# MORRIS - SWANSON PROPERTY

## REPORT ON MAGNETOMETER AND VLF-EM SURVEYS.

## ROBILLARD TOWNSHIP, LARDER LAKE MINING DIVISION.

FREDERICK SWANSON



JANUARY 26, 1990

## TABLE OF CONTENTS



## LIST OF MAPS AND FIGURES

## 1.0 INTRODUCTION

A program consisting of linecutting, ground magnetometer and VLF-EM surveys was performed to assist in the geological interpretation of the property, and to attempt to detect targets with potential for gold deposition, in an area known to have many gold occurences.

## 2.0 PROPERTY

The property is jointly held by J. Morris of Englehart, Ontario, and F. Swanson of Box 1418 Haileybury, Ontario.

The property presently consists of 29 unpatented contiguous claims. (see fig. 1a)

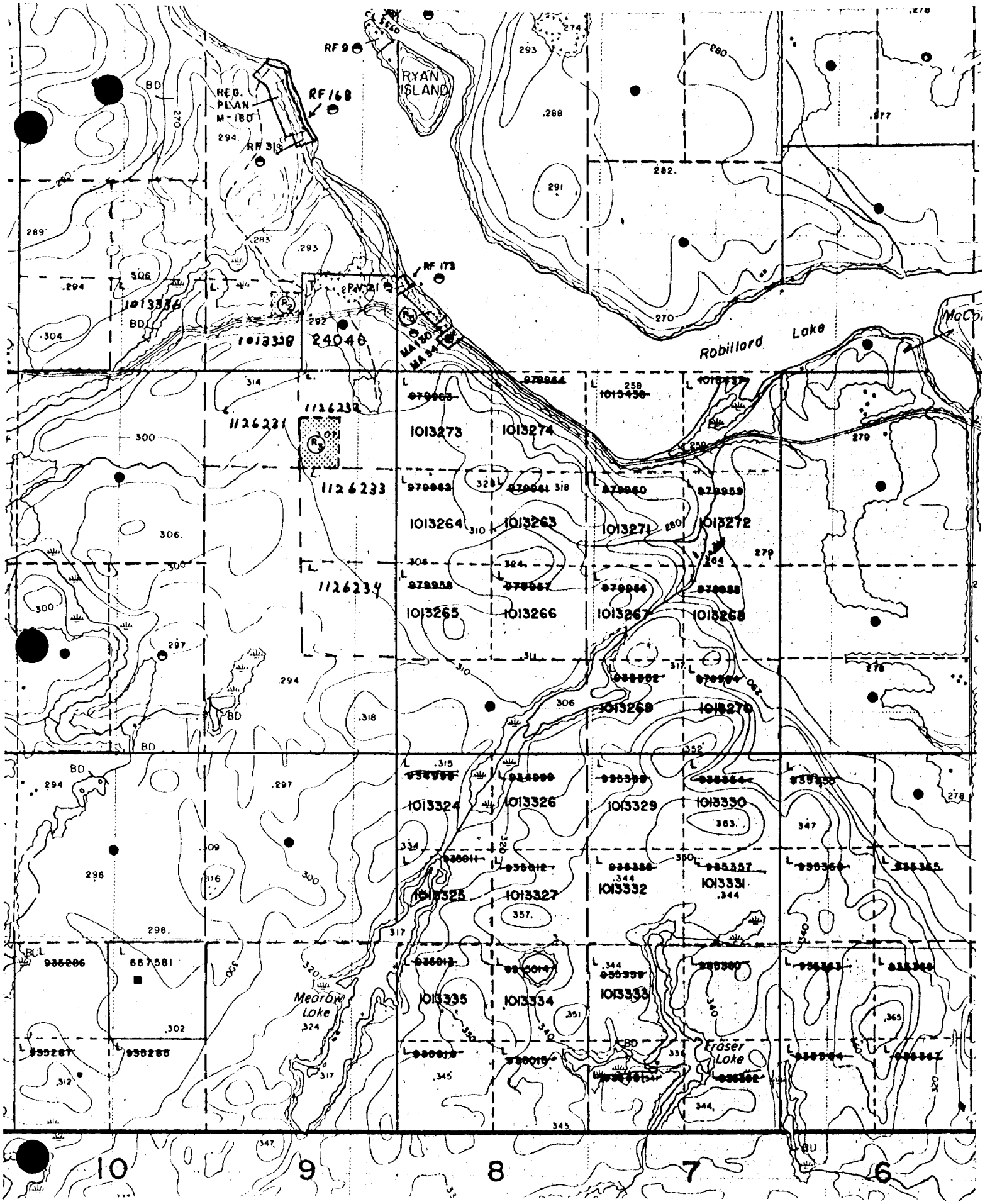
| | Numbered | Recording Date |
|---|---|---|
| L - | 1013264 - 1013274 incl. | August 8, 1989 |
| | 1013324 - 1013327 incl. | August 8, 1989 |
| | 1013329 - 1013333 incl. | September 18, 1989 |
| | 1013336, 1013328 | October 13, 1989 |
| | 1126231 - 1126234 incl. | October 13, 1989 |

## 3.0 LOCATION AND ACCESS

The property is located in lots 7,8,9 & 10; concessions I, II, & III, Robillard Township, District of Timiskaming. (41 P/16, N.T.S.)

The claims are located in the Larder Lake Mining Division. (see fig. 1b)

