



41J08NE0005 2.13836 BOON

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**2.13836**

REPORT ON  
DETAILED GEOLOGICAL MAPPING

AREAS 1 AND 5  
AUX SABLES Pt-Pd-Ni-Cu PROSPECT

BOON TOWNSHIP  
SUDBURY MINING DIVISION, ONTARIO

**RECEIVED**  
JAN 11 1991  
MINING LANDS SECTION

December, 1990  
E. A. Gallo  
Toronto, Ontario

Qual 63. 2224

## INTRODUCTION

During the 1990 field season, detailed geological mapping was undertaken on Areas 1 and 5 of the Aux Sables Pt-Pd-Ni-Cu Prospect in Boon Township, Sudbury Mining Division, Ontario.

This mapping was performed after the two areas were stripped and cleaned of their overburden cover, and was conducted on a scale of 1:500.

This Report provides details regarding the mapping program, and presents the technical results obtained.

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## DETAILED GEOLOGICAL MAPPING

### AREAS 1 AND 5

### AUX SABLES Pt-Pd-Ni-Cu PROSPECT

### BOON TOWNSHIP

### SUDBURY MINING DIVISION, ONTARIO

#### LOCATION AND ACCESS

The Aux Sables Prospect is in Boon and Shibananing Townships, about 30 kms. (19 miles) north of Massey, 38 kms (24 miles) east of Elliot Lake, and 85 kms. (53 miles) west of Sudbury. Figure I shows the general location of the property.

Area 1 lies within mining claim S 1016959. Area 5 lies within mining claim S 1016939. Both claims are in the NW part of Boon Township.

Area 1 is easily reached by a good walking trail leading eastwards about 2.5 kms (1.5 miles) from Highway 553. Area 5 can be reached by a series of old lumber haulage roads off the fire tower road, which also leads eastwards from Highway 553. Trans Canada Highway 17 intersects Highway 553 at Massey.

#### CLAIMS DATA

Mining claims S 1016939 and S 1016959 are registered in the name of Gallo Exploration Services Inc. They were recorded January 15, 1988. S 1016939 has had 80 days of airborne geophysical assessment credits, and 34 days of mechanical stripping credits applied and approved. S 1016939 is currently in good standing until January 15, 1992. S 1016959 has had 80 days of airborne geophysical assessment credits, and 60 days of mechanical stripping credits applied and approved. S 1016959 is in good standing until January 15, 1993.

#### GENERAL GEOLOGY

The Aux Sables Prospect covers the east part of the East Bull Lake layered mafic intrusive complex. This complex is Archean in age, and is comprised mainly of massive and rhythmically-layered gabbroic-anorthositic rocks. Norites and troctolites are also present, but in lesser quantities. The layers vary in thickness from a few centimeters to several meters, and are defined both

# FIGURE I



LOCATION SKETCH

## AUX SABLES Pt-Pd-Ni-Cu PROSPECT

BOON AND SHIBANANING TOWNSHIPS  
SUDBURY MINING DIVISION, ONTARIO

Scale : 1" = Approx. 167 Miles  
Date : NOV., 1989

Drawn By : EAG  
N.T.S. No. 41J/8

texturally and compositionally. The layers generally parallel the margins of the intrusive, and dip gently towards the centre. Anorthositic rocks predominate along the margins of the intrusive, while gabbroic rocks are more abundant in the centre. Both the anorthosite and the gabbro display primary textures that are characteristic of cumulates. Primary minerals consist of calcic plagioclase, clinopyroxene, orthopyroxene, titanomagnetite, olivine, pyrrhotite, chalcopyrite, and rare quartz. Mineral composition varies systematically with stratigraphic elevation, indicating that the intrusion was emplaced by 2 or 3 separate pulses of a tholeiitic magma, and suggesting that the intrusion formed under an open-system condition. Such open-system conditions are characteristic of mafic-ultramafic plutons containing stratiform PGE deposits.

The East Bull Lake intrusion has been subjected to several periods of metamorphism since its emplacement, and consequently, most rocks display some sausseritization of plagioclase, and recrystallization of pyroxene to calcic amphibole.

