

W9460.00015



41P14NW8600 2.15358 SOTHMAN

010

2.15358

RECEIVED  
MAR 23 1994  
MINING LANDS BRANCH

REPORT ON  
MAGNETIC SURVEY  
  
BUDD LAKE CLAIMS  
  
SOTHMAN TOWNSHIP  
HALLIDAY DOME PROJECT

NTS: 41-P/14

PROJ # 8188

NOVEMBER 1993

*Anal. #: 2-2289.*

D. LONDRY  
TIMMINS GEOPHYSICS LTD.

**SUMMARY AND RECOMMENDATIONS**

A magnetic survey was carried out for Falconbridge Limited on their Budd Lake claims in Sothman Township during October, 1993.

A magnetic high anomaly along the east side of the survey area maps a narrow north-south striking ultramafic flow or sill. Magnetic low anomalies over sediments on the property reflect intrusives below the sediments. The source of two magnetic high trends through the middle of the property are also believed to be within the stratigraphy beneath the flat lying sediments. It is recommended that a drill hole test the anomaly centered at 260 West on Line 200 South.



41P14NW8600 2.15358 SOTHMAN

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## INTRODUCTION

A magnetic survey was carried out for Falconbridge Limited on their Budd Lake claims in Sothman Township during October of 1993.

The property is located approximately 63 kilometres south of the city of Timmins (Figure 1(a)) in the Porcupine Mining Division. The town of Matachewan is located 50 kilometres to the east. The property is accessed from an old logging road which branches off the Papakomeka Lake Road (Pine Street South) at Sinclair Lake.

The surveys covered part of two contiguous claims comprising fourteen 40 acre claim units in the east central portion of Sothman Township (Figure 1(b)). The claims are numbered as follows:

<u>CLAIM #</u>	<u># OF UNITS</u>	<u>DESCRIPTION</u>
P1189682	12	Sothman Twp.
P1189683	2	Sothman Twp.

The survey was carried out by the author of this report.

## GENERAL GEOLOGY

The geology of Sothman Township was mapped by E. M. Abraham in 1951 (Abraham, 1953) and briefly mentioned in a report of the Grassy River area by Gledhill (1926) and a report on Halliday and Midlothian Townships by Bright (1970).

