



42C12NE0127 42C12NE0032 WHITE LAKE (SOUTH)

010

GEOLOGICAL REPORT
LAC MINERALS LTD.
PROPERTY N-13, WHITE RIVER CLAIM GROUP

CLAIMS: SSM 607874
SSM 607873
SSM 607872
SSM 607871
SSM 607878
SSM 607879
SSM 607880
SSM 607881

RECEIVED

DEC 19 1984

MINING LANDS SECTION

PROPERTY N-14, WHITE RIVER CLAIM GROUP

CLAIMS: SSM 625731
SSM 607882

December, 1984

D. McIlveen, B.Sc.
M. Perkins
M. Stanley, B.Sc.



42C12NE0127 42C12NE0032 WHITE LAKE (SOUTH)

010C

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1. INTRODUCTION

1.1 General Statement

Property N-13 consists of eight claims located in the central portion of Lac Minerals Ltd. White River claim group (Figure 1.1). The western portion of property N-14, consisting of 2 half claims is also included in this report. Detailed mapping was initiated during the 1983 field season between August 8 and August 24 by Doug McIlveen and Michael Stanley. Mapping was continued during the 1984 field season between June 14 and September 21 by Doug McIlveen, Michael Perkins, David Meyer and Greg MacMillan. The mapping was conducted at a scale of 1:2,000 on cut grid lines spaced 100 m apart with pickets every 25 m.

Previous work consisted of reconnaissance mapping and soil sampling of the White River claim group, including map areas N-13 and N-14 during the summer of 1982. Subsequently the grid was cut during the summer of 1983. Soil sampling along the grid lines was completed by the end of August, 1983 and geophysics including VLF, I.P. and magnetometre surveys was completed by January, 1984.

Work on the property, other than that done by Lac Minerals Ltd., is very limited. Old rotting claim posts and old claim lines were noted. The property was mapped by George Siragusa of the O.G.S. in the summer of 1983 as part of a regional compilation.

1.2 Location and Access

The map area is located southwest of Mobert, Ontario and includes claims SSM 607874, SSM 607873, SSM 607872, SSM 607871, SSM 607878, SSM 607879, SSM 607880, SSM 607881, all located within Brothers Township and the western portion of claims SSM 629731 and SSM 607882, located within Laberge Township.

Primary access to the map area is via the White River into Pickerel Bay, which marks the eastern boundary of the map area. The tie line 31+70S intersects Pickerel Bay approximately 230 m south of the northern boundary of the map area. Alternate access is via float plane into Duck Lake, near the northwest corner of the property or into Gouda Lake, located in the eastern centre of the property. A helicopter could also be landed at numerous localities on the property since many large outcrops with only minor trees are present.

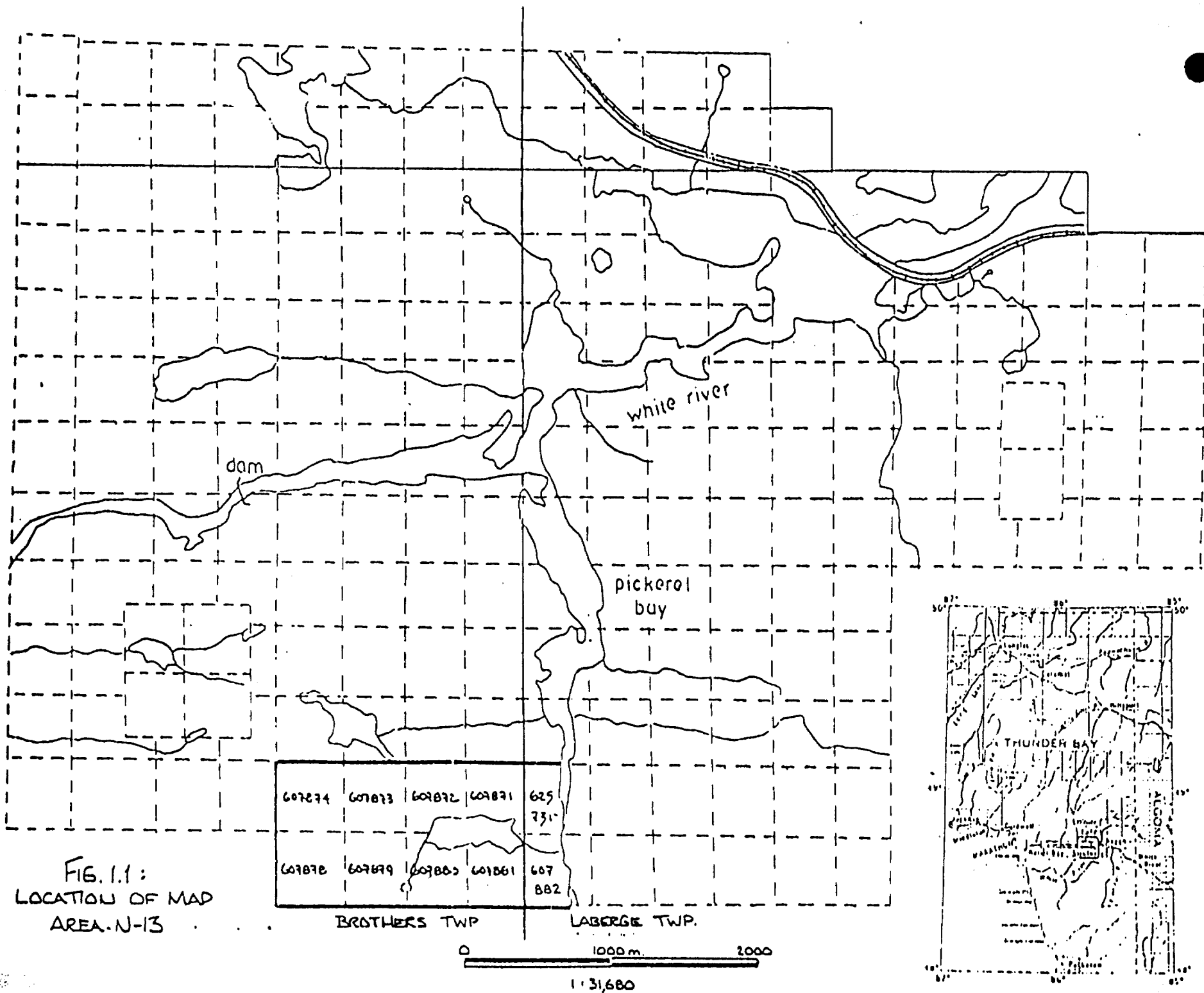


FIG. 1.1:
LOCATION OF MAP
AREA-N-13

2. SUMMARY AND CONCLUSIONS

The southern one fifth of the property is underlain by the Pukaskwa gneissic complex, a rock type which likely represents the original cratonic basement. The rest of the property consists of mafic to intermediate volcanic rock, sedimentary rock and minor muscovite schist. Abundant dykes and sills ranging from felsic to mafic in composition commonly intrude the aforementioned rock types.

Three major faults, sub-parallel to the lineation 325°, cut the stratigraphy on the property. One of these major faults is filled by a diabase dyke. Diabase dykes also fill in other minor faults of various orientations.

The only stratiform sulfide mineralization is confined to minor layers or bands with disseminated pyrite. Disseminated pyrite was noted in all rock types except the Pukaskwa gneiss. A weak gold anomaly was obtained from the quartz eye muscovite schist unit.

Abundant Mo, in the form of molybdenite, and Bi, likely in the form of bismuthinite occurs on the property associated with pegmatite dykes and quartz veins. The highest concentration of Mo/Bi is in the Pukaskwa gneissic complex in claims SSM 607880 and 607881.

