TELEPHONE 825-2320
VAL D'OR, QUEBEC

W. N. INC
Consulting

010

October 3, 1973

The President and Directors,
Abitibi Asbestos Mining Company Limited,
153 Perrault Blvd.,
Val d'Or, Quebec.

Report on Magnetometer Survey
and Electromagnetic Survey,
Fifty claims property, McArthur
Township, Timmins area, Ont.

INTRODUCTION

This report describes a magnetometer survey and an electromagnetic survey carried out during various intervals between February and June 1973, on your group of 50 staked claims in McArthur township, Porcupine Mining Division, Ontario. These claims were staked in April 1972. They provide protection on strike of an asbestos-bearing zone occuring within a block of six optioned claims. The six claims adjoin the 50 claims at the southeast end of the latter group, and the option is held by your company.

The location of these claims in an area of known gold, base-metals and asbestos mineralization, and their own favourable geological environment for such

deposits, are the factors substantiating their acquisition and exploration.

PROPERTY

The 50 claims held by Abitibi Asbestos Mining Company Limited are registered with the Ontario Department of Mines and Northern Affairs under the numbers as follows:

P 320870 to 320881 inclusive
P 344458 to 344495 inclusive

Access to the claims is via a motor road extending south from Timmins for 20 miles to and beyond Papakomeka and Triple Lakes. This road passes partly along the McArthur-Fripp township line one mile west of the west end of the claims block. Near the south end of Triple Lake a branch of the road extends northeast for 2.5 miles to the central part of the property, ending at a hydro electric transmission line. The eastern limit of the block of claims is close to McArthur Lake, from which tractor roads extend west to the property.

PREVIOUS EXPLORATION WORK

(1) 1957-58: Paymaster Consolidated Mines Limited carried out geophysical and geological surveys of the south central part of the present property and drilled four holes.

(2) 1965: North Frontier Explorations carried geophysical and geological surveys of the eastern one-third of the present property, and drilled eight holes.

(3) 1965: Consolidated Canorama Exploration carried out geophysical and geological surveys, and drilling in the area immediately south of the eastern part of the present property. Two of the holes drilled were put down in present claim No. 319996, which forms the southeast corner of the block of six claims optioned by Abitibi Asbestos Mining Company Limited.

(4) 1971: Abitibi Asbestos Mining Company Limited carried out geophysical surveys, prospecting, and rock trenching in an asbestos deposit occuring in their six optioned claims.

(5) 1971: Ontario Department of Mines and Northern Affairs published preliminary geological map No. 631 of McArthur Township, at a scale of 1320 feet to the inch.

GEOLOGY

Most of the eastern half of the present property has been geologically mapped in detail by the former operators listed above. According to O.D.M. and N.A. geological map P. 631, no bedrock crops out in the western part of the property.

The claims are underlain by Precambrian rock

formations. These include a Proterozoic diabase dyke, and a group of Archean intrusive and volcanic rocks. The volcanic formations are a mafic band and a felsic assemblage. The intrusives are ultramafic peridotite - dunite; mafic gabbro-diorite; and felsic granodiorite-quartz diorite.

The ultramafic intrusive rocks occupy most of the eastern two-thirds of the property. The volcanic rocks occur in the western part and along the south and north margins of the central mass of peridotite-dunite. The southern margin of a large body of granodiorite strikes northwestly along the 4 miles length of the northern boundary of the property.

The strike of foliation in all the rocks is northwest and the dip is steeply northeast. In the west central part of the block of claims, strike faults and a cross fault are shown on Map P. 631.

SURVEY DATA

Three east-west, offset base lines were established crossing the property for a total length of 21,600 feet (4 miles). A total of 55 picket lines were cut and chained extending north and south from the base lines at 400-foot intervals. Magnetometer and electromagnetic readings were taken at 100-foot intervals along the picket lines. A total of 54 miles of lines were cut and chained, and 50 miles were surveyed. Some 2,600 magnetometer

readings were recorded in addition to 5,000 electromagnetic measurements (In phase and out of Phase), C. K. Grantzidis, helped by B. Rolfe, were the instrument operators. The line cutting and chaining was done by a group of Indians residing at Miquelon, Quebec. Field work was done at intervals in February, March and April 1973. Office work was done in June, July and September, 1973.

The magnetometer used was a McPhar, Fluxgate M-700, with a sensitivity of 30 gammas per scale division. The Magnetic readings are all plotted and contoured on two plans at one inch to 200 feet, accompanying this report.

An ABEM horizontal loop instrument was used to take the electromagnetic measurements. It was operated at a frequency of 3520 cps, with a transmitter to receiver coil separation of 300 feet along the connector cable. The In Phase Component and the Out of Phase Component measured at each station are all plotted on the accompanying two maps on which profile lines are shown at a scale of one inch to 20 percent. The location and inferred strike direction of the electromagnetic conductors found are illustrated by means of a plotted conductor axis.

MAGNETOMETER SURVEY RESULTS

A very broad variation in the magnetic intensity of the rocks underlying this property is indicated by the magnetometer survey. Several anomalies of peak magnetic intensity amounting to over 10,000 gammas are recorded, and, at the other end of the scale, anomalies of very low magnetic intensity amounting to minus 1,400 gammas occur.

The average or background magnetic intensity of the area surveyed is about 2,000 gammas.

