



The President & Directors,  
Abitibi Asbestos Mining Co. Ltd.,  
153 Perrault Avenue,  
Val d'Or, Quebec.

Report on ELECTROMAGNETIC SURVEY

Duval Option, Six Claims, McArthur Twsp.,  
Timmins Area, Ontario.

INTRODUCTION

This report describes an electromagnetic survey carried out in May - June, 1971 on your group of six optioned claims in McArthur township, Porcupine Mining Division of Ontario. A magnetometer survey was done at the same time. Two medium to strong E. M. conductors, and two weak E. M. responses have been found by the survey. The relevant magnetic readings at and near the conductors are significant.

PROPERTY

The six claims are near the centre of the south half of McArthur township, Porcupine Mining Division. Automobile roads extend south from Timmins, which, at a distance of 20 miles at the east side of Triple Lake, are two miles west of the property. The unpatented claims covered by the survey are registered with the Ontario Department of Mines under the numbers as follows:

319995 - 96 - 97 - 98 - 99 and 320000

### SURVEY DATA

An east - west base line was established centrally across the property. Picket lines were cut and chained north and south from the base line at 200-foot intervals. An ABEM horizontal loop instrument was used to take measurements along the picket lines at 100-foot and 50-foot station intervals. A low frequency of 880 c/s was employed and a 200-foot cable connected the transmitter to the receiver. The In Phase Component and the Out Phase Component measured at each station are plotted on the accompanying map along profile lines to a scale of 1 inch equal to 10 percent. The interpreted axis of the conductors found are plotted to illustrate the strike direction.

To complete the survey 7.5 miles of lines were cut and chained and 373 electromagnetic readings were recorded by the two man crew. The lines were cut by J. Duval and T. Cere, and the E. M. unit was operated by C. Grantzidis helped by J. Duval, all residents of Val d'Or, Quebec. The line cutting was done in May 1971 and the field readings were taken during June 9 to June 14, 1971.

### SURVEY RESULTS

The strongest E. M. conductor occurs on four adjacent picket lines from O to 6W, along an inferred axis length of 800 feet. It lies from 50 to 150 feet south of the base line. The conductor strikes nearly east - west following a narrow zone of low magnetic readings lying between areas of high magnetic response to the north and to the south. The high magnetic responses to the north are caused by a magnetite and asbestos - bearing body of serpentized peridotite, exposed in outcrop, test pits and trenches.

The eastern end of the conductor appears to cross the southeastern end of the outcrop area, and it should be investigated on the ground at this location. Along the inferred axis of the E. M. anomaly the In Phase component conductivity is from 7% to 10%, and the Out Phase is 5% to 6%. The writer suggests that the conductivity is the result of a sulphide - bearing shear zone, possibly in a wedge of volcanic rocks about 50 feet wide lying between two peridotite bodies.

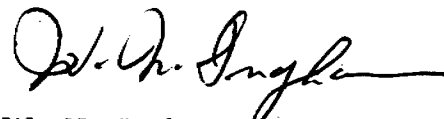
A second strong E. M. conductor occurs on lines O and 2E, at a distance of 300 feet north of the base line. The east - west strike length appears to be about 400 feet. The In Phase component of this E. M. responses averages 15%. It lies along and in the north flank of a body of outcropping peridotite. The corresponding magnetic intensity at the axis of the conductor is high, the recorded values being 7000 and 5300 gammas above background. From the combined geophysical data, the writer interprets a magnetite and serpentine-bearing zone of shearing and alteration in peridotite, which could also contain sulphide mineralization. Ground investigation of the outcrops occurring at and between lines O and 2E should be carried out.

A medium strength, one-line, E. M. anomaly occurs on line 8E at footage 500 north. Here, a maximum In Phase response of 10% forms part of a broad zone of conductivity along the picket line for several hundred feet. The strike of the conductivity could be more or less north-south along a cross fault. The peak of the E. M. anomaly is associated with an east - west striking, narrow band of

relatively low magnetic intensity possibly representing volcanic rocks lying between bodies of peridotite. This E. M. anomaly is given only small priority because the instrument operator records short cable conditions over the rugged terrain. Rock outcrops occur nearby.

