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# AMADOR GOLD CORP.

# Magnetometer and VLF EM Surveys Over the

AJAX PROPERTY
Strathy Township, Ontario

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#### 1. SURVEY DETAILS

#### 1.1 PROJECT NAME

This project is known as the Ajax Property.

# 1.2 CLIENT

AMADOR GOLD CORP.

711-675 West Hastings Street. Vancouver, British Columbia V6B 1N2

# 1.3 LOCATION

The Ajax Property is located in Strathy Township approximately 6.5 km northwest of Temagami, Ontario. The survey area covers a portion of claims numbered S3013126, S3013126 and S4207081located in the central region of Strathy Township, within the Sudbury Mining Division.



Figure 1: Location of Ajax Property

# 1.4 Access

Access to the property was attained with a 4x4 truck via a year around gravel road. The property is located approximately 5km west on the Kanichee Mine Road, which is located approximately 5km north along highway 11 from Temagami, Ontario.

# 1.5 SURVEY GRID

The grid consists of 31.250 kilometers of recently re-established grid lines. The lines are spaced 50-

100 meter increments with stations picketed at 25m intervals. The baseline ran at  $20^{\circ}$ N for a total length of 1500m

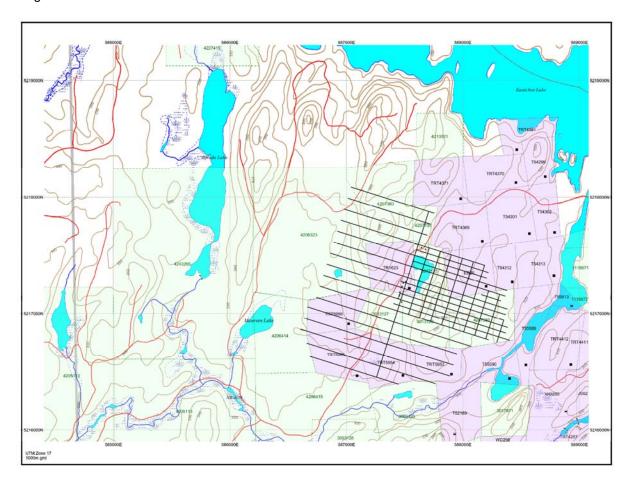


Figure 2: Claim Map with Ajax Grid



# 2. SURVEY WORK UNDERTAKEN

# 2.1 SURVEY LOG

Date	Description	Line	Min Extent	Max	Total
	•			Extent	Survey
					(m) ´
13 February 2008	MOB to Temagami. Locate survey area				
	and begin survey.	100E	9000N	10500N	1500
	and begin survey.	9000N	5000N	300E	800
		9100N	575W	100E	675
14 February 2008	Continue survev.	9100N	100E	600E	700
		9200N	650W	700E	1350
		9300N	650W	700E	1350
		9400N	650W	700E	1350
		9500N	600W	800E	1400
		9600N	100E	925E	825
15 February 2008	Continue survey. Demob from Tema-				
	gami	9600N	600W	100E	700
		9700N	600W	1050E	1650
		9800N	100E	1000E	900
22 February 2008	MOB to Temagami and continue survey.	9800N	600W	100E	700
		9900N	600W	1000E	1600
		10000N	100E	950E	850
		10050N	100E	950E	850
	0 1		22211		
23 February 2008	Continue survey.	10000N	600W	100E	700
		10100N	600W	750E	1350
		10150N	100E	750E	650
		10200N	600W	200E	800
		10300N	600W	150E	750
		10400N 10500N	600W 600W	150E 150E	750 750
04 Fabruary 2000	Cantinus aumini	10500N	60000	150E	750
24 February 2008	Continue survey.	9650N	50E	11000	1050
		9750N	50E	1100E 1050E	1000
		9750N 9850N	50E	1000E	950
		10200N	200E	700E	500
		200E	9600N	10200N	600
		300E	9800N	10200N	400
		700E	9750N	10200N	450
			0.00.4	.020014	100
25 February 2008	Complete Mag survey and Demob from				
	Temagami.	300E	9600N	9800N	200
		400E	9600N	10200N	600
		500E	9600N	10200N	600
		600E	9600N	10200N	600
		700E	9600N	9750N	150
		800E	9600N	10050N	450
		900E	9600N	10050N	450
		1000E	9600N	9800N	200

Table 1: Survey log

# 2.2 PERSONNEL

Rod Milligan of Kirkland Lake, Ontario, conducted all the magnetic data collection.