3. RECOMMENDATIONS

Further detailed mapping should be done to delineate the extent of the Mo/Bi veining in the Pukaskwa, especially in claims SSM 607880 and SSM 607881 where it seems to be most abundant. The quartz eye muscovite schist unit should undergo more sampling and possibly drilling in claim SSM 607882 where the only anomalous rock geochemistry gold value was obtained. If nothing else the stratigraphy is poorly understood under the quartz eye muscovite schist unit and drilling would help to delineate this.

4. REGIONAL GEOLOGY

In the Carroll Grid Area, supracrustal rocks are bounded to the north by the Cedar Lake Pluton and to the south by the Pukaskwa Gneissic Complex. Units are regionally extensive to the west and east although a fold closure has been proposed to explain structural features, 10 km east of the Carroll grid area. Regional strike ranges from 130° - 085° ; dip is 35° - 80° N (Siragusa, 1984).

Supracrustal rocks are predominantly metasedimentary in the upper 300 m of the section, consisting of migmatites near the contact with the Cedar Lake Pluton, arenites, siltstones and biotite-quartz-plagioclase metasedimentary rock. Minor silicification is present.

Underlying the metasedimentary rocks is a 200 m wide section of intermediate metavolcanic rocks, syenitic intrusive rocks, metasedimentary rocks and mafic metavolcanic rocks. Intermediate volcanic rocks are characterized by highly stretched lapilli or discontinuous bands of epidote-feldspar rich material in an amphibole-feldspar rich matrix. The unit pinches out to the west into metasedimentary rocks but is continuous eastward. The syenitic to dioritic intrusive rock is located directly north of the M-12 property. It is coarsely porphyritic. Mafic to felsic mineral ratios vary from 40:60 to 70:30. Facing direction has been tentatively determined by the Ontario Geological Survey to be to the north (Muir, 1982).

A SE trending fault offsets supracrustal rock stratigraphy and the Pukaskwa Complex resulting in up to 970 m of apparent displacement. On the west side of the fault mafic and intermediate metavolcanic rocks, including an amygdaloidal flow used as a marker bed to determine fault displacement, overlie the Pukaskwa. On the east side, intermediate metavolcanic rocks and metasedimentary rocks are intercalated for approximately 100 m across the section. Mafic metavolcanic rocks including the amygdaloidal basalt flow underlie this unit and rest on the Pukaskwa.

5. PROPERTY GEOLOGY

5.1 Stratigraphy

The main rock types underlying the mapping area are mafic volcanic tuff and flow rock, intermediate volcanoclastic rock, sedimentary rock, quartz eye muscovite schist and the Pukaskwa gneissic complex (Figure 5.1, and Figure 5.2).

All rocks, except the Pukaskwa gneiss, are often intruded by dykes and sills of felsic composition.

A later stage of pegmatite dykes and sills commonly intrudes all rocks including the Pukaskwa gneiss. Finally all rocks have been intruded by diabase dykes.

Metamorphism in the area is generally regional low grade but locally can reach medium grade (Muir, 1982). For the purposes of this report the prefix 'meta' will not be included when describing sedimentary and volcanic extrusive rocks.

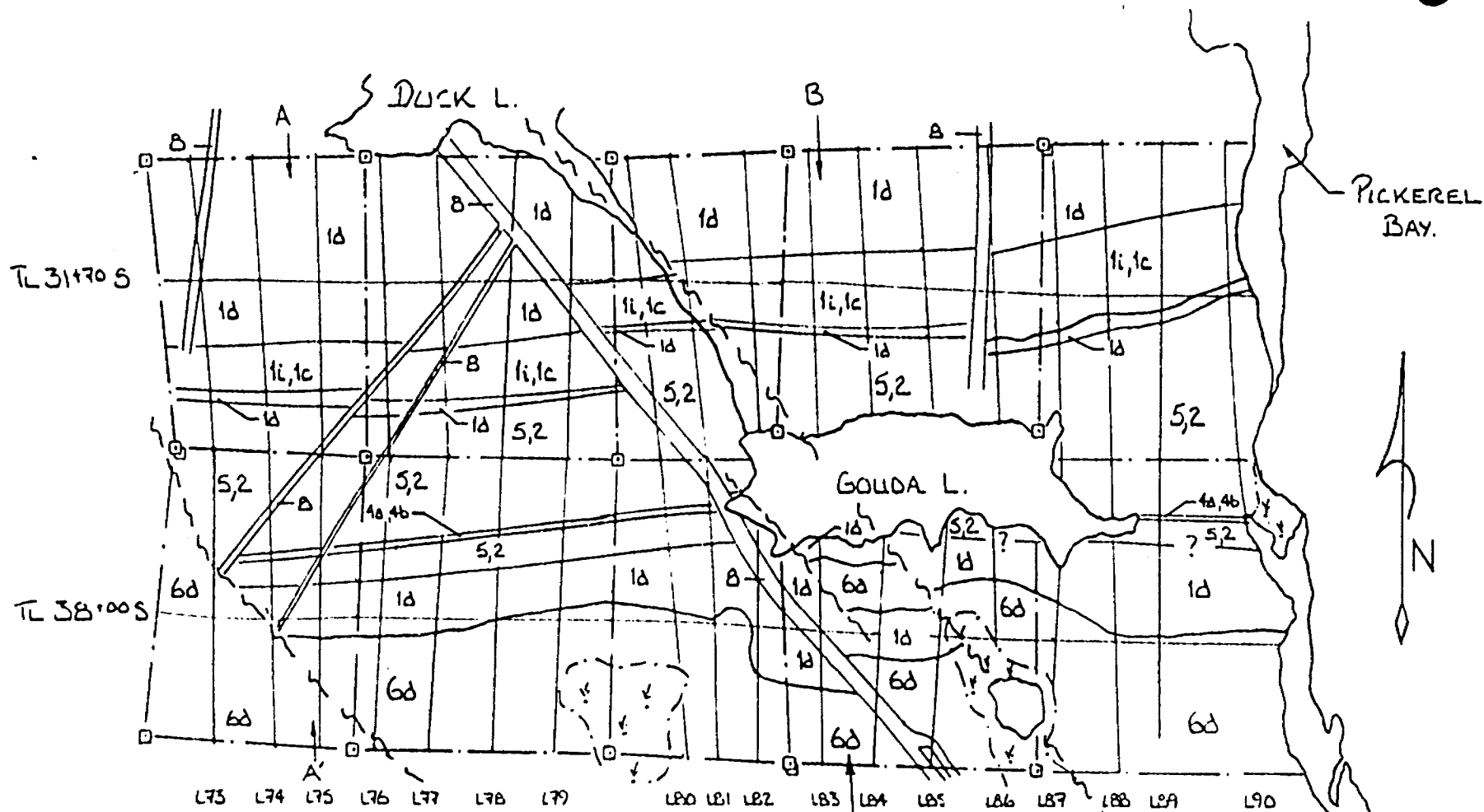
5.1.1 Pukaskwa Gneissic Complex

The southern one third to one half of claims SSM 607878, SSM 607879, SSM 607880, SSM 607881 and SSM 607882 are underlain by the Pukaskwa gneissic complex. The Pukaskwa gneiss may represent the original cratonic basement upon which the other rock types were deposited.

The rock weathers a pale pink colour and is generally granitic in composition with abundant QZ and Fx and lesser amounts of Bi. Magnetite is also present in varying amounts giving the rock a weak to moderately strong magnetic attraction.

The texture is massive, medium grained, with a weak foliation from which an attitude can be obtained. This attitude generally follows the contact with the overlying mafic volcanic rocks which is undulatory.

