

Report of the Ground Magnetic Survey on the Mocan Valley Property

Strey and Syine Townships, Ontario

2.16869

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MINING LANDS BRANCH

Manitouwadge, Ontario September 20, 1996 Robert J. Reukl, B.Sc. Geologist

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REPORT OF THE GROUND MAGNETIC SURVEY ON THE

MOCAN VALLEY PROPERTY

IN

STREY AND SYINE TOWNSHIPS, ONTARIO

*

Summary

During November of 1994 a ground magnetometer survey was performed on a group of claims recorded in the name of Robert Reukl. The claim group, comprising approximately 560 hectares, straddles the boundary between Strey and Syine Townships, Thunder Bay Mining Division, Ontario. The survey was successful in delineating one magnetic feature but did not yield good correlation with previous geological mapping of the area.

The magnetometer survey clearly delineated the north-south trending Margon Creek Fault. The survey also delineated an area in the northeast portion of the survey area represented by a high magnetic gradient for which there is no apparent explanation. The survey does not appear to have a good correlation with previous geological mapping which indicated a heterogeneous sequence of mafic volcanic and mafic intrusive rocks striking east-west.

Some consideration should be given to resurveying the grid with a more conventional instrument.

Introduction

During the month of November 1994 a ground magnetometer survey was performed by Ewan Downey of Vytyl Exploration Services on the Mocan Valley property recorded in the name of Robert Reukl. The property consists of a contiguous group of 35 unpatented units comprising approximately 560 hectares in Strey and Syine Townships, Thunder Bay Mining Division, Ontario.

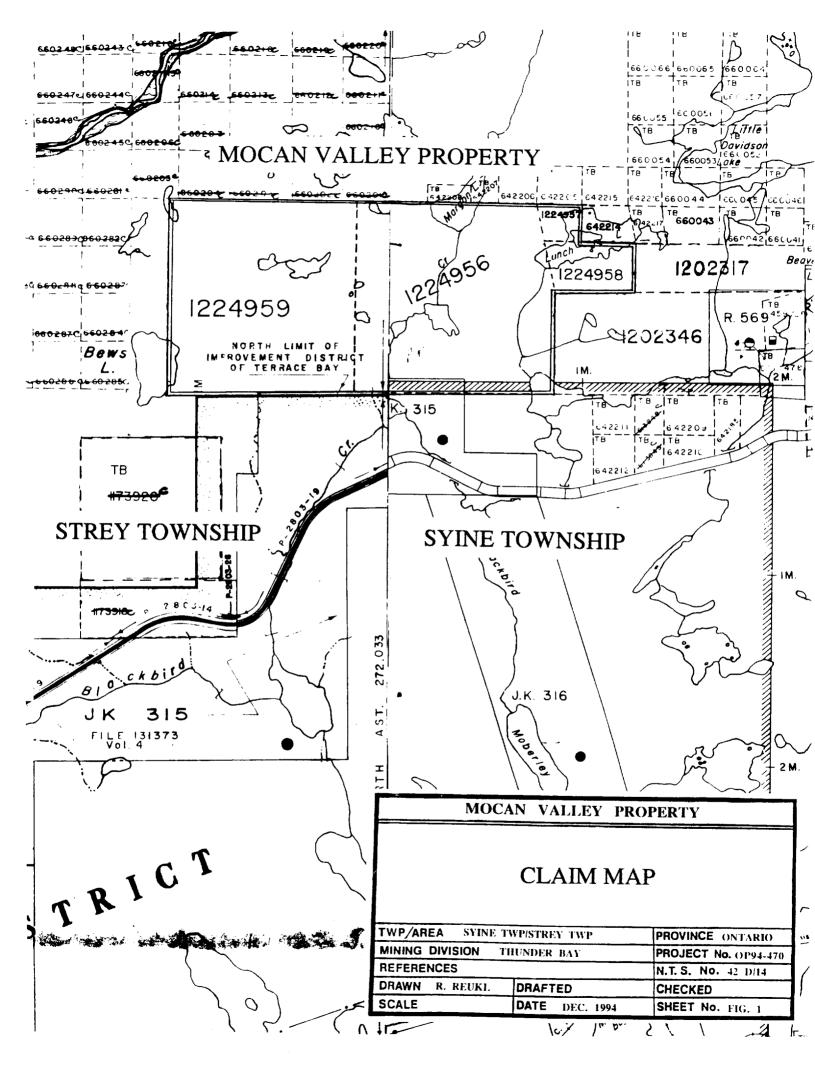
A total of 5.9 kilometers of linecutting were completed in October by linecutters employed by Vytyl. Approximately 5.1 kilometers of north-south picket lines were established in at 100 meter intervals from Ln 4W to Ln 4E, with stations located at 25 meter intervals. An 800 meter baseline was established for the purpose of grid control. The grid is located in the center of claim TB 1224956 to cover an area of interest where gold values up to 0.577 oz/ton Au were previously reported.