Several faults dissect the intrusion. The most prominent of these faults is a major ENE-WSE trending shear zone. Several distinct alteration styles occur within this shear, indicating that it has undergone several episodes of hydrothermal activity, and is probably therefore a long-lived structure. This shear appears to have remobilized and concentrated a portion of the primary magmatic sulfides, and also to have introduced hydrothermal sulfide mineralization. Figure II shows the general geology of the property.

#### DETAILED GEOLOGY

Four main rock units were encountered in the detailed mapping. They have been termed anorthosite, gabbro, anorthositic gabbro, and altered gabbro. Altered gabbro underlies all of Area 1. The three remaining units underlie Area 5.

Three minor units intrude the main units - diabase, granite (?), and felsite. Diabase dikes occur in both Areas. A small granitic body and several felsite dikes intrude the altered gabbro in Area 1.

Minor quartz stringers occur in Area 5.

The anorthosite unit is pale grey coloured on the weathered surface, and greyish-white on the fresh surface. The rock is coarse grained, often very coarse grained, giving it a nodular, pegmatite-like appearance. Plagioclase feldspar is the predominant mineral in the anorthosite, accounting for about 90% of its volume. Ferromagnesian minerals (up to 10% by volume) are commonly present as large segregated crystals. The mafic minerals are clinopyroxenes which have been generally replaced by actinolitic hornblende, and less commonly by blue-green hornblende. Plagioclase is generally

altered to epidote, clinozoisite, carbonate, and chlorite. Unaltered plagioclase displays the characteristic polysynthetic twin lamellae. Sphene, titanomagnetite, and blue quartz are common accessory minerals. Up to 3% combined pyrrhotite and chalcopyrite may also be present.

The gabbro unit is dark grey on the weathered surface, and various shades of black on the fresh surface. The gabbro is coarse to medium grained. Plagioclase and altered pyroxene are the dominant minerals. The plagioclase occurs as irregular prisms and irregular grains. It is polysynthetically twinned, and generally is fractured. Blue-green hornblende and lesser actinolitic hornblende replace the pyroxene. Titanomagnetite, chlorite, epidote, and carbonate are secondary minerals. The titanomagnetite is commonly replaced by sphene and biotite. Up to 3% pyrrhotite and chalcopyrite may be present as disseminated grains.

The anorthositic gabbro unit is grey coloured on the weathered surface, and greyish-black on the fresh surface. The rock is generally coarse grained in texture. Plagioclase and amphibole occur in about equal proportions. The amphiboles are alteration products of pyroxenes which crystallized first. A thin rim of blue-green hornblende is commonly present around the altered pyroxene grains. The plagioclase grains are generally fractured. Minor amounts of biotite, sphene, magnetite, calcite, pyrrhotite, and chalcopyrite are found throughout this unit.

The altered gabbro unit is comprised of potassic feldspar, plagioclase, calcic amphibole, blue quartz, biotite, magnetite, and sphene. Minor amounts of epidote, carbonate, pyrrhotite and chalcopyrite are also present. The rock is generally coarse grained, and displays gabbroic or granophyric textures. The weathered surface is various shades of grey, while the fresh surface is greyish-black.

Diabase occurs as irregular dikes, 0.6-2+ meters (2-6+ feet) wide. They strike in an irregular NW-SE direction. The diabase is brownish-grey on the weathered surface, and dark greyish-black on the fresh surface. The texture is fine to medium grained. The diabase may be dense and massive, or it may display an ophitic texture. Plagioclase and amphibole are the predominant minerals. Titanomagnetite and rare sulphides are also present.

Both the granite (?) and the felsite are fine grained. They are various shades of pinkish-white on both the weathered and fresh surfaces. Quartz and feldspar are the predominant minerals, with minor amounts of amphibole or biotite. The felsite dikes strike in a general NW-SE direction.

