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# TIGER GOLD EXPLORATION CORPORATION

# Magnetometer Survey Over the HARKER HERITAGE PROPERTY AREA 14

Marriott Township, Ontario

### Magnetometer Survey Harker Heritage Property Marriott Township, Ontario

Tiger Gold Exploration Corporation

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### 1. SURVEY DETAILS

### 1.1 PROJECT NAME

This project is known as the **Harker Heritage Property – Area 14**.

### 1.2 CLIENT

TIGER GOLD EXPLORATION CORPORATION,

103 Government Road. Kirkland Lake, Ontario P2N 1A9

### 1.3 LOCATION

The Harker Heritage Property is located approximately 50 km northeast of Kirkland Lake, Ontario. The property consists of 375 mining claims comprising of over 850 units spanning Clifford, Elliott, Harker, Holloway, Tannahill and Marriott Townships within the Larder Lake Mining Division.



Figure 1: Location of the Harker Heritage Property



### 1.4 Access

Access to the property was attained with a 4x4 truck via highway 672 and highway 101. Numerous forestry access roads and trails were travelled by snowmobile to access the various parts of the property.

Area 14 is located within Marriott Township. Access to this area was via highway 101. Approximately 17 kilometers east of its intersection with highway 672, the property crosses the highway. From this location, a snowmobile was used to access the traverse area.

### 1.5 SURVEY AREA

The survey area was designed to be a reconnaissance survey through the claim group. The traversed lines were established using a GPS in conjunction with the execution of the survey and were based on topography and a path of least resistance.

The miming claims traversed all fall within Marriott Township within the Larder Lake Mining Division. These claims include 4252135,4252136 and 4252137.



### 2. SURVEY WORK UNDERTAKEN

### 2.1 SURVEY LOG

Date	Description	Total Survey (km)
The state of the s	Locate access to Area 14 and begin magnetometer survey	8
March 22, 2016	Complete magnetometer survey over Area 14	2.8

Table 1: Survey Log

### 2.2 Personnel

Bruce Lavalley of Britt, Ontario operated the Magnetometer with Claudia Moraga also of Britt, Ontario performing the GPS navigation.

### 2.3 SURVEY SPECIFICATIONS

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

A total of 10.8 line kilometers of Magnetometer was read over the Harker Heritage between March 21<sup>st</sup> and March 22<sup>nd</sup>, 2016. This consisted of 10578 magnetometer samples taken at a 1 second sample interval.



### 3. OVERVIEW OF SURVEY RESULTS

### 3.1 SUMMARY

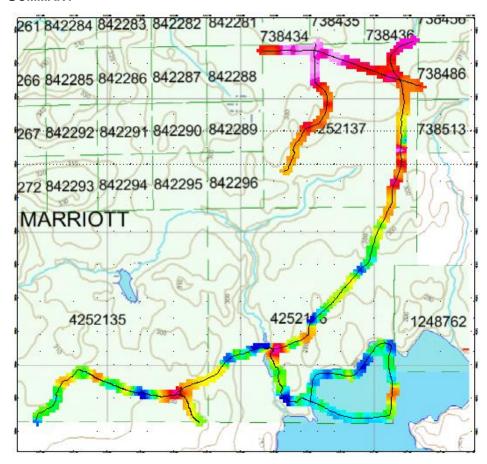


Figure 2: Magnetometer Readings

The purpose of the magnetic survey was as a reconnaissance tool, to assist with tying historic surveys together. A total of 10.8 kilometers of traverses were performed over area 14.

The area appears to be prominently underlain by a magnetic fabric striking at approximately 60 degrees. The alternating high to low signatures most likely represent the units of the volcanic pile.

The one area that appears to be anomalous occurs in the north part on claim 42521237. This area appears to exhibit a magnetic high that appears to generally follow the remaining magnetic fabric. This most likely indicates a magnetite rich volcanic or sedimentary unit.

I would recommend compiling the historic ground magnetic data and leveling it to this survey. This compared with other geoscientific data will provide a more reliable geological image of the area.



### **APPENDIX A**

### STATEMENT OF QUALIFICATIONS

- I, C. Jason Ploeger, hereby declare that:
- 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 Ltd. 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 **Tiger Gold Exploration Corporation.**
- 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 Ltd.

