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**CANADIAN EXPLORATION SERVICES LTD**

**KNIGHTSBRIDGE EXPLORATION LTD**

**Q2338 – North Wind Property  
VLF EM Survey**

**C Jason Ploeger, P.Geo. – June 2, 2017**

# KNIGHTSBRIDGE EXPLORATION LTD.

## **Abstract**

CXS was contracted by Knightsbridge to expand and better define a VLF response generated from some reconnaissance traverses in 2016 over the North Wind Property. These traverses were also targeting an historic airborne EM response south of Connaught Lake.

A total of 20.3 kilometers of VLF EM survey was performed in mid March. Multiple targets of VLF EM response were noted with further geophysical followup recommended.

**KNIGHTSBRIDGE EXPLORATION LTD.**

**Q2338 – North Wind Property  
VLF EM Survey**

**C Jason Ploeger, P.Geol. – June 2, 2017**

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## 1. SURVEY DETAILS

### 1.1 PROJECT NAME

This project is known as the **North Wind Property**.

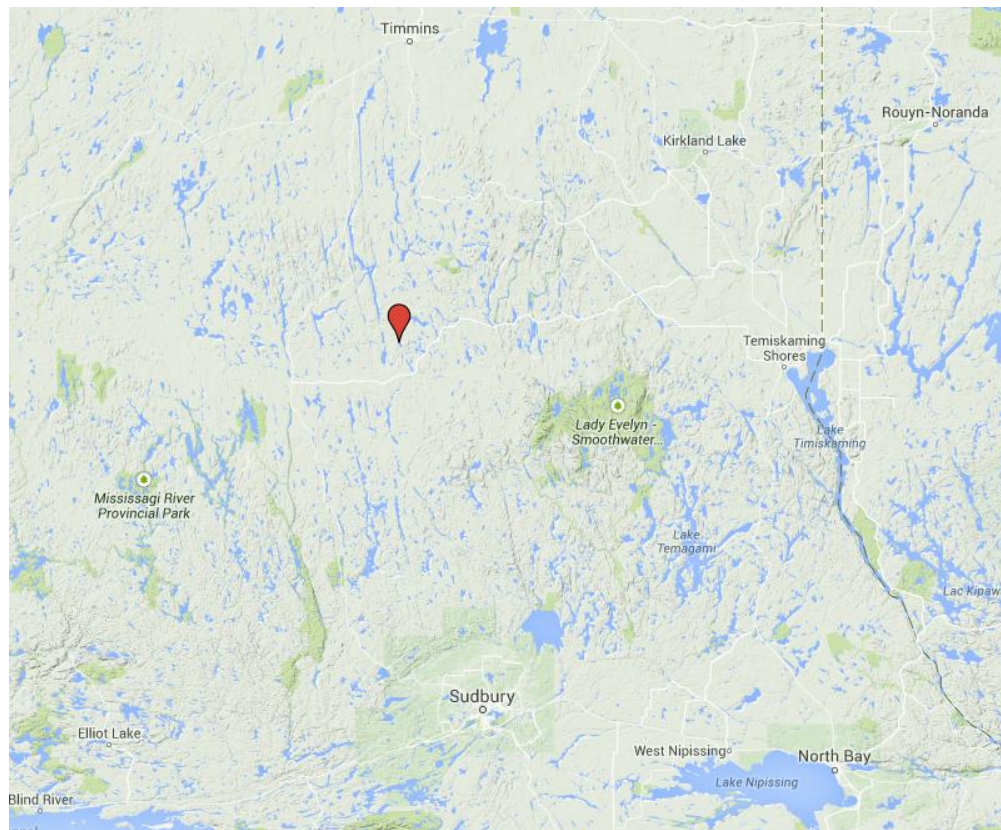
### 1.1 CLIENT

Knightsbridge Exploration Ltd

P.O. Box 219  
Larder Lake, Ontario  
P0K 1L0

### 1.2 LOCATION

The North Wind Property is located approximately 10 km northwest of Shining Tree, Ontario. The survey area covers mining claims numbered 4270316, 4270317 and 4270318, located in Connaught Township, within the Larder Lake Mining Division.