Area 1 appears to lie entirely within a broad shear zone. This is indicated by several features, including the general altered nature of the gabbro, the locally intense silicification, brecciation,

crenulations, fracturing, slickensides, and mylonite. The blue colour of the quartz may be due to strain, and therefore may also be indicative. The shear appears to have a general E-W strike.

Concentrations of sulphides appear to be associated with the shear. The sulphides consist mainly of pyrrhotite and chalcopyrite, and form massive and semi-massive lenses and patches up to 2 meters (6 feet) in size.

The results of the detailed geological mapping are shown on Figures III and IV.

#### SUMMARY AND CONCLUSIONS

The detailed mapping of Areas 1 and 5 located 4 main rock units and 3 minor units. All 4 main units are variations of the East Bull Lake layered mafic intrusive complex. Sulphides in the form of pyrrhotite and chalcopyrite are generally present in minor amounts in all 4 units in both Area 1 and Area 5. Concentrations of sulphides occur in the altered gabbro of Area 1. These concentrations may be the result of remobilization of primary sulphides and/or introduction of hydrothermal sulphides. The primary sulphides carry interesting values in Pt and Pd, and the concentrated sulphides carry interesting values in Pt, Pd, Ni, and Cu.

Additional exploration work is needed to better evaluate the economic potential of the Aux Sables Prospect.

*G. W. Talbot*  
Aval 63.2224



TABLE ITABLE OF LITHOLOGIC UNITS

## PHANEROZOIC

## Cenozoic

## Quaternary

Pleistocene and Recent

Gravel, sand, clay.

## UNCONFORMITY

## PRECAMBRIAN

## Late Precambrian

Late Mafic Intrusive Rocks

Diabase

## INTRUSIVE CONTACT

Felsic Intrusive Rocks

Felsite, granite (?)

## INTRUSIVE CONTACT

Early Mafic Intrusive Rocks

Anorthosite, gabbro, anorthositic gabbro, altered gabbro.

148 Allanhurst Dr.  
Mississauga, Ont.  
JA 4K7

January 7, 1991

Mining Lands Section  
Mineral Development and Lands Branch  
Ont. Ministry of Northern Development and Mines  
159 Cedar St., 4th Floor  
Sudbury, Ont.  
P3E 6A5

RECEIVED

JAN 11 1991

MINING LANDS SECTION

Dear Sir / Madam:

Enclosed are two copies of a technical report with maps pertaining to detailed geological mapping recently submitted for assessment credits on mining claims S 1016939 and S 1016959, Boon Twp.

Yours truly



E. A. Gallo

cc.: Mr. V. C. Miller, Mining Recorder

48 Allanhurst Dr.  
Islington, Ont.  
M9A 4K7

January 7, 1991

Mr. V. C. Miller, Mining Recorder  
Ont. Ministry of Northern Development and Mines  
2nd Floor, MNM Building  
159 Cedar St.  
Sudbury, Ont.  
P3E 6A5

Dear Mr. Miller:

Re: Mining claims S 1016939 and 1016959, Boon Twp.

