

GEDEX LIMITED

EXPLORATION MANAGEMENT AND SERVICES



41P14NE000 2.2616 HALLIDAY

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RECE

FEB 22 1977

PROJECTS UNIT.

MAGNETIC
AND
HORIZONTAL LOOP ELECTROMAGNETIC
SURVEYS
FOR
ESSEX MINERALS COMPANY
BY
GEOEX LIMITED
ALLERSTON OPTION
GRASSY RIVER GROUP
HUTT AND HALLIDAY TOWNSHIPS

Timmins, Ontario.
December 1977.

Peter T. George, P. Eng.,
Consulting Geologist.

INTRODUCTION

The following report describes geophysical surveys completed for Essex Minerals Company during the period December 2 to 20, 1977.

PROPERTY, DESCRIPTION

The property consists of eight, contiguous, unpatented mining claims designated as follows: L450765 to L450772 inclusive.

PROPERTY, LOCATION AND ACCESS

The property is located in Hutt and Halliday Townships approximately 38 miles south of Timmins, Ontario. Road access is available to the west boundary of the property via gravel road from Timmins to the northwest corner of Hutt Township then south via the power line service road to the property.

REGIONAL GEOLOGY

The regional geology of the area is outlined on Ontario Department of Natural Resources Compilation Map 2205. The property is underlain by Archean volcanic rocks of both mafic and felsic composition. The volcanic strata have a generally east-west strike direction.

Four diamond drill holes have been reported on the property by Amax Exploration Inc. All of the holes intersected a pyrite bearing graphite zone within felsic volcanic rocks. The graphite zone correlates with HEM Anomaly A discussed below.

GEOPHYSICAL SURVEYS

Magnetic and horizontal loop electromagnetic surveys were completed on the property. Appendix 1 provides instrument specifications and other technical data regarding the surveys.

GEOPHYSICAL RESULTS (Maps in pocket)

MAGNETIC SURVEY

Maximum magnetic relief on the property is 1350 gammas. The only two readings in excess of 60,000 gammas on the property are probably due to man made sources. The anomaly on line 8W occurs adjacent to the hydro line and the anomaly on line 28E is in the immediate vicinity of an old drill setup.

With the exception of these two anomalous readings the property displays low magnetic relief of approximately 400 gammas.

The north one third of the property displays slightly higher magnetic relief than the south sector of the property. The north sector of the property may be underlain by mafic volcanic rocks.

Depth to bedrock determinations based on the magnetic data indicate a general thickening of overburden from east to west across the property.

<u>Line/Station</u>	<u>Depth to Bedrock</u>
4E/8N	100'
16E/19N	90'
44E/16N	50'

ELECTROMAGNETIC SURVEY

Two electromagnetic anomalies were located during the survey. The anomalies display both 444Hz and 1777Hz response.

Anomaly A

Anomaly A was detected on all lines on the property except lines 4W and 8W where powerline interference prevented valid readings. The width and conductivity-thickness of the anomaly varies across the property. Conductivity-thickness values are presented on the 444Hz HEM map (in pocket). The zone is non magnetic.

Four drill holes (AMAX Exploration) have tested the zone. The conductivity is due to pyrite bearing graphitic sedimentary rocks within a sequence of volcanic rocks.

Anomaly B

Anomaly B has a strike length of approximately 1600 feet and occurs on lines 8E to 20E inclusive. The zone has a maximum thickness of 45 feet on line 12E. Conductivity-thickness varies from 4 to 13 mhos along strike. The zone is non magnetic.

CONCLUSIONS

Two valid bedrock conductors were located by the HEM survey. Anomaly A has been adequately tested by drilling.

Anomaly B occurs within a sequence of south facing felsic volcanic rocks overlain by mafic volcanic rocks. The anomaly occurs near the top of the felsic unit. The limited strike length and relatively low conductivity-thickness values suggest a sulphide rather than a graphite cause of the conductivity.

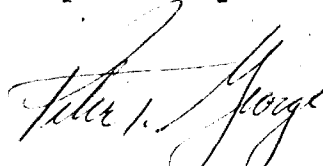
Anomaly B warrants further exploration by drilling.

RECOMMENDATIONS

No further exploration work is recommended for Anomaly A.

