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MAGNETOMETER and VLF-EM SURVEYS

Red Jacket - Hamilton Property
of
George Pollock & Heather Pollock

Coleman Township

October 2016

NTS 31 M/5

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1.0 INTRODUCTION:

During the month of October 2016, a program of geophysical surveying and grid establishment was carried out on the Red Jacket - Hamilton Property held by George Pollock & Heather Pollock., 17 Wellington Street, New Liskeard, Ontario P0J 1P0. A total of 8.75 km of flagged line was established using a Garmin Csx60 GPS Receiver. 8.75 km was subsequently surveyed with magnetometer and 7 km was surveyed with VLF-EM.

The work was supervised, executed and reported on by David Laronde (Meegwich Inc.) of 73 Lakeshore Drive, P.O. Box 482, Temagami, Ontario POH 2HO.

2.0 PROPERTY DESCRIPTION:

The property consists of a single 5 unit mining claim numbered 4276136. The claim is situated in the Larder Lake Mining District and described as Lots 7 & 8, Pt of N ½ of N ½ Lot 9 Conc 4 of Coleman Twp.

3.0 LOCATION AND ACCESS:

The property is situated 2 km southwest of the town of Cobalt, Ontario some 160 km north of North Bay. The property is accessible by taking Hwy 11B south from Cobalt to Bass Lake Road. At the junction of Bass Lake Road and the railway tracks park here and walk the rail line 1.5 km northward to the property.

4.0 MAGNETOMETER SURVEY:

A total of 8.750 km was surveyed on a GPS controlled grid with 25 meter stations flagged on lines spaced at 50 meter intervals. Readings were taken at 6.125 meter intervals (1400 readings).

4.1 Instrumentation: Gem Systems GSM-19 overhauser magnetometers ser. No. 58479, 67559 were used for the base station and the field survey. These instruments are state of the art micro-processor based and measure the earth's total magnetic field to an accuracy of 1/100th of a gamma.

4.2 Survey Results: The results are presented on contoured plans at 1:2500 scale.

The results of the survey show two parallel trends in a southeast direction. The first is found at the centre of the grid from L 250 to 500 E. Readings are intense on L 450 E at 825 N. This appears to be highly magnetic mineral such as pyrrhotite or magnetite. A second trend runs from Moffat Lake southeast. An intense response was picked up on L 150 E 750 N where readings range up to 6134 nT. Magnetic mineral is evident.
Several weak isolated responses occur here and there throughout the grid with no real pattern or trend but nevertheless indicate the presence of magnetic mineral and possibly a nearby mafic intrusion.

5.0 VLF - EM Survey:

A total of 7.00 km was surveyed for a total of 175 readings taken at 25 meter stations on lines spaced at 50 meters. All readings were taken while facing north.

5.1 Instrumentation: A Geonics EM-16 VLF-EM receiver (Ser. No. 8404014) was used for the survey. The in-phase and quadrature components were recorded using VLF transmitting station Cutler, Maine NAA transmitting at 24.0 kHz. The measured quantities are the in-phase and quadrature components of the vertical magnetic field measured as a percentage of horizontal primary field (read to a resolution of +/- 1%).

5.2 Survey Results: The results of the survey are presented in profile form on plans at 1:2500 scale.

Note: Because of the high frequencies used, VLF-EM surveys tend to pick up topographic and geological noise (overburden filled depressions) as well as prospective bedrock anomalies at surface or shallow in depth. Differentiating the two types of responses is the challenge with VLF data.

The VLF-EM survey yielded conductors that appear to be associated with a fault series trending more or less east southeast. There are basically two conductor trends.

Conductor A spans the grid and continues off in both east and west directions. The conductor axis on L 200, 250, 500, 700 and 750 E display a “possible metallic” signature while the other cross-overs look to be more fault related although occurring along the same axis. There is a fenced in shaft or pit on L 750 E. In terms conductor strength these appear to be moderate to strong responses. A cedar swamp is prominent at the west end of Conductor A. Possible north south faulting or shearing may be the reason for the off-sets of the conductor trend from L 350 to 450 E.
There doesn’t appear to be magnetic association with this conductor.

