



41015SE0056 2.10272 SWAYZE

010

REPORT on the MAGNETIC SURVEY  
conducted on the  
Topboot Lake Property  
of  
GLEN AUDEN RESOURCES LIMITED  
Swayze and Denyes Townships  
District of Sudbury  
by  
Greg Hodges, B.Sc.

**RECEIVED**  
AUG 10 1987  
MINING LANDS SECTION



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Back Pocket - Contoured Total Field Magnetic Map

ABSTRACT

A magnetic survey was conducted on the Topboot Lake property of Glen Auden Resources Limited. The survey outlined much of the geology very well, and detected several anomalies upon which follow-up geophysical surveying (EM and IP) are recommended.

### INTRODUCTION

During the period from May 20 to May 30, 1987, a geophysical survey was conducted on the Topboot Lake property of Glen Auden Resources Limited. The survey, conducted by Robert S. Middleton Exploration Services Inc., collected total field magnetics data over the property to aid in geologically mapping the property.

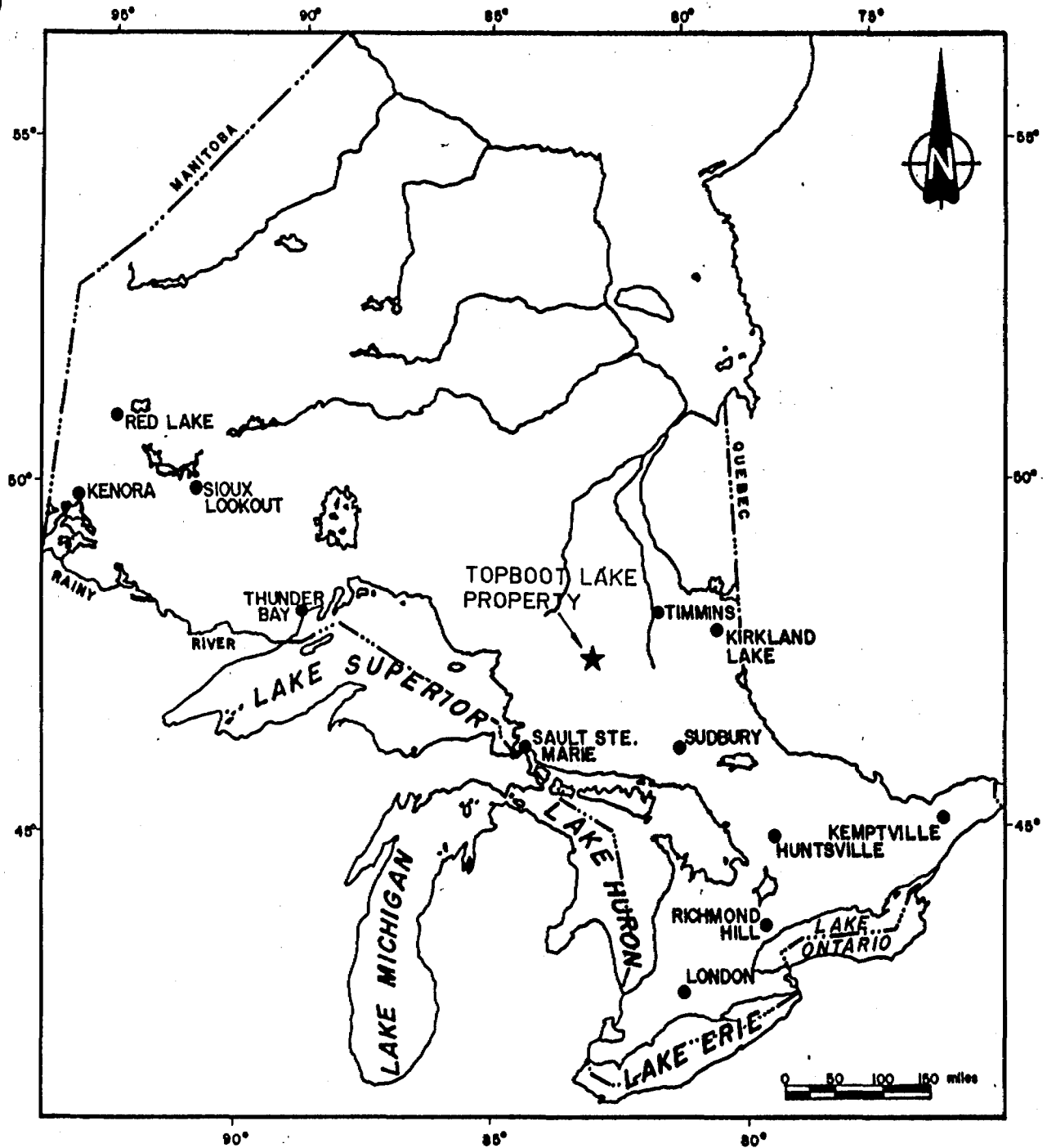
### LOCATION AND ACCESS

The property is located on the boundary of Swayze and Denyes Townships in the District of Sudbury, Ontario, 85 kilometers by air southwest of Foleyet, Ontario (Figures 1 and 2).

Access to the property was by fixed wing aircraft, from Ivanhoe Lake near Foleyet (Therriault Air) to Swayze Lake. Aircraft could also land on Topboot Lake.

