010

ELECTROMAGNETIC - MAGNETIC SURVEY

on the property of

ALMORE EXPLORATIONS LIMITED

Frechette Township, Ontario

Timmins, Ontario,
November 24, 1971.

R. J. Bradshaw, P. Eng.,
Consulting Geologist.

INTRODUCTION

A magnetic-electromagnetic survey has been completed on the property of Almore Explorations Limited in Frechette Township, Ontario.

Picket lines were established on the property during the period October 27th to November 7th inclusive while the geophysics was completed during the period November 7th to 12th inclusive.

The object of the survey work was to determine the relationship between the magnetic susceptibilities on the property and a mineralized copper zone and also to determine whether or not the copper occurrence is conductive.

PROPERTY, LOCATION AND ACCESS

The property consists of nine claims designated 291746 to 291754 inclusive located in the west-central sector of Frechette Township, 45 miles north-northwest of Sudbury. The area covered by the nine claims is approximately one-third less than the normal 360 acre property.

Access to the property is most convenient by float or ski-equipped aircraft to Dua Lake immediately southwest of the claim group. Alternatively, particularly for the transport of heavy equipment, the Canadian National Railway, 1.5 miles east of the property, may be used.

PREVIOUS WORK

In 1954, 3098 feet of diamond drilling was completed mainly on claim 291750, in addition to rock trenching and surface trenching, by Armour Uranium and Copper Mines Limited.

Teco Mines and Cila Limited sampled the mineral showings and drilled approximately 2000 feet in 1967. (See report dated September 27, 1971, by R. J. Bradshaw)

GEOLOGY

The geology of Frechette Township is shown on the Westree Sheet, Preliminary Map P300 published by the Ontario Department of Mines.

This sheet shows most of Frechette Township to be underlain by Huronian type sediments including quartzite, arkose, argillite and conglomerate. On the claim group, this sedimentary series dips about 20° to the east. The Huronian type sediments are underlain by granite. Nipissing diabase intrudes the Huronian sediments as sills and the granite as narrow dykes.

Marked by Dus Lake to the southwest and Thor Lake to the east, two main northwest trending faults cross the Township.

Copper mineralization is associated with a fault on the group of claims discussed in this report. This fault, along a creek, strikes north 20° east, and dips steeply to the east on claim 291750. It is well silicified across one to four feet and in places is heavily mineralized with chalcopyrite, some pyrite and minor pyrrhotite. On the east side of the fault structure, disseminated chalcopyrite and pyrite is erratically distributed in the sediments.

MAGNETIC SURVEY RESULTS AND INTERPRETATION

The magnetic survey data and interpretation are plotted on the accompanying plan at a scale of one inch to two hundred feet. The survey method and instrument are described in the Appendix to this report.

The trend in the isomagnetics ranges from northwest to northeast. Three main rock units appear to be represented by the magnetic susceptibilities which range from 150 to almost 6000 gammas.

The most prominent magnetic feature on the property is a linear magnetic high striking north through the centre of the claim group bounded approximately by the 2000 gamma contour and ranging upwards to almost 6000 gammas. This anomaly is interpreted to represent a near vertical dipping diabase dyke. At station 2+50 West, Line 12 South, the diabase is slightly offset by a fault mineralized with sulphides along a creek bed trending north 20° east. Further south at the base line, Line 18 South, the diabase is offset to the west by a fault which appears to strike northeast.

This diabase dyke appears to mark the boundary between rock types of differing magnetic character. To the west a rather irregular magnetic pattern appears to be representative of granite. To the east a more regular pattern showing a fairly well defined north-northeast trend of the isomagnetics appears to represent the sedimentary assemblage which strikes north-northeast and dips

gently east.

The most significant magnetic feature on the property trends north-northeast along the base line and is roughly marked by the 1400 gamma magnetic contour. To the south the anomalous zone is not too well defined where it approaches the diabase; to the north, however, the west boundary of the anomaly is quite well defined by a north-northeast trending creek along which a sulphide zone, dipping gently east, is exposed by a number of rock trenches. This coincidence together with a magnetic gradient which indicates a gentle eastward dip of the magnetic source suggests that the anomalous area is caused by sulphide mineralization. It follows that the higher magnetic susceptibilities would indicate greater concentrations of sulphides. These areas include those crossed by Lines 8N, 28, 165 and possibly 225. In the area between Lines 225 and 265, south of a postulated northeast striking fault, either the diabase forms two parallel units or the east anomaly is caused by sulphides.

