 & 2, 1972 J.G. Hayles, January 15, 16, 17, 1973 Total 5 days at \$75.00	\$ 375.00
2. Technician's Time:	A.S. Hagan, Feb. 28 - Mar. 9, 1972 T.G. Kauppinen, Jan. 15, 16, 17, 1973 Total 14 days at \$50.00	\$ 700.00
3. Operating Day Charge (To cover supervision and report-writing expenditures)	4 days at \$75.00	\$ 300.00
4. Instrument Rental, Magnetometer	11 days at \$5.00 - \$55.00	
Electromagnetometer,	3 days at \$10.00 - \$30.00	\$ 85.00
5. Room and Board, 19 man-days	at \$10.00	\$ 190.00
6. Transportation Costs, Snowmobile rental	\$210.00	
Truck Usage	\$215.68	\$ 425.68
7. Line Preparation Costs, 7.9 miles	at \$110.00	\$ 869.00
		<u>\$2,944.68</u>

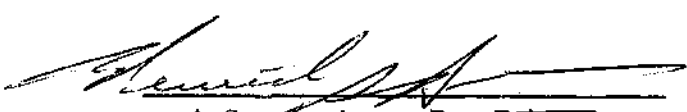
WORK PERFORMED DURING THE PERIODS

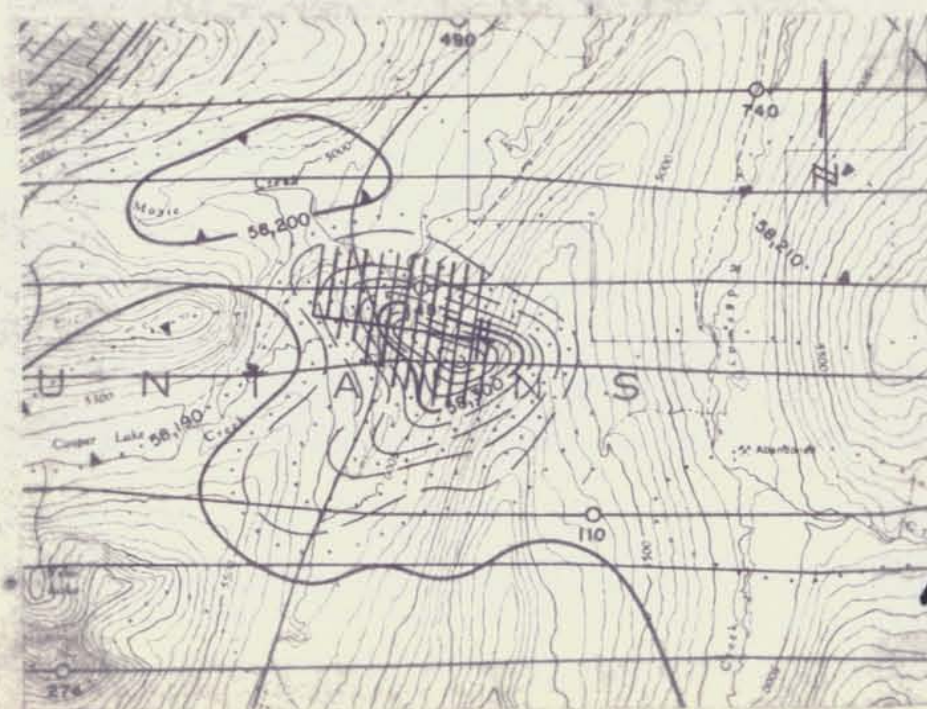
FEB. 28 - MAR. 18, 1972 AND JAN. 15 - JAN. 19, 1973

Signed


John M. Hamilton, P. Eng.
Geophysicist

This is Exhibit "A" To The Statutory Declaration Of
John M. Hamilton, Declared Before Me This 22nd Day Of January, 1973 A.D.