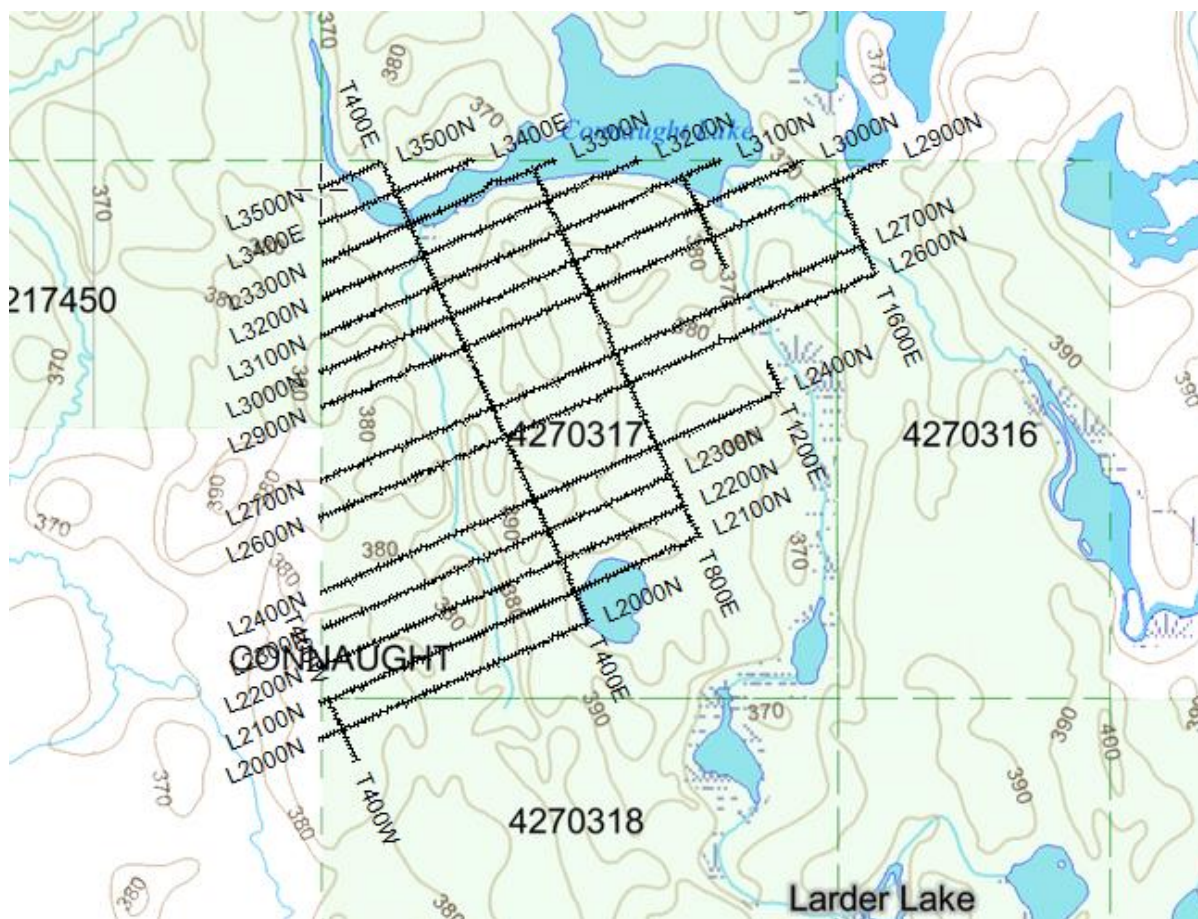
**Figure 1: Location of the North Wind Property**

### 1.3 ACCESS

Access to the property was attained with a 4x4 truck via highway 560. Approximately 16km west of the town of Shining Tree, Ontario, a forestry access road was travelled north for an additional 19 kilometers to a point where the survey area crossed the road.

### 1.4 SURVEY GRID

The traversed lines were established using a GPS in conjunction with the execution of the survey. The GPS operator would establish sample locations while remaining approximately 12.5m in front of the VLF EM operator. GPS waypoints and VLF EM samples were taken every 12.5m along these controlled traverses. The GPS used was a Garmin GPSMAP 62s.