A weak, 5% In Phase, E. M. response was found on line 2E at picket station 400 south of the base line. The corresponding magnetometer reading is a low, minus 420 gammas. Granitic rocks are suspected at this location, however, the anomaly could be significant because of its occurrence only 300 feet off the eastern end of a peridotite mass.

Submitted by



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

Val d'Or, Quebec,  
March 29th, 1972.

ASSESSMENT WORK DETAILS

Type of Survey ELECTROMAGNETIC  
Township or Area McArthur Timmins  
A separate form is required for each type



900

Chief Line Cutter Jacques Duval  
or Contractor 250 - 11th St. Val d'Or, Quebec.  
Party Chief C. Grantzidis  
Consultant Dr. W. N. Ingham  
207 Dennison Blvd., Val d'Or, Quebec.

**MINING CLAIMS TRAVERSED**  
List numerically

319995

*1/3 not covered*

319996

319997

319998

319999

320000

Geological field mapping by \_\_\_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_

COVERING DATES

Line Cutting May 12 - 22, 1971  
Field June 6 - 10, 1971  
Instrument work, geological mapping, sampling etc.  
Office June 12 - 14, June 17 - 20, 1971

INSTRUMENT DATA

Make, Model and Type ABEM HORIZONTAL LOOP  
Frequency: \_\_\_\_\_  
Scale Constant or Sensitivity 880 c/sec  
Or provide copy of instrument data from Manufacturer's brochure.

Radiometric Background Count \_\_\_\_\_  
Number of Stations Within Claim Group 360  
Number of Readings Within Claim Group 373  
Number of Miles of Line cut Within Claim Group 7.5  
Number of Samples Collected Within Claim Group \_\_\_\_\_

CREDITS REQUESTED

20 DAYS per claim  40 DAYS per claim  Includes (Line cutting)

Geological Survey   
Geophysical Survey   
Geochemical Survey

DATE March 29/72 SIGNED [Signature]

Qualifications: on this file.

TOTAL CLAIMS 6

Send in Duplicate to:  
FRED W. MATTHEWS  
SUPERVISOR-PROJECTS SECTION  
DEPARTMENT OF MINES &  
NORTHERN AFFAIRS  
WHITNEY BLOCK  
QUEEN'S PARK  
TORONTO, ONTARIO

If space insufficient, attach list

**SUBMISSION OF GEOLOGICAL, GEOPHYSICAL AND GEOCHEMICAL SURVEYS  
AS ASSESSMENT WORK**

In order to simplify the filing of geological, geochemical and ground geophysical surveys for assessment work, the Minister has approved the following procedure under Section 84 (8a) of the Ontario Mining Act. This special provision does not apply to airborne geophysical surveys.

If, in the opinion of the Minister, a ground geophysical survey meets the requirements prescribed for such a survey, including:

- (a) substantial and systematic coverage of each claim
- (b) line spacing not exceeding 400 foot intervals
- (c) stations not exceeding 100 foot intervals or
- (d) the average number of readings per claim not less than 40 readings

it will qualify for a credit of 40 assessment work days for each claim so covered. It will not be necessary for the applicant to furnish any data or breakdown concerning the persons employed in the survey except for the names and addresses of those in charge of the various phases (linecutting contractor, etc.). It will be assumed that the required number of man days were spent in producing the survey to qualify for the specified credit.

Each additional ground geophysical survey using the same grid system and otherwise meeting these requirements will qualify for an assessment work credit of 20 days.

A geological survey using the same grid system, and meeting the requirements for submission of geological surveys for maximum credits will qualify for an assessment work credit of 20 days. If line cutting has not previously been reported with any other survey and is reported in conjunction with the geological survey a credit of 40 days per claim will be allowed for the survey.

Similarly, a geochemical survey using the same grid system with the average number of collected samples per claim being not less than 40 samples, and meeting the requirements for the submission of geochemical surveys for maximum credits, will qualify for an assessment work credit of 20 days. If line cutting has not previously been reported with any other survey and is reported in conjunction with the geochemical survey a credit of 40 days per claim will be allowed for the survey.