Anomaly B warrants at least one drill hole to evaluate the zone. The initial drill hole should be spotted on line 12E at station 6+25N, bearing 150° (true) at a dip of -45° .

Respectfully submitted,



Peter T. George, P. Eng.,
Consulting Geologist.



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(s) Geophysical
Township or Area HUTT & HALLIDAY TOWNSHIPS
Claim Holder(s) ESSEX MINERALS COMPANY
Survey Company GEORX LIMITED
Author of Report ROBERT GEORGE, P. ENG.
Address of Author GEORX LIMITED, P.O. BOX 17, THOMAS ONE
Covering Dates of Survey Dec 2 - 20, 1977
(linecutting to office)
Total Miles of Line Cut 7.90

MINING CLAIMS TRAVERSED

List numerically

EM MAC
L 450 765
(prefix) (number)
L 450 766
L 450 767
L 450 768
L 450 769
L 450 770
L 450 771
L 450 772

SPECIAL PROVISIONS
CREDITS REQUESTED

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

ENTER 20 days for each
additional survey using
same grid.

Geophysical

DAYS
per claim

-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: Nov 20, 1977 SIGNATURE: [Signature]
Author of Report or Agent

Res. Geol. L.D. Qualifications 63.2350

Previous Surveys

File No.	Type	Date	Claim Holder

TOTAL CLAIMS 8

If space insufficient, attach list

GEOPHYSICAL TECHNICAL DATA

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

Number of Stations 115 418 Number of Readings HEM 1128

Station interval ETC 100' Line spacing 400'

Profile scale 1 inch = 20'

Contour interval 25 gamma

MAGNETIC

Instrument SUNTRON MP-2

Accuracy - Scale constant ± 1 gamma

Diurnal correction method Base Stations at 100' intervals on Base Line

Base Station check-in interval (hours) 0.5 Hrs

Base Station location and value 0+00 59327 gamma

ELECTROMAGNETIC

Instrument APex Parametric MAXMIN II

Coil configuration HORIZONTAL Loop

Coil separation 400'

Accuracy ± 1%

Method: Fixed transmitter Shoot back In line Parallel line

Frequency 444 Hz + 1777 Hz (specify V.L.F. station)