**Figure 2: Claim Map with the North Wind Traverses**

## 2. SURVEY WORK UNDRTAKEN

### 2.1 SURVEY LOG

Date	Description	Line	Min Extent	Max Extent	Total Survey (m)
March 18, 2017	Begin VLF EM survey.	2400N	287.5W	1200E	1487.5
		3100N	25E	1325E	1300
		3200N	87.5E	1112.5E	1025
		3300N	112.5E	887.5E	775
		3400N	150E	650E	500
		3500N	200E	400E	200
		1200E	2400N	2500N	100
		1200E	2800N	3100N	300
March 19, 2017	Continue survey.	2200N	425W	400E	825
		2300N	325W	800E	1125
		2600N	200W	1600E	1800
		2700N	150W	1600E	1750
		2900N	62.5W	400E	462.5
		3000N	25W	400E	425
		400E	2200N	3500N	1300
		800E	2300N	3300N	1000
March 20, 2017	Complete VLF EM survey.	2000N	475W	400E	875
		2100N	425W	800E	1225
		2200N	400E	800E	400
		2900N	400E	1775E	1375
		3000N	400E	1550E	1150
		1600E	2600N	2900N	300
		400W	1900N	2100N	200
		400E	2000N	2200N	200
		800E	2100N	2300N	200

**Table 1: Survey Log**

### 2.2 PERSONNEL

Claudia Moraga of Britt, Ontario, conducted all the VLF EM data collection while Bill Bonney of Kirkland Lake, Ontario was responsible for the GPS control and GPS waypoint collection.

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## **2.3 SURVEY SPECIFICATIONS**

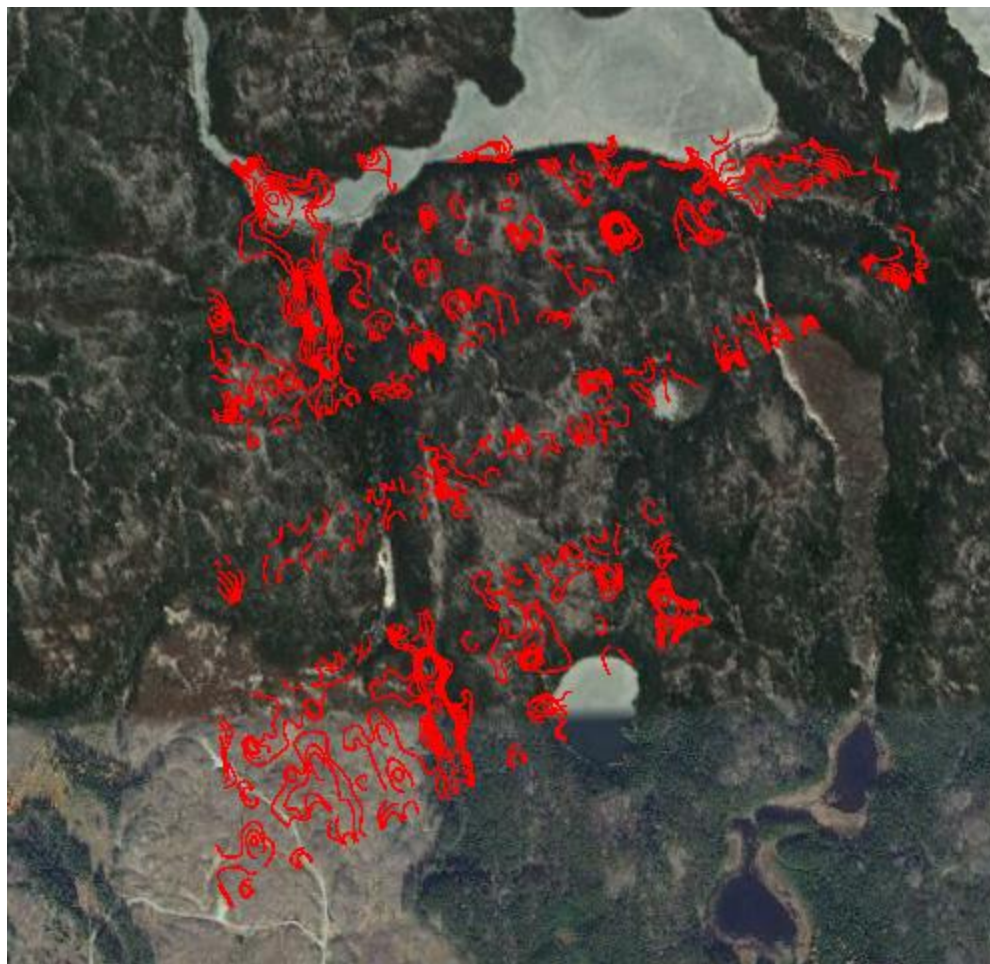
The survey was conducted with a GSM-19 v7 VLF.

A total of 20.3 line kilometers of VLF EM was read over the North Wind Property between March 18<sup>th</sup> to March 20<sup>th</sup>, 2017. This consisted of 1624 VLF samples taken at a 12.5m sample interval.