The property is located on the west flank of the Halliday Dome, a felsic

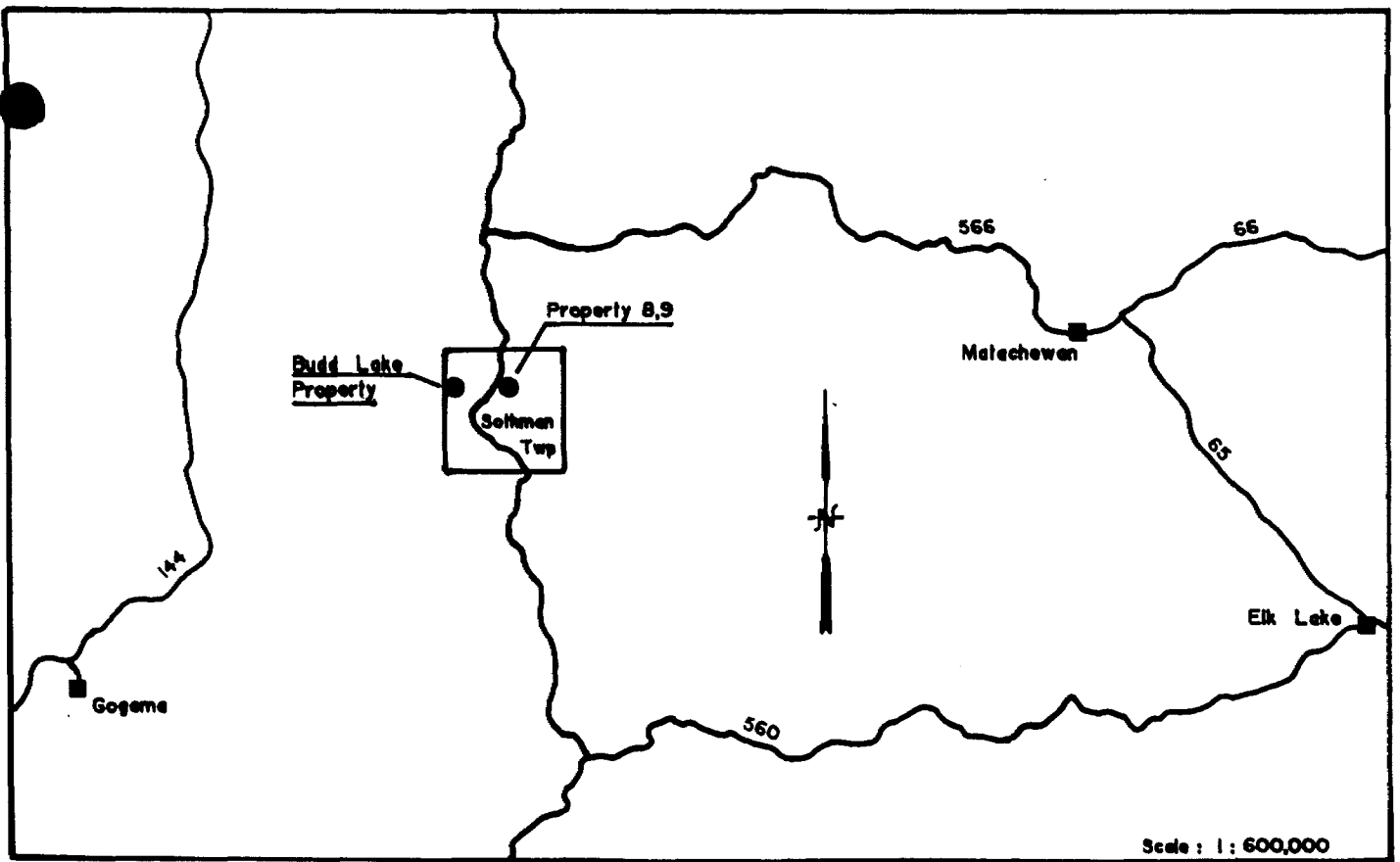


Figure 1(a) : Location Map

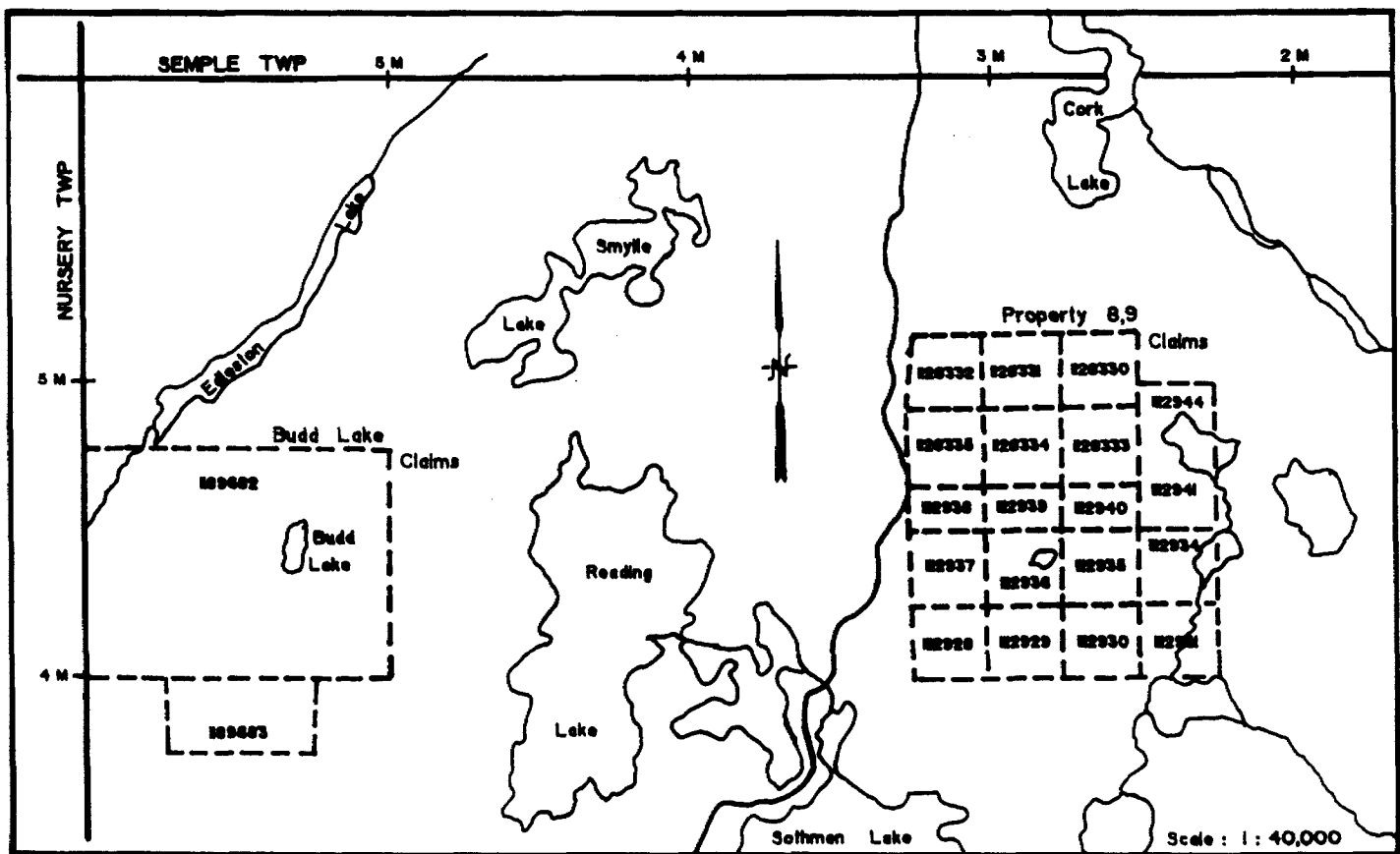


Figure 1(b) : Claim Map

structure which trends east-west through the center of Sothman and Halliday Townships and halfway through Midlothian Township (Bright, 1970). Concordant ultramafic sills and flows are located along the west, northwest and south perimeter of the dome close to the contact between the felsic volcanics and underlying intermediate volcanics. A large granite stock underlies most of Nursery Township to the west of Sothman Township.

A non-economic nickel deposit was discovered in the southeast corner of Sothman Township by Dominion Gulf Company in 1953. The deposit is located along the footwall contact of a sill-like ultramafic body on the south margin of the Halliday Dome. This deposit was the topic of two B.Sc. theses (Schneeberg, 1969 and Watkins, 1972) and the geology and genesis of the deposit is discussed, along with other Archean nickel deposits, by Coad (1979), Eckstrand (1972), Kilburn et al (1969) and Naldrett et al (1971).

The Budd Lake property was most recently mapped by Manville Canada Inc. in 1985 (Evelegh, 1986). The central and northern parts of the survey area are occupied by flat lying Cobalt sediments which form north-south trending ridges. Keewatin intermediate to felsic metavolcanics are located along the east side of the survey area directly to the west and south of Budd Lake. A narrow band of ultramafic strikes north-south between the sediments and the volcanics.

The Edleston fault zone strikes northeast through the very northwest corner of the survey area. Other northeast to north striking faults were interpreted in the Manville survey, based on topography and geological evidence.

Much of the previous work was concentrated on gold mineralization found in carbonate zones within the volcanics to the southwest of Budd Lake and in carbonate zones associated with a feldspar porphyry in the northwest corner of the survey area.