Credits for partial coverage or for surveys not meeting requirements for full credit will be granted on a pro-rata basis.

If the credits are reduced for any reason, a fifteen day Notice of Intent will be issued. During this period, the applicant may apply to the Mining Commissioner for relief if his claims are jeopardized for lack of work or, if he wishes, may file with the Department, normal assessment work breakdowns listing the names of the employees and the dates of work. The survey would then be re-assessed to determine if higher credits may be allowed under the provisions of subsections 8 and 9 of section 84 of the Mining Act.

If new breakdowns are not submitted, the Performance and Coverage credits are confirmed to the Mining Recorder at the end of the fifteen days.

Adams Twp. - M.261

THE TOWNSHIP OF  
OF

McARTHUR

DISTRICT OF  
TIMISKAMING

PORCUPINE  
MINING DIVISION

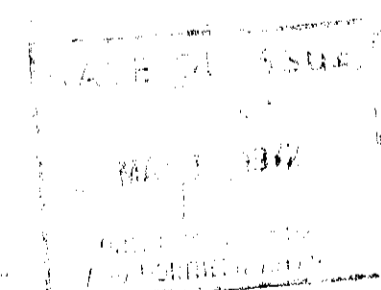
SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
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	—

NOTES

This township lies within the  
TEMAGAMI PROVINCIAL FOREST  
400' Surface Rights Reservation around  
all lakes and rivers



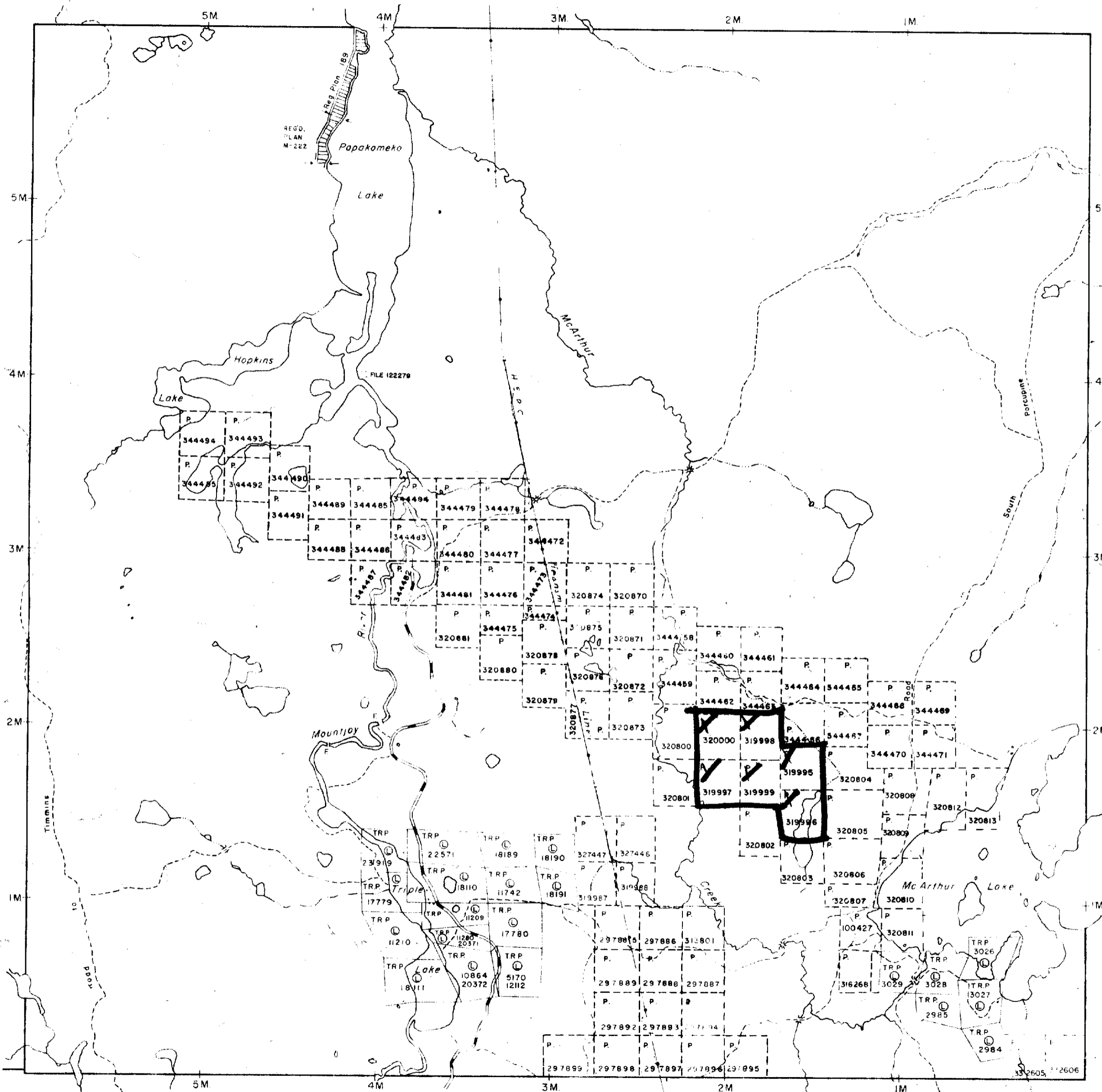
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PLAN NO. - M.298