### 3. OVERVIEW OF SURVEY RESULTS

#### 3.1 SUMMARY



**Figure 3: VLF Fraser Filter Contours on Google Earth**

Little culture was noted over the survey area that may influence the survey results. The only note was of a partial airplane fuselage located at the east end of the survey area between lines 3000N and 3100N, which was noticed during a crossover. There appeared to be no influence from this or any other of the snow covered wreckage.

A strong north south linear VLF EM response occurs between 100N and 200N. This strong VLF signature appears to follow a topographical low, along with a series of ponds and creeks. This response appears to be the result of a structural feature.

A strong crossover occurs in the vicinity of line 2200N and 725E. This crossover can also be seen in the baseline and surrounding lines. I would recommend prospecting this region to help identify the source of the anomaly.

The north-east part of the survey area over line 3200N through 2600N and from

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800E eastward, exhibit multiple strong responses. A focus of future exploration programs should be in this area. I would recommend cutting a survey grid covering the region from tieline 400E eastward. On this grid I would recommend mapping the geology, performing a Max-Min survey and Pole-Dipole IP survey.

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## APPENDIX A

### STATEMENT OF QUALIFICATIONS

I, C. Jason Ploeger, hereby declare that:

1. I am a professional geophysicist with residence in Larder Lake, Ontario and am presently employed as a Geophysicist and Geophysical Manager of Canadian Exploration Services Inc. of Larder Lake, Ontario.
2. I am a Practicing Member of the Association of Professional Geoscientists, with membership number 2172.
3. I graduated with a Bachelor of Science degree in geophysics from the University of Western Ontario, in London Ontario, in 1999.
4. I have practiced my profession continuously since graduation in Africa, Bulgaria, Canada, Mexico and Mongolia.
5. I am a member of the Ontario Prospectors Association, a Director of the Northern Prospectors Association and a member of the Society of Exploration Geophysicists.
6. I do not have nor expect an interest in the properties and securities of **Knightsbridge**.
7. I am responsible for the final processing and validation of the survey results and the compilation of the presentation of this report. The statements made in this report represent my professional opinion based on my consideration of the information available to me at the time of writing this report.



C. Jason Ploeger, P.Geo., B.Sc.  
Geophysical Manager  
Canadian Exploration Services Inc.

Larder Lake, ON  
June 2, 2017

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## **APPENDIX B**

### **THEORETICAL BASIS AND SURVEY PROCEDURES**

#### **VLF EM SURVEY**

The frequency domain VLF electromagnetic survey is designed to measure both the vertical and horizontal in-phase (IP) and Quadrature (OP) components of the anomalous field from electrically conductive zones. The sources for VLF EM surveys are several powerful radio transmitters located around the world which generate EM radiation in the low frequency band of 15-25kHz. The signals created by these long-range communications and navigational systems may be used for surveying up to several thousand kilometers away from the transmitter. The quality of the incoming VLF signal can be monitored using the field strength. A field strength above 5pT will produce excellent quality results. Anything lower indicates a weak signal strength, and possibly lower data quality. A very low signal strength (<1pT) may indicate the radio station is down.

The EM field is planar and horizontal at large distances from the EM source. The two components, electric (E) and magnetic (H), created by the source field are orthogonal to each other. E lies in a vertical plane while H lies at right angles to the direction of propagation in a horizontal plane. In order to ensure good coupling, the strike of possible conductors should lie in the direction of the transmitter to allow the H vector to pass through the anomaly, in turn, creating a secondary EM field.

The VLF EM receiver has two orthogonal aeriels which are tuned to the frequency of the transmitting station. The direction of the source station is located by rotating the sensor around a vertical axis until a null position is found. The VLF EM survey procedure consists of taking measurements at stations along each line on the grid. The receiver is rotated about a horizontal axis, right angles to the traverse and the tilt recorded at the null position.



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## APPENDIX C

### GSM 19



### Specifications

#### Overhauser Performance

Resolution: 0.01 nT  
Relative Sensitivity: 0.02 nT  
Absolute Accuracy: 0.2nT  
Range: 20,000 to 120,000 nT  
Gradient Tolerance: Over 10,000nT/m  
Operating Temperature: -40°C to +60°C

#### Operation Modes

Manual: Coordinates, time, date and reading stored automatically at min. 3 second interval.  
Base Station: Time, date and reading stored at 3 to 60 second intervals.  
Walking Mag: Time, date and reading stored at coordinates of fiducial.  
Remote Control: Optional remote control using RS-232 interface.  
Input/Output: RS-232 or analog (optional) output using 6-pin weatherproof connector.