#### 2.3 SURVEY SPECIFICATIONS

The survey was conducted with a GSM-19 v7 Overhauser magnetometer. A second GSM-19 v7 Overhauser magnetometer was employed as a base station for diurnal correction. GPS waypoints were taken every 25m to establish a better control for future exploration.

A total of 31.15 line kilometers of magnetic and VLF EM survey was conducted between February 13<sup>th</sup> and February 25<sup>th</sup>, 2008. This consisted of 2792 magnetometer samples taken at 12.5m intervals.



#### 3. OVERVIEW OF SURVEY RESULTS

#### 3.1 SUMMARY INTERPRETATION

A large magnetic signature is visible on the eastern edge of the survey area. This signature most likely represents the ultramafic rock that hosted the historic mineralization. Within this magnetic signature can be seen numerous north-south striking VLF EM signatures. These signatures may represent cultural signatures related to the historic mining operation but may also represent ground conductors.

Outside this anomaly appears to be a generally uniform magnetic regime, which most likely represents a uniform geologic unit. Within this unit appears some generally north-south striking linear magnetic high features. This features most likely represent diabase dikes.

The one area of interest outside the main magnetic signature is lines 9500N and 9600N at 500W. This area exhibits a magnetic high signature with a coincident VLF EM signature. This area should be examined with prospecting to determine if the source is cultural.



# **APPENDIX A**

#### STATEMENT OF QUALIFICATIONS

- I, C. Jason Ploeger, hereby declare that:
- 1. I am a geophysicist (non-professional) with residence in Larder Lake, Ontario and am presently employed as president of Larder Geophysics Ltd. of Larder Lake, Ontario.
- 2. I graduated with a Bachelor of Science degree in geophysics from the University of Western Ontario, in London Ontario, in 1999.
- 3. I have practiced my profession continuously since graduation in Africa, Bulgaria, Canada, Mexico and Mongolia.
- 4. I am a member of the Ontario Prospectors Association and the Society of Exploration Geophysicists.
- 5. I do have an interest in the properties and securities of **AMADOR GOLD CORP**, but I have no interest in this property.
- 6. 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.

Larder Lake, ON January 2009

C. Jason Ploeger, B.Sc. (geophysics)
President of Larder Geophysics Ltd.



#### **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.

#### **VLF Electromagnetic**

The frequency domain VLF electromagnetic survey is designed to measure both the vertical and horizontal inphase (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 kilometres 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 aerials which are tuned to the frequency of the transmitting station. The direction of the source station is locate 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.



#### **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 orderof 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 76**





#### **GPS Performance**

Receiver: WAAS-enabled, 12 parallel channel GPS receiver continuously tracks and uses up to 12 satellites to compute and update your position

**Navigation Features** 

Waypoints/icons: 500 with name and graphic symbol, 10 nearest (automatic), 10 proximity

Routes: 50 reversible routes with up to 50 points each, plus MOB and TracBack® modes

Tracks: Automatic track log; 10 saved tracks let you retrace your path in both directions

Trip computer: Current speed, average speed, resettable max. speed, trip timer and trip distance

Anchor drag, approach and arrival, off-course, proximity waypoint, shallow water and deep water

Alarms: Anchor drag, approach and arrival, off-course, proximity waypoint, shallow water and deep water

Tables: Built-in celestial tables for best times to fish and hunt, sun and moon rise, set and

location

Map datums: More than 100 plus user datum

Position format: Lat/Lon, UTM/UPS, Maidenhead, MGRS, Loran TDs and other grids, including user

grid

**Acquisition times** 

Warm: Approximately 15 seconds
Cold: Approximately 45 seconds
AutoLocate®: Approximately 2 minutes
Update rate: 1/second, continuous

**GPS** accuracy

**Position:** < 15 meters, 95% typical\* **Velocity:** 0.05 meter/sec steady state

**WAAS** accuracy

**Position:** < 3 meters, 95% typical\* **Velocity:** 0.05 meter/sec steady state

**Power** 

Source: Two "AA" batteries (not included)

Battery Life: Up to 16 hours

**Physical** 

**Size:** 2.7"W x 6.2"H x 1.2"D (6.9 x 15.7 x 3.0 cm)

Weight: 7.7 ounces

Display

1.6"W x 2.2"H (4.1 x 5.6 cm) 180 x 240 pixels, high-contrast FSTN with bright backlighting



Case: Fully gasketed, high-impact plastic alloy, waterproof to IEC 529 IPX7 standards Interfaces: RS232 with NMEA 0183, RTCM 104 DGPS data format and proprietary Garmin®

Antenna: Built-in quadrifilar, with external antenna connection (MCX)