The peak magnetic readings occur in areas underlain by ultrabasic intrusive rocks such as peridotite or dunite, both having a relatively high magnetite content. In general, areas occupied by these rocks produce magnetic values higher than 3000 gammas. The magnetic results serve to outline in detail the extent of the ultrabasic intrusives, which is some 70% of the area of the group of claims.

Magnetic responses of from 2500 to 3000 gammas are inferred to represent areas underlain by mafic volcanic rocks such as basalt and andesite. These occur as an embayment, of considerable extent, in the peridotites of the east-central area of the property. They also appear to continue across the

north-central and western sections of the group of claims as a band 3000 feet wide.

A few outcrops and magnetic readings averaging 200 to 300 gammas lower than the mafic volcanics indicate that the southern margin of a large granodiorite body persists continuously along the northern edge of the property.

According to the magnetometer readings, and some outcrops, it appears that the southern part of the west central section of the property is occupied by felsic volcanic rocks. These range in magnetic intensity from a low of minus 1450 gammas to a high of 2500 gammas, and average about 2000 gammas.

An asbestos-bearing zone is exposed in pits and trenches along 700 feet on the six claim block of Abitibi Asbestos, which adjoins these claims at the south side of the west end of the group. It is pertinent to note that the magnetic intensity over the zone averages only 2,500 gammas, although the host rock is serpentinized peridotite.

ELECTROMAGNETIC SURVEY RESULTS

The electromagnetic, horizontal loop survey has found eight anomalies. These conductors are all located in

the eastern part of the property, in the northwestern end of a large peridotite-dunite mass.

The strongest conductor is on lines 52E and 56E, at footage 100 N and 600 N of the base line. Both the In Phase and Out of Phase components of conductivity reach a maximum of 10%. The corresponding magnetic readings are 3000 gammas. The conductor strikes northwest toward an area of much lower magnetic intensity, and thus appears to occur in a contact zone between peridotite and volcanic rocks. It extends for 1500 feet to the southeast in the peridotite. It may represent a shear or fault structure with which asbestos or base metal mineralization could be associated. A drill hole is recommended.

A second conductor was found on line 60E at footage 100 N. It appears to be oriented parallel to the above E.M. anomaly at a distance of 300 feet northeast. The related magnetic intensity is 4000 gammas. The Out of Phase response (11%) is nearly double that of the In Phase Component (6%), which is diagnostic of serpentinization of the peridotite host rock, and probably related to shearing or fracturing. A second drill hole is proposed to explore the assumed northwestern extension of both this anomaly and the one described above.

Three E.M. anomalies occur to the north of the above two, on lines 56E, 60E and 64E. These may represent shear zones accompanied by serpentinization of the enclosing peridotite. At the one on line 60E the magnetic value is 8000 gammas, indicating a strong development of magnetite which could contribute to the conductivity measured.

A sixth, rather weak conductor, was found 750 feet south of the base line on line 72E. The seventh E.M. anomaly is located on line 88E at footage 1800 south. As shown on the accompanying magnetometer survey map, these two E.M. responses may lie on the southeast extension of the same structure or mineralization that caused the second conductor.

Anomaly No. 8 is a broad weak electromagnetic response on line 104E, in claim 344469. It is in an area of pyroxinic and gabbroic peridotite which have a magnetic response of 2,600 to 3,200.

CONCLUSION AND RECOMMENDATIONS

1. The magnetometer survey has delineated in detail the areas of the property underlain by a complex of gradational phases of peridotite, dunite and pyroxenite.

2. The magnetometer survey has also indicated a complex area of intermixed volcanics and peridotite in the central part of the property.

3. The areas occupied by the ultrabasic intrusive rocks should be "grubhoe" prospected for asbestos, particularly in the vicinity of occurrences noted on the maps, and on the northwest strike of the deposit in the adjacent 6-claim property.

4. Two diamond drill holes, totalling 1000 feet, are proposed. These should be drilled southwest from collars at 59E, 200N; and at 54E, 850N, the latter for a length of 600 feet.

Submitted by

W. N. Ingham

W. N. Ingham, Ph. D.,
Consulting Geologist.

Val d'Or, Quebec,
October 11, 1973

GEOPHYSICAL – GEOL(
TECHNICAL D/

900

PROJECTS SECTION

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey MAGNETOMETER and ELECTROMAGNETOMETER

Township or Area McArthur Township, Porcupine M.D.

Claim holder(s) Abitibi Asbestos Mining Co. Ltd.
153 Perrault Blvd. Val d'Or, Quebec.

Author of Report W. N. Ingham

Address 207 Dennison Blvd., Val d'Or, Quebec.

Covering Dates of Survey Feb. - Oct. 1973
(linecutting to office)

Total Miles of Line cut 54

SPECIAL PROVISIONS CREDITS REQUESTED		DAYS per claim
ENTER 40 days (includes line cutting) for first survey.	Geophysical	
	–Electromagnetic	40
	–Magnetometer	20
	–Radiometric	
ENTER 20 days for each additional survey using same grid.	–Other	
	Geological	
	Geochemical	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer _____ Electromagnetic _____ Radiometric _____
(enter days per claim)

DATE: Oct. 22nd, 1973 SIGNATURE: W. N. Ingham
Author of Report or Agent

PROJECTS SECTION

Res. Geol. _____ Qualifications 63A.391

Previous Surveys L.O all attached sheet

Checked by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

OFFICE USE ONLY

MINING CLAIMS TRAVERSED

Claim No.	Claim No.
P-320870	P-344471
P-320871	P-344472
P-320872	P-344473
P-320873	P-344474
P-320874	P-344475
P-320875	P-344476
P-320876	P-344477
P-320877	P-344478
P-320878	P-344479
P-320879	P-344480
P-320880	P-344481
P-320881	P-344482
P-344458	P-344483
P-344459	P-344484
P-344460	P-344485
P-344461	P-344486
P-344462	P-344487
P-344463	P-344488
P-344464	P-344489
P-344465	P-344490
P-344466	P-344491
P-344467	P-344492
P-344468	P-344493
P-344469	P-344494
P-344470	P-344495

If space insufficient, attach list

50 claims

Show instrument technical data in each space for type of survey submitted or indicate "not applicable"

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 2,600 Number of Readings 7,600 Mag & E.M.