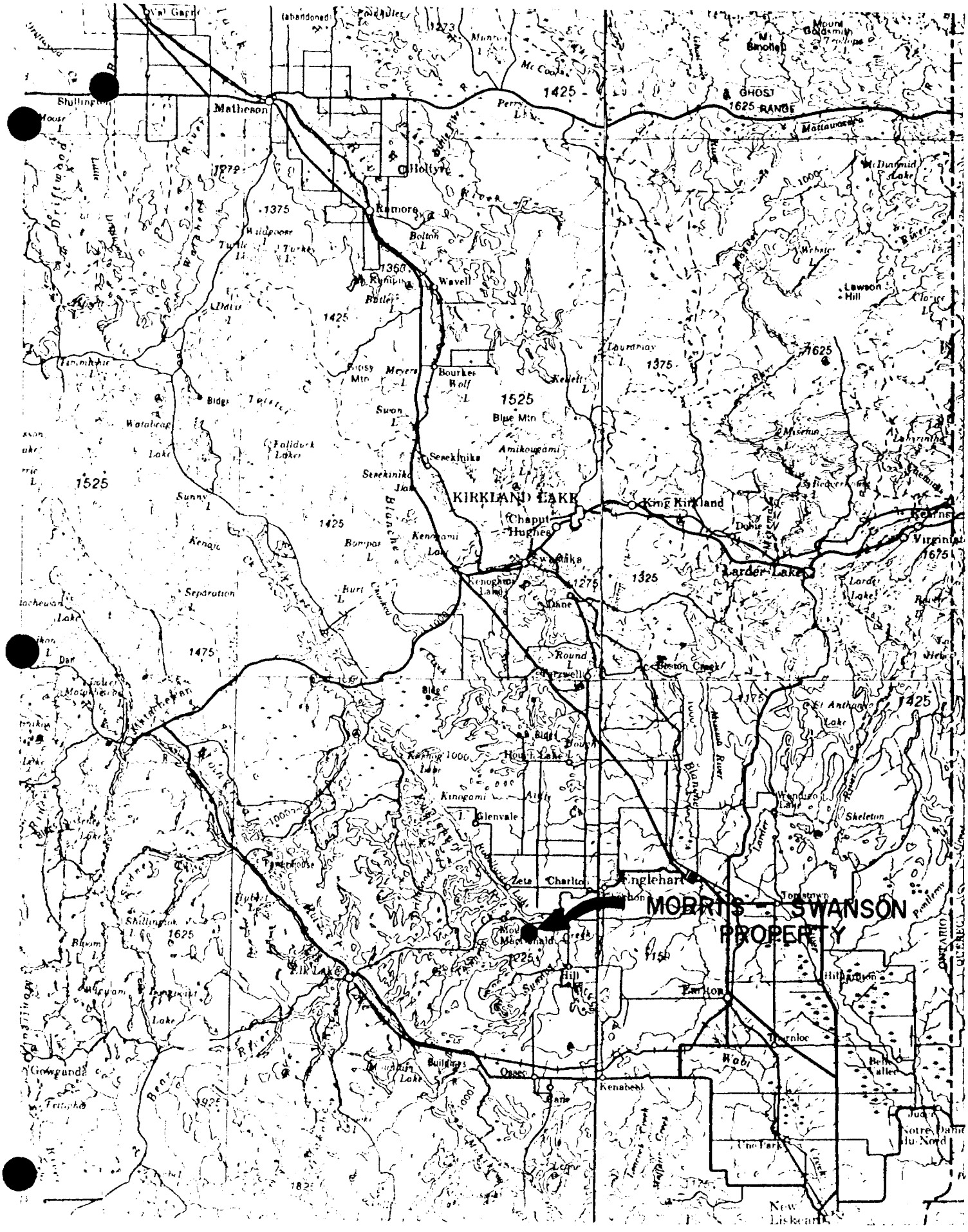
Excellent access is gained by Highway 560, an all weather paved road that crosses the northern extremity of the property. An old logging road and several good trails give access to the southern areas of the claim group.




ROBILLARD TOWNSHIP CLAIM LOCATION MAP.

fig. 1a

(1:20 000)




PROPERTY LOCATION MAP

fig. 1b

## 4.0 TOPOGRAPHY

Rugged terrain is common on the northern and eastern extremities of the property, with frequent outcrop exposures present.

The majority of the property is hummocky, with shallow drift covering the bedrock, while glacial outwash sand deposits overlie areas of the western claims.

## 5.0 PREVIOUS WORK

Portions of the property had been prospected and worked with approximately 100 feet of shafting and test pits being sunk (the deepest being approximately 35 feet). About 45 feet of tunnelling had been performed, along with trenching.

This work was done under the name of the Kushaug Syndicate and Long Lake Gold Mining Company Limited in the circa of 1910. Intermittent prospecting occurred through to about 1935.

No recent or modern exploration program has been performed on the property.

## 6.0 GENERAL GEOLOGY

The area is located along the southern boundary of the exposed Abitibi Greenstone Belt, the meta-volcanics are divided into three groups; the Wabewawa Group, the Catharine Group and the Skead Group. The oldest being the Wabewawa Group consisting of interbedded high magnesium tholeiitic basalt, high iron tholeiitic basalt, komatiitic basalt, and ultramafic flows, the group ranges from 1800 to 3000 metres thick. The Catharine Group consists of high iron tholeiitic basalt, is 4400 metres thick and conformably overlies the Wabewawa Group. The Skead Group is the youngest of the three and conformably overlies the Catherine Group, it is 4480 metres thick and is composed of interdigitated to graded Calc-alkalic andesite to dacite, quartz-feldspar porphyry, pyroclastic breccia, tuff-breccia, lapilli tuff, lapillistone and tuff.

The meta-volcanics have been intruded by localized gabbros, the Skead Group has been intruded by intermediate and felsic prophyries the largest being the Britcanna Porphyry situated between the Catherine and Skead groups.

The Round Lake Batholith composed of foliated, hornblende tonalite, trondhjemite, and granodiorite, has intruded the entire meta-volcanic package.

## 6.0 GENERAL GEOLOGY (contd)

Fine grained lamprophyre dykes and early precambrian diabase dykes intrude the batholith as well as the meta-volcanics.

Middle precambrian Cobalt Group sediments unconformably overlie the meta-volcanic and intrusive rocks. The lower unit Gowganda Formation consists of conglomerate, argillite, arenite, and wacke.
These units are overlain by feldspathic arenite containing lenses of pebble conglomerate.

Both the early precambrian meta-volcanics and middle pre-cambrian sediments have been intruded by Nipissing Diabase sills.
(see Fig. 2)

Numerous and significant gold occurences exist in the Bryce - Robillard area.

## 7.0 STRUCTURE

Early precambrian faults, shear zones, and lineaments trend north to north-east, while regional north-west trending faults, (Cross Lake Fault) associated with the Temiskaming rift valley are middle precambrian in age.

## 8.0 PROPERTY GEOLOGY

The property is bounded to the west by the Hope Lake Stock consisting predominately of tonalite, trondhjemite and granodiorite.

The northern portion of the property is underlain by hornblende schist and granitized meta-volcanics, that have been intruded by granitic rocks, contaminated diorite, and aplite dykes.

Southern areas of the claim group are underlain by mafic meta-volcanic flows, and pillowed flows of the Catherine group.

The northeastern corner of the property is cut by the northwest trending Cross Lake Fault. Northeast trending pyritized shear zones cross the property. (see figs. 3a & 3b)

TABLE 1. TABLE OF LITHOLOGIC UNITS FOR THE HILL LAKE AREA.

PHANEROZOIC

CENOZOIC

QUATERNARY

PLEISTOCENE AND RECENT
Glacial, glaciofluvial, swamp, lake and stream deposits.

