



41P11SW0245 2.4746 ASQUITH

010

MINING LANDS SECTION

MAY - 5 1982

RECEIVED

TIMMINS GOLD RESOURCES LIMITED

ELECTROMAGNETIC SURVEY

JESSE JAMES PROPERTY

ASQUITH TOWNSHIP

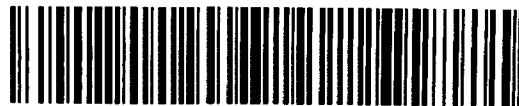
LARDER LAKE MINING DIVISION

DISTRICT OF SUDBURY

ONTARIO

MARCH 1982





41P11SW0245 2.4746 ASQUITH

010C

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Accompanying Maps

Drawing #2 - Electromagnetic Survey - Scale: 1 inch to 200 feet



## A. INTRODUCTION

The Jesse James property consists of 10 (ten) contiguous claims in Asquith Township, Larder Lake Mining Division, District of Sudbury, Ontario. This claim block which consists of claims L. 579123, L. 579125, L. 579127, L. 579128, L. 552910, L. 620914, L. 620915, L. 620916, L.620917, L. 620918 is held by Timmins Gold Resources Ltd.

During October 1981, a grid was cut over the property and a subsequent magnetometer survey was conducted for Timmins Gold Resources by Exploration Services Reg'd. of Noranda, Quebec.

Following this, in February 1982, a electromagnetic (EM-16) survey was conducted by Narex Ore Search Consultants Inc.

## B. LOCATION AND ACCESS

The claim group is located in the central part of Asquith Township, approximately one mile southwest of the village of Shining Tree, Ontario, which is located on Highway 560.

The claim group is bounded on the north by Highway 560 and on the west by Jesse James Lake.

## C. SURVEY AND INSTRUMENT DATA

The survey was conducted over previously cut north-south lines which are spaced at 400 foot intervals across the property. A total of 7.3 miles of grid and baseline were cut and picketed every 100 feet. The baseline, which is oriented east-west, has a length of 3,700 feet across the middle of the property.



## Electromagnetic Survey

The electromagnetic survey was carried out using a "Geonics" EM-16 unit. The EM-16 is a sensitive receiver covering the frequency of the V.L.F. (very low frequency) transmitting stations, with a means of measuring the vertical field components. The VLF transmitting stations operating for communication with submarines, have a vertical antenna. The antenna current is thus vertical, creating a concentric horizontal magnetic field around them. When these magnetic fields meet conductive bodies in the ground, secondary fields are set up radiating from these bodies. The EM-16 equipment measures the vertical component of these secondary fields.

The receiver has two inputs with two receiving coils built into the instrument. One coil has a normally vertical axis, and the other, a horizontal one. Secondary fields caused by conductive bodies, are therefore measured by the EM-16 by the angle of dip on the instrument and by measured percentage of the quadrature component (out of phase component) to give a null signal. Any deviation from the zero null position is indicative of a secondary field and therefore, of a possible conductive body.

The transmitting station used for this survey was station NAA (17.8 kHz) Cutler, Maine, U.S.A. Readings were taken every 50 feet along the picketed lines for a total of 702 readings.

### D. INTERPRETATION OF RESULTS - Electromagnetic Survey (Drawing No. 2)

Several moderate strength, generally east-west trending conductors, were detected by the EM-16 survey.

Conductor A is a moderate strength conductor which is traceable over 2,000 feet in claims L. 579128, L. 552910 and L. 579127. The quadrature response for this conductor is generally weak but shows similar inflection with the in-phase components. This suggests a moderate to poor conductive feature.



Conductor B is also a moderate strength conductor similar to Conductor A, whose axis strikes in an east-southeast direction parallel to Conductor A. Conductor B is traceable over 1,200 feet in claims L. 620918 and L. 620917, and probably continues further to the east. The quadrature response is similar to Conductor A and suggests a poor conductive zone.

Conductor C has an axis which strikes in a north-northeast direction. It is traceable over 800 feet in claims L. 620915, L. 620916 and L. 620917. Conductor C is weaker than either A or B and suggests a weakly conductive zone.

Conductor D is traceable over 400 feet in claim L. 620916. The axis trends in an east-northeast direction. Quadrature response is weak and similar to the in-phase component suggesting a weak conductor probably related to surface effects.

