We are committed to providing accessible customer service.
If you need accessible formats or communications supports, please contact us.

Nous tenons à améliorer l’accessibilité des services à la clientèle.
Si vous avez besoin de formats accessibles ou d’aide à la communication, veuillez nous contacter.

Ontario

CANADIAN EXPLORATION SERVICES LTD

BATTERY MINERAL RESOURCES LTD.

Q2406h – Gowganda Project
Magnetometer Survey

C Jason Ploeger, P.Geo. – October 18, 2017

Abstract

CXS was contracted by Battery Mineral Resources to perform approximately 18.5 kilometres of magnetometer work over the Gowganda Property.

Numerous north-south linear magnetic features were identified. A strong magnetic anomaly was located in the north-west corner of the survey area. This anomaly warrants further exploration.

BATTERY MINERAL RESOURCES LTD.

Q2406h– Gowganda Project
Magnetometer Survey

C Jason Ploeger, P.Geo. – October 18, 2017

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES AND FIGURES

1. SURVEY DETAILS

1.1 Project Name

This project is known as the **Gowganda Project**.

1.2 Client

Battery Mineral Resources Ltd.
Level 36
Governor Phillip Tower
1 Farer Place
Sydney
Australia

1.3 Location

The Gowganda Project is located in Milner, Knight, Van Hise, Nicol, Haultain, Chown and Lawson Townships. The traverse area is located approximately 25 km south-west of Elk Lake, Ontario. The survey area covers a portion of mining claims 4286328 and 4286329 located in Lawson Township, within the Larder Lake Mining Division.

Figure 1: Location of the Gowganda Project

1.4 Access

Access to the property was attained with a 4x4 truck on the Beauty Lake Road. The Beauty Lake Road heads south from Hwy 560 approximately 23 km west of Elk Lake, Ontario. The Beauty Lake Road was travelled for approximately 7.5 km to the survey area.

1.5 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 and magnetic samples were taken every 12.5m along these controlled traverses. The GPS used was a Garmin GPSMAP 62s with an external antenna for added accuracy.