## PREVIOUS WORK

The following is a description of previous work which has been filed for assessment (Table 1).

In 1944, gold was discovered on the property by R. Edleston and between 1944 and 1947, Buffalo Ankerite Gold Mines Limited carried out an exploration program over a group of 37 contiguous claims, four of which were located in Nursery Township. The program included a geological survey, stripping, trenching and 12 diamond drill holes totalling 3050 feet; the best intersection ran .20 oz/ton gold over 8.5 feet.

In 1951, R. Edleston restaked 24 of the claims, after they reverted to the Crown, and optioned them to Preston East Dome Mines Ltd. This company also carried out a program which included geological mapping, stripping, trenching

YEAR	COMPANY	GEOPHYSICS	DRILL HOLES	ASSESSMENT FILE
1946	BUFFALO ANKERITE GOLD MINES LTD	GEOL	DDH-1 to 12	T-2074
1951	PRESTON EAST DOME OPTION		DDH-1 to 7	T-2121
1960	EMPIRE EXPLORATIONS		DDH-1,2	T-2183
1965	CONSOLIDATED MNG & SMELT of CAN LTD.			T-2184
1973	ECSTALL MINING LIMITED		S-51-1	T-2290
1983	MANVILLE CANADA INC.	MAG,VLEM,GEOL		T-2293

Table 1. Summary of previous assessment work.



and drilling seven holes for a total of 2268 feet.

In 1960, Empire Explorations filed the results from two holes drilled to the south of Budd Lake.

In 1965, Consolidated Mining and Smelting Co. of Canada Limited held 18 claims, centered to the north of Budd Lake. A magnetic and 'long wire' Turam EM survey was run on west northwest oriented lines spaced every 400 feet. The magnetic survey was run with a vertical field fluxgate magnetometer.

In 1973, Ecstall Mining Limited (Texasgulf Inc.) ran magnetic and HLEM surveys along north-south lines spaced every 300 feet. The magnetic readings were taken with an Elsec 592 total field proton precession magnetometer and the HLEM survey was run with a Geonics EM-17 with a coil separation of 300 feet and frequency of 1600 Hz. One drill hole (S-51-1) was sunk to test a magnetic high; the hole ended in serpentinite in which some spinifex texture was noted.