Conductor B looks to be topographic noise and not a bedrock source for the conductivity displayed. The anomaly occurs near the boundary of a cedar swamp and elevated terrain to the north.
There is however some magnetic association that may only be coincidental.

6.0 CONCLUSIONS AND RECOMMENDATIONS:

The magnetic survey has not really identified geologic contacts other than the fact the magnetic background is somewhat lower at the eastern side where there are 3 shafts or pits. Sediment geology is mapped here running from North Pickerel Lake and 200-300 meters wide.
The survey has identified two intrusive magnetic highs that trend southeast. These may be following a zone of weakness such as a fault zone or shear zone.

The VLF-EM survey indicated two conductor trends with only the northern trend, Conductor A, identified as having a possible metallic source on L 500 E at 850 N. There are a few other places along trend that promise a metallic source as well. These are mentioned earlier.

Further geophysical work is recommended to explore beyond the depth of previous exploration in the electromagnetic department. There are two choices that both require cut survey line and these are I.P. or HLEM. The goal is to detect sulphide mineral associated with precious metal and possible gold.

References

1972 Ontario Geological Survey - Geological Map No. 2361

CERTIFICATE OF AUTHOR

I, David Laronde of the town of Temagami, Ontario hereby certify:

1. That I am a geology engineering technologist and have been engaged in my profession for the past 36 years.

2. That I am a graduate of Cambrian College in Sudbury with a diploma in Geology Engineering Technology1979.

3. That my knowledge of the property described herein was acquired by field work and documentation.

Dated at Temagami this 29th day of October 2016.