The linecutting was followed by a magnetometer survey performed in November. This survey would serve as a basis for further work and aid in stratigraphic and structural correlation.

In early November 1994 and option agreement was signed with RJK Explorations Ltd. of Kirkland Lake for exploration of the Mochan Valley property. The company conducted a property visit and reviewed the information available. The property was returned the following year with no further work. In June 1996 an option agreement was signed with Totem Science of Vancouver to explore the property.

Location and Access

The claim group is located in the northern part of Syine (G-634) and Strey (G-633) townships in the Thunder Bay Mining Division (figure 1). The claims straddle the common boundary of these townships and totals approximately 560



hectares. The claims are numbered TB1224956 to TB1224959 inclusive and consist of 35 units as described below.

TB 1224956	16 units	256 ha
TB 1224957	1 unit	16 ha
TB 1224958	2 units	32 ha
TB 1224959	16 units	<u>256 ha</u>
	35 units	560 ha

The claim group is located approximately 200 kilometers east of Thunder Bay and more precisely about 10 kilometers east of the town of Terrace Bay. The southern boundary of the group begins approximately 500 meters north of Highway 17 and is easily accessible by all terrain vehicle in the summer and by snowmobile in the winter.

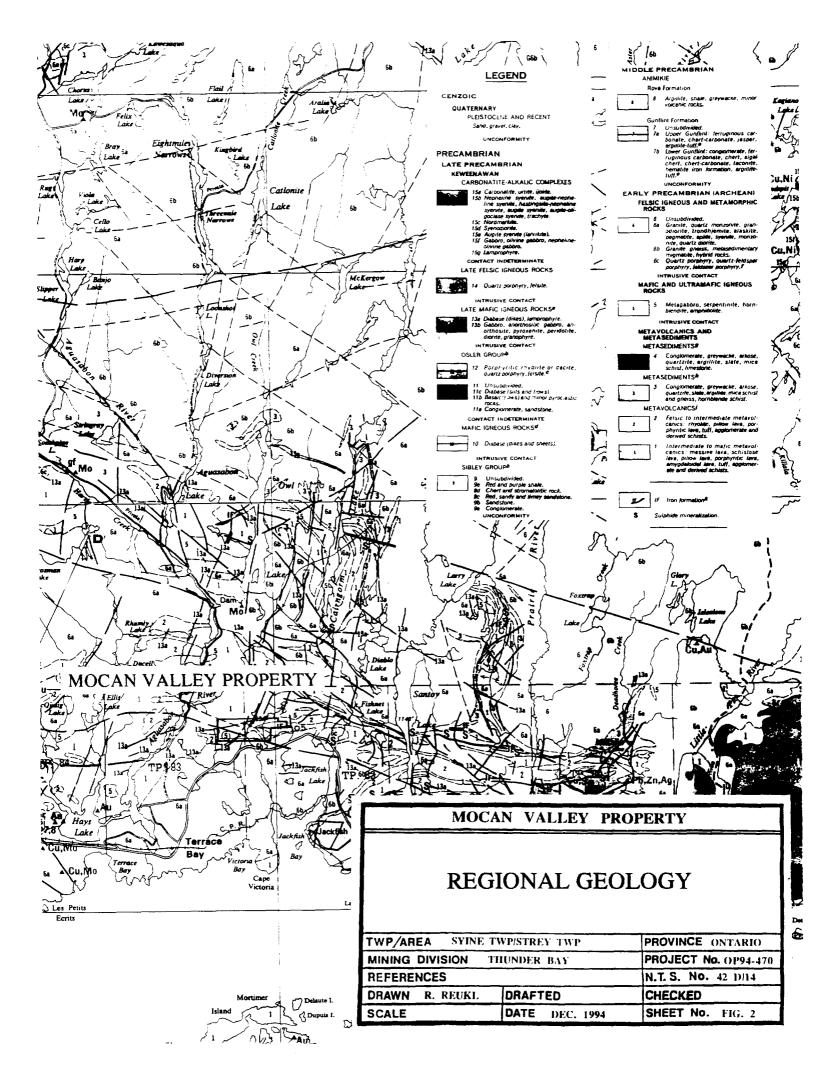
Geology

Regional Geology

The area is underlain by a conformable sequence of intercalated volcanic and sedimentary units of early Precambrian age. Intrusions of mafic and granitic rocks crosscut all lithologies with the dominant granitic feature being the Jackfish Lake Batholith (figure 2).

Regional metamorphism grading from greenschist to lower amphibolite was recognized by Walker (1967).

Structurally the area has undergone several episodes of deformation with the most notable being the anticlinal and synclinal folding associated with the large granitic intrusives. Lithologies generally trend east-west and dip south with shearing to varying degrees also occurring.



Property Geology

The property geology was not mapped in conjunction with the magnetometer survey. However Micham Explorations mapped the Mocan Valley area as part of a detailed exploration program conducted from 1982 to 1984. The geology was described by Hinz (1984).

The two main rock types in the Mocan Valley area are mafic volcanic flows and blue quartz diorite. A sharp contact between the two units was noted in one location. The diorite represents an intrusive exhibiting rafted inclusions of crystal tuff and foliated mafic flows.