*Unconformity*

PRECAMBRIAN

MIDDLE PRECAMBRIAN

MAFIC INTRUSIVE ROCKS

NIPISSING DIABASE
Diabase, diabase-chilled margins, aplite, and granophyre.

*Intrusive Contact*

HURONIAN SUPERGROUP

COBALT GROUP

LORRAIN FORMATION
Feldspathic arenite, grit to pebble conglomerate, and breccia dike.

*Conformable Contact*

GOWGANDA FORMATION
Matrix-supported conglomerate, clast-supported conglomerate, mudstone and wacke, green-grey argillite, feldspathic lithic arenite, wacke.

*Unconformity*

EARLY PRECAMBRIAN

UNMETAMORPHOSED MAFIC INTRUSIVE ROCKS
Diabase, porphyritic diabase.

*Intrusive Contact*

MAFIC ALKALIC INTRUSIVE ROCKS
Lamprophyre, pebble-bearing lamprophyre.

*Intrusive Contact*

FELSIC TO INTERMEDIATE INTRUSIVE ROCKS
Tonalite, trondhjemite, granodiorite, aplite, cataclastic tonalite, contaminated tonalite to diorite, tonalite with mafic xenoliths, mylonite.

*Intrusive Contact*

METAMORPHOSED FELSIC TO INTERMEDIATE INTRUSIVE ROCKS
Quartz porphyry, feldspar porphyry, quartz-feldspar porphyry, felsite.

*Intrusive Contact*

METAMORPHOSED MAFIC INTRUSIVE ROCKS
Hypersthene diorite, gabbro, porphyritic gabbro, hornblende gabbro, diabase.

*Intrusive Contact*

CHARLTON ULTRAMAFIC INTRUSION
Wehrlite, pyroxenite, leucocratic gabbronorite, variolitic mafic dike.

*Intrusive Contact*

METASEDIMENTS

CHEMICAL METASEDIMENTS
Chert, very fine grained felsic tuff.

METAVOLCANICS

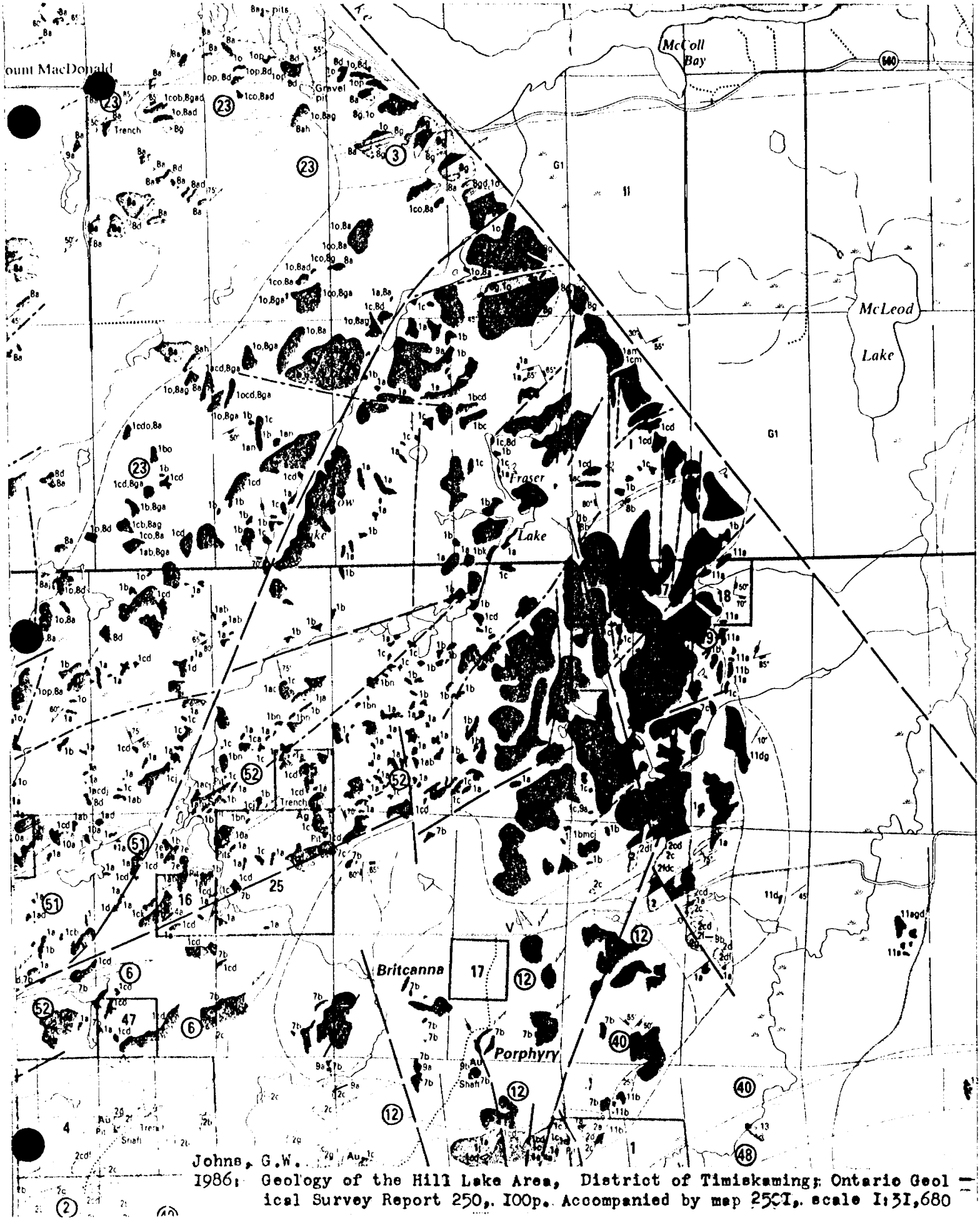
ULTRAMAFIC METAVOLCANICS
Peridotite, talc-carbonate schist, chlorite schist.

INTERMEDIATE TO FELSIC METAVOLCANICS
Flows, quartz-feldspar porphyry, tuff, lapilli-tuff, lapillistone, tuff-breccia, pyroclastic breccia.

MAFIC METAVOLCANICS
Flows, pillowed flows, amygdaloidal flows, variolitic flows, black high iron flows, broken pillow breccia, isolated pillow breccia, flow breccia, porphyritic flows, amphibolite.

from Johns, G.W. (1986)

fig. 2




Johns, G.W., 1986: Geology of the Hill Lake Area, District of Timiskaming; Ontario Geological Survey Report 250, 100p. Accompanied by map 2501, scale 1:31,680

fig. 3a

## LEGEND

**PHANEROZOIC**

**CE[illegible]OIC**[a]

QUATERNARY

PLEISTOCENE AND RECENT

*Glacial, glaciofluvial, swamp, lake and stream deposits*

UNCONFORMITY

**PRECAMBRIAN**[b]

**MIDDLE PRECAMBRIAN**

MAFIC INTRUSIVE ROCKS

NIPISSING DIABASE

13 *Unsubdivided*
13a *Diabase*
13c *Diabase chilled margins*
13d *Aplite, granophyre*

INTRUSIVE CONTACT

HURONIAN SUPERGROUP

COBALT GROUP

LORRAIN FORMATION

12a *Feldspathic arenite*
12b *Grit to pebble conglomerate*
12c *Breccia dike*

CONFORMABLE CONTACT

GOWGANDA FORMATION

11 *Unsubdivided*
11a *Conglomerate, matrix supported*
11b *Conglomerate, clast supported*
11c *Thickly laminated mudstone and wacke*
11d *Thickly laminated green-gray mudstone and shale*
11e *Feldspathic lithic arenite*
11g *Wacke*

UNCONFORMITY

**EARLY PRECAMBRIAN**

UNMETAMORPHOSED MAFIC INTRUSIVE ROCKS

10a *Diabase*
10b *Porphyritic diabase (feldspar phenocrysts)*

INTRUSIVE CONTACT

MAFIC ALKALIC INTRUSIVE ROCKS

9a *Lamprophyre*
9b *Pebble-bearing lamprophyre*

INTRUSIVE CONTACT

FELSIC TO INTERMEDIATE INTRUSIVE ROCKS

8 *Unsubdivided*
8a *Tonalite, trondhjemite*
8b *Granodiorite*
8d *Aplite*
8f *Cataclastic tonalite*
8g *Contaminated tonalite, diorite*
8h *Tonalite with mafic metavolcanic xenoliths*
8j *Mylonite*

INTRUSIVE CONTACTS

METAMORPHOSED FELSIC TO INTERMEDIATE INTRUSIVE ROCKS

7 *Unsubdivided*
7a *Quartz porphyry*
7b *Feldspar porphyry*
7c *Quartz feldspar porphyry*
7e *Felsite*
7f *Carbonatized*

INTRUSIVE CONTACT

METAMORPHOSED MAFIC INTRUSIVE ROCKS

6 *Unsubdivided*
6a *Hypersthene diorite*
6b *Gabbro*
6c *Porphyritic gabbro (feldspar phenocrysts)*
6d *Hornblende diorite*
6e *Diabase*

INTRUSIVE CONTACT

CHARLTON ULTRAMAFIC INTRUSION

5a *Wehrlite*
5c *Pyroxenite*
5d *Leucocratic gabbronorite*
5e *Carbonatized*
5f *Serpentinized*
5g *Variolitic mafic dike*

INTRUSIVE CONTACT

METASEDIMENTS

CHEMICAL METASEDIMENTS[c]

4a *Chert and very fine grained felsic tuff*

METAVOLCANICS

ULTRAMAFIC METAVOLCANICS[c]

3 *Unsubdivided*
3a *Massive peridotite*
3c *Spinifex texture*
3d *Talc-carbonate schist*
3e *Chlorite schist*
3f *Tremolite*
3g *Carbonatized*

INTERMEDIATE TO FELSIC METAVOLCANICS[c]

2 *Unsubdivided*
2a *Massive lava*
2b *Porphyritic lava (feldspar and quartz phenocrysts)*
2c *Tuff*
2d *Lapilli-tuff*
2e *Lapillistone*
2f *Tuff breccia*
2g *Pyroclastic breccia*
2h *Carbonatized*
2j *Amphibolitized, hybridized*

MAFIC METAVOLCANICS[c]

1 *Unsubdivided*
1a *Massive fine grained lava*
1b *Massive medium-grained lava*
1c *Pillowed lava*
1d *Amygdaloidal lava*
1e *Variolitic lava*
1g *Black high iron mafic lava*
1h *Spinifex texture*
1j *Broken pillow breccia*
1k *Isolated pillow breccia*
1m *Flow breccia*
1n *Porphyritic flow (amphibole phenocrysts)*
1o *Amphibolite*
1p *Metamorphic layering*
1q *Carbonatized*
1r *Xenoliths of intermediate tuffaceous material*
1s *Epidotized mafic flows*

*Breccia*

| | |
|---|---|
| **Ag** | *Silver* |
| **Au** | *Gold* |
| **cp** | *Chalcopyrite* |
| **Cu** | *Copper* |
| **fu** | *Fuchsite* |
| **hem** | *Hematite* |

## SYMBOLS

*Glacial striae. Glacial fluting or drumlin.*

*Esker.*

*Bedrock, (small outcrop, area of outcrop).*

*Bedding, horizontal.*

*Bedding, top unknown; (inclined, vertical).*

*Bedding, top indicated by arrow; (inclined, vertical, overturned).*

*Bedding, top (arrow) from grain gradation; (inclined, vertical, overturned).*

*Bedding, top (arrow) from cross bedding; (inclined, vertical, overturned).*

*Bedding, top (arrow) from relationship of cleavage and bedding; (inclined, overturned).*

*Lava flow; top (arrow) from pillows shape and packing. Lava flow; top in direction of arrow.*

*Schistosity; (horizontal, inclined, vertical).*

*Gneissosity; (horizontal, inclined, vertical).*

*Foliation; (horizontal, inclined, vertical).*

*Banding, (horizontal, inclined, vertical).*

*Lineation with plunge.*

*Geological boundary; (observed, position interpreted, deduced from geophysics).*

*Magnetic contour value in gammas. Magnetic attraction.*

*Fault; (observed, assumed). Spot indicates down throw side, arrows indicate horizontal movement.*

*Lineament.*

*Jointing; (horizontal, inclined, vertical).*

*Drag folds with plunge.*

*Anticline, syncline, with plunge.*

*Drill hole; (vertical, inclined, projected vertically, projected up dip). Overburden shown.*

*Vein, vein network. Width in inches, feet or metres.*

*Radioactivity.*

*Swamp.*

*Motor road. Provincial highway number encircled where applicable.*

*Other road*
*Trail, portage, winter road*

Johns, G.W.
1986: Geology of the Hill Lake Area, District of Timiskaming; Ontario Geological Survey Report 250, 100p. Accompanied by map 2501, scale 1 : 31 680

fig. 3b

## 9.0 LINECUTTING

A control grid of lines was cut by the author between the dates of October 18, and December 7, 1989.

The north - south transect lines were cut at 200 metre spacings, with pickett stations at 25 metre intervals for a total of 22.5 line kilometres. (see fig. 4)

## 10.0 MAGNETOMETER SURVEY

A ground total field magnetometer survey was conducted by the author between the dates of December 8, and December 15, 1989.

The instrument used was a Barringer Research GM-122 Proton Magnetometer, with an accuracy of 1 gamma.

Diurnal drift was levelled by tying into control points on the baseline and correcting in a linear fashion.

The survey covered 22.5 line kilometres with a total of 934 readings taken, the values have been plotted on 1: 2 500 scale plans and contoured at 125 gamma intervals. (see fig. 5a & 5b)

Several readings along the northern boundary could not be taken due to the presence of a power line along highway 560 creating a magnetic gradient too great to record a valid reading.

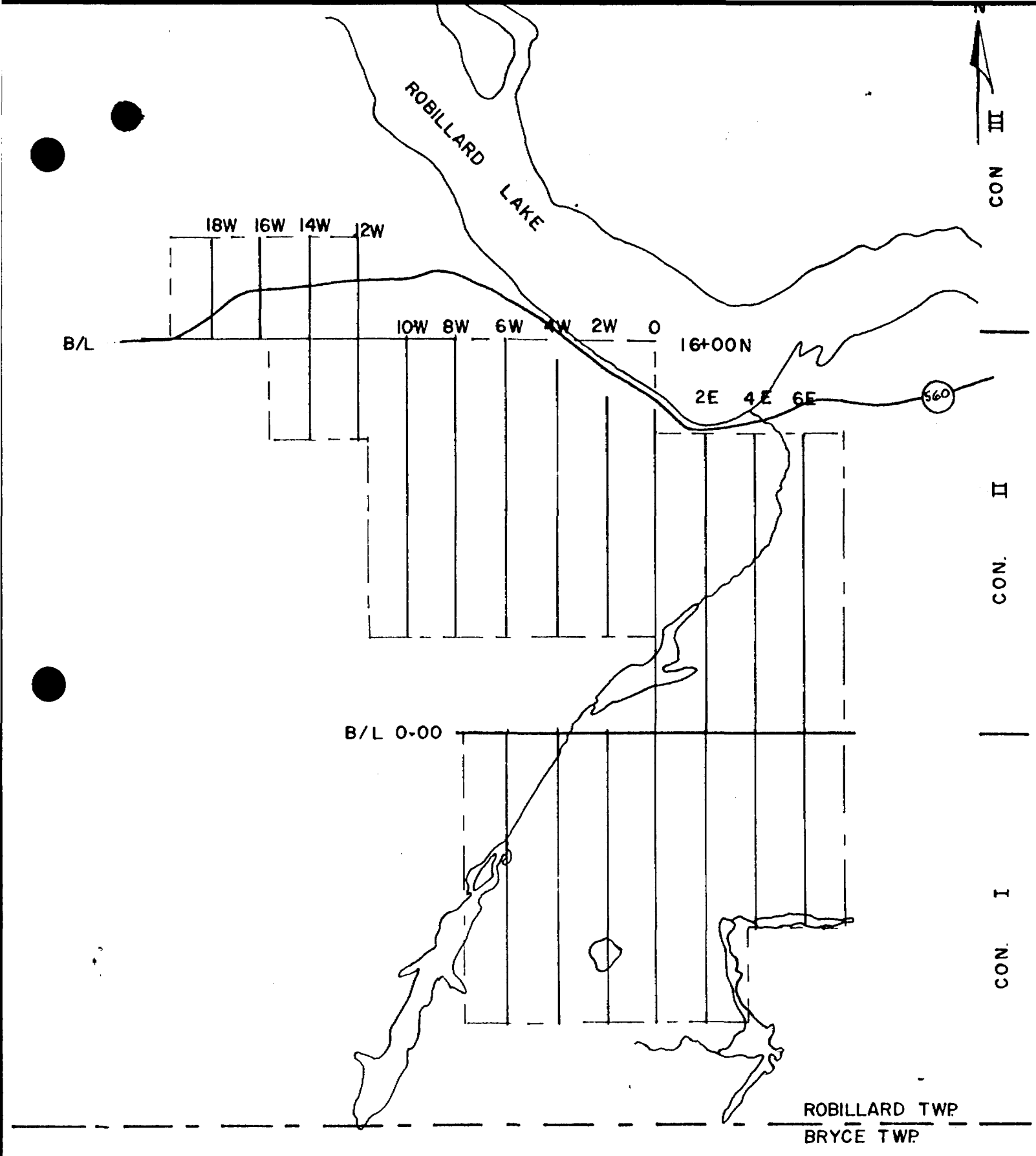
During the survey numerous areas of anomalous magnetic intensity were located that are of geological interest.

The northern portion of the property shows several extensive magnetic highs that are interpreted to be caused by dioritic intrusions into the volcanic and granitic rocks.

In claim 1013272 on the northeastern corner of the property, a large magnetic anomaly (labelled "A") crosses lines 4+00 E & 6+00 E, extending north and east off the property, with an intensity of at least 1200 gamma above background.

Another extensive anomaly (labelled "B") is located in claim 1013270. This anomaly crosses lines 4+00 E & 6+00 E and strikes to the northeast off the property. It is a dipole anomaly with a magnetic low approximately 300 gamma below background lying to the north of a 1000 gamma high. The anomaly has a width of 300 metres on line 6+00 E.

Anomaly (labelled "C") is located in claim 1126233, has an intensity of approximately 1200 gamma above background, and a width of 200 metres and is of unknown length to the west.




# CONTROL GRID MAP

1:20 000

fig. 4

## 10.0 MAGNETOMETER SURVEY (contd)

Two anomalies (labelled "D" & "E") cross lines 2+00 W and 0+00 and extend to the east. Anomaly "D" is of very strong intensity at least 2000 gamma above background with a width of 50 metres. Anomaly "E" has an intensity of approximately 1200 gamma above background, and a width of 75 metres. Both anomaly "D" and "E" extend to the east and are interpreted to be tongues off of the larger dioritic body lying to the east.

Anomaly (labelled "F") is located on line 2+00 W station 6+25 N, and has a width of 75 metres. It has a monopole signature and is interpreted to be a mafic intrusive that appears to plunge to the east.

Anomaly (labelled "G") is located along baseline 16+00 N at approximately 10+50 W. It has a very strong dipole signature, a 600 gamma low lies to the west of a 1000 gamma high. This may be the result of a north-south oriented sheet like mafic dyke.

Anomaly (labelled "H") is a very intense 2000 gamma anomaly that appears to be of small areal extent with a width of 50 metres and an undetermined east-west dimension and is interpreted to be the response to a ultramafic intrusive body.

The southern portion of the property shows relatively flat magnetic data, due to the homogeneous lithology of mafic volcanic flows. One anomaly does stand out however; (labelled "I") located on line 6+00 W on the southern shore of Mearow Lake. It is dipolar in signature with a magnetic low of 300 gamma lying to the north of a 1000 gamma high. This anomaly has a width of 50 metres and is possibly caused by a mafic intrusive body associated with the fault striking northeast through Mearow Lake.

## 11.0 VLF-EM SURVEY

A VLF survey was conducted by the author between the dates of December 16, 1989 and January 13, 1990.

The instrument used throughout the survey was a Geomics EM-16. The north-south transect lines were surveyed using the station NAA Cutler, Maine. The east-west oriented baselines were surveyed using the station NSS Annapolis, Maryland in order to detect any cross structure.

The survey covered a distance of 22.5 km. and a total of 934 readings were taken.

The values were plotted in profiles on plans with a scale of 1:2 500. (see figs. 6a & 6b)

11.0 VLF-EM SURVEY (contd)

A number of VLF anomalies were located during the survey, several of which can be explained geologically and one that is of cultural origin.

An extremely strong VLF response has been located running east-west along the northern boundary of the claim group. This anomaly is created by a power line that runs along highway 560 and into the radio tower located on claim 1013273, and can be disregarded.

Conductor (labelled "A") shows a strong VLF response running in a NE-SW orientation across the northeastern corner of the property. This anomaly can be directly attributed to the middle precambrian aged Cross Lake Fault.

Conductor (labelled "B") runs NE-SW through Mearow Lake (on the southern sheet) up through the unnamed lake in claim 1013269 and across lines 4+00 E & 6+00 E in claim 1013270. This conductor is also attributed to a known NE trending fault. These NE oriented faults are early precambrian in age and are of much more importance due to their potential for gold deposition. This conductor should be prospected along its extension across lines 4+00 E & 6+00 E for any signs of alteration or shearing.

Conductor (laballed "C") strikes NE-SW across claims 1126234 and 1013265 with a length of at least 750 metres. This conductor is interpreted to be created by the volcanic/granitic contact due to their resistivity differences. This area is covered by thick glacial outwash deposits and the profiles indicate bedrock to be at significant depth.

Conductor (labelled "D") is located in claims 1126233 and 1013264, striking East-West, it appears to extend to the west along the southern boundary of claim 1126231.

This anomaly is also interpreted to be caused by a volcanic granitic contact, however this area is of thinner drift cover and outcrops might be located to be examined.

Conductor (labelled "E") strikes East-West across claim 1013263 and has a length of 400 metres. This anomaly is interpreted to be caused by either a geological contact or a shear or fracture zone. This conductor is in an area of abundant outcrop and should be examined closely.

The southern sheet shows a strong VLF response crossing line 6+00E at approximately 4+50S labelled "F". This conductor does not continue across line 4+00E, but could however continue to the east. This anomaly may be caused by a pyritized shear or fracture zone and should be located and examined.

## 11.0 VLF-EM SURVEY (contd)

There are several very subtle anomalies located on the southern sheet labelled conductors "G", "H", & "I". These anomalies are very interesting as they may be caused by shear zones in the archean volcanics that are reported to occur in the area. These conductors are located in areas of abundant outcrop and thin layers of drift and they should be located in the field and thoroughly prospected for signs of shearing and alteration.

## 12.0 CONCLUSIONS & RECOMMENDATIONS

The magnetometer survey was successful in detecting what are interpreted to be lithologic contacts that are favorable locations for gold depositions, and will aid greatly in geological mapping. It would be recommended that the anomalies previously described be located and examined in the field to confirm interpretations and be carefully examined for signs of alteration. It is also recommended that intermediate lines be surveyed to tighten the line spacings thus giving better control and interpretation.

The VLF-EM survey has located faults crossing the property and other conductors that are interpreted as lithologic contacts and shear zones.

These conductors should be located on the ground and carefully prospected for any signs of shearing deformation and alteration.

## 13.0 CERTIFICATE OF QUALIFICATIONS

I Frederick J. Swanson of P.O. Box 1418 Haileybury, Ontario do hereby certify that:

I. I am a graduate of Brock University and hold a B.Sc. degree in geological sciences (1984).

II. I have been employed as a Geologist since that time.

III. I personally conducted the fieldwork described herein.

January 26, 1990 Fred Swanson

## 14.0 REFERENCES


Johns, G.W.
1896: Geology of the Hill Lake Area, District of Timiskaming; Ontario Geological Survey Report 250, 100p. Accompanied by map 2501, scale 1:31 680.

Moorhouse, W.W.
1944: Geology of Bryce-Robillard Area; Ontario Department of Mines Vol. L, Part IV, 1941. Accompanied by map 50j, scale 1 inch to 1/2 mile.

Gordon, J.B., Lovell, H.L., de Grijs, Jan and Davie, R.E.
1979: Gold Deposits of Ontario Part 2: Part of District of Cochrane, Districts of Muskoka, Nipissing, Parry Sound, Sudbury, Timiskaming, and Counties of Southern Ontario; Ontario Geological Survey, Mineral Deposits Circular 18, 253p.

Sylvanite Gold Mines
1936: MacDonald Property; Drillcore Logs and Assay Sheets, Resident Geologist Files, Cobalt.

Wray, O.R.
1934: Notes on Property of Long Lake Gold Mining Company Ltd; Resident Geologist Files, Cobalt.

Longmore, E.K.
1910: Report on Kushaug Syndicate and Long Lake Gold Mining Company Limited; Resident Geologist Files, Cobalt.

M.L.

Ministry of Northern Development and Mines
Ontario

DOCUMENT NO. M9008.014

MINISTRY OF NORTHERN DEVELOPMENT AND MINES

JAN 30 1990

INCENTIVES OFFICE

41P16SE0004 2.13055 ROBILLARD

900

# Report of Work
## Mining Act
(Geophysical, Geological and Geochemical Surveys)

- and maximum credits allowed per survey type.
- If number of mining claims traversed exceeds space on this form, attach a list.
- Technical Reports and maps in duplicate should be submitted to Mining Lands Section, Mineral Development and Lands Branch:

| | | |
|---|---|---|
| Type of Survey(s): MAGNETOMER, VLF-EM | Mining Division: LARDER LAKE | Township or Area: Robillard TWP |
| Recorded Holder(s): FREDERICK J. SWANSON | | Prospector's Licence No.: C 36389 |
| Address: P.O. BOX 1418, HAILEYBURY | | Telephone No.: 705-672-5491 |
| Survey Company: F. SWANSON 2.13055 | | |
| Name and Address of Author (of Geo-Technical Report): FREDERICK SWANSON BOX 1418, HAILEYBURY | | Date of Survey (from & to): 18 10 89 (Day Mo. Yr.) 26 01 90 (Day Mo. Yr.) |

Credits Requested per Each Claim in Columns at right

| | | Days per Claim |
|---|---|---|
| **Special Provisions** For first survey: Enter 40 days. (This includes line cutting) | Geophysical - Electromagnetic | 5.1 |
| | Geophysical - Magnetometer | 4.6 |
| For each additional survey: using the same grid: Enter 20 days (for each) | Geophysical - Other | |
| | Geological | |
| | Geochemical | |
| **Man Days** Complete reverse side and enter total(s) here | Geophysical | Days per Claim |
| | Geophysical - Electromagnetic | |
| | Geophysical - Magnetometer | |
| | Geophysical - Other | |
| | Geological | |
| | Geochemical | |
| **Airborne Credits** Note: Special provisions credits do not apply to Airborne Surveys. | | Days per Claim |
| | Electromagnetic | |
| | Magnetometer | |
| | Other | |
| Total miles flown over claim(s). | | |

Date | Recorded Holder or Agent (Signature)

Mining Claims Traversed (List in numerical sequence)

| Mining Claim Prefix | Mining Claim Number | Pref. | Mining Claim Number | Prefix | Number |
|---|---|---|---|---|---|
| L | 1013263 | ✓ | 1013329 | ✓ | ✓ |
| | 1013264 | ✓ | 1013330 | ✓ | ✓ |
| | 1013265 | ✓ | 1013331 | ✓ | ✓ |
| | 1013266 | ✓ | 1013332 | ✓ | ✓ |
| | 1013267 | ✓ | 1013333 | ✓ | ✓ |
| | 1013268 | ✓ | 1013334 | ✓ | ✓ |
| | 1013269 | ✓ | 1013335 | ✓ | ✓ |
| | 1013270 | ✓ | 1013336 | ✓ | ✓ |
| | 1013271 | ✓ | 1126231 | ✓ | ✓ |
| | 1013272 | ✓ | 1126232 | ✓ | ✓ |
| | 1013273 | ✓ | 1126233 | ✓ | ✓ |
| | 1013274 | ✓ | 1126234 | ✓ | ✓ |
| | 1013324 | ✓ | | | |
| | 1013325 | ✓ | | | |
| | 1013326 | ✓ | | | |
| | 1013327 | ✓ | | | |
| | 1013328 | ✓ | | | |

RECEIVED
FEB 2 1990
MINING LANDS SECTION

Total number of mining claims covered by this report of work: 29

## Certification Verifying Report of Work

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

| Name and Address of Person Certifying | | | |
|---|---|---|---|
| FREDERICK J. SWANSON Box. 1418, HAILEYBURY | | | |
| ONTARIO. | Telephone No. (705)-672-5491 | Date Jan 27, 89 | Certified By (Signature) Fred Swanson |

## For Office Use Only

| Total Days Cr. Recorded | Date Recorded | Mining Recorder |
|---|---|---|
| 281.3 | Feb. 1/90 | |
| | Date Approved as Recorded | Provincial Manager, Mining Lands |

Received Stamp

LARDER LAKE MINING DIVISION
RECEIVED
FEB 1 1990
9.43 am

Ontario

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Mining Lands Section
880 Bay Street, 3rd Floor
Toronto, Ontario
M5S 1Z8

Telephone: (416) 965-4888

April 6, 1990

Your File: W9008-014
Our File: 2.13055

Mining Recorder
Ministry of Northern Development and Mines
4 Government Road East
Kirkland Lake, Ontario
P2N 1A2

Dear Sir:

Re: Notice of Intent dated March 29, 1990 for Geophysical (Electromagnetic & Magnetometer) Survey submitted on Mining Claims: L 1013263 et al in Robillard Township.

---

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

This approval replaces all previous approvals.

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

Yours sincerely,

W.R. Cowan
Provincial Manager, Mining Lands
Mines & Minerals Division



AS:pt
Enclosure

cc: Mr. G.H. Ferguson
Mining and Lands Commissioner
Toronto, Ontario

Frederick J. Swanson
Haileybury, Ontario

Resident Geologist
Kirkland Lake, Ontario

Ministry of Northern Development and Mines

Ontario

Technical Assessment Work Credits

File 2.13055

Date March 29/1990

Mining Recorder's Report of Work No. W9008-014

Recorded Holder: Frederick J. Swanson

Township or Area: Robillard Township

| Type of survey and number of Assessment days credit per claim | Mining Claims Assessed |
|---|---|
| Geophysical | L 1013263 to 274 incl. |
| Electromagnetic 5.1 days | 1013324 to 336 incl. |
| Magnetometer 4.6 days | 1126231 to 234 incl. |
| Radiometric ____ days | |
| Induced polarization ____ days | |
| Other ____ days | |
| Section 77 (19) See "Mining Claims Assessed" column | |
| Geological ____ days | |
| Geochemical ____ days | |
| Man days ☒ Airborne ☐ | |
| Special provision ☐ Ground ☒ | |
| ☐ Credits have been reduced because of partial coverage of claims. | Note: Credits on original worksheet filed under special provisions, this should have been filed under the manday system that is why I have sent out this approval on a new work sheet. |
| ☐ Credits have been reduced because of corrections to work dates and figures of applicant. | |

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

No credits have been allowed for the following mining claims

☐ not sufficiently covered by the survey ☐ insufficient technical data filed

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

Ministry of Natural Resources — Ontario

Ministry of Northern Development and Mines

**geology reference-COBALT**

RESIDENT GEO

# INDEX TO LAND DISPOSITION

PLAN

G-3709

TOWNSHIP

ROBILLARD

M.N.R. ADMINISTRATIVE DISTRICT

KIRKLAND LAKE

MINING DIVISION

LARDER LAKE

LAND TITLES/REGISTRY DIVISION

TIMISKAMING

Scale 1:20 000

1000 0 1000 2000 Metres

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 Feet

Contour interval 10 Metres

## 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 |
|---|---|---|---|---|---|
| (1) | | W.53/74 | 10/10/74 | S.R.O. | 17983 |
| (2) | Sec 42(1)(S.D. 80) | | | S.R.O. | 31283 |
| (3) | Sec 36(1)(S.D. 80) | | 26/03/82 | M + S | |
| (4) | PUBLIC ACCESS | | | | |
| (5) | PUBLIC ACCESS | | | | |

## 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

FLOODING RIGHTS RESERVED TO CONTOUR 38 ALONG SHORES OF ROBILLARD LAKE AND ENGLEHART RIVER.