Parameters measured In phase and Quadrature of secondary field

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 _____

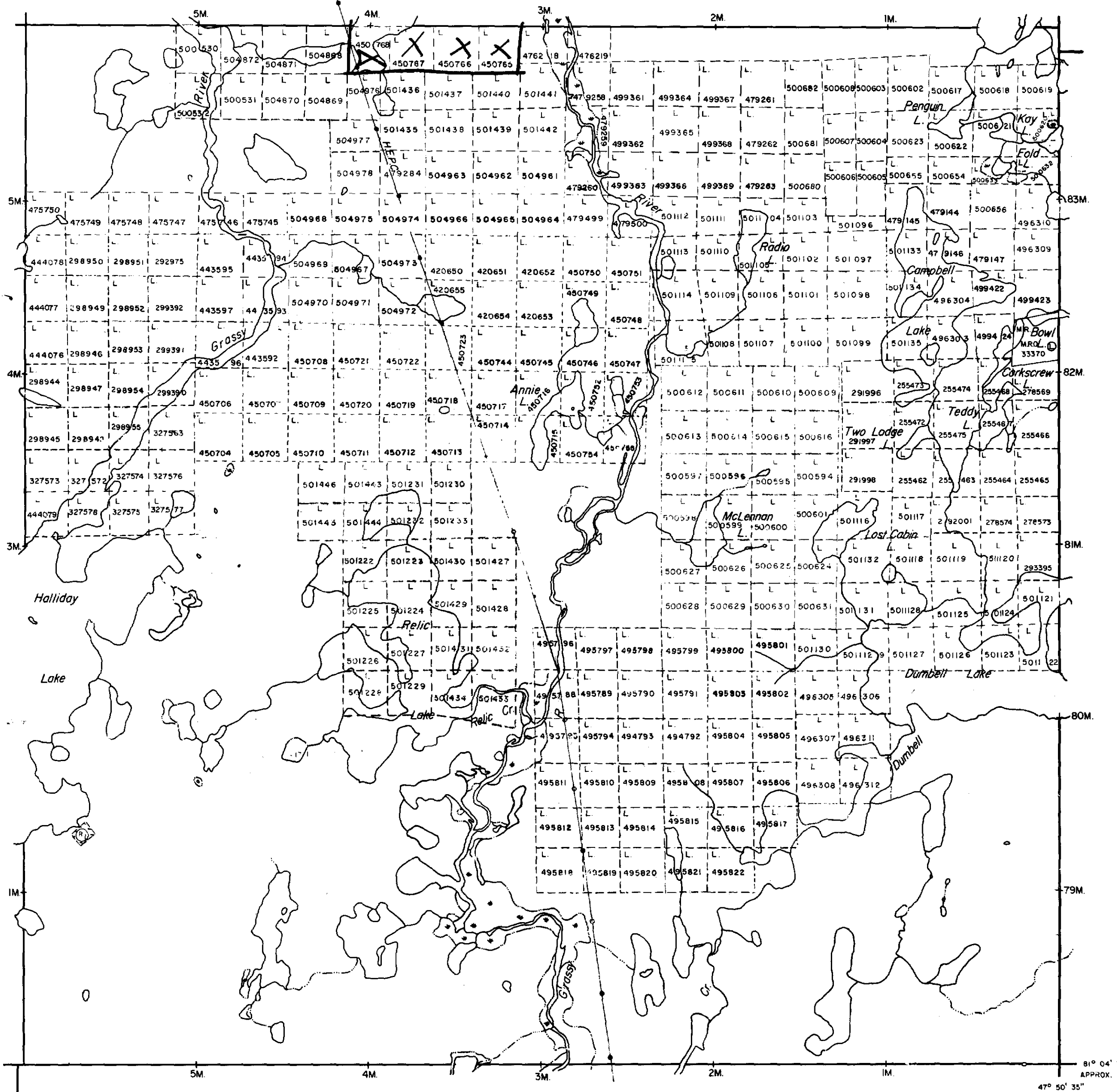
Power _____

Electrode array _____

Electrode spacing _____

Type of electrode _____

HUTT Twp. M-943



SOTHMAN Twp. M-1121

MIDLOTHIAN Twp. M-235

MOND Twp. M-870

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

withdrawn from staking under Section Mining Act (R.S.O. 1990).

Date	Disposition
R/W 32/77 189266 4/3/77	S.R.O.

DATE OF ISSUE
FEB 22 1978
SURVEYS AND MAPPING
BRANCH

LEGEND

- PATENTED LAND P or ●
 - PATENTED FOR SURFACE RIGHTS ONLY ●
 - LEASE ①
 - LICENSE OF OCCUPATION L.O.
 - CROWN LAND SALES C.S.
 - LOCATED LAND Loc.
 - CANCELLED C.
 - MINING RIGHTS ONLY M.R.O.
 - SURFACE RIGHTS ONLY S.R.O.
 - HIGHWAY & ROUTE NO.
 - ROADS
 - TRAILS
 - RAILWAYS
 - POWER LINES
 - MARSH OR MUSKEG
 - MINES
- *used only with summer resort locations or when space is limited

