010

2.15342

A REPORT ON A

MAGNETOMETER AND MAX-MIN 1 SURVEY

IN

STRATHY TOWNSHIP, ONTARIO

N.T.S. 31M/4

FOR

GRANGES INCORPORATED

Quad. # 2.3075

by : Raymond L. Lashbrook
Lashex Ltd.
May 11, 1993

INDEX

INTRODUCTION

During March and April 1993 a linecutting, magnetometer and Max/Min program was conducted on a group of claims known as the Net Lake Option, in Strathy Township, Ontario for Granges Inc. of Timmins, Ontario.

The results of the survey along with a conclusion and recommendations are the focus of this report.

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LOCATION AND ACCESS

The Net Lake Option is located 4 km. north of the town of Temagami, and 100 km. north of North Bay, Ontario. The latitude and longitude of the property are approximately 79 50' East and 47 15' North respectively and lies within NTS 31M/4. Easy access is provided via Highway 11 which passes through the eastern portion of the property and provides access to Net Lake where the majority of the claims are situated.

PROPERTY

The property consists of the following claims situated in the Township of Strathy

Claim Number	Claim Units	Date Recorded
1189043	6	Jan. 16, 1992
1189044	1	Jan. 16, 1992
1189045	1	Jan. 16, 1992
1189046	15	Jan. 16, 1992
1189083	2	June 15, 1992
1189084	1	Sep. 28, 1992
	26	

TARGET COMMODITIES

The main commodities being sought on this property are Cu, Zn, Au and Ag associated with volcanogenic massive sulfide (VMS) mineralization. Gold mineralization hosted by quartz veins in regional deformation zones is also a potential target.

PREVIOUS WORK

The area has seen a long history of exploration activities from 1899 to 1983, for a diverse range of metals. Records of this work are available as assessment file data at the Residents Geologists Office in Cobalt and are described in Bennett, 1978-GR163, and OGS,1985-GDIF 201. The area has seen renewed interest including work by exploration companies, individuals and the Ontario Geological Survey (see bibliography). The results of this work has indicated that felsic volcanic rocks with anomalous base metals are present on the property.

REGIONAL AND PROPERTY GEOLOGY

The property lies within the Temagami Greenstone Belt, an Archean volcanosedimentary assemblage consisting of bimodal (mafic to felsic) tholeiitic to calk-alkaline volcanic extrusive rocks. This assemblage lies between the Archean Chambers-Strathy batholiths to the southeast and the Kanichee zoned mafic intrusion (gabbro-anorthosite-granophyre) to the northwest.

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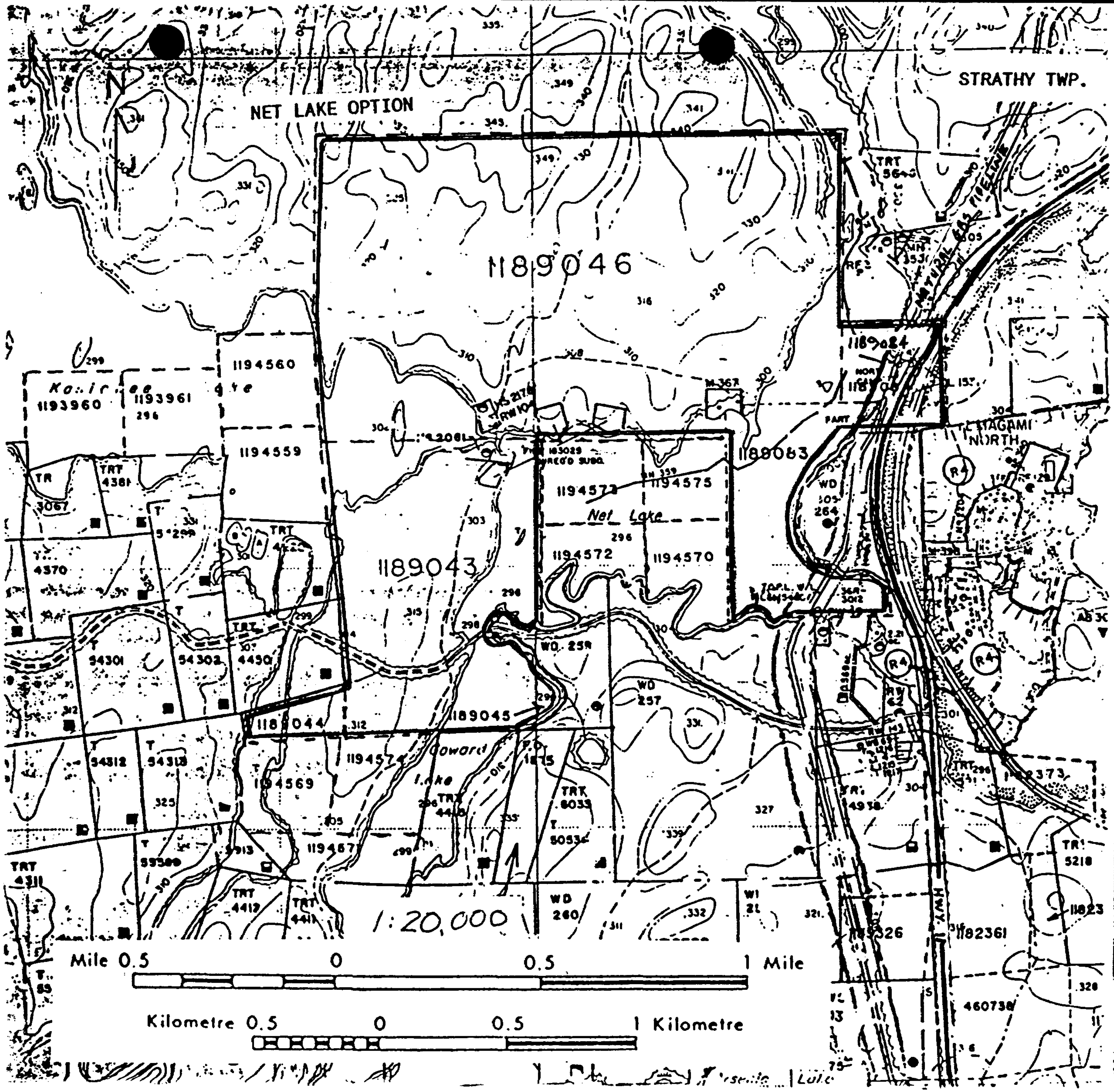

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FIGURE 1:

GRANGES INC.
NET LAKE OPTION

CLAIM MAP

Rocks on the property are dominantly mafic volcanic flows with subordinate felsic units. FIII type rhyolites are reported present within the property vicinity. The presence of bimodal tholeiitic extrusive rocks, felsic rocks, F1l1 type rhyolites and zoned mafic intrusions are all features commonly associated with volcanic sequences which host VMS deposits. Thus the area is highly prospective for hosting VMS mineralization.

Suspected hydrothermal alteration zones (chloritized, silicified) are noted in the area; to the southeast at Boot Bay on Net Lake ~4 km. southeast of the property and south of the west end of Kanichee Lake ~2 km. west of the property. The Boot Bay alteration zone also is the location of numerous po-py occurrences. Hydrothermal alteration including sodium depletion and iron, magnesium and potassium enrichment are all characteristic of VMS deposits.