**Differential:** DGPS (USCG and WAAS capable) **Temperature range:** 5°F to 158°F (-15°C to 70°C)

**Dynamics**: 6 g's

**User data storage:** Indefinite, no memory battery required

Specifications obtained from www.garmin.com



# **APPENDIX D**

# LIST OF MAPS (IN MAP POCKET)

Posted contoured TFM plan map (1:2500)

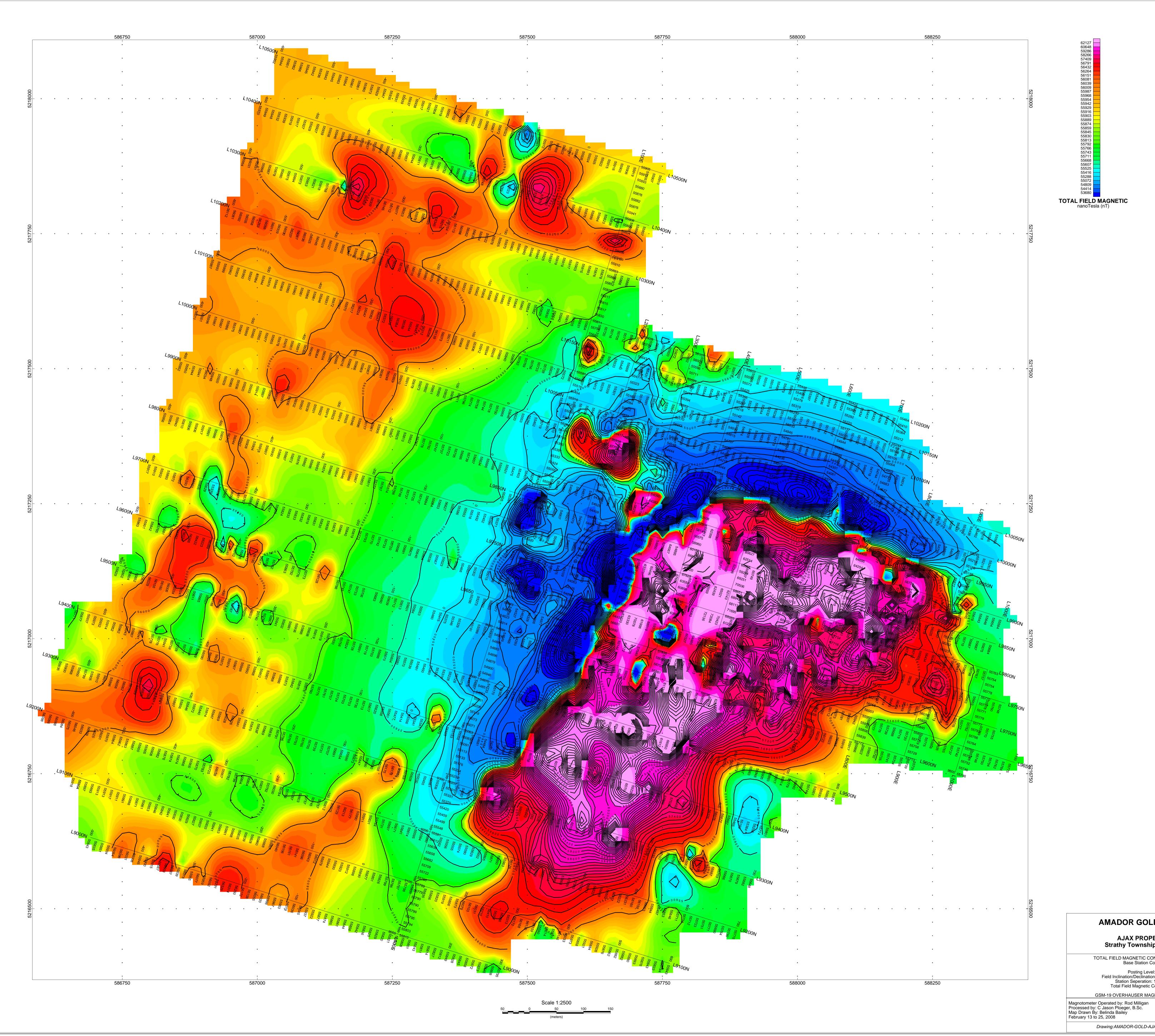
1) AMADOR-AJAX-MAG-CONT

Posted contoured TFM plan map (1:2500)

- 2) AMADOR-AJAX-VLF-NAA
- 3) AMADOR-AJAX-VLF-NML

**TOTAL MAPS = 3** 





AMADOR GOLD CORP.