A Commissioner For Taking
Affidavits for British Columbia



PLAN OF GRID LOCATION
ON 1"=1 MILE AEROMAG MAP
Map 8472 G (82 F/8)

M-2

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CONTOUR INTERVAL: 200 GAMMAS
INSTRUMENT: SHARPE MF-1
MAX. SENSITIVITY: 20 γ/SC. DN.
MAX. READABILITY: 5 γ

CLAIM BOUNDARIES

To Accompany A Report By J.M. Hamilton P. Eng

J. M. Hamilton



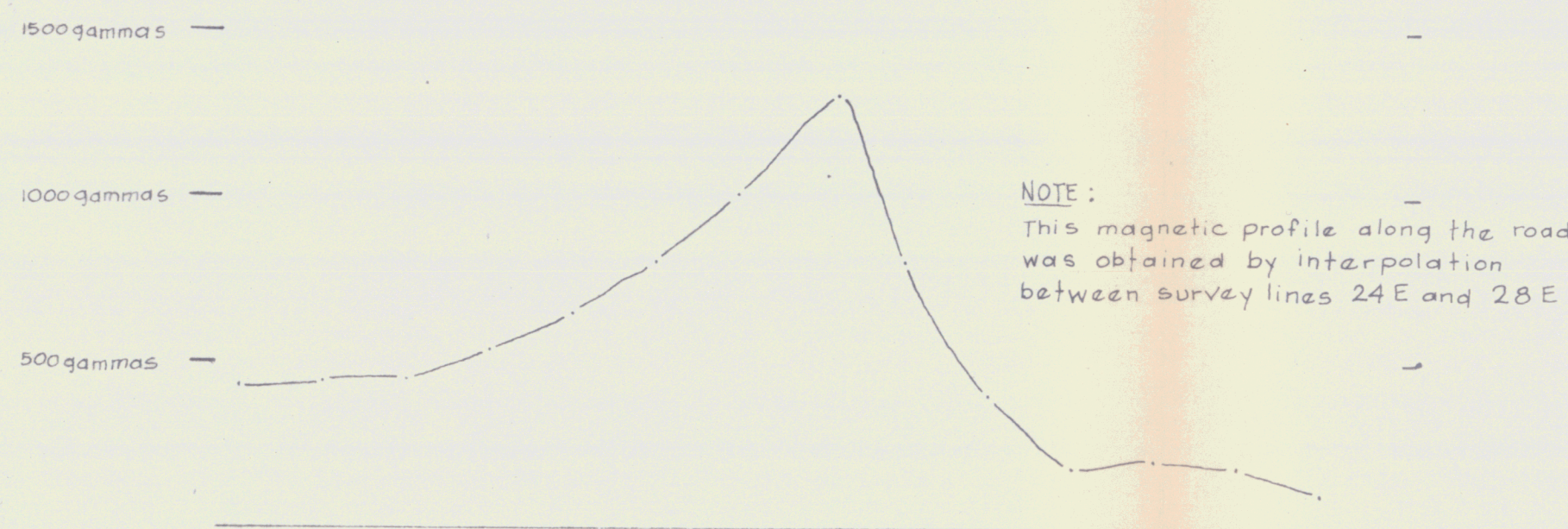
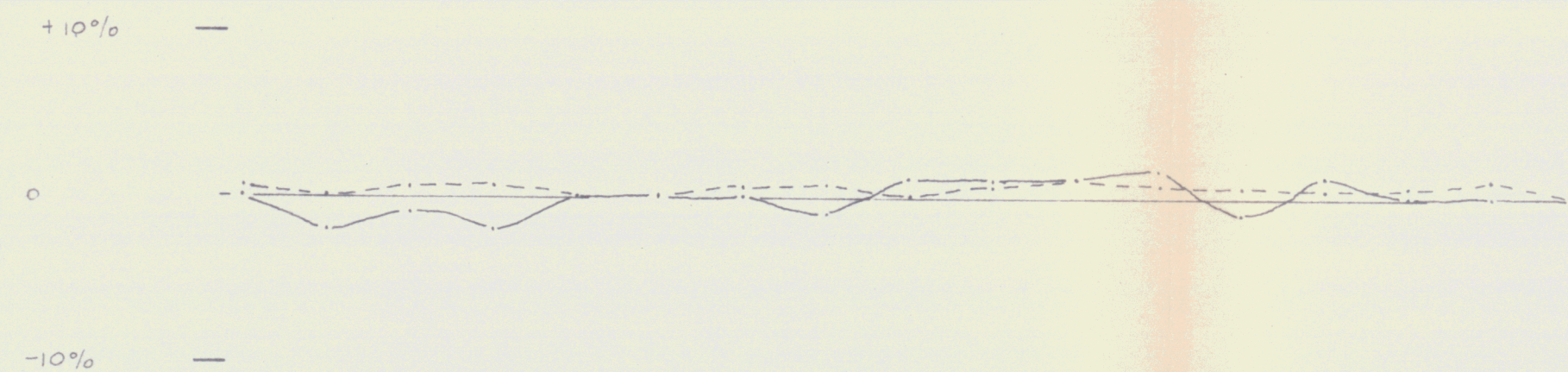
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Revised by: Date	Revised by: Date

