



31M13NW013S 2.3386 MARTER

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JUL 22 1980

MINING LANDS SECTION

HARPER - TOKARSKY PROPERTY

MARTER TOWNSHIP, ONTARIO

CRONE RADEM V. L. F. - ELECTROMAGNETIC SURVEY

by

F. T. Archibald, B.Sc.

June 24th, 1980

HARPER - TOKARSKY PROPERTY
MARTER TOWNSHIP, ONTARIO
CRONE RADEM V. L. F. - ELECTROMAGNETIC SURVEY

SUMMARY

This survey covers the results of the V. L. F. electromagnetic survey done over the property during the month of May 1980.

The purpose of the survey was to further delineate any known mineralized zones, to attempt to locate new zones, and to select areas for a potential diamond drilling program.

The property is totally covered by sand-clay overburden, except for the odd outcrop at the edges of the Blanche River. Areas that were previously trenched are now concealed by mud-silt-clay overburden. The only visible trenches on the property were noted on Line 52 North at 13+00 West. These have exposed a pyrite/chalco bearing quartz carbonate zone for some 400 feet.

Some 6.27 miles were traversed during the survey. Readings were taken on lines 400 feet apart and at 100 foot intervals, with a total of 330 stations read.

Several very weak north-south trends or anomalies were encountered during the survey. Some of these correspond to old river channels and valleys. One anomaly on Line 48 North at 15+00 West probably coincides with a carbonate bearing shear with minor pyrite/chalcopyrite mineralization.

Heavy sand-clay overburden over almost all of the property has affected field strength results, hence any weak anomalous trend will be masked.

PROPERTY LOCATION & ACCESS

The property is located approximately 7.0 miles northeast of the town of Englehart, in the District of Timagami. Access is by road, four to five miles north of Englehart along Highway #11 and then by a gravel township road for 2.8 miles.

The property consists of eight contiguous, unpatented mining claims numbered L55547 to L55554 inclusive.

TOPOGRAPHY

The property is generally flat lying to the east with several east-west deeply eroded gullies which drain into the Blanche River system to the west section of the property.

The property is almost totally covered by clay-sand overburden, with the odd outcrop exposed at the edge of the Blanche River.

The timber consists mainly of tag alder and birch, with sparse jackpine and poplar.

DISCUSSION OF EQUIPMENT

The Crone Radem V.L.F. - Electromagnetic unit utilizes higher than normal frequencies and is capable of detecting small sulphide bodies and disseminated sulphide deposits. It accurately isolates banded conductors and operates through areas of high noise or interference levels.

This method is capable of deep penetration but due to the low frequency used, its penetration is limited in areas of clay and conductive overburden. The components of dip angle in degrees of the magnetic field component, field strength of the magnetic component of the V.L.F. field, and out of phase component of the magnetic field are measured at each station.

There are several channels or stations available, each with a different frequency. A channel to be used should be parallel to the general strike of the area. If this cannot be determined, then two orthogonal stations are used to define any possible conductors.

The dip angle measurement measures the angle of inclination from horizontal of the direction of the resultant V.L.F. or the amplitude of the major axis of the polarization ellipse. It is detected by a minimum on the field strength meter and is read from an inclinometer with a range of ± 90 . A conductor is designated by a true crossover pattern of the readings.

The measurement is taken from an audio null when the instrument is held in a vertical position, after turning perpendicular to the direction in alignment with the V.L.F. field. The V.L.F. field is found by an audio null or minimum field strength measurement when the instrument is held in a horizontal position. The accuracy of the dip angle measurements is $\pm 1/2^\circ$.

The field strength measurement defines the shape and the attitude of the conductor by the strength of the field in the horizontal plane or the amplitude of the major axis of the polarization ellipse. It is the maximum reading obtained from the field strength meter when the instrument is rotated in the horizontal plane, and is measured as a percent of normal field strength established at a base station. The field strength of the V.L.F. stations drifts with time, and must be adjusted with the base station every few hours. The field strength measurement has an accuracy of $\pm 2\%$.

The out of phase component of the magnetic field, as a percent of the normal primary field, is sensitive to a lower order of conductivity than the dip angle measurement and is used to locate conductors of a low order of magnitude. It is a measurement of the secondary field produced by a ground conductor which is in a different phase than the primary field. This is the minimum reading of the field strength meter obtained when measuring the dip angle. The measurement has an accuracy of $\pm 2\%$.

RESULTS OF SURVEY

Only weak trends were encountered during the survey with very low field strength measurements. This was probably due to the heavy overburden which masked the field strength.

Anomaly A, shown on the accompanying dip angle map, showed a medium low crossover and fair field strength. It is probably due to a geological contact or low sulphide content.

Anomaly B shows some length but over all weak dip angles and with the exception of Line 24 North, low field strength measurements. The anomaly is in line with but not connected to Anomaly C to the north and may be caused by a geological contact.

Anomaly C shows weak crossovers and weak field strength. No interpretation can be made of the anomaly.

Anomaly D is probably due to the topography, being at the bottom of a steep hill. It could be an area of weakness but nothing can be interpreted from the survey.

Anomaly E is only a trend and nothing can be interpreted from the results obtained.

In general, interpretations cannot be made from results obtained. However, with some geology to show the reasons for the trends and crossovers, further benefits may be derived from the survey.

As the property is mostly covered by a heavy mantle of overburden and only a few outcrops showing in the river, the only way to correlate geology and this survey would be to drill an east-west cross-sectional diamond drill hole.