The mafic flows are located to the north of the diorite and include massive, pillowed, vesicular and gabbroic variations. The gabbroic flows may represent the coarser portion of a flow center.

A continuous chert horizon was traced over a strike length of almost 300 meters east of Margon Creek and for almost 200 meters to the west, occuring within the mafic flows and containing disseminated sulphide mineralization. The unit is at least 30 meters wide on surface.

A medium to coarse grained pyroxenite was also noted on the property, as well as oxide facies iron formation found adjacent to a chert horizon in one location. The iron formation primarily contains magnetite with traces of hematite in a siliceous groundmass.

Alteration

Silicification and carbonatization were the predominant types of alteration noted by Hinz in the Mocan Valley area. Silicification is most intense in mafic flows proximal to the chert horizons. In these areas the volcanics appear finer grained, harder and are often cut by thin quartz veinlets. Carbonatization is pervasive in the area but best developed within the sheared mafic flows. In a few

locations carbonate veinlets were noted in the sheared flows.

Other alteration noted in the previous work included a gossanous sericite schist in the Margon Creek gorge and a zone of potassium metasomatism within blue quartz diorite and gabbroic mafic flows.

Structure

A low angle, north-south trending fault, is the dominant structural feature in the Mocan Valley area. It is represented by a distinctive breccia and a thin 1.0 to 2.5 cm mylonite zone located in the bed and banks of Margon Creek (Hinz, 1984). A major offset is not apparent but if the two chert units on either side of Margon Creek can be correlated they would indicate approximately 30 meters of left lateral displacement, looking west.

The other significant structural feature is an east-west trending shear zone within the mafic volcanics. This shear hosts the original Mocan Valley showing.

Hinz noted a pervasive, east-west, foliation in all the rock types and the dip orientation, although variable, was generally south.

Two joint sets were noted in the volcanics oriented east-west and north-south. The joints noted in the blue quartz diorite were oriented northeast and northwest (Hinz, 1984)

Survey Instruments and Procedures

The total field magnetometer survey was conducted by Ewan Downey of Vytyl Exploration Services utilizing a GEM GSM-19 continuous reading magnetometer. This instrument provides continuous reading, if desired, to an accuracy of 0.01nT. For this application all readings are rounded to the nearest

nT.