Station interval 100 and 50 feet

Line spacing 400

Profile scale or Contour intervals 1 inch = 20% E.M., - 1000 gammas, Magnetometer
(specify for each type of survey)

MAGNETIC

Instrument McPhar, Model 700

Accuracy - Scale constant 30 gammas per scale division

Diurnal correction method Twice daily

Base station location West Sheet: Base Line at 3600 W. East Shore Montjoy River in Claim P-344484. East Sheet: Line 12,000 E., 1100 S. Claim 320877. Camp.

ELECTROMAGNETIC

Instrument Swedish E.M. Gun. 1969 ABEM

Coil configuration Horizontal

Coil separation 300 feet

Accuracy 2% In and Out of Phase Components

Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line

Frequency 3520 Cycles per second.
(specify V.L.F. station)

Parameters measured

GRAVITY

Instrument

Scale constant

Corrections made

Base station value and location

Elevation accuracy

INDUCED POLARIZATION -- RESISTIVITY

Instrument

Time domain Frequency domain

Frequency Range

Power

Electrode array

Electrode spacing

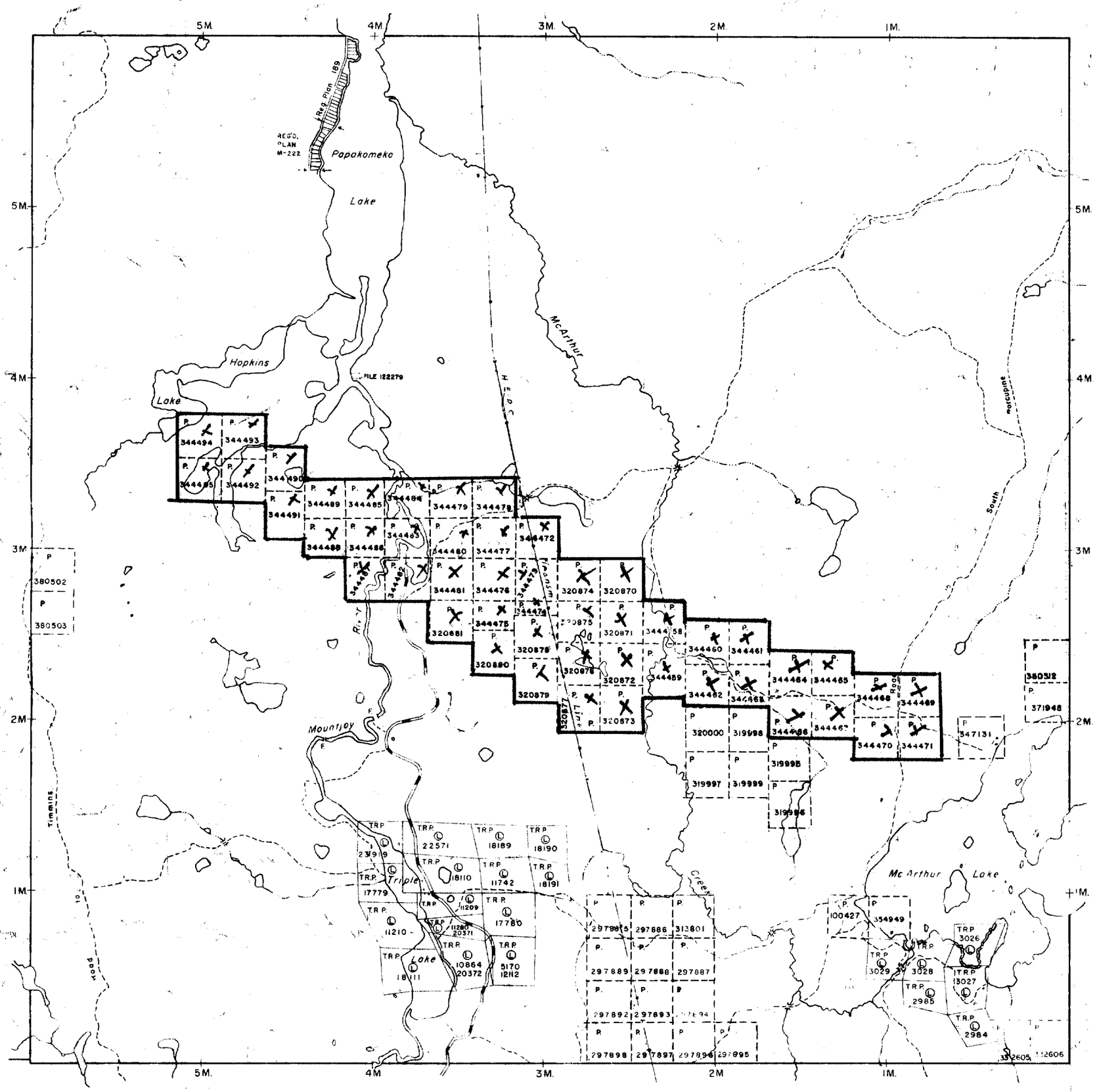
Type of electrode

Adams Twp. – M.261

Fripp Twp. – M.281

Douglas Twp. – M.274

Bartlett Twp. – M.262



THE TOWNSHIP OF

McARTHUR

DISTRICT OF
TIMISKAMING

PORCUPINE
MINING DIVISION

SCALE: 1-INCH=40 CHAINS

LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	C.S.
LEASES	(L)
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	
IMPROVED ROADS	
KING'S HIGHWAYS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	
MINES	
CANCELLED	C