Respectfully submitted,

F. T. Archibald

F. T. Archibald, B.Sc.

Toronto, Ontario
June 24th, 1980

ASSESSMENT DETAILS

Property. Harper - Tokarsky

Location. MARTER TWP.

Mining Division. LARDER LAKE

Province. ONTARIO

Line cutting man days. 4 X 3

Total man days. 12

Miles of line cut. 6.27

Date start. 1 May, 1980

Date finish. 3 May, 1980

Line Cutters. J.A.Jamieson, 359 Lemoyne St. Timmins, Ont
J.M.Jamieson, " " " "
S.Chevrier, Notre Dame Du Nord, Quebec
C.W.Wabie " " " "

Survey type. VLF ELECTROMAGNETIC

Date start. 17 May, 1980

Operating man days. 3

Date finish. 19 May, 1980

Equivalent 8 hr. days. 4

No. Stations. 330

Consulting man days. 1

Miles surveyed. 6.27

Prep.n. Report 2

Draughting man days. 3

Typing 1

TOTAL man days. 11

Consultants. C.W.Archibald, 418 Glencairn Ave., Toronto, Ont.

Technicians. F.T.Archibald, 176 Rosewell Ave., Toronto, Ont.

Draughtsmen & others.

F.T.Archibald, 176 Rosewell Ave., Toronto

Doris P. Archibald, 418 Glencairn Ave., Toronto, Ont.



31M13NW0135 2.3386 MARTER

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JUL 24 1980

MINING LANDS SECTION

HARPER - TOKARSKY PROPERTY

MARTER TOWNSHIP, ONTARIO

PROTON MAGNETOMETER SURVEY

by

F. T. Archibald, B.Sc.

June 24th, 1980

HARPER - TOKARSKY PROPERTY
MARTER TOWNSHIP, ONTARIO
PROTON MAGNETOMETER SURVEY

SUMMARY

This report covers the results of the Proton Magnetometer Survey done over the property during the month of May 1980.

The purpose of the survey was to further delineate known mineralized zones, to attempt to locate new zones, and to assist in the interpretation of geological structure.

The property was totally covered by clay-sand overburden, with the exception of a few exposed outcrops at the edge of the Blanche River. Several filled trenches were observed which expose an area of pyrite/chalcopyrite mineralized green carbonate rock.

Some 6.27 miles of line were traversed by the survey. Readings were taken on lines 400 feet apart at 100 foot intervals.

A slight north-west magnetic signature overlies the property but is not of any significance. Clay overburden which covers almost all of the property acts as a barrier which would mask the magnetic signatures.

One slight magnetic trend was observed on Line 28 North at 14+00 East. A dump with many magnetic objects was seen about 100 feet away from this point which probably caused a slight magnetic fluctuation.

PROPERTY LOCATION & ACCESS

The property is located approximately 7.0 miles northeast of the town of Englehart, in the District of Timagami. Access is by road, four to five miles north of Englehart along Highway #11 and then by a gravel township road for 2.8 miles.

The property consists of eight contiguous, unpatented mining claims numbered L55547 to L55554 inclusive.

TOPOGRAPHY

The property is generally flat lying to the east with several east-west deeply eroded gullies which drain into the Blanche River system to the west section of the property.

The property is almost totally covered by clay-sand overburden, with the odd outcrop exposed at the edge of the Blanche River.

The timber consists mainly of tag alder and birch, with sparse jackpine and poplar.

SPECIFICS OF SURVEY

The survey was completed with the use of the Exploranium-Geometrics 'Unimag' Proton Magnetometer. It is a digital readout instrument with a sensitivity of ± 10 gammas.

Station readings were taken at intervals of 100 feet on lines at 400 feet apart. On occasion, when abnormally high or low readings were encountered, stations were used at 50 foot intervals. Some 6.27 miles of lines were traversed during the survey.

The accuracy of the readings was increased by averaging two or three readings, especially in areas of high magnetic fluctuation, or until fluctuations decreased to a constant level. The range selector was changed during high fluctuations.

The 'world gamma range' setting on the instrument was brought down to a scale relative to the airborne magnetics of the area when plotting the final resultant readings. Results, after plotting corrections for diurnal drift, are plotted at 50 gamma intervals. Base plans are plotted at a scale of 1" = 400 feet.

Actual field work was completed during the month of May 1980.

RESULTS

No magnetic signatures of any significance have been located over the property. One slight response of very weak signature outlined either the edge of a known airborne magnetic defined intrusive structure or a dump pile at the mid-east section of the claims.

Respectfully submitted,

F. T. Archibald

F. T. Archibald, B.Sc.

Toronto, Ontario.
June 24th, 1980

ASSESSMENT DETAILS

Property. HARPER-TOKARSKY

Location. MARTER Twp.

Mining Division. LARDER LAKE

Province. ONTARIO

Line cutting man days. N/A

Total man days.

Miles of line cut.

Date start.

Date finish.

Line Cutters.

Survey type. PROTON MAGNETOMETER

Date start. 17 May, 1980

Operating man days. 3

Date finish. 19 May, 1980

Equivalent 8 hr. days. 4

No. Stations. 330

Consulting man days.

Miles surveyed. 6.27

Prep.n. of report 2

Draughting man days. 2

Typing report 1

TOTAL man days. 10

Consultants.

Technicians. C.W.Archibald, 418 Glencairn Ave., Toronto, Ont

Draughtsmen & others.

F.T.Archibald, 176 Rosewell Ave., Toronto, Ont.