#### E. SUMMARY AND RECOMMENDATIONS

Results from the electromagnetic (EM-16) survey show several significant conductors over the Jesse James property.

Conductor A (2,000 feet long) and Conductor B (1,200 feet long) strike in an east, southeasterly direction across the middle of the property parallel to the baseline. This area is mainly swamp and low-lying ground, which may be one of the explanations for Conductors A and B. However, it is believed that Conductors A and B may represent a weakly conductive fault zone. The slight displacement of Conductor A from B suggests that they were originally one continuous feature, which has been displaced by a north-south striking off-set fault. Both of these conductors also appear to be related to areas of slightly lower magnetic gradients and magnetic strength.

Conductors C and D are weak, short, north-northeast, east-northeast trending conductors which probably represent surficial conductive overburden, or slightly conductive shear zones. Both of these conductors are underlain by areas of relatively low magnetic gradients and magnetism.



Detailed geological mapping may confirm these geophysical interpretations. It is therefore recommended that a program consisting of detailed geological mapping be carried out over the property in order to understand the geophysical results and outline potential drill targets.

*Peter Born*

Peter Born

May 1982







Mining Lands Comments


To: Geophysics *Ms Barber*

Comments

<input checked="" type="checkbox"/> Approved	<input type="checkbox"/> Wish to see again with corrections	Date <i>Jan 3/87</i>	Signature <i>[Signature]</i>
--	---	-------------------------	---------------------------------

To: Geology - Expenditures

Comments

<input type="checkbox"/> Approved	<input type="checkbox"/> Wish to see again with corrections	Date	Signature
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To: Geochemistry

Comments

*(D)*

<input type="checkbox"/> Approved	<input type="checkbox"/> Wish to see again with corrections	Date	Signature
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To: Mining Lands Section, Room 6462, Whitney Block. (Tel: 5-1380)





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) Geophysical - Electromagnetic

Township or Area Asquith Township

Claim Holder(s) Timmins Gold Resources Ltd.

Suite 208 - 4900 Sheppard Ave., Scarborough

Survey Company Narex Ore Search Consultants

Author of Report Peter Born

Address of Author 208-4900 Sheppard Ave E., Scarborough, Ont

Covering Dates of Survey Feb. 15 - May 4, 1982  
(linecutting to office)

Total Miles of Line Cut 7.3 miles

MINING CLAIMS TRAVERSED  
List numerically

- L. 552910  
(prefix) (number)
- 578123
- 579125
- 579127
- 579128
- 620914
- 620915
- 620916
- 620917
- 620918

If space insufficient, attach list

SPECIAL PROVISIONS  
CREDITS REQUESTED

DAYS  
per claim

- Geophysical
- Electromagnetic 20
- Magnetometer \_\_\_\_\_
- Radiometric \_\_\_\_\_
- Other \_\_\_\_\_
- Geological \_\_\_\_\_
- Geochemical \_\_\_\_\_

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

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

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

DATE: May 4, 1982 SIGNATURE: *Peter Born*  
Author of Report or Agent

Res. Geol. \_\_\_\_\_ Qualifications 2.3604

Previous Surveys

File No.	Type	Date	Claim Holder

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 702 Number of Readings 702
Station interval 50 feet Line spacing 400 feet
Profile scale 1 inch to 20%
Contour interval

MAGNETIC

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

ELECTROMAGNETIC

Instrument Gepnics FM-16
Coil configuration
Coil separation
Accuracy +/- 1%
Method: [x] Fixed transmitter [ ] Shoot back [ ] In line [ ] Parallel line
Frequency 17.8 kHz NAA (specify V.L.F. station)
Parameters measured dip angle of the in-phase and quadrature components (%)

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

**SELF POTENTIAL**

Instrument \_\_\_\_\_ Range \_\_\_\_\_

Survey Method \_\_\_\_\_

Corrections made \_\_\_\_\_

**RADIOMETRIC**

Instrument \_\_\_\_\_

Values measured \_\_\_\_\_

Energy windows (levels) \_\_\_\_\_

Height of instrument \_\_\_\_\_ Background Count \_\_\_\_\_

Size of detector \_\_\_\_\_

Overburden \_\_\_\_\_

(type, depth - include outcrop map)

**OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)**

Type of survey \_\_\_\_\_

Instrument \_\_\_\_\_

Accuracy \_\_\_\_\_

Parameters measured \_\_\_\_\_

Additional information (for understanding results) \_\_\_\_\_

**AIRBORNE SURVEYS**

Type of survey(s) \_\_\_\_\_

Instrument(s) \_\_\_\_\_  
(specify for each type of survey)

Accuracy \_\_\_\_\_  
(specify for each type of survey)

Aircraft used \_\_\_\_\_

Sensor altitude \_\_\_\_\_

Navigation and flight path recovery method \_\_\_\_\_

Aircraft altitude \_\_\_\_\_ Line Spacing \_\_\_\_\_

Miles flown over total area \_\_\_\_\_ Over claims only \_\_\_\_\_

GEOCHEMICAL SURVEY - PROCEDURE RECORD

Numbers of claims from which samples taken \_\_\_\_\_

Total Number of Samples \_\_\_\_\_

Type of Sample \_\_\_\_\_  
(Nature of Material)

Average Sample Weight \_\_\_\_\_

Method of Collection \_\_\_\_\_

Soil Horizon Sampled \_\_\_\_\_

Horizon Development \_\_\_\_\_

Sample Depth \_\_\_\_\_

Terrain \_\_\_\_\_

Drainage Development \_\_\_\_\_

Estimated Range of Overburden Thickness \_\_\_\_\_

**SAMPLE PREPARATION**

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis \_\_\_\_\_

General \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_

**ANALYTICAL METHODS**

Values expressed in: per cent   
p. p. m.   
p. p. b.

Cu, Pb, Zn, Ni, Co, Ag, Mo, As, (circle)

Others \_\_\_\_\_

Field Analysis (\_\_\_\_\_ tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Field Laboratory Analysis

No. (\_\_\_\_\_ tests)

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

Commercial Laboratory (\_\_\_\_\_ tests)

Name of Laboratory \_\_\_\_\_

Extraction Method \_\_\_\_\_

Analytical Method \_\_\_\_\_

Reagents Used \_\_\_\_\_

General \_\_\_\_\_

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1982 05 17

2.4745

Mining Recorder  
Ministry of Natural Resources  
4 Government Road East  
P.O. Box 984  
Kirkland Lake, Ontario  
P2N 1A2

Dear Sir:

We have received reports and maps for a Geophysical (Electromagnetic) Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims L 552910 et al in the Township of Asquith.

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

Yours very truly,

E.F. Anderson  
Director  
Land Management Branch

Whitney Block, Room 6450  
Queen's Park  
Toronto, Ontario  
M7A 1W3  
Phone: 416/965-1316