#### Operating Parameters

Power Consumption: Only 2Ws per reading. Operates continuously for 45 hours on standby.  
Power Source: 12V 2.6Ah sealed lead acid battery standard, other batteries available  
Operating Temperature: -50°C to +60°C

#### Storage Capacity

Manual Operation: 29,000 readings standard, with up to 116,000 optional.  
With 3 VLF stations: 12,000 standard and up to 48,000 optional.  
Base Station: 105,000 readings standard, with up to 419,000 optional (88 hours or 14 days uninterrupted operation with 3 sec. intervals)  
Gradiometer: 25,000 readings standard, with up to 100,000 optional. With 3 VLF stations: 12,000, with up to 45,000 optional.

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## Omnidirectional VLF

Performance Parameters: Resolution 0.5% and range to  $\pm 200\%$  of total field.  
Frequency 15 to 30 kHz.

Measured Parameters: Vertical in-phase & out-of-phase, 2 horizontal components, total field coordinates, date, and time.

Features: Up to 3 stations measured automatically, in-field data review, displays station field strength continuously, and tilt correction for up to  $\pm 10^\circ$  tilts.

Dimensions and Weights: 93 x 143 x 150mm and weighs only 1.0kg.

## Dimensions and Weights

Dimensions:

Console: 223 x 69 x 240mm

Sensor: 170 x 71mm diameter cylinder

Weight:

Console: 2.1kg

Sensor and Staff Assembly: 2.0kg

## Standard Components

GSM-19 magnetometer console, harness, battery charger, shipping case, sensor with cable, staff, instruction manual, data transfer cable and software.

## Taking Advantage of a “Quirk” of Physics

Overhauser effect magnetometers are essentially proton precession devices except that they produce an order-of magnitude greater sensitivity. These "supercharged" quantum magnetometers also deliver high absolute accuracy, rapid cycling (up to 5 readings / second), and exceptionally low power consumption.

The Overhauser effect occurs when a special liquid (with unpaired electrons) is combined with hydrogen atoms and then exposed to secondary polarization from a radio frequency (RF) magnetic field. The unpaired electrons transfer their stronger polarization to hydrogen atoms, thereby generating a strong precession signal-- that is ideal for very high-sensitivity total field measurement. In comparison with proton precession methods, RF signal generation also keeps power consumption to an absolute minimum and reduces noise (i.e. generating RF frequencies are well out of the bandwidth of the precession signal).

In addition, polarization and signal measurement can occur simultaneously - which enables faster, sequential measurements. This, in turn, facilitates advanced statistical averaging over the sampling period and/or increased cycling rates (i.e. sampling speeds).

- 
- The unique Overhauser unit blends physics, data quality, operational efficiency, system design and options into an instrumentation package that ... exceeds proton precession and matches costlier optically pumped cesium capabilities

**APPENDIX C****GARMIN GPS MAP 62S**

Physical & Performance:	
Unit dimensions, WxHxD:	2.4" x 6.3" x 1.4" (6.1 x 16.0 x 3.6 cm)
Display size, WxH:	1.43" x 2.15" (3.6 x 5.5 cm); 2.6" diag (6.6 cm)
Display resolution, WxH:	160 x 240 pixels
Display type:	transflective, 65-K color TFT
Weight:	9.2 oz (260.1 g) with batteries
Battery:	2 AA batteries (not included); NiMH or Lithium recommended
Battery life:	20 hours
Waterproof:	yes (IPX7)
Floats:	no
High-sensitivity receiver:	yes

Interface:	high-speed USB and NMEA 0183 compatible
<b>Maps &amp; Memory:</b>	
Basemap:	yes
Preloaded maps:	no
Ability to add maps:	yes
Built-in memory:	1.7 GB
Accepts data cards:	microSD™ card (not included)
Waypoints/favorites/locations:	2000
Routes:	200
Track log:	10,000 points, 200 saved tracks
<b>Features &amp; Benefits:</b>	
Automatic routing (turn by turn routing on roads):	yes (with optional mapping for detailed roads)
Electronic compass:	yes (tilt-compensated, 3-axis)
Touchscreen:	no
Barometric altimeter:	yes
Camera:	no
<u>Geocaching-friendly:</u>	yes (paperless)
<u>Custom maps compatible:</u>	yes
Photo navigation (navigate to geotagged photos):	yes
Outdoor GPS games:	no
Hunt/fish calendar:	yes
Sun and moon information:	yes