The Net Lake - Vermillion Lake Deformation Zone transects the greenstone belt from southwest to northeast, crossing the southeastern corner of the property. Gold mineralization is associated with the region's deformation zones as is typical of shear zone hosted gold deposits.

LINECUTTING

A baseline with an azimuthh of 040 degrees was set up and crosslines every 100 meters along the baseline were cut at 90 degrees to the baseline. A total of 40.65 km. of baselines and crosslines was established.

GEOPHYSICAL SURVEY

A geophysical survey consisting of magnetometer and max-minl was conducted over the property. Readings were taken every 12.5 meters with the magnetometer and every 25 meters, using a 150 meter cable, with the max-minl unit. Specifications for the units are appendixed.

Magnetometer Survey : The base station was established on baseline 500 E at 1+25 S. with the value set as 57,500 gammas. Contouring of the results was performed using a trend rotation angle of 050 degrees. Generally the values range from 57,500 to 57,800 gammas.

In general the contouring defines a trend of rocks of about 045 degrees. Two dominant magnetic features are present on the property. The strongest feature occurs along the south-east side of the property with values to 62,647 gammas on Line 18N at 1237.5 E. This anomaly extends from L20N, the most northerly line read on this part of the property, to L10N where it terminates before reaching L9N. This anomaly has a coinciding max-min anomaly that extends past L9N. Further south it is probable that the magnetic feature that is developing on L1S to L1N at the lakeshore from 9E to 10E, is the extension of this anomaly. The probable cause of this anomaly is a sulfide facies iron formation (pyrrhotite-pyrite) along with a graphitic component.

The second main magnetic feature is located west of the baseline and extends from L21N at 150W to L8N at 450W. The values range from 58,000 to a maximum of 58,982 gammas.

....4

This anomaly does not have a corresponding HLEM anomaly. It is probable that the cause of the anomaly is a weakly magnetic mafic to ultramafic flow.

Other one or two line magnetic anomalies that are subparallel to the regional trend are probably caused from weakly magnetic flows or interflow sediments. Several one reading magnetic highs are probably the result of diabase dikes cutting at directions of around 015 degrees and 110 to 115 degrees. A prominant magnetic feature on L1N from 50E to +50W, L2N from 175E to 325E and L3N from 6E to 650E, is the best illustration of a dike feature.

MAX-MIN 1 - The max-min1 survey was conducted using a 150m cable and frequencies of 440 hz, 1,760 hz and 14,080 hz. The 14,080hz frequency gave highly exaggerated anomalies as compared to the other two frequencies.

A very strong conductor is located along the southeast boundary and extends in a southwesterly direction. It subparallels the strong magnetic anomaly. Sufficient line coverage of the anomaly was not possible due to the property boundaries, however it probably extends continuously from L19N to L9N. Further south the last in-phase readings on L1N, L'0' and L1S are all negative and may indicate the continuance of this anomaly. It is probable that the cause of this anomaly is a sulfide facies (pyrite-pyrrhotite) iron formation that has a graphitic component and/or horizon as well.

Two anomalies, located on the south side of the property, parallel the roads. The cause of the anomaly is overhead power lines that feed the cottages and into the Kanichee mine-site.

A weak semi-continuous anomaly extends from L22N, 225E to L12N at 550E with a moderate to strong response located on L18N at 375E. This conductor subparallels a magnetic feature that was thought to be a dike. It is probable that the cause of this anomaly is weak sulfide mineralization and/or shearing along the contact.

Other weak one line conductors are indicated on the map and probably represent weak sulfide mineralization probably located at flow boundaries.

CONCLUSION

The geophysical program conducted over the Net Lake Option was successful in locating several anomalies. The strongest anomaly on both the mag and maxmin 1 surveys are coincidental and located along the southeast edge of the property. This anomaly is probably due to a sulfide facies iron formation that probably also has a graphitic horizon with it.
The mag survey also indicated that dikes cross the property at directions of approximately 285 degrees and 015 degrees. One 015 degree dike also has a weak conductor associated with it.
A long continuous mag anomaly west of the baseline is probably due to a mafic to ultramafic volcanic flow.

RECOMMENDATIONS

The following recommendations are made for future programs on this property.

(a)The property should be thoroughly mapped and prospected with particular attention paid to mag/maxmin anomaly areas. Several old trenches and pits were noted on the property especially east of the baseline. These old trenches and pits may help explain some of the mag/maxmin anomalies.

(b)The coincidental mag/maxmin anomaly located along the southeast edge of the property may have to be drilled as it is mainly located beneath Net Lake. A search of the shoreline may locate some outcrops. This anomaly may have been previously drilled and could be explained by a search of the files on this or on strike properties. It is recommended however that should this anomaly have been not previously tested on the property, that 4 holes be drilled at various locations to test the base metal and gold potential of this target.

APPENDIX

CERTIFICATE

I, RAYMOND LASHBROOK do hereby declare that

(a) I have no interest in this property.

(b) I graduated from Haileybury School of Mines in 1969 and I have been practising my profession ever since.

(c) I own a company called Lashex Ltd. which performed the linecutting and geophysical work on this property.

(d) I reside at 973 Pinecreek Road, R.R.#1, Callander, Ontario, P0H 1H0.

Raymond L. Lashbrook

LINECUTTERS

RAY LASHBROOK
ANGUS MACDONNELL
ABEL JOLY
ALAN RABBITSKIN
NORMAN NEEPOSH
SAM PETREULEIRS
JAMES VOYAGEUR

MAGNETOMETER OPERATORS

RAY LASHBROOK
ANGUS MACDONNELL

MAX-MIN OPERATORS

RAY LASHBROOK
ANGUS MACDONNELL

Table 2: PREVIOUS WORK ON THE NET LAKE OPTION

COMPANY	DATE	WORK DONE
Strathy Basin Mines Ltd. Plaunik Mining Syndicate	1934	Trenching, Mag
International Nickel Company of Canada	1938	Geological Mapping Trenching, Drilling Geochemical Analysis
Iris Gold Mines Ltd.	?	
Clenor Mining Co. Ltd.	1951, 1954	Drilling
Trebor Mines Ltd.	1949, 1951	Mag, Drilling
Temagami Mining Co. Ltd.	1956-1960	EM, Resistivity, Drilling
Goldfields Mining Corp.	1963	Drilling, AMag, AEM, EM
E.L. MacVeigh	1963-1970	Geology, Trenching, Mag, EM, Drilling
P.L. Gordon	1971	Mag, EM
Canadian Nickel Co. Ltd.	1975	Geology, Geochemistry, Trenching, Drilling, Mag, EM

BIBLIOGRAPHY

Bennett, G. and Innes, D.G., 1971
Preliminary Geological Map - Strathy Twp., ODM P-667 1" to 1/4 mile uncoloured.

Bennett, G., 1978
Geology of Northeast Temagami Area, District of Nipissing. O.G.S., Report 163, 128 p. Accompanied by Maps 2323 (Chambers and Strathy Twps.) and 2324, scale 1:31,680 or 1" to 1/2 mile, coloured, and one chart.

