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CANADIAN EXPLORATION SERVICES LTD

## PALISADE RESOURCES CORP.

Q2344 – Triangle Silver Property Magnetometer Survey

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

# PALISADE RESOURCES CORP.

#### Abstract

CXS was contracted by Palisade Resources Corp. to perform approximately 14.0 kilometres of magnetometer survey over the Triangle Silver Property.

#### PALISADE RESOURCES CORP.

Q2344 – Triangle Silver Property Magnetometer Survey

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



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## 1. SURVEY DETAILS

#### 1.1 PROJECT NAME

This project is known as the **Triangle Silver Property**.

## 1.2 CLIENT

Palisade Resources Corp.

69 Young St. Suite 1010 Toronto, Ontario M5E 1K3

#### 1.3 LOCATION

The Triangle Silver Property is located approximately 28km southeast of Elk Lake, Ontario. The survey area is located in Auld Township and covers mining claim 4217442, 4281062, 4281061 and 4281060, within the Larder Lake Mining Division

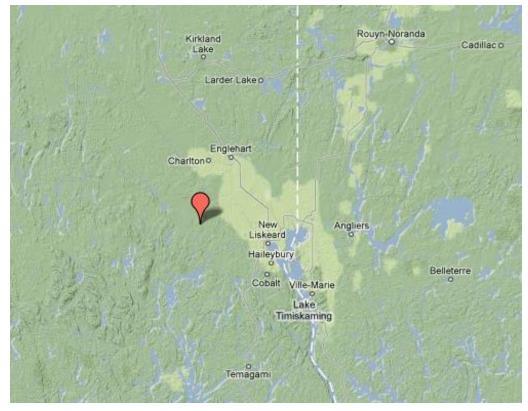


Figure 1: Location of the Triangle Silver Property



Magnetometer Survey Triangle Silver Property Auld Township, Ontario

## 1.4 ACCESS

Access to the property was attained with a 4x4 truck via Indian Bay Road. The Indian Bay Road heads south from highway 65 approximately 25km east of Elk Lake. The Indian Bay Road is travelled by truck for an additional 5 km an additional 5km was travelled by snowmachine to where an unnamed forestry road extends east. This forestry road is travelled for an additional 5 km to where the survey area crossed the road.

## 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, 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.

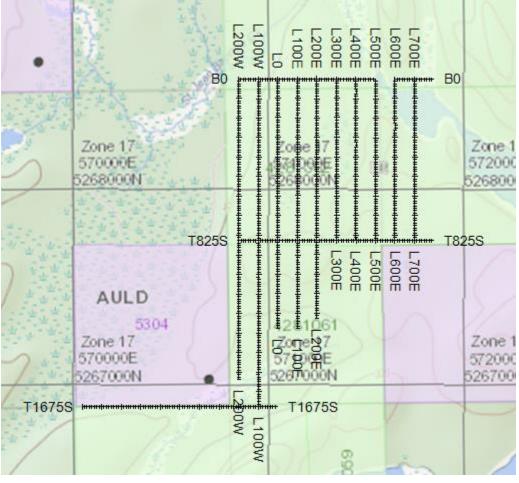


Figure 2: Claim Map with the Triangle Silver Traverses



## 2. SURVEY WORK UNDRTAKEN

#### 2.1 SURVEY LOG

Date	Description	Line	Min Extent	Max Extent	Total Survey (m)
April 5, 2017	Access difficult because of breakup conditions. Locate survey area and begin magne-				
	tometer survey.	100W	1675S	0	1675
	, , , , , , , , , , , , , , , , , , ,	200W	1025S	0	1025
-		0	200W	100W	100
		1675S	1000W	0	1000
April 6, 2017	Continue magnetometer survey.	200W	1537.5S	1025S	512.5
		0E	1275S	0	1275
		100E	825S	0	825
		200E	825S	0	825
		300E	825S	0	825
		0N	100W	400E	500
		825S	200W	300E	500
April 7, 2017	Complete magnetometer survey				
	as outlined.	100E	1275S	825S	450
		200E	1225S	825S	400
		400E	825S	0	825
		500E	825S	0	825
		600E	825S	0	825
		700E	825S	0	825
		0	400E	800E	400
		825S	300E	800E	500

#### 2.2 PERSONNEL

Ryan Lavalley of Sudbury, Ontario conducted all the magnetic data collection while Claudia Moraga of Britt, Ontario was responsible for the GPS control and GPS way-point 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 14.1125 line kilometers of magnetometer was read over the Triangle Silver Property between April 4<sup>th</sup> and April 6<sup>th</sup>, 2017. This consisted of 1129 magnetometer samples taken at a 12.5 metre sample interval.



## 3. OVERVIEW OF SURVEY RESULTS

3.1 SUMMARY

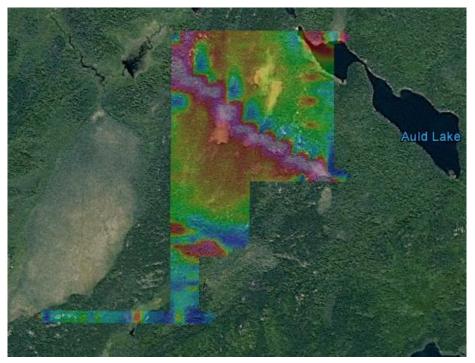


Figure 3: Magnetometer Plan on Google Earth

No Culture was noted during the survey.

Four magnetic features are highlighted with this survey.

The most prominent feature is represented by a strong magnetic anomaly striking at approximately 120 degrees across the survey area. This may represent a regional olivine diabase dike. There appears to be shifts in the trend of the magnetic anomaly near 0E and 400S along with 100E and 500S. This may have resulted in alteration at these regions and should be prospected.