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Tide tables:	yes
Area calculation:	yes
Custom POIs (ability to add additional points of interest):	yes
Unit-to-unit transfer (shares data wirelessly with similar units):	yes
Picture viewer:	yes
Garmin Connect™ compatible (online community where you analyze, categorize and share data):	yes

- *Specifications obtained from [www.garmin.com](http://www.garmin.com)*

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## **APPENDIX D**

### **LIST OF MAPS (IN MAP POCKET)**

VLF EM Plan Map (1:5000)

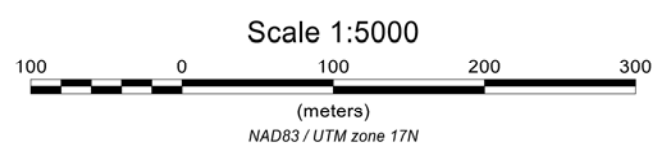
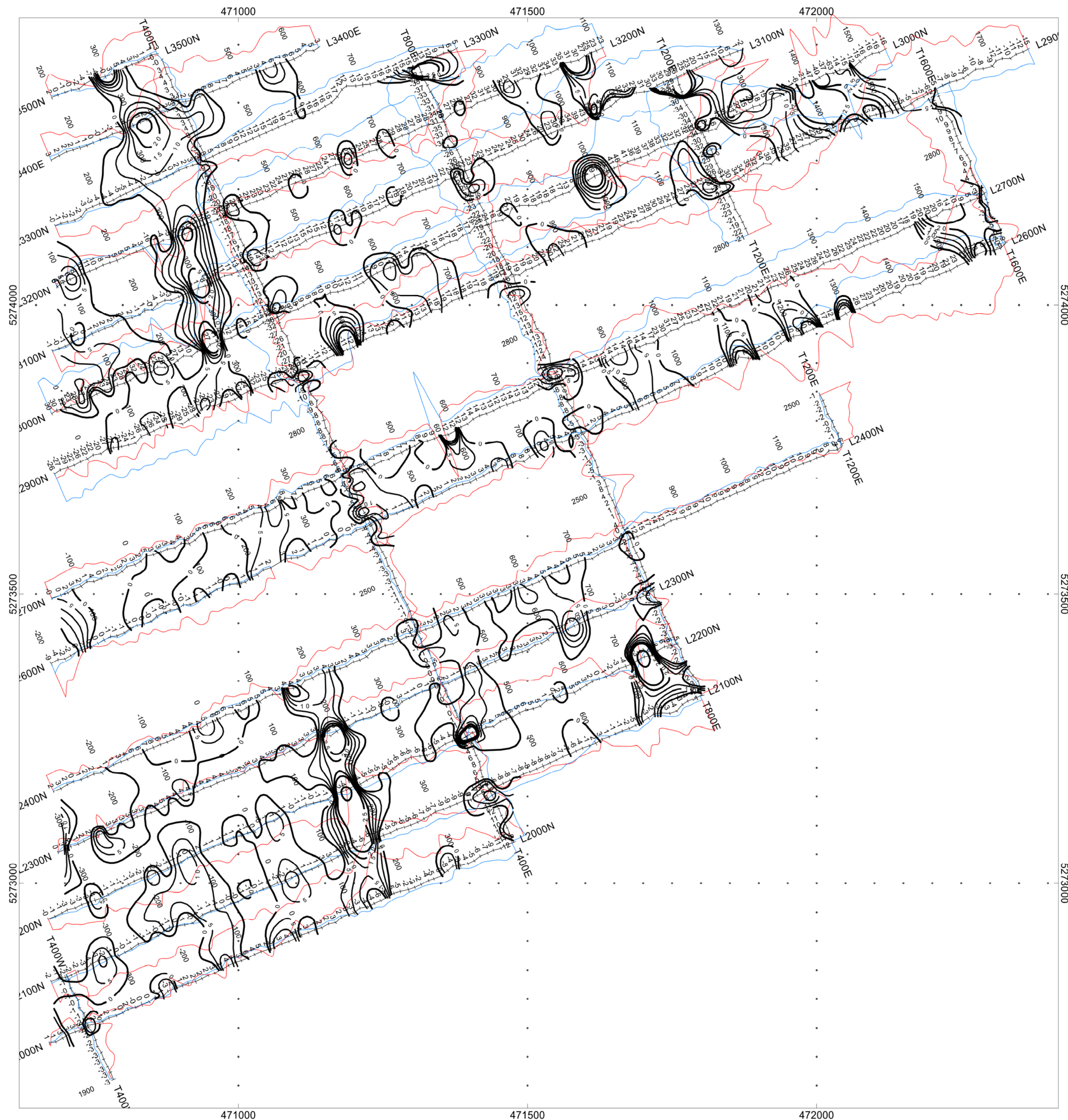
1) Q2338-Knightsbridge-North Wind-VLF-NAA