### CLAIM GROUP

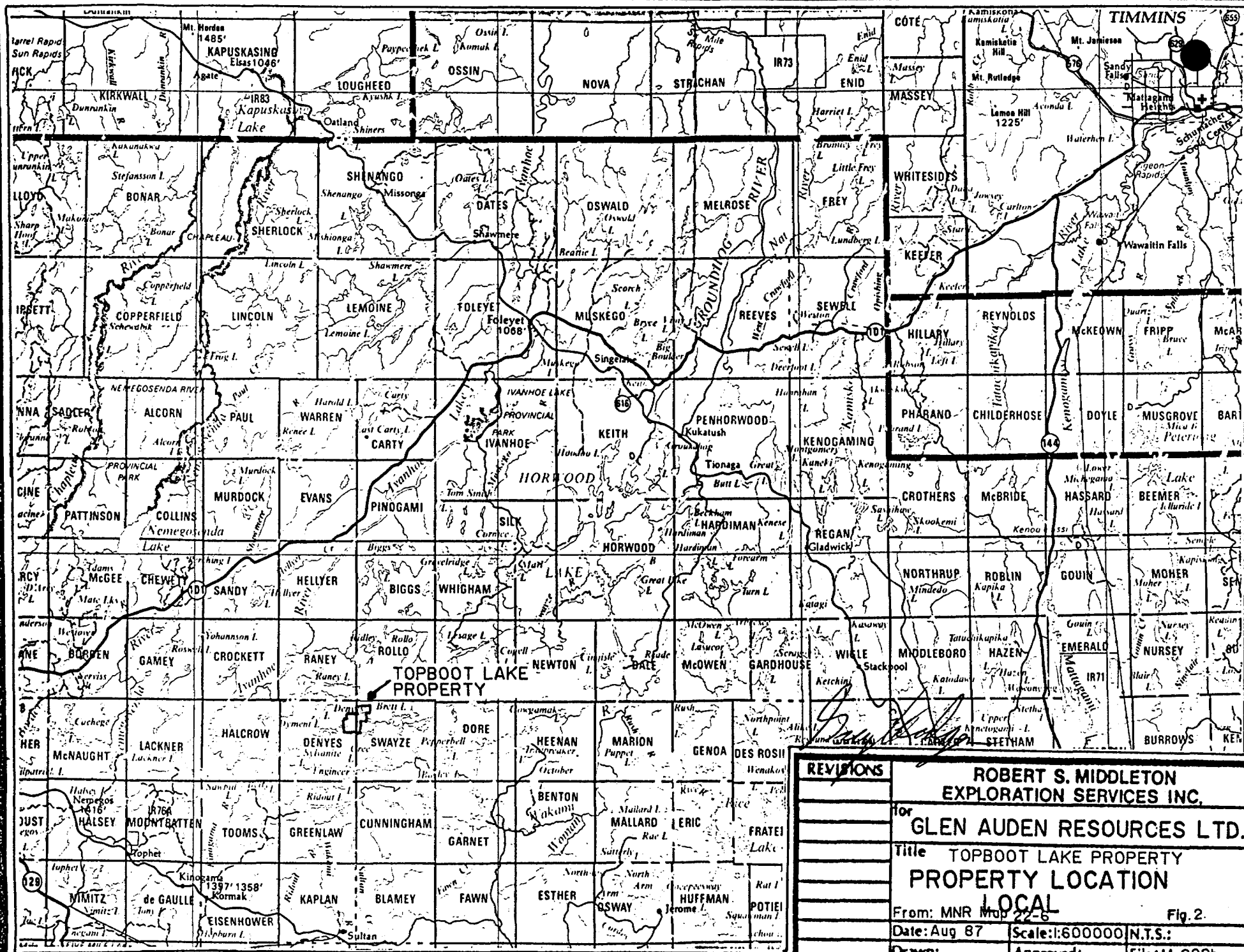
The property consists of 39 unpatented mining claims in Denyes and Swayze Townships, Porcupine Mining District. (Figure 3)



PROVINCE OF ONTARIO

*Robert S. Middleton*

REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	for	GLEN AUDEN RESOURCES LTD.	
	Title	TOPBOOT LAKE PROPERTY	
		PROPERTY LOCATION	
		REGIONAL	
		Fig. 1	
	Date: Aug 87	Scale: 1"=160mi.	N.T.S.:
	Drawn:	Approved:	File: M-202b



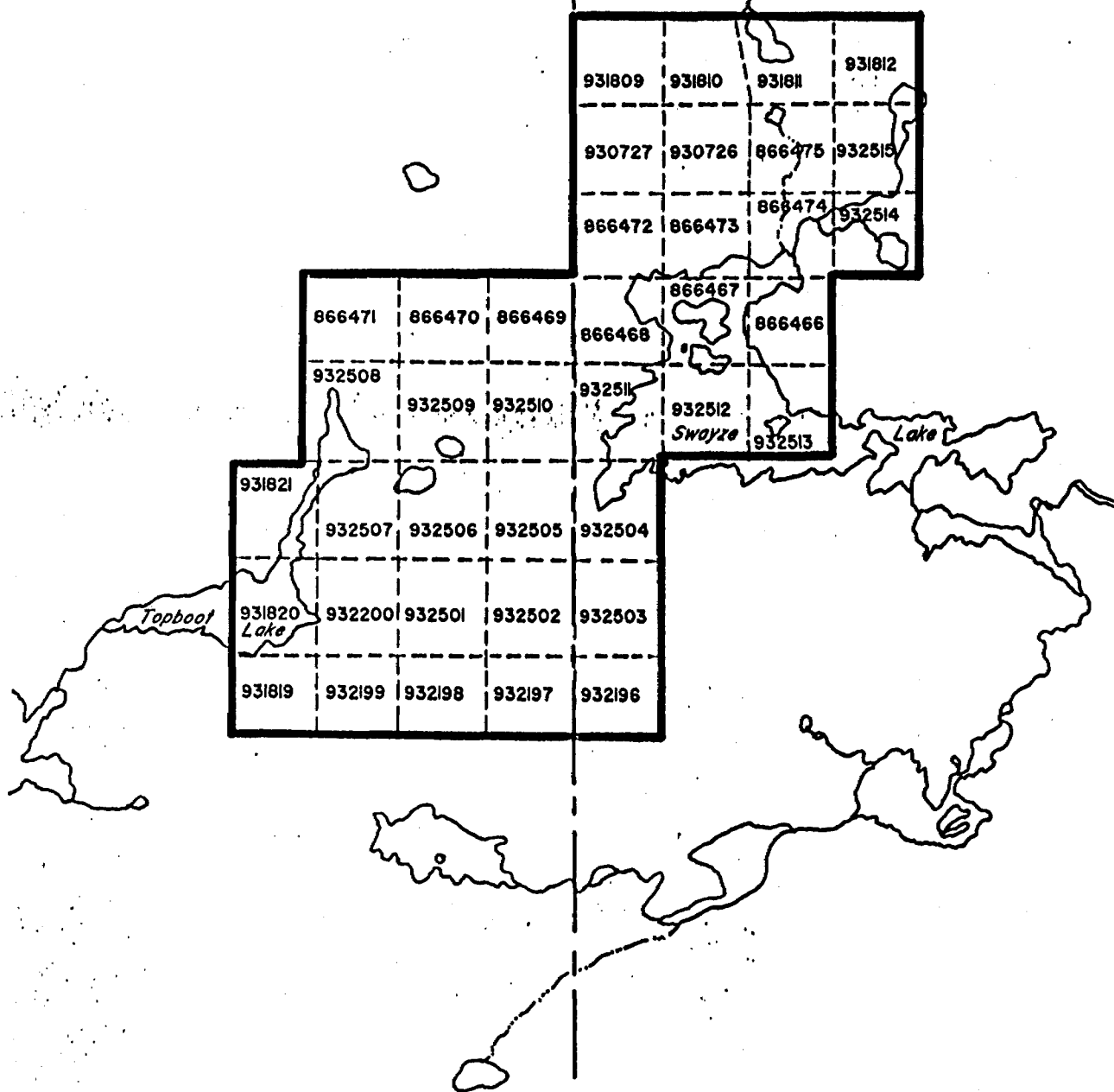
<b>REVISIONS</b>	<b>ROBERT S. MIDDLETON EXPLORATION SERVICES INC.</b>	
	for <b>GLEN AUDEN RESOURCES LTD.</b>	
	Title <b>TOPBOOT LAKE PROPERTY PROPERTY LOCATION LOCAL</b>	
	From: MNR Map 27-6	Fig. 2.
	Date: Aug 87	Scale: 1:60000 N.T.S.
	Drawn:	Approved:
		File: M-202b

RANEY TWP.