In 1983, Manville Canada Inc. staked 11 claims surrounding Budd Lake. In 1985, this company ran geological, magnetic, vertical loop electromagnetic (VLEM) and radiometric surveys along north-south lines spaced every 400 feet. Some stripping, trenching and drilling was also carried out on the carbonate zones to the southwest of Budd Lake. In 1987, the claims were optioned to Quote Resources Inc. who ran magnetic and induced polarization (IP) surveys along north-south and east-west detail lines, spaced every 200 feet.

#### **SURVEY DESCRIPTIONS**

A north-south base line, designated 500 East, was established just to the west of Budd Lake and east-west grid lines were cut to the west of the base line every

100 metres from 0 South to 1200 South. A tie line was also cut at 0 West and all of the lines were picketed every 20 metres.

The magnetic readings were taken every 10 metres along the grid lines with a Scintrex IGS-2/MP-4. This instrument is a proton precession magnetometer which measures the earth's total magnetic field to an accuracy of 0.1 gammas. Diurnal variations were monitored every 12 seconds with a Scintrex MP-3 base station magnetometer. A total of 1132 readings were taken along 11.2 kilometres of line.

#### MAGNETIC RESULTS

The magnetic results are posted and contoured every 250 nT on Map 1 at a scale of 1:5000. A colour image of the total magnetic field is given in Figure 2 at a scale of 1:10,000.

A linear north-south trending magnetic high anomaly on the east side of the survey area maps a narrow unit of ultramafics between volcanics to the east and sediments to the west. This anomaly extends from 300 East on Line 200 South to 350 East on Line 1200 South. The magnitude of the anomaly increases from north to south; on Line 200 South it is approximately 1300 nT above background whereas on Line 1100 South it is approximately 5500 nT above background. This decrease in amplitude from south to north may be due to a decrease in size of the unit or a decrease in the magnetite content from south to north. Three 'breaks' or discontinuities occur in the anomaly, at 900 South, 700 South and 500 South. These may be due to faulting and/or alteration or the presence of later dikes which have cut the ultramafic. The break and apparent offset of the magnetic anomaly on Line 700 South is on strike with a north northeast striking

hornblendite dike, mapped to the west of Budd Lake in the Manville geological survey. The break is also on strike to a linear magnetic low anomaly to the southwest, which may map the continuation of the dike beneath the sediments.

The volcanics to the west and south of Budd Lake have a much lower magnetic susceptibility than the ultramafics, except on Lines 200 and 300 South. The short linear magnetic high at approximately 435 East on these lines is likely due to pyrrhotite mineralization associated with the lead-zinc showing on the property. The isolated anomaly at 380 East on Line 300 South may have a similar source.

The small magnetic low anomaly centered at 280 West on Line 0 coincides with a feldspar porphyry which is known to occur at this location. The oval shaped magnetic low at the west end of Lines 300 to 900 South may also reflect a felsic intrusive, beneath the sediments, which is related to the granite stock to the west in Nursery Township. The magnetic expression over the rest of the sediments is much higher, up to 1000 nT above background; the highest field over the sediments are two oval shaped anomalies centered at 200 West and 20 East on Line 300 South. These anomalies are part of two concentric high trends around the magnetic low. A possible interpretation is that they represent alteration halos on the edge of the granite.

Dec. 13, 1993

DATE

Douglas Londry  
D. LONDRY

## REFERENCES

- ABRAHAM, E. M.**  
1953: Geology of Sothman Township; Ontario Department of Mines, Vol LXII, Part 6, 1953, 34p. Accompanied by Map 1953-3 at a scale of 1 inch to 1000 feet.
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- COAD, P. R.**  
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- ECKSTRAND, O. R.**  
1972: Ultramafic Flows and Nickel Sulphide Deposits in the Abitibi Orogenic Belt; p.75-81 in Report of Activities, Part A, Can. Geol. Surv., Paper 72-1.
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- GLEDHILL, T. L.**  
1927: Grassy River Area, District of Sudbury, Ontario; Ontario Department of Mines Report 35, p.57. Accompanied by Map 35j at a scale of 1 in to 1.5 miles.
- NALDRETT, A. J., GASPARRINI, E. L.**  
1970: Archean Nickel Sulphide Deposits in Canada: Their Classification, Geological Setting and Genesis with some suggestions as to Exploration; Geol. Soc. Aust., Special Pub., No. 3, p.201-226.
- O.G.S.**  
1972: Mineral Deposits Circular 18, Gold Deposits of Ontario, Part 2, 1972, p.84.
- SCHNEEBERG, E. P.**  
1969: Petrology and Geochemistry of an Ultramafic Intrusion in Sothman Township, Ontario; unpub. BSc Thesis, Carlton Univ., 32p.
- WATKINS, J. J.**  
1972: The Sothman Sill Nickel Deposit; unpub. BSc Thesis, Queens Univ., 32p.