> Larder Lake, ON September 8, 2016



### **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).

### Magnetometer Survey Harker Heritage Property Marriott Township, Ontario

Tiger Gold Exploration Corporation

 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	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 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/loc	cations:	2000
Routes:		200
Track log:		10,000 points, 200 saved tracks
Features & Benefits:		
Automatic routing (turn	by turn routing	yes (with optional mapping for detailed
on roads):		roads)
Electronic compass:		yes (tilt-compensated, 3-axis)
Touchscreen:		no
Barometric altimeter:		yes
Camera:		no
Geocaching-friendly:		yes (paperless)
Custom maps compatil	ble:	yes
Photo navigation (navig	gate to ge-	VOC
otagged 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, categorize and share data):	yes

Specifications obtained from www.garmin.com



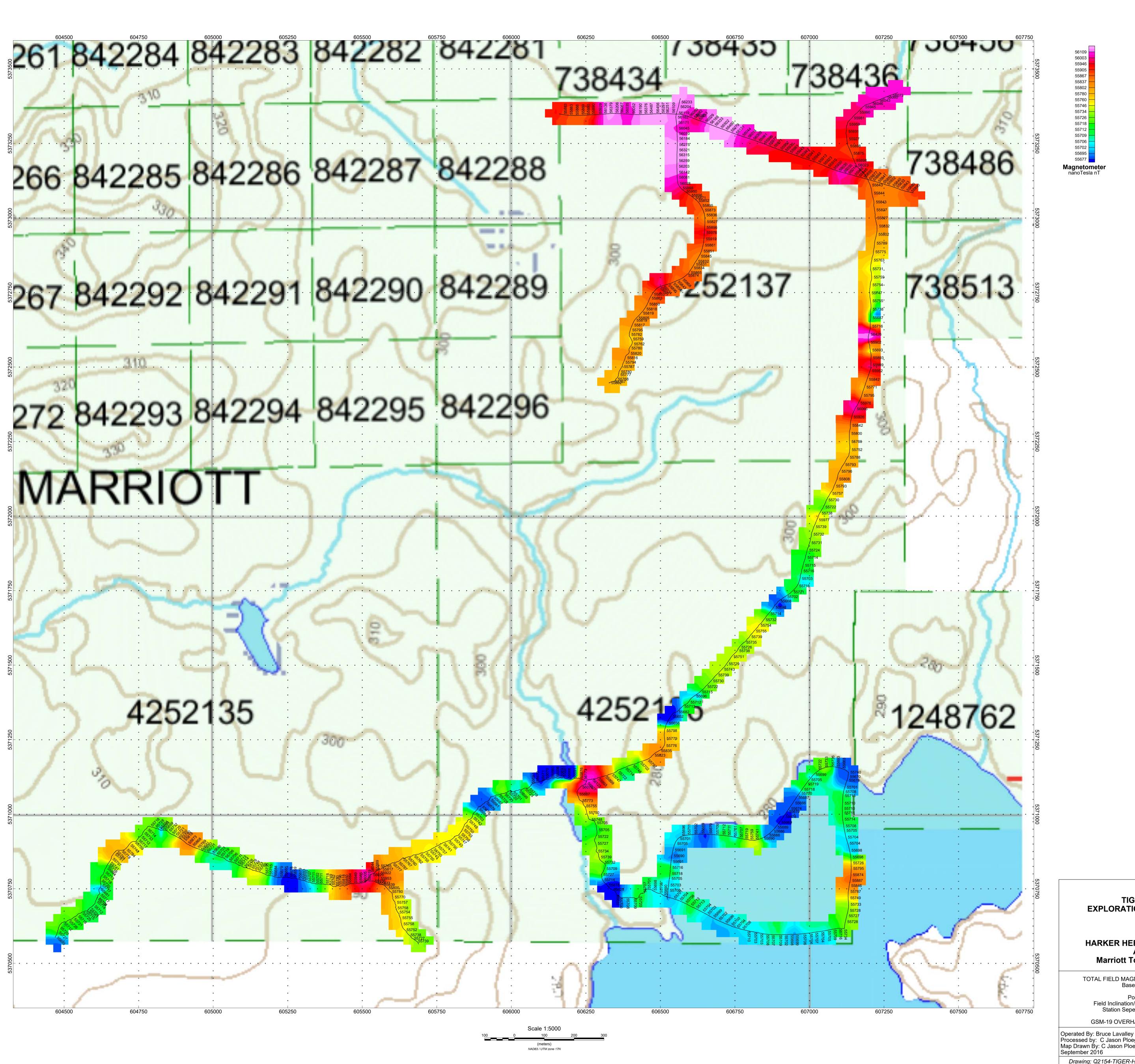
# **APPENDIX D**

# LIST OF MAPS (IN MAP POCKET)

Posted Magnetometer plan maps (1:5000)

1) TIGER-HARKER HERITAGE-AREA 14-MAG

**TOTAL MAPS = 1** 



TIGER GOLD EXPLORATION

HARKER HERITAGE PROPERTY
Area 14
Marriott Township, Ontario

TOTAL FIELD MAGNETIC CONTOURED PLAN MAP

Posting Level: 0nT
Field Inclination/Declination: 74degN/12degW
Station Seperation: 1 second intervals

GSM-19 OVERHAUSER MAGNETOMETER v7

Processed by: C Jason Ploeger, B.Sc.
Map Drawn By: C Jason Ploeger, B.Sc.
September 2016

Drawing: Q2154-TIGER-HARKER HERITAGE-AREA-14-MAG