Card, K.D., 1971
Sudbury - Cobalt Sheet; Algoma, Manitoulin, Nipissing, Parry Sound, Sudbury and Temiskaming Districts, Ontario Regional Geological Compilation Map, ODMNA Map 2188; 1:253,440

Fyon, J.A. and Cole, S., 1989
Geology of Part of the Temagami Greenstone Belt, District of Nipissing; Including Relationships Between Lithologic, Alteration, and Structural Features and Precious-Metal Occurrences, p. 108-115, Summary of Field Work and Other Activities 1989, O.G.S., Misc. Paper 146.

Fyon, J.A. and Crocket, J.H., 1986
Exploration Potential for Base Metal and Precious Metal Mineralization in Part of Strathy Township, Temagami Area; O.G.S., Open File Report 5591, 46 p. Accompanied by 5 figures and maps.

Fyon, J.A. and O'Donnell, L., 1987
Metallogenic Studies of the Temagami Greenstone Belt, District of Nipissing. p. 190-197 in Summary of Field Work and Other Activities 1987 by the O.G.S. ed. R.B. Barlow, M.E. Cherry, A.C. Colvine, B.O. Dressler, O.L. White, O.G.S., Misc. Paper 137, 429 p.

Moorhouse, M.W., 1942
The Northeastern Portion of the Temagami Lake Area; O.D.M. Annual Report, 1942, Vol. 51, Part 6, 46 p. Accompanied by Map 51e, scale 1:63,360 or 1" to 1 mile.

Ontario Geological Survey, 1985
Strathy Twp., District of Nipissing, O.G.S., Geological Data Inventory Folio 201, compiled by staff of the Residents Geologists Office, Cobalt; 104 p., 4 maps, 1:31,680 (uncoloured).

Savage, W.S., 1935
Part of Strathy Twp., p. 48-56 in O.D.M. Annual Report, 1935, Vol. 44, Part 7.

MAXMIN I-9 SPECIFICATIONS:

Frequencies: 110, 220, 440, 880, 1760, 3520, 7040 and 14080 Hz, plus 50/60 Hz powerline frequency (receiver only).

Modes: MAX 1: Horizontal loop mode (Transmitter and receiver coil planes horizontal and coplanar).

MAX 2: Vertical coplanar loop mode (Transmitter and receiver coil planes vertical and coplanar).

MAX 3: Vertical coaxial loop mode (Transmitter and receiver coil planes vertical and coaxial).

MIN 1: Perpendicular loop mode 1 (Transmitter coil plane horizontal and receiver coil plane vertical).

MIN 2: Perpendicular loop mode 2 (Transmitter coil plane vertical and receiver coil plane horizontal).

Coil separations: 12.5, 25, 50, 75, 100, 125, 150, 200, 250, 300, & 400 metres (standard).

10, 20, 40, 60, 80, 100, 120, 160, 200, 240 & 320 metres (selected with grid switch inside of receiver).

50, 100, 200, 300, 400, 500, 600, 800, 1000, 1200 & 1600 feet (selected with grid switch inside of receiver).

Parameters measured: In-Phase and quadrature components of the secondary magnetic field, in % of primary (transmitted) field.

Field amplitude and/or tilt of 50/60 Hz powerline field.

Readouts: Analog direct readouts on edgewise panel meters for in-phase, quadrature and tilt, and for 50/60Hz amplitude. (Additional digital readouts when using the DAC, for which interfacing and controls are provided for plug-in).

Ranges of readouts: Analog in-phase and quadrature scales: 0 ± 4%, 0 ± 20%, 0 ± 100%, switch activated. Analog tilt scale: 0 ± 75% grade. (Digital in-phase and quad. 0 ± 102.4%).

Readability: Analog in-phase and quadrature 0.05% to 0.5%, analog tilt 1% grade. (Digital in-phase and quadrature 0.1%).

Repeatability: ± 0.05% to ± 1% normally, depending on frequency, coil separation & conditions.

Signal filtering: Powerline comb filter, continuous spherics noise clipping, autoadjusting time constant and other filtering.

Warning lights: Receiver signal and reference warning lights to indicate potential errors.

Survey depth: From surface down to 1.5 times coil separation used.

Transmitter dipole moments:

110 Hz: 220 Atm²	1760 Hz: 160 Atm²
220 Hz: 215 Atm²	3520 Hz: 80 Atm²
440 Hz: 210 Atm²	7040 Hz: 40 Atm²
880 Hz: 200 Atm²	14080 Hz: 20 Atm²

Reference cable: Light weight unshielded 4/2 conductor teflon cable for maximum temperature range and for minimum friction. Please specify cable lengths required.

Intercom: Voice communication link provided for operators via the reference cable.

Receiver power supply: Four standard 9V batteries (0.5Ah, alkaline). Life 30 hrs continuous duty, less in cold weather. Rechargeable battery and charger option available.

Transmitter power supply: Rechargeable sealed gel type lead acid 12V-13Ah batteries (4x6V-6½Ah) in canvas belt. Optional 12V-8Ah light duty belt pack available.

Transmitter battery charger: For 110-120/220-240VAC, 50/60/400 Hz and 12-15VDC supply operation, automatic float charge mode, three charge status indicator lights. Output 14.4V-1.25A nominal.

Operating temp: −40 to + 60 degrees Celsius.

Receiver weight: 8 kg, including the two integral ferrite cored antennas (9 kg with data acq. computer).

Transmitter weight: 16 kg with standard 12V-13Ah battery pack.
14 kg with light duty 12V-8Ah pack.

Shipping weight: 60 kg plus weight of reference cables at 2.8 kg per 100 metres plus other optional items if any.

Standard spares: One spare transmitter battery pack, one spare transmitter battery charger, two spare transmitter retractile connecting cords, one spare set receiver batteries.

Specifications subject to change without notification.

APEX PARAMETRICS LIMITED

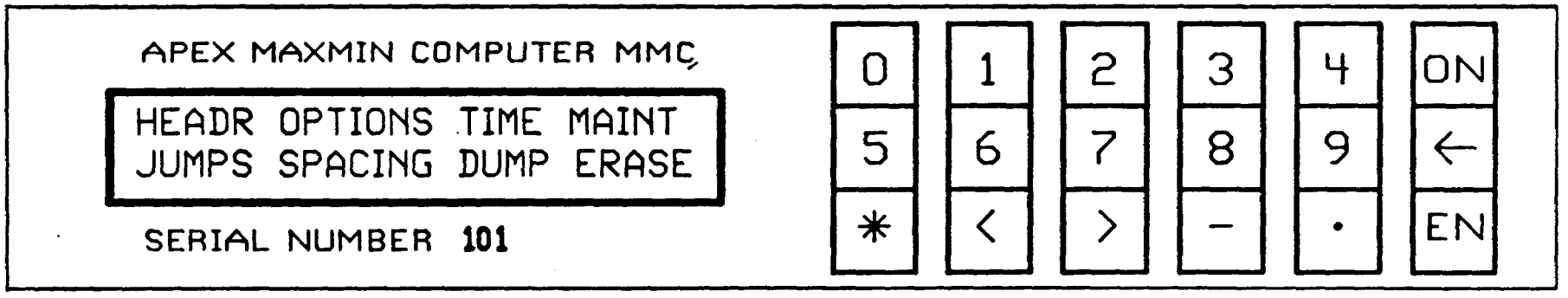
P.O. Box 818, Uxbridge
Ontario, Canada L0C 1K0

Telephones: 416-640-6102
416-852-5875

Fax: 416-852-9688

Telex: 06-966625 APEXPARA UXB
Cables: APEXPARA TORONTO

MMC FRONT PANEL LAYOUT:



THE MP-3/4 MAGNETOMETER

1.0 INTRODUCTION

1.1 General Outline

This section of the manual describes in detail the proton magnetometer method.