ONTARIO  
DEPARTMENT OF MINES  
AND NORTHERN AFFAIRS

Frapp Twp. - M.281

Douglas Twp. - M.274

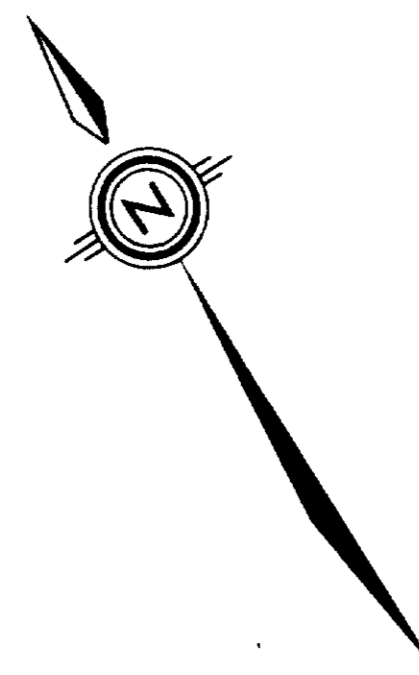


Bartlett Twp. - M.262



2.863

# Abitibi Asbestos Mining Co. Ltd.



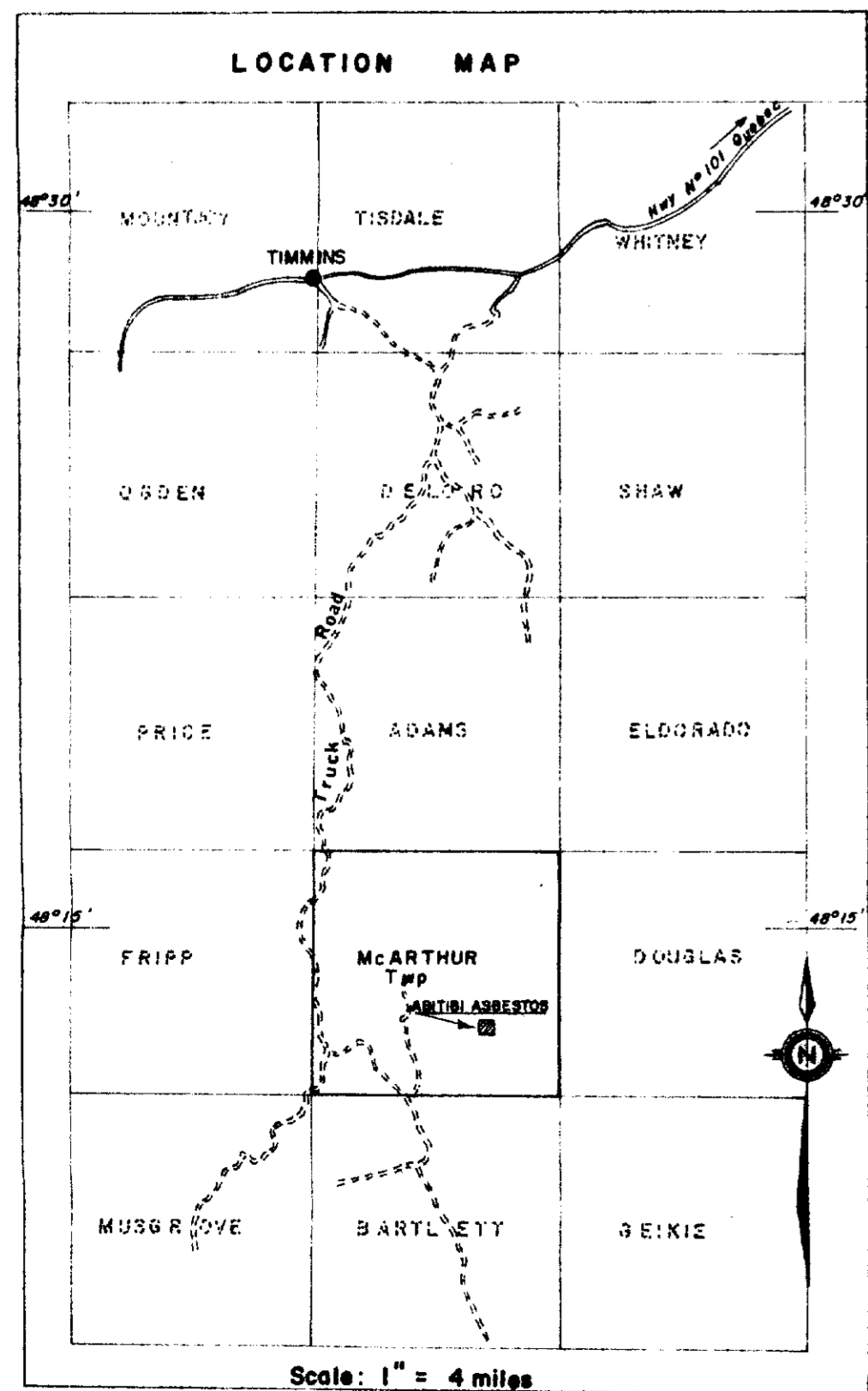
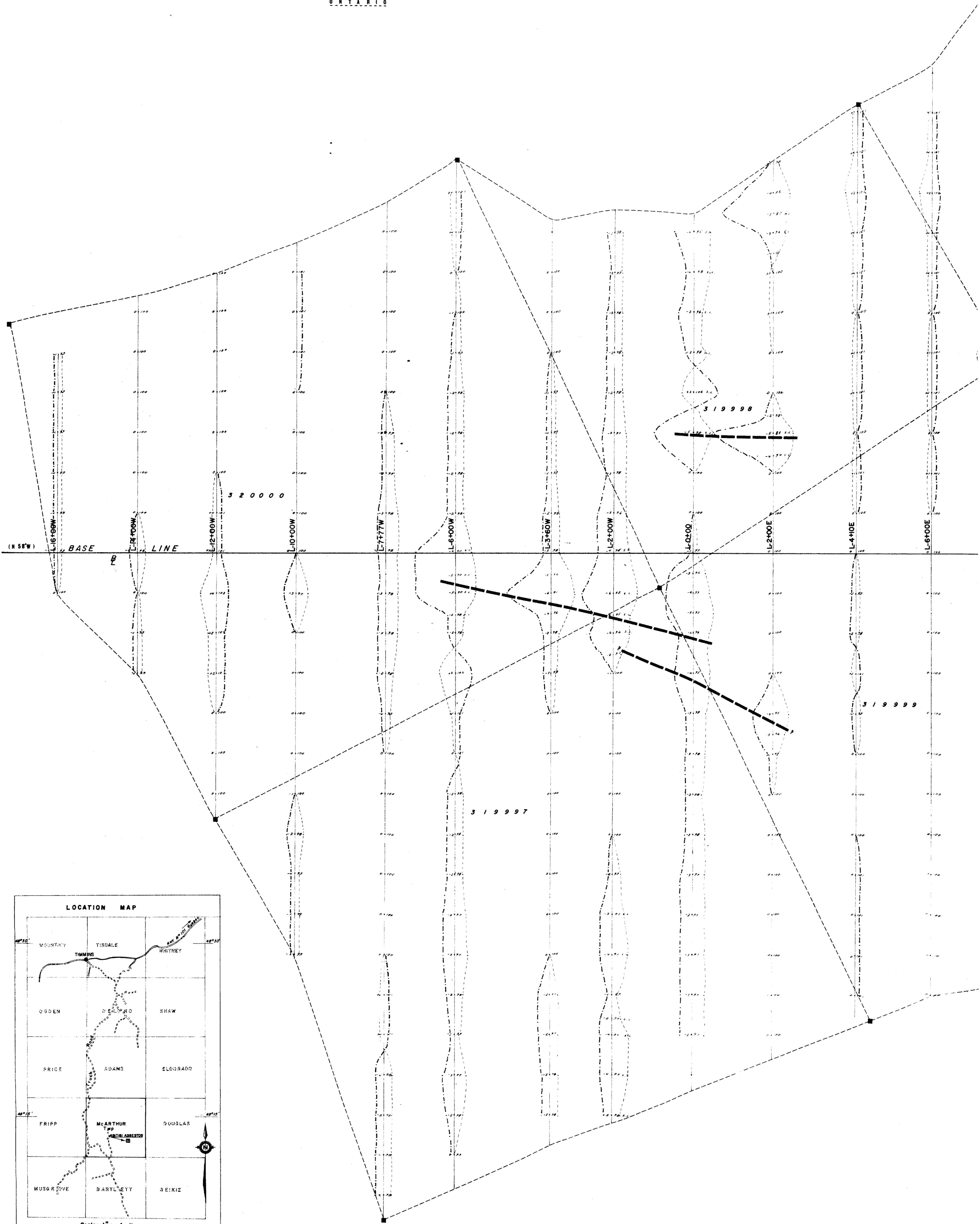
## ELECTROMAGNETIC SURVEY

