



52011SW0550 2.11312 MCVICAR LAKE

010

REPORT  
ON THE  
**GEOPHYSICAL MAGNETOMETER,  
GRADIOMETER & VLF-EM SURVEY**  
ON THE  
**NORTH MCVICAR LAKE PROPERTY**  
**MCVICAR LAKE AREA - G 2121**  
**PATRICIA MINING DIVISION**  
FOR

BAYAURA MINES LTD.  
SUITE 1650; ELVDEN HOUSE  
717 - SEVENTH AVENUE S.W.  
CALGARY, ALBERTA  
T2P 0Z2

PREPARED BY  
L.C. CHASTKO P.Eng. F.G.A.C.  
INDEPENDENT EXPLORATION SERVICES LTD.  
WINNIPEG, MANITOBA

JUNE 8, 1988

*June 1988  
63.2*

RECEIVED

JUN 16 1988

MINING LANDS SECTION



52011SW0550 2.11312 MCVICAR LAKE

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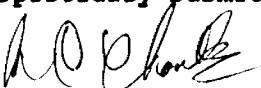
### **1.1 SUMMARY**

- 1). 1.8 km. of base line and 12.6 km. of grid lines were cut over the property.**
- 2). 12.6 km. of combined total field magnetometer, vertical gradient and VLF-EM surveys were conducted over the property.**