Claim Map with VLF EM Traverses (1:20000)

2) Q2338-Knightsbridge-North Wind-Traverses

**TOTAL MAPS = 2**





**KNIGHTSBRIDGE EXPLORATION LTD.**

**NORTH WIND PROPERTY**  
**Connaught Township, Ontario**

VLF IN PHASE/OUT PHASE PROFILE  
24.0kHz NAA - CUTLER USA

In Phase: Posted Right/Bottom (Red)  
Out Phase: Posted Left/Top (Blue)

Vertical Profile Scales: 2.5 %/mm

Station Separation: 12.5 meters  
Posting Level: 0

GSM-19 VLF v7

Receiver Operated By: Claudia Moraga  
GPS Operated By: Bill Bonney  
Processed by: Jason Ploeger  
Map Drawn By: C Jason Ploeger, P.Geo  
June 2017



Drawing : Q2338-KNIGHTSBRIDGE-NORTH WIND-VLF-NAA



Date / Time of Issue: Wed Feb 05 10:20:16 EST 2014

TOWNSHIP / AREA  
CONNAUGHT

PLAN  
G-0966

ADMINISTRATIVE DISTRICTS / DIVISIONS

Mining Division  
Land Titles/Registry Division  
Ministry of Natural Resources District

Larder Lake  
SUDBURY  
TIMMINS

TOPOGRAPHIC

- Administrative Boundaries
- Township
- Concession, Lot
- Provincial Park
- Indian Reserve
- Cliff, Pit & Pile
- Contour
- Mine Shafts
- Mine Headframe
- Railway
- Road
- Trail
- Natural Gas Pipeline
- Utilities
- Tower

Land Tenure

Freehold Patent

- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only

Leasehold Patent

- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only

Licence of Occupation

- Uses Not Specified
- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only

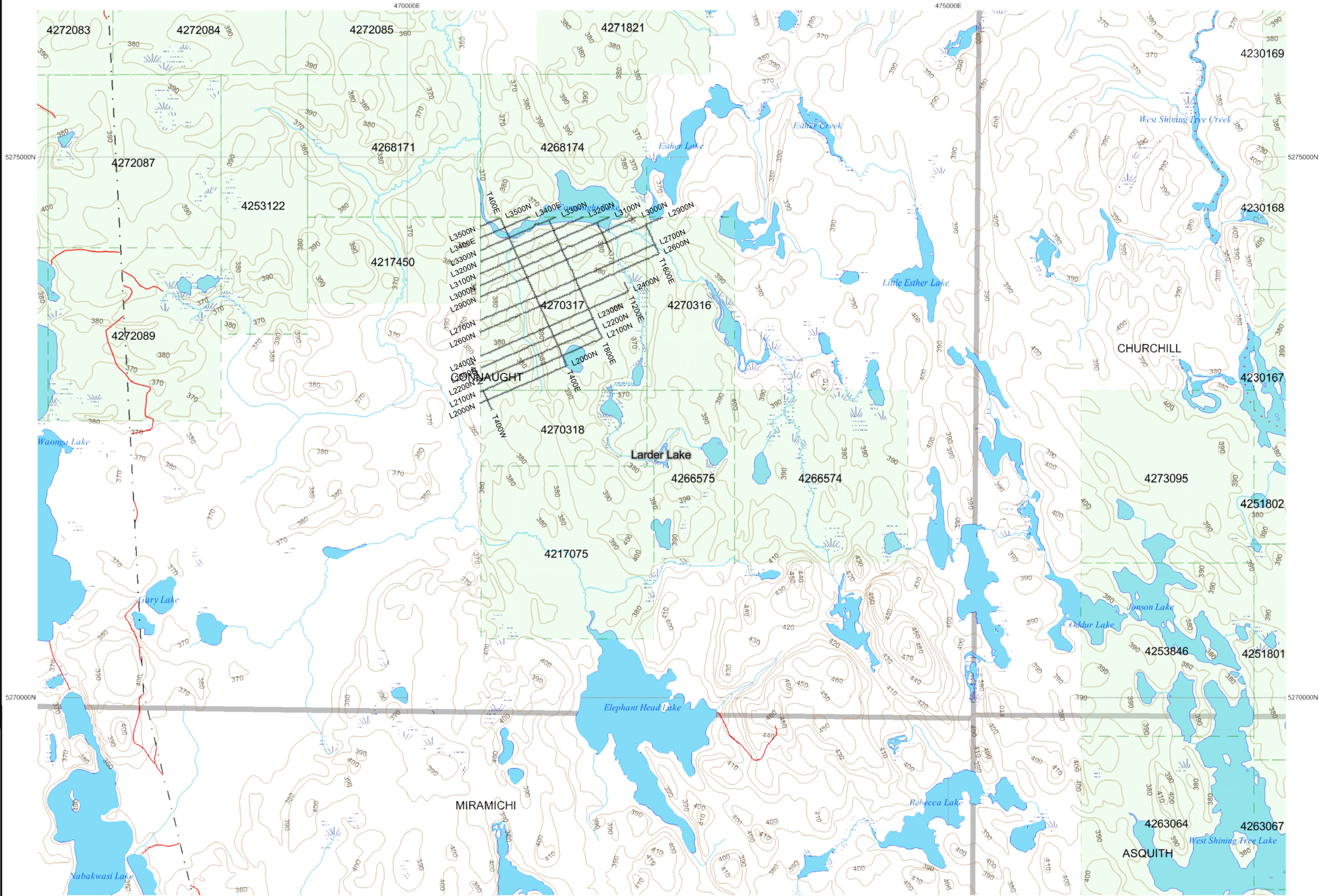
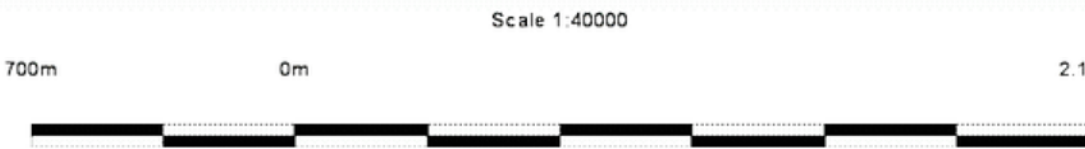
- Land Use Permit
- Order In Council (Not open for staking)
- Water Power Lease Agreement