NOTES

This township lies within the TEMAGAMI PROVINCIAL FOREST

400' Surface Rights Reservation around all lakes and rivers

FILE – 2.1342

PLAN NO.- **M.298**

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

200

Bob K.

2-1342

ABITIBI ASBESTOS MINING CO. LTD.

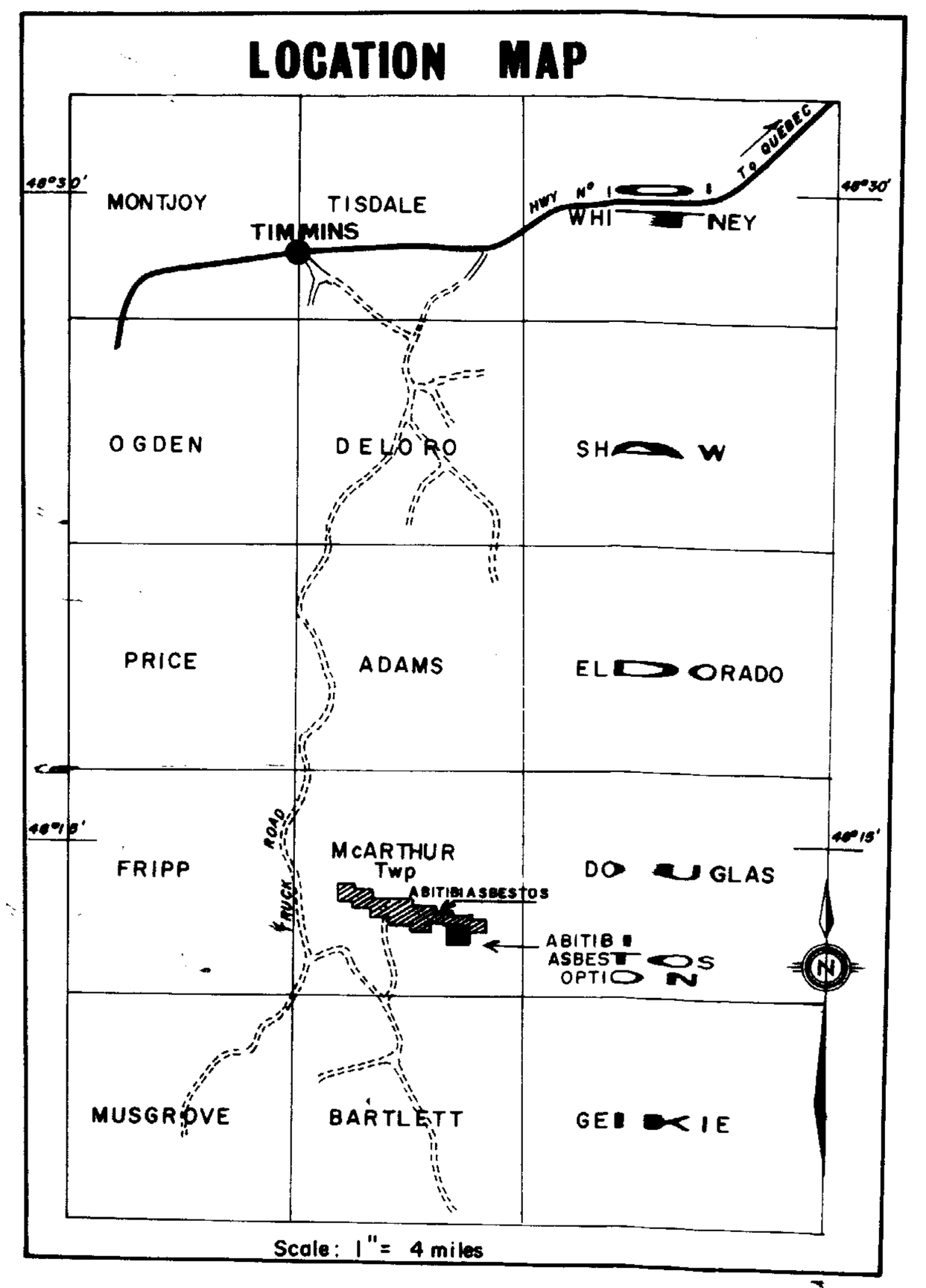
MAGNETOMETER SURVEY

EAST SHEET
McARTHUR TOWNSHIP