MAGNETOMETER SURVEY ICE GROUP MINERAL CLAIMS

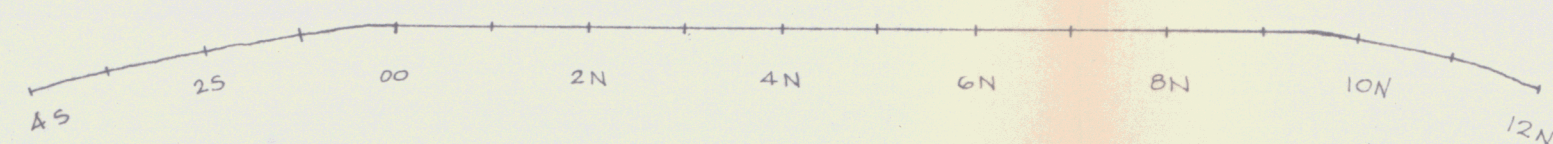
FORT STEELE MINING DISTRICT, B.C.

Scale: 1" = 400' Date: MARCH 1972 Plate: 2

ROAD LINE

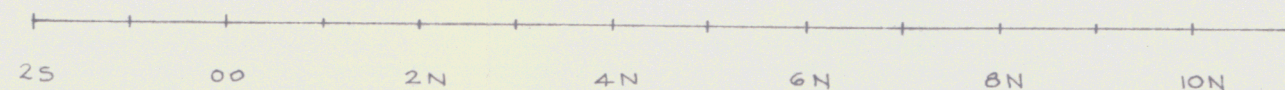