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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

April 14 , 1994

Our File: 2.15358  
Transaction #: W9460.00015

Mining Recorder  
Ministry of Northern  
Development and Mines  
60 Wilson Avenue  
1st Floor  
Timmins, Ontario  
P4N 2S7

Dear Sir/Madam:

**Subject: APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIMS  
P1189682 AND P1189683 IN SOTHMAN TOWNSHIP**

The 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 24, 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/lrs

cc: Resident Geologist  
Timmins, Ontario

✓ Assessment Files Library  
Toronto, Ontario

Report of Work Conducted After Recording Claim

Mining Act

Transaction Number  
W9460.00015

M.L.

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

2.15358

- 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) <b>FALCONBRIDGE LIMITED</b>	Client No. <b>130 679</b>
Address <b>P.O. Box 1140, 571 Moneta Ave, Timmins, Ont P4N 7H7</b>	Telephone No. <b>(705) 267-1188</b>
Mining Division <b>TIMMINS</b>	Township/Area <b>SOTHMAN</b>
M or G Plan No.	
Dates Work Performed From: <b>SEPT 15, 1993</b>	To: <b>OCT 15, 1993</b>

Work Performed (Check One Work Group Only)

Work Group	Type
<input checked="" type="checkbox"/> Geotechnical Survey	<b>Linecutting, HLEM, MAG Geophysical Surveys</b>
<input type="checkbox"/> Physical Work, Including Drilling	
<input type="checkbox"/> Rehabilitation	
<input type="checkbox"/> Other Authorized Work	
<input type="checkbox"/> Assays	
<input type="checkbox"/> Assignment from Reserve	

<b>RECEIVED</b>	<b>RECORDED</b>
<b>MAR 28 1994</b>	<b>FEB - 8 1994</b>
<b>MINING LANDS BRANCH</b>	Receipt _____

Total Assessment Work Claimed on the Attached Statement of Costs \$ **4,806**

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
<b>TIMMINS GEOPHYSICS DOUG LONDRY</b>	<b>547 LOACH'S ROAD, SUDBURY, ONTARIO P3E 2R3</b>
<b>B.F. PIGEON CONTRACTING BRUCE PIGEON</b>	<b>P.O. Box 468, SCHUMACHER, ONT P0N 1G0</b>

(attach a schedule if necessary)

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

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.	Date <b>FEB 8, 1994</b>	Recorded Holder or Agent (Signature) <b>Doug McL</b>
--	----------------------------	---

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 <b>DOUG McLAUGHLIN, P.O. Box 571 Moneta Ave, Timmins, Ont P4N 7H9</b>		
Telephone No. <b>(705) 267-1188</b>	Date <b>FEB 9, 1994</b>	Certified By (Signature) <b>Doug McL</b>

For Office Use Only

<b>\$4806</b>	Total Value Cr. Recorded	Date Recorded <b>FEB. 8<sup>th</sup> /94</b>	Mining Recorder <b>White</b>
	Deemed Approval Date <b>MAY 9<sup>th</sup> /94</b>	Date Approved	
	Date Notice for Amendments Sent		

<b>RECEIVED</b>
<b>FEB 8 1994</b>
<b>@ 10:20 am 8/2</b>
<b>PORCUPINE MINING DIVISION</b>



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 question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4<sup>e</sup> 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		
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type <i>Limcutting</i>	3,410	
	<i>HLEM, MAG</i>	1,396	
	<i>Sundry</i>		4,806
Supplies Used Fournitures utilisées	Type		
Equipment Rental Location de matériel	Type		
Total Direct Costs Total des coûts directs			4,806

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		
Food and Lodging Nourriture et hébergement			
Mobilization and Demobilization Mobilisation et démoblisation			
Total partiel des coûts indirects			
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			
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)			

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
	x 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	Evaluation totale demandée
	x 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 *Roger Goulet* I am authorized (Recorded Holder, Agent, Position in Company)

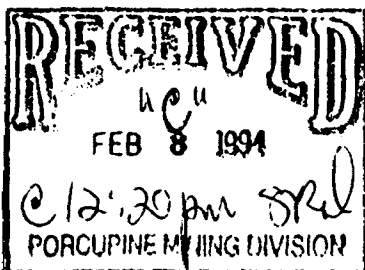
to make this certification

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.