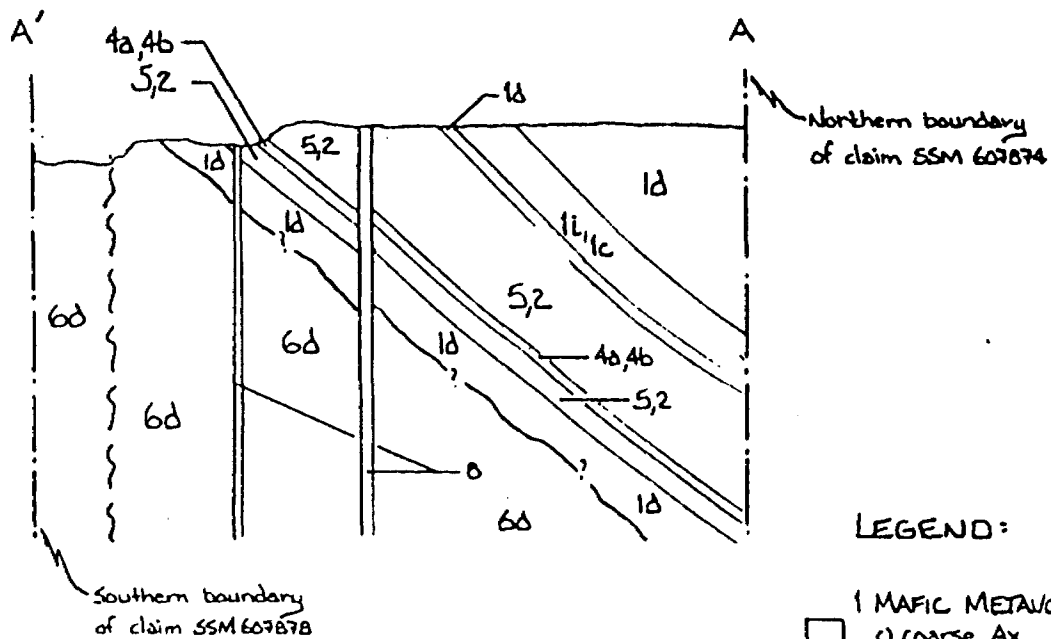
Thin discontinuous bands of mafic schist, between ten and thirty cm wide, are common in the Pukaskwa gneiss and either represent xenoliths of mafic volcanic rock or old mafic intrusive rocks. The bands are sub-parallel to the foliation of the Pukaskwa gneiss.



LEGEND:

- | | | |
|-------------------------------------|-------------------------|---|
| □ 1 MAFIC METAVOLCANIC ROCK | 5 METASEDIMENTARY ROCK | □ |
| □ c) COARSE AX | 6 FELSIC INTRUSIVE ROCK | □ |
| □ d) tuff | □ a) feldspar porphyry | □ |
| □ 1i amygdaloidal basalt | □ d) granite | □ |
| □ 2 INTERMEDIATE METAVOLCANIC ROCK. | B DIABASE. | □ |
| □ 4 SCHISTOSE ROCKS | | |
| □ a) muscovite schist | | |
| □ b) quartz eye muscovite schist | | |

FIG 5.1
GEOLOGICAL MAP OF AREA N-13 (N-14)



LEGEND:

- 1 MAFIC METAVOLCANIC ROCK
 - 1i coarse Ax
 - 1ii tuff.
 - 1iii amygduloidal basalt
- 2 INTERMEDIATE METAVOLCANIC ROCK
- 4 SCHISTOSE ROCKS
 - 4a muscovite schist
 - 4b quartz eye muscovite schist
- 5 METASEDIMENTARY ROCK
- 6 FELSIC INTRUSIVE ROCK
 - 6a feldspar porphyry
 - 6b granite
- 8 DIABASE

~~~~ FAULTING.

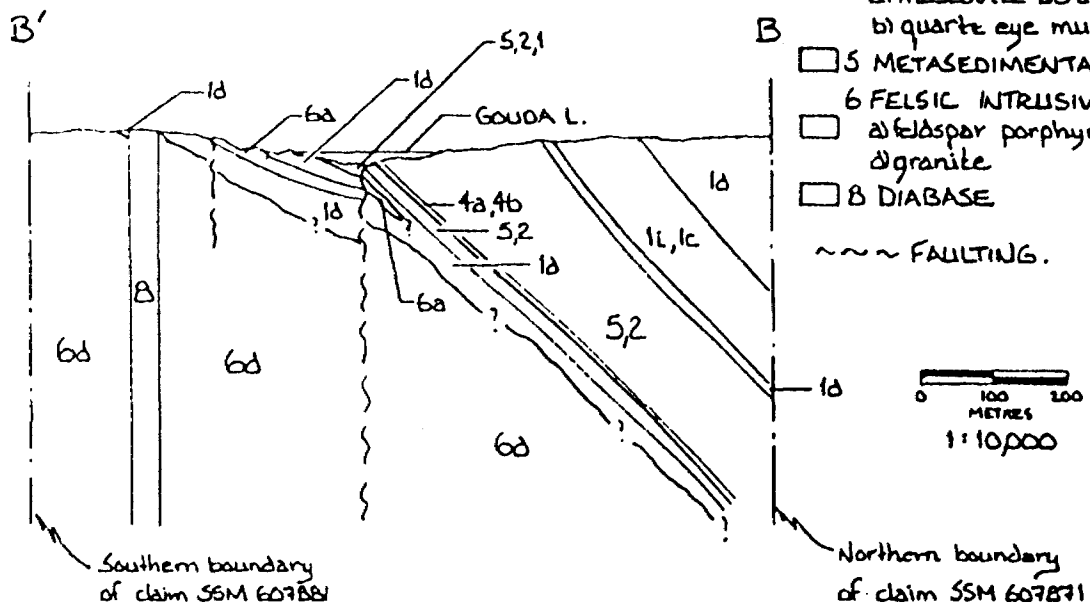
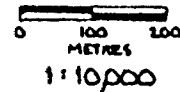


FIG. 5.2:

IDEALIZED CROSS SECTIONS THROUGH  
MAP AREA N-13 LOOKING WEST.

## 5. PROPERTY GEOLOGY

### 5.1.2 Mafic Volcanic Rocks

Two continuous units of mafic volcanic rock were delineated on the property along with lesser discontinuous bands.

The southernmost unit underlies the central one to two fifths of claims SSM 607878, SSM 607879, SSM 607880, SSM 607881 and SSM 607882, except for the western one third of claim 607878 where it is cut by a fault. The apparent thickness of the unit varies from 70 to 150 m but total thickness cannot be determined in claims SSM 607881 and SSM 607882 because the northern contact is masked by Gouda Lake and extensive overburden. The unit is thickest in claims SSM 607880 and 607881 but much of this apparent thickening is due to shallowing of dips where the mafic volcanic rock rests unconformably on the Pukaskwa gneiss and to folding within the unit. The dominant rock type is fine grained, finely laminated, dark green to black mafic volcanic tuff composed of varying amounts of Ax, Bi and Qz. Minor bands of rock, up to 1 m thick, with abundant coarse grained Ax are also present and possibly represent mafic volcanic flow.

The other mafic volcanic rock unit underlies the northern four fifths of claims SSM 607874 and SSM 607873 along with the northern three fifths of claims SSM 607872, SSM 607871 and SSM 625731. This unit can be described as a sequence with three major subunits.

The southern extension of the sequence is a thin subunit of fine grained, finely laminated, dark green to black mafic volcanic tuff composed of Bi, Ax and Qz. Apparent thickness is variable from 6 to 25 m.

The next subunit thickens from an apparent minimum of 70 m in the west to an apparent maximum of 150 m in the east. The southern one third of this subunit is dominantly amygdaloidal basalt with minor intercalated mafic tuffaceous rocks and sedimentary rocks. The amygdaloidal basalt has a black, fine grained matrix composed of Bi, Ax and Qz surrounding felsic amygdules composed of Qz and Fx. The amygdules average 2-3 cms in length with a stretch ratio of approximately 2:1. The northern two thirds of the subunit is a rock with abundant coarse grained Ax which may or may not contain amygdules. The rock is dark green with Ax crystals averaging 2 mm thick and also contains minor Fx and Cl.

## 5. PROPERTY GEOLOGY

### 5.1.2 Mafic Volcanic Rocks (continued)

The northern extension of the sequence, which is overlain by Duck Lake in the western portion of the map area is dominantly fine-grained, finely laminated dark green to black mafic volcanic tuff, locally with felsic sublapilli to lapilli sized fragments. Abundant discontinuous clots and bands, up to a few metres in length, composed of Qz, Ep and Fx are also present. They may represent zones of sea water alteration. Intercalated within this subunit are minor bands of sedimentary rock, intermediate volcanic tuff and coarse grained Ax rock.

Thin bands of mafic volcanic tuff are common in the area between the two major continuous mafic volcanic rock units. The most notable of these mafic volcanic tuff horizons marks the northern contact of the main muscovite schist horizon (Section 5.1.4). This mafic volcanic tuff averages two to three metres apparent thickness and is not present in claim SSM 607878.

### 5.1.3 Sedimentary to Intermediate Volcanoclastic Rocks

The lower one fifth of claims SSM 607874 and SSM 607873, the lower two fifths of claims SSM 607872, SSM 607871 and SSM 625731 and the upper one quarter of claims SSM 607878, SSM 607879, SSM 607880, SSM 607881 and SSM 607882 is underlain by a mixed unit of sedimentary to intermediate volcanoclastic rock. This unit varies from 240 m to 380 m apparent thickness and is thickest in the eastern part of the map area. The unit is interrupted approximately 30 m above its southern contact by a prominent ridge of muscovite schist.

The majority of the sequence is sedimentary rock composed of variable amounts of Qz, Fx, Bi and Ax. The rock is fine grained finely laminated and weathers buff grey to pink. The Ax content is quite high in some rocks and possibly indicates volcanic activity. A strong gneissic texture is evident in many of these rocks, especially in Ax-rich rocks located within 100 m north of the northern contact of the muscovite schist ridge.

Intercalations of mafic volcanic tuff up to 3 m apparent thickness are locally abundant within this unit.

## 5. PROPERTY GEOLOGY

### 5.1.4 Muscovite Schist

Two horizons of muscovite schist occur in the map area and may represent periods of felsic volcanic activity.