_____

David Laronde

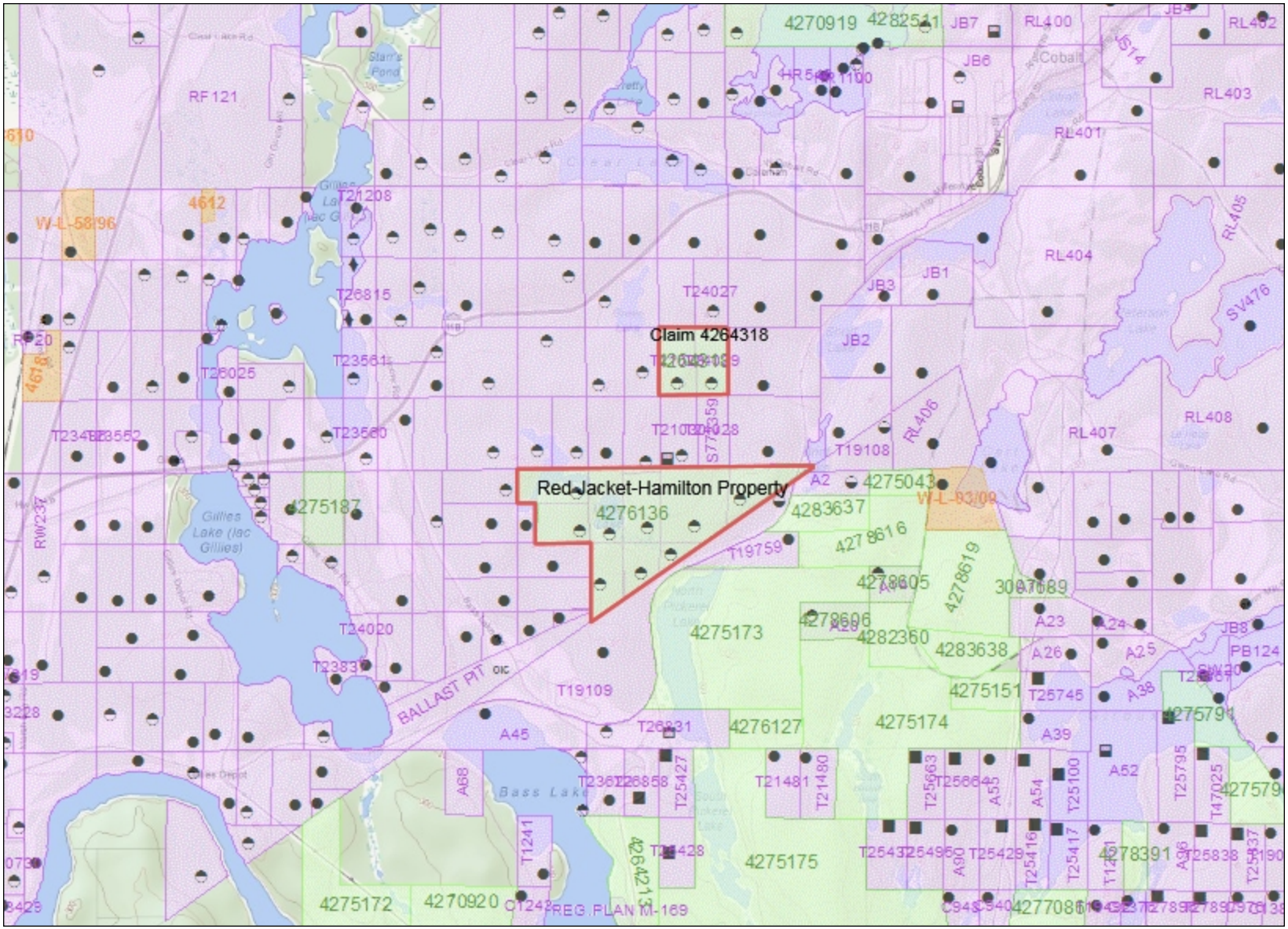
Geology Engineering Technologist

Ontario

MINISTRY OF NORTHERN DEVELOPMENT AND MINES
CLAIMaps

Red Jacket-Hamilton Property

Notes:
Scale 1: 50 000



Legend

Administration Boundaries
- Mining Divisions
- Resident Geologist District
- Townships and Areas
- UTM Grid
- Geographic Lot Fabric
- Other Federal Land