ELECTROMAGNETIC SURVEY RESULTS AND INTERPRETATION

The survey method and instrument are described in the Appendix to this report while the data is plotted on the accompanying plan at a scale of one inch to two hundred feet.

No conductive zones were located by the survey work.

CONCLUSIONS

The magnetic survey outlines the geology of the property

very well. A faulted diabase dyke striking north through the centre of the property appears to represent the boundary between granitic rocks to the west and sediments to the east.

A fairly well defined weak magnetic high coincides closely with the location and attitude of a zone of sulphide mineralization along a creek bed next to the base line in the north portion of the property. The sulphides consist mainly of chalcopyrite, some pyrite and pyrrhotite. Several areas of relatively higher magnetic susceptibility are expected to represent greater concentrations of sulphides. These areas, for the most part not previously drilled, definitely merit a drill investigation.

The electromagnetic survey indicates that the mineralization is either non-conductive or forms concentrations too small to be measured in terms of the survey method and instrumentation.

RECOMMENDATIONS

A modest diamond drill programme is initially proposed as follows:

Hole	Location	Direction	Dip	Depth	Objective
1	Line 2 S 1+50 W	grid west	45°	160'	- magnetic high coinciding with sulphide zone
2	Line 8 N 2+00 E	grid west	45°	160'	- moderate magnetic high on extension of sulphide zone
3	Line 22S 0+50 E	grid west	45°	200'	- magnetic high
4	Line 16S 2+00 E	grid west	45°	200'	- weak but broad magnetic high
5	Line 18S 1+00 W	grid west	45°	160'	- contact zone represented by magnetic gradient
6	Line 4 N 5+00 W	grid west	45°	120'	- weak magnetic high
6 holes				1000 feet	

The above holes are listed in terms of priority. Therefore, if any of the first three holes intersect significant mineralization it would be advisable to eliminate the lower priority holes to retain some footage for follow-up drilling.

Respectfully submitted,

SHIELD GEOPHYSICS LIMITED

R. J. Bradshaw, P. Eng.,
Consulting Geologist.

Timmins, Ontario,
November 24, 1971.

REGISTERED PROFESSIONAL ENGINEER
R. J. BRADSHAW
PROVINCE OF ONTARIO

APPENDIX

SURVEY METHOD AND INSTRUMENT DATA

Magnetometer Survey

A Sharpe M.F.-1 fluxgate magnetometer was used in the magnetic survey. This instrument measures the vertical component of the earth's magnetic field in gammas. Base stations for determining the magnetic diurnal variations were established along the main base line at 400 foot intervals. Magnetic readings were taken at 50 foot intervals, along the cross lines.

Electromagnetic Survey

The Crone JEM unit used in this survey, is comprised of two similar coil units which both transmit and receive on a frequency of 1800 or 480 Hz. The survey was carried out with 300 foot coil separation.

In this type of survey the resultant reading is a measurement in degrees and an anomaly is usually a resultant reading greater than plus or minus three degrees. Initially the survey is conducted using the high frequency unit which is more sensitive. Any anomalous conditions are checked by the low frequency equipment, thereby determining the characteristics of conductivity as determined from the ratio of high to low frequency readings. A ratio of unity is the ideal conductor although other features must be considered. The ability to transmit and receive on both coils eliminates that error resulting from improper coil orientation over irregular terrain.

ELECTROMAGNETIC - MAGNETIC SURVEY

on the property of

ALMORL EXPLORATIONS LIMITED

Frechette Township, Ontario

Timmins, Ontario,

November 24, 1971.

R. J. Bradshaw, P. Eng.,

Consulting Geologist.