A theoretical explanation of the magnetic method is given first. Then the table MAG SETUP MENUS is presented for reference. After this, the following topics are dealt with in detail:

1) method enabling procedures,
2) measuring procedures,
3) warning messages,
4) equipment setup procedures,
5) troubleshooting information,
6) specifications and
7) parts list.

1.2 The Magnetic Method

The magnetic method consists of measuring the magnetic field of the earth as influenced by rock formations having different magnetic properties and configurations. The measured field is the vector sum of induced and remanent magnetic effects. Thus, there are three factors, excluding geometrical factors, which determine the magnetic field. These are the strength of the earth's magnetic field, the magnetic susceptibilities of the rocks present and their remanent magnetism.

The earth's magnetic field is similar in form to that of a bar magnet's. The flux lines of the geomagnetic field are vertical at the north and south magnetic poles where the strength is approximately 60,000 nT. In the equatorial region, the field is horizontal and its strength is approximately 30,000 nT.

The primary geomagnetic field is, for the purposes of normal mineral exploration surveys, constant in space and time. Magnetic field measurements may, however, vary considerably due to short term external magnetic influences. The magnitude of these variations is unpredictable. In the case of sudden magnetic storms, it may reach several hundred gammas over a few minutes. It may be

necessary, therefore, to take continuous readings of the geomagnetic field with a base station magnetometer while the magnetic survey is being done. An alternative field procedure is to make periodic repeat measurements at convenient traverse points, although this is a very unreliable method during active magnetic storms when it is important to have proper reference data.

The intensity of magnetization induced in rocks by the geomagnetic field F is given by:

$$I = kF$$

where I is the induced magnetization
k is the volume magnetic susceptibility
F is the strength of the geomagnetic field

For most materials, k is very much less than 1. If k is negative, the body is said to be diamagnetic. Examples are quartz, marble, graphite and rock salt. If k is a small positive value, the body is said to be paramagnetic, examples of which are gneiss ($k = 0.002$), pegmatite, dolomite and syenite. If k is a large positive value, the body is strongly magnetic and it is said to be ferromagnetic, for example, magnetite ($k = 0.3$), ilmenite and pyrrhotite.

The susceptibilities of rocks are determined primarily by their magnetite content since this mineral is so strongly magnetic and so widely distributed in the various rock types. (Of considerable importance, as well, is the pyrrhotite content.)

The remanent magnetization of rocks depends both on their composition and their previous history. Whereas the induced magnetization is nearly always parallel to the direction of the geomagnetic field, the natural remanent magnetization may bear no relation to the present direction and intensity of the earth's field. The remanent magnetization is related to the direction of the earth's field at the time the rocks were last magnetized. Movement of the body through folding, etc., and the chemical history since the previous magnetization are additional factors which affect the magnitude and direction of the remanent magnetic vector.

Thus, the resultant magnetization M of a rock is given by:

$$M = M_n + kF$$

where M_n is the natural remanent magnetization, and F is a vector which can be completely specified by its horizontal (H) and vertical (Z) components and by the declination (D) from true north. Similarly, M_n is specified when its magnitude and direction are known. Thus, considerable simplification results if $M_n = 0$, whereupon M merely reduces to kF. In the early days of magnetic

prospecting, it was usually assumed that there was no remanent magnetization. However, it has now been established that both igneous and sedimentary rocks possess remanent magnetization, and that the phenomenon is a widespread one.

1.3 Magnetometer Setup Menus

The Magnetometer Setup Menus are presented on the next page for easy reference as you read the next chapter, entitled "Enabling the Survey Method".