- 3). Four relatively weak VLF-EM trends were outlined.**

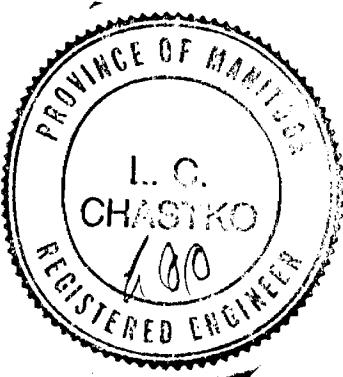
## 1.2 RECOMMENDATIONS

- 1). The results of the combined surveys have not produced any definitive targets for further exploration.
- 2). Geological investigation and prospecting may upgrade the targets outlined and help clarify if Zones B, C and D tie into NW structures or NW - Se shears.
- 3). Barring positive prospecting results no further work is recommended on the property at this time based on the geophysical surveys.

Respectfully submitted,



L.C. Chastko, P.Eng. F.G.A.C.



N. W. ONTARIO

MAJOR ARCHEAN  
GEOLOGIC BELTS

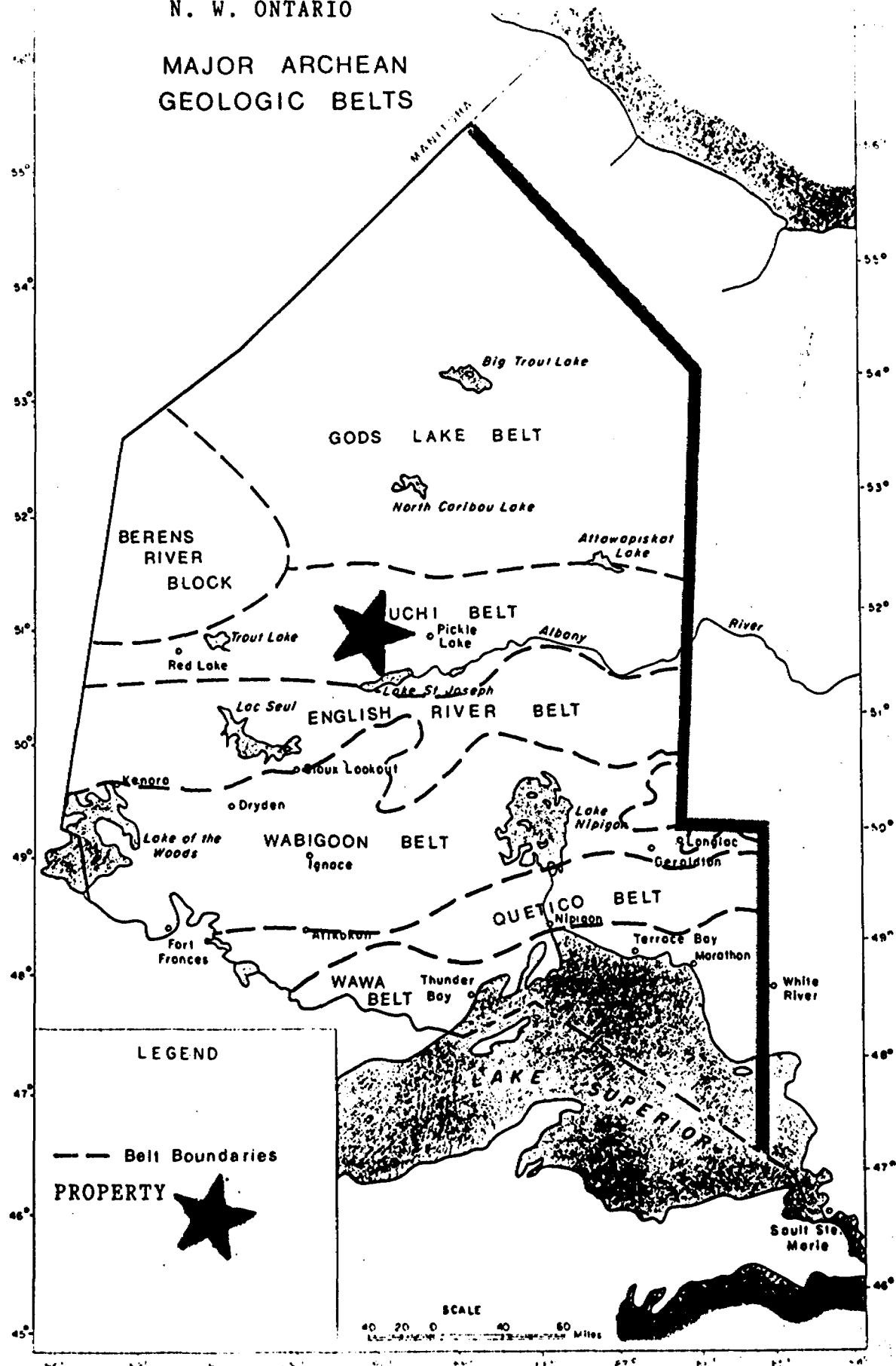
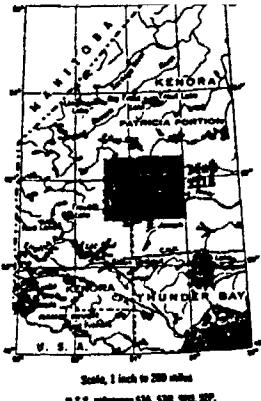
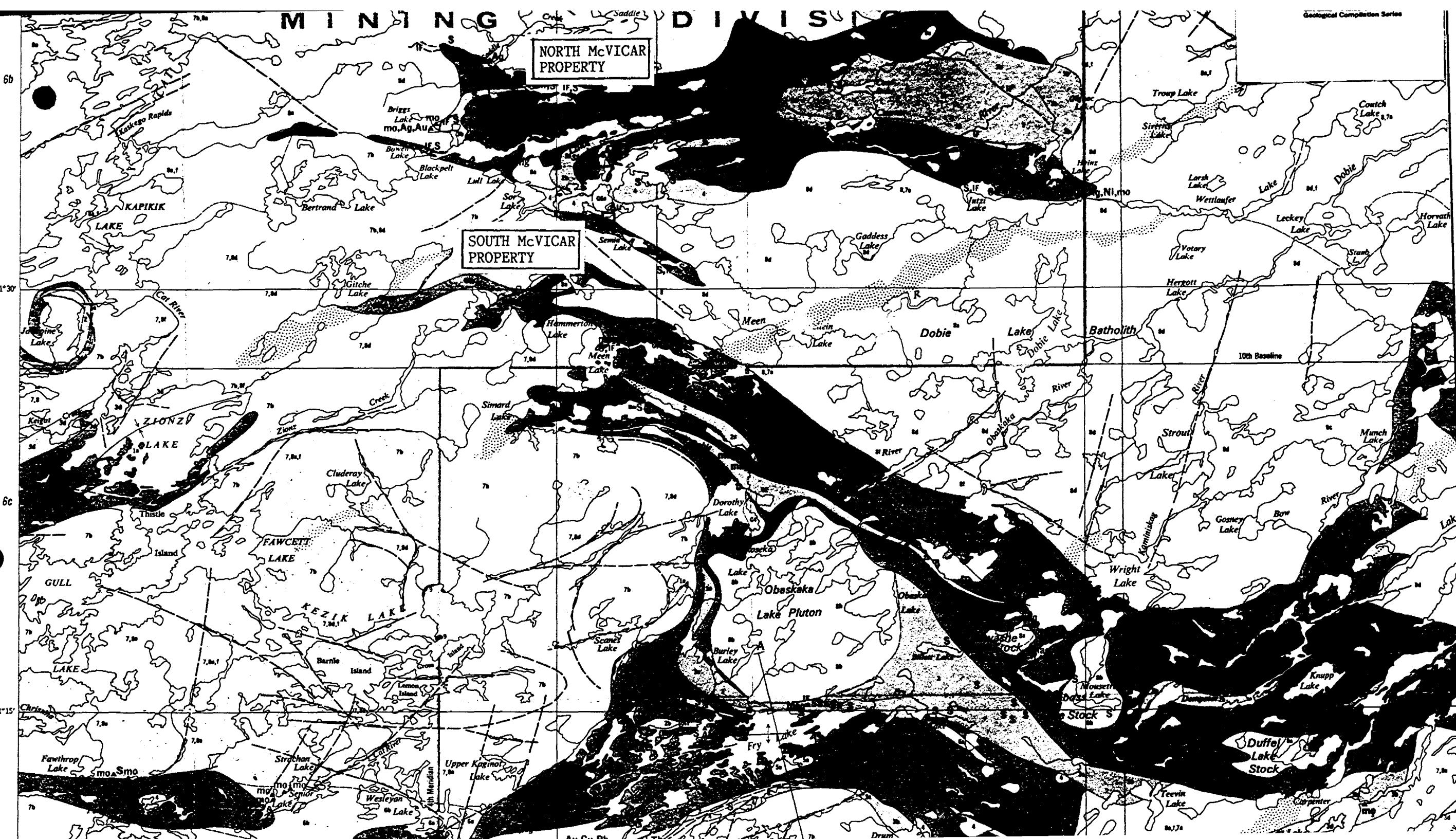
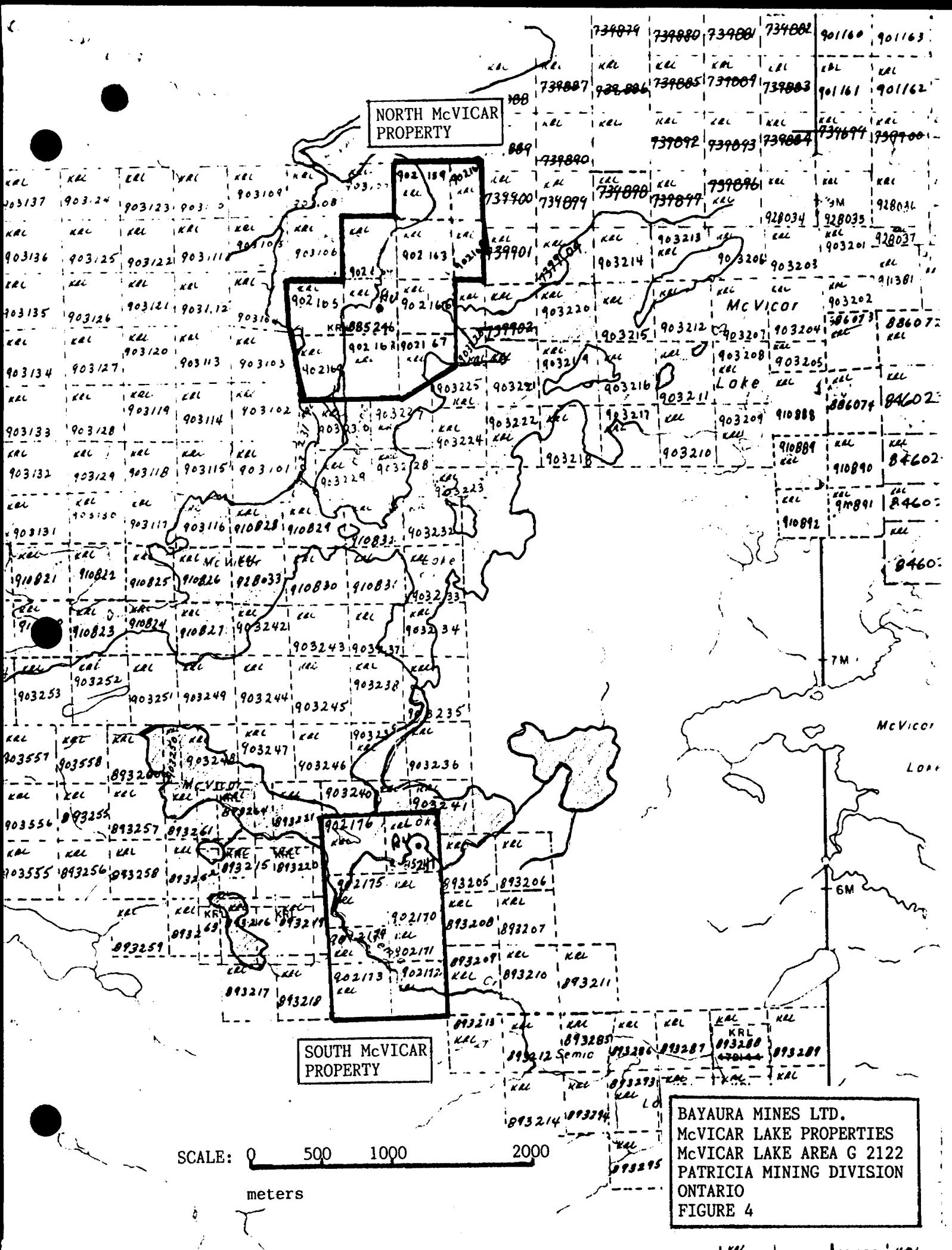