The remaining three anomalies appear to represent a similar signature. This indicates that they are most likely related. These magnetic anomalies occur in the southwest extent, southeast extent and north east extent of the survey area. These signatures resemble that of Nipissing Diabase. Of these one magnetic anomaly should be further investigated. This appears as a magnetic low striking between 1225S and 1200S over lines 200W and 100W. This represents an area of magnetic depletion within the magnetically elevated region. This may indicate a band of alteration within the Nipissing Diabase.

I would recommend prospecting the region around 1225S and 1200S on lines 200W and 100W.



## **APPENDIX A**

#### **S**TATEMENT 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 **Pali**sade Resources Corp.
- 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 April 18, 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 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.



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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 ... ex-



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ceeds proton precession and matches costlier optically pumped cesium capabilities



## **APPENDIX C**

## **GARMIN GPS MAP 62S**



Physical & Performance	2:								
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/locations:	2000
Routes:	200
Track log:	10,000 points, 200 saved tracks

Features & Benefits:									
Automatic routing (turn by turn routing on	yes (with optional mapping for detailed								
roads):	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								



Magnetometer Survey Triangle Silver Property Auld Township, Ontario

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) Q2344-Palisade-Triangle-Mag-Cont

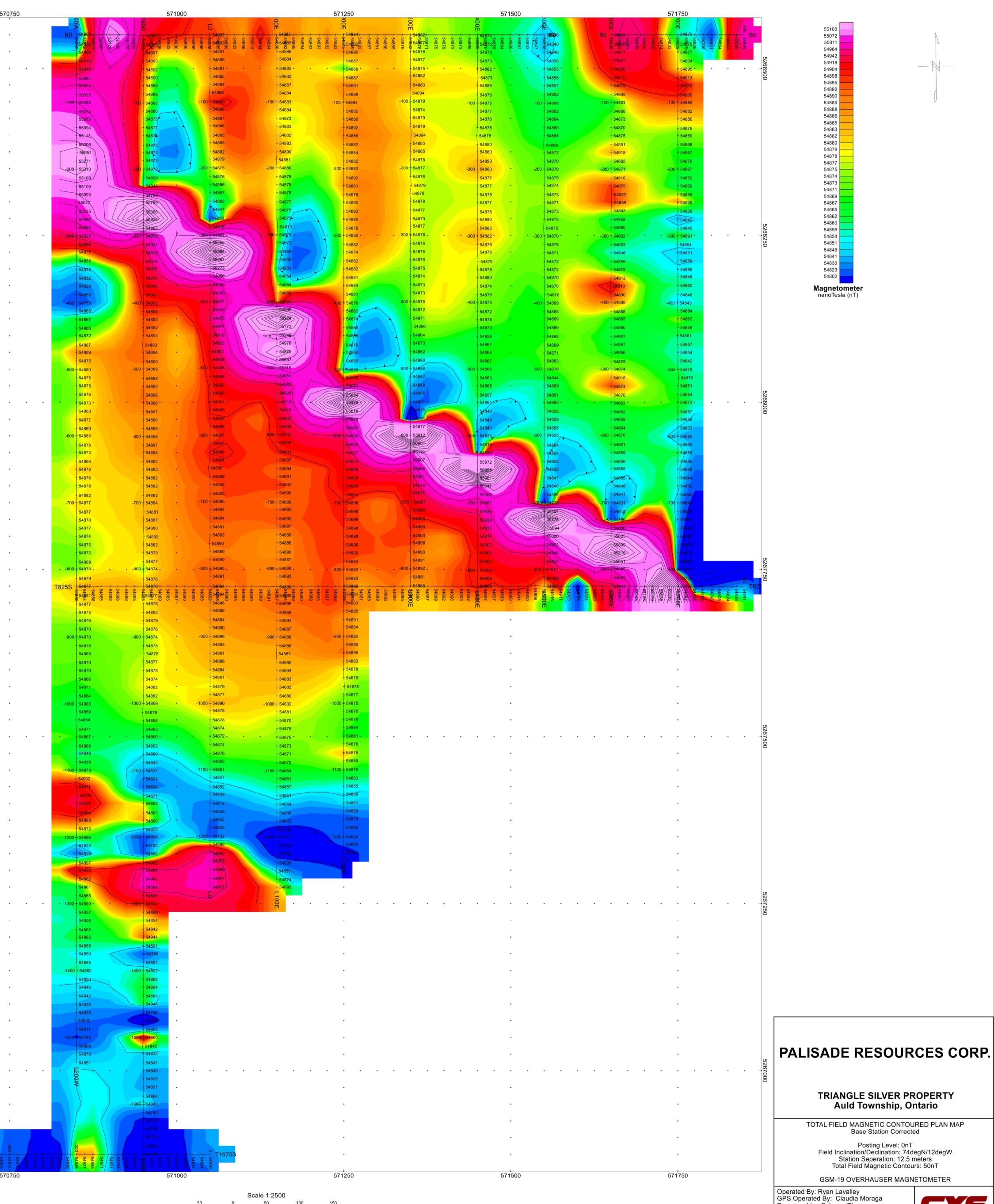
Claim Map with Magnetic Traverses (1:20000)

2) Q2344-Palisade-Triangle-Traverses

#### TOTAL MAPS = 2

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(meters)

NAD83 / UTM zone 17N

TRIANGLE SILVER PROPERTY Auld 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: 50nT

GSM-19 OVERHAUSER MAGNETOMETER



Processed by: C Jason Ploeger Map Drawn By: C Jason Ploeger, P.Geo. April 2017 Drawing: Q2344-PALISADE-TRIANGLE-MAG-CONT