Mineral Tenure Grid
- OMTG Tenure Grid

Alienations
- Withdrawal
- Notice

Unpatented Claim
- Active
- Reconciled
- Pending

Disposition
- Disposition

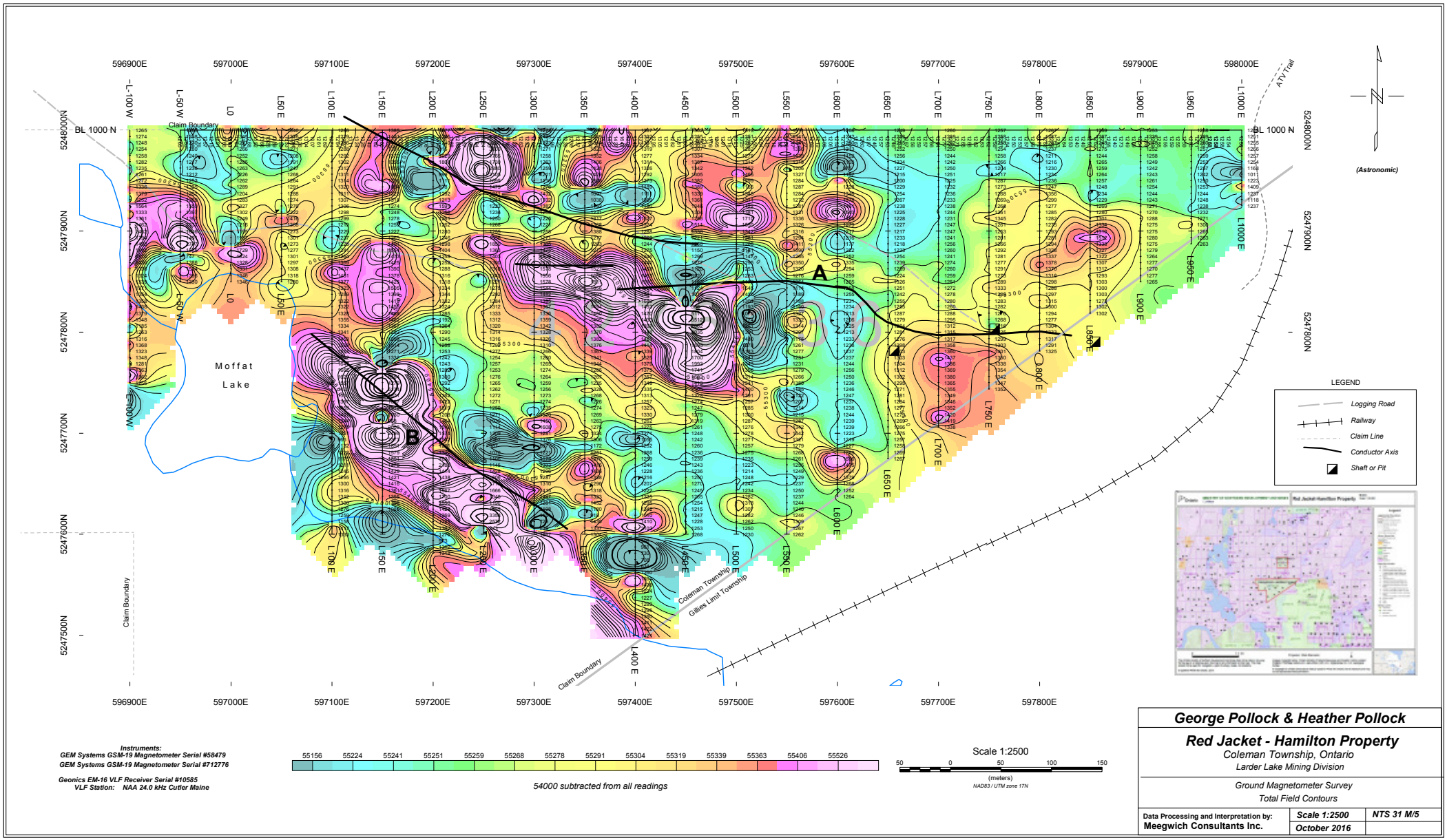
Disposition Symbols
- Camp
- Disposition Unknown/Pending
- Freehold Patent Mining Rights Only
- Freehold Patent Surface Rights Only
- Freehold Patent Surface and Mining Rights
- Land Use Permit
- Leasehold Patent Mining Rights Only
- Leasehold Patent Surface Rights Only
- Leasehold Patent Surface and Mining Rights
- License of Occupation Mining Use Only
- License of Occupation Surface Use Only
- License of Occupation Surface and Mining Rights
- License of Occupation Uses Not Specified
- Order in Council
- Tower
- WPLA