Figure 1

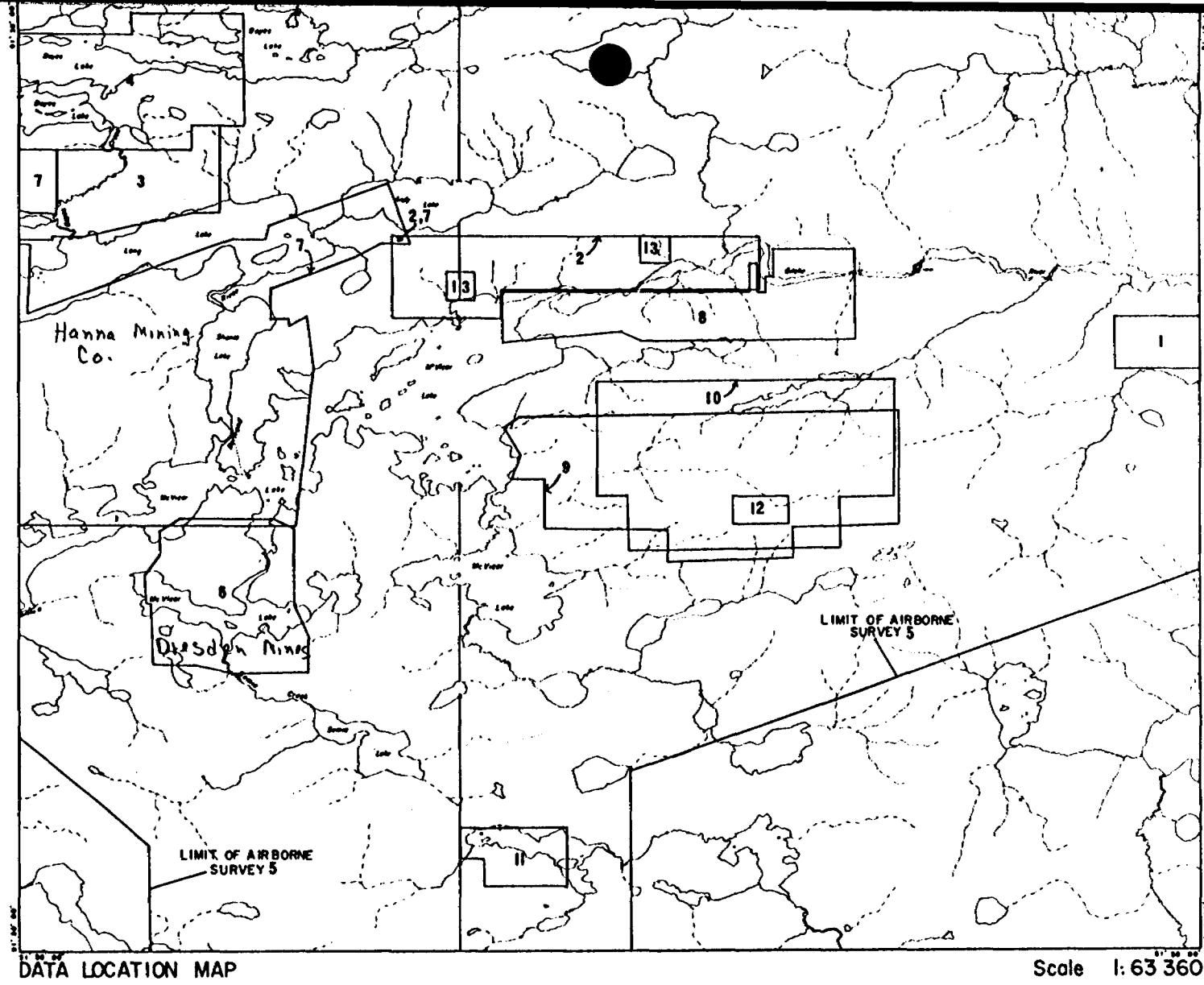


**LEGEND**

- CENOZOIC QUATERNARY**  
Pleistocene and Recent  
Tuf, clay, sand, gravel.
- UNCONFORMITY**
- PRECAMBRIAN LATE PRECAMBRIAN**
- 10 Dobie dike ("Dobiemene")
  - 11 Intrusive Contact
  - EARLY PRECAMBRIAN (ARCHEAN) MAGIC INTRUSIVE ROCKS
  - 12 Diorite, gabbro, anorthosite, sub-biotite anorthosite
  - 13 Intrusive Contact
  - FELSIC TO INTERMEDIATE INTRUSIVE ROCKS
  - 14 Syntectonic to late tectonic granitic plutons
  - 15 Unassimilated.  
16 Massive, equigranular to porphyritic, quartz monzonite to granodiorite.
  - 17 Massive biotite-hornblende monzonite to syenodiorite.
  - 18 Massive biotite-hornblende quartz diorite to diorite.
  - 19 Massive, equigranular biotite, biotite-hornblende, hornblende-biotite, pegmatite, eclogite.
  - 20 Arhydritic, biotite and hornblende-biotite granodiorite to granodiorite.
  - 21 Intrusive Contact
  - EARLY TO SYNTECTONIC GRANITIC PLUTONS
  - 22 Unassimilated.
  - 23 Monzonite predominantly orthogneiss.
  - 24 Folded to pre-tectonic biotite and hornblende-biotite granodiorite to granodiorite.
  - 25 Diorite, quartz diorite.
  - 26 Intrusive Contact
  - PETECTONIC GRANITIC PLUTONS
  - 27 Quartz and/or feldspar porphyry.
  - 28 Transformed to quartz monzonite (Birch Lake Complex).
  - 29 MIGMATITE
  - 30 Unassimilated.
  - 31 Biotite-quartz-feldspar gneiss (metabiotite-migmatite).
  - 32 Hornblende-felsic-quartz gneiss (metacrustic migmatite).
  - 33 Intrusive Contact
  - MAGIC TO INTERMEDIATE INTRUSIVE ROCKS
  - 34 Gabbro, diorite, anorthosite, and/or gabbro.
  - 35 Intrusive Contact
  - METAVOLCANICS AND METABEDDING/METASEDIMENT
  - 36 Unassimilated Conglomerate.
  - 37 Greenish, quartzite, silstone.







#### SYMBOLS

- AM— Airborne Magnetometer Anomaly.
- M— Ground Magnetometer Anomaly.
- VEM— Ground Electromagnetometer Anomaly.  
(VEM - Vertical Loop; HEM - Horizontal Loop; VLF - Very Low Frequency; JEM - Crone EM-16).
- Ge— Geochemical Anomaly.

#### SOURCES OF INFORMATION

Compiled by D.A. Panagakos and J.C. Gibson, 1979, from data on file at the Resident Geologist's Office, Ontario Ministry of Natural Resources, Red Lake.

Base-map derived from Forest Resources Inventory map, Lands and Waters Group, Ontario Ministry of Natural Resources.

Lang-Cannon Lakes Area (Central Part), District of Kenora (Patricia Portion); Ontario Department of Mines and Northern Affairs Preliminary Map P.685, Geological Series, by K.G. Fenwick, 1971.

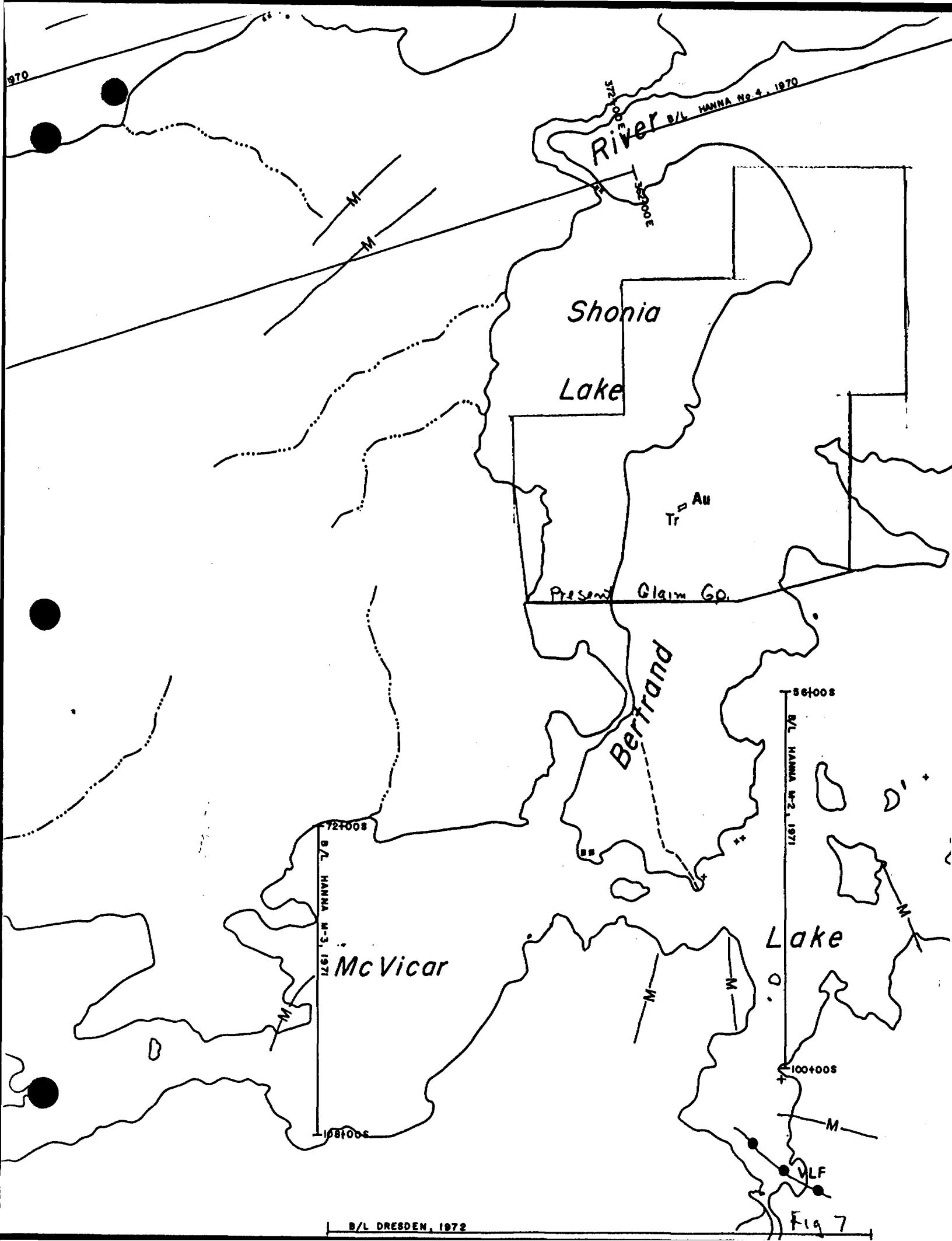
Mining claim sheet M. 2741.

Fig. 6

DATA FILED WITH THE  
RESIDENT GEOLOGIST  
ONTARIO MINISTRY  
OF NATURAL RESOURCES  
RED LAKE

To March 8, 1979

Note: The numbers on the above list stand for the year when the work was done, e.g., 66 for 1966. On the accompanying DATA LOCATION MAP, only areas for which work was submitted to the Ministry are outlined, and thus a company may hold more ground than indicated here. The numbers on the DATA LOCATION MAP and any circled numbers refer to the company above.



## **PART II - GENERAL INFORMATION**

### **2.1 INTRODUCTION**

This report has been compiled and written to comply with the special provisions for submitting geophysical surveys for assessment work credit under the Government of Ontario; Mining Act; Section 77 - Report of Work.

Independent Exploration Services Ltd. of Winnipeg conducted a line cutting and geophysical total field magnetometer, gradiometer and VLF-EM Surveys on the South McVicar Lake property at the request of Mr. O. Baykal, President of Bayaura Mines Ltd. of Calgary. Field work was conducted during the period of February 29 to March 31, 1988.

The grid consisted of 1.8 km. of base lines and 12.6 km. of cut and chained picket lines. The geophysical survey readings were recorded over 12.6 km. of picket lines.

### **2.2 DESCRIPTION, LOCATION AND ACCESS TO PROPERTY**

The North McVicar Lake claim group is comprised of 11 contiguous unpatented mining claims all located in the McVicar Lake Area (claim map G-2121) in the Patricia Mining Division of Ontario.

The claims are recorded under the following claim numbers: Pa 885246, Pa 902159, Pa 902160, Pa 902162 to Pa 902169 incl. (11 claims).

The property is located approximately 100 km. W.N.W. of Pickle Lake and is readily accessible by float/ski equipped aircraft.

### **2.3 PROPERTY OWNERSHIP**

The 11 unpatented mining claims were staked by Mr. Norman Lee of Sioux Lookout. These claims are now recorded in the name of Orhan Baykal, Licence No. S 6939.

The claims are presently on extension and a Report of Work has been filed.

### **2.4 PHYSIOGRAPHY AND VEGETATION**

Glacial erosion scoured the Archean terrain to rolling topography of low relief with softer metavolcanics and metasedimentary areas being generally flatter and lower than the more resistant granitic area. Relief on the claim group probably does not exceed 10 - 15 meters. Much of the area is overlain by a thin mantle of glacial debris. A thin layer of recent organic material post dates the glacial debris. The grainage is generally poor and characterized by acidic bogs and shallow lakes and ponds.

The area is covered by the Boreal Forest with the dominant species of trees being black spruce, minor white spruce, jack pine, birch and poplar. Tog alders and "labrador tea" abound in the low wet areas. Out

crop areas are generally sparse and less than 5% of the total area. Most abundant exposure generally occurs along shore lines.

## 2.5 GENERAL GEOLOGY

The property is located in the Canadian Shield, Uchi Geological Belt. The consolidated rocks of the area are Early Precambrian (Archean) in age and comprise a metavolcanic - metasedimentary assemblage which are tightly isoclinally folded and strike roughly N.W. - S.E. direction in the claim group area.

"The Lang-Cannon Lakes area is underlain by metavolcanics and metasediments that form a narrow belt which is approximately 30 miles long and varies in width from 1/4 to 7 miles.

