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**CANADIAN EXPLORATION SERVICES LTD**

**ASHLEY GOLD MINES LIMITED**

**Q2375 – McGarry Project  
Magnetometer Survey**

**C Jason Ploeger, P.Geo. – May 12, 2017**



## **Abstract**

CXS was contracted by Ashley Gold Mining Limited to perform a small 3.5 kilometer magnetometer survey over the western part of the McGarry. A total of 3.5125 kilometres of magnetometer survey was performed in May of 2017.

**ASHLEY GOLD MINES LIMITED**

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## 1. SURVEY DETAILS

### 1.1 PROJECT NAME

This project is known as the **McGarry Property**.

### 1.1 CLIENT

Ashley Gold Mines Limited.

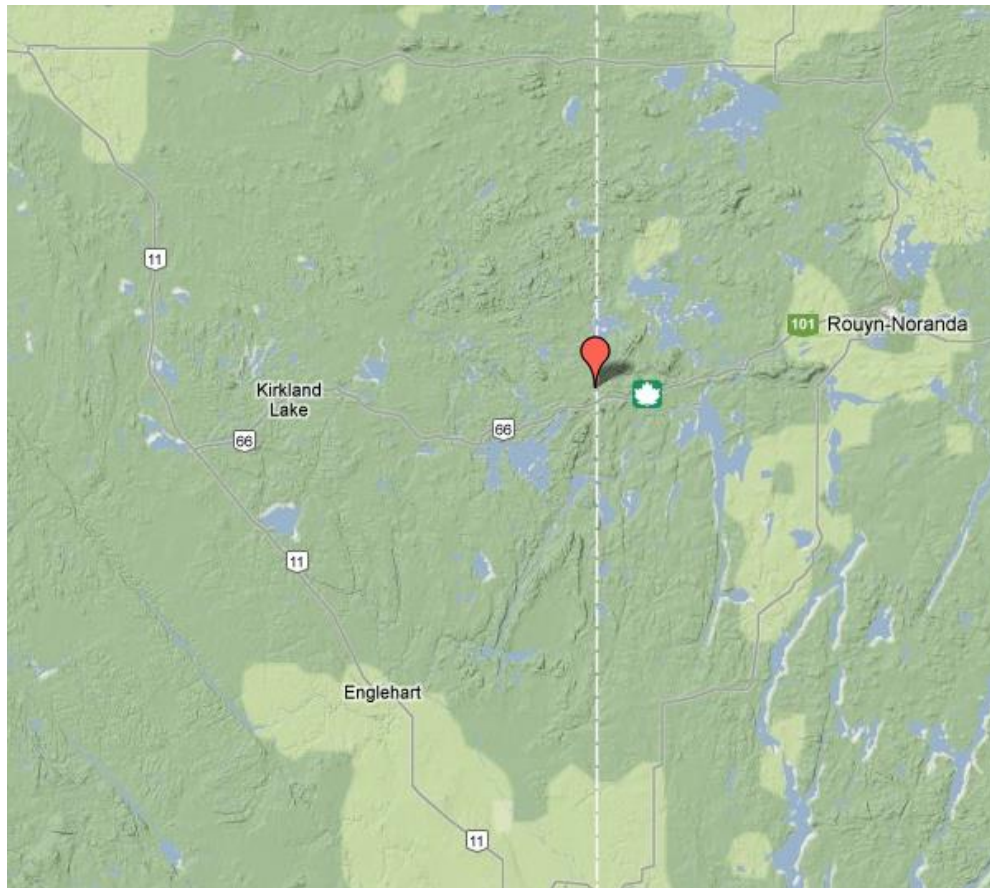
14579 Government Rd.

Larder Lake, Ontario

P0K1L0

### 1.2 LOCATION

The McGarry Property is located in McGarry Township approximately 5 km north-east of Virginiatown, Ontario. The survey area covers mining claim 4240325 within the Larder Lake Mining Division.