MATTAGAMI	BURROWS	KEMP	MOND
TOGO	CABOT	KELVIN	NATAL
BRUNSWICK	CONNAUGHT	CHURCHILL	
LONDONDERRY	MIRAMICHI	ASQUITH	FAWCETT
GARVEY	GARIBALDI	SHEARD	OGLVIE

LAND TENURE WITHDRAWALS

- Areas Withdrawn from Disposition
- Mining Acts Withdrawal Types
  - Surface And Mining Rights Withdrawn
  - Surface Rights Only Withdrawn
  - Mining Rights Only Withdrawn
- Order In Council Withdrawal Types
  - Surface And Mining Rights Withdrawn
  - Surface Rights Only Withdrawn
  - Mining Rights Only Withdrawn

IMPORTANT NOTICES



UTM Zone 17  
5000m grid

Those wishing to stake mining claims should consult with the Provincial Mining Recorders' Office of the Ministry of Northern Development and Mines for additional information on the status of the lands shown hereon. This map is not intended for navigational, survey, or land title determination purposes as the information shown on this map is compiled from various sources. Completeness and accuracy are not guaranteed. Additional information may also be obtained through the local Land Titles or Registry Office, or the Ministry of Natural Resources.

The information shown is derived from digital data available in the Provincial Mining Recorders' Office at the time of downloading from the Ministry of Northern Development and Mines web site.

General Information and Limitations

Contact Information:  
Provincial Mining Recorders' Office  
Willet Green Miller Centre 933 Ramsey Lake Road  
Sudbury ON P3E 6B5  
Home Page: [www.mndm.gov.on.ca/MNDM/MINES/LANDS/mismnpge.htm](http://www.mndm.gov.on.ca/MNDM/MINES/LANDS/mismnpge.htm)

Toll Free  
Tel: 1 (888) 415-9845 ext 574  
Fax: 1 (877) 670-1444

Map Datum: NAD 83  
Projection: UTM (6 degree)  
Topographic Data Source: Land Information Ontario  
Mining Land Tenure Source: Provincial Mining Recorders' Office

This map may not show unregistered land tenure and interests in land including certain patents, leases, easements, right of ways, flooding rights, licences, or other forms of disposition of rights and interest from the Crown. Also certain land tenure and land uses that restrict or prohibit free entry to stake mining claims may not be illustrated.