The metavolcanics are predominantly mafic to intermediate lavas, tuff and amphibolite on the north and south sides of the belt and felsic to intermediate lavas and pyroclastic rocks in the central part of the belt.

The metasediments in the vicinity of Cannon and Card Lakes are up to 3 miles wide. They consist of conglomerate, greywacke, argillite, iron formation, and their derived schists and gneisses. The conglomerate band is 35 chains (2,310 feet) wide west of Cannon Lake.

The metavolcanic-metasedimentary belt is completely surrounded and intruded by granitic rocks.

A stock or sill of gabbro, diorite, anorthosite and anorthositic gabbro extends from the east shore of Sor Lake to 3 miles east of McVicar Lake. Inclusions of gabbro and anorthosite have been found in the mafic metavolcanics, although there is no evidence these are related to the intrusion.

A stock of gabbro and anorthositic gabbro forms a strong oval-shaped magnetic anomaly (ODM-GSC Aeromagnetic Map (904G) in the vicinity of Otoskwin River.

A quartz porphyry stock, thought to be a high level intrusion, is in the central area of McVicar Lake. This stock seems to be related genetically to the felsic pyroclastic rocks in the area.

Drumlins and drumlinoid ridges, striking S70W, are abundant in the area.

Structural Geology: The major structure in the western part of the area is a syncline that trends about N700E and plunges 40E to 60E. The syncline is isoclinal and its axis is located between Boyes and Lang Lakes. Lack of top determinations in the central part of the area has made it necessary to tentatively place the extension of the fold axis through Card Lake.

Two distinct foliations were noted: one closely parallel to primary features such as bedding and volcanic banding, and one trending approximately N30W and dipping steeply. The latter foliation is related to the quartz porphyry intrusion.

Gneissosity is common in the granitic rocks and is generally parallel to the contact with the metavolcanic-metasedimentary rocks.

Several prominent lineaments were noted."

## 2.6 LOCAL GEOLOGY

Locally the northern claims are underlain by mafic metavolcanic rocks that strike NE - SW direction.

The southern claims are underlain by quartz porphyry, gabbro and granite intrusive rocks.

## 2.7 ECONOMIC GEOLOGY

Prospecting has been carried on in the area since 1928. Gold was first discovered on the claim group between Shonia and McVicar Lakes. The gold occurs in quartz in miarolitic cavities within the quartz porphyry. Exploration activities on the property proved to be disappointing.

No substantial mineral occurrences are known to exist on the property.

## 2.8 HISTORY OF EXPLORATION

Prospecting for gold has been carried on in the area since 1928.

Northern Aerial Minerals Exploration Limited (1929)

conducted an evaluation of the gold occurrences at Shonia Lake. Results proved disappointing.

Hanna Mining Co. (1971)

conducted a ground magnetic, electromagnetic, geological mapping and diamond drilling program over the claims area.

Noranda Exploration Co. Ltd. (exact date unknown)

conducted a ground magnetic, electromagnetic and geological investigations on the property.

No substantial mineral deposits are known to exist on the property.

## PART III - GEOPHYSICAL SURVEY

### 3.1 INTRODUCTION

Topographic features and a magnetic compass were utilized in locating the grid position. Picket lines were turned off at right angles from the base line at 100 meter intervals utilizing a "turn off" board or "farmer's transit". All lines were cut to line of sight, chained and picketed at 25 meter intervals.

1.8 km. of base lines and 12.6 km. of picket lines were established. Total field magnetometer, gradiometer and VLF-EM readings were taken along all picketed lines at 12.5 meter intervals.

The results of the surveys are presented as follows:

- Map 1). Grid, Property & Topography Map
- Map 2). Total Field Magnetometer Survey - Contoured
- Map 3). Vertical Gradient Magnetic Survey - Contoured
- Map 4). T.F. Magnetic & Gradient Survey - Posted Readings
- Map 5). VLF - EM Survey - Profiles
- Map 6). VLF - EM Survey - In Phase & Quadrature
  - Posted Readings
- Map 7). VLF - EM Survey - Total Field Strength
  - Posted Readings
- Map 8). VLF-EM - Fraser Filter - Contoured
- Map 9). Interpretation Map

### **3.2 METHODS AND PROCEDURES**

An EDA OMNI PLUS geophysical system was employed for the survey. This system is designed to read and record total field magnetometer, gradiometer and VLF-EM data simultaneously at one pass. All total field magnetometric field readings have been corrected for diurnal drift automatically by employing a base station.

Base station readings were taken at 30 second intervals. All field readings are recorded on memory banks and dumped directly into a computer and stored on diskettes. The field data is then edited and final maps are computer generated and plotted with the aid of Geosoft Mapping System.

### **3.3 DISCUSSION OF RESULTS**

The VLF-EM Survey results outlined four electromagnetically conductive trends labelled Zones A to D (Map 9). The Zones are relatively weak responses with Zone B and C being closely correlated to the shore line of Shonia Lake. These responses are generally broad and may well be a topographic effect.

There is some question if Zones B and C strike across the grid lines in a NW direction or are a response to mapped shear zones running parallel to the picket lines.

The intercepts on lines 7 and 8 north of Zone D are sharp and well defined. These intercepts also correlate with the shoulder of a magnetically high feature. There is a possibility the responses are related to shears running parallel to the picket lines rather than NE - SW features.

## REFERENCES

Fenwick, K.G.

1970: - Lang-Cannon Lake Area (Central Portion) District of Kenora  
(Patricia Portion); Ontario Dept. Mines Preliminary Map P. 665,  
Geological Series.

Panagapko, D.A. and

Gibson, J.C.

1980 - McVicar Lake Area, District of Kenora (Patricia Portion)  
Ontario Geological Survey Preliminary Map P.2026, Red Lake Data  
Series, Scale 1:15840.

W8803 - 00163

Ministry of  
Natural  
ResourcesReport of Work  
(Geophysical, Geological,  
Geochemical and Expenditures)DOCUMENT N  
W8803-16

52011SW0550 2.11312 MCVICAR LAKE

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2.11312

Mining

Type of Survey(s)

Geophysical-magnetometer, vertical gradient &amp; VLF-EM

Township or Area

McVicar Lake G-2122

Claim Holder(s)

Orhan Baykal

Prospector's Licence No.

S 6939

Address

400-805 Eighth Avenue S.W./ Calgary, Alberta; T2P 1H7

Survey Company

Independent Exploration Services Ltd.

Date of Survey (from &amp; to)

29 02 88 31 03 88  
Day Mo. Yr. Day Mo. Yr.

Total Miles of line Cut

14.4 km.

Name and Address of Author (of Geo-Technical report)

L.C. Chastko; 791 Elmhurst Rd.; Winnipeg, Manitoba; R3R 0V3

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	40
	- Magnetometer	20
	- Radiometric	
For each additional survey: using the same grid: Enter 20 days (for each)	Vert. grad. Other	20
	Geological	
	Geochemical	
Man Days	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
<b>RECEIVED</b>	- Magnetometer	
JUN 22 1988	- Radiometric	
	- Other	
MINING LANDS SECTION	Geological	
	Geochemical	
Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Expenditures (excludes power stripping)

Type of Work Performed

Performed on Claim(s)

Calculation of Expenditure Days Credits

Total Expenditures	÷	15	=	Total Days Credits
\$				

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

11

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 Recorded Holder or Agent (Signature)

June 10/88

*KO (Signature)*

For Office Use Only		Action
Total Days Cr.	Date Recorded	Mining Recordist
Recorded	June 13, 1988	<i>KO (Signature)</i>
880	Date Approved as Recorded	Branch Director
		<i>See revised statement</i>

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

L. C. Chastko

791 Elmhurst Rd.; Winnipeg, Manitoba; R3R 0V3

Date Certified

June 10/88

Certified by (Signature)

*KO (Signature)*



Ontario

Ministry of  
Northern Development  
and Mines

Ministère du  
Développement du Nord  
et des Mines

July 22, 1988

Your file: W8803-163  
Our file: 2.11312

Mining Recorder  
Ministry of Northern Development and Mines  
Court House  
P.O. Box 3000  
Sioux Lookout, Ontario  
POV 2T0

Dear Sir:

Re: Notice of Intent dated July 7, 1988  
Geophysical (Electromagnetic & Magnetometer) Survey  
submitted on Mining Claims PA 885246 et al  
in the Area of McVicar Lake

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

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

Yours sincerely,

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

Whitney Block, Room 6610  
Queen's Park  
Toronto, Ontario  
M7A 1W3

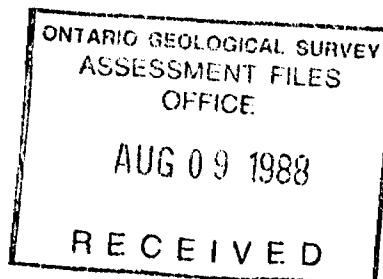
Telephone: (416) 965-4888

ABAB:p1  
Enclosure

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

Resident Geologist  
Sioux Lookout, Ontario

Mr. Orhan Baykal  
Suite 400  
805 Eighth Avenue S.W.  
Calgary, Alberta  
T2P 1H78





Ministry of  
Northern Development  
and Mines

Technical Assessment  
Work Credits

File  
2.11312

Date  
July 7, 1988

Mining Recorder's Report of  
Work No.  
W8803-163

Recorded Holder

Orhan Baykal

TAXXXXXXX Area

McVicar Lake

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic _____ 40 days	PA 885246
Magnetometer _____ 20 days	902159-60
Radiometric _____ days	902162 to 69 inclusive
Induced polarization _____ days	
Other _____ days	
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ days	
Geochemical _____ days	
Man days <input type="checkbox"/>	Airborne <input type="checkbox"/>
Special provision <input checked="" type="checkbox"/>	Ground <input checked="" type="checkbox"/>
<input type="checkbox"/> Credits have been reduced because of partial coverage of claims.	
<input type="checkbox"/> 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