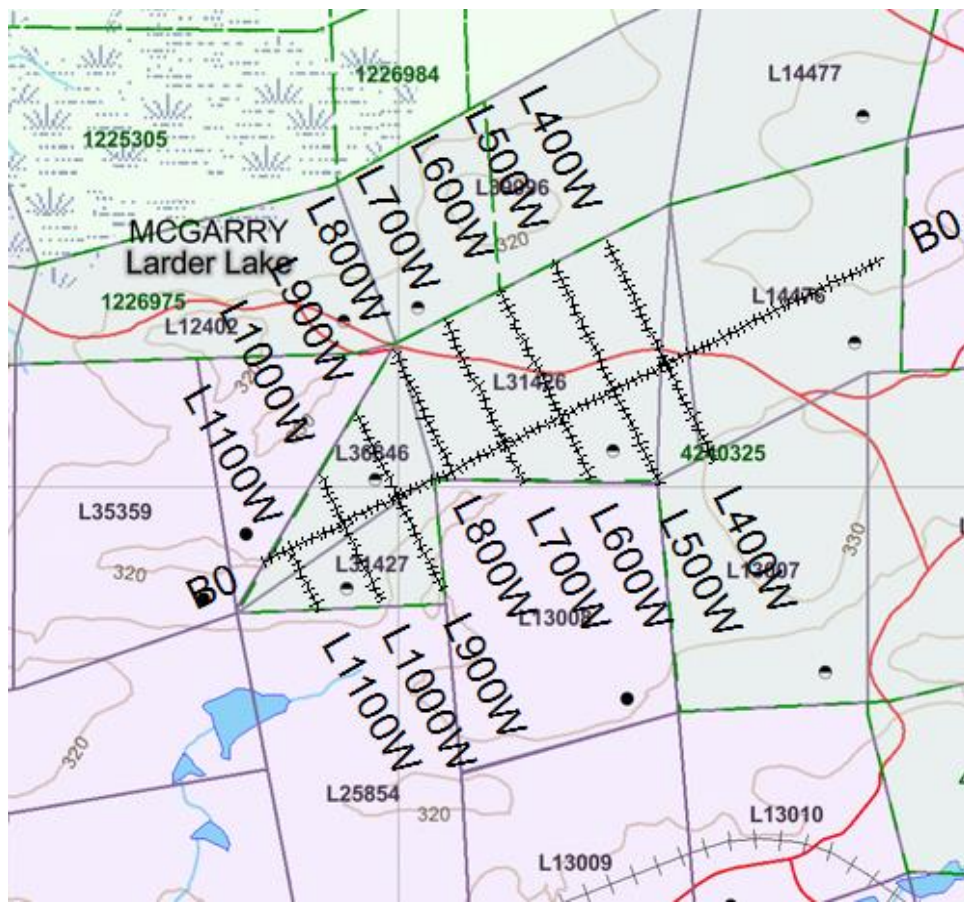
***Figure 1: Location of the McGarry Property***

### 1.3 ACCESS

Access to the property was attained with a 4x4 truck and ATV via the Cheminis Road which heads north of highway 66, approximately 0.5 kilometers east of Kearns, Ontario. The Cheminis Road was travelled for approximately 3.5 kilometers where the mining claim can be found.

### 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 magnetometer operator. GPS waypoints, magnetic were taken every 12.5m along these controlled traverses. The GPS used was a Garmin GPS Map 62S.



**Figure 2: Claim Map with Traverse Area**



## 2. SURVEY WORK UNDERTAKEN

### 2.1 SURVEY LOG

| Date         | Description                            | Line  | Min Extent | Max Extent | Total Survey (m) |
|--------------|--|-------|------------|------------|------------------|
| May 11, 2017 | Locate survey area and conduct survey. | 0N    | 1150W      | 0          | 1150             |
|              |  | 1100W | 112.5S     | 0          | 112.5            |
|              |  | 1000W | 137.5S     | 100N       | 237.5            |
|              |  | 900W  | 162.5S     | 162.5N     | 325              |
|              |  | 800W  | 0          | 225N       | 225              |
|              |  | 700W  | 75S        | 225N       | 300              |
|              |  | 600W  | 112.5S     | 237.5N     | 350              |
|              |  | 500W  | 175S       | 237.5N     | 412.5            |
|              |  | 400W  | 175S       | 225N       | 400              |

**Table 1: Survey Log**

### 2.2 PERSONNEL

Patrick McGuinty of Peterborough, Ontario conducted the magnetic data collection while Bill Bonney of Kirkland Lake, Ontario was responsible for the GPS control and GPS waypoint collection.