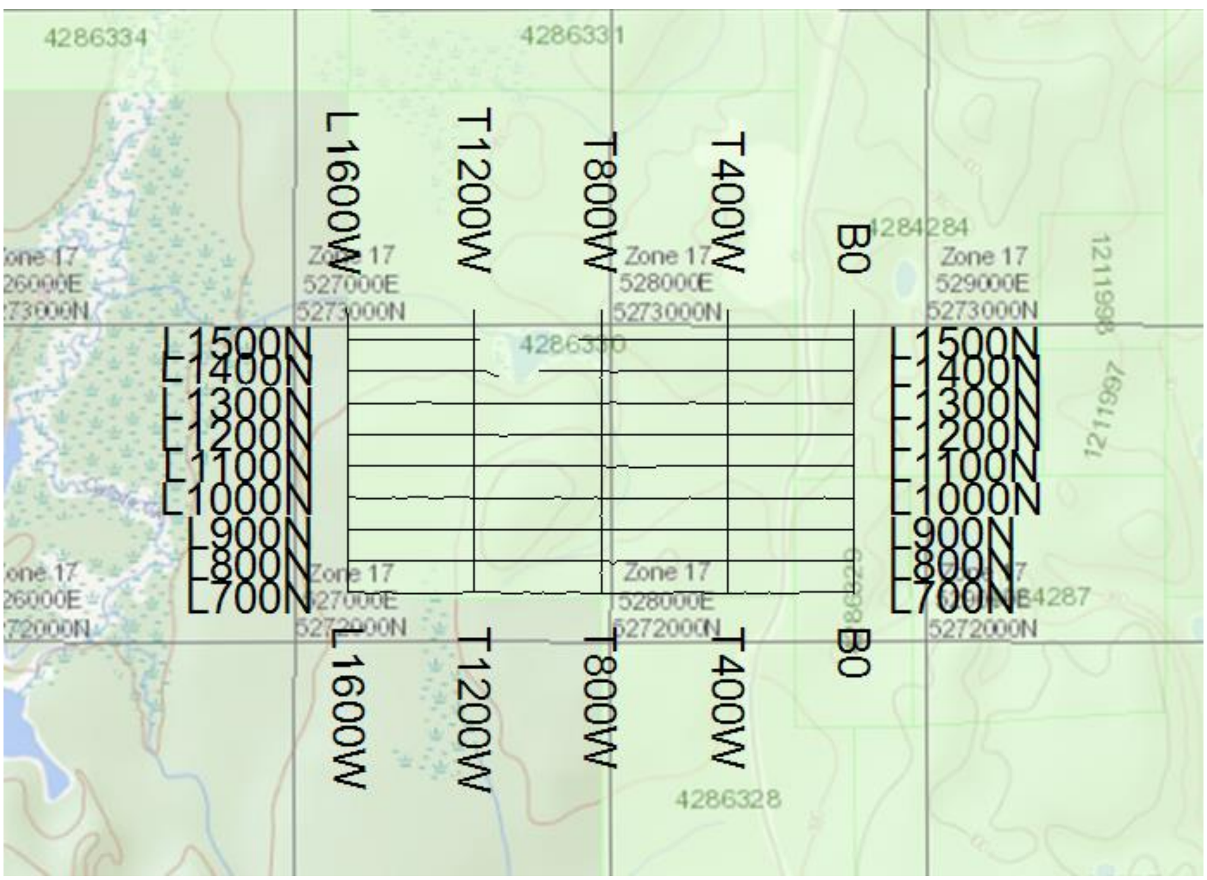


Figure 2: Claim Map with the Gowganda Traverses

2. SURVEY WORK UNDRTAKEN

2.1 Survey Log

Date	Description	Line	Min Extent	Max Extent	Total Survey (m)
October 2, 2017	Locate survey area and conduct magnetometer survey.	700N	1600W	0	1600
		800N	1600W	0	1600
		900N	225W	0	225
		0W	700N	900N	200
		400W	700N	900N	200
		800W	700N	900N	200
		1200W	700N	900N	200
		1600W	700N	900N	200
October 3, 2017	Continue magnetometer survey.	900N	1600W	225W	1375
		1000N	1600W	0	1600
		1100N	200W	0	200
		1200N	150W	0	150
		0W	900N	1600N	700
		400W	900N	1600N	700
		800W	900N	1100N	200
		1200W	900N	1100N	200
		1600W	900N	1100N	200
October 4, 2017	Continue magnetometer survey.	1100N	1600W	200W	1400
		1200N	1600W	150W	1450
		1500N	875W	0	875
		800W	1100N	1600N	500
		1200W	1100N	1600N	500
		1600W	1100N	1600N	500
October 5, 2017	Complete magnetometer survey.	1300N	1600W	0	1600
		1400N	1600W	0	1475
		1500N	1600W	1175W	425

Table 1: Survey Log

2.2 Personnel

Claudia Moraga of Britt, Ontario conducted all the magnetic data collection while Bruce Lavalley of Britt, 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 18.475 line kilometers of magnetometer was read over the Gowganda Project between October 2nd and 5th, 2017. This consisted of 1478 magnetometer samples taken at a 12.5 meter sample interval.