TIMMINS MINING DISTRICT

ONTARIO

SCALE: 1 INCH=200 FEET



LEGEND

- 5000 — ISOMAGNETIC CONTOUR LINE
- CONTOUR INTERVAL 1000 GAMMAS
- FLUXGATE McPHAR, M-700

INTERPRETATION BY: W.N. INGHAM

OPERATOR BY: C.K. GRANTZIDIS

DRAFTING BY: C.K. GRANTZIDIS

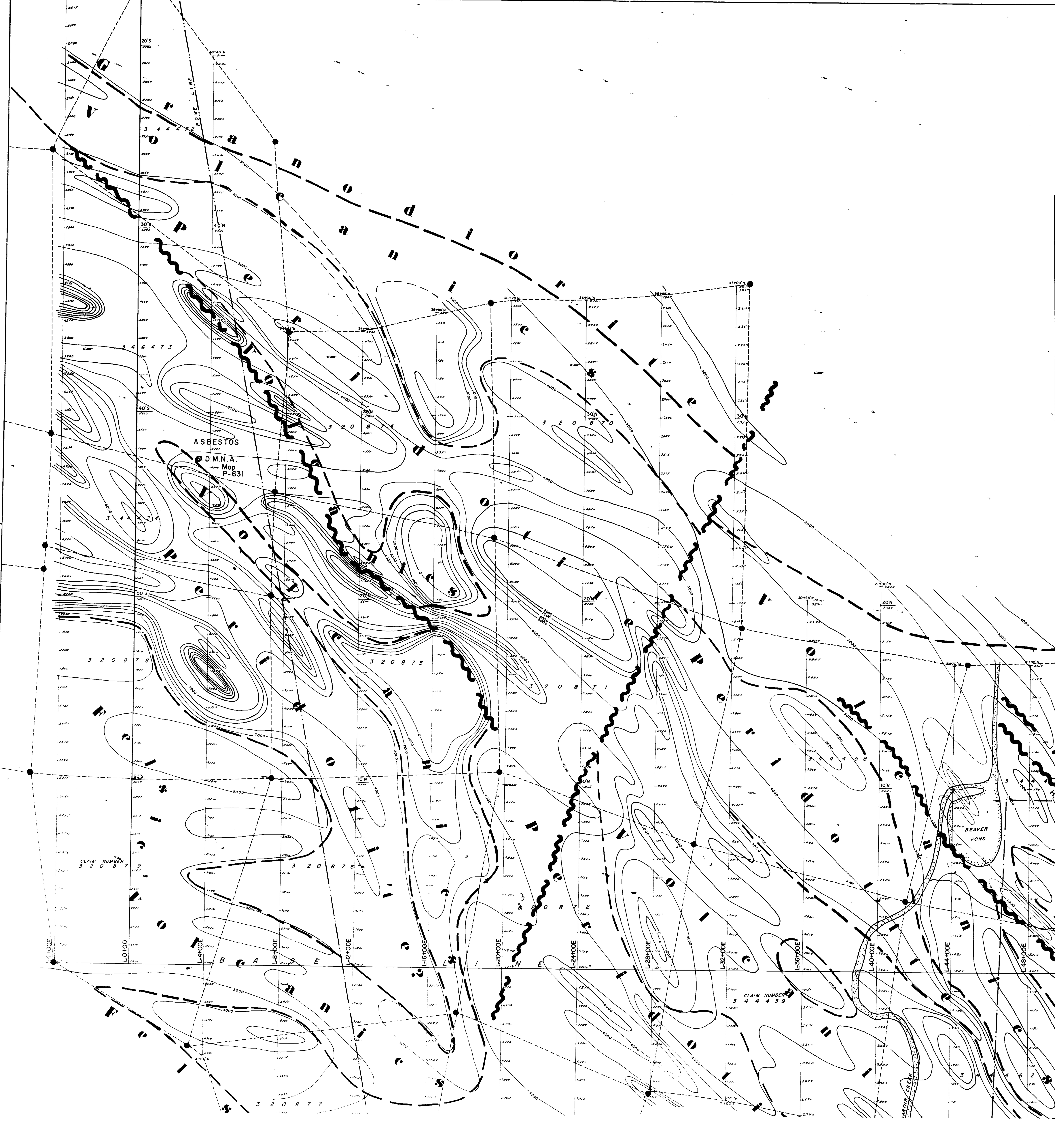
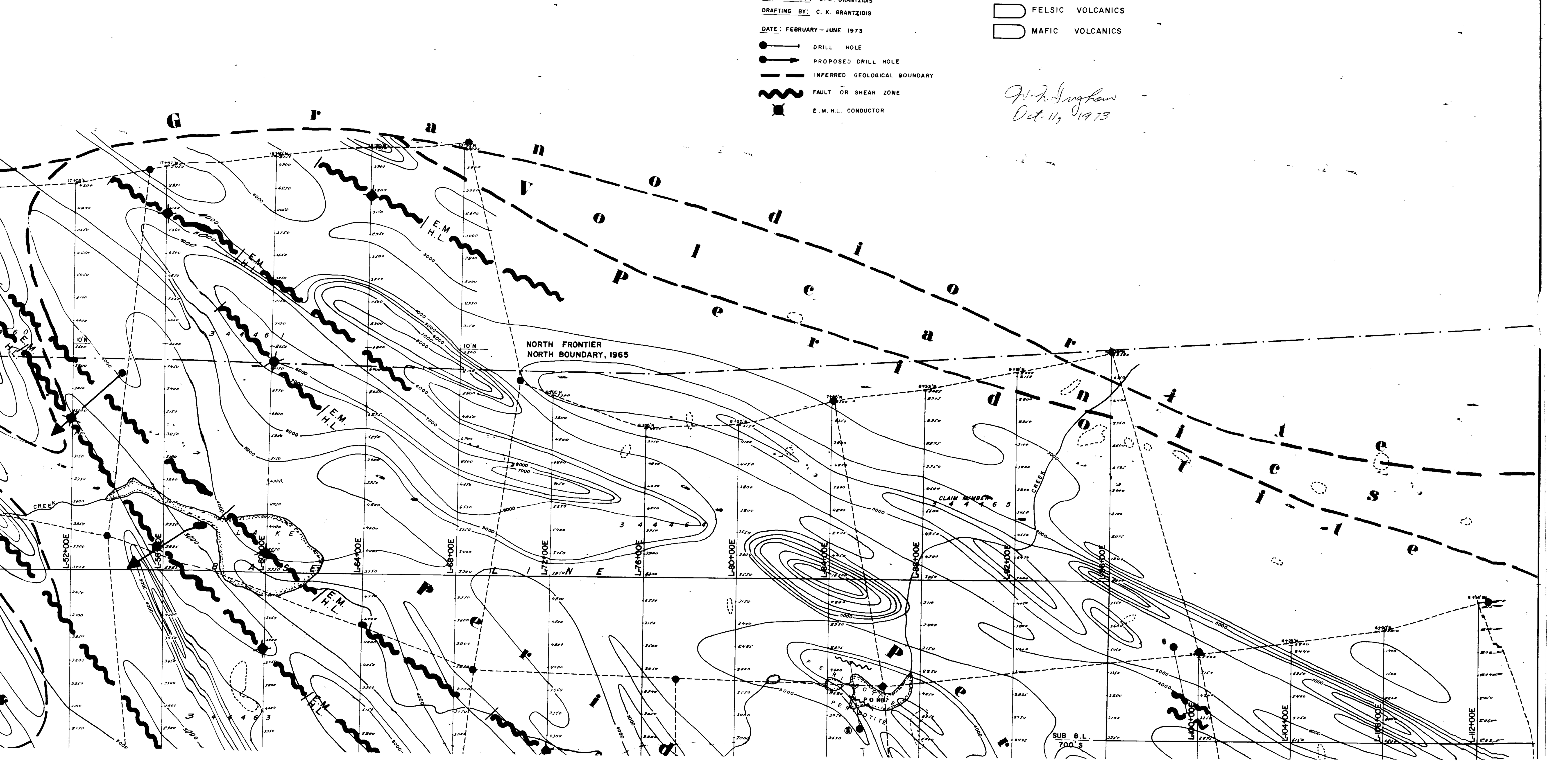
DATE: FEBRUARY-JUNE 1973