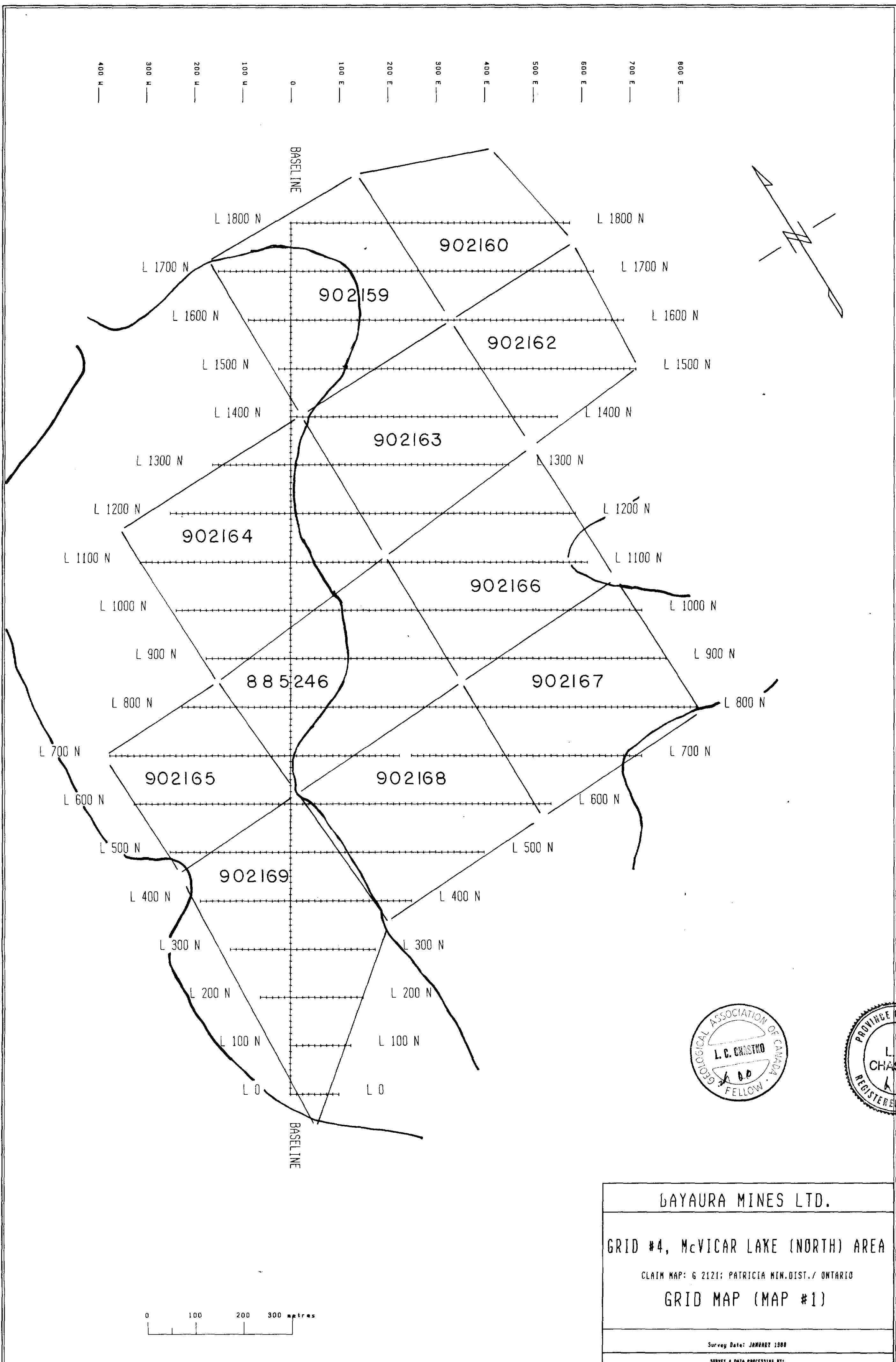
No credits have been allowed for the following mining claims