900

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA

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: Magnetic-Electromagnetic

Township or Area: Frechette Township

Claim holder(s): Almore Explorations Limited
203 - 350 Bay St., Toronto, Ontario

Author of Report: R. J. Bradshaw

Address: 26 Pine St. S., Timmins, Ontario

Covering Dates of Survey: October 27, 1971 - November 12, 1971
(linecutting to office)

Total Miles of Line cut: 8 miles

SPECIAL PROVISIONS
CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
- Electromagnetic	40
- Magnetometer	20
- Radiometric	
- Other	
Geological	
Geochemical	

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

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

DATE: November 24/71 SIGNATURE: R. J. Bradshaw
Author of Report

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
	291746
	291747
	291748
	291749
	291750
	291751
	291752
	291753
	291754

If space insufficient, attach list

TOTAL CLAIMS: 9

OFFICE USE ONLY

PROJECTS SECTION

Res. Geol. Sudbury Qualifications This

Previous Surveys 12 D

Checked by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

GEOLOGICAL BRANCH

Approved by _____ date _____

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS

Number of Stations 416 Number of Readings 832 (magnetic)

Station interval 100'

Line spacing 200' & 400'

Profile scale or Contour intervals 100 to 1000 gammas (magnetic)
(specify for each type of survey)

MAGNETIC

Instrument Scintrex M.F.-1-100 fluxgate

Accuracy - Scale constant + or -5 gammas

Diurnal correction method checks at no greater than 1 hour intervals on base stations

Base station location Stations on base line at 400' intervals commencing from Line 0.

ELECTROMAGNETIC

Instrument Crone JEM unit

Coil configuration Inclined vertical loop

Coil separation 300'

Accuracy 2 degrees

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

Frequency
(specify V.L.F. station)

Parameters measured dip angles in degrees to give resultant

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

SELF POTENTIAL

Instrument _____ Range _____

Survey Method _____

_____

Corrections made _____

_____

RADIOMETRIC

Instrument _____

Values measured _____

Energy windows (levels) _____

Height of instrument _____ Background Count _____

Size of detector _____

Overburden _____

(type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey _____

Instrument _____

Accuracy _____

Parameters measured _____

_____

Additional information (for understanding results) _____

_____

_____

AIRBORNE SURVEYS

Type of survey(s) _____

Instrument(s) _____

(specify for each type of survey)

Accuracy _____

(specify for each type of survey)

Aircraft used _____

Sensor altitude _____

Navigation and flight path recovery method _____

_____

Aircraft altitude _____ Line Spacing _____

Miles flown over total area _____ Over claims only _____

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken _____

_____

_____

Total Number of Samples _____

Type of Sample _____
(Nature of Material)

Average Sample Weight _____

Method of Collection _____

_____

Soil Horizon Sampled _____

Horizon Development _____

Sample Depth _____

Terrain _____

_____

Drainage Development _____

Estimated Range of Overburden Thickness _____

_____

_____

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____

_____

_____

_____

General _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

ANALYTICAL METHODS

Values expressed in: per cent ☐
p. p. m. ☐
p. p. b. ☐

Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)

Others _____

Field Analysis (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Field Laboratory Analysis

No. (_____ tests)

Extraction Method _____

Analytical Method _____

Reagents Used _____

Commercial Laboratory (_____ tests)