3. OVERVIEW OF SURVEY RESULTS

3.1 SUMMARY

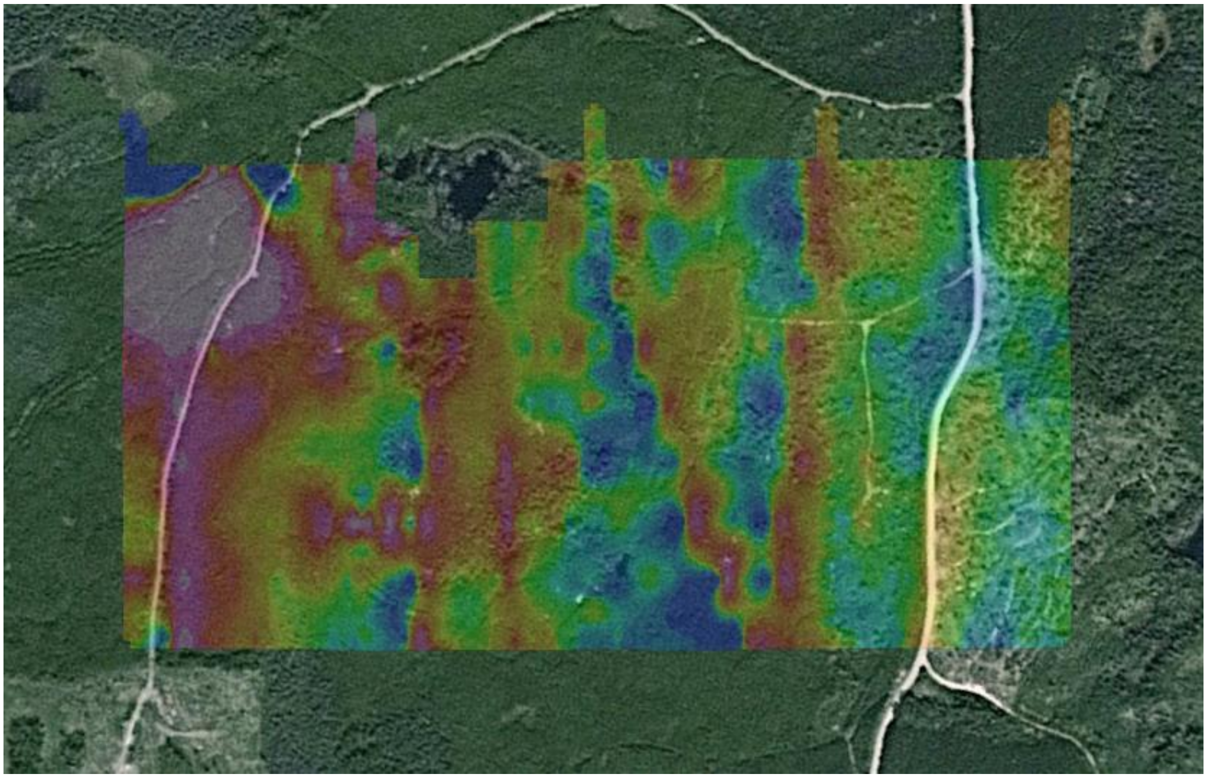


Figure 3: Magnetometer Plan of Gowganda Traverses on Google Earth

No culture that would influence the data was noted throughout the traverse area. Some historical areas where previous exploration was performed were located and noted. These include a trench at 527975E / 5272234N or TL800W / 787.5N, a trench at 527958E / 5272212N or 812.5W / 762.5N, a pit at 527975E / 5272202N or TL800W / 750N and a trench at 527581E / 5272749N or TL1200W / 1300N.

A moderate background magnetic signature is visible. This magnetic signature most likely represents the archean.

Through this magnetic domain appear numerous north-south magnetic features. These most likely represent diabase dikes. These appear to trend similar to that of the Matachewan Diabase what can be seen within the region; however, the magnetic signatures most likely represent a Nipissing Diabase intrusive.

A strong magnetic anomaly occurs in the north-west corner of the survey area. The intensity of this anomaly (+24000nT) indicates a possible iron formation or ultramafic intrusive.

I would recommend focusing in on the magnetic anomaly in the north-west corner of the survey area. This should be ground truthed through prospecting. The magnetic survey area should also be also be extended north and west to better constrain this anomaly. I would also recommend a re-orienting the survey direction for a second survey in a north-south direction over this anomaly.