ROCHE TWP.

DENYES TWP.

SWAYZE TWP.



*Big Lake*

REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	for	GLEN AUDEN RESOURCES LTD.	
	Title	Swayze Lake Property	
	<b>.CLAIM LOCATION MAP</b>		
		Fig 3	
	Date: Jan. 1987	Scale: 1"=1/2mile	N.T.S.:
	Drawn: C.G.	Approved:	File: M-202b

CLAIM	NO.	RECORDING DATE
DENYES TOWNSHIP		
932501-932502	2	June 12, 1986
932505-932510	6	June 12, 1986
866469-866471	3	June 12, 1986
932197-932200	4	June 12, 1986
931819-931821	3	June 12, 1986
	<u>18</u>	
SWAYZE TOWNSHIP		
932190	1	June 12, 1987
932503-932504	2	June 12, 1987
932511-932515	5	June 12, 1987
866466-866468	3	June 12, 1987
866472-866475	4	June 12, 1987
930726-930727	2	June 12, 1987
931809-931812	4	June 12, 1987
	<u>21</u>	

These claims are held by Glen Auden Resources Limited.

REGIONAL GEOLOGY

The following is quoted from Abernethy, 1987:

"The rocks of the Glen Auden property are part of the east-west trending Swayze greenstone belt, approximately 28 miles long by 18 miles wide. The rocks are all Precambrian in age and are steeply dipping in fold structures, whose axis trend in a sinuous east-west path across the area. Faults and shear zones trend predominantly north to north-west.



The belt shows wide lithologic variety but mafic volcanic flows predominate with volcanic centre felsic rocks and sediments occupying long linear structures towards the centre of the belt. Diabase is rare but several long dikes traverse the belt with a north-northeasterly trending orientation. Ultramafic flows, granitic plugs and iron formation are also found in the belt.

The Swayze belt is truncated in the west by the Kapuskasing structure and to the east bifurcates with one arm trending towards the Porcupine gold camp and the other arm trending towards the Kirkland Lake gold camp."

#### PROPERTY GEOLOGY

The following is quoted from Abernethy, 1987:

"Rocks on the property consist of mafic to intermediate tuffs, rhyolitic flows, felsic tuffs, quartz-sericite schists, graphitic argillite, arkose, conglomerate, quartz feldspar porphyries and diabase. The mafic volcanic rocks trend east-west and are part of a thick mafic unit that extends across the township and are stratigraphically equivalent to those hosting the

Kenty Mine. The basalts are typically dark green to black, massive or weakly foliated, aphanitic, and occasionally pillowed or brecciated. Alteration consists of moderate to strong chloritic alteration, traces of pyrite with erratic concentrations of up to 1%, moderate to strong calcite alteration and occasional fractures and shears infilled with quartz or quartz-carbonate veining. Mafic ash tuffs were found intercalated with the flows in thin, non-continuous units. The tuffs were generally very fine grained with less than 10% angular, mafic, rock fragments in a dark, moderately foliated matrix. No sedimentary structures were observed in these tuffs.

Rocks of intermediate composition were recognized in several locations stratigraphically between the mafic flows and felsic tuffs and porphyries. These rocks were similar in appearance to the mafic rocks but were generally lighter in colour and were harder due to a more siliceous matrix. The intermediate volcanic rocks were without structure and conformable to the enclosing mafic volcanics.

Felsic volcanic rocks and porphyries of intermediate felsic composition were found in the southern two-thirds of the Glen Auden property which is part of a much thicker synform running east-west through central Swayze, Denyes and Dore Townships. Rhyolitic flows were extremely rare. Rhyolites were recognized by their hard, siliceous, beige appearance and thin laminations which may represent flow banding. Felsic ash to lapilli tuffs were the most common lithologies found on the property. The fragment composition varied from less than 10% clasts to a crowded, fragment supported variety. The matrix composition varied from a beige brown colour to a pale green. Alteration varied greatly in the tuffs as distinct alteration zones were noted. Calcite alteration was most prevalent with widespread zones of calcite enrichment. Calcite composition varied from 1-2% in some rocks to an estimated 20-30% calcite in the most obviously altered zones. Usually synchronous with calcite alteration was sericite enrichment (0-10%), pyrite (1-4%) and structure such as pervassive foliation and local shearing. Chlorite alteration was

rarely observed but did exist in the more intermediate tuffs.

Crystal tuffs may have been present but were difficult to distinguish from porphyries. The quartz-feldspar porphyries were observed to be pink to beige, massive, medium to coarsely crystalline feldspar phenocrysts in an aphanitic pale green matrix. Close examination of the feldspar crystals reveals that they are subhedral to euhedral, zoned phenocrysts that are occasionally fractured and cracked. Pyrite is rare in the porphyries.

A thin band of metasediments was found on the west shore of Swayze Lake. The outcrop was best described as an arkosic sandstone or a low density conglomerate, as rare pebble sized, sub-angular rock fragments were observed in an otherwise homogeneous feldspar rich sandstone. Clasts were heterogeneous and consisted of mafic rock fragments, felsic rock fragments, chert, quartz grains and a soft argillitic looking rock of uncertain composition. Long, thin non-magnetic, formational type conductors trend east-west through the central portions of Swayze Lake and

are probably conductive graphite.

The major structural characteristic of the rocks is an east-west schistosity developed in the felsic volcanics and sediments. Weak or no schistosity was found in the mafic volcanics north of Swayze Lake. Pillow top directions indicate tops to be south which is consistent with the hypothesis that a volcanic vent located towards the south extruded a classic mafic to felsic volcanic pile.

All faults and shears and major lineations observed on the property trended in a northeasterly direction. This trend was also observed in the Derrough showing signifying the importance of north-south shears, faults and lineaments."