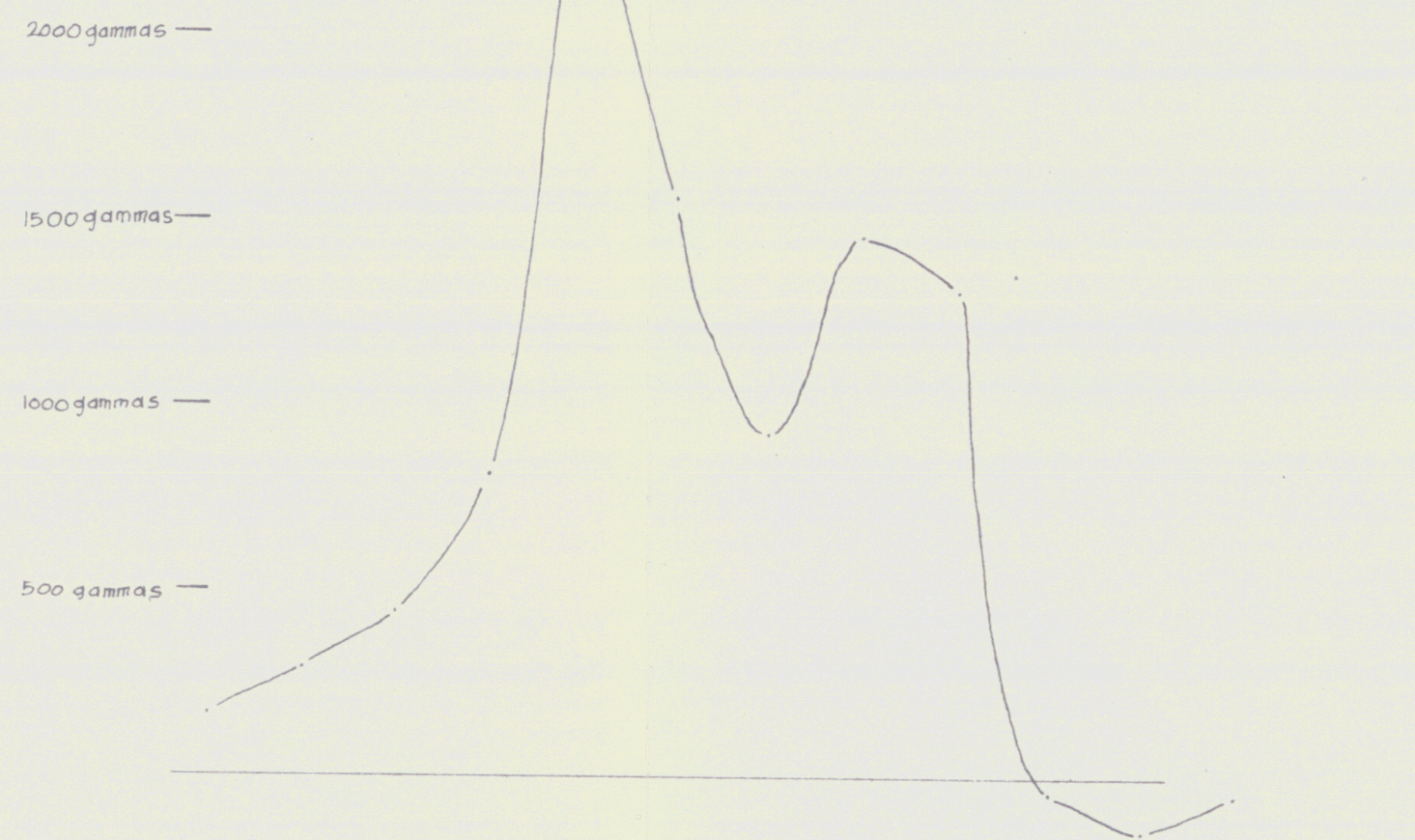
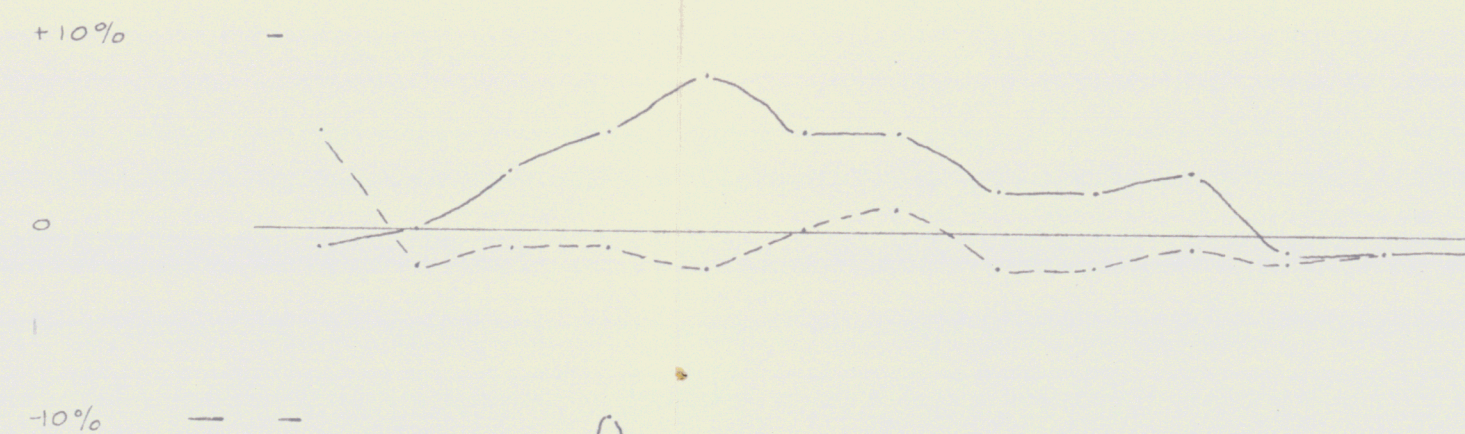


NOTE:
This magnetic profile along the road
was obtained by interpolation
between survey lines 24 E and 28 E

