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

TIGER GOLD EXPLORATION CORPORATION

Q2154 – Harker Heritage Property - Area 12 VLF Survey

C Jason Ploeger, P.Geo – February 28, 2017

Tiger Gold Exploration Corporation

Abstract

CXS was contracted to perform VLF reconnaissance survey to assist in tying historic surveys together and locate potential new target areas. A total of 7.15 kilometres of traverses were performed over the Harker Heritage Property Area 12.

TIGER GOLD EXPLORATION CORPORATION

Q2154 – Harker Heritage Property - Area 12 VLF Survey

C Jason Ploeger, P.Geo. – February 28, 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 **Harker Heritage Property – Area 12**.

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 12 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.

2. SURVEY WORK UNDERTAKEN

2.1 SURVEY LOG

Date	Description	Total Survey (km)
March 21, 2016	Locate traverse area and access. Begin VLF EM survey.	3.45
March 23, 2016	Complete survey over Area 12.	3.7

Table 1: Survey Log

2.2 PERSONNEL

Bruce Lavalley and Claudia Moraga both of Britt, Ontario operated the VLF EM systems along with the performing the GPS navigation.

2.3 SURVEY SPECIFICATIONS

The survey was conducted with a GSM-19 v7 VLF.

A total of 7.15 line kilometers of Magnetometer was read over the Harker Heritage Property between March 21st and March 23rd, 2016. This consisted of 286 VLF EM samples taken at an approximate 25 metre sample interval.

3. OVERVIEW OF SURVEY RESULTS

3.1 SUMMARY

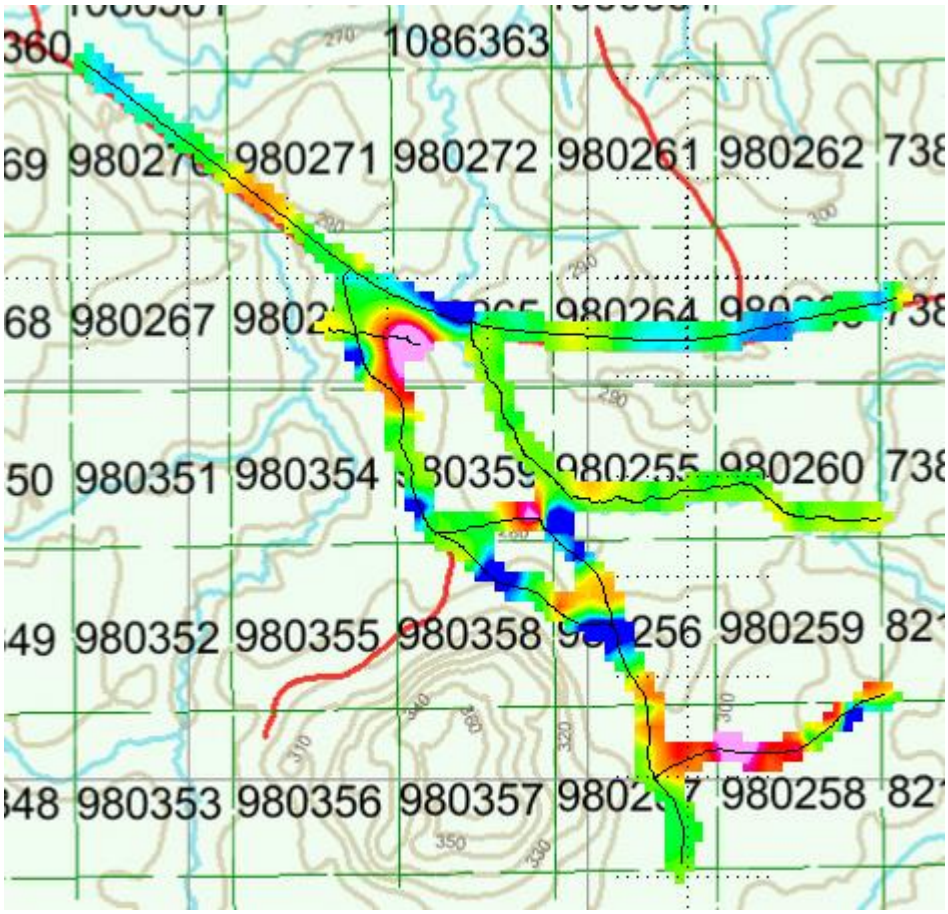


Figure 2: VLF EM In-Phase Readings

The purpose of the VLF survey was as a reconnaissance a survey and to assist in tying historic surveys together and locate potential new target areas. A total of 7.15 kilometres of traverses were performed over Area 12. With the randomness of the survey path the operator paced approximately 25 meters. At each VLF measurement, the operator faced north during the measurement as to keep the measurements consistent.

The only culture encountered throughout the reconnaissance area was noted at the northern most end of the traverses. This was the highway 101 corridor.

Two regions of interest are highlighted from the VLF EM reconnaissance survey. Area 1 represents a region over claims 980358 and 980255. The response over these areas appears as a inphase lows with flanking highs to the north. The location near a topographic elevation (+50m to 60m) may indicate the source being topographic. However, this may be associated to a structural/alteration feature. I would recommend an IP survey with lines striking approximately 340 degrees east of

the topographic high. This would allow the anomaly to be adequately tested.

The second area of note occurs near the west claim boundary of mining claim 980258. This appears as a sharp inphase high response. The orientation of this response is difficult to determine. I would recommend extending the above mentioned IP survey south to cover 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 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
February 28, 2017

APPENDIX B

THEORETICAL BASIS AND SURVEY PROCEDURES

VLF EM SURVEY

The frequency domain VLF electromagnetic survey is designed to measure both the vertical and horizontal in-phase (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 kilometers 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 located 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 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-

ceeds 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 wirelessly 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