Name of Laboratory _____

Extraction Method _____

Analytical Method _____

Reagents Used _____

General _____

_____

_____

_____

_____

_____

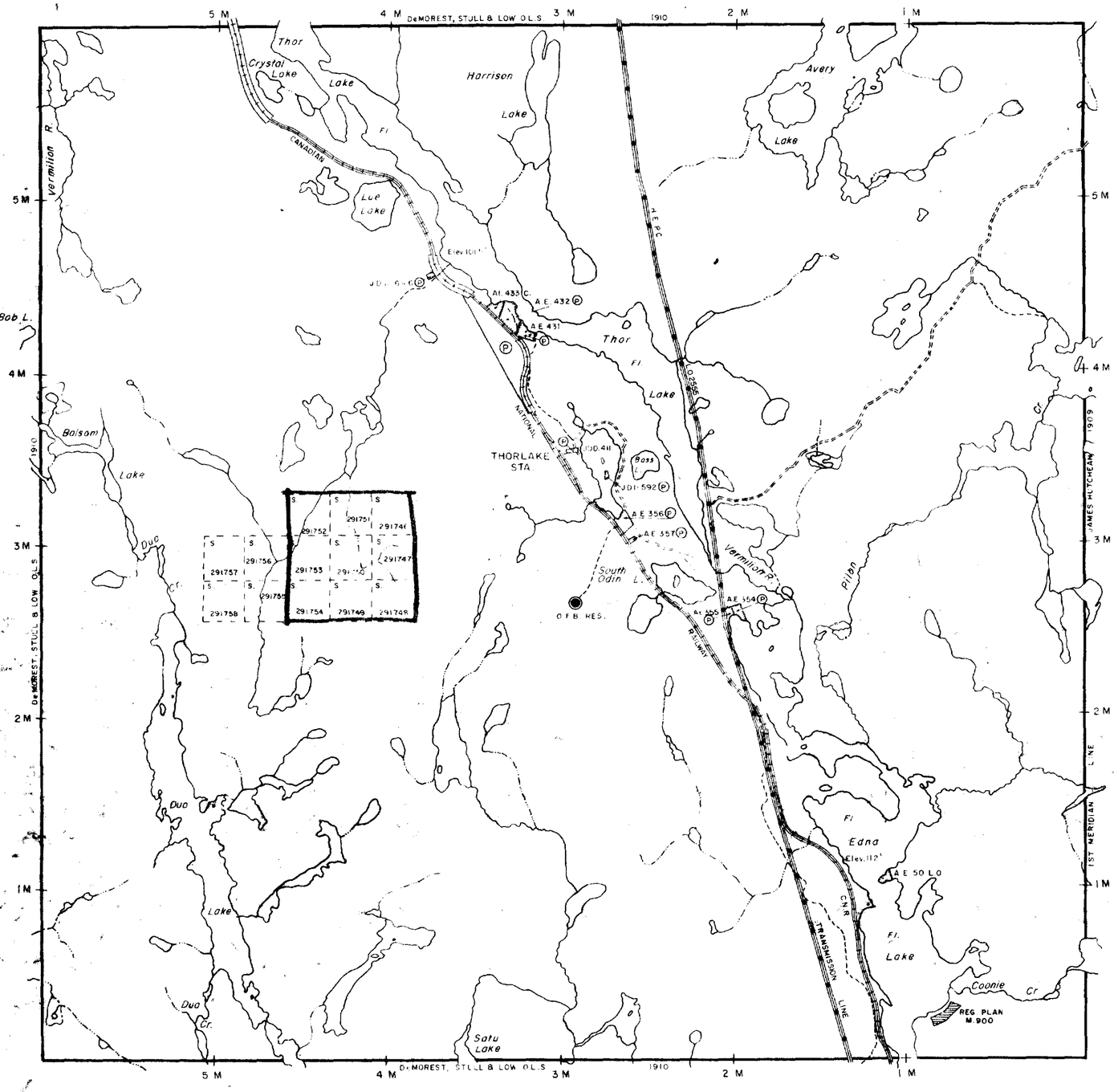
_____

_____

_____

_____

Lampman Twp.(M 977)



Scotia Twp.(M.1094)

McNamara Twp.(M.1018)

Sweeny Twp.(M.1151)

THE TOWNSHIP
OF

FRECHETTE

claim map.

DISTRICT OF
SUDBURY

SUDBURY
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

400' SURFACE RIGHTS RESERVATION AROUND ALL LAKES AND RIVERS.