#### PREVIOUS WORK

The following is quoted from Abernethy, 1987:

"Assessment file examination reveals that several companies have been active in the area both on Glen Auden ground and properties surrounding it. Little work was done in the area previous to 1931 when a promising discovery of

gold bearing quartz was made by J.G. and J.L. Kenty on the northeast shore of Brett Lake, 4 miles to the east of the property. Considerable prospecting followed this discovery resulting in a number of gold discoveries, including two gold discoveries now located on the Glen Auden property. In the fall of 1932, J.E. Derrrough staked 8 claims within the property boundary, adjoining the eastern boundary of Denyes Township. Trenching of the discovery vein exposed 220 feet of quartz veining and stockwork parallel to a fault striking almost due north and south. M.C. Rickaby examined the discovery in 1934 for the Ontario Department of Mines and described it as an "almost continuous vein of quartz with small quartz veinlets in the footwall. The quartz is in the form of lenses with widths up to 6' feet." A brecciated lamprophyre dike lies long the fault and quartz porphyry dikes intrude the sediments. "The quartz is mineralized with pyrite, chalcopyrite, a little galena, and carbonates. Lenses of vein material with considerable chalcopyrite carry big values in gold, though no native gold was seen." Chip samples taken

continuously across the vein by Rickaby returned the following values in gold:

- |  |            |
|--|------------|
| a) 8 inches, quartz with heavy sulphides | 2.22oz/ton |
| b) 24 inches, chiefly quartz             | .15oz/ton  |
| c) 36 inches, altered wall rock          | .03oz/ton  |
| d) 56 inches, quartz                     | .24oz/ton  |
| e) 24 inches, quartz                     | .32oz/ton  |

As a result of encouraging gold values in this vein Kirkland Hudson Bay Gold Mines Limited put down a series of short diamond drill holes in the winter of 1932-33. A total of 2,000 feet of drilling was completed. Results of the drilling are not known but apparently did not warrant further work and the option was dropped.

Prospecting of the property continued for ten years following the original discovery and spotty records of trenching and blasting assessment exist. Regional airborne electromagnetic and magnetic surveys were flown by several companies and twice by the Ontario Government, in 1964 and 1977.

George Mangotich of Englehart, Ontario staked 21 claims on the present Glen Auden Property in 1975-76. VLF-EM, magnetometer, geological mapping and one diamond drill hole totalling 170' are

recorded for assessment. The geological map presented by W.F. Gilman shows rhyolite and rhyolitic fragmentals over all of the Mangotich property. The diamond drill hole, drilled due north near the northern boundary of present claim 932508 encountered rhyolite, chert and graphite, with quartz/calcite veining and 1/4" to 1" massive pyrite, diabase and 60 feet of quartz-sericite-feldspar schist injected with quartz-calcite-tourmaline-pyrite stringers. Very little sampling was performed and no assays were given.

Norminex Limited staked three claims straddling the boundary between Swayze and Denyes Townships in 1983. Norminex conducted 1"=400' geological mapping with detailed sampling of several old trenches and a 1"=200' magnetometer survey for assessment credit. The Norminex geologist, J.F. Davies, identified three main types of rock; 1) massive fine rhyolite, 2) crystal tuff or porphyritic rhyolite and 3) quartz-sericite schist which probably represents a sheared rhyolite.

The re-sampling of the Derrough trench,



revealed values as low as .01oz/ton in diabase to 1.65oz/ton over 24". Recommendations for systematic re-sampling, lithochemical sampling and soil geochemical surveys and four diamond drill holes were never followed up and the property was allowed to come open.

The Canadian Nickel Co. Ltd. staked a large block of claims in Swayze, Dore and Denyes Townships in 1983 covering the northern half of the Glen Auden Property. Geological mapping by B. Bell found variably altered and carbonatized mafic to felsic volcanics, mafic to felsic intrusives, quartzite between the carbonatized mafic volcanics north of Swayze Lake and those hosting the Kenty Mine Prospect and recommended further work."

#### SURVEY PROCEDURE

##### MAGNETICS

##### Theory

The magnetic method is based on measuring alteration in the shape and magnitude of the earth's naturally occurring magnetic field caused by changes in the magnetization of the rocks in the earth.

These changes in magnetization are due mainly to the

presence of the magnetic minerals, of which the most common is magnetite, and to a lesser extent ilmenite, pyrrhotite, and some less common minerals.

Magnetic anomalies in the earth's field are caused by changes in two types of magnetization: induced and remanent (permanent). Induced magnetization is caused by the magnetic field being altered and enhanced by increases in the magnetic susceptibility of the rocks, which is a function of the concentration of the magnetic minerals.

Remanent magnetism is independent of the earth's magnetic field, and is the permanent magnetization of the magnetic particles (magnetite, etc.) in the rock. This is created when these particles orient themselves parallel to the ambient field when cooling. This magnetization may not be in the same direction as the present earth's field, due to changes in the orientation of the rock or the field.

The most common method of measuring the total magnetic field in ground exploration is with a proton precession magnetometer. This device measures the effect of the magnetic field on the magnetic dipole of hydrogen protons. This dipole is caused by the "spin" of the proton, and in a magnetometer these dipoles in a sample of hydrogen-rich fluid are oriented parallel to a magnetic field applied by an electric coil surrounding the sample. After this magnetic field is removed, the dipoles begin

to precess (wobble) around their orientation under the influence of the ambient earth's magnetic field. The frequency of this precession is proportional to the earth's magnetic field intensity.

#### Field Method

The magnetics data were collected with a proton precession magnetometer, which measures the absolute value of the total magnetic field of the earth to an accuracy of  $\pm 1$  n Tesla. The magnetometer is carried down the survey line by a single operator, with the sensor mounted on a short pole to remove it from the surface geologic noise. Readings are normally taken at 25 m intervals, and at 12.5 m intervals where the operator observes a high gradient (anomaly).

The readings are corrected for changes in the earth's total field (diurnal drift) by measuring and recording the drift with a stationary (base station) magnetometer. This recorded drift is then applied to the data as a correction.

#### PERSONNEL AND EQUIPMENT

A crew of two men was provided by Robert S. Middleton Exploration Services Inc. to complete the magnetic survey. The instrument used was an EDA Instruments PPM-350 total field magnetometer with a PPM-400 base station magnetometer. (Specifications in Appendix A).

The crew was accomodated in a camp on Swayze Lake, established by Middleton Exploration.

#### SURVEY STATISTICS

The magnetic survey covered a total of 28 line km of grid. Production was hampered by several rain days.

#### INTERPRETATION

The magnetic survey served well to outline the contact between the acid volcanics to the south and mafic volcanics to the north. From the magnetics it is obvious that the contact is not smooth, but rather is faulted and broken. The area of contact is roughly along a line from 200N on L700E to 900N on L100W.

Two hundred meters south of the contact and parallel to it, a conductor is indicated on the Ontario Geological Survey Airborne Electromagnetic Survey map sheet 80541. There is no evidence of a magnetic anomaly coincident with the conductor.

A weak series of anomalies trends from 450W on TL500S at least as far as 150N on L400E. This anomaly is coincident with a swamp-filled bedrock trough, which in turn is a result of a fault (R.K. Abernethy personal communication 1987). The magnetic anomaly is most probably caused by minor amounts of pyrrhotite mineralization in the fault, or by narrow diabase intrusions in

the fault. The pyrrhotite mineralization model seems more probable, in which case there is almost certainly other sulphides, such as pyrite in greater concentrations. (The conductor was probably not detected by the airborne survey because of its orientation parallel to the flight lines).