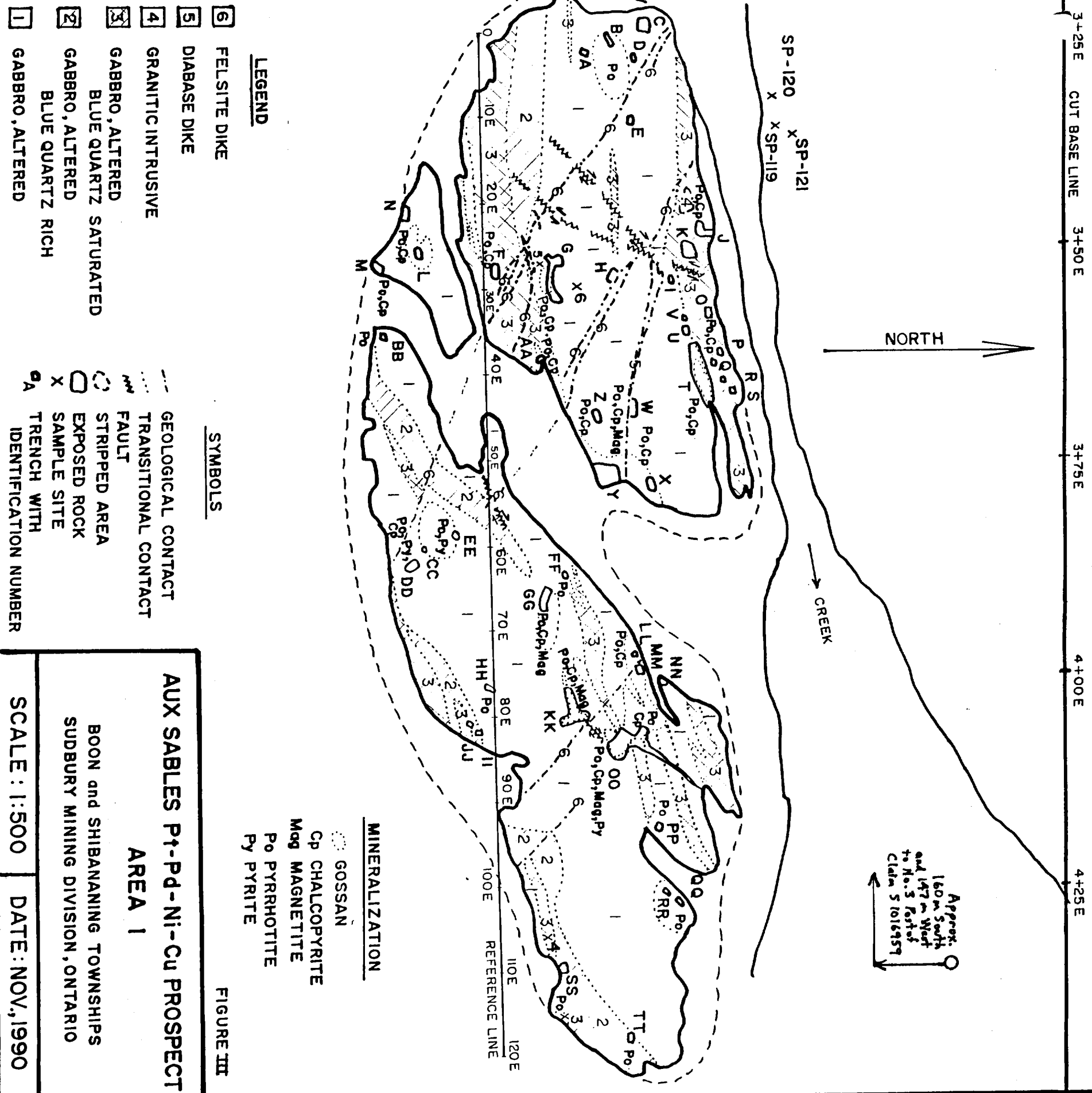
Enclosed is a Report of Work (Geological) claiming 64.8 days  
of assessment credits on each of the two mining claims listed above.