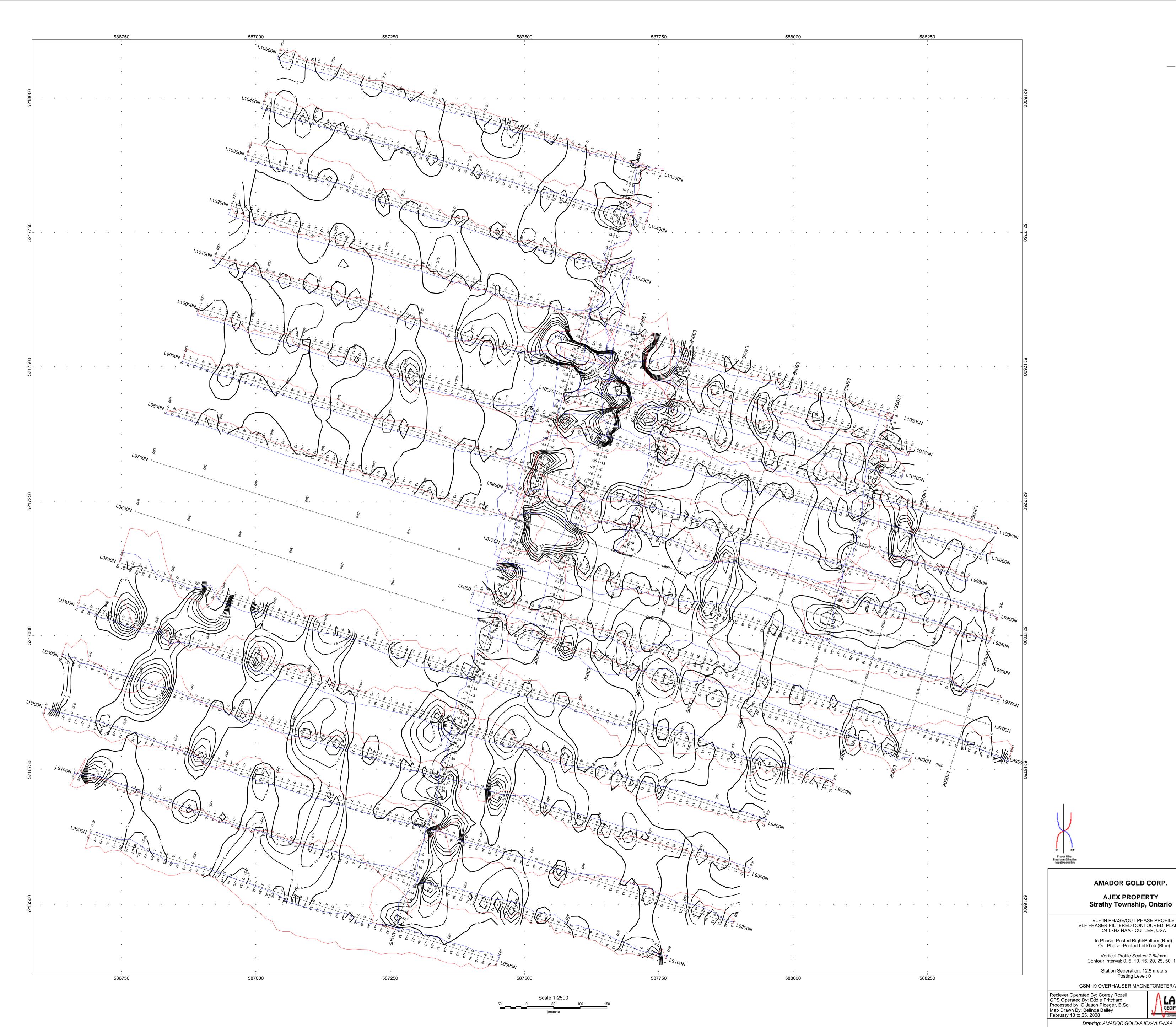
AJAX PROPERTY Strathy Township, Ontario

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: 75nT

GSM-19 OVERHAUSER MAGNETOMETER/VLF v7 LARDER GEOPHYSICS LTD.