not sufficiently covered by the survey

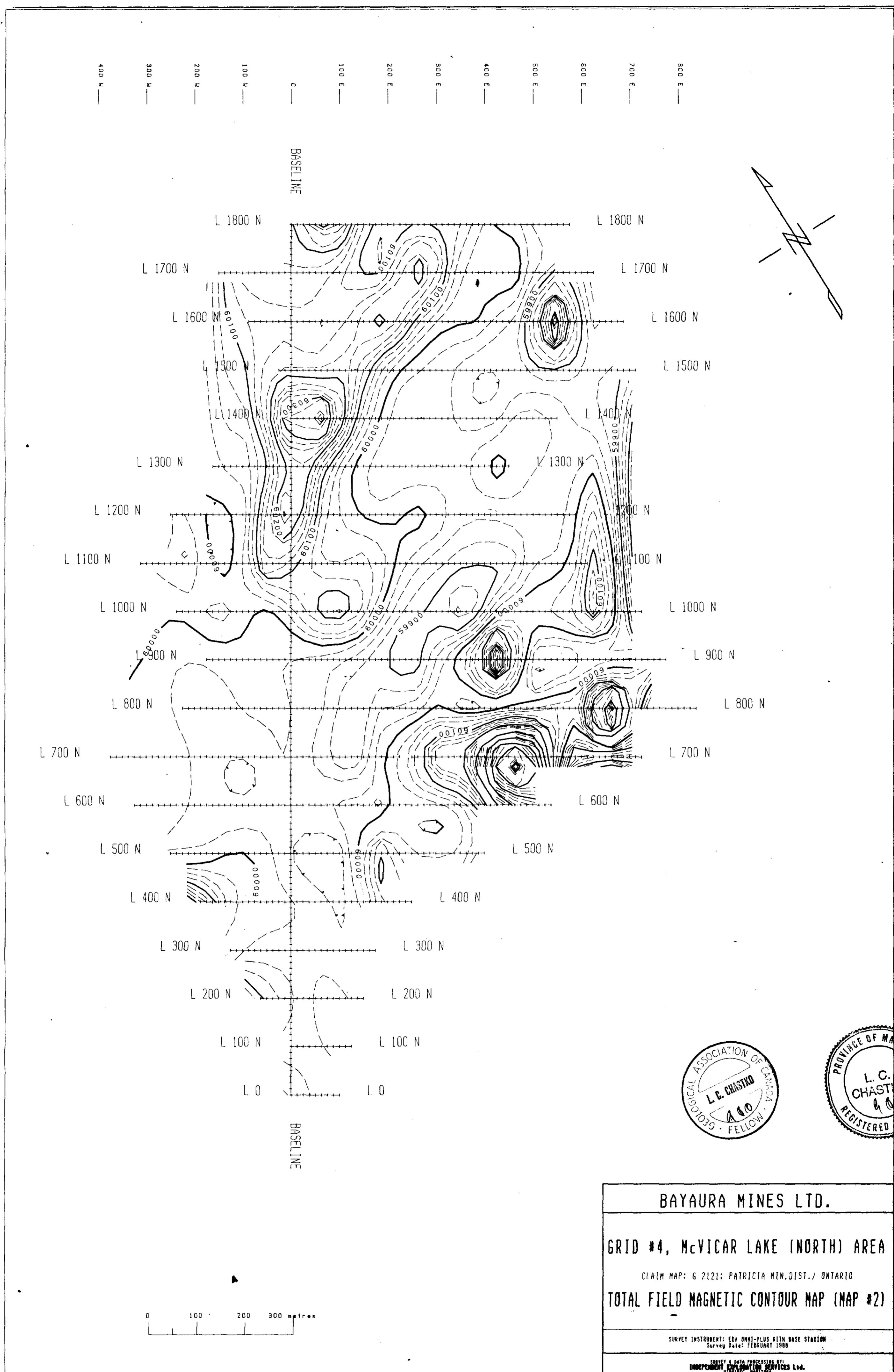
insufficient technical data filed

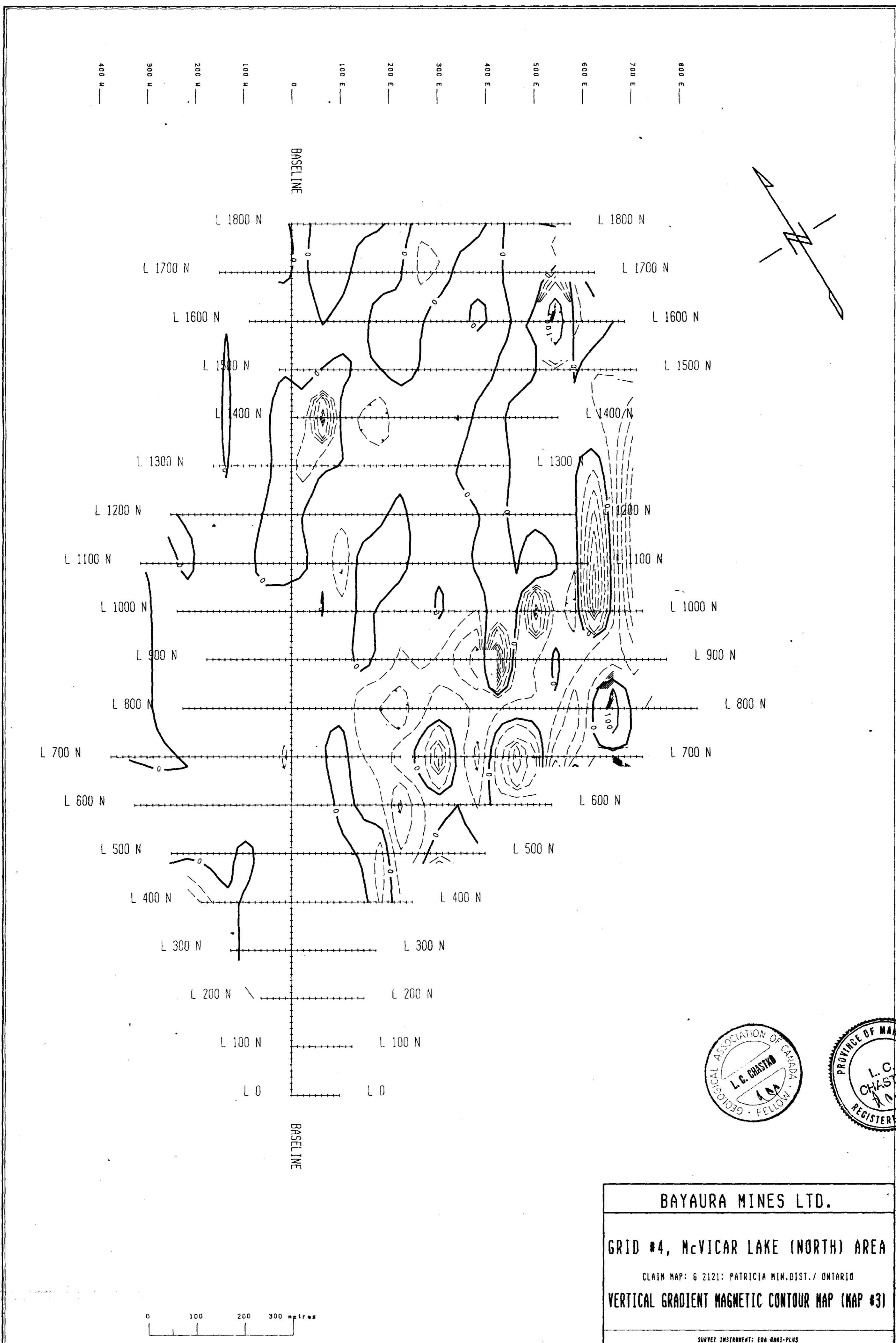
No Gradiometer credits allowed as the survey was done simultaneously  
with the magnetometer survey.

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; Geologocal - 40; Geochemical - 40; Section 77(19) - 60.



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BAYAURA MINES LTD.

GRID #4, McVICAR LAKE (NORTH) AREA

CLAIM MAP: G 2121; PATRICIA MIN.DIST./ ONTARIO

VERTICAL GRADIENT MAGNETIC CONTOUR MAP (MAP #3)

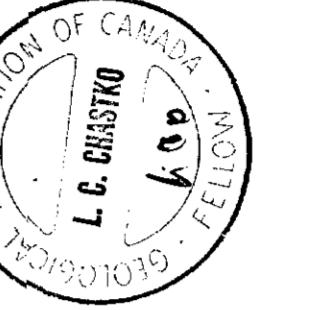
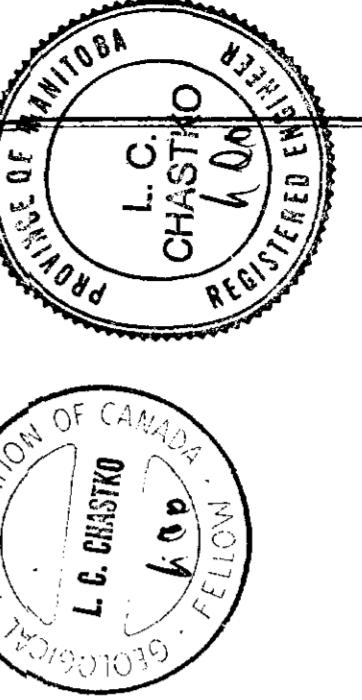
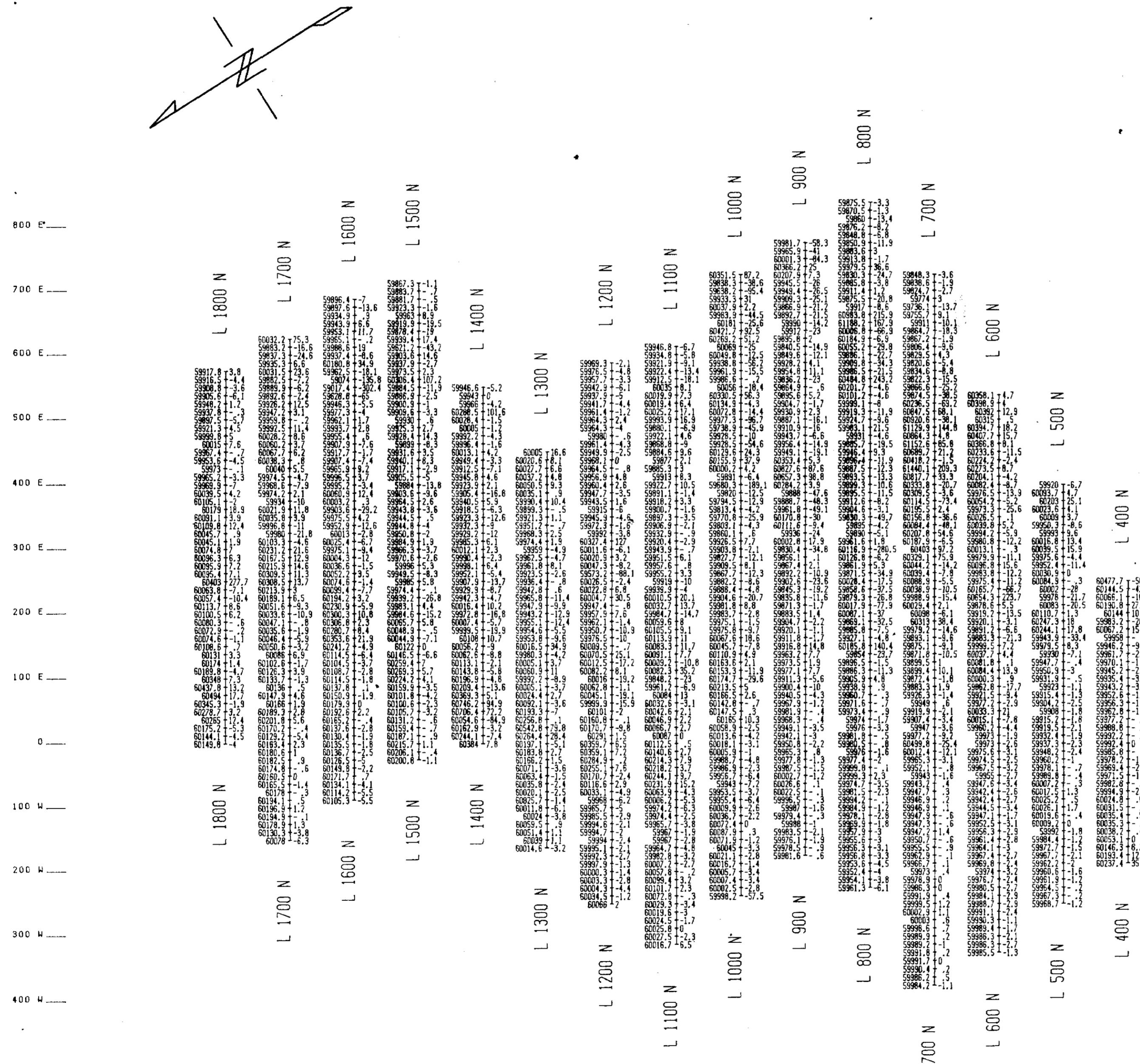
SURVEY INSTRUMENTS: EAQ 8MMI-PLUS  
Survey Date: FEBRUARY 1988

SURVEY & DATA PROCESSING BY  
INDEPENDENT SURVEYING SERVICES LTD.  
Winnipeg, Manitoba