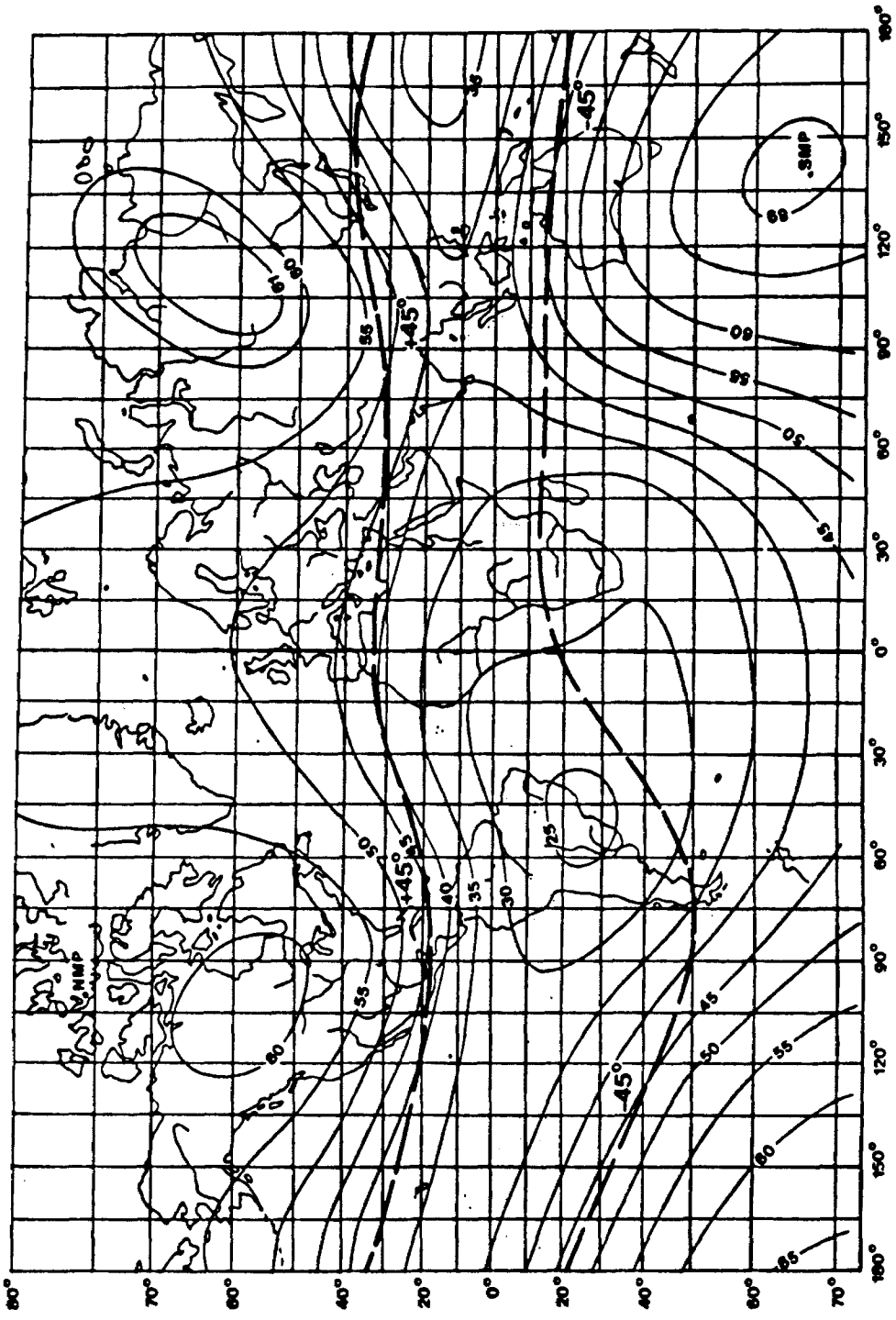


Figure MP:2

The total magnetic intensity in microteslas (kilogammas) with contours of 45° inclination. In the northern hemisphere, the total field direction is considered to be downwards (positive) and in the southern hemisphere, to be upwards (negative).

8.0 SPECIFICATIONS

8.1 Magnetometry Specifications

Total Field Operating Range	20,000 to 100,000 nT (1 nT = 1 gamma).
Gradient Tolerance For Total Field:	±5000 nT/m.
Total Field Absolute Accuracy	±1 nT at 50,000 nT ±2 nT over total field operating and temperature range.
Resolution	0.1 nT.
Tuning	Fully solid-state. Manual or automatic mode is keyboard selectable.
Reading Time	2 seconds. For portable readings this is the time taken from the push of a button to the display of the measured value.
Continuous Cycle Times	Keyboard selectable in 1 second increments upwards from 2 seconds to 999 seconds.
Operating Temperature Range	-40°C to +50°C provided optional Display Heater is used below -20°C.

8.2 Sensor Options

In the following options the actual sensors are identical; however, mountings and cables vary.

Portable Total Field Sensor Option	Includes sensor, staff, two 2 m cables and backpack sensor harness. Weight of sensor, cable and staff is 1.9 kg.

	Staff is 30 x 600 mm collapsed and 1600 mm extended.
Base Station Sensor Option	Includes sensor, tripod, 50 m cable external power cable and analog chart recorder cable. Weight of sensor, cable and tripod is 6.5 kg. Tripod is 540 mm collapsed, 1650 mm extended.
Gradiometer Sensor Option	For use with the Portable Total Field Sensor Option, includes second sensor, cables and both a .5m and a 1m staff extender. Combined weight of Total Field and Gradiometer Sensor options with staff, extender and cables is 3.5 kg.

Ontario

Ministry of Northern Development and Mines

Ministère du Développement du Nord et des Mines

Mining Lands Section
Geoscience Approvals Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (705) 670-5853
Fax: (705) 670-5863

March 30, 1994

Our File: 2.15342
Transaction #W9470.00006

Mining Recorder
Ministry of Northern
Development and Mines
933 Ramsey Lake Road
3rd Floor
Sudbury, Ontario
P3E 6B5

Dear Sir/Madam:

Subject: APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIMS 1189043 ET AL IN STRATHY TOWNSHIP

Assessment work credits for Geophysics filed under Section 14 of the Mining Act Regulations have been approved as outlined in the original submission.

The approval date is March 14, 1994.

If you have any questions regarding this correspondence, please contact Lucille Jerome at (705) 670-5855.

Yours sincerely,

Ron C. Gashinski
Senior Manager, Mining Lands Section
Mining and Land Management Branch
Mines and Minerals Division

KR/ls

cc: Resident Geologist
Cobalt, Ontario

Assessment Files Library
Toronto, Ontario

Ministry of Northern Development and Mines
Ontario

Report of Work Conducted After Recording Claim

Mining Act

Transaction Number: W9470.00906

Mining Lands.

2.15341

Instructions:
- Please type or print and submit in duplicate.
- Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
- A separate copy of this form must be completed for each Work Group.
- Technical reports and maps must accompany this form in duplicate.
- A sketch, showing the claims the work is assigned to, must accompany this form.

Recorded Holder(s): Granges Inc.			Client No.: 138756
Address: 136 Cedar Street South, Timmins, Ont. P4N 2G9			Telephone No.: (705) 264-1228
Mining Division: Sudbury	Township/Area: Strathy Township		M or G Plan No.: G-3451
Dates Work Performed: From: March, 1993	To: April, 1993		

Work Performed (Check One Work Group Only)

	Work Group	Type
X	Geotechnical Survey	Linecutting, Magnetometer + Mar-Mia Surveying
	Physical Work, Including Drilling	
	Rehabilitation	
	Other Authorized Work	
	Assays	
	Assignment from Reserve	

RECEIVED
MAR 1 1 1994
MINING LANDS BRANCH

RECORDED
JAN 5 1994
Recorded

Total Assessment Work Claimed on the Attached Statement of Costs $ 18,017.

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
Lashex Ltd. Raymond L. Lashbrook	R.R. #1, Pinecreek Road, Callander, Ont. P0H 1H0

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

	Date	Recorded Holder or Agent (Signature)
I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	JAN 4/94	Todd Kenst, Project Geologist

Certification of Work Report

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

Name and Address of Person Certifying: Todd Kenst c/o Granges Inc., 136 Cedar St. S., Timmins, Ont. P4N 2G9

Telephone No.	Date	Certified By (Signature)
(705) 264-1228	Jan 4/94	Todd Kenst

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
Applied 10,054. Reserved 7,963.	Jan. 05/94		SUDBURY MINING DIV. RECEIVED JAN 05 1994 A.M. P.M.
	Deemed Approval Date: April 5, 1994	Date Approved	
	Date Notice for Amendments Sent		

0241 (03/91)

0241 (03/91)

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units	Value of Assessment Work Done on this Claim	Value Applied to this Claim	Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
2.15341	1189043	6	4,262.	2,400	560	1303
	1189044	1	73.	337		
	1189045	1	47.	333		
	1189046	15	11,832.	6,000.	5832	777
	1189083	2	1,577.	800.		
	1189084	1	226.	174.		52
Total Number of Claims: 6			Total Value Work Done: 18,017.	Total Value Work Applied: 10,054.	Total Assigned From: 560	Total Reserve: 7,963

RECEIVED
MAR 1 1 1994
MINING LANDS BRANCH

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to priorize the deletion of credits. Please mark (✓) one of the following:

1. ☐ Credits are to be cut back starting with the claim listed last, working backwards.
2. ☐ Credits are to be cut back equally over all claims contained in this report of work.
3. ☒ Credits are to be cut back as priorized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.	Signature	Date

Ontario

Ministry of Northern Development and Mines

M[redacted]e du Développement du Nord et des mines

Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction: W9470.00006

2.15341

Personal information collected on this form is obtained under the authority of the **Mining Act**. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la **Loi sur les mines** et serviront à tenir à jour un registre des concessions minières. Adresser toute quesiton sur la collece de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre		
	Field Supervision Supervision sur le terrain		[redacted]
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type (includes GST) Linecutting	9,131.	
	(includes GST) Geophysical Surveys	8,886.	
			[redacted] 18,017
Supplies Used Fournitures utilisées	Type		
			[redacted]
Equipment Rental Location de matériel	Type		
			[redacted]
	Total Direct Costs Total des coûts directs		[redacted] 18,017

2. Indirect Costs/Coûts indirects

** **Note:** When claiming Rehabilitation work indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type		
			[redacted]
Food and Lodging Nourriture et hébergement			[redacted]
Mobilization and Demobilization Mobilisation et démobilisation			[redacted]
	Sub Total of Indirect Costs Total partiel des coûts indirects		[redacted]
	Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)		[redacted]
	Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs) / **Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)**		18017.