Doris P.Archibald, 418 Glencairn Ave., Toronto, Ont.

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey

Number of Stations 330 Number of Readings 990

Station interval 100' Line spacing 400'

Profile scale EM Dip Anglu. 1" = 10%

Contour interval EM Field Strength - 10% Mag 100%

MAGNETIC

Instrument ~~Proton~~ Proton Magnetometer - Exploration Geometric Unit mag

Accuracy - Scale constant ± 10 gamma

Diurnal correction method Base & Control station checks.

Base Station check-in interval (hours) 1/2 to 1 hour

Base Station location and value Location A 850 gamma

ELECTROMAGNETIC

Instrument Core Radam VLF electromagnetic unit

Coil configuration Fixed horizontal & vertical

Coil separation _____

Accuracy ± 1%

Method: Fixed transmitter Shoot back In line Parallel line

Frequency 17.80 kHz - Cutler Mach
(specify V.L.F. station)

Parameters measured Vertical impulse & vert plane components

GRAVITY

Instrument _____

Scale constant _____

Corrections made _____

Base station value and location _____

Elevation accuracy _____

INDUCED POLARIZATION RESISTIVITY

Instrument _____

Method Time Domain Frequency Domain

Parameters - On time _____ Frequency _____

- Off time _____ Range _____

- Delay time _____

- Integration time _____

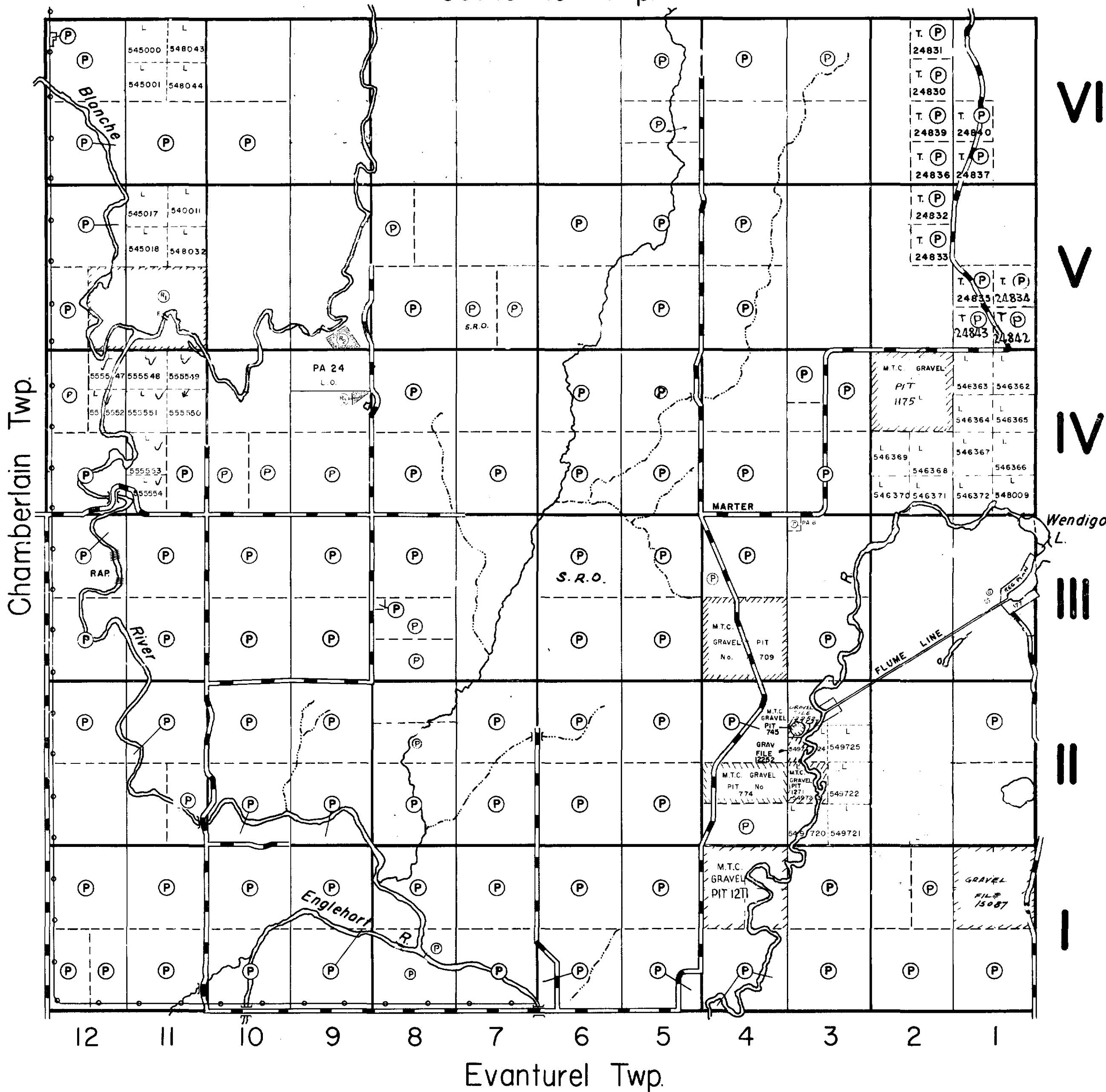
Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

Catherine Twp.



THE TOWNSHIP
2.3386 OF
MARTER
 DISTRICT OF
 TIMISKAMING
 LARDER LAKE
 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.
ROADS	—
IMPROVED ROADS	—
RAILWAYS	—
POWER LINES	—
MARSH OR MUSKEG	—
WATER POWER LEASE	W.P.L.

