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CANADIAN EXPLORATION SERVICES LTD

## TIGER GOLD EXPLORATION CORPORATION

Q2342 - Harker Heritage Property -Ghost Lake Magnetometer Survey

C Jason Ploeger, P.Geo. – March 30, 2017

#### Abstract

CXS was contracted by Tiger Gold Exploration Corporation to followup a reconnaissance magnetic survey. A small survey grid was outlined covering part of Ghost Lake and onto the east shore of Ghost Lake. A total of 5.975 kilometers of magnetometer survey was performed which highlighted a strong magnetic signature.

TIGER GOLD EXPLORATION CORPORATION

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#### 1. SURVEY DETAILS

#### 1.1 PROJECT NAME

This project is known as the Harker Heritage Property – Ghost Lake.

#### 1.2 CLIENT

TIGER GOLD EXPLORATION CORPORATION,

103 Government Road. Kirkland Lake, Ontario P2N 1A9

#### 1.3 LOCATION

The Harker Heritage Property is located approximately 50 km northeast of Kirkland Lake, Ontario. The property consists of 375 mining claims comprising of over 850 units spanning Clifford, Elliott, Harker, Holloway, Tannahill and Marriott Townships within the Larder Lake Mining Division.



Figure 1: Location of the Harker Heritage Property



#### 1.4 ACCESS

Access to the property was attained with a 4x4 truck via highway 672 and highway 101. Numerous forestry access roads and trails were travelled by snowmobile to access the various parts of the property.

Ghost Lake is located within Elliott Township. Approximately 36.5 kilometers north of the intersection highway 66 a forestry road can be found extending west. This forestry access road was travelled by snowmachine for approximately 4 kilometers to Ghost Lake.

#### 1.5 SURVEY AREA

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 25m in front of the magnetometer operator. GPS waypoints, magnetic samples were taken every 25m along these controlled traverses. The GPS used was a Garmin GPSMAP 62s with an external antenna for added accuracy.

The traverse for Ghost Lake covers a portion of mining claims 803432, 4282180, 821891, 821887, 821890, 803434, 821889 and 821888 which are all located in Elliott Township within the Larder Lake Mining Division.



Figure 2: Claim Map with Ghost Traverses



#### 2. SURVEY WORK UNDERTAKEN

Date	Description	Line	Min Extent	Max Extent	Total Survey (m)
March 24, 2017	Locate survey area and begin				
	survey.	1450E	500S	0	500
		1400E	500S	0	500
		1350E	500S	0	500
		1300E	500S	0	500
		1250E	500S	0	500
		1200E	500S	800N	1300
		1150E	500S	0	500
		1100E	500S	0	500
		1050E	0	775N	775
		0N	1050E	1450E	400

#### Table 1: Survey Log

#### 2.1 PERSONNEL

Claudia Moraga of Britt, Ontario conducted all the magnetic data collection while Ryan Lavalley of Sudbury, Ontario was responsible for the GPS control and GPS waypoint collection.

#### 2.2 SURVEY SPECIFICATIONS

The survey was conducted with a GSM-19 v7 Overhauser magnetometer with a second GSM-19 magnetometer in base station mode for diurnal correction.

A total of 5.975 line kilometers of magnetometer was read over the Harker Heritage – Ghost Lake on March 24, 2017. This consisted of 478 magnetometer samples taken at a 12.5m sample interval.



#### 3. OVERVIEW OF SURVEY RESULTS

3.1 SUMMARY

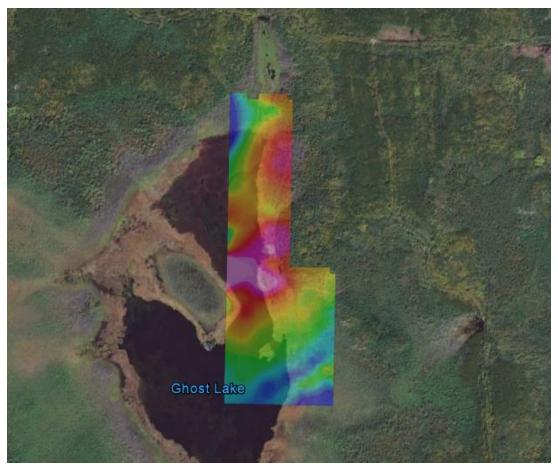


Figure 3: Magnetometer Results overlaying Google Earth

The Harker Heritage – Ghost Lake survey was designed to investigate some magnetic features identified in a previous reconnaissance magnetic survey. There appeared to be a discontinuity in some of the magnetic fabric.