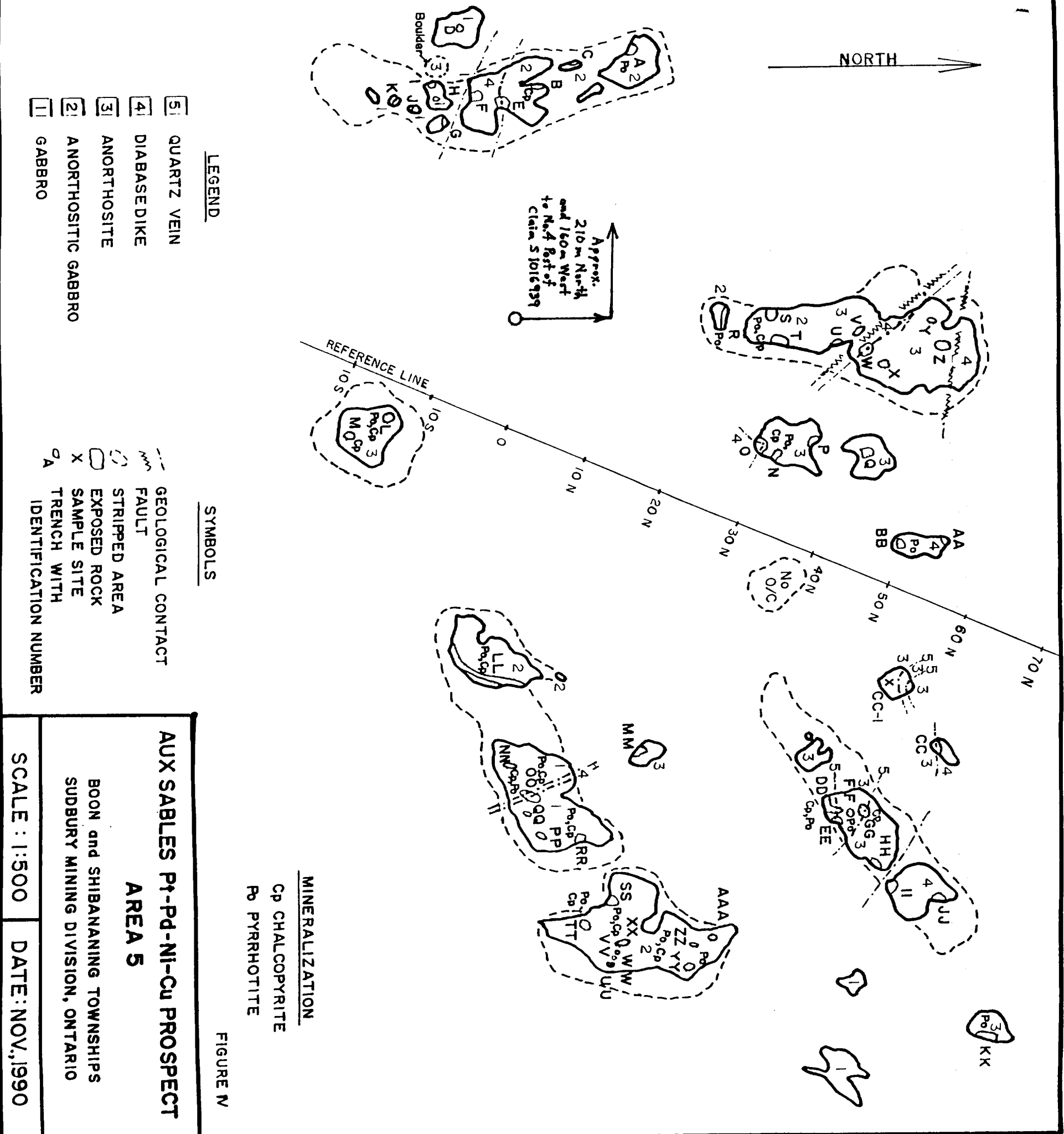
The technical report and maps pertaining to this geological  
survey are being forwarded to the Mining Lands Section.

Yours truly

E. A. Gallo

→ cc.: Mining Lands Section







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**Mining Act**

Type of Survey(s) **Geological** W.9170.00017 Township or Area **Boon Twp. -G-3180**

Claim Holder(s) **Gallo Exploration Services Inc.** **2.13836** Prospector's Licence No. **T 1308**

Address **148 Allanhurst Dr. Islington, Ont. M9A 4K7**

Survey Company **Gallo Exploration Services Inc.** Date of Survey (from & to) **29 07 90 16 11 90** Total Miles of line Cut

Name and Address of Author (of Geo-Technical report) **E.A. Gallo, 148 Allanhurst Dr. Islington, Ont. M9A 4K7 46-245-3511**

Credits Requested per Each Claim in Columns at right Mining Claims Traversed (List in numerical sequence)