NOTES

400' Surface Rights Reservation around all Lakes and Rivers

Mining Claims on N. 1/2 Lot 1 Con 6
 SW 1/4 " 2 " 6
 NW 1/4 " 2 " 5
 N. 1/2 " 1 " 5
 will be exclusive of gravel purposes.

Areas withdrawn from staking under Section 43 of the Mining Act (R.S.O. 1970).

Order No.	File	Date	Disposition
(R1)	30852	19/10/71	S.R. & M.R.
(R2) W.90/80NR	31283	25/4/80	S.R.O.

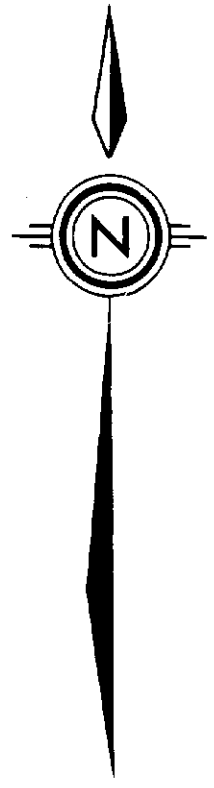
DATE OF ISSUE
JUL 24 1980
 SURVEYS AND MAPPING
 BRANCH

SAND AND GRAVEL
 (C) QUARRY PERMIT

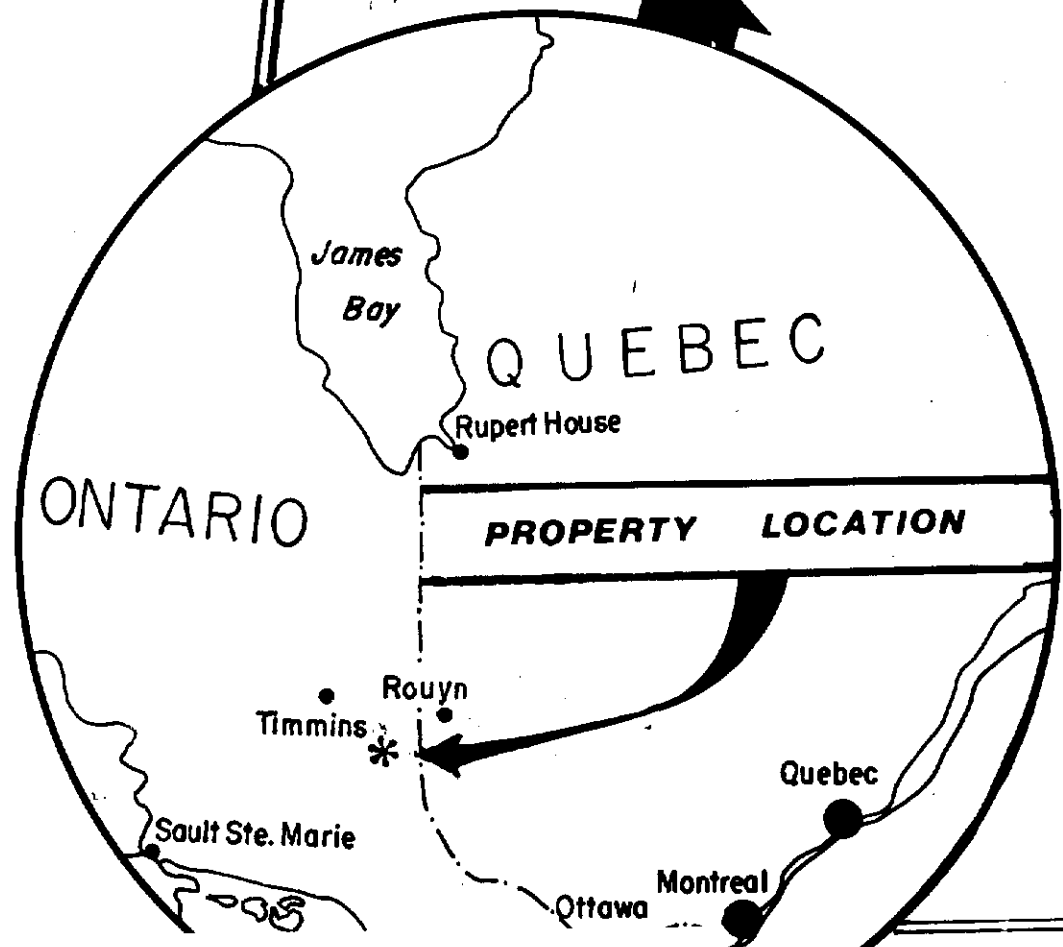
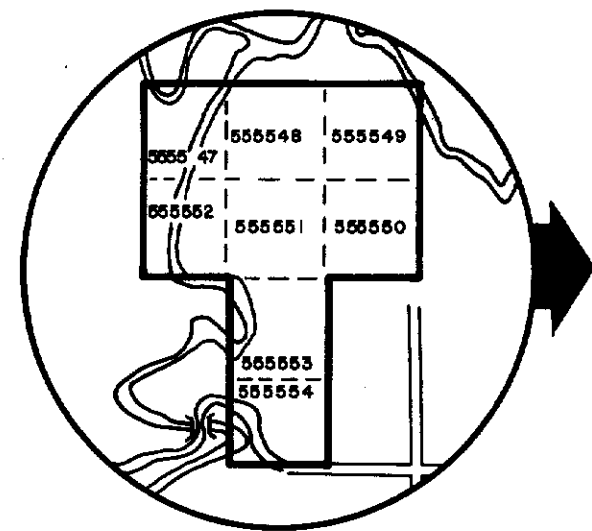
PLAN NO. - M-543