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Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
× 0.50 =	

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Évaluation totale demandée
× 0,50 =	

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as Project Geologist, Granges Inc. I am authorized
(Recorded Holder, Agent, Position in Company)

to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

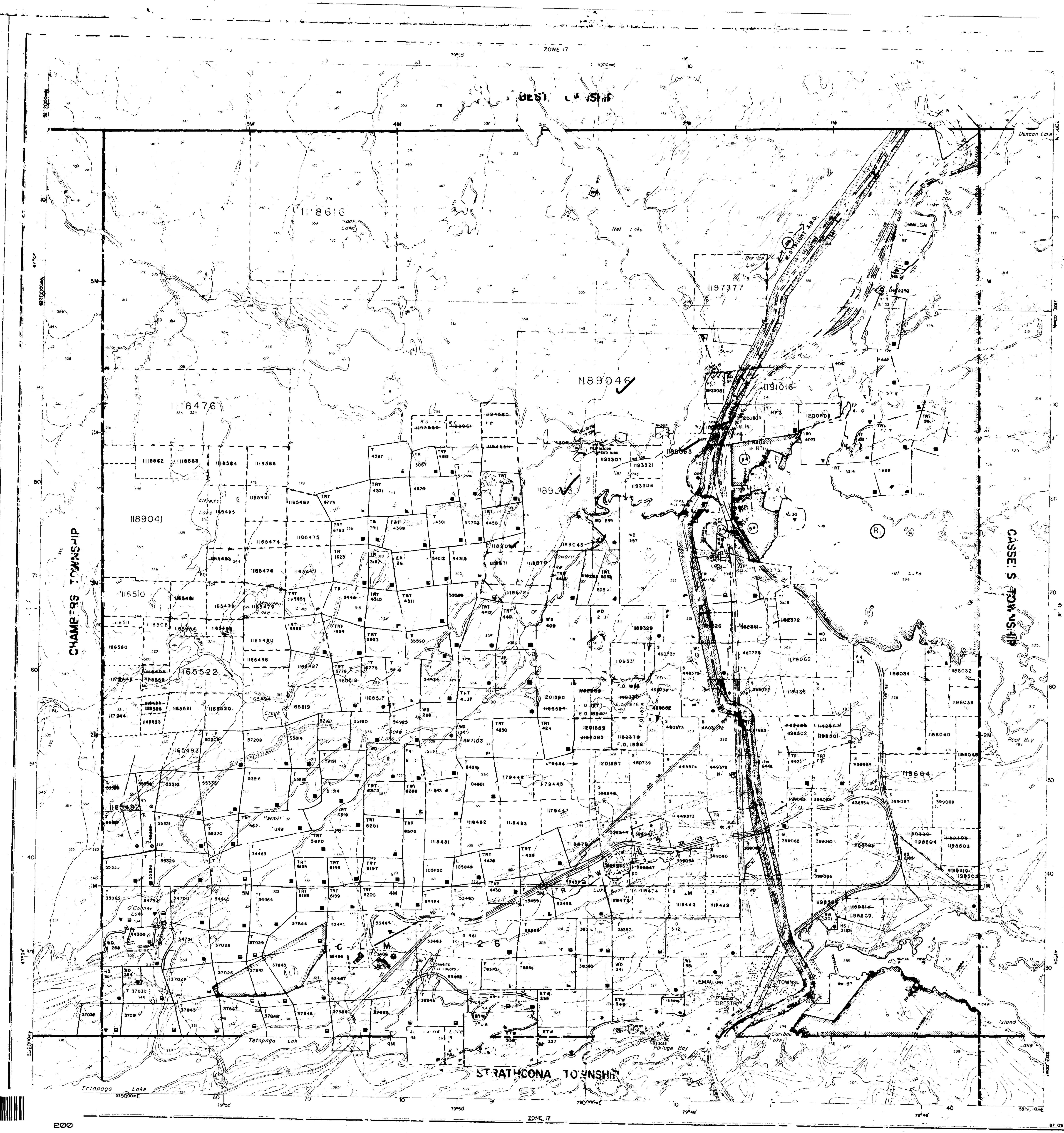
Et qu'à titre de _____ je suis autorisé
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature	Date
Todd Keast	Jun 4/94

0212 (04/91)

Nota : Dans cette formule, lorsqu'il désigne des personnes, le masculin est utilisé au sens neutre.



Ministry of Natural Resources — Ministry of Northern Development and Mines

INDEX TO LAND DISPOSITION

PLAN

G-3451

TOWNSHIP

STRATHY

M.N.R. ADMINISTRATIVE DISTRICT

TEMAGAMI

MINING DIVISION

SUDBURY

LAND TITLES/REGISTRY DIVISION

NIPISSING

DATE OF ISSUE
MAR 8 199
SUDBURY
MINING RECORDER'S OFFICE

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MINING LANDS BRANCH

Scale 1:20 000

Contour Interval 10 Metres

IN SERVICE JANUARY 10, 1990

SYMBOLS

Boundary
- Township, Meridian, Baseline
- Road allowance; surveyed
- shoreline
- Lot/Concession; surveyed
- unsurveyed
- Parcel; surveyed
- unsurveyed
- Right-of-way; road
- railway
- utility
- Reservation
- Cliff, Pit, Pile
- Contour
- Interpolated
- Approximate
- Depression
- Control point (horizontal)
- Flooded land
- Mine head frame
- Pipeline (above ground)
- Railway; single track
- double track
- abandoned
- Road; highway, county, township
- access
- trail, bush
- Shoreline (original)
- Transmission line
- Wooded area

AREAS WITHDRAWN FROM DISPOSITION

MRO - Mining Rights Only
SRO - Surface Rights Only
M+S - Mining and Surface Rights

Description	Order No.	Date	Disposition	File
(R1) 36(a) R.S.O.1960	2022/66		SRO	3591
~~(R2) SEC.36/80~~	~~W-...~~	~~16/03/84~~		~~186540~~
(R3) W-01/91/ONT S.R.O.		SEP.20/91	L.R. FILE	
(R4) SEC.36/80	W-S-02/91 NER		M & S	196150
~~(R5) SEC. 35 /90~~	~~W-S-01/92 CR~~		~~M & S~~	~~196150~~

R6 PENDING DISPOSITION UNDER THE PUBLIC LANDS ACT AND NOT OPEN FOR STAKING SUB-SECTION 30(B) of the Mining Act R.S.O. 1990
Notice received 92/JAN/06

R7 PENDING DISPOSITION UNDER THE PUBLIC LANDS ACT AND NOT OPEN FOR STAKING SUB-SECTION 30(B) of the Mining Act R.S.O. 1990
Notice received 92/JAN/06

(R5) O-ONT-06/92 NER/CR MAR.16/92 M & S 196150

(R5) O-ONT-07/92 NER/CR JUNE.1/92 M & S 196150

~~Note: PART OF R5 STILL WITHDRAWN BY ORDER W-S-01/92 CR~~

(R5) O-S-16/93 JUNE 1/93 M & S 196150

DISPOSITION OF CROWN LANDS

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 ... OC

Cancelled

Reservation

Sand & Gravel

NOTES

ISLAND 27 BELONGS WITH STRATHCONA TWP.
ISLANDS IN LAKE TEMAGAMI - NOT OPEN FOR STAKING

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON.