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 **Battery Mineral Resources.**

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
October 18, 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 ±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 ±10° 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

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/locations:	2000
Routes:	200
Track log:	10,000 points, 200 saved tracks

Features & Benefits:	
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
Geocaching-friendly:	yes (paperless)
Custom maps compatible:	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 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*

APPENDIX D

LIST OF MAPS (IN MAP POCKET)

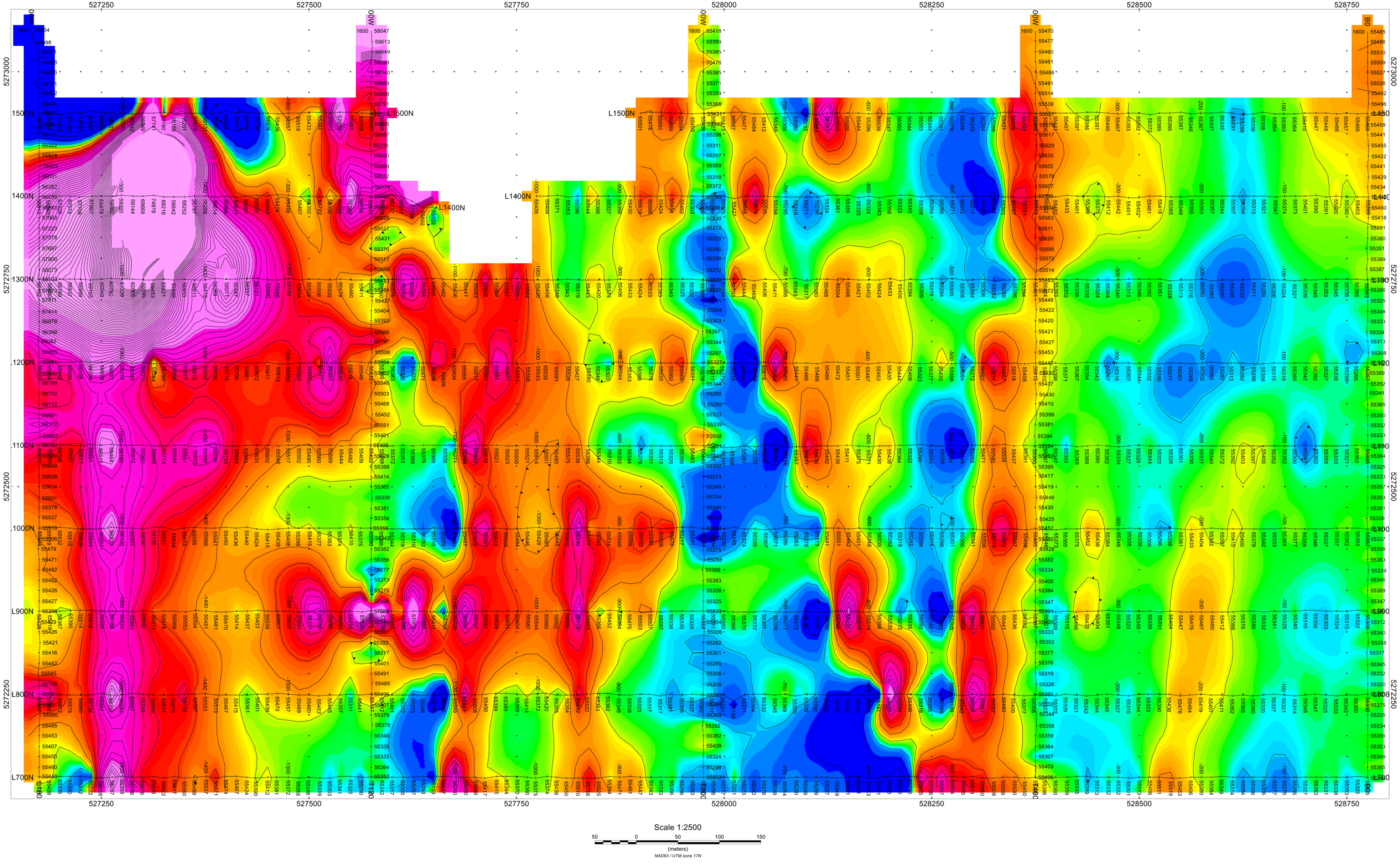
Magnetometer Plan Map (1:2500)