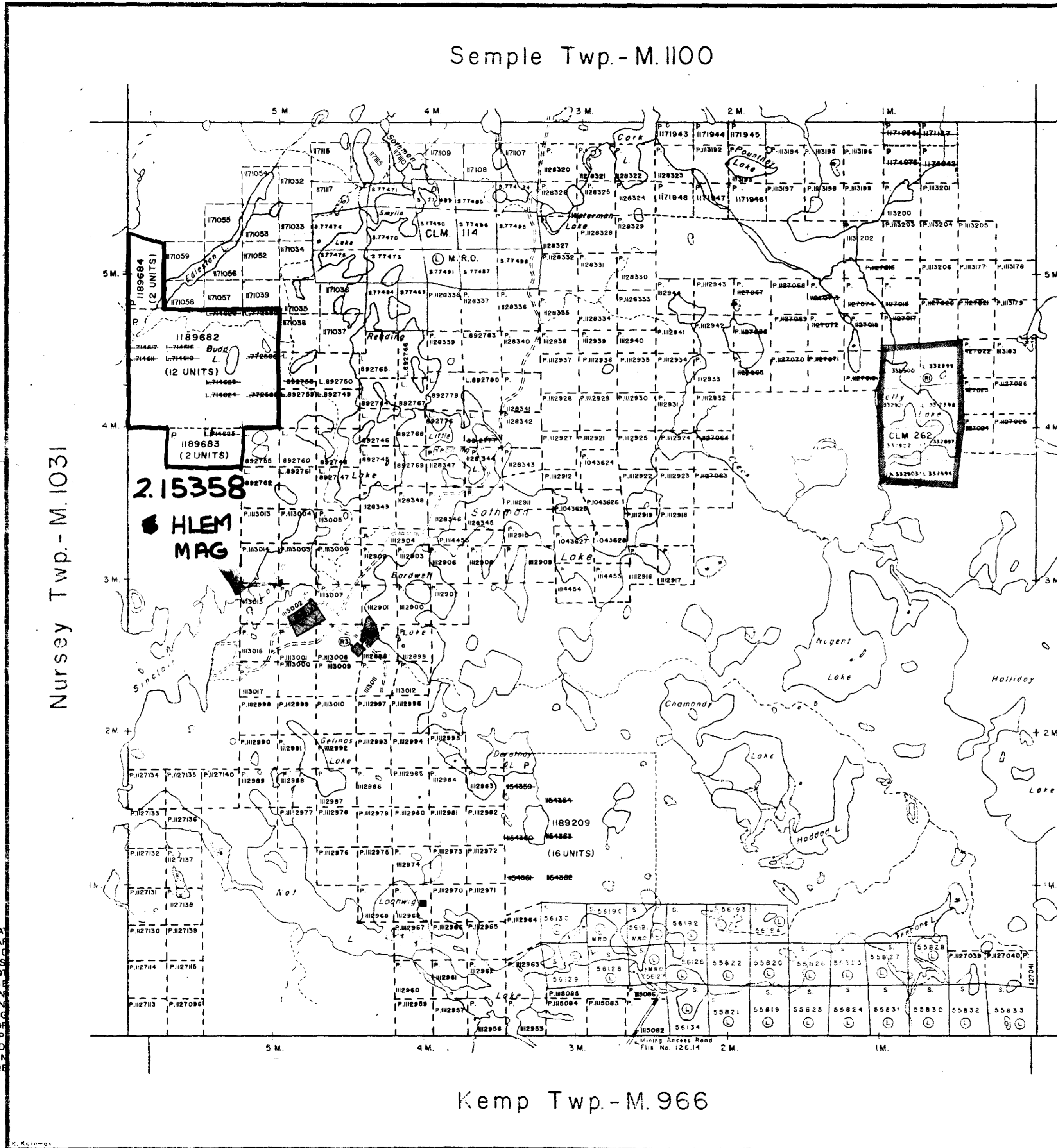
Signature *[Signature]* Date Feb 9, 1994



ISII.I

20THMAN TWP

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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.

THE TOWNSHIP OF  
**SOTHMAN**  
RECEIVED  
DISTRICT OF SUDBURY 2.3.1994  
MINING LANDS BRANCH  
PORCUPINE MINING DIVISION  
SCALE: 1-INCH=40 CHAINS

**LEGEND**

PATENTED LAND	Ⓟ
CROWN LAND SALE	C.S.
LEASES	Ⓛ
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
MINING RIGHTS ONLY	M.R.O.
SURFACE RIGHTS ONLY	S.R.O.
ROADS	—
IMPROVED ROADS	—
KING'S HIGHWAYS	—
RAILWAYS	—
POWER LINES	—
MARSH OR MUSKEG	—
MINES	Ⓧ
CANCELLED	C.