2.2616 TOWNSHIP OF
HALLIDAY
DISTRICT OF
SUDBURY
LARDER LAKE
MINING DIVISION
SCALE : 1 INCH = 40 CHAINS (1/2 MILE)

DR. R/W
DATE FEB. 2, 71
PLAN NO. **M-910**

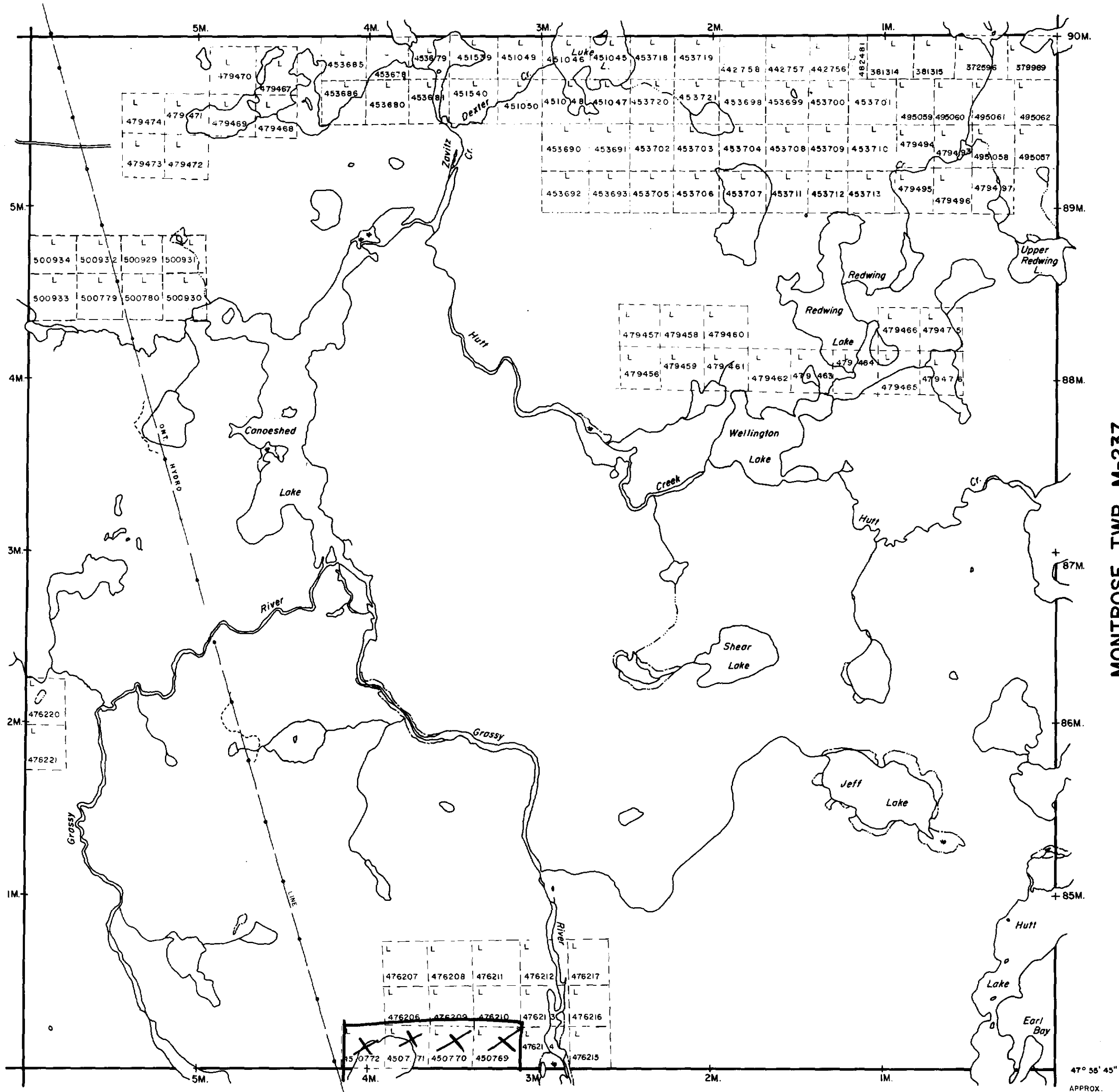
ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH



ZAVITZ TWP. M-1189

SEMPLER TWP. M-1100

MONTROSE TWP. M-237



HALLIDAY TWP. M-910

NOTES

400' surface rights reservation along the shores of all lakes and rivers.

DATE OF ISSUE
FEB 22 1978
SURVEYS AND MAPPING
BRANCH

LEGEND

- PATENTED LAND P or *
- PATENTED FOR SURFACE RIGHTS ONLY *
- LEASE L
- LICENSE OF OCCUPATION L.O.
- CROWN LAND SALES C.S.
- LOCATED LAND Loc.
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- MARSH OR MUSKEG
- MINES

*used only with summer resort locations or when space is limited

TOWNSHIP OF

2.2616 HUTT

DISTRICT OF SUDBURY

LARDER LAKE MINING DIVISION

SCALE : 1 INCH = 40 CHAINS (1/2 MILE)

DR. R. NOBLE
DATE MAY 5, 71.