The trend of strong magnetic lows from the south end of L300E to the north end of L600E is unusual, but from the detailed geological survey (R. Abernethy, unpublished report, personal communication) it appears to coincide with several outcrops of diabase. The most probable model is that the anomaly is caused by a diabase dike with strong permanent magnetization in a direction opposing the earth's magnetic field.

#### CONCLUSIONS AND RECOMMENDATIONS

A detailed geologic mapping survey was completed soon after the magnetic survey, and so does not need to be recommended here. An electromagnetic survey is recommended as the next step.

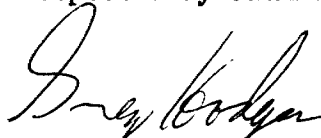
The best equipment for such a survey would be a horizontal loop (Slingram) system such as the Apex Parametrics Max Min II. A VLF-EM system would not be recommended, due to its sensitivity to changes in overburden depths. The VLF system would produce a response to the overburden troughs, without positively detecting a bedrock conductor under it.

An induced polarization survey is recommended, both in

detail over areas indicated by the previous work and as a reconnaissance tool. The IP survey would be effective at detecting disseminated metallic mineralization, and would be useful in defining faults under the overburden valleys because of its depth resolution.

Follow-up diamond drilling or trenching would be decided after these surveys are completed.

Respectfully submitted



Greg Hodges, B.Sc.  
Geophysicist

REFERENCES

ABERNETHY, R.K.  
1987

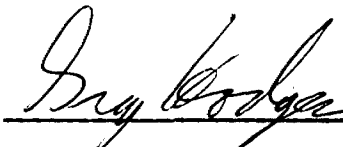
REPORT ON THE PROPERTY OF GLEN  
AUDEN RESOURCES LIMITED, SWAYZE  
AND DENYES TOWNSHIPS, PORCUPINE  
MINING DIVISION, DISTRICT OF  
COCHRANE. Porcupine Mining  
Division Assessment Files (Timmins)

CERTIFICATION

1. D. Greg Hodges, of 136 Cedar Street South, in the city of Timmins, Province of Ontario, certify as follows concerning my report on the GLEN AUDEN RESOURCES LIMITED Topboot Lake property in Swayze and Denyes Townships, Province of Ontario and dated August 6, 1987:

1. I am a member in good standing of the Society of Exploration Geophysicists
2. I am a graduate of Queen's University at Kingston, Ontario, with a B.Sc. (Hons.) Geological Sciences with Physics, obtained in 1980.
3. I have been practising in Canada, and occasionally in the United States, Europe, and Australia for the past seven years.
4. I have no direct interest in the properties, leases, or securities of GLEN AUDEN RESOURCES LIMITED, nor do I expect to receive any.
5. The attached report is a product of:
  - a) Examination of data included in the report which was collected on the property concerned.

Dated this August 6, 1987  
Timmins, Ontario

  
\_\_\_\_\_  
D. Greg Hodges, Geophysicist

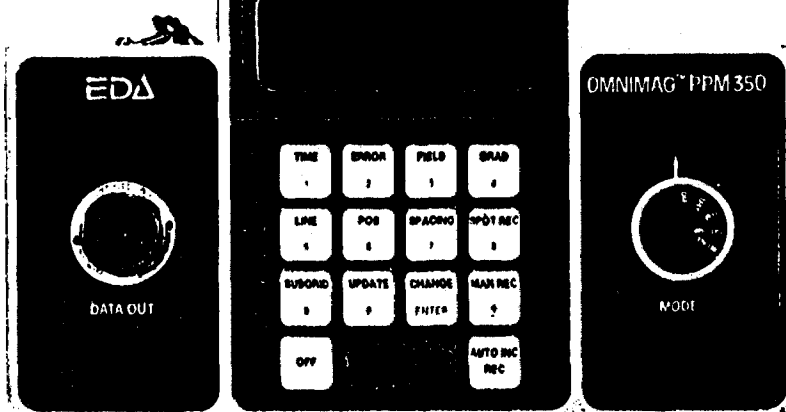
*Qual.  
2.5919*



A P P E N D I X A

# OMNIMAG PPM-350 Total Field Magnetometer

# EDA



The PPM-350 is the latest addition to EDA's OMNIMAG\*™ series of magnetometers and gradiometers. It is engineered to provide users with the latest state-of-the-art advances in microprocessor technology, including many features that are unique in the field.

## Major benefits and features include:

- Significant increase in productivity
- Lowered survey costs
- Automatic diurnal correction
- Programmable grid coordinates
- Highly reproduceable data
- Ergonomic design
- Simplified fieldwork
- Computer-compatible



## Specifications

Dynamic Range	18,000 to 93,000 gammas
Sensitivity	$\pm 0.02$ gamma
Statistical Error Resolution	0.01 gamma
Standard Memory Capacity	1383 data blocks or readings
Absolute Accuracy	$\pm 15$ ppm at 23°C, 50 ppm over the operating temperature range
Display Resolution	0.1 gamma
Capture Range	$\pm 25\%$ relative to ambient field strength of last stored value
Display	Custom-designed, ruggedized liquid crystal display with an operating temperature range from $-35^{\circ}\text{C}$ to $+55^{\circ}\text{C}$
Gradient Tolerance	5,000 gammas per meter
Sensor	Optimized miniature design. Magnetic cleanliness is consistent with the specified absolute accuracy
Sensor Cable	Remains flexible in temperature range; includes low strain connector
Operating Environmental Range	$-35^{\circ}\text{C}$ to $+55^{\circ}\text{C}$ ; 0–100% relative humidity; weather-proof
Power Supply	Non-magnetic rechargeable sealed lead acid battery cartridge or belt; or, Disposable "C" cell battery cartridge or belt
Battery Cartridge Life	2,000 to 5,000 readings, depending upon ambient temperature and rate of readings
Weight and Dimensions	
Instrument Console only	3.4 kg, 238 x 150 x 250 mm
Lead Acid Battery Cartridge	1.9 kg
Sensor	1.2 kg, 56 mm diameter x 200 mm
System Complement	Electronics console; sensor with 3-meter cable; sensor staff; power supply; harness assembly; operation manual.

EDA is a pioneer in the development of advanced geophysical systems and has created many innovations that increase field productivity and lower survey costs.

EDA's OMNIMAG series consists of the PPM-350 Total Field Magnetometer, PPM-400 Base Station Magnetometer, and the PPM-500 Vertical Gradiometer. Contact us *now* for details.