**NOTES**

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

Flooding Rights -- L.O. 7191 File No. 1162 vol. 4

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

Order No.	File	Date	Disposition
Ⓡ1	W 49/84 CLM 262	22/2/84	M.R.O.
Ⓡ2	Waste Disposal Site Buffer Zone	2/9/81	
Ⓡ3	W 89/81 188517	28/8/81	S.R.O.
Ⓡ4	M.N.R. Gravel Reserve	3C37	

**ISSUED**  
FEB - 8 1994  
PORCUPINE MINING DIVISION

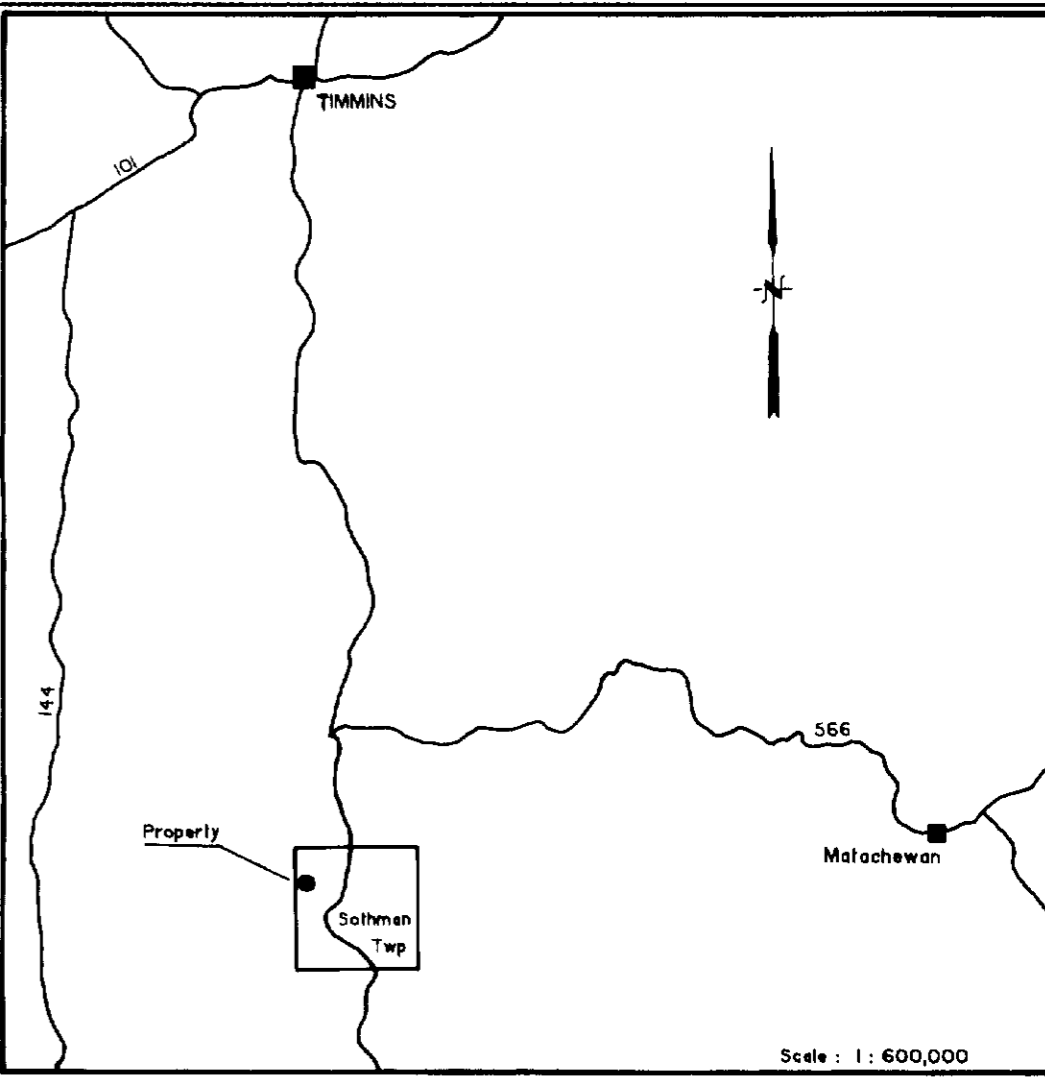
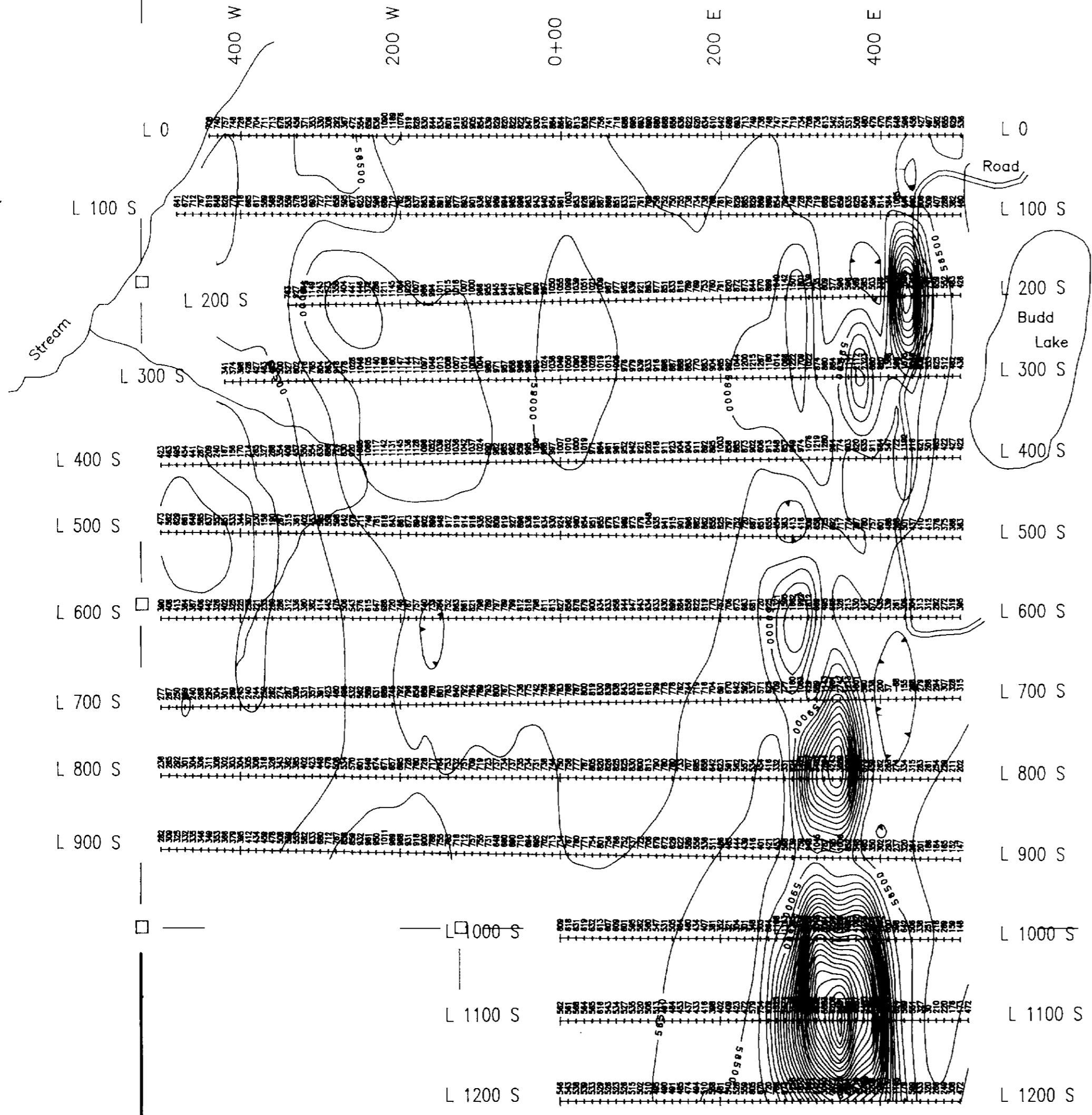
ACTIVATED APRIL 25, 1990 D.C.  
**PLAN NO. M-1121**  
ONTARIO  
MINISTRY OF NATURAL RESOURCES  
SURVEYS AND MAPPING BRANCH