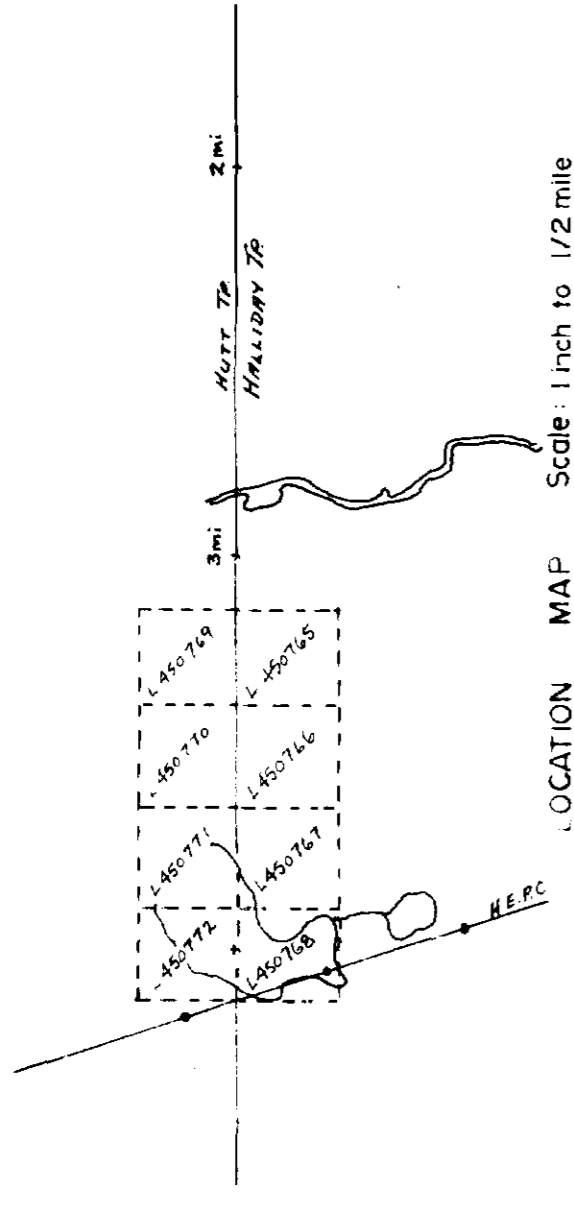
PLAN NO. M-943

ONTARIO
MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH



41P14NE0000 2.2616 HALLIDAY



LEGEND

Measurement Station Along Picket Line
 Elevation Field Value
 Main Base Station
 Magnetic Contour
 Magnetic Depression