Drawing:AMADOR-GOLD-AJAX-MAG-CONT



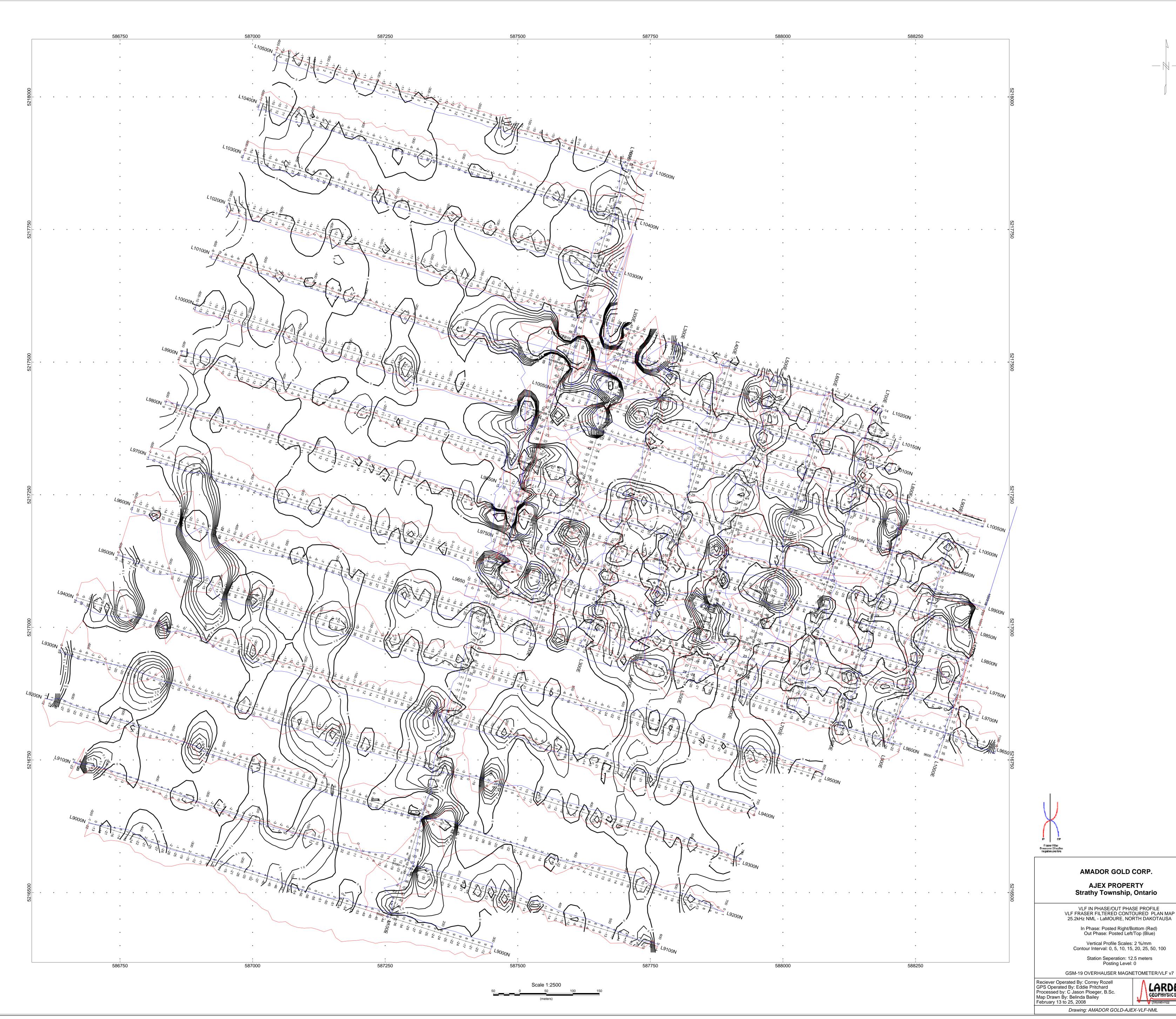
**AJEX PROPERTY** 

VLF IN PHASE/OUT PHASE PROFILE VLF FRASER FILTERED CONTOURED PLAN MAP 24.0kHz NAA - CUTLER, USA

Vertical Profile Scales: 2 %/mm Contour Interval: 0, 5, 10, 15, 20, 25, 50, 100

Station Seperation: 12.5 meters Posting Level: 0 GSM-19 OVERHAUSER MAGNETOMETER/VLF v7

LARDER GEOPHYSICS LTD.



AMADOR GOLD CORP.

AJEX PROPERTY
Strathy Township, Ontario

VLF IN PHASE/OUT PHASE PROFILE VLF FRASER FILTERED CONTOURED PLAN MAP 25.2kHz NML - LaMOURE, NORTH DAKOTAUSA In Phase: Posted Right/Bottom (Red)
Out Phase: Posted Left/Top (Blue)

Vertical Profile Scales: 2 %/mm Contour Interval: 0, 5, 10, 15, 20, 25, 50, 100

Station Seperation: 12.5 meters Posting Level: 0

LARDER GEOPHYSICS LTD. Drawing: AMADOR GOLD-AJEX-VLF-NML