ONTARIO
 MINISTRY OF NATURAL RESOURCES
 SURVEYS AND MAPPING BRANCH





railway



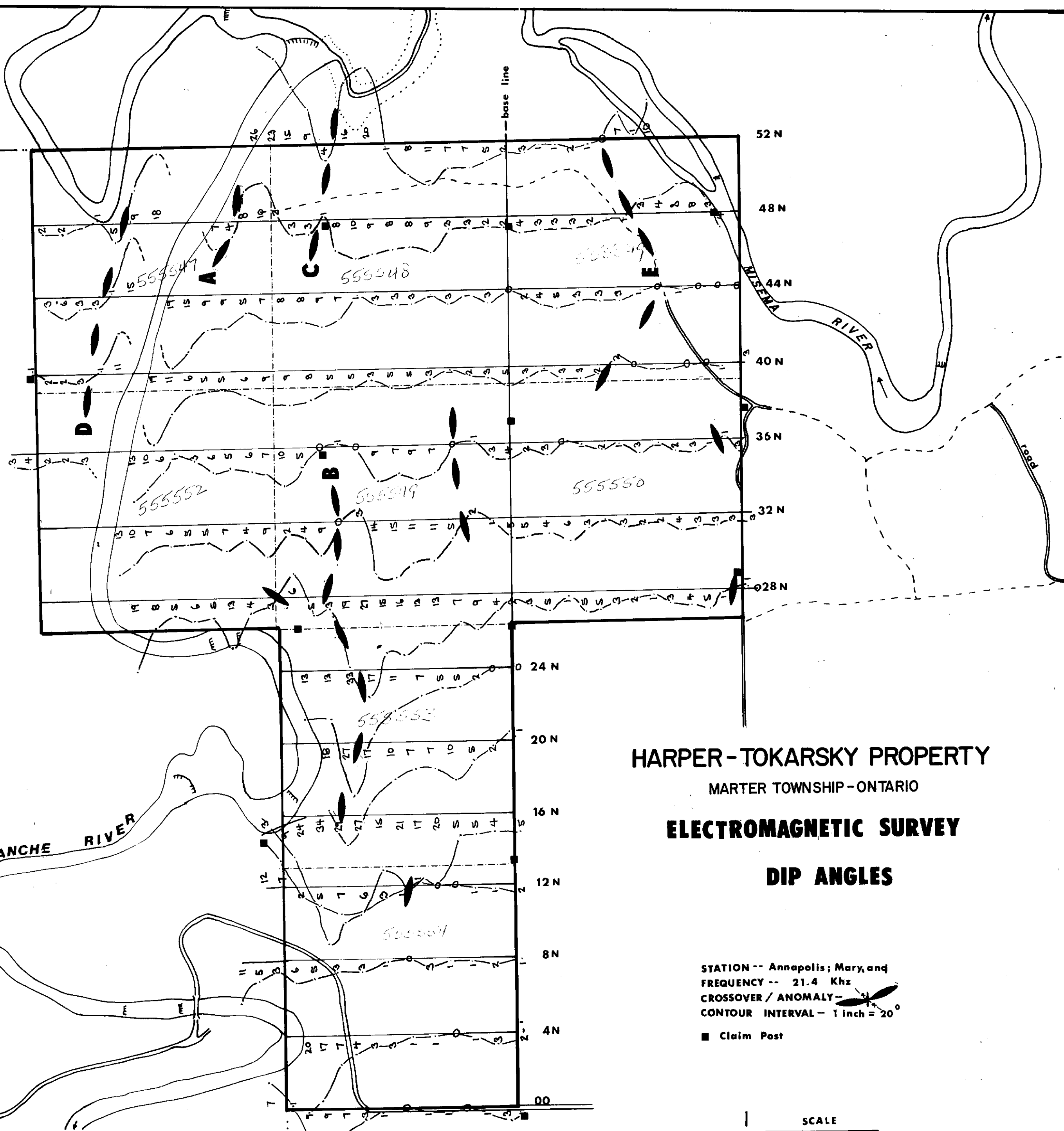
O N C E S S I O N I V

transmission line

road

C BLANCHE RIVER

1 2 L O T 1 1



HARPER-TOKARSKY PROPERTY
MARTER TOWNSHIP-ONTARIO
ELECTROMAGNETIC SURVEY
DIP ANGLES

STATION -- Annapolis; Mary, and
FREQUENCY -- 21.4 KHz
CROSSOVER / ANOMALY --
CONTOUR INTERVAL -- 1 inch = 20°
■ Claim Post