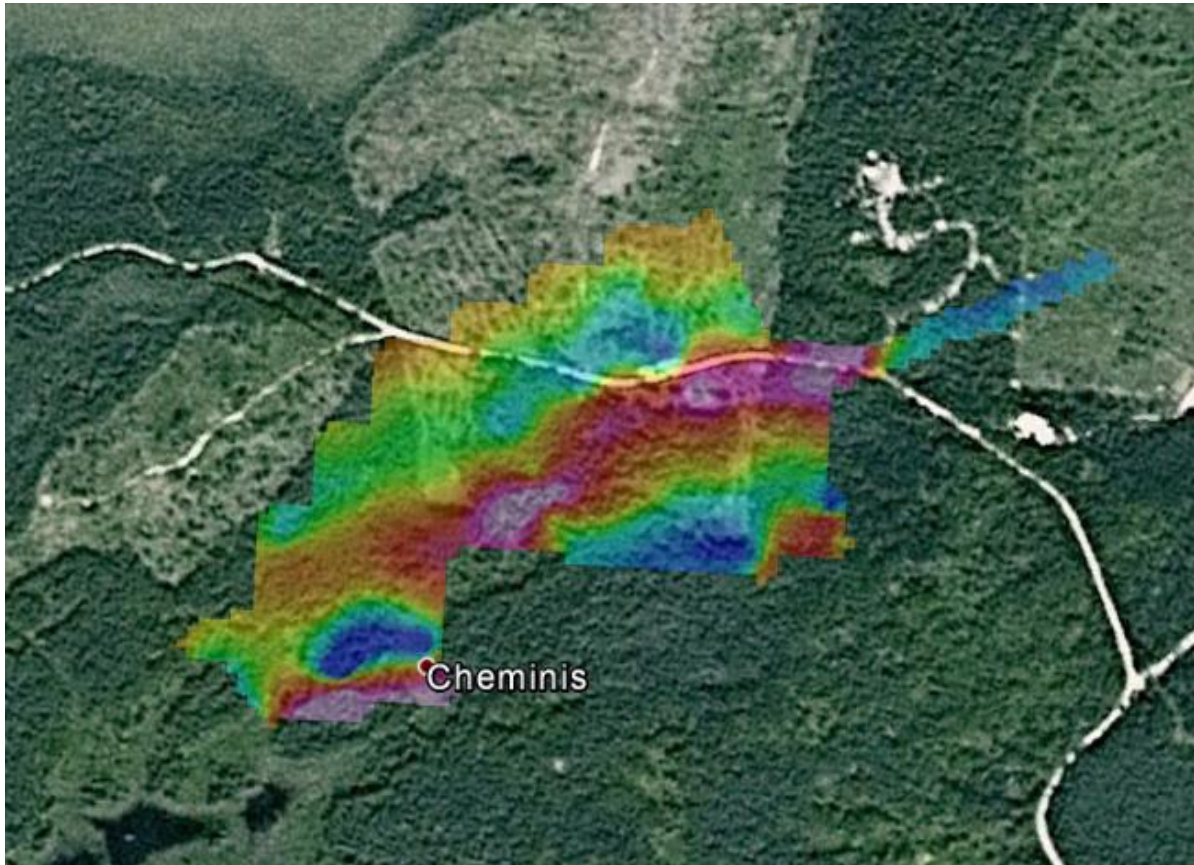
### 2.3 SURVEY SPECIFICATIONS

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

A total of 3.5125 line kilometers of no grid mag was performed on May 11<sup>th</sup>, 2017. This consisted of 281 magnetometer samples taken at 12.5m intervals.

## 1. OVERVIEW OF SURVEY RESULTS

### 1.1 SUMMARY



**Figure 3: Magnetometer Plan on Google Earth**

No culture was noted on the property.

Two east-northeast magnetic trends are visible within the dataset. The most prominent of these features extends down the baseline region. Lateral shifts appear to occur within this magnetic high feature between 600W and 700W and east of 400W. these may indicate structural features which may have associated alteration.

The second magnetically high feature is located along the south extremity of the survey area. This feature is unconstrained and may represent either a linear feature or the edge of larger magnetic feature.

I would recommend compiling the historic data with this newly acquired data. I would also recommend an IP survey over the same survey area as the magnetometer was performed.



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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 Practising 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 have an interest in some of the properties and securities of **Ashley Gold Mines Limited**.
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  
May 12<sup>th</sup>, 2017

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## 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 spheric) 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.

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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  |

|   |     |
|---|-----|
| 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)