- DRILL HOLE
- PROPOSED DRILL HOLE
- INFERRED GEOLOGICAL BOUNDARY
- FAULT OR SHEAR ZONE
- E.M.HL. CONDUCTOR

GEOLOGY

- DIABASE
- GRANODIORITE
- PERIDOTITE, PYROXENITE
- DONITE, GABBRO, DIORITE
- FELSIC VOLCANICS
- MAFIC VOLCANICS

W.N. Ingham
Oct. 11, 1973

POWER LINE

Lake

STREAM

BASE LINE

BASE CONTROL STATION

Montjoy River

Montjoy River

Montjoy River

Creek

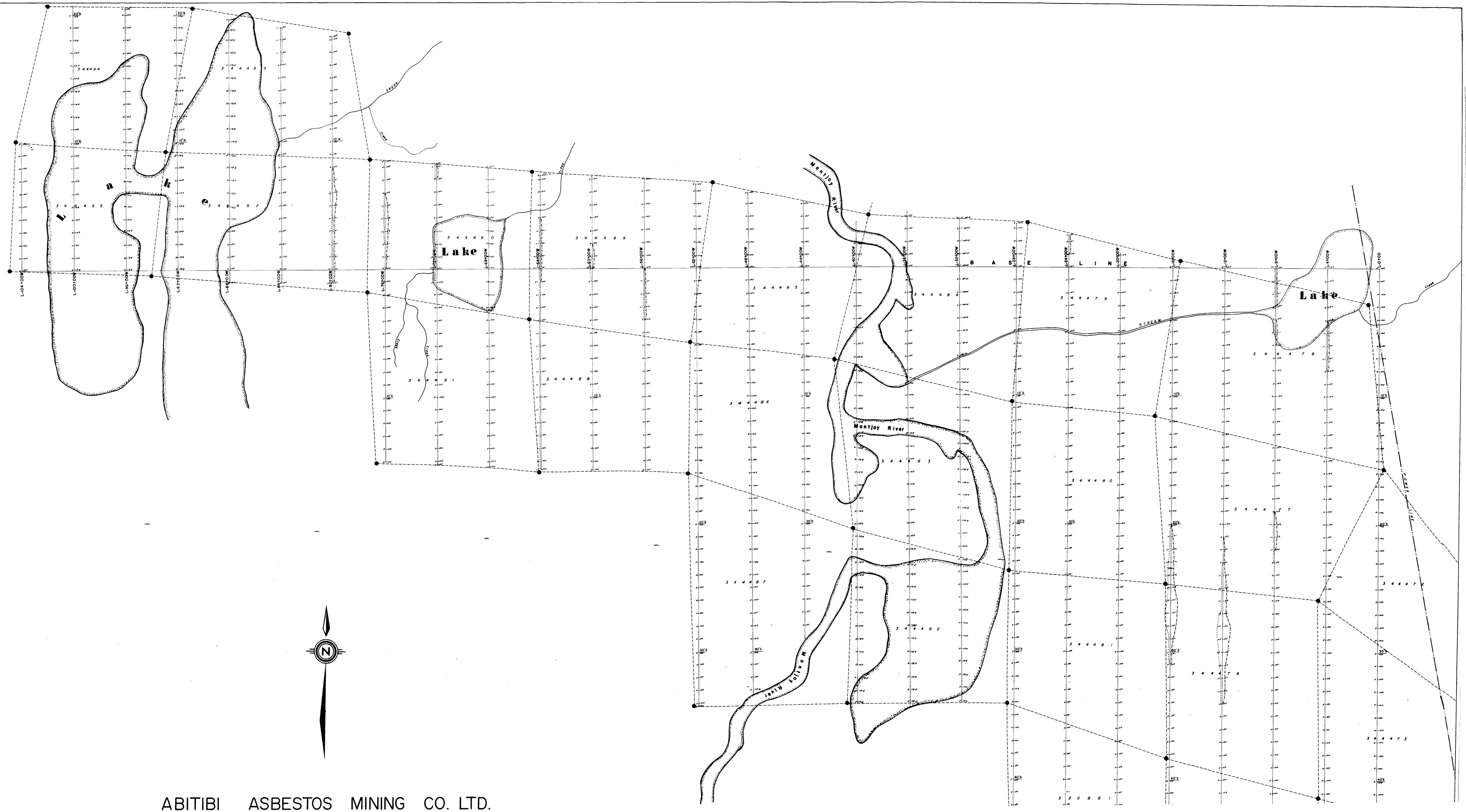
Creek

Creek

Lake

Lake

N



ABITIBI ASBESTOS MINING CO. LTD.

ABITIBI ASBESTOS MINING CO. LTD.

ELECTROMAGNETIC SURVEY

EAST SHEET
McARTHUR TOWNSHIP

TIMMINS MINING DISTRICT

ONTARIO

SCALE: 1 INCH = FEET

2-1342

LEGEND

MEASUREMENT STATIONS ALONG PICKET LINES

ELECTROMAGNETIC READINGS-IN PHASE COMPONENT (%)

ELECTROMAGNETIC READINGS-OUT OF PHASE COMPONENT (%)

PROFILE - IN PHASE COMPONENT (Scale: 1" = 20°)

PROFILE - OUT OF PHASE COMPONENT (Scale: 1" = 20°)

ELECTRICAL CONDUCTOR

INSTRUMENT USED: ABEM, HIGH FREQ, 3520 cps, 300' CABLE

INTERPRETATION BY: W. N. INGHAM

FIELD SURVEY BY: C.K. Grantzidis

DRAFTING BY: C.K. Grantzidis

DATE: February - June 1973

W. N. Ingham, Geologist, October 11, 1973