EDA Instruments Inc.  
1 Thorncliffe Park Drive  
Toronto, Ontario  
Canada M4H 1G9  
Telex: 06 23222 EDA TOR  
Cable: Instruments Toronto  
(416) 425-7800

In U.S.A.  
EDA Instruments Inc.  
5151 Ward Road  
Wheat Ridge, Colorado  
U.S.A. 80033  
Telex: 00 450681 DVR  
(303) 422-9112

W8706 00131 #131



Report of Work  
(Geophysical, Geological,  
Geochemical and Expenditures)

Topic



410155E0056 2.10272 SWAYZE

900

Mini

Type of Survey(s) <i>LINECUTTING, MAGNETOMETER</i>	Township or Area <i>DENYSE Twp</i>
Claim Holder(s) <i>GLEN AUBURN RESOURCES LTD.</i>	Prospector's Licence No. <i>T-1915</i>
Address <i>STE 500, 67 RICHMOND ST. W. TORONTO, ONTARIO M5H 1Z5</i>	
Survey Company <i>ROBERT S. MIDDLETON EXPLORATION SERVICES INC.</i>	Total Miles of line Cut <i>28.5 km</i>
Date of Survey (from & to) 20 5 87   30 5 87 Day   Mo.   Yr.   Day   Mo.   Yr.	
Name and Address of Author (of Geo-Technical report) <i>D. GREEN HODGES, P.O. Box 1637, TIMMINS, ONTARIO</i>	

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	40
	- Radiometric	
	- Other	
For each additional survey: using the same grid: Enter 20 days (for each)	Geological	
	Geochemical	
Man Days	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
P	866468				
	866469				
	866470				
	866471				
	866472				
	931819				
	931820				
	931821				
	932196				
	932197				
	932198				
	932199				
	932200				
	932501				
	932502				
	932503				
	932504				
	932505				
	932506				
	932507				

RECEIVED  
JUL 14 1987

MINING LANDS SECTION

RECEIVED  
JUN 9 1987

RECORDED  
JUN 09 1987

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim

Calculation of Expenditure Days Credits

Total Expenditures \$  ÷ 15 =  Total Days Credits

Instructions  
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only

Total Days Cr. Recorded *800*

Date Recorded *June 9, 1987*

Date Approved as Recorded

Mining Recorder *[Signature]*

Branch Director

Date *8/6/87*

Recorded Holder or Agent (Signature) *[Signature]*

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying  
*D. Green Hodges, P.O. Box 1637, Timmins, Ont. P4N 7W8*

Date Certified *9/6/87*

Certified by (Signature) *[Signature]*

20

October 7, 1987

Your File: 131/87  
Our File: 2.10272

Mining Recorder  
Ministry of Northern Development and Mines  
60 Wilson Avenue  
Timmins, Ontario  
P4N 2S7

Dear Sir:

RE: Notice of Intent dated September 21, 1987  
Geophysical (Magnetometer) Survey on Mining Claims  
P 866468 et al in Denyse Township

The assessment work credits, as listed with the above-mentioned Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

R.M. Charnesky (Mrs.)  
Acting Manager  
Mining Lands Section  
Mineral Development and Lands Branch  
Mines and Minerals Division

Whitney Block, Room 6610  
Queen's Park  
Toronto, Ontario  
M7A 1W3

Telephone: (416) 965-4888

RM:p1

cc: Glen Auden Resources Ltd.  
Suite 500  
67 Richmond Street West  
Toronto, Ontario,  
M5H 1Z5

Mr. G.H. Ferguson  
Mining & Lands Commissioner  
Toronto, Ontario

Resident Geologist  
Timmins, Ontario

Mr. Greg Hodges  
P.O. Box 1637  
Timmins, Ontario P4N 7W8



Ontario

Ministry of Northern Development & Mines

Technical Assessment Work Credits

File 2.10272

Date September 21, 1987

Mining Recorder's Report of Work No. 131/87

Recorded Holder GLEN AUDEN RESOURCES LIMITED

Township or Area DENYSE TOWNSHIP

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
<b>Geophysical</b> Electromagnetic _____ days Magnetometer _____ <u>40</u> days Radiometric _____ days Induced polarization _____ days Other _____ days Section 77 (19) See "Mining Claims Assessed" column Geological _____ days Geochemical _____ days Man days <input type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/> <input type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	P 866468 to 470 inclusive 866472 932200 932501 to 932506 inclusive

Special credits under section 77 (16) for the following mining claims

<u>30 DAYS MAGNETOMETER</u>	<u>20 DAYS MAGNETOMETER</u>	<u>10 DAYS MAGNETOMETER</u>
P 932196 - 197 932507	P 866471	P 932198

No credits have been allowed for the following mining claims

<input checked="" type="checkbox"/> not sufficiently covered by the survey	<input type="checkbox"/> insufficient technical data filed
P 931819 to 821 inclusive 932199	

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geological - 40; Geochemical - 40; Section 77(19) - 60.








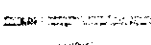



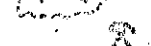




THE TOWNSHIP OF  
OF  
**DENYES**

DISTRICT OF  
SUDBURY

PORCUPINE  
MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

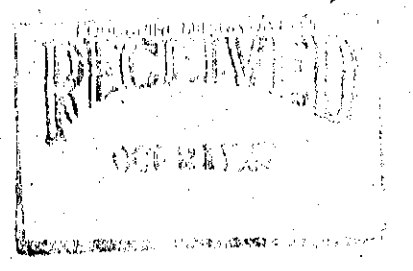
LEGEND

- PATENTED LAND 
- CROWN LAND SALE 
- LEASES 
- LOCATED LAND 
- LICENSE OF OCCUPATION 
- MINING RIGHTS ONLY 
- SURFACE RIGHTS ONLY 
- ROADS 
- IMPROVED ROADS 
- KING'S HIGHWAYS 
- RAILWAYS 
- POWER LINES 
- MARSH OR MUSKEG 
- MINES 
- CANCELLED 
- PATENTED FOR S.R.O. 