Diurnal variation of the total field was tracked by an identical unit, serving as a base station which was synchronized, with respect to time, with the survey unit. The recorded measurements from both units are downloaded into a computer and the appropriate corrections are then made.

The data on the accompanying maps represents corrected total field magnetics. The computer preparation and maps were produced by Pro Tech Drafting Services of La Ronge, Saskatchewan. The contour interval is varied to allow for large changes in the total field magnetics. In areas of minor changes in the total field , the contour interval is 50 nT, and in areas of large changes in the total field magnetics, the contour interval is 200 nT.

Discussion of Results

The results of the survey are presented on the accompanying plans (figures 3 and 4) at a scale of 1:5,000. Total field magnetics are represented and have been contoured (figure 4) as described above.

The survey results by themselves are inconclusive and without a detailed geological 0.map of the grid a precise interpretation of the results is not possible. However, the single most evident feature noted on the contoured magnetics (figure 4) is the north-south trending 58,000 nT magnetic trend between L 0 and L 100 E. This represents the fault zone traced by Margon Creek. The results indicate a possible contact with another rock unit represented by a high magnetic gradient in the northeast portion of the survey area, but there is not indication of such a contact or rock unit from the previous work. No magnetometer survey was recorded by Micham Explorations with which to attempt a correlation with the present survey.

The survey results do not appear to have a good correlation with the

previous geological mapping which indicated a heterogeneous sequence of mafic volcanic and mafic intrusive rocks striking east-west. Some consideration should be given to resurveying the grid with a more conventional instrument.

Conclusions

The magnetometer survey alone does not offer sufficient data with which to make firm conclusions about the property. A detailed geological map of the grid will be useful in understanding the magnetic contours represented on the enclosed map. An electromagnetic survey would be useful in locating conductive horizons, such as shear zones, which are a primary target for further exploration. It has been noted that gold values obtained from the property in the past were obtained from mineralization within shear zones.

Respectfully submitted,

Robert J. Reukl, B.Sc.

Geologist

CERTIFICATE

I, Robert J. Reukl, of 21 Falcon Avenue in Manitouwadge, Ontario certify as follows concerning my Report of the Ground Magnetic Survey on the Mocan Valley Property in Strey and Syine Townships, Ontario dated September 20, 1996.

- 1. I am a member in good standing of:
 - (a) The Canadian Institute of Mining, Metallurgy and Petroleum, and
 - (b) The Prospector's and Developer's Association of Canada.
- 2. I am a graduate of Lakehead University in Thunder Bay, Ontario holding a Bachelor of Science degree received in 1984.
- 3. The attached report is a product of:
 - (a) Data obtained from Vytyl Exploration Services, and
 - (b) Data listed in the references.
- 4. I am the recorded holder and owner of a one-third interest in the Mocan Valley Property.

Manitouwadge, Ontario September 20, 1996 Robert J. Reukl, B.Sc.

Geologist

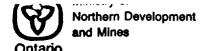
REFERENCES

Hinz, P.

"Geological Report, No. 64 Grid, Mocan Valley Grid, Flagged Grid and the North Seville Showing, Micham Explorations Inc., Terrace Bay Claims, Syine Twp. and Santoy Lake Area, District of Thunder Bay, Ontario." August 15, 1984

Walker, J.W.R.

"Geology of the Jackfish-Middleton Area"; Ontario Department of Mines, GR 50, 1967



DEPOIL OF MOIN COMMUNICA **After Recording Claim**

Mining Act

W9640.557

HIMMG-LAND

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 Develops Land Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

Instructions: Place to part

- Refer to the Recorder.
- A separate c
- Technical rep



ent work or consult the Mining

						Ш	ı
14SE(_

Recorded Holder(s) ROBERT REUKL		Client No. 187 <i>0</i> 51
21 FALCON AVENUE, B	Telephone No. (807) 826-3018	
Mining Division THUNDER BAY	Township/Area STINE/STREY TWPS.	M or G Plan No. G-634/G-633
Detee Work From: Nov. 2, 199	14 To: Nov. 111	\$994

Work Performed (Check One Work Group Only)

Work Group	(W10) (mag)	Туре
Geotechnical Survey	GEOPHYSICAL SURVEY	RECEIVED
Physical Work, Including Drilling		
Rehabilitation		NOV 1 3 1996
Other Authorized Work		MINING LANDS BRANCH
Assays		
Assignment from Reserve		

Total Assessment Work Claimed on the Attached Statement of Costs

900

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)

Address		
4283 LOCH LOMOND ROAD, THUNDER BAY		
21 FALCON AVE., BOX 1135, MANITOUWADGE		

(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 OCT. 2/96 by the current recorded holder.