FRIPP
McARTHUR Twp
DOUGLAS
ABITIBI ASBESTOS OPTION
MUSGROVE
BARTLETT
GEIKIE
Scale: 1" = 4 miles
LEGEND
ISOMAGNETIC CONTOUR LINE
CONTOUR INTERVAL 1000 GAMMAS
FLUXGATE McPHAR, M-700
INTERPRETATION BY: W.N. INGHAM
OPERATOR BY: C.K. GRANTZIDIS
DRAFTING BY: C.K. GRANTZIDIS
DATE: FEBRUARY - JUNE 1973
DRILL HOLE
PROPOSED DRILL HOLE
INFERRED GEOLOGICAL BOUNDARY
FAULT OR SHEAR ZONE
E.M.H.L. CONDUCTOR
GEOLOGY
DIABASE
GRANODIORITE
PERIDOTITE, PYROXENITE
DONITE, GABBRO, DIORITE
FELSIC VOLCANICS
MAFIC VOLCANICS
W.N. Ingham Oct. 11, 1973
Granodiorite
Peridotite
Volcanics
Felsic Volcanics
Gabbro
ASBESTOS
O.D.M.N.A. Map P-631
BEAVER POND
NORTH FRONTIER NORTH BOUNDARY, 1965
NORTH FRONTIER WEST BOUNDARY - 1965
ABITIBI ASBESTOS SIX CLAIMS WEST BOUNDARY
ASBESTOS Noted in Outcrop
BASE LINE - 1971 ABITIBI ASBESTOS
ASBESTOS IN PITS AND TRENCHES
Base Line - 1965 NORTH FRONTIER EXPLORATIONS
PayMASTER DRILL HOLES 1957
MINOR ASBESTOS
BASE CONTROL STATION
CAMP
Three Miles To Main Road To TIMMINS Near South End of TRIPLE Lake
CLAIM NUMBER
SUB B.L. 700'S
E.M. H.L.
CREEK
PERIDOTITE
DIORITE
BASE LINE
210

ABITIBI ASBESTOS MINING CO. LTD.