Instrument: SCINTREX MP2
 CONTOURS: 500 gammas, 100 gammas, 50 gammas, 25 gammas

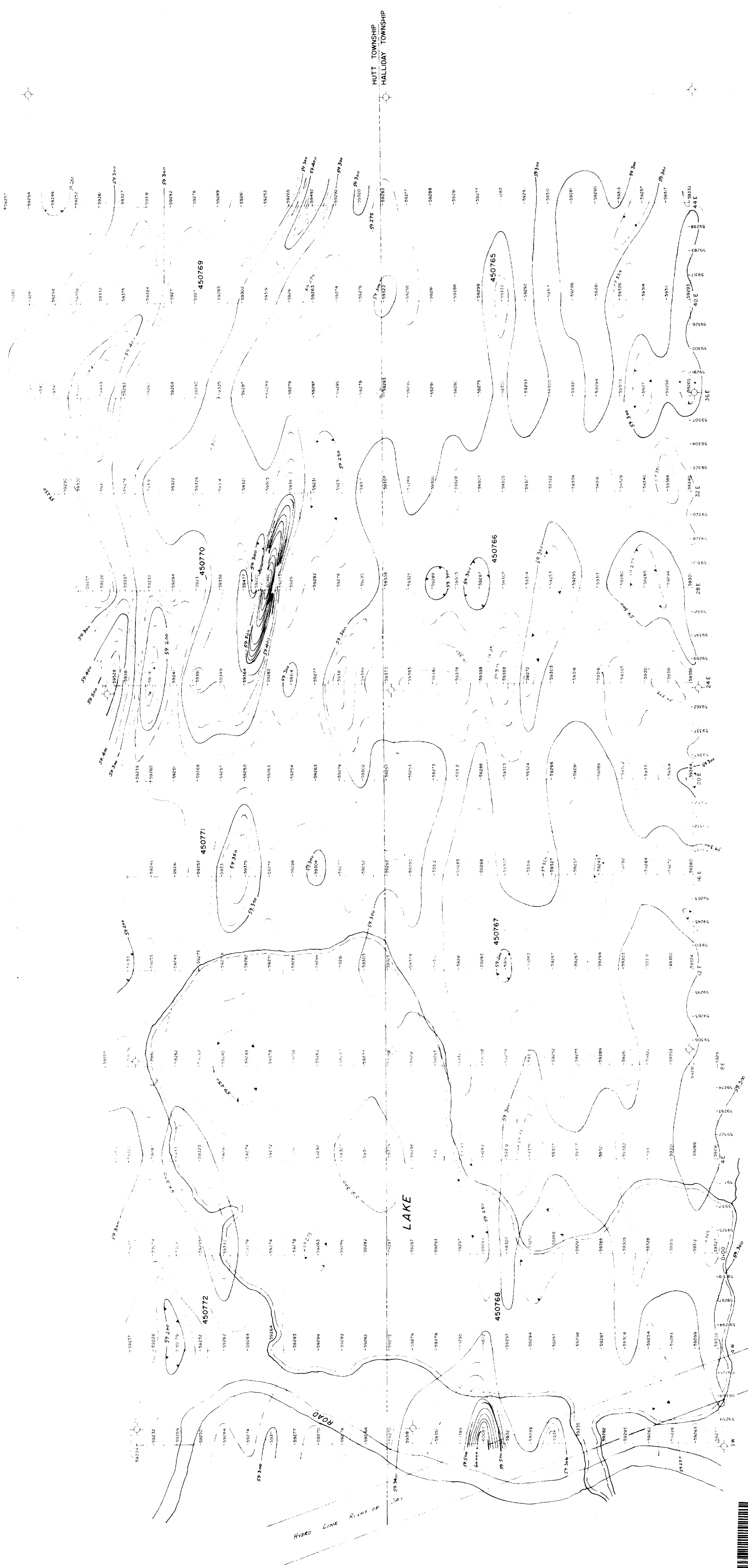
Chim Post Witness Post Road
 Creek Swamp Lake
 Hydro Line Building Drill Hole
 Outcrop

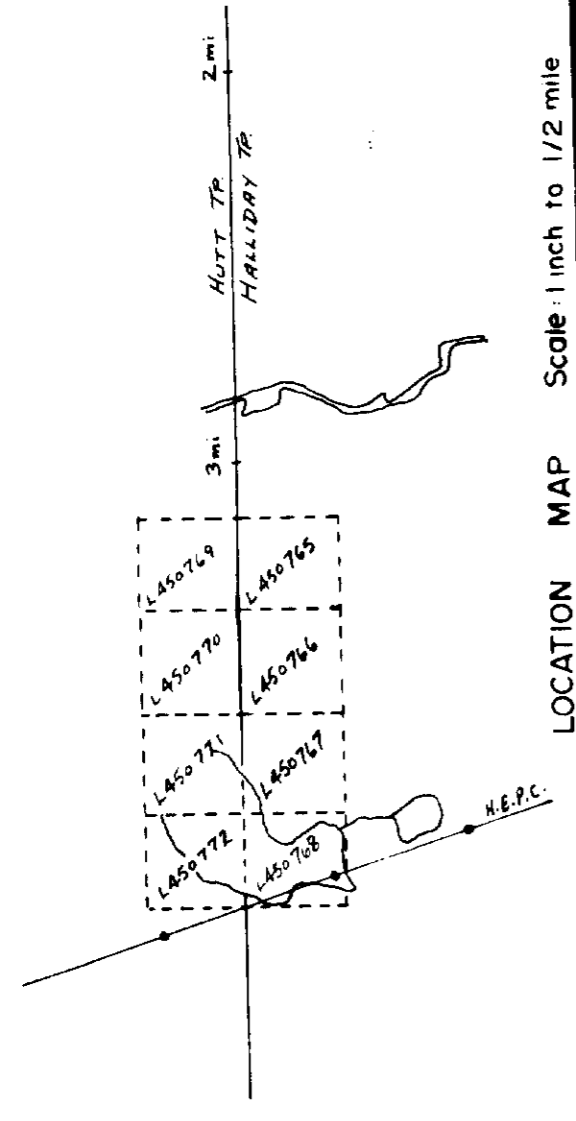
CLIENT: ESSEX MINERALS CO.
 PROJECT: ALLERTON OPTION
 GRID: GRASSY RIVER

MAGNETOMETER SURVEY

Scale: 1 inch to 200 feet
 Drafted By: Reneltis
 Consultant: P.T. George
 Covering Dates: Field 2-11/12/77
 Office 19-20/12/77