STRATHY TOWNSHIP

G-3451

Map base and land disposition drafting by Surveys and Mapping Branch, Ministry of Natural Resources.

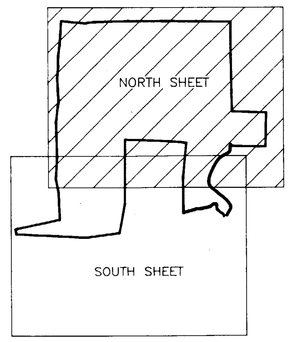
The disposition of land, location of lot fabric and parcel boundaries on this index was compiled for administrative purposes only.

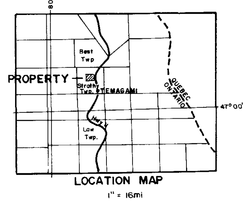
LEGEND

- CLAIM POST
- LINE POST
- CLAIM LINE
- 1109083 — CLAIM NUMBER
- MAIN ACCESS ROAD
- SECONDARY ROADS
- BASE STATION LOCATION T.L. 5+00E, 1+25S

TOTAL FIELD VALUE = 57,000 + PLOTTED VALUE
BASE STATION VALUE = 57,500 nt

MAP KEY





UP

KANICHEE LAKE

NET LAKE

1189084

1189083

L 22+00 N
L 21+00 N
L 20+00 N
L 18+00 N
L 17+00 N
L 16+00 N
L 15+00 N
L 14+00 N
L 13+00 N
L 12+00 N
L 11+00 N
L 10+00 N
L 9+00 N
L 8+00 N
L 7+00 N
L 6+00 N
BL 0+00

NATURAL GAS PIPELINE

2.15342

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MINING LANDS BRANCH

GRANGES INC.

NET LAKE OPTION

MAGNETOMETER SURVEY

DATE	APRIL, 1993	DWG No.	
SCALE	1:2500	DRAWN BY	CompuScan

NET

LAKE

TO KAMIGHEE MINE

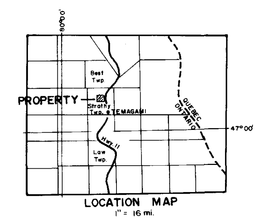
NATURAL GAS PIPELINE

1189044

1189045

GOWARD

LAKE



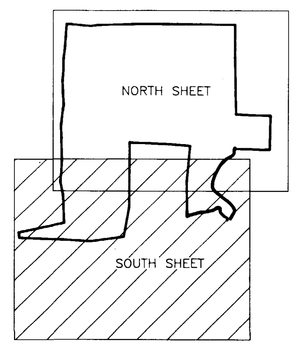
LEGEND

- CLAIM POST
- LINE POST
- CLAIM LINE
- 1109083 CLAIM NUMBER
- MAIN ACCESS ROAD
- SECONDARY ROADS
- BASE STATION LOCATION

TOTAL FIELD VALUE = 57,000+ PLOTTED VALUE

BASE STATION VALUE = 57,500nT

MAP KEY



2.15342

GRANGES INC.

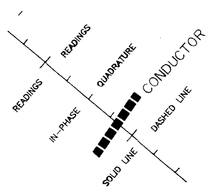
NET LAKE OPTION

MAGNETOMETER SURVEY

DATE	APRIL, 1993	DWG No.	
SCALE	1:2500	DRAWN BY	CompuScan

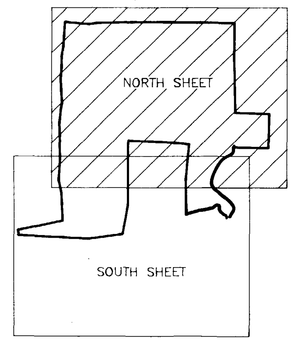
LEGEND

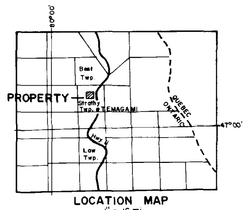
- CLAIM POST
- LINE POST
- CLAIM LINE
- 1109083 — CLAIM NUMBER
- MAIN ACCESS ROAD
- SECONDARY ROADS



1% 2.5mm

MAP KEY





UP

KANICHEE

LAKE

NET

LAKE

1189046

1189043

1189084

1189083

L 9+00 N

L 10+00 N

L 11+00 N

L 12+00 N

L 13+00 N

L 14+00 N

L 15+00 N

L 16+00 N

L 17+00 N

L 18+00 N

L 19+00 N

L 21+00 N

L 22+00 N

NATURAL GAS PIPELINE

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MINING LANDS BRANCH

2.15342

GRANGES INC.

NET LAKE OPTION

MAX · MIN 1
150 M CABLE

440 Hz

DATE	APRIL, 1993	DWG No.	
SCALE	1:2500	DRAWN BY	CompuScan

NET

LAKE

TO KANICHEE MINE

NATURAL GAS PIPELINE

1189043

1189044

1189045

GOWARD

LAKE

LOCATION MAP

LEGEND

- CLAIM POST
- LINE POST
- CLAIM LINE
- 1109083 CLAIM NUMBER
- MAIN ACCESS ROAD
- SECONDARY ROADS

READINGS · QUADRATURE · CONDUCTOR · 3Ø/3Ø LINE · 1Ø LINE · 1Ø PHASE

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2.15342

1 : 2.5 mm

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MINING LANDS BRANCH

MAP KEY

NORTH SHEET

SOUTH SHEET

GRANGES INC.