MAGNETOMETER SURVEY

WEST SHEET

McARTHUR TOWNSHIP

TIMMINS MINING DISTRICT

ONTARIO

SCALE: 1 INCH=200 FEET

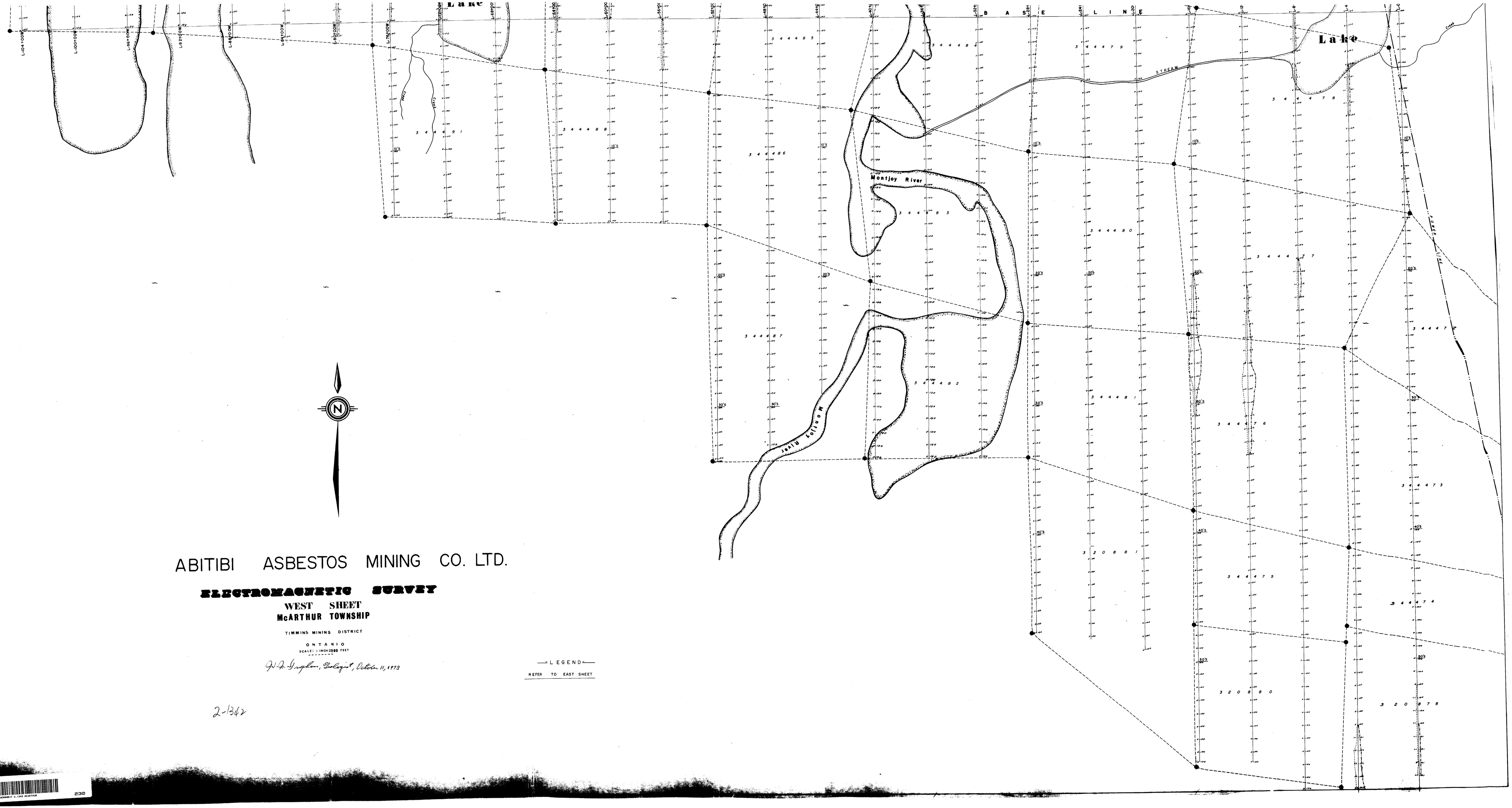
— LEGEND —

REFER TO EAST SHEET

W.H. Ingham
Oct. 1, 1973

2-1342

220



ABITIBI ASBESTOS MINING CO. LTD.

ELECTROMAGNETIC SURVEY

WEST SHEET

McARTHUR TOWNSHIP

TIMMINS MINING DISTRICT

ONTARIO

SCALE: 1 INCH = 200 FEET

J. A. Gingras, Geologist, October 11, 1973

LEGEND

REFER TO EAST SHEET

2-1362


LEGEND
MEASUREMENT STATIONS ALONG PICKET LINES
ELECTROMAGNETIC READINGS-IN PHASE COMPONENT (%)
ELECTROMAGNETIC READINGS-OUT OF PHASE COMPONENT(%)
PROFILE - IN PHASE COMPONENT (Scale: 1" = 20°)
PROFILE - OUT OF PHASE COMPONENT (Scale: 1" = 20°)
ELECTRICAL CONDUCTOR
INSTRUMENT USED: A BEM, HIGH FREQ., 3520 cps, 300' CABLE
INTERPRETATION BY: W. N. INGHAM
FIELD SURVEY BY: C.K. Grantzidis
DRAFTING BY: C.K. Grantzidis
DATE: February - June 1973
W. N. Ingham, Geologist, October 11, 1973
FRIPP
McARTHUR Twp
DOUGLAS
MUSGROVE
BARTLETT
GEIKIE
Scale: 1" = 4 miles
BASE LINE
SUB B.L. 700'S
BEAVER POND
LAKE
McARTHUR CREEK
Creek
POWER LINE
L-0+00
L-4+00E
L-8+00E
L-12+00E
L-16+00E
L-20+00E
L-24+00E
L-28+00E
L-32+00E
L-36+00E
L-40+00E
L-44+00E
L-48+00E
L-52+00E
L-56+00E
L-60+00E
L-64+00E
L-68+00E
L-72+00E
L-76+00E
L-80+00E
L-84+00E
L-88+00E
L-92+00E
L-96+00E
L-100+00E
L-104+00E
L-108+00E
L-112+00E
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