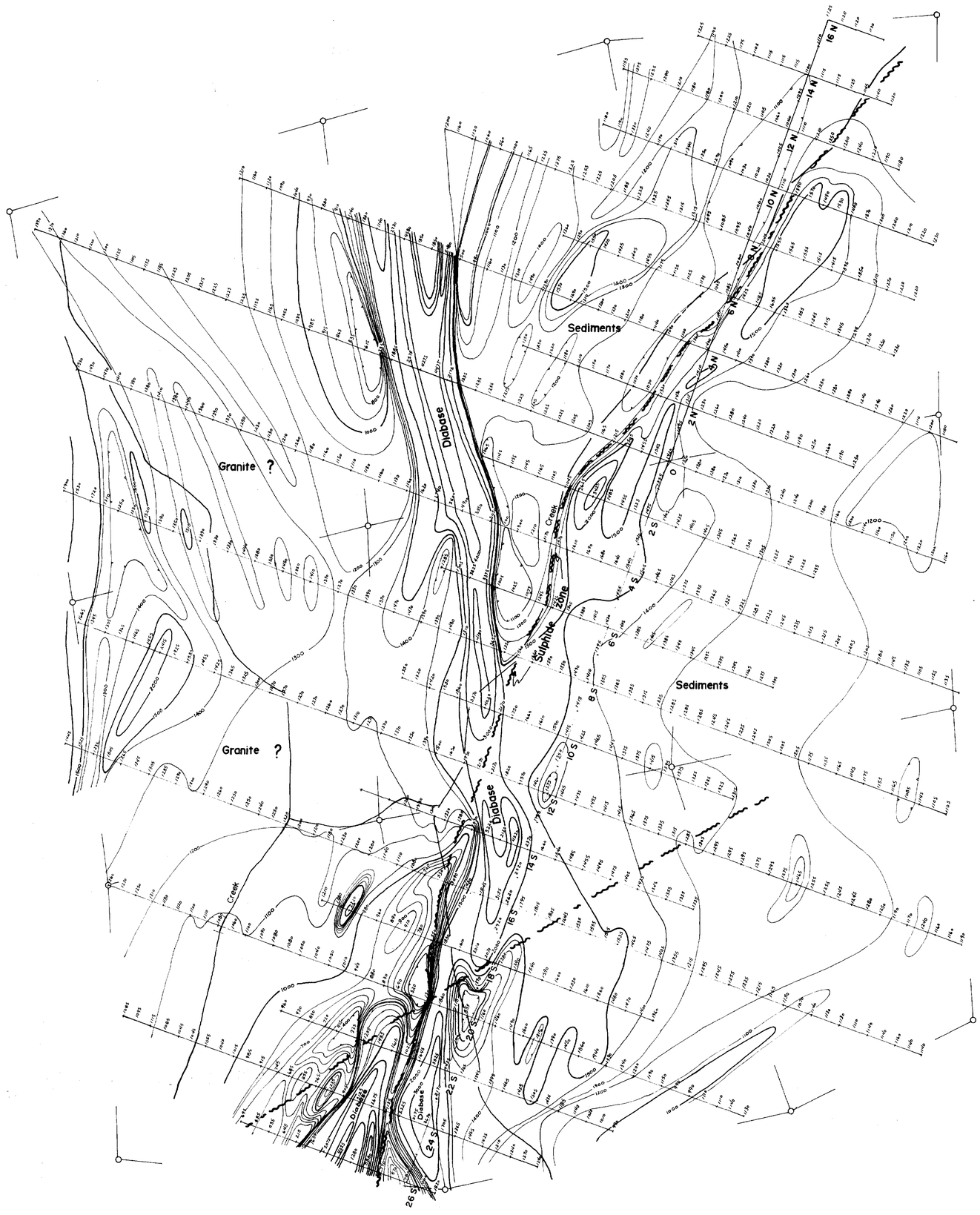
FLOODING RIGHTS ON THOR LAKE AND EDNA LAKE TO SPANISH RIVER PULP & PAPER CO.

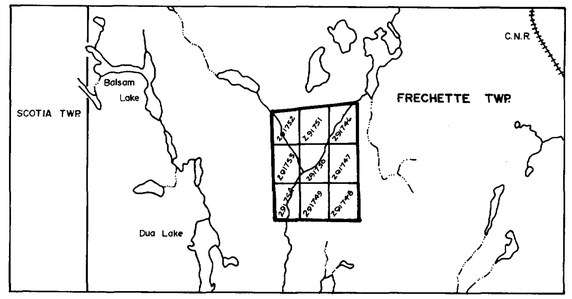
2.694

DATE OF ISSUE
DEC 7 1971

PLAN NO. M. 817

**ONTARIO
DEPARTMENT OF MINES
AND NORTHERN AFFAIRS**





KEY MAP

one inch to one half mile

LEGEND

- Measurement station along picket line
- Relative value of the vertical component of the earth's magnetic field in gammas
- Magnetic contour
- Magnetic depression