Drawing Number: 77-33
 GEOEX Limited
 Exploration Services and Management
 Timmins, Ont. (705) 267-3990





LEGEND

Conductor Axis
 Conductor Width
 Conductivity Thickness (mhos)/Depth Estimate (m)
 In-Phase Profile
 Quadrature Profile
 Profile Scale 1" = 2.2%

Instrument: Apex Parametrics Maxmin II
 Cable 400'
 Frequency 1777 Hz

Claim Post
 Witness Post
 Creek
 Swamp
 Lake
 Trail

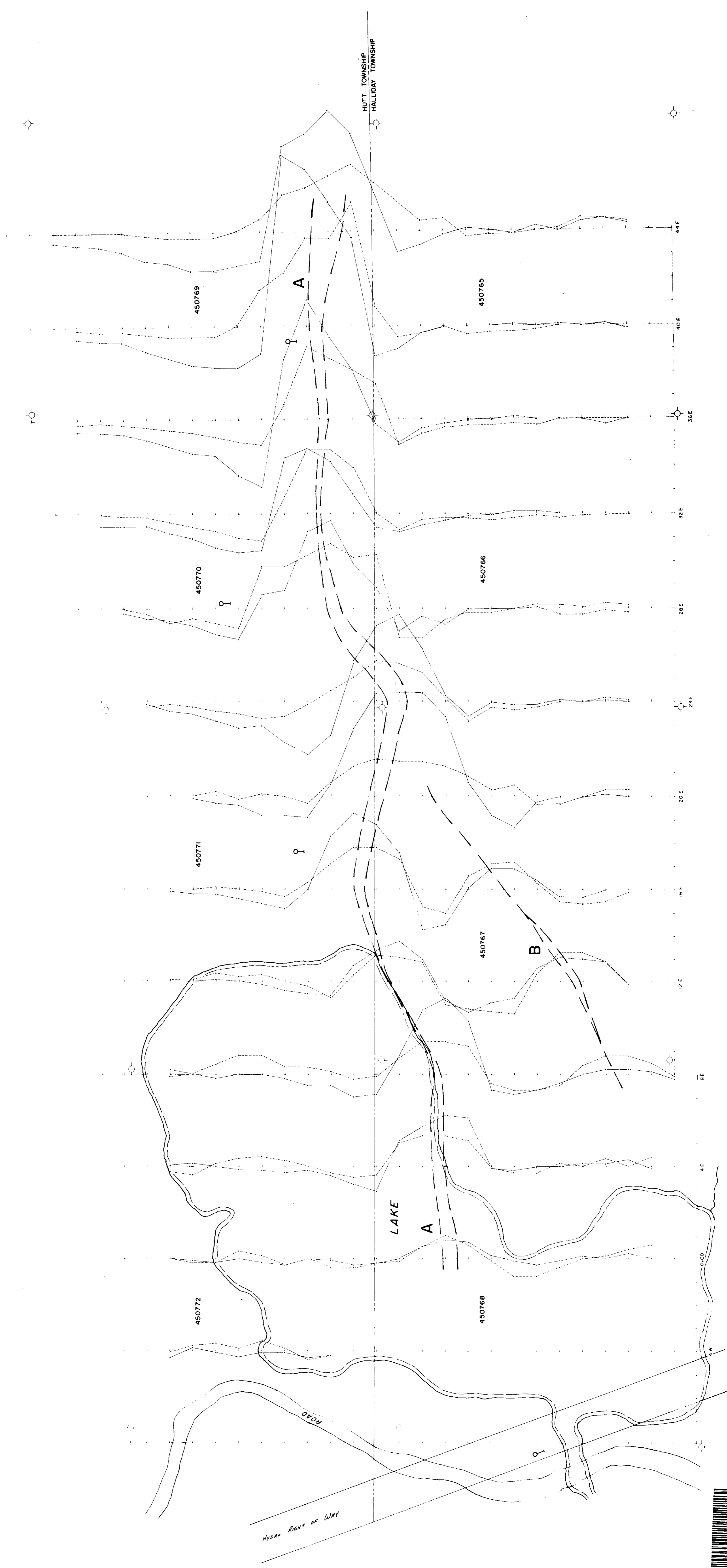
Road
 Fence
 Hydro Line
 Building
 Drill Hole
 Outcrop