2.11312



520113W056 2.1.1312 MCY CAR LAKE



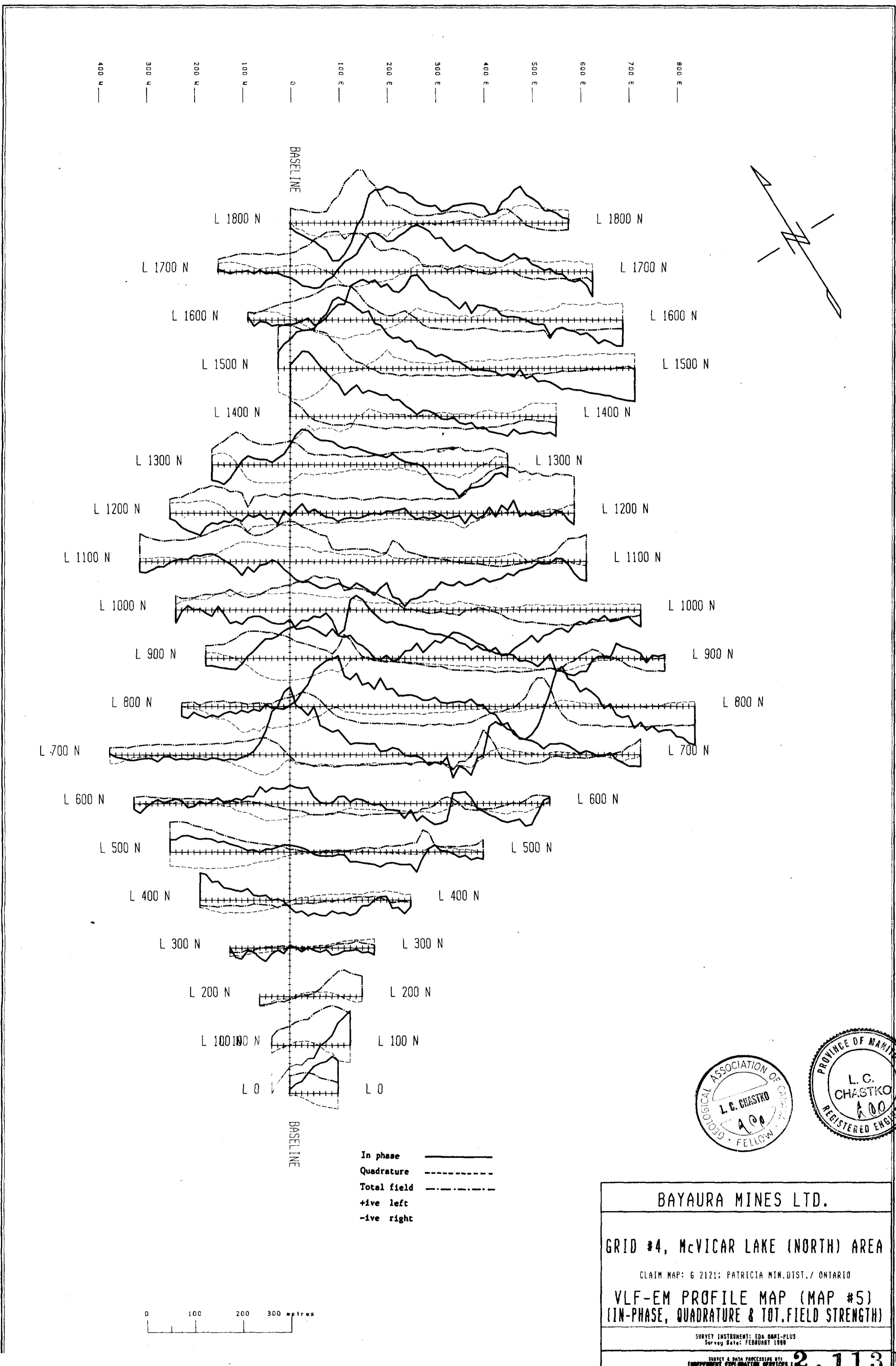
BAYURA MINES LTD.

GRID #4, McVICAR LAKE (NORTH) AREA  
MAGNETIC POSTINGS (MAP #4)  
(TOTAL FIELD & VERTICAL GRADIENT)

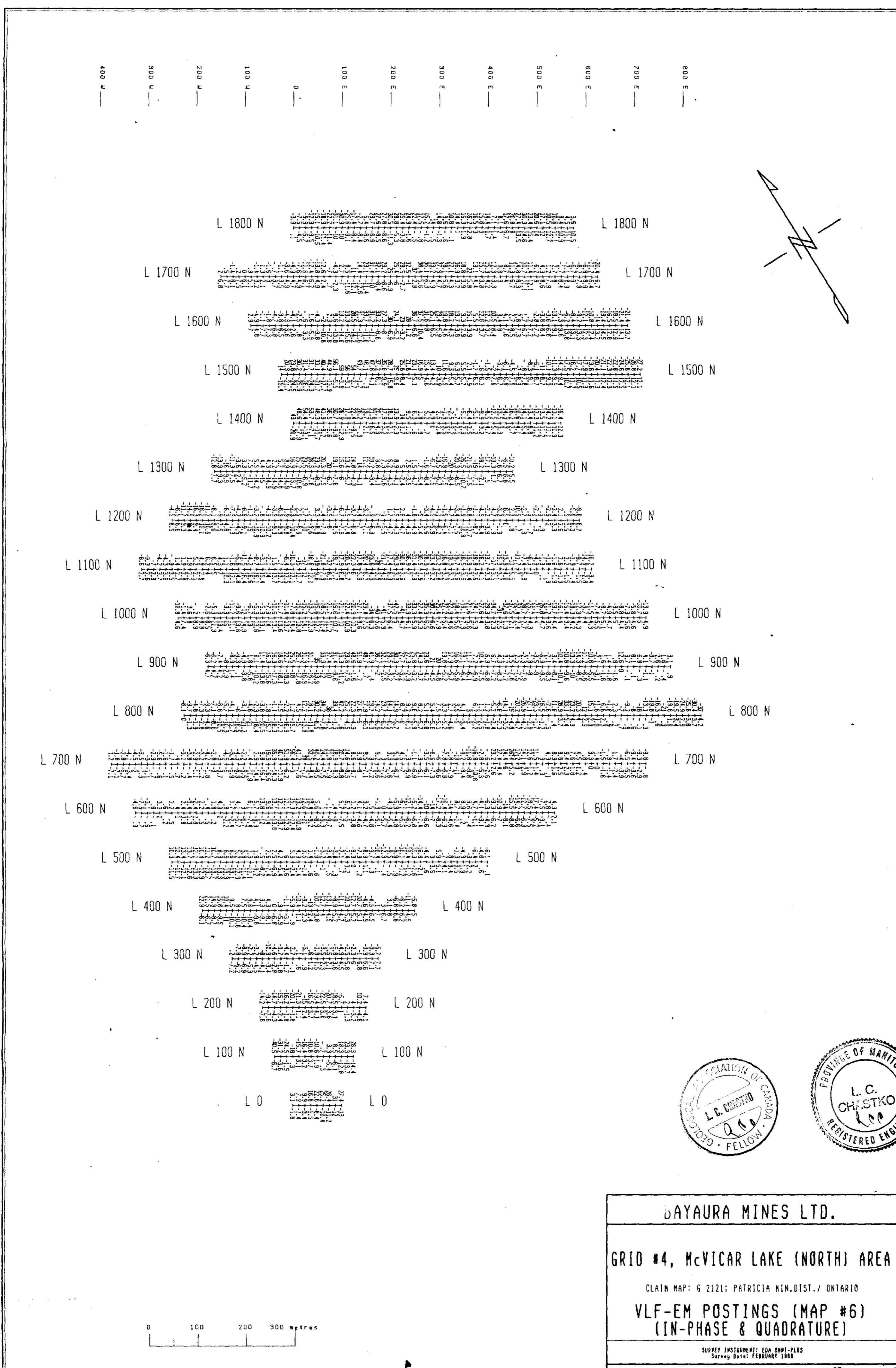
CLAIM MAP: G 2121; PATRICIA MIN. DIST./ONTARIO  
SURVEY INSTRUMENT: EDM 600-PLUS WITH BASE STATION  
SURVEY DATE: FEBRUARY 1988  
RECORDED: FEBRUARY 1988  
SURVEY & DATA PROCESSING INC.  
MANITOBA SURVEY SERVICES LTD.