NOTES

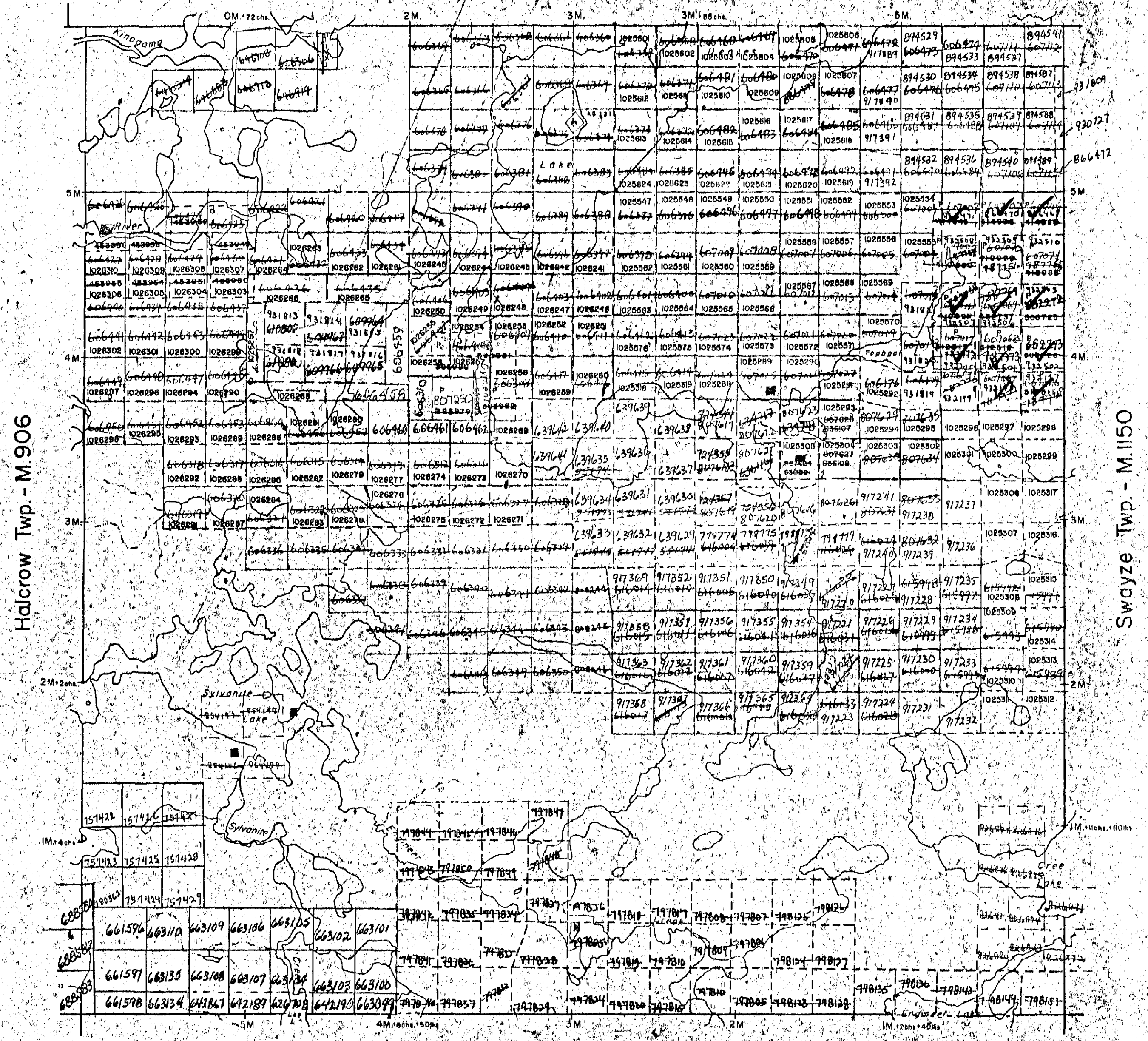
400' surface rights reservation along the shores of all lakes and rivers.

L. U. P.



Received Jan. 4 1900  
PLAN NO. **M.758**  
ONTARIO  
MINISTRY OF NATURAL RESOURCES  
SURVEYS AND MAPPING BRANCH

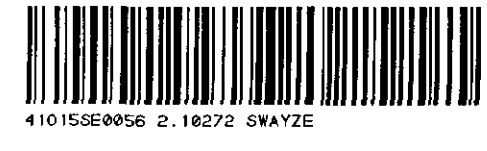
Raney Twp. - M.1069



Halcrow Twp. - M.906

Swayze Twp. - M.1150

Greenlaw Twp. - M.895





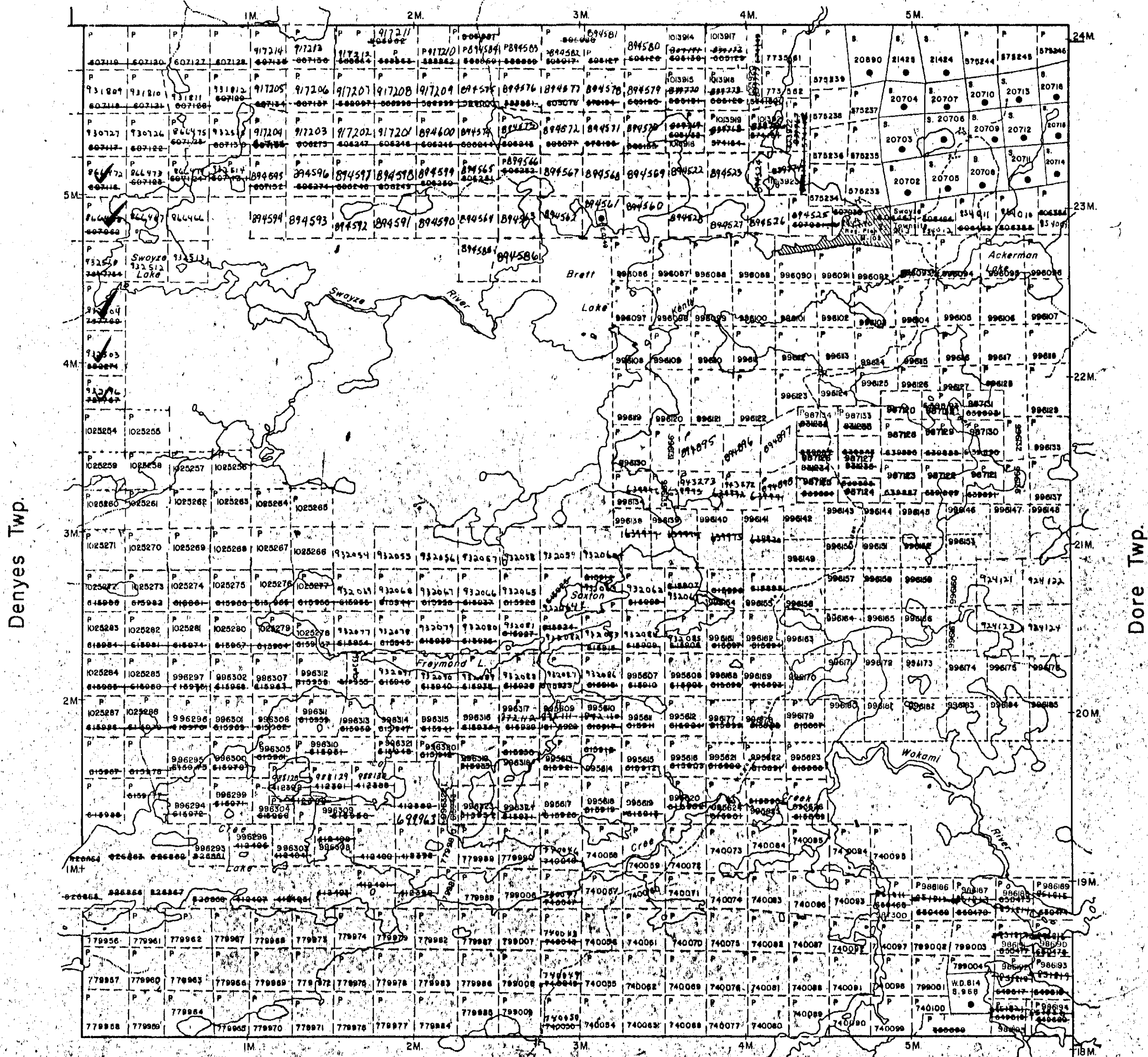
REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

- M.R.O. - MINING RIGHTS ONLY
- S.R.O. - SURFACE RIGHTS ONLY
- M.+S. - MINING AND SURFACE RIGHTS

Description Order No. Date Disposition File

Rollo Twp.