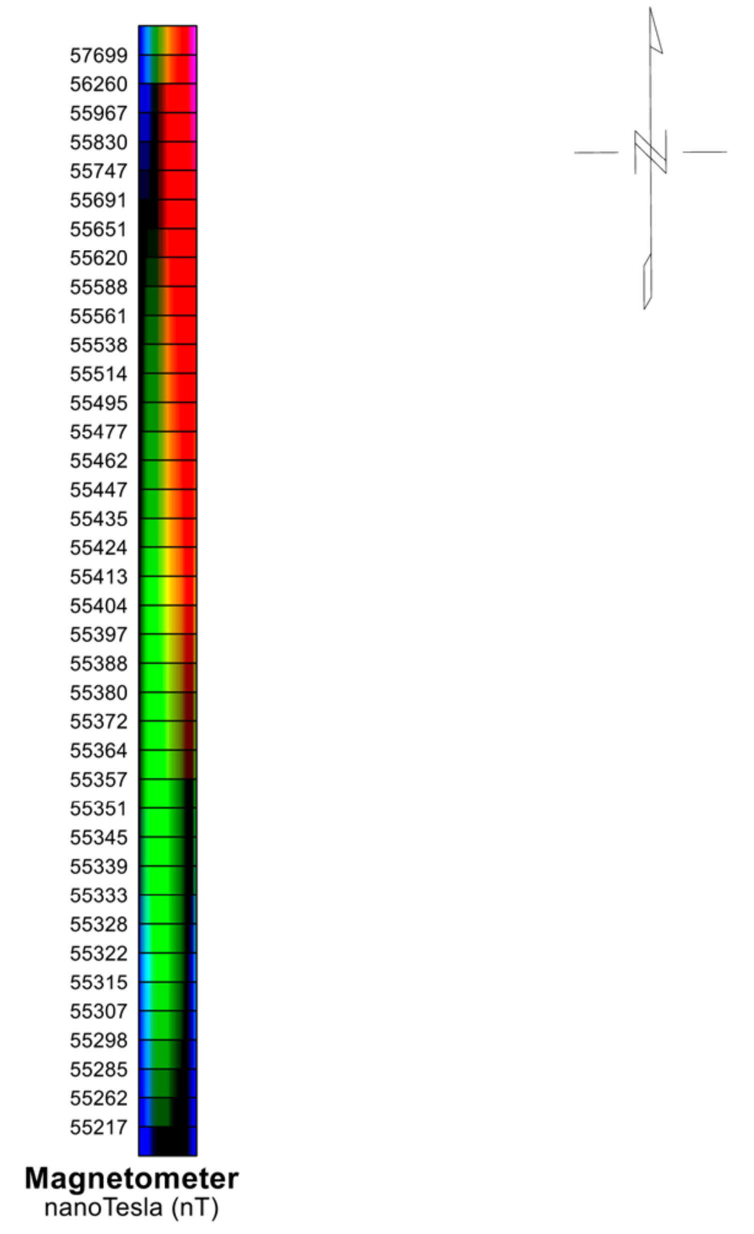
1) Q2406h-Battery-Gowganda-Mag-Cont

Claim Map with Magnetic Traverses (1:40000)

2) Q406h-Battery-Gowganda-Traverses

TOTAL MAPS = 2





BATTERY MINERAL RESOURCES

GOWGANDA PROJECT
Lawson Township, Ontario

TOTAL FIELD MAGNETIC CONTOURED PLAN MAP
Base Station Corrected

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

GSM-19 OVERHAUSER MAGNETOMETER v7

Operated By: Claudia Moraga
GPS Operated By: Bruce Lavalley
Processed by: C Jason Ploeger, P.Geo.
Map Drawn By: C Jason Ploeger, P.Geo.
October 2017