Geology Layers
- AMIS Sites
- AMIS Features
- Drill Holes
- Mineral Occurrences

0 1.7 km

Projection: Web Mercator

N



George Pollock & Heather Pollock

Red Jacket - Hamilton Property

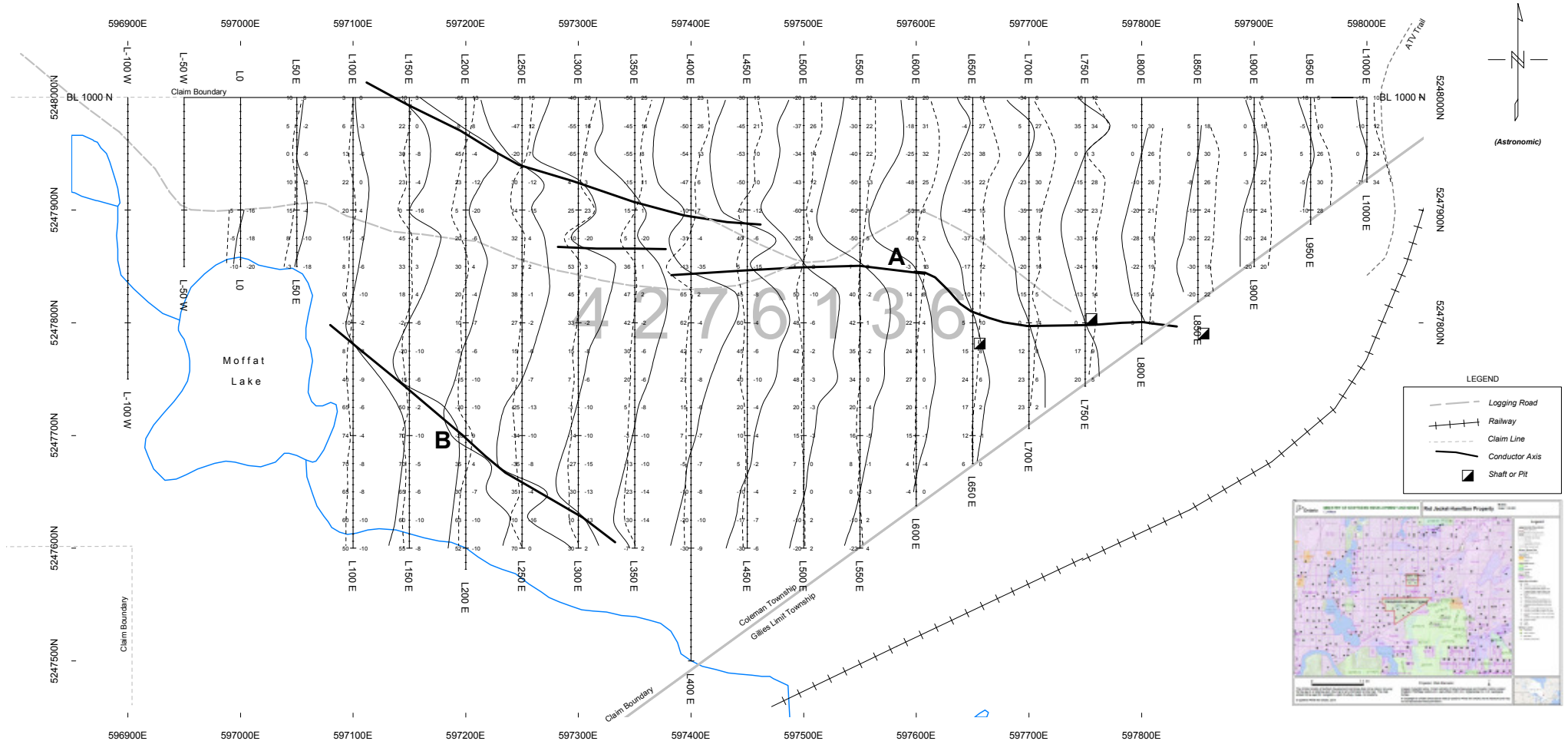
Coleman Township, Ontario

Larder Lake Mining Division

Ground Magnetometer Survey

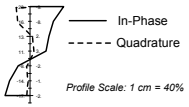
Total Field Contours

Data Processing and Interpretation by:	Scale 1:2500	NTS 31 M/5
Meegwich Consultants Inc.	October 2016	



Instruments:
GEM Systems GSM-19 Magnetometer Serial #58479
GEM Systems GSM-19 Magnetometer Serial #712776

Geonics EM-16 VLF Receiver Serial #10585
VLF Station: NAA 24.0 kHz Cutler Maine



Profile Scale: 1 cm = 40%

Scale 1:2500
50 0 50 100 150
(meters)
NAD83 / UTM zone 17N

George Pollock & Heather Pollock

Red Jacket - Hamilton Property
Coleman Township, Ontario
Larder Lake Mining Division

VLF-EM Survey
Profiles of the In-Phase and Quadrature

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