NET LAKE OPTION

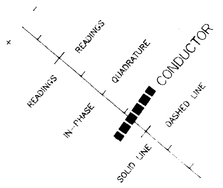
MAX · MIN 1
150M CABLE

440 Hz

DATE APRIL, 1993	DWG No.
SCALE 1:2500	DRAWN BY CompuScan

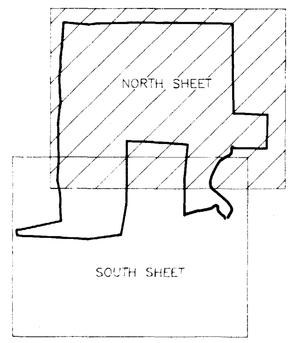
LEGEND

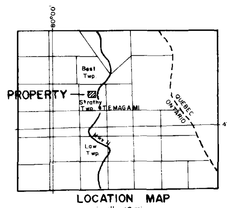
- CLAIM POST
- LINE POST
- CLAIM LINE
- 1109083 — CLAIM NUMBER
- MAIN ACCESS ROAD
- SECONDARY ROADS



1⅛" = 2.5 mm

MAP KEY





UP

KANICHEE

LAKE

NET

LAKE

1189046

1189043

1189084

1189083

L 8+00 N

L 9+00 N

L 10+00 N

L 11+00 N

L 12+00 N

L 13+00 N

L 14+00 N

L 15+00 N

L 16+00 N

L 17+00 N

L 18+00 N

L 19+00 N

L 20+00 N

L 21+00 N

L 22+00 N

B 0+00

NATURAL GAS PIPELINE

2.15342

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MINING LANDS BRANCH

GRANGES INC.

NET LAKE OPTION

MAX-MIN 1
150M CABLE
1760 Hz

DATE	APRIL, 1993	DWG No.	
SCALE	1:2500	DRAWN BY	CompuScan

250

NET

LAKE

TO KANICHEE MINE

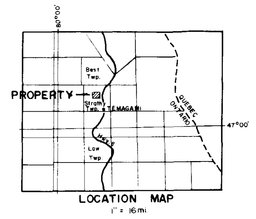
1189043

1189044

1189045

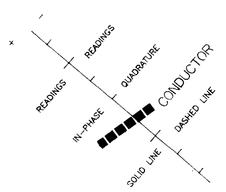
GOWARD LAKE

NATURAL GAS PIPELINE



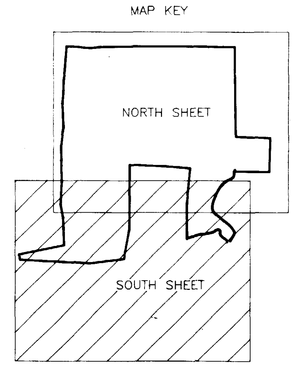
LEGEND

- CLAIM POST
- LINE POST
- CLAIM LINE
- 1109083 — CLAIM NUMBER
- MAIN ACCESS ROAD
- SECONDARY ROADS



1¾" = 2.5 mm

MAP KEY



2.15342

GRANGES INC.

NET LAKE OPTION

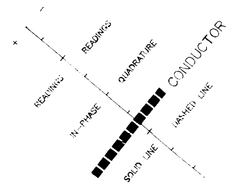
MAX·MIN 1
150M CABLE

1760 Hz

DATE	APRIL, 1993	DWG No.	
SCALE	1:2500	DRAWN BY	CompuScan

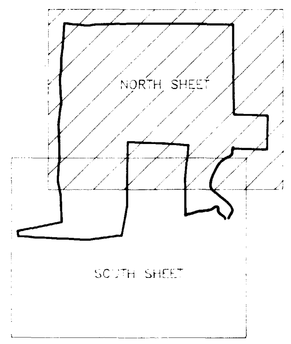
LEGEND

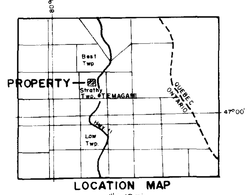
- CLAIM POST
- LINE POST
- CLAIM LINE
- 1109083 — CLAIM NUMBER
- MAIN ACCESS ROAD
- SECONDARY ROADS



1%-1mm

MAP KEY





UP

KANICHEE

LAKE

NET

LAKE

1189043

1189085

1189084

NATURAL GAS PIPELINE

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MINING LANDS BRANCH

2.15342

GRANGES INC.

NET LAKE OPTION

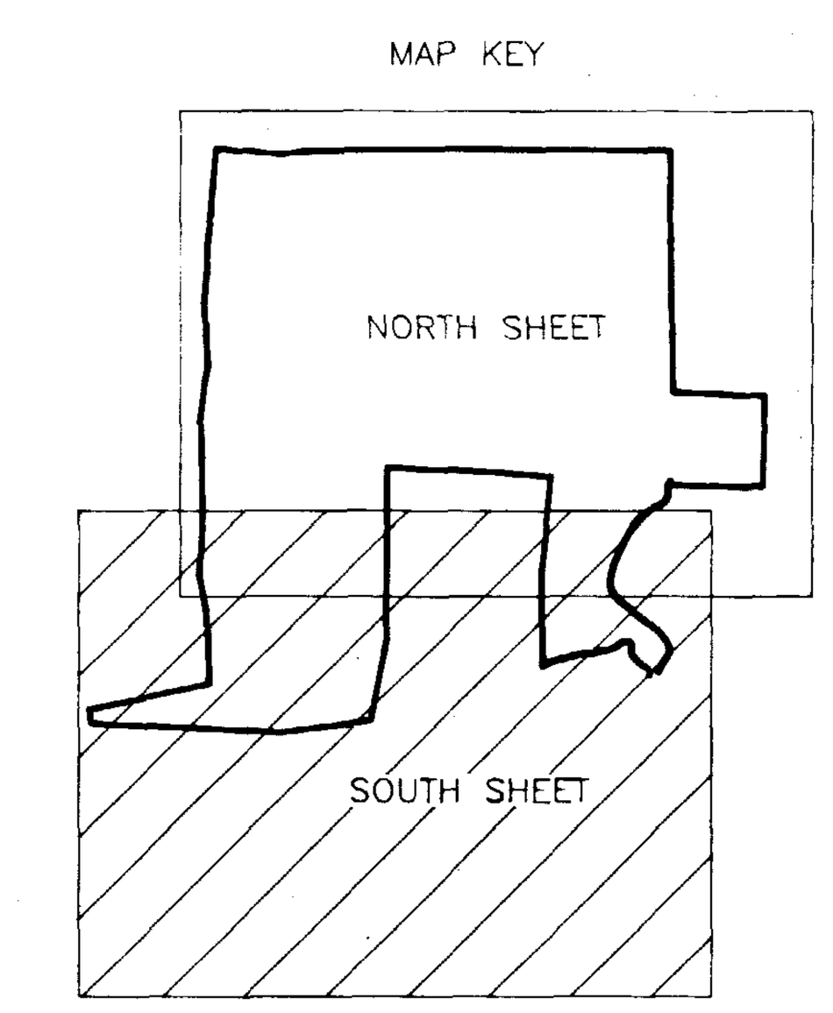
***MAX-MIN* 1**
150 *M CABLE*
14080 Hz

DATE	APRIL, 1993	DWG No.	
SCALE	1:2500	DRAWN BY	CompuScan

LEGEND

CLAIM POST
LINE POST
CLAIM LINE
1109083 CLAIM NUMBER
MAIN ACCESS ROAD
SECONDARY ROADS
IN-PHASE
QUADRATURE
READINGS
CONDUCTOR
DASHED LINE
SOLID LINE
1% = 1mm

2.15342



GRANGES INC.

NET LAKE OPTION

MAX-MIN 1
150 M CABLE
14080 Hz

DATE	APRIL, 1993	DWG No.	
SCALE	1:2500	DRAWN BY	CompuScan

280