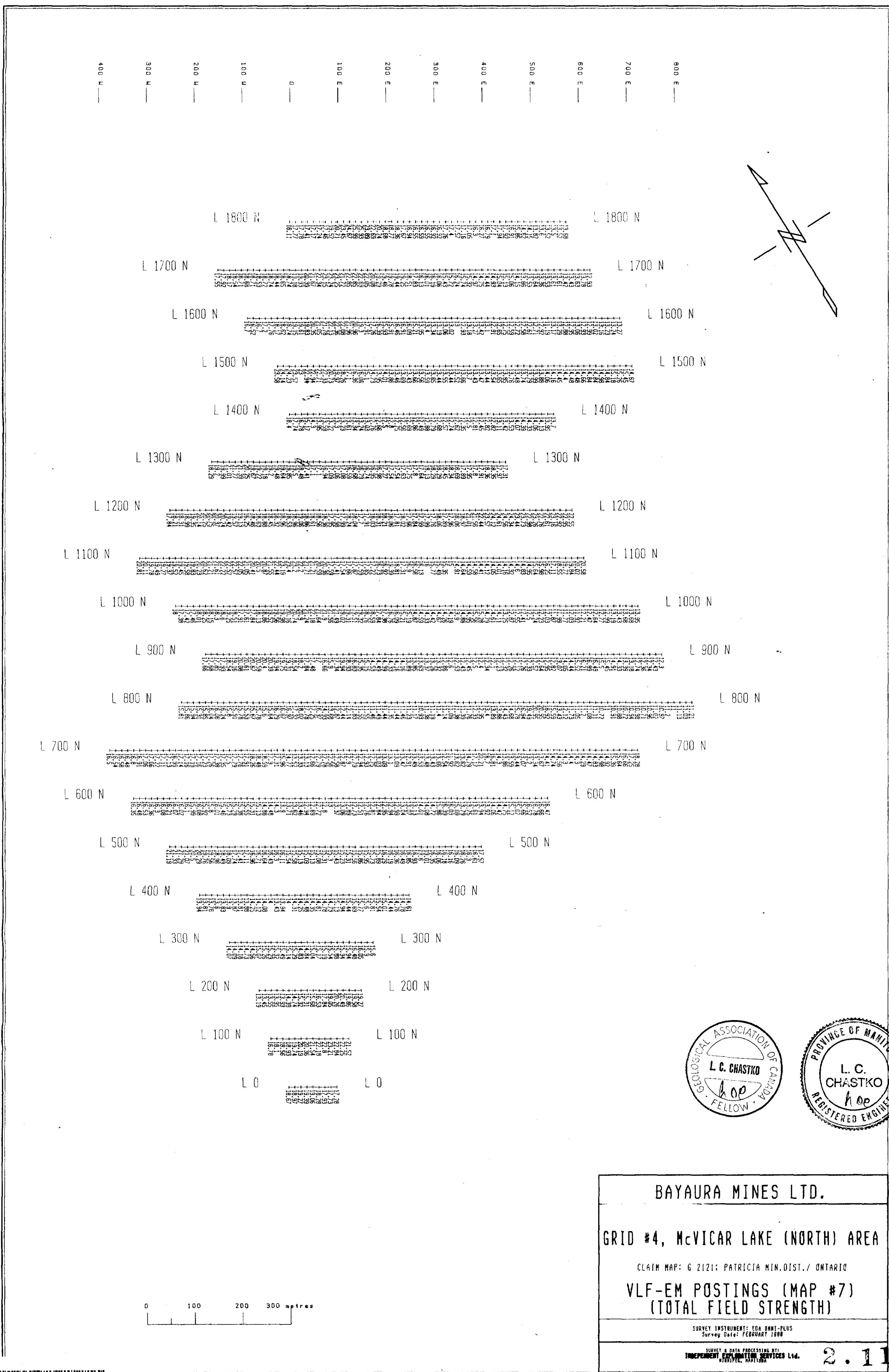
~ 11312

0 100 200 300 metres

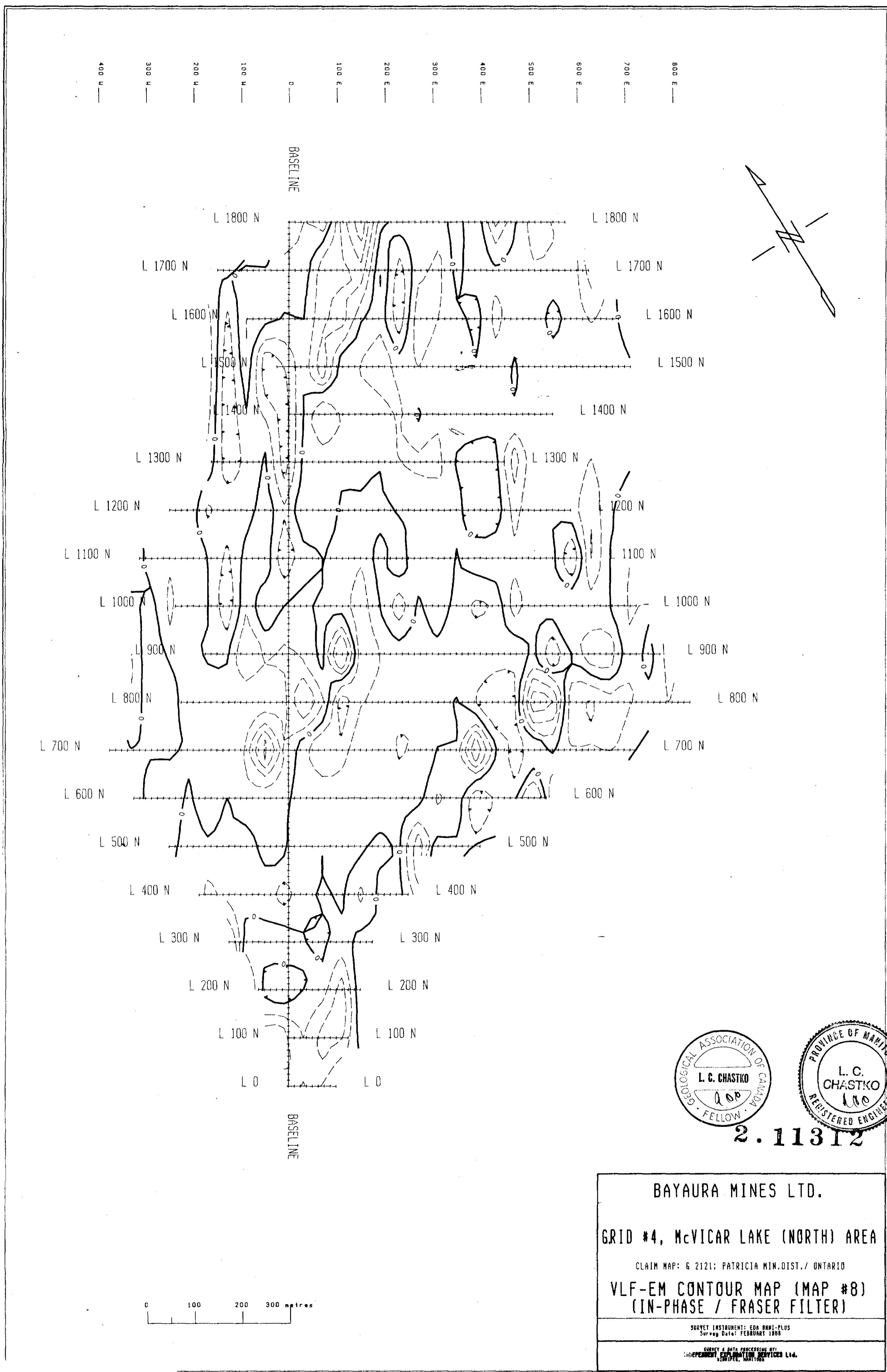


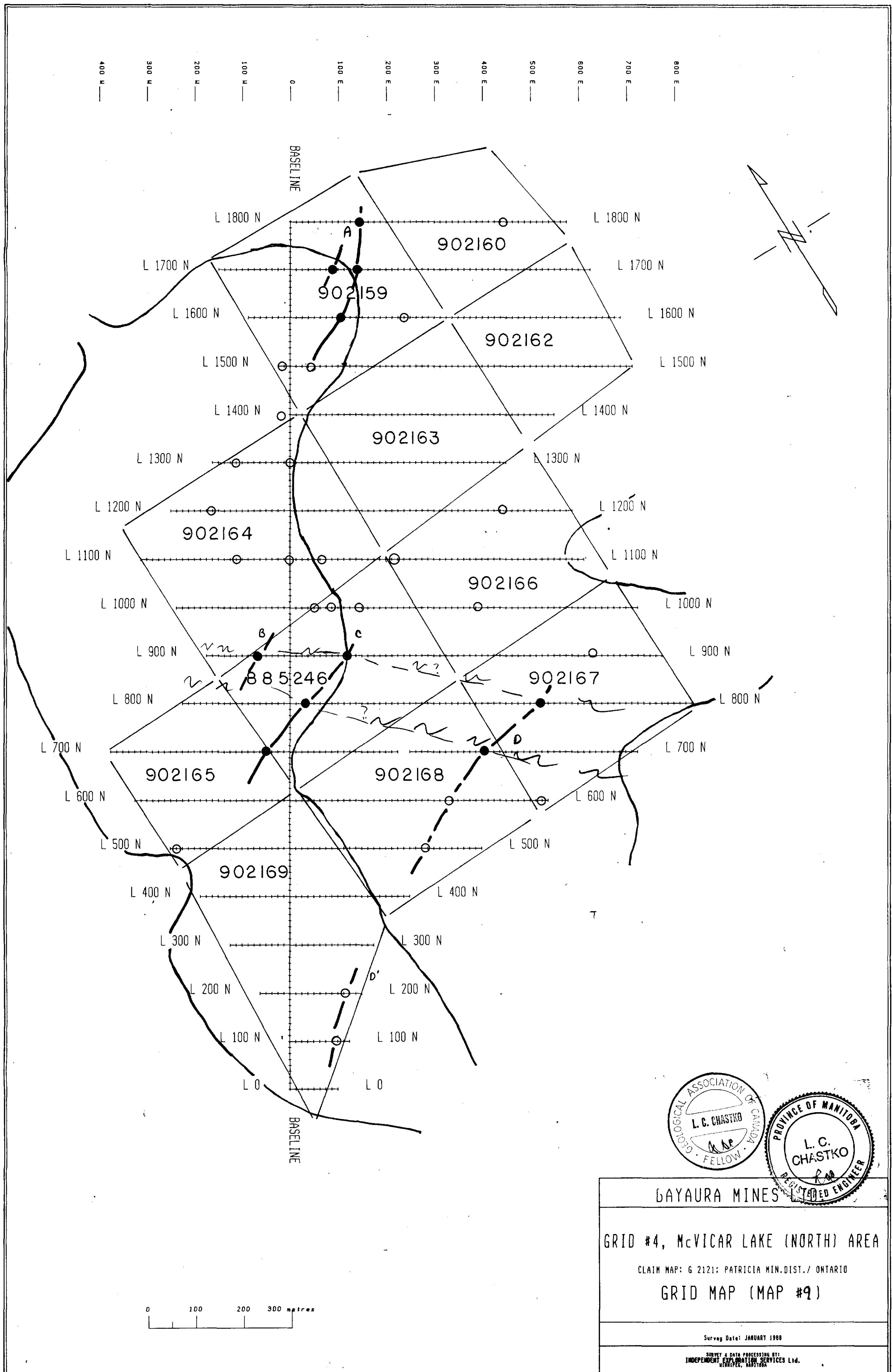
5201SW0550 2.11312 MCVICAR LAKE





0 100 200 300 metres





2.11312