LEGEND

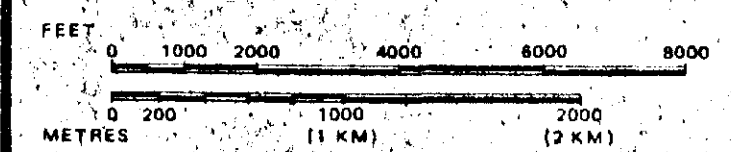
- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LEASE, SURFACE & MINING RIGHTS	
" SURFACE RIGHTS ONLY	
" MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	
ORDER-IN-COUNCIL	
RESERVATION	
CANCELLED	
SAND & GRAVEL	

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1.

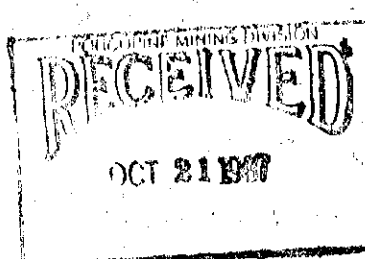
SCALE: 1 INCH = 40 CHAINS



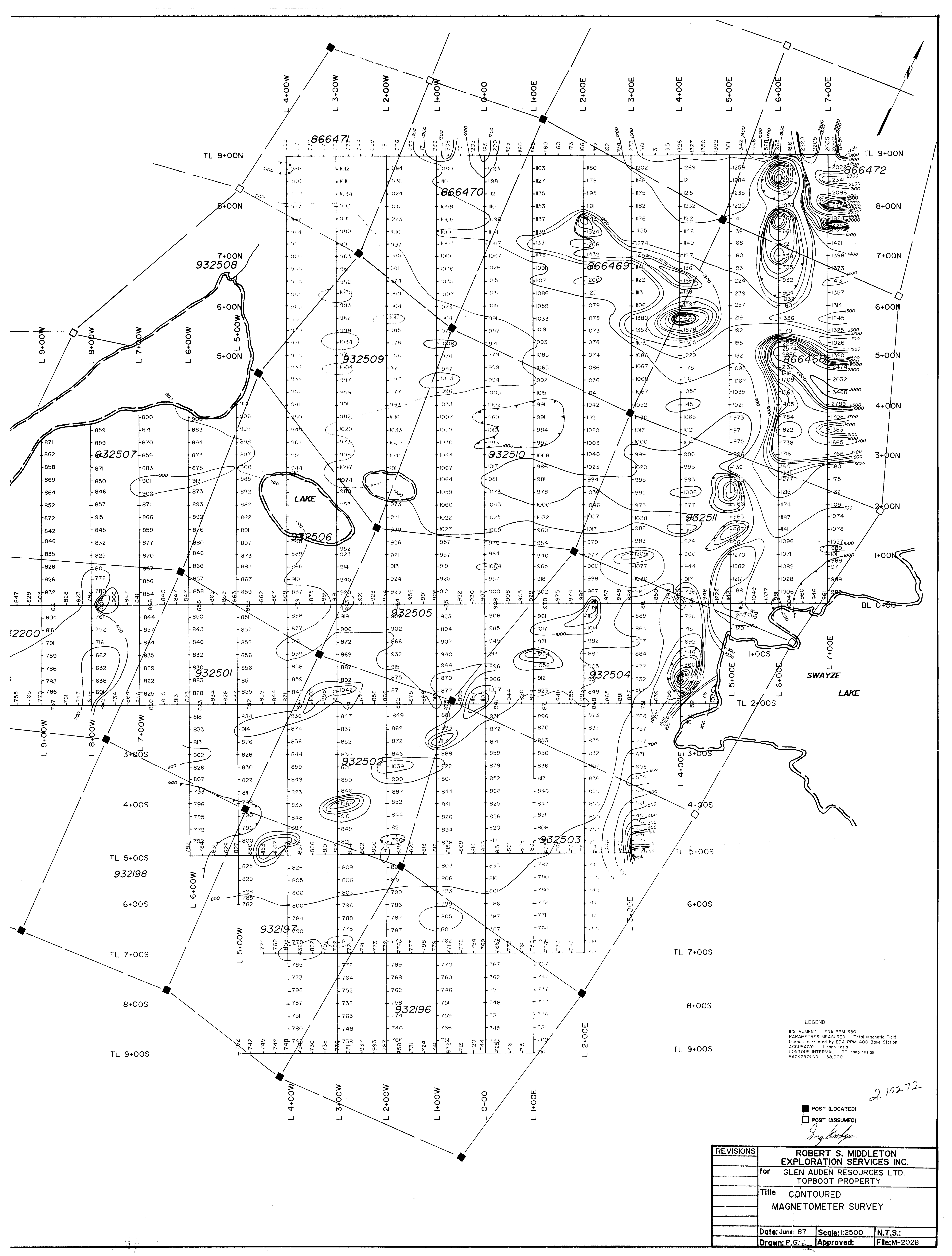
TOWNSHIP  
**SWAYZE**  
 M.N.R. ADMINISTRATIVE DISTRICT  
**CHAPLEAU**  
 MINING DIVISION  
**PORCUPINE**  
 LAND TITLES / REGISTRY DIVISION  
**SUDBURY**

Ontario Ministry of Natural Resources Land Management Branch

Date: MARCH, 1985  
 Number: **G-3249**







LEGEND  
 INSTRUMENT: EDA PPM 350  
 PARAMETERS MEASURED: Total Magnetic Field  
 Diurnal corrected by EDA PPM 400 Base Station  
 ACCURACY: ±1 nano tesla  
 CONTOUR INTERVAL: 100 nano tesla  
 BACKGROUND: 58,000

■ POST (LOCATED)  
 □ POST (ASSUMED)  
*Dry*

2.10272

REVISIONS	ROBERT S. MIDDLETON EXPLORATION SERVICES INC.		
	for GLEN AUDEN RESOURCES LTD. TOPBOOT PROPERTY		
	Title CONTOURED MAGNETOMETER SURVEY		
	Date: June 87	Scale: 1:2500	N.T.S.:
	Drawn: P.G.	Approved:	File: M-202B