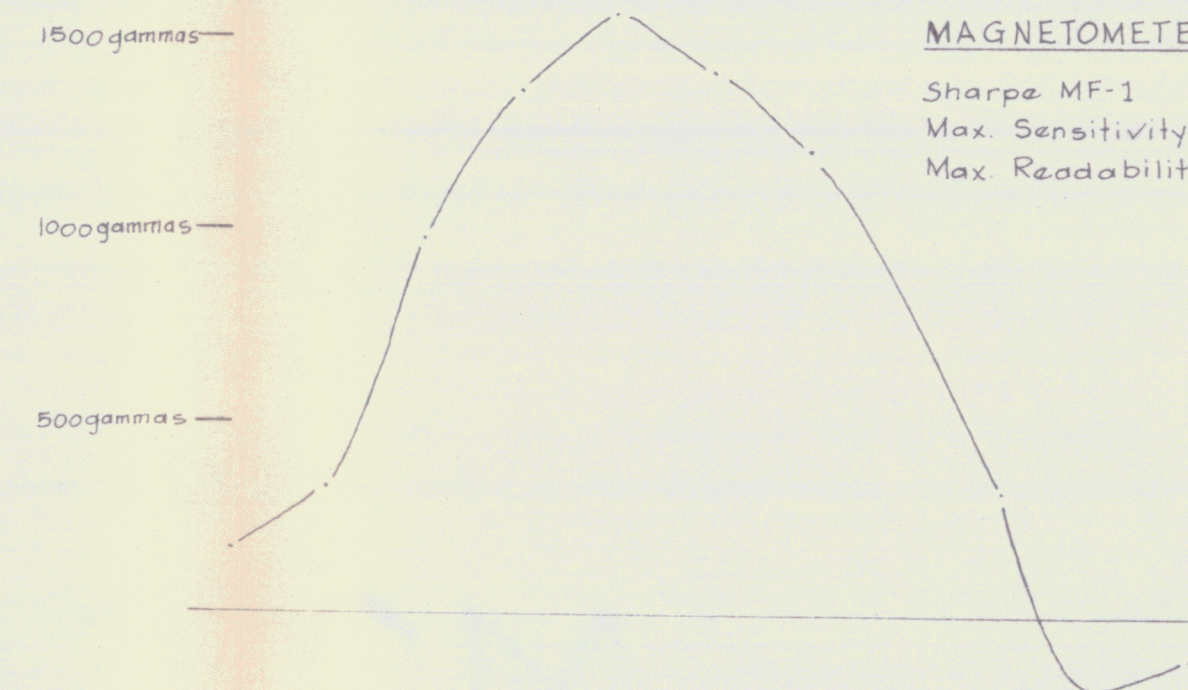
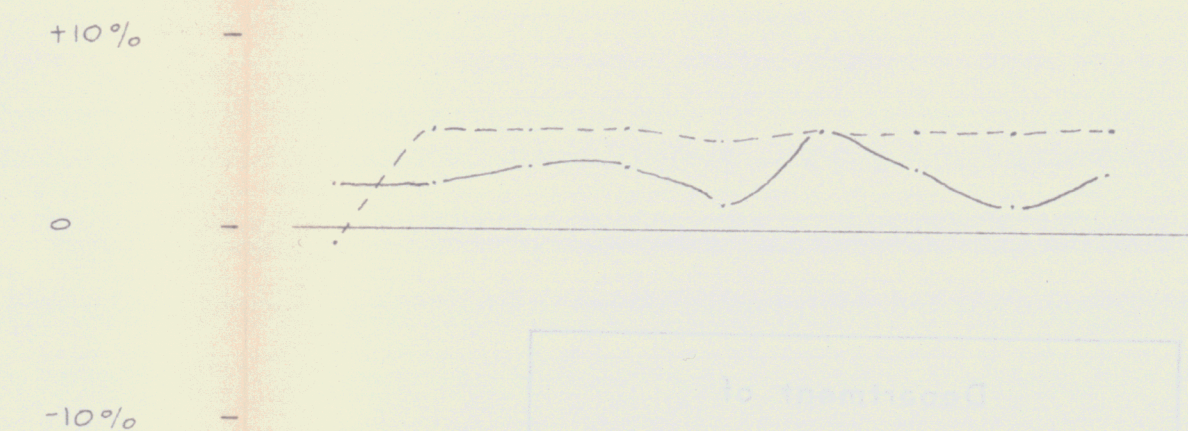


NOTE:
See Plate 2 for Line Locations

LINE 20 E



LINE 16 E



EM
In Phase ———
Out Phase - - -

INSTRUMENT
Geonics EM-17
Coil Separation = 200 feet
Frequency = 1600

MAGNETOMETER
Sharpe MF-1
Max. Sensitivity = 20 gammas/scale div
Max. Readability = 5 gammas

To Accompany A Report By J. M. Hamilton P. Eng. *J. M. Hamilton*

Drawn by: J.G.H.		Traced by:	
Revised by	Date	Revised by	Date
Scale: 1" = 200'		Date: JAN., 1973	Plate: 3

EM RESPONSE PROFILES
ICE GROUP MINERAL CLAIMS
FORT STEELE MINING DIVISION B.C.

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