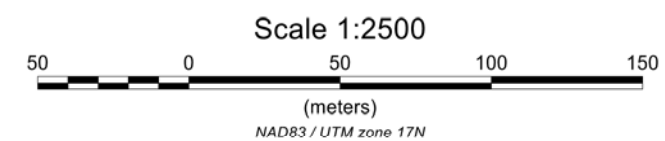
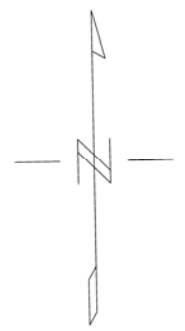
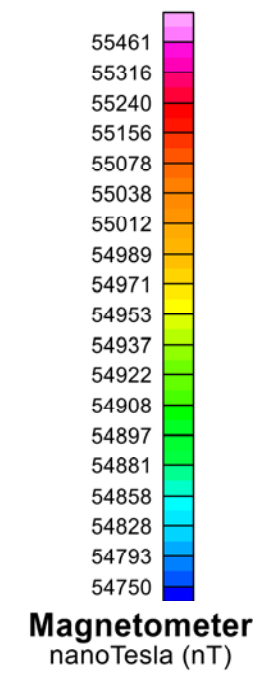
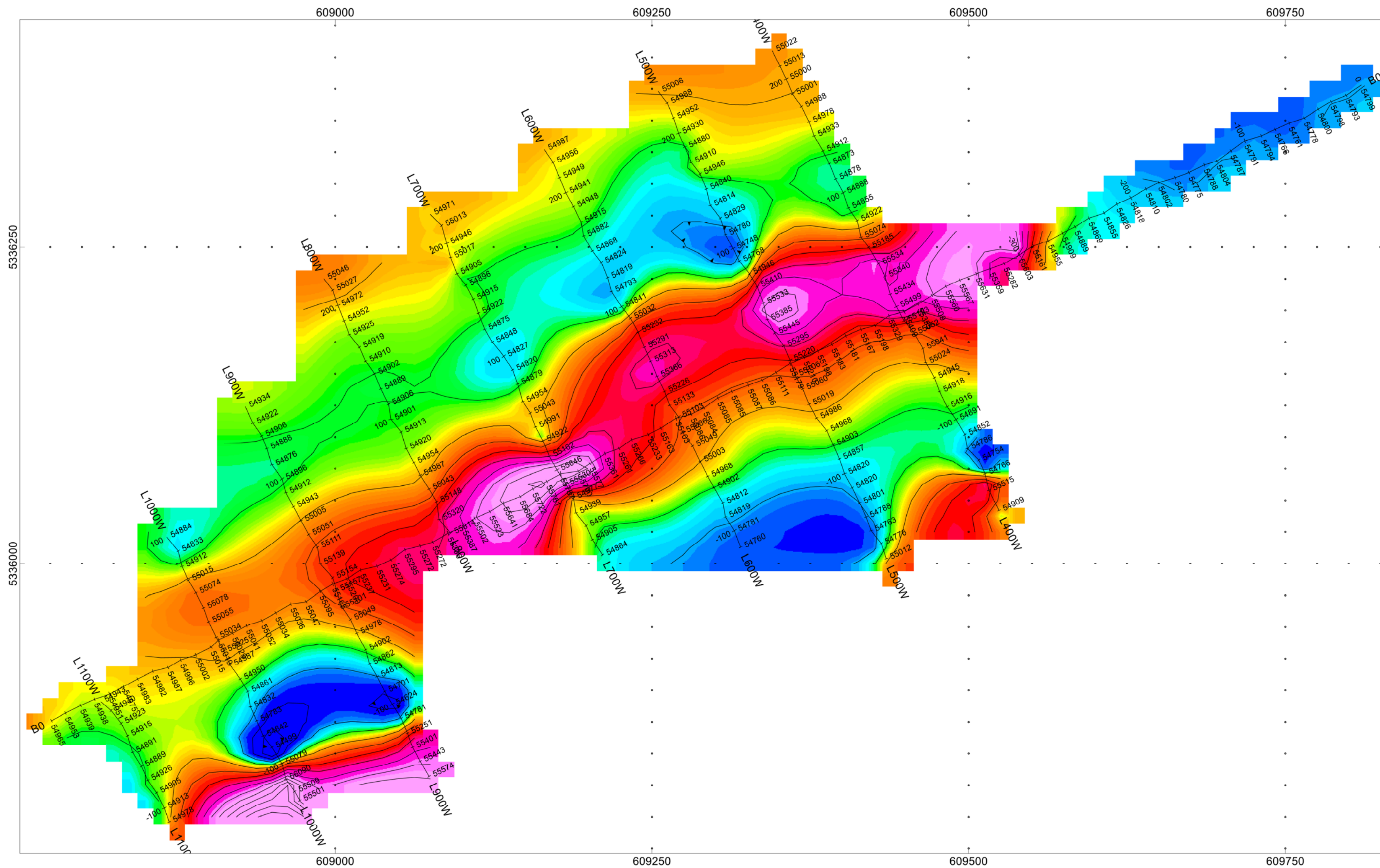
Magnetometer Plan Map (1:2000)

- 1) Q2375-Ashley-McGarry-Mag-Cont

Claim Map with Magnetic Traverses (1:20000)

- 2) Q2375-Ashley-McGarry-Traverses

**TOTAL MAPS = 2**



**McGARRY PROPERTY**  
**McGarry Township, Ontario**

TOTAL FIELD MAGNETIC CONTOURED PLAN MAP  
 Base Station Corrected

Posting Level: 0nT  
 Field Inclination/Declination: 74degN/12degW  
 Station Separation: 12.5 meters  
 Total Field Magnetic Contours: 100nT

GSM-19 OVERHAUSER MAGNETOMETER/MLF v7

Receiver Operated: Patrick McGuinty  
 GPS Operated By: Bill Bonney  
 Processed by: C Jason Ploeger  
 Map Drawn By: C Jason Ploeger, P.Geo  
 May 2017



Drawing : ASHLEY-McGARRY-MAG-CONT