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 ROBERT REUKL, 21 FALCON AVE, BOX 1135, MANITOUWADGE

Telepone No.

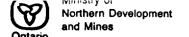
(807)826-3018

OCT. 2, 1996

For Office Use Only

Total Value Cr. Recorded Thunder Bay Mining Division SANUARY 9, 1997 OCT 1 1 1996 Date Notice for Amendments Sent RECEIVED

0241 (03/91)



Ministère 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 19640-55

ME 68 69

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

1. Direct Costs/Coûts directs

Туре	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre		
	Field Supervision Supervision sur le terrain	450	450
Contractor's and Consultant's	Type Mag Survey	3083	
Fees Droits de l'entrepreneur	REPORT WRITTING	900	
et de l'expert- conseil			3983
Supplies Used Fournitures utilisées	Туре		
Equipment Rental Location de	Туре		
matériei			Sinfa n am asi 1
	Total Dir	ect Costs	山山スス

Total des coûts directs

4422

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.

Туре	Description Amount Montant		Totals Total global
Transportation Transport	TYPO (720KM@\$.30/KM) TRUCK	216	
*			
	RECEIV	ED	216
Food and Lodging Nourriture et hébergement	NOV 1 3 199	6	
Mobilization and Demobilization Mobilisation et démobilisation	MINING LANDS BR.	ANCH	
	216		
	(not greater than 20% of Dir (n'excédant pas 20 % des e		216
Total Value of Asse		le du crédit	U/119

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

- 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

indirect costs)

- 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.

RECORDED HOLDER
(Recorded Holder, Agent, Position in Company) _ i am authorized

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 Robert Rould	OCT. 21/96
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Ministry of **Northern Development** and Mines

January 30, 1997

Michael Weirmeir Mining Recorder

Dear Sir or Madam:

Suite B003 Thunder Bay, ON

P7E 6E3

435 James Street South

Ministère du Développement du Nord et des Mines

Geoscience Assessment Office 933 Ramsey Lake Road 6th Floor Sudbury, Ontario P3E 6B5

Telephone:

(705)670-5853

Fax:

670-5863

(705)

Submission Number: 2.16869

Status

Subject: Transaction Number(s): W9640.00557 Approval After Notice

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice.

Please note any revisions must be submitted in DUPLICATE to the Geoscience Assessment Office, by the response date on the summary.

NOTE: This correspondence may affect the status of your mining lands. Please contact the Mining Recorder to determine the available options and the status of your claims.

If you have any questions regarding this correspondence, please contact Bruce Gates by e-mail at gates_b@torv05.ndm.gov.on.ca or by telephone at (705) 670-5856.

Yours sincerely.

ORIGINAL SIGNED BY Ron C. Gashinski

Senior Manager, Mining Lands Section

mc calif.

Mines and Minerals Division

Correspondence ID: 10525

Copy for: Assessment Library

Work Report Assessment Results

Submission Number: 2.16869

Date Correspondence Sent: January 30, 1997 Assessor: Bruce Gates

Transaction First Claim

Number Township(s) / Area(s) Status Approval Date

W9640.00557 1224956 STREY, SYINE Approval After Notice January 26, 1997

Section:

14 Geophysical MAG

The revisions outlined in the Notice dated December 12, 1996, have been corrected. Accordingly, assessment work credit has been approved as outlined on the Declaration of Assessment Work Form accompanying this submission.