Special Provisions	Geophysical	Days per Claim	Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
			Prefix	Number		Prefix	Number	
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic		\$	1016939				
	- Magnetometer			1016959				
	- Radiometric							
	- Other							
For each additional survey: using the same grid: Enter 20 days (for each)	Geological							
	Geochemical							
	Man Days							
	Complete reverse side and enter total(s) here							
Airborne Credits	- Electromagnetic							
	- Magnetometer							
	- Radiometric							
	- Other							
Note: Special provisions credits do not apply to Airborne Surveys.	Geological	40 m x 64 m						
	Geochemical							
	Electromagnetic							
	Magnetometer							
Radiometric								

**RECEIVED**  
ONTARIO GEOLOGICAL SURVEY  
GIS - ASSESSMENT FILES  
APR 15 1991  
MINING LANDS SECTION

**SUDBURY MINING DIV.**  
**RECEIVED**  
JAN 10 1991  
A.M. 9:30 P.M.  
7 8 9 10 11 12 1 2 3 4 5 6

Total number of mining claims covered by this report of work. 2

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

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.

Date **Jan. 7, 1991** Recorded Holder or Agent (Signature) *E.A. Gallo*

For Office Use Only

Total Days Cr. Recorded **80** Date Recorded **January 16, 1991** Mining Recorder *J.C. Miller*

Date Approved as Recorded **February 5, 1991** Branch Director *J.C. Gallo*

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 **E.A. Gallo, 148 Allanhurst Dr., Islington, Ont.**

Date Certified **Jan 7 1991** Certified by (Signature) *E.A. Gallo*

### Assessment Work Breakdown

Man Days are based on eight (8) hour Technical or Line-cutting days. Technical days include work performed by consultants, draftsmen, etc..

Type of Survey												
<b>GEOLOGICAL</b>												
Technical Days		Technical Days Credits	Line-cutting Days	Total Credits	No. of Claims	Days per Claim						
18.5	X	7	=	129.5	+	0	=	129.5	÷	2	=	64.8

Type of Survey												
Technical Days		Technical Days Credits	Line-cutting Days	Total Credits	No. of Claims	Days per Claim						
	X	7	=		+		=		÷		=	

Type of Survey												
Technical Days		Technical Days Credits	Line-cutting Days	Total Credits	No. of Claims	Days per Claim						
	X	7	=		+		=		÷		=	

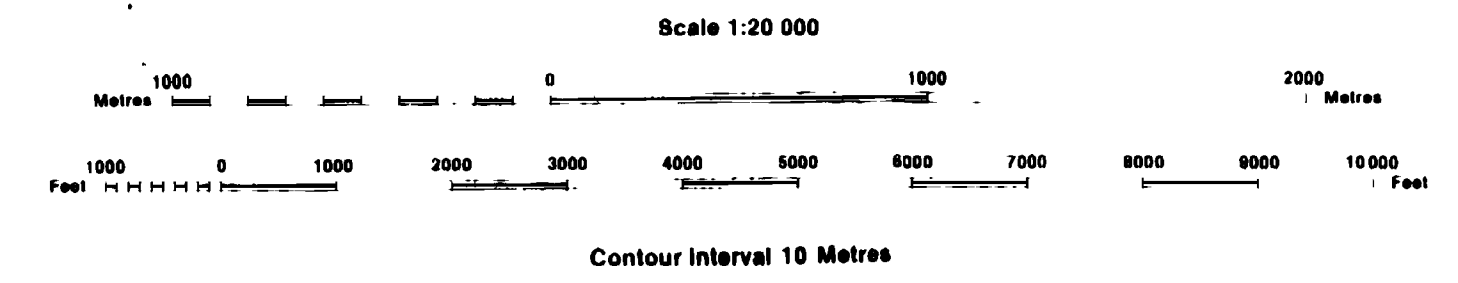
Type of Survey												
Technical Days		Technical Days Credits	Line-cutting Days	Total Credits	No. of Claims	Days per Claim						
	X	7	=		+		=		÷		=	



### INDEX TO LAND DISPOSITION

PLAN  
G-3180  
TOWNSHIP  
**BOON**

M.N.R. ADMINISTRATIVE DISTRICT  
**ESPANOLA**  
MINING DIVISION  
**SUDBURY**  
LAND TITLES/REGISTRY DIVISION  
**ALGOMA**