J. Skura/amc

cc: Timmins Gold Resources Ltd.  
Scarborough, Ontario

cc: Mr. Peter Born/Narex Ore Search Consultants  
Scarborough, Ontario

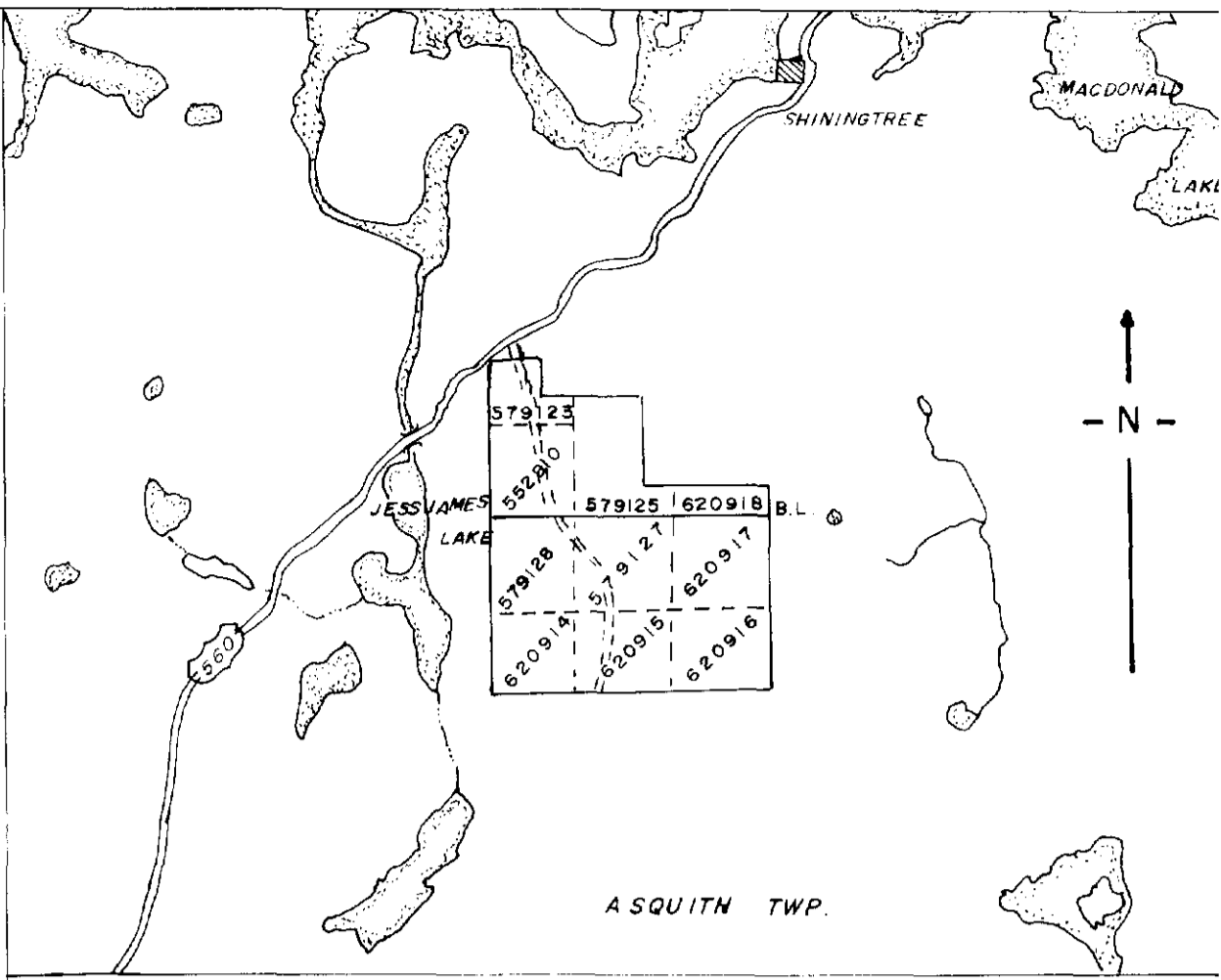
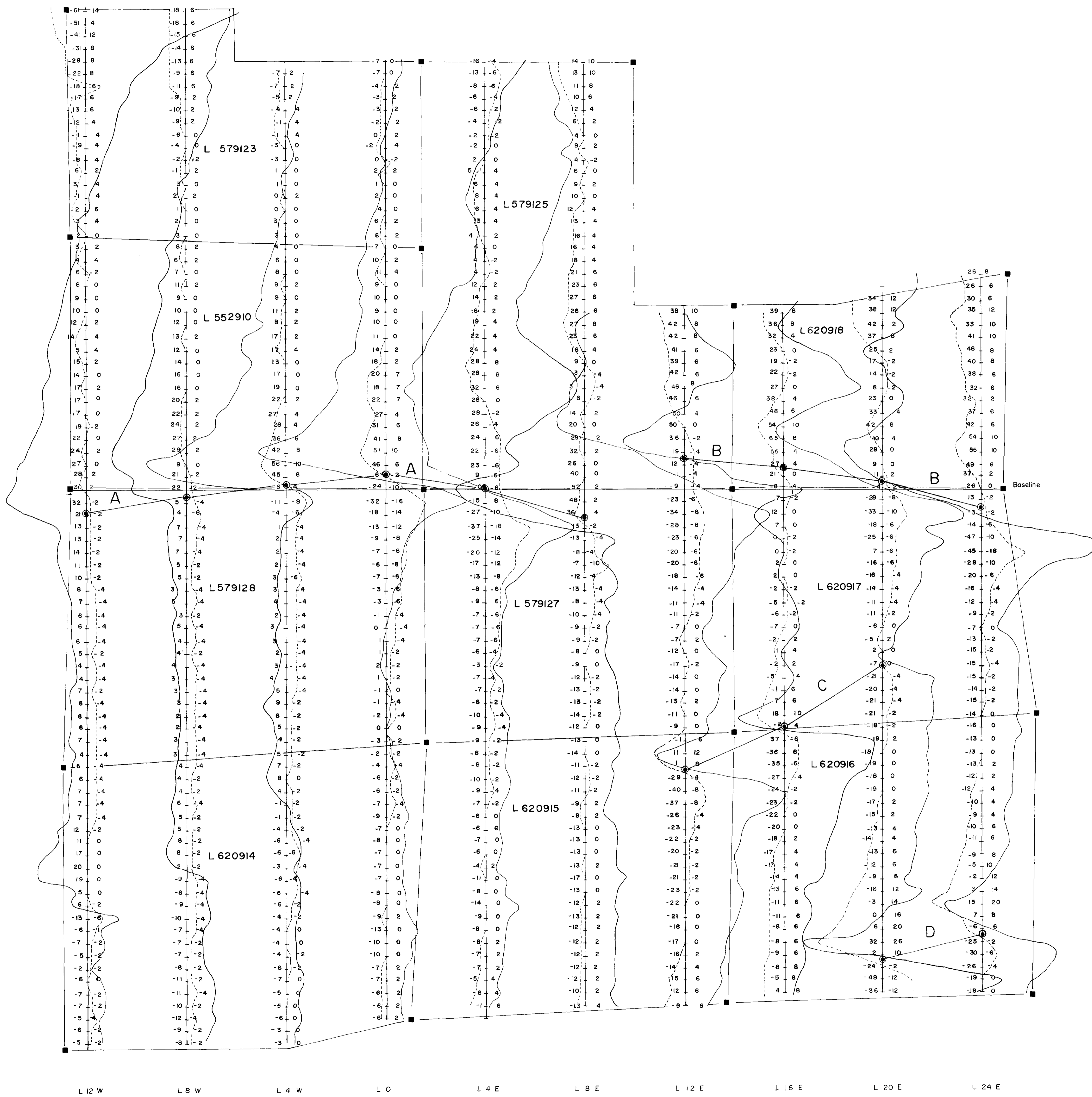
Luminus Gold Resources Ltd