The southern horizon occurs as a prominent vertical cliff located 50-150 metres south of the northern boundaries of claims SSM 607878, SSM 607879, SSM 607880, SSM 607881, and SSM 607882. The unit can only be estimated to be approximately 5 m apparent thickness since the upper and lower contacts were never exposed at the same locality.

The composition varies from Qz, Mu ± Bi at the top of the unit to Qz, Fx with minor Mu at the base of the unit. The colour varies from white to pale grey. The upper 3 to 4 metres is strongly schistose and characterized by tight crenulation folding. Quartz eyes, averaging 2-3 mm in length are abundant at the base of the unit but are not present in the upper 1-2 m. Minor disseminated pyrite and rarely tourmaline is also present.

The other horizon of muscovite schist also occurs within the sedimentary and intermediate volcanoclastic rocks, 50 to 90 m north of the southern boundary of claims SSM 607872, SSM 607871, and SSM 625731. This unit was rarely noted and may not be a continuous horizon. It is light grey in colour, averages 0.5 m thick and is composed of Qz and Mu. Tourmaline is present in this rock type associated with concordant quartz veining, however quartz eyes are not present. Crenulation folding is also common.

### 5.1.5. Felsic Intrusive Rocks

Felsic intrusive rocks are common in the map area. Three different varieties of felsic intrusive rocks were noted: 1) feldspar porphyritic sills, 2) dykes and sills of granitic to granodioritic composition and 3) pegmatite dykes and sills.

Feldspar porphyritic sills are abundant over most of the property, however, they are not found in the Pukaskwa gneiss and they are rare in the northern mafic volcanic sequence. The sills average 20% feldspar phenocrysts in a matrix of Qz, Fx, and Bi. The highest concentration of sills is found at two localities: 1) close to the northern contact of the southern mafic volcanic unit and 2) close to the northern contact of the sedimentary and volcanoclastic rock unit.

## 5. PROPERTY GEOLOGY

### 5.1.5 Felsic Intrusive Rocks (continued)

At the first locality the feldspar porphyritic rock is present both as one large sill and as numerous smaller sills interfingering with mafic volcanic tuff. The sill reaches a maximum apparent thickness in claim SSM 607881 of 50 m but this value is deceptive since the unit has undergone folding and the topography at this location dips steeply in the direction of the dip of the rocks.

At the second locality the feldspar porphyry was noted as one large sill of about 5 m apparent thickness in claim SSM 607873 but in other claims at this stratigraphic horizon the feldspar porphyry consisted of numerous smaller sills, the largest only reaching 1 m apparent thickness.

Felsic dykes and sills of granitic to granodioritic composition are less numerous than the feldspar porphyritic sills. They are present in all units except the Pukaskwa gneiss. One large dyke, of granodioritic composition approximately 2-3 m apparent thickness, trends across claims SSM 607874 and SSM 607873 at a strike anywhere from 030° to 080°. Numerous thin sills, usually less than 0.1 m thick, are present above the northern contact of the Pukaskwa intercalated with the mafic volcanic tuff. These thin sills are similar in composition to the Pukaskwa but do not contain Mg.

The most abundant felsic intrusive rocks on the property are pegmatite dykes and sills. They vary in apparent thickness from a few centimetres to 4 m with a dominant strike of 015°. Many of the smaller dykes have a quartz core with feldspar boundaries. The highest concentration of pegmatite is in claims SSM 607871, SSM 625731 and the eastern boundary of SSM 607872. A common sulphide associated with the pegmatites is  $Mos_2$ , usually towards the outer border of the intrusion.

### 5.1.6 Mafic Intrusive Rocks

Numerous diabase dykes trend across the map area cutting all previously described rocks. The dominant trend is between 0 and 20° except for the largest dyke on the property which trends at about 325°. Three of the dykes appear to cause some offset of the stratigraphic sequence.

Minor lamprophyre was also noted on the property associated with faulting.

## 5. PROPERTY GEOLOGY

### 5.2 Structural Geology

The rocks in the map area generally strike between  $070^{\circ}$  and  $110^{\circ}$  with an average strike of approximately  $085^{\circ}$ . The dip of the rocks varies between  $0^{\circ}$  and  $70^{\circ}$ N but generally there is a steepening to the north. The average dip in the south, where the rocks lie unconformably on the Pukaskwa gneiss, is approximately  $25^{\circ}$ - $30^{\circ}$  as opposed to the average dip in the north which is approximately  $43^{\circ}$ - $48^{\circ}$ .

The stratigraphy is cut by numerous faults on the property, some of which are now filled with diabase dykes. Minor localized folding is also evident on the property.