The survey indicates the general direction of the magnetic fabric striking at 60 degrees as seen in the magnetic low linear features on the south end of the survey area.

The magnetic high in the central region of the survey area exhibits an intense increase in the magnetic signature over line 1050E. This represents a shift to a magnetite rich region such as an ultramafic unit within the volcanic pile or an intrusive.

This magnetic region should be further constrained with the continuation of the magnetic survey. This would help determine the strike and if any magnetic depletion/alteration may occur.



#### **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 Ltd. 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 **Tiger Gold Exploration Corporation.**
- 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 Ltd.

> Larder Lake, ON March 30, 2017



#### **APPENDIX B**

#### THEORETICAL BASIS AND SURVEY PROCEDURES

#### TOTAL FIELD MAGNETIC SURVEY

Base station corrected Total Field Magnetic surveying is conducted using at least two synchronized magnetometers of identical type. One magnetometer unit is set in a fixed position in a region of stable geomagnetic gradient, and away from possible cultural effects (i.e. moving vehicles) to monitor and correct for daily diurnal drift. This magnetometer, given the term 'base station', stores the time, date and total field measurement at fixed time intervals over the survey day. The second, remote mobile unit stores the coordinates, time, date, and the total field measurements simultaneously. The procedure consists of taking total magnetic measurements of the Earth's field at stations, along individual profiles, including Tie and Base lines. A 2 meter staff is used to mount the sensor, in order to optimally minimize localized near-surface geologic noise. At the end of a survey day, the mobile and base-station units are linked, via RS-232 ports, for diurnal drift and other magnetic activity (ionospheric and sferic) corrections using internal software.

For the gradiometer application, two identical sensors are mounted vertically at the ends of a rigid fiberglass tube. The centers of the coils are spaced a fixed distance apart (0.5 to 1.0m). The two coils are then read simultaneously, which alleviates the need to correct the gradient readings for diurnal variations, to measure the gradient of the total magnetic field.



#### **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.



#### **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



Magnetometer Survey Harker Heritage Property Elliott Township, Ontario Tiger Gold Exploration Corporation

#### **APPENDIX C**

#### **GARMIN GPS MAP 62S**



Physical & Performanc	e:
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 recom- mended
Battery life:	20 hours
Waterproof:	yes (IPX7)
Floats:	no
High-sensitivity re- ceiver:	yes



Interface:	high-speed USB	and NMEA 0183 compatible
Maps & Memory:		
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/loc	ations:	2000
Routes:		200
Track log:		10,000 points, 200 saved tracks
Features & Benefits:		
Automatic routing (turn	by turn routing	yes (with optional mapping for detailed
on roads):		roads)
Electronic compass:		yes (tilt-compensated, 3-axis)
Touchscreen:		no
Barometric altimeter:		yes
Camera:		no
Geocaching-friendly:		yes (paperless)
Custom maps compatil	<u>ole</u> :	yes
Photo navigation (navig	gate to ge-	yes
otagged photos):		
Outdoor GPS games:		no
Hunt/fish calendar:		yes
Sun and moon informa	tion:	yes



Magnetometer Survey Harker Heritage Property Elliott Township, Ontario

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

• Specifications obtained from www.garmin.com

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#### **APPENDIX D**

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

Magnetometer Plan Map (1:2500)