2.4746

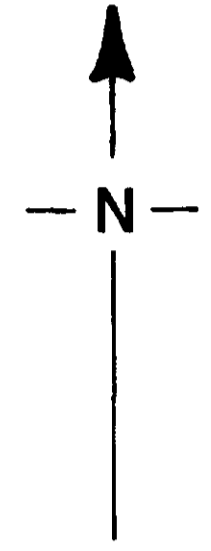
L 552910	✓
579123	✓
579125	✓
27	✓
28	✓
620914	✓
15	✓
16	✓
17	✓
18	✓



20+00 N  
18+00 N  
16+00 N  
14+00 N  
12+00 N  
10+00 N  
8+00 N  
6+00 N  
4+00 N  
2+00 N  
0+00  
2+00 S  
4+00 S  
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22+00 S



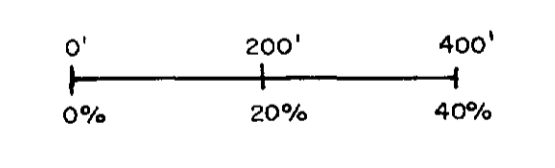
INDEX MAP



**ELECTROMAGNETIC SURVEY**

OPERATOR: P. BORN  
 INSTRUMENT: EM-16 (Geonics)  
 READINGS: in-phase and quadrature components (%)  
 STATION: NAA 17.8 kHz  
 PROFILES: IN-PHASE + QUADRATURE

DATE: March, 1982  
 SCALE: 1 inch to 200 feet  
 1 inch to 20%



EM-16 Conductor Axis

**TIMMINS GOLD RESOURCES**  
 ELECTROMAGNETIC SURVEY  
**JESSE JAMES PROPERTY**  
 ASQUITH TOWNSHIP, ONTARIO

Drawn by: P. Born	Date: April, 1982	Approved by: <i>P. Born</i>
Conducted by: P. Born	Date: Mar., 1982	
<b>NAREX</b>	NAREX Ore Search Consultants Inc.	Map No: 2