#### 5.2.1 Faulting

Three major sub-parallel faults exist on the property trending between  $310^{\circ}$  and  $340^{\circ}$  and assumed to dip vertical.

The western or D. C. Fault is delineated by a prominent ridge which trends from the south-west corner of claim SSM 607879 to the northwest corner of claim SSM 607878 and continues off the map area on a similar trend in both directions. It is a right lateral fault with apparent displacement of 970 m measured using the offset of the Pukaskwa gneiss. However the offset on the units further north is much less indicating the fault may be rotational.

The central fault is designated by a large diabase dyke which trends from the centre of the southern boundary of claim SSM 607881, through the northeast corner of claim SSM 607880, the southwest corner of claim SSM 607872 and out beyond the centre of the north boundary of claim SSM 607873. Left lateral displacement can be up to 100 m although some units such as the quartz eye muscovite schist appear to have undergone only minor displacement. Numerous smaller faults occur close to and sub-parallel to the central fault and may be splays off the main fault. The diabase itself bifurcates in the Pukaskwa gneiss at the base of the property.

The eastern fault is delineated by a major ridge in the northern part of the property and by a swamp in the south. Locally brecciation and epidote microveining was noted in rocks along the fault. Lamprophyre was also noted in rubble at the southern extension of the fault. This fault extends from Edam pond in the south to the southeast limb of Duck Lake in the north, with apparent left lateral displacement of between 25 m and 100 m. The largest amount of displacement is in the southern portion of the fault indicating a rotational fault similar to the western fault.



## 5. PROPERTY GEOLOGY

### 5.2.1 Faulting (continued)

Displacement of the stratigraphic succession was also noted on two other diabases on the property. One diabase is an offshoot from the central diabase/fault trending at approximately  $220^{\circ}$  through claim SSM 607873, through the southeastern corner of claim SSM 607874 and down into claim SSM 607878 where it is cut off by the western fault. Apparent displacement is 10-20 m right lateral. The other diabase trends at approximately  $003^{\circ}$  and occurs 60-90 m west of the eastern boundary of claim SSM 607871. Displacement along this diabase is 10-50 m right lateral.

### 5.2.2 Jointing

Joint measurements were taken at numerous locations in the map area. The most common measurement obtained was approximately  $325^{\circ}$ E with a vertical dip which sub-parallel the three major faults on the property. The other joint measurements obtained were more or less randomly oriented.

### 5.2.3 Folding

Folding is very minor on the property. Where noted it tends to plunge parallel to the strike of the rocks with a shallow dip between  $10^{\circ}$  and  $20^{\circ}$  either east or west. Folding is most common in the northern half of the southern mafic volcanic unit in claims SSM 607880 and SSM 607881. The mafic volcanic tuff is intercalated with feldspar porphyritic intrusive rock at this horizon and the folding gives the feldspar porphyry an exaggerated apparent thickness.

Crenulation folding is common in some units on the property, in particular the mafic volcanic tuff and the muscovite schist. The average plunge is  $16^{\circ}$  in the direction of  $078^{\circ}$ .

CERTIFICATE OF QUALIFICATIONS

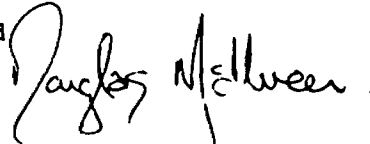
I, Douglas McIlveen, of Mississauga, Ontario do hereby certify that:

I have received a Bachelor of Science Degree in Geology  
from McMaster University in Hamilton.

I have been employed as a geologist by Lac Minerals Ltd.  
Exploration Division since May 1983.

I conducted the geological mapping survey on sub-properties  
N-13 and N-14.

Signed

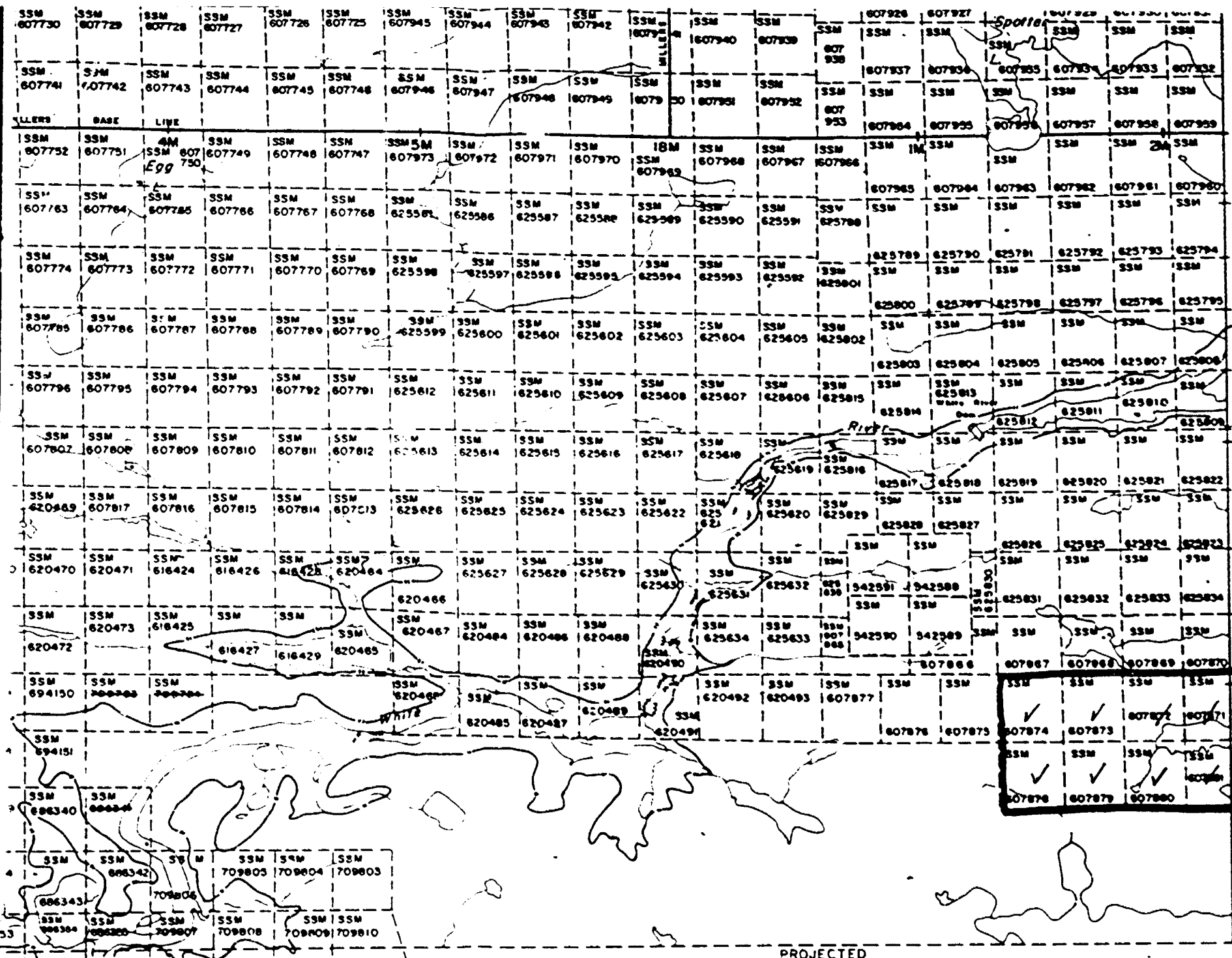


Douglas McIlveen, B.Sc.

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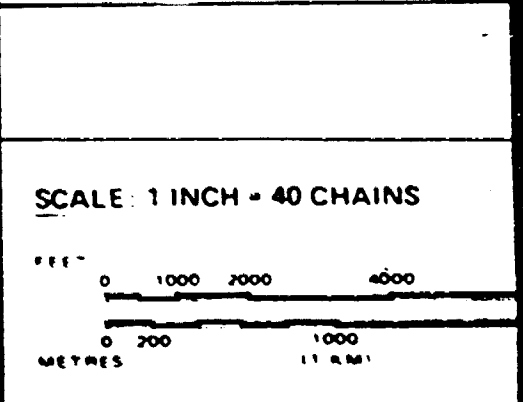
JUN 19 1984

MINING LANDS SECTION

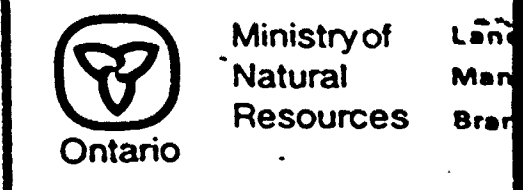


LABERGE TWP: G-3174

LEASE, SURFACE & MINING RIGHTS...  
 - SURFACE RIGHTS ONLY...  
 - MINING RIGHTS ONLY...  
 LICENCE OF OCCUPATION...  
 ORDER-IN-COUNCIL...  
 RESERVATION...  
 CANCELLED...  
 SAND & GRAVEL...  
 NOTE: MINING RIGHTS IN PARCELS PATENTED 1913, VESTED IN ORIGINAL PATENT LANDS ACT, R.S.O. 1970, CHAP. 30



TOWNSHIP  
**BROTHERS**  
 M.N.R. ADMINISTRATIVE DISTRICT  
**TERRACE BAY / WAINWATER**  
 MINING DIVISION  
**SAULT STE. MARIE / THUNDER BAY**  
 LAND TITLES / REGISTRY DIVISION  
**THUNDER BAY**



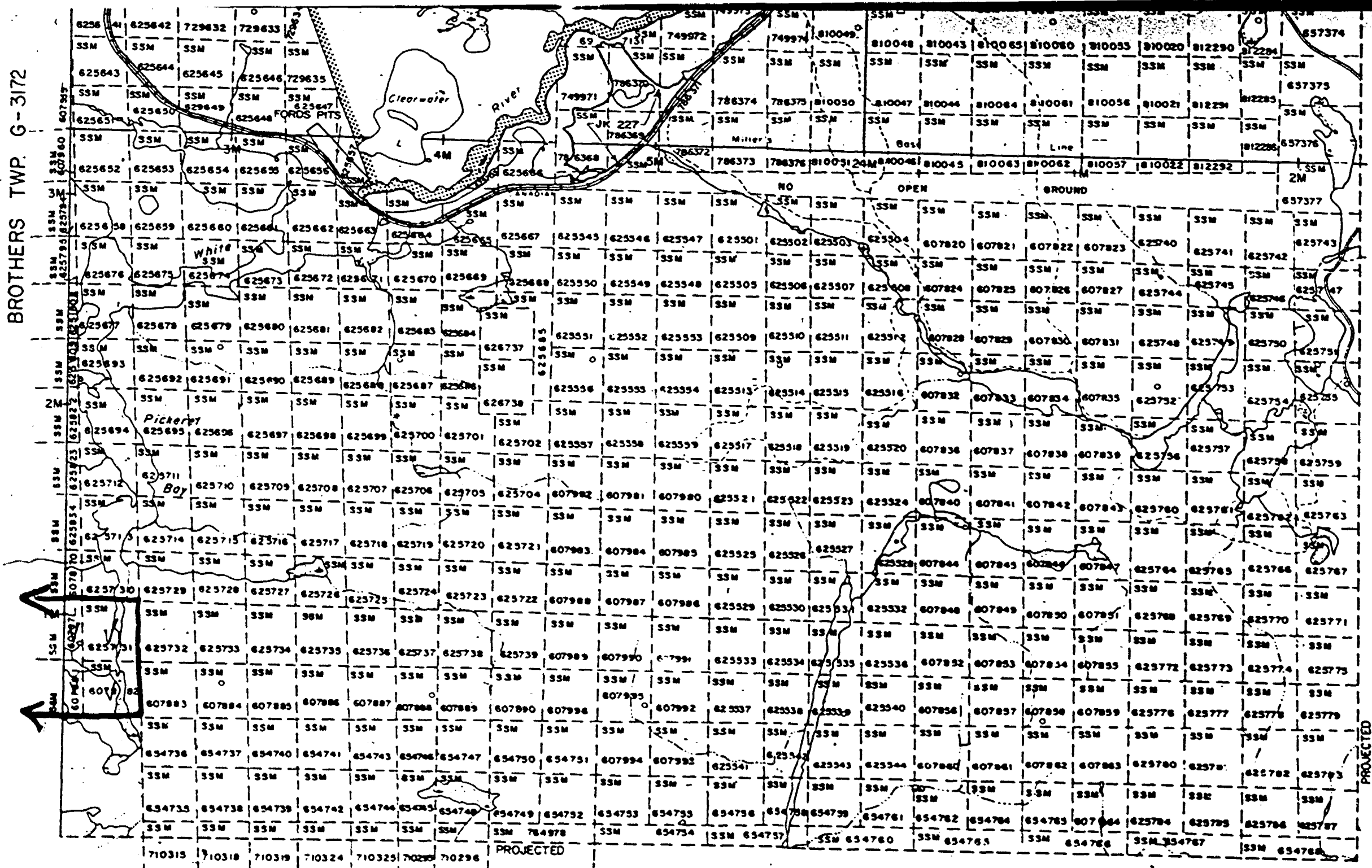
Date: AUGUST, 1984  
 Name: **G**

HERRICK LAKE

1" = 40 chains

PROJECTED

BROTHERS TWP. G-3172



LABERGE TWP.

1" = 40 chains

OSKABUKUTA LAKE

PROJECTED



42C12NE0127 42C12NE0032 WHITE LAKE (SOUTH)

900

Mining Lands Section