#### AREAS WITHDRAWN FROM DISPOSITION

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

Description	Order No	Date	Disposition	File
SEC 39/80	W 2/85	3/13/85	BRO	10004 - 0-89/86
SEC 38/80			BRO	77094

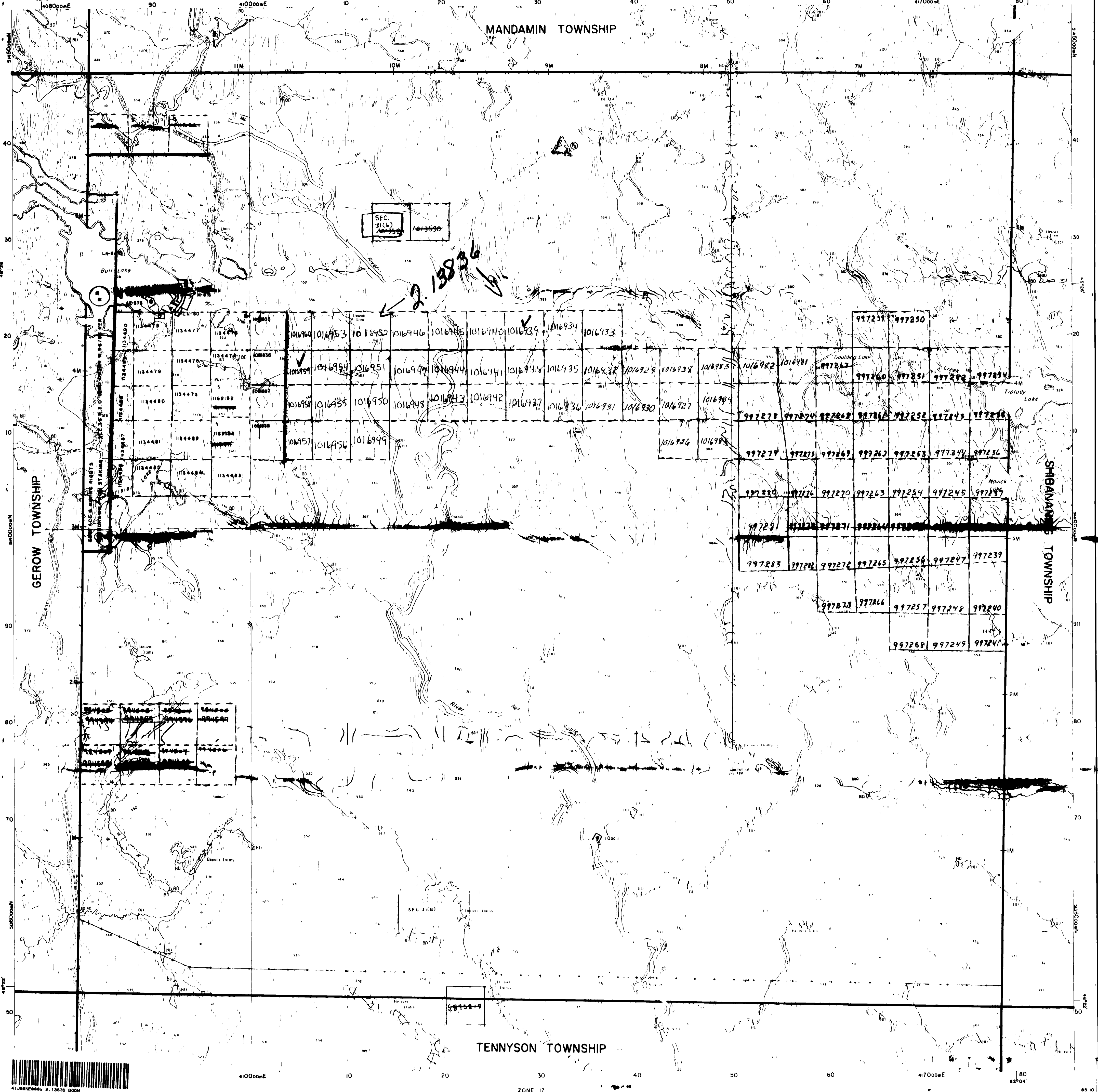
#### SYMBOLS

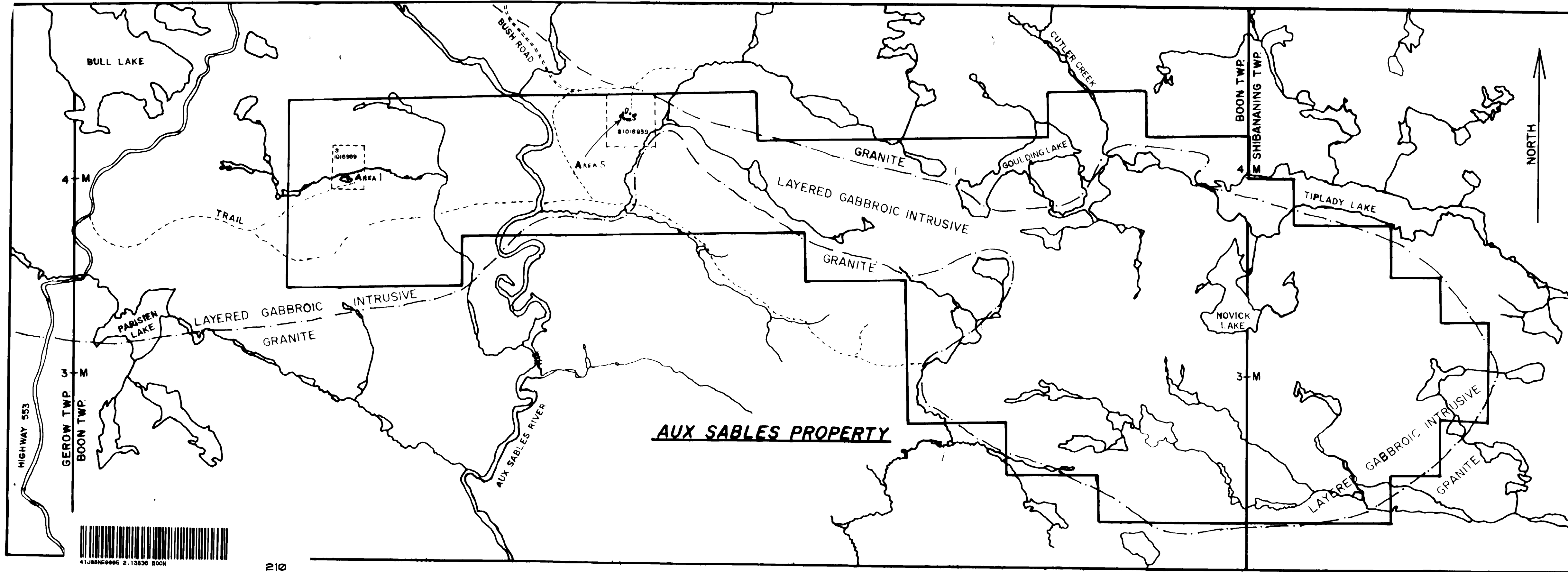
- Boundary
- Township, Meridian, Baseline
- Road allowance surveyed
- shoreline
- Lot/Concession, surveyed
- unsurveyed
- Parcel, surveyed
- unsurveyed
- Right-of-way, road
- railway
- utility
- Reservation
- Crown Pile
- Contour
- Interpolated
- Approximate
- Depression
- Control point (horizontal)
- 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

#### 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
- Cancelled
- Reservation
- Sand & Gravel

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.





**2.13836**

FIGURE 11

**GENERAL GEOLOGY  
AUX SABLES Pt-Pd-Ni-Cu PROSPECT**

BOON and SHIBANANING TOWNSHIPS  
SUDBURY MINING DIVISION, ONTARIO

SCALE 1:20,000

DATE: NOV., 1989