Correspondence to:

Recorded Holder(s) and/or Agent(s):

Mining Recorder Thunder Bay, ON ROBERT JOSEPH REUKL MANITOUWADGE, Ontario

Resident Geologist Thunder Bay, ON

Assessment Files Library

Sudbury, ON

NEW FILE SUBMISSIONS

File Number 2.16869

OMIP

OPAP

Claim Holder REUKL, ROBERT JOSEPH

Township STREY / SYINE

Mining Division THUNDER BAY

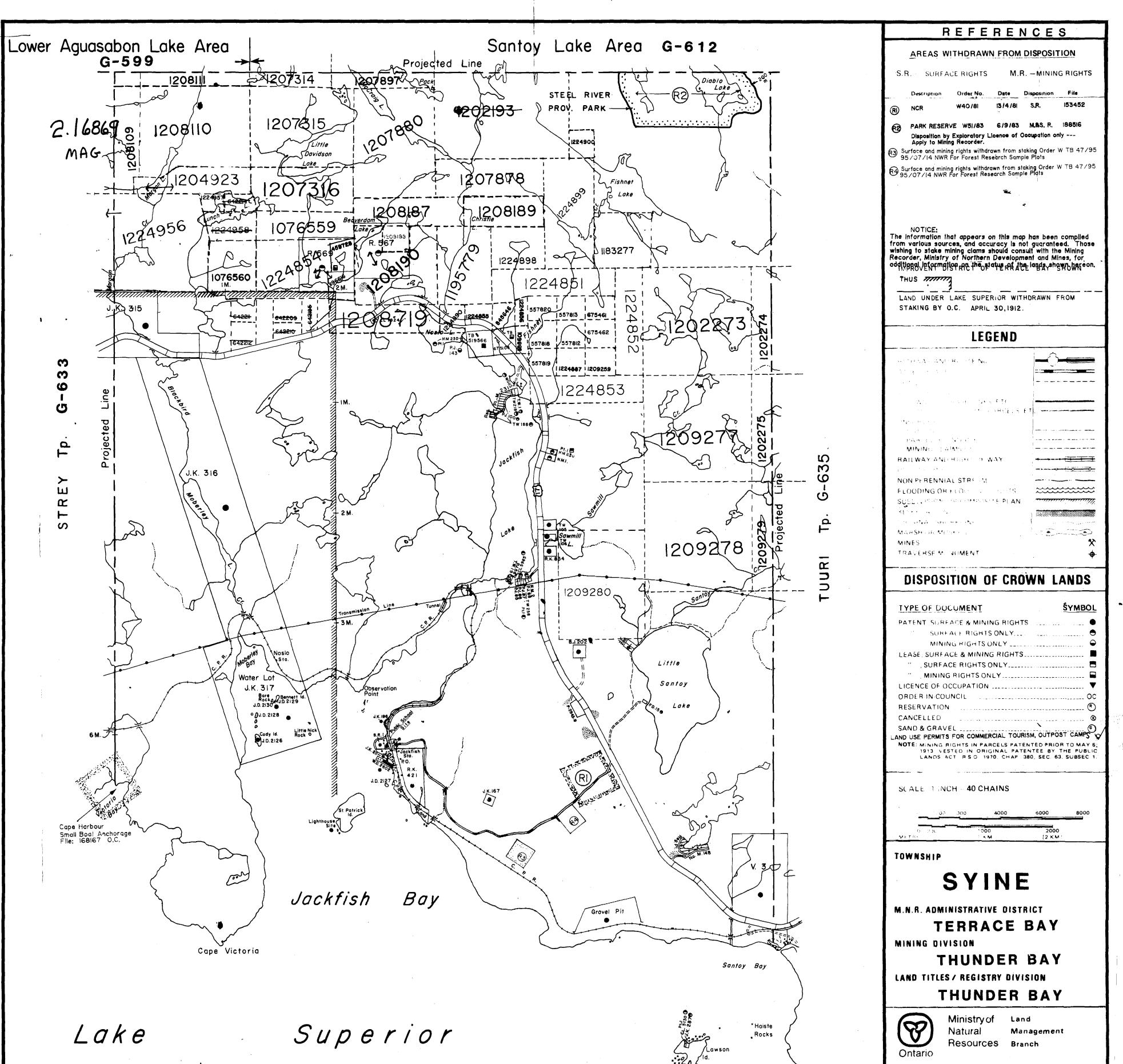
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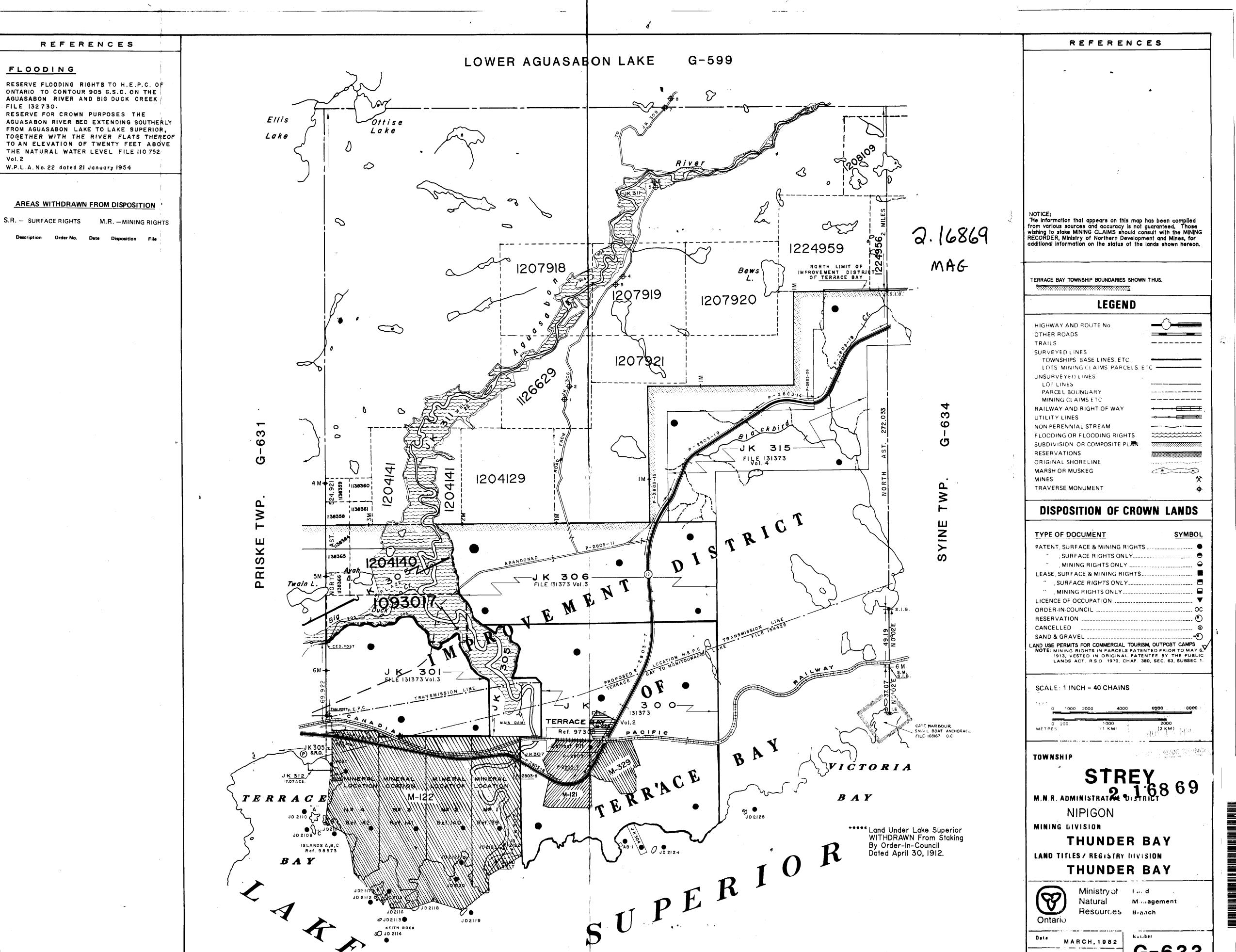
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G-634

In service Nov. 04/94.



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G-633

In Service FEB, 28/95, (A)