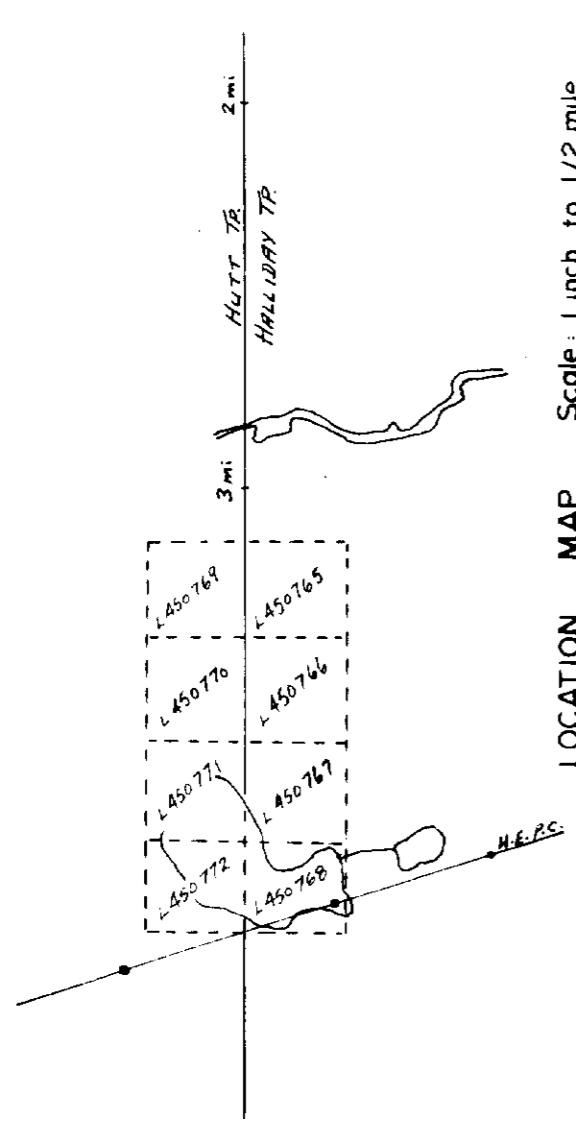
CLIENT ESSEX MINERALS CO.
 PROJECT ALLERTON OPTION
 GRID GRASSY RIVER
 H.E.M. SURVEY

Scale: 1 inch to 200 feet
 Drafted By: A. Rentelis
 Covering Dates: Field 2-11/12/77
 Office 19-20/12/77
 Consultant: P.T. George
 Office: Timmins, Ont.

GEOEX Limited
 Exploration Services and Management
 P.O. Box 70,
 Timmins, Ont.
 (705) 267-3990

Drawing Number 77-33 B





LOCATION MAP Scale: 1 inch to 1/2 mile

LEGEND

- Conductor Axis
- Conductor Width
- Conductivity Thickness (mhos)/Depth Estimate (m)
- In-Phase Profile
- Quadrature Profile
- Profile Scale 1" = 25%
- Instrument Apex Parametrics Maxmin II
- Cable 400'
- Frequency 4.44 Hz
- Claim Post
- Witness Post
- Creek
- Swamp
- Lake
- Trail
- Road
- Fence
- Hydro Line
- Building
- Drill Hole
- Outcrop

CLIENT ESSEX MINERALS CO.
 PROJECT ALLESTON OPTION
 GRID GRASSY RIVER
 H.E.M. SURVEY

Scale: 1 1/4" to 200 feet	Drafted By: S. Pentecost
Covering Dates: Field 2-11/12/77	Consultant: G.T. B. S. O. G. L.
Office 15-20/12/77	

GEOX Limited
 Exploration Services and Management
 P.O. Box 70,
 Timmins, Ont.
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Drawing Number 77-33 A