McARTHUR TOWNSHIP

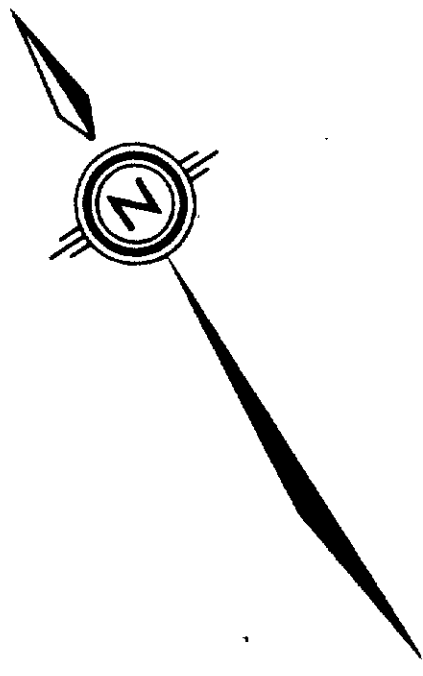
OPTION (4 CLAIMS)

TIMMINS MINING DISTRICT

ONTARIO



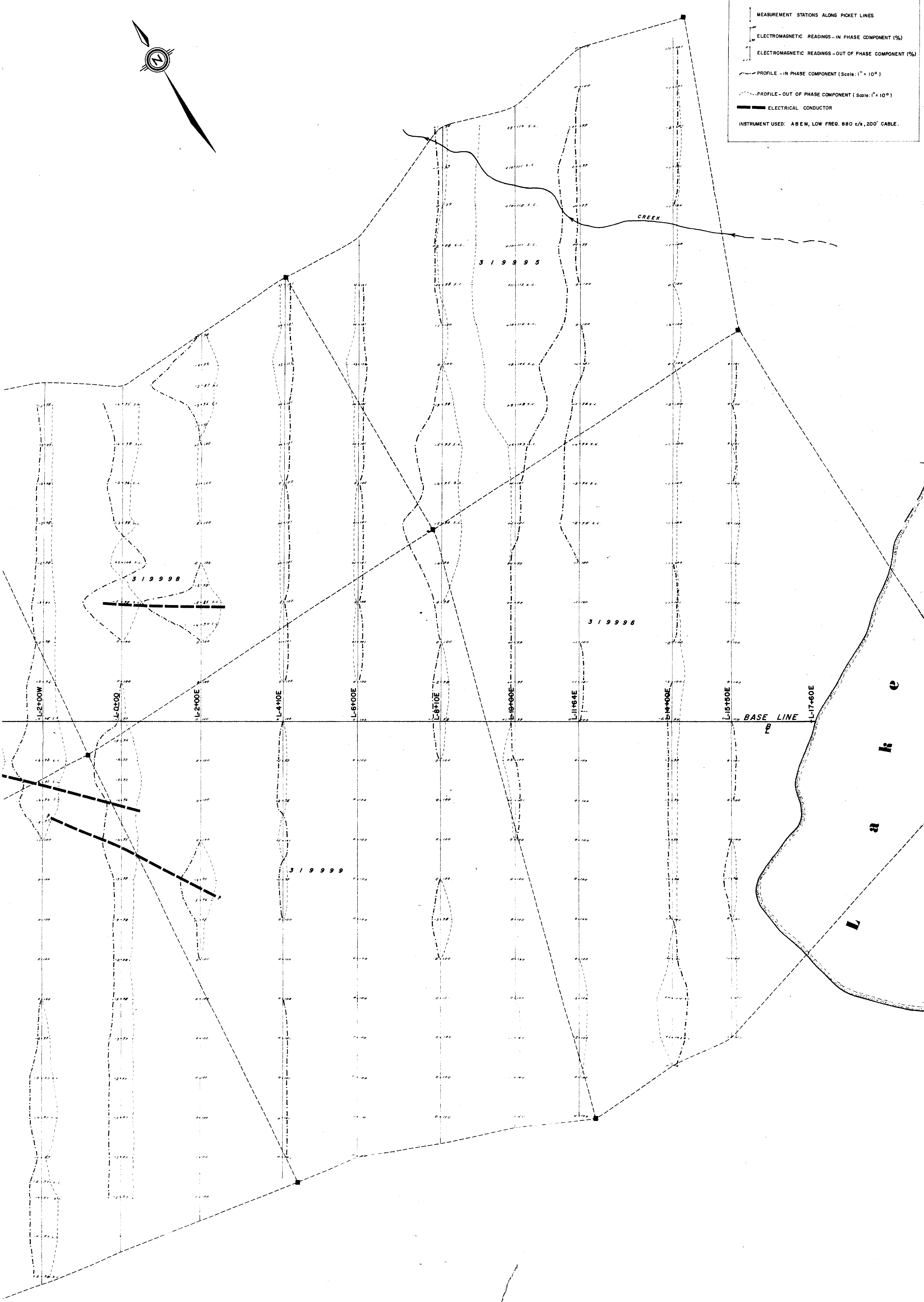




— LEGEND —

- MEASUREMENT STATIONS ALONG PICKET LINES
- ELECTROMAGNETIC READINGS - IN PHASE COMPONENT (%)
- ELECTROMAGNETIC READINGS - OUT OF PHASE COMPONENT (%)
- PROFILE - IN PHASE COMPONENT (Scale: 1" = 10')
- PROFILE - OUT OF PHASE COMPONENT (Scale: 1" = 10')
- ELECTRICAL CONDUCTOR

INSTRUMENT USED: ABEM, LOW FREQ. 880 c/s, 200' CABLE.



ORIGINAL SCALE 0 100 200 300 400  
(1" = 100') FEET

INTERPRETATION BY: W. N. INGHAM, PH. D. GEOLOGIST  
FIELD SURVEY & DRAFTING BY: C. K. GRANZDORF

JUNE 1971