CXS CANADIAN EXPLORATION SERVICES LTD

Drawing: Q2406h-Battery-Gowganda-Mag-Cont

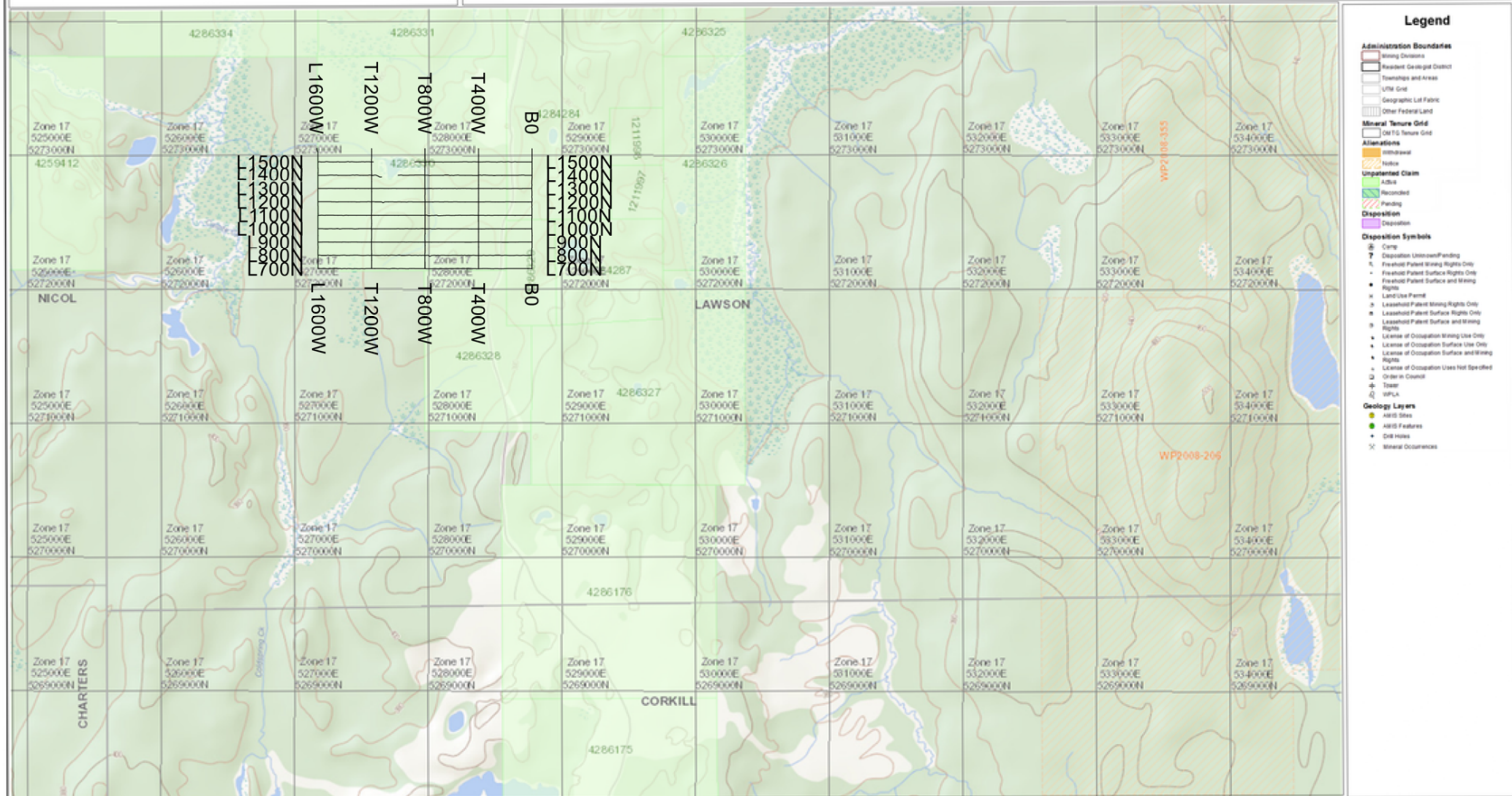
Ontario

MINISTRY OF NORTHERN DEVELOPMENT AND MINES

CLAIMaps

Enter map title

Notes: Enter map notes



0 1.37 km

The Ontario Ministry of Northern Development and Mines shall not be liable in any way for the use of, or reliance upon, this map or any information on this map. This map should not be used for: navigation, a plan of survey, routes, nor locations.

Projection: Web Mercator

N