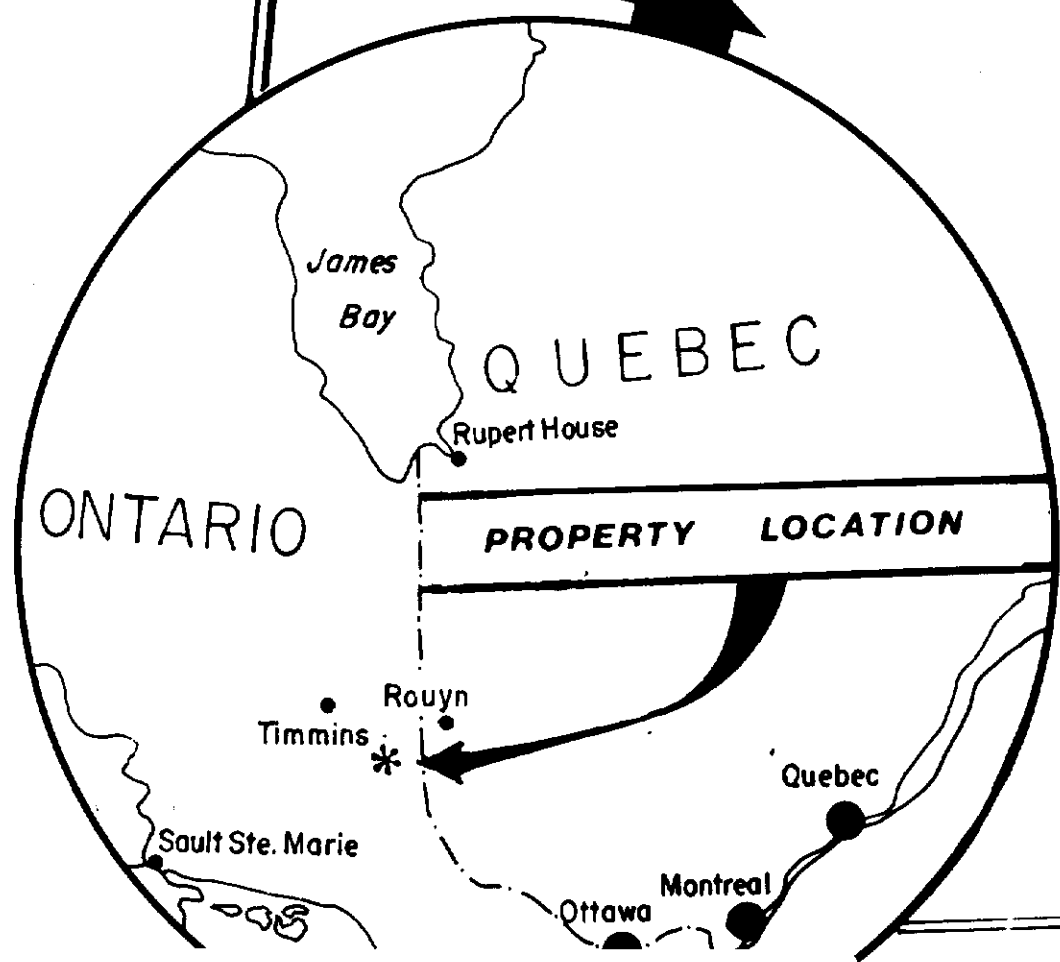
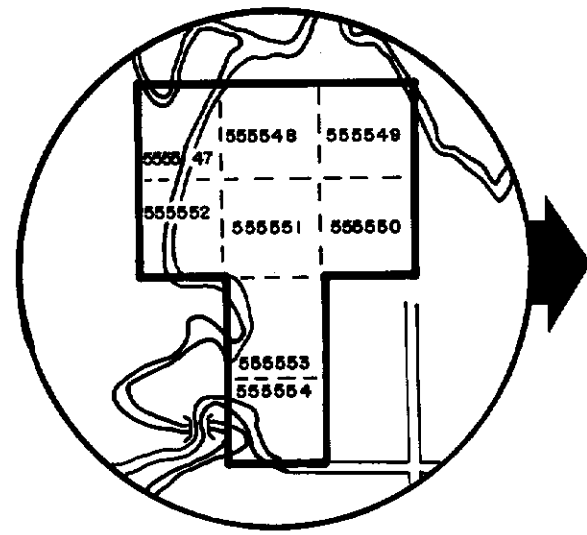