1) Q2342-TIGER-GHOST-MAG-CONT

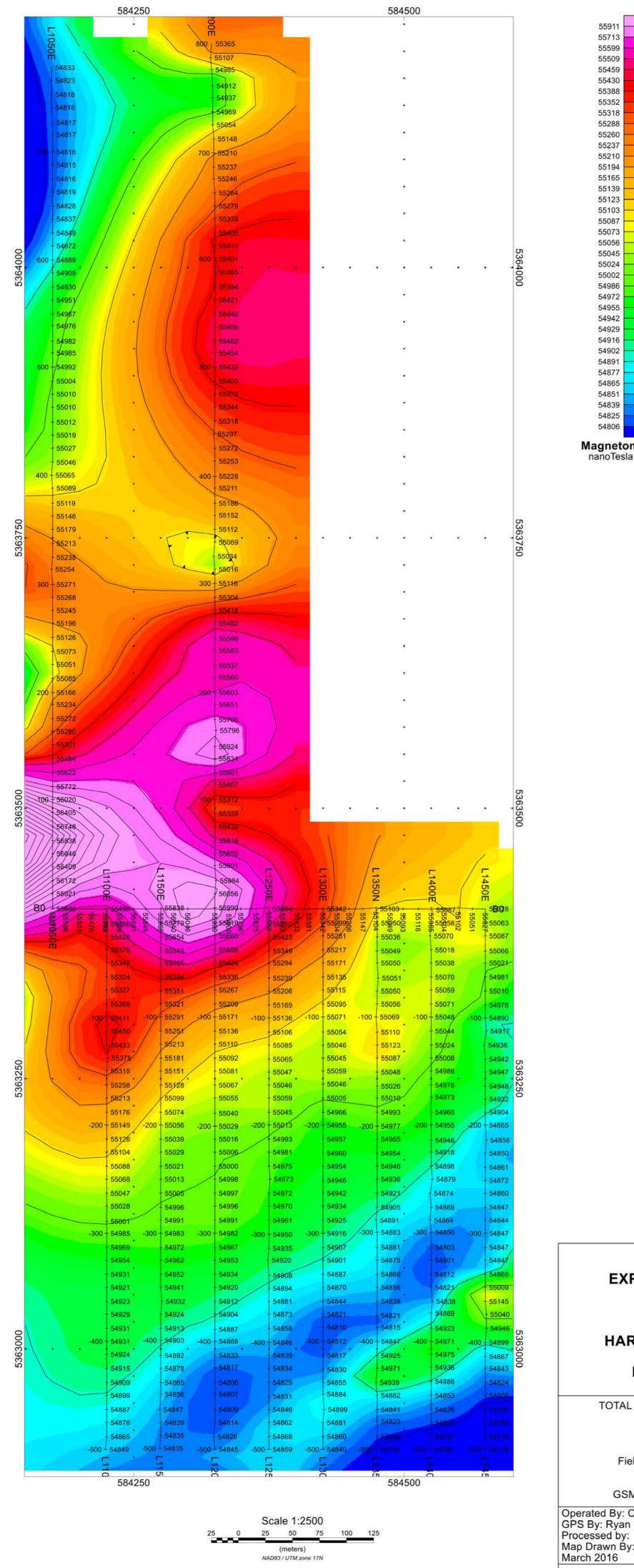
Claim Map with Magnetic Traverses (1:20000)

2) Q2342-TIGER-GHOST-TRAVERSE

#### TOTAL MAPS = 2

## 877.504.2345 | info@cxsltd.com | www.cxsltd.com





Magnetometer nanoTesla (nT)