INSTRUMENT : Sharpe M.F.-1 fluxgate magnetometer

MAGNETOMETER SURVEY

ON THE PROPERTY OF

ALMORE EXPLORATIONS LIMITED

FRECHETTE TOWNSHIP, ONTARIO

BY

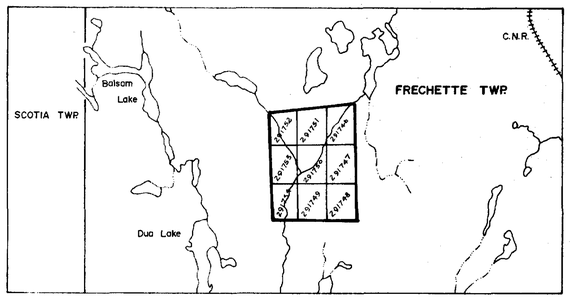
SHIELD GEOPHYSICS LIMITED

SCALE

0 200 400 600 800

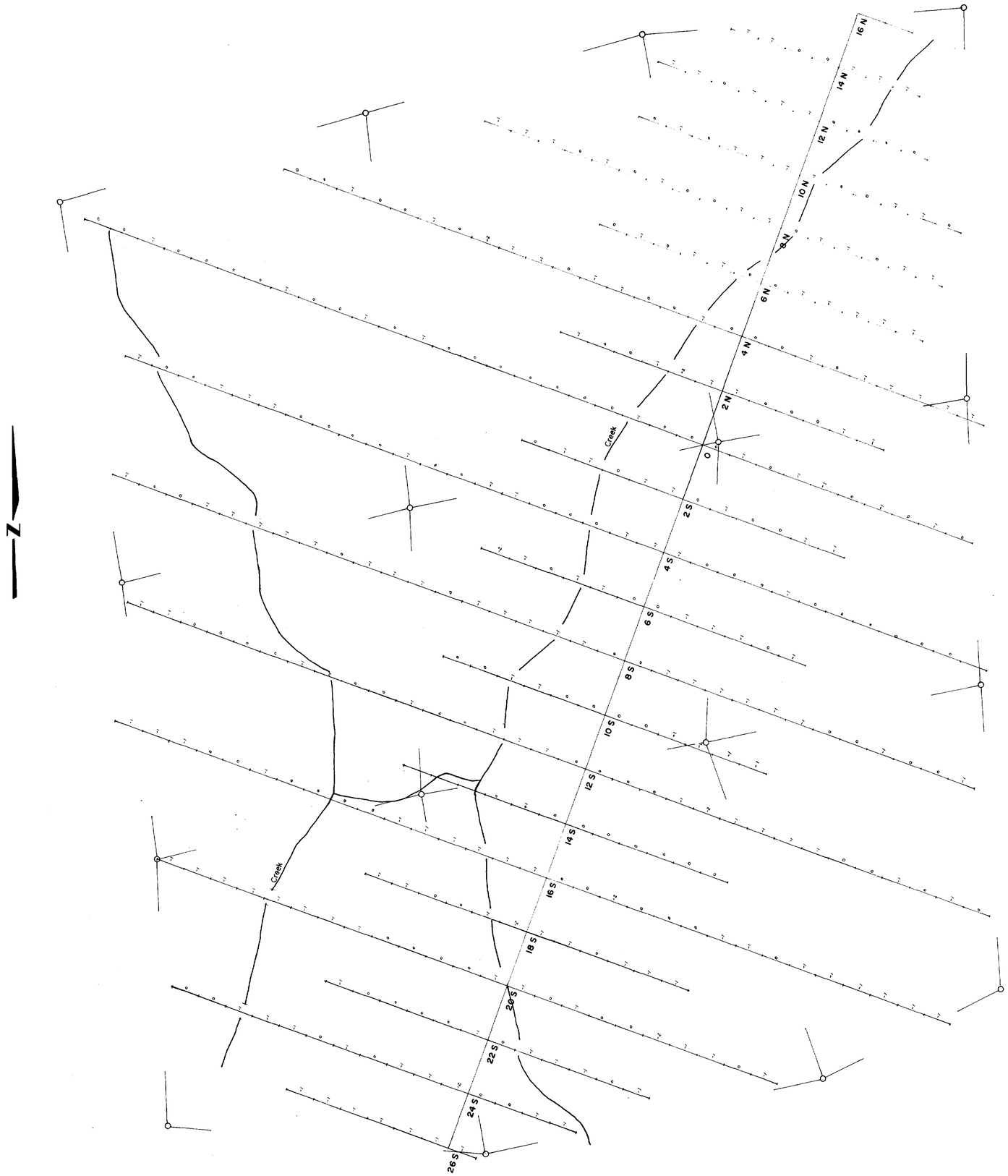
FEET

NOVEMBER 1971



KEY MAP

one inch to one half mile



LEGEND

Measurement station along picket line

High frequency

INSTRUMENT: Crone JEM unit, 480 & 1800 cps. 300' coil separation.

ELECTROMAGNETIC SURVEY

ON THE PROPERTY OF

ALMORE EXPLORATIONS LIMITED

FRECHETTE TOWNSHIP, ONTARIO

BY

SHIELD GEOPHYSICS LIMITED

SCALE

0 200 400 600 800

FEET

NOVEMBER 1971

Nov. 24-71