File No 2.7587

Control Sheet

TYPE OF SURVEY

- GEOPHYSICAL
- GEOLOGICAL
- GEOCHEMICAL
- EXPENDITURE

MINING LANDS COMMENTS:

*partial qualifications only.*

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*ld*

*LD*

*Derry*  
\_\_\_\_\_  
Signature of Assessor

*9/1/85*  
\_\_\_\_\_  
Date



Ministry of Natural Resources

File \_\_\_\_\_

GEOPHYSICAL - GEOLOGICAL - GEOCHEMICAL  
TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT  
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT  
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) Geological  
 Township or Area Brothers/Laberge  
 Claim Holder(s) Lac Minerals Ltd.  
 Survey Company Lac Minerals Ltd.  
 Author of Report D. McIlveen  
 Address of Author P. O. Box 580, MANITOUWADGE, Ontario  
 Covering Dates of Survey June 14 to Sept. 21, 1984  
 (linecutting to office)  
 Total Miles of Line Cut 19.80 km

MINING CLAIMS TRAVERSED  
List numerically

SSM 607871 (partial)  
(prefix) (number)  
 607872  
 607873  
 607874  
 607878  
 607879  
 607880  
 607881  
 607882  
 625731

If space insufficient, attach list

| SPECIAL PROVISIONS<br>CREDITS REQUESTED                   | Geophysical            | DAYS<br>per claim |
|-----------------------------------------------------------|------------------------|-------------------|
| ENTER 40 days (includes line cutting) for first survey.   | -Electromagnetic _____ |                   |
|                                                           | -Magnetometer _____    |                   |
|                                                           | -Radiometric _____     |                   |
| ENTER 20 days for each additional survey using same grid. | -Other _____           |                   |
|                                                           | Geological _____       | 20                |
|                                                           | Geochemical _____      |                   |

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
 (enter days per claim)

DATE: Dec 6/84 SIGNATURE: [Signature]  
 Author of Report or Agent

Res. Geol. \_\_\_\_\_ Qualifications \_\_\_\_\_

Previous Surveys

| File No. | Type | Date | Claim Holder |
|----------|------|------|--------------|
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
|          |      |      |              |
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DEC 10 1984  
MINING LANDS SECTION

TOTAL CLAIMS 10

OFFICE USE ONLY

**GEOPHYSICAL TECHNICAL DATA**

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations \_\_\_\_\_ Number of Readings \_\_\_\_\_  
Station interval \_\_\_\_\_ Line spacing \_\_\_\_\_  
Profile scale \_\_\_\_\_  
Contour interval \_\_\_\_\_

**MAGNETIC**

Instrument \_\_\_\_\_  
Accuracy – Scale constant \_\_\_\_\_  
Diurnal correction method \_\_\_\_\_  
Base Station check-in interval (hours) \_\_\_\_\_  
Base Station location and value \_\_\_\_\_

**ELECTROMAGNETIC**

Instrument \_\_\_\_\_  
Coil configuration \_\_\_\_\_  
Coil separation \_\_\_\_\_  
Accuracy \_\_\_\_\_  
Method:  Fixed transmitter  Shoot back  In line  Parallel line  
Frequency \_\_\_\_\_  
(specify V.L.F. station)  
Parameters measured \_\_\_\_\_

**GRAVITY**

Instrument \_\_\_\_\_  
Scale constant \_\_\_\_\_  
Corrections made \_\_\_\_\_  
Base station value and location \_\_\_\_\_  
Elevation accuracy \_\_\_\_\_

**INDUCED POLARIZATION  
RESISTIVITY**

Instrument \_\_\_\_\_  
Method  Time Domain  Frequency Domain  
Parameters – On time \_\_\_\_\_ Frequency \_\_\_\_\_  
– Off time \_\_\_\_\_ Range \_\_\_\_\_  
– Delay time \_\_\_\_\_  
– Integration time \_\_\_\_\_  
Power \_\_\_\_\_  
Electrode array \_\_\_\_\_  
Electrode spacing \_\_\_\_\_  
Type of electrode \_\_\_\_\_



Report of Work  
(Geophysical, Geological,  
Geochemical and Expenditures)

#285-84

2.7587  
Mining Act

Instructions: - Please type or print.  
- If number of mining claims traversed exceeds space on this form, attach a sheet.  
Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.  
- Do not use shaded areas below.

*July 12<sup>th</sup> F.M.*

|                                                                                                                          |  |                                                                          |                                            |
|--------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------|--------------------------------------------|
| Type of Survey(s)<br><b>Geological</b>                                                                                   |  | Township or Area<br><b>Brothers/Laberge</b>                              |                                            |
| Claim Holder(s)<br><b>Lac Minerals Ltd.</b>                                                                              |  | Prospector's Licence No.<br><b>T 664</b>                                 |                                            |