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20THMAN TWP

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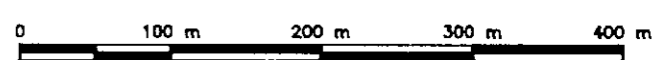


Instrument : Scintrex IGS-2/MP-4  
 Type : Total Field Proton Precession  
 Datum Level : 58000 nT  
 Contour Interval : 250 nT  
 Gridded By : Geosoft BIGRID  
 Cell Size : 20 m

- Filter : 2 Passes 9 Point Hanning
- HLEM Anomaly 444 Hz
- Approximate DDH Location
- Claim Posts
- Located
- Unlocated

**RECEIVED**  
 MAR 23 1994  
 MINING LANDS BRANCH

**2. 15358**



<b>FALCONBRIDGE LIMITED</b>	
<b>MAGNETIC SURVEY</b>	
<b>BUDD LAKE PROPERTY</b>	
<b>HALLIDAY DOME PROJECT</b>	
NTS: 41-P/14	PROJ # 8188
SCALE : 1: 5000	DATE : NOVEMBER 1993
FILE : BUD.MAG	<i>Taglio / 27</i>
WORK BY :	<b>Timmins Geophysics Ltd.</b>

MURSERY TOWNSHIP  
 :OTHMAN TOWNSHIP