### **TIGER GOLD EXPLORATION CORPORATION**

HARKER HERITAGE PROPERTY **Ghost Lake** Elliott Township, Ontario

TOTAL FIELD MAGNETIC CONTOURED PLAN MAP **Base Station Corrected** 

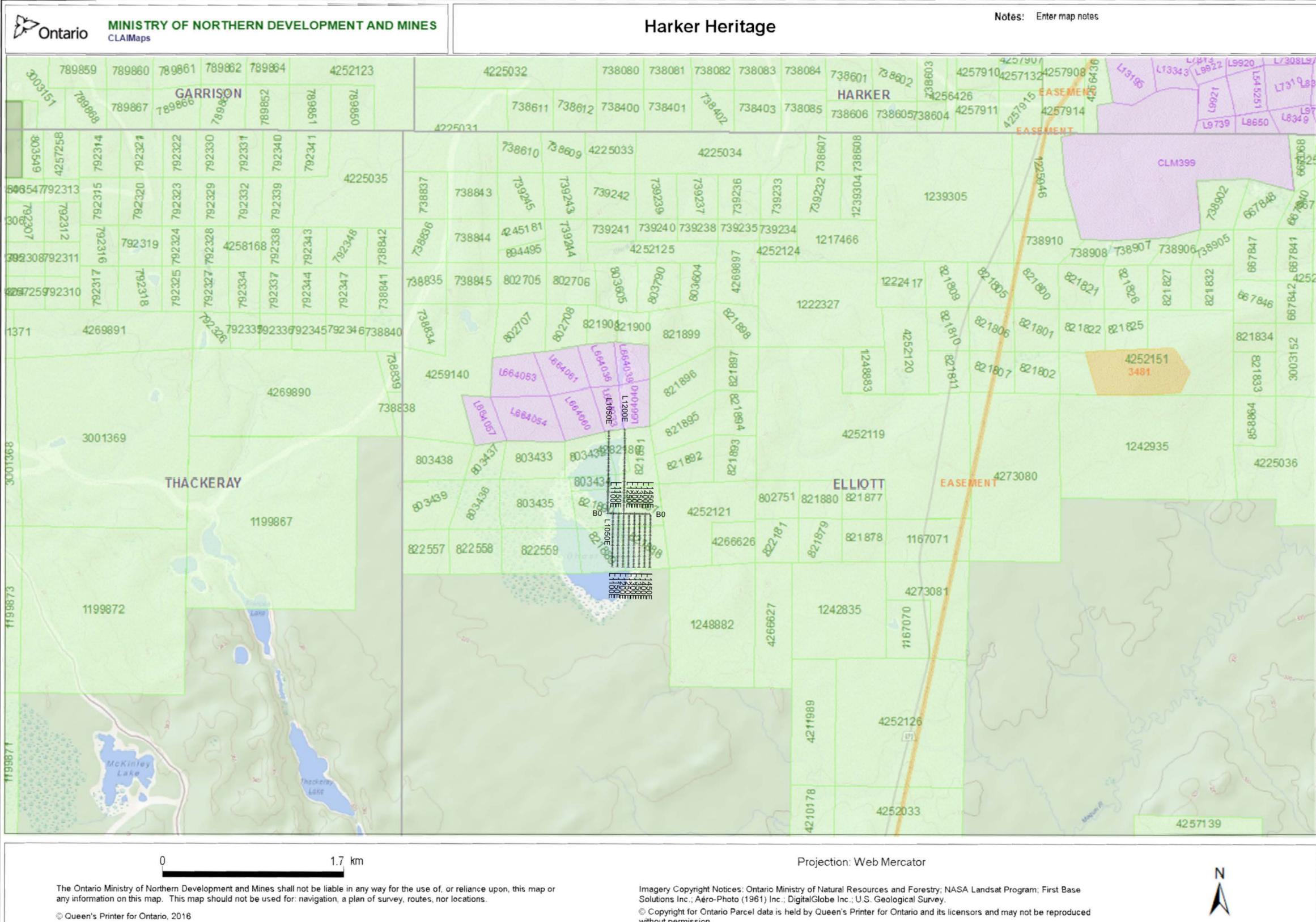
Posting Level: 0nT Contour Interval: 100 nT Field Inclination/Declination: 74degN/12degW Station Seperation: 1 second intervals

**GSM-19 OVERHAUSER MAGNETOMETER v7** 

Operated By: Claudia Moraga GPS By: Ryan Lavalley Processed by: C Jason Ploeger, B.Sc. Map Drawn By: C Jason Ploeger, B.Sc.



Drawing: Q2342-TIGER-GHOST-MAG-CONT



without permission.

	Legend
Adm	inistration Boundaries
	Mining Divisions
-	Resident Geologist District Townships and Areas
Mine	ral Tenure Grid
	OMTG Tenure Grid
Alier	Withdrawal
777	Notice
Unpa	atented Claim
177	Active Pending
Disp	osition
Chap	Disposition
	osition Symbols
3	Camp Disposition Unknown/Pending
	Freehold Patent Mining Rights Only Freehold Patent Surface Rights Only
•	Freehold Patent Surface and Mining
LUR	Rights Land Use Permit
	Leasehold Patent Mining Rights Only Leasehold Patent Surface Rights Only
•	Leasehold Patent Surface and Mining Rights
;	License of Occupation Mining Use Only License of Occupation Surface Use Only
•	License of Occupation Surface and Mining Rights
Ŷ	License of Occupation Uses Not Specified
+	
1014	
Seo	ogy Layers AMIS Sites
•	AMIS Features
*	Drill Holes Mineral Occurrences
SHC .	18
SHK -	

SD NE

WY