DATE OF ISSUE

JAN 8 1990

LARDER LAKE MINING RECORDER'S OFFICE

CIRCULATED MAY 4/88

41P16SE0004 2.13055 ROBILLARD

200

LOT 10 | LOT 9 | LOT 8

CON. III

CON. II

CON. I

L — 18+00 W

L — 16+00 W

L — 14+00 W

L — 12+00 W

L — 10+00 W

L — 8+00 W

L — 6+00 W

L — 4+00 W

— 20+00N

— 19+00N

— 18+00N

— 17+00N

— 16+00N

1013336

1013328

T 24046

1126231

1126232

1013273

1126233

1013264

1126234

1013265

"G"

"C"

58125

58250

58500

58750

58875

58375

58000

## LEGEND

HIGHWAY

POWER LINE

SHORELINE

CLAIM POST

RADIO TOWER

MAGNETIC CONTOUR

MAGNETIC LOW

CONTOUR INTERVAL: 125 gamma

25 0 25 50 75 100 125 150 metres

LOT 8

LOT 7

B/L

1+00 S

2+00 S

3+00 S

4+00 S

5+00 S

6+00 S

7+00 S

8+00 S

9+00 S

10+00 S

11+00 S

N

N 1/2

S 1/2

CONCESSION I

1013324

1013325

1013326

1013327

1013329

1013330

1013331

1013332

1013333

1013334

1013335

LAKE

MEADOW

LAKE

FRASER

L 6 00 W

L-4+00 W

L-2+00 W

L-0+00

L-2+00 E

L-4+00 E

L-6+00 E

25 0 25 50 75 100 125 150 metres

CONTOUR INTERVAL: 125 GAMMA

2.13055

| MAGNETOMETER SURVEY | |
|---|---|
| SWANSON PROPERTY - ROBILLARD TWP. | |
| SOUTHERN SHEET | |
| SCALE: 1:2500 | DATE: DECEMBER, 1989 |
| DRAWN BY: F. SWANSON | FIGURE: 5 (b) |

41P16SE0004 2.13055 ROBILLARD

220

LOT 10 | LOT 9 | LOT 8

%-30 -20 -10 0 +10 +20 +30 %

CON. III

— 20+00N
— 19+00N
— 18+00N
— 17+00N
— 16+00N

L—4+00W

T 24046

1013336

1013328

1126231

1126232

1013273

direction of survey

direction of b/L survey

D

1126233

D

L—18+00W

L—16+00W

L—14+00W

L—12+00W

NAA 24.0 KHz.

NSS 21.4 KHz.

CON. II

## LEGEND

- IN PHASE plotted left
- QUADRATURE plotted right
- − VE plotted left
- + VE plotted right
- HIGHWAY
- POWER LINE
- SHORELINE
- CLAIM POST
- RADIO TOWER

E

1126234

C

C

1013264

1013265

L—10+00W

L—8+00W

L—6+00W

CON. I

25 0 25 50 75 100 125 metres

LOT 8

LOT 7

B

B

1013324

1013326

1013329

1013330

DIRECTION OF SURVEY

— B/L

— 1+00 S

— 2+00 S

— 3+00 S

— 4+00 S

— 5+00 S

— 6+00 S

— 7+00 S

— 8+00 S

— 9+00 S

— 10+00 S

— 11+00 S

IN PHASE PLOTTED LEFT

QUADRATURE PLOTTED RIGHT

N

N 1/2

LAKE

MEAROW

1013325

"G"

"G"

1013327

1013332

"F"

"F"

1013331

NAA 24.0 KHz

NSS 21.4 KHz

"H"

"H"

1013334

"H"—1013335

"I"

"I"

1013333

LAKE

FRASER

L—4+00E

L—6+00E

CONCESSION I

S 1/2

L—6+00W

L—4+00W

L—2+00W

L—0+00

L—2+00E

25 0 25 50 75 100 125 metres

2.13055

| VLF-EM SURVEY | |
|---|---|
| SWANSON PROPERTY—ROBILLARD TWP. | |
| SOUTHERN SHEET | |
| SCALE- 1:2500 | DATE- DECEMBER, 1989 |
| DRAWN BY F SWANSON | FIGURE 6 (b) |

LOT 8

LOT 7

— 20+00N

— 19+00N

— 18+00N

— 17+00N

— 16+00N

— 15+00N

— 14+00N

— 13+00N

— 12+00N

— 11+00N

— 10+00N

— 9+00N

— 8+00N

— 7+00N

— 6+00N

— 5+00N

— 4+00N

— 3+00N

— 2+00N

— 1+00N

— B/L

L — 8+00 W

L — 6+00 W

L — 4+00W

L — 2+00W

L — 0+00

L — 2+00E

L — 4+00E

L — 6+00E

N

ROBILLARD LAKE

1013263

1013264

1013265

1013266

1013267

1013268

1013269

1013270

1013271

1013272

1013273

1013274

"A"

"B"

"D"

"E"

"F"

"H"

5 gamma

125 150 metres

2.13055

# MAGNETOMETER SURVEY

SWANSON PROPERTY — ROBILLARD TWP.

NORTHERN SHEET

| | |
|---|---|
| SCALE- 1:2500 | DATE - DECEMBER, 1989 |
| DRAWN BY- F. SWANSON | FIGURE- 5 (a) |

LOT 8

LOT 7

— 20+00N

— 19+00N

— 18+00N

— 17+00N

— 16+00N

— 15+00 N

— 14+00 N

— 13+00 N

— 12+00 N

— 11+00 N

— 10+00 N

— 9+00 N

— 8+00 N

— 7+00 N

— 6+00 N

— 5+00 N

— 4+00 N

— 3+00 N

— 2+00 N

— 1+00 N

— B/L

L — 8+00 W

L — 6+00 W

L — 4+00W

L — 2+00W

L — 0+00

L — 2+00E

L — 4+00E

L — 6+00E

N

ROBILLARD LAKE

560

1013264

1013265

1013266

1013263

1013274

1013273

1013271

1013267

1013272

1013268

1013269

1013270

A

B

C

D

E

125 metres

2.13055

| VLF - EM SURVEY | |
|---|---|
| SWANSON PROPERTY— ROBILLARD TWP. | |
| NORTHERN SHEET | |
| SCALE- 1:2500 | DATE- JANUARY, 1990 |
| DRAWN BY- F SWANSON | FIGURE- 6 (a) |