B. S. Archibald





railway



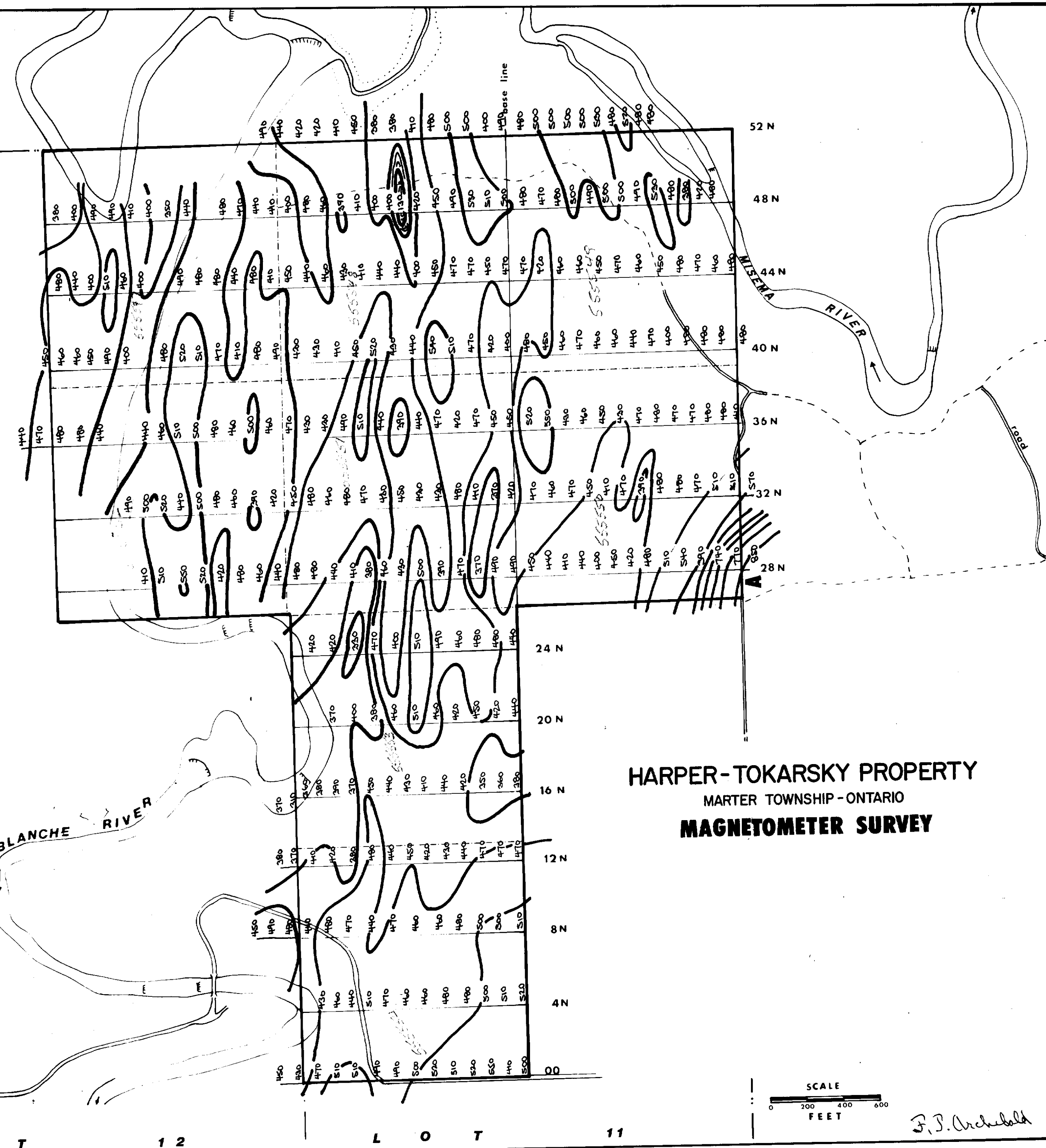
transmission line

L O T 1 2 L O T 1 1

C BLANCHE RIVER

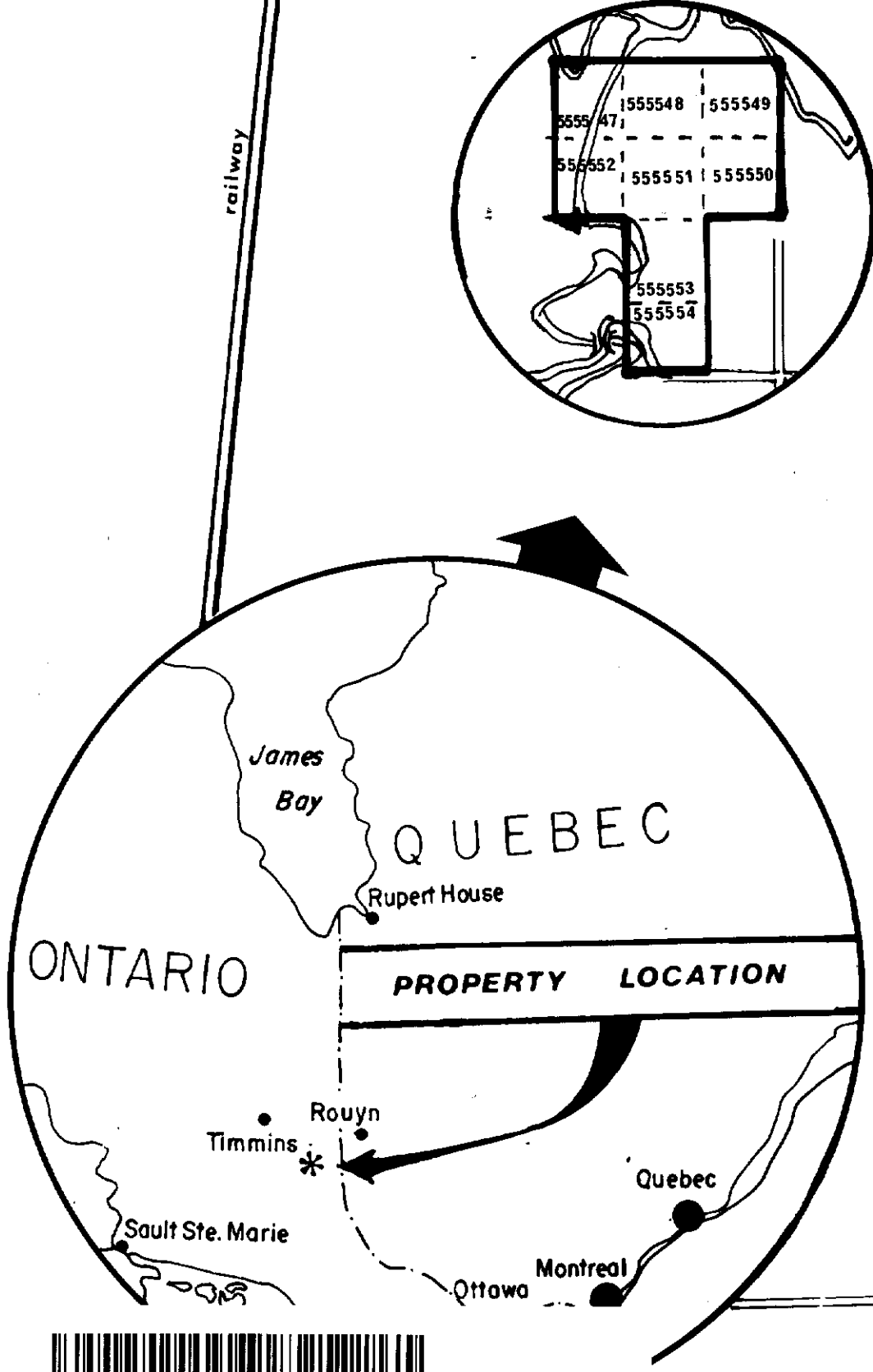
52 N
48 N
44 N
40 N
36 N
32 N
28 N

HARPER-TOKARSKY PROPERTY MARTER TOWNSHIP-ONTARIO MAGNETOMETER SURVEY



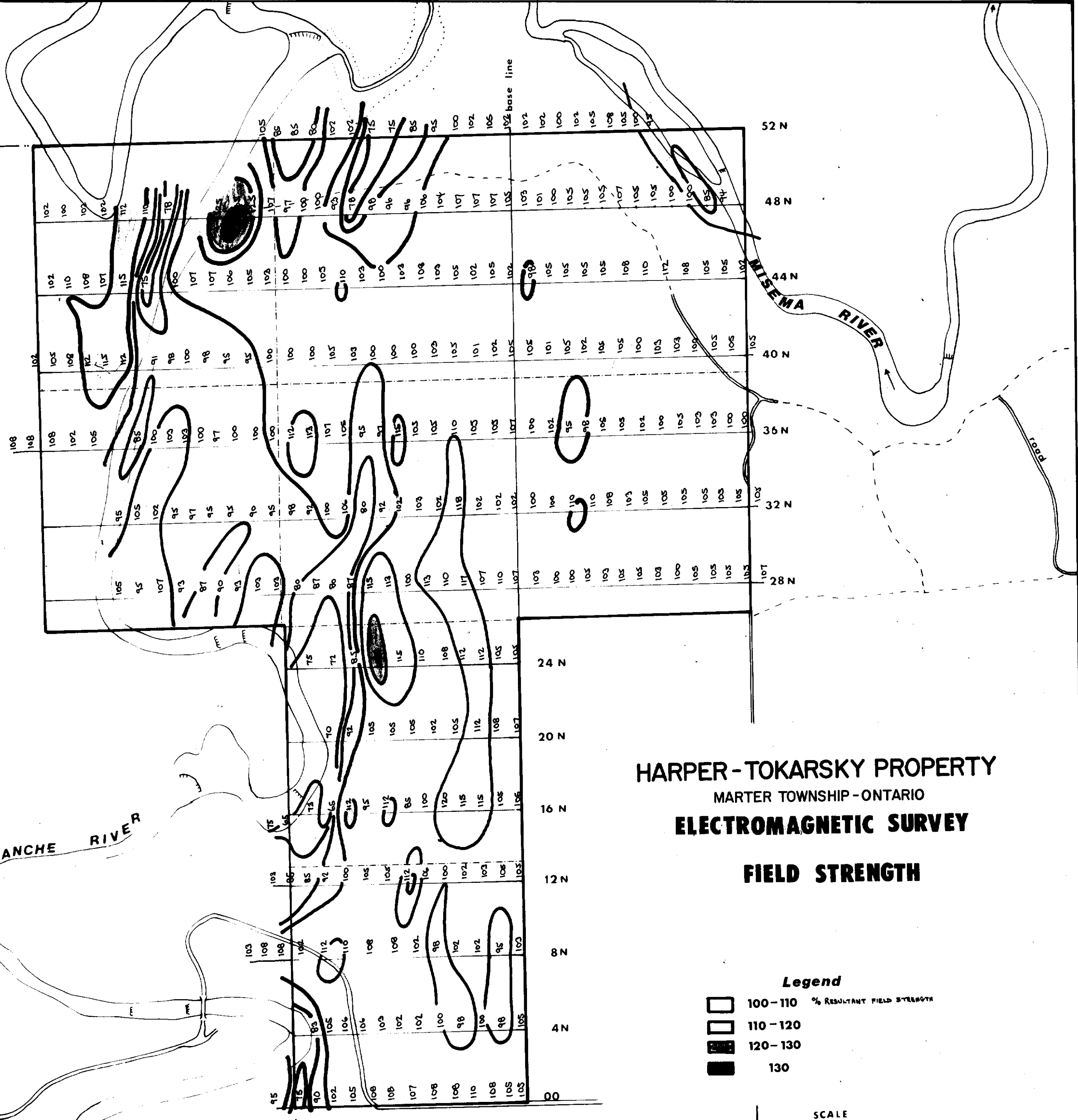
F. B. Archibald





O N C E S S I O N I V

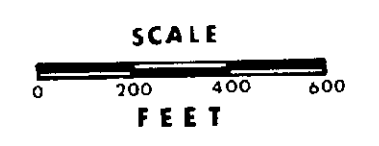
L O T 1 2 L O T 1 1



HARPER-TOKARSKY PROPERTY
MARTER TOWNSHIP - ONTARIO
ELECTROMAGNETIC SURVEY
FIELD STRENGTH

Legend

	100-110	% RESULTANT FIELD STRENGTH
	110-120	
	120-130	
	130	



F. J. Archibald