| Address<br><b>P. O. Box 580, MANITOUWADGE, Ontario POT 2C0</b>                                                           |  |                                                                          |                                            |
| Survey Company<br><b>Lac Minerals Ltd.</b>                                                                               |  | Date of Survey (from to)<br>14 06 84 21 09 84<br>Day Mo. Yr. Day Mo. Yr. | Total Miles of line Cut<br><b>19.80 km</b> |
| Name and Address of Author (of Geo-Technical report)<br><b>D. McIlveen, P. O. Box 580, MANITOUWADGE, Ontario POT 2C0</b> |  |                                                                          |                                            |

Credits Requested per Each Claim in Columns at right

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

Mining Claims Traversed (List in numerical sequence)

| Mining Claim |        | Expend. Days Cr. | Mining Claim |        | Expend. Days Cr. |
|--------------|--------|------------------|--------------|--------|------------------|
| Prefix       | Number |                  | Prefix       | Number |                  |
| SSM          | 607871 |                  |              |        |                  |
|              | 607872 |                  |              |        |                  |
|              | 607873 |                  |              |        |                  |
|              | 607874 |                  |              |        |                  |
|              | 607878 |                  |              |        |                  |
|              | 607879 |                  |              |        |                  |
|              | 607880 |                  |              |        |                  |
|              | 607881 |                  |              |        |                  |
|              | 607882 |                  |              |        |                  |
|              | 625731 |                  |              |        |                  |

RECEIVED

DEC 2 1984  
Geological

MINING LANDS SECTION

SAULT STE. MARIE  
MINING DIV.  
RECEIVED  
DEC 14 1984  
A.M. 7:00 10:11:12:1 2:3:4:5:6 P.M.

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.

Total number of mining claims covered by this report of work. **10**

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Total Days Cr. Recorded **200** Date Recorded **December 14/84** Mining Recorder **[Signature]**

Date Approved **[Signature]** Date Reported **[Signature]**

Date **Dec. 6, 1984** Reported Holder or Agent (Signature) **[Signature]**

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  
**V. R. Venn, P.Eng., P. O. Box 580, MANITOUWADGE, Ontario POT 2C0**

Date Certified **Dec. 6, 1984** Certified by (Signature) **[Signature]**

7862 (11/81)



1985 01 04

Our File: 2.7587

Mining Recorder  
Ministry of Natural Resources  
875 Queen Street East  
Box 669  
Salt Ste. Marie, Ontario  
P6A 5N2

Dear Madam:

We received reports and maps on December 19, 1984 for a Geological Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims SSM 607871 et al in the Townships of Brothers and Laberge.

This material will be examined and assessed and a statement of assessment work credits will be issued.

We do not have a copy of the report of work which is normally filed with you prior to the submission of this technical data. Please forward a copy as soon as possible.

Yours sincerely,

S.E. Yundt  
Director  
Land Management Branch

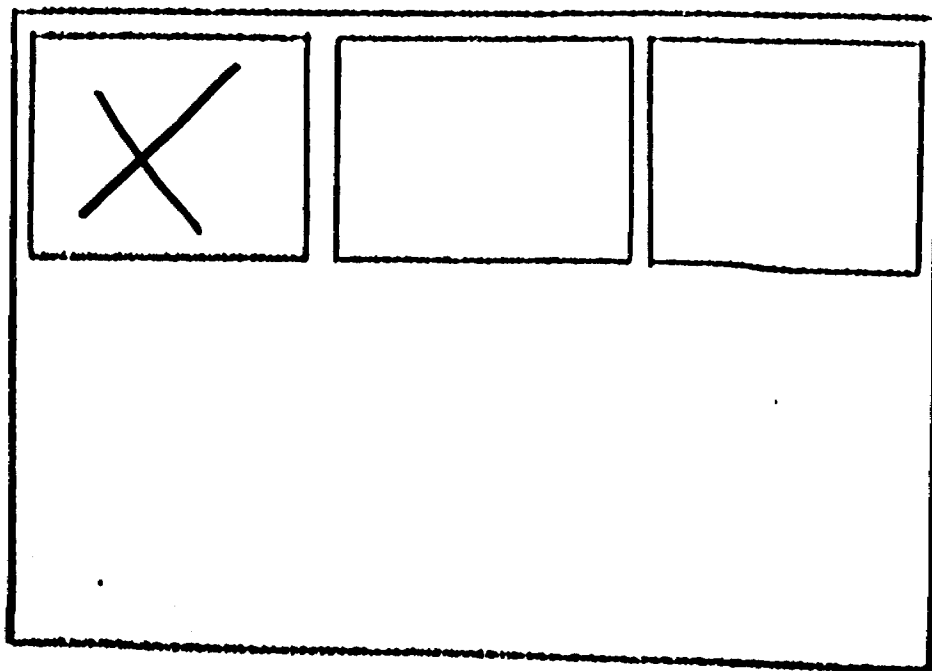
Whitney Block, Room 6643  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone:(416)965-4888

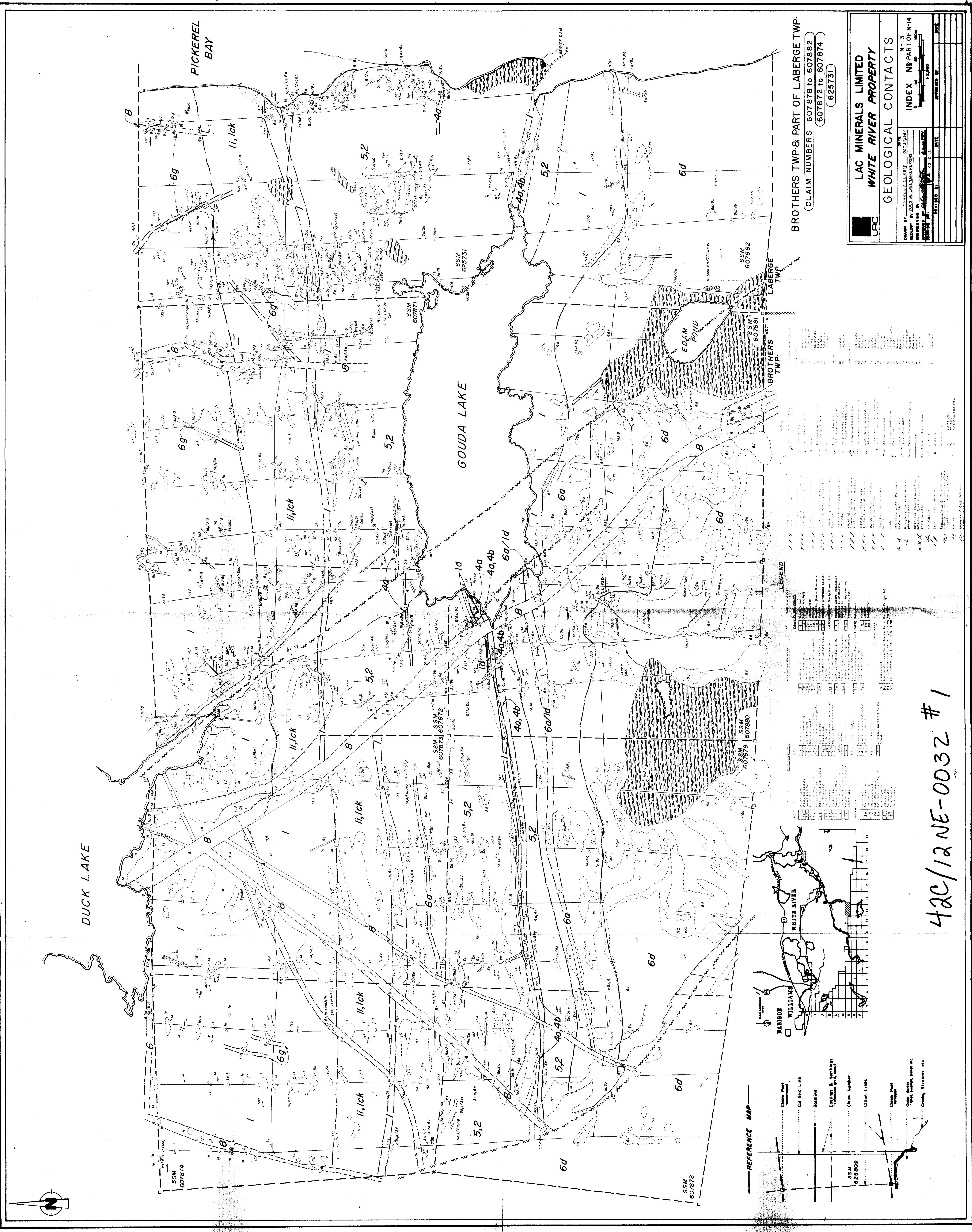
S. Hurst:mc

cc: Lac Minerals Ltd  
P.O. Box 580  
Manitouwadge, Ontario  
POT 2C0

SEE ACCOMPANYING  
MAP(S) IDENTIFIED AS  
42C/12NE-0032 #1

LOCATED IN THE MAP  
CHANNEL IN THE FOLLOWING  
SEQUENCE (X)





BROTHERS TWP. & PART OF LABERGE TWP.  
 CLAIM NUMBERS 607878 TO 607882  
 607872 TO 607874  
 625731

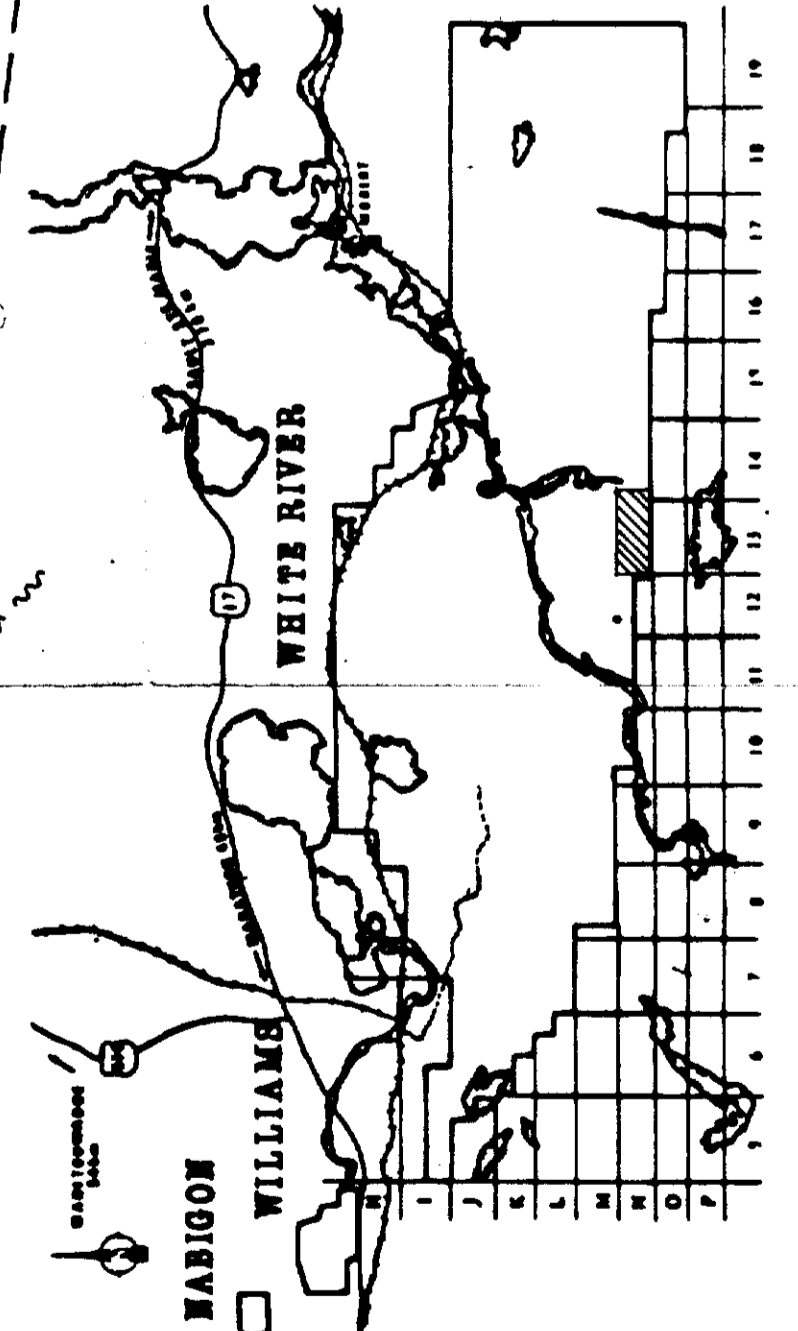
**LAC MINERALS LIMITED**  
**WHITE RIVER PROPERTY**  
**GEOLOGICAL CONTACTS**

OWNER BY: CHARLES LUMBER OCTENBUSE  
 SURVEY BY: GORD MCKEEMER  
 PROJECT: WHITE RIVER  
 SHEET: 42C/12 NE-0032  
 DATE: 12-12-12

INDEX N-13  
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 N-40

**LEGEND**

| Symbol | Description                            |
|--------|----------------------------------------|
| ---    | Claim Boundary                         |
| ---    | Old Grid Line                          |
| ---    | Shedline                               |
| ---    | Castings & Notches (Cable Poles, etc.) |
| ---    | Claim Number                           |
| ---    | Claim Lines                            |
| ---    | Cable Pole                             |
| ---    | Old Mill, Water, etc.                  |
| ---    | Cracks, Streets, etc.                  |



42C/12 NE-0032 #1

42C/12 NE-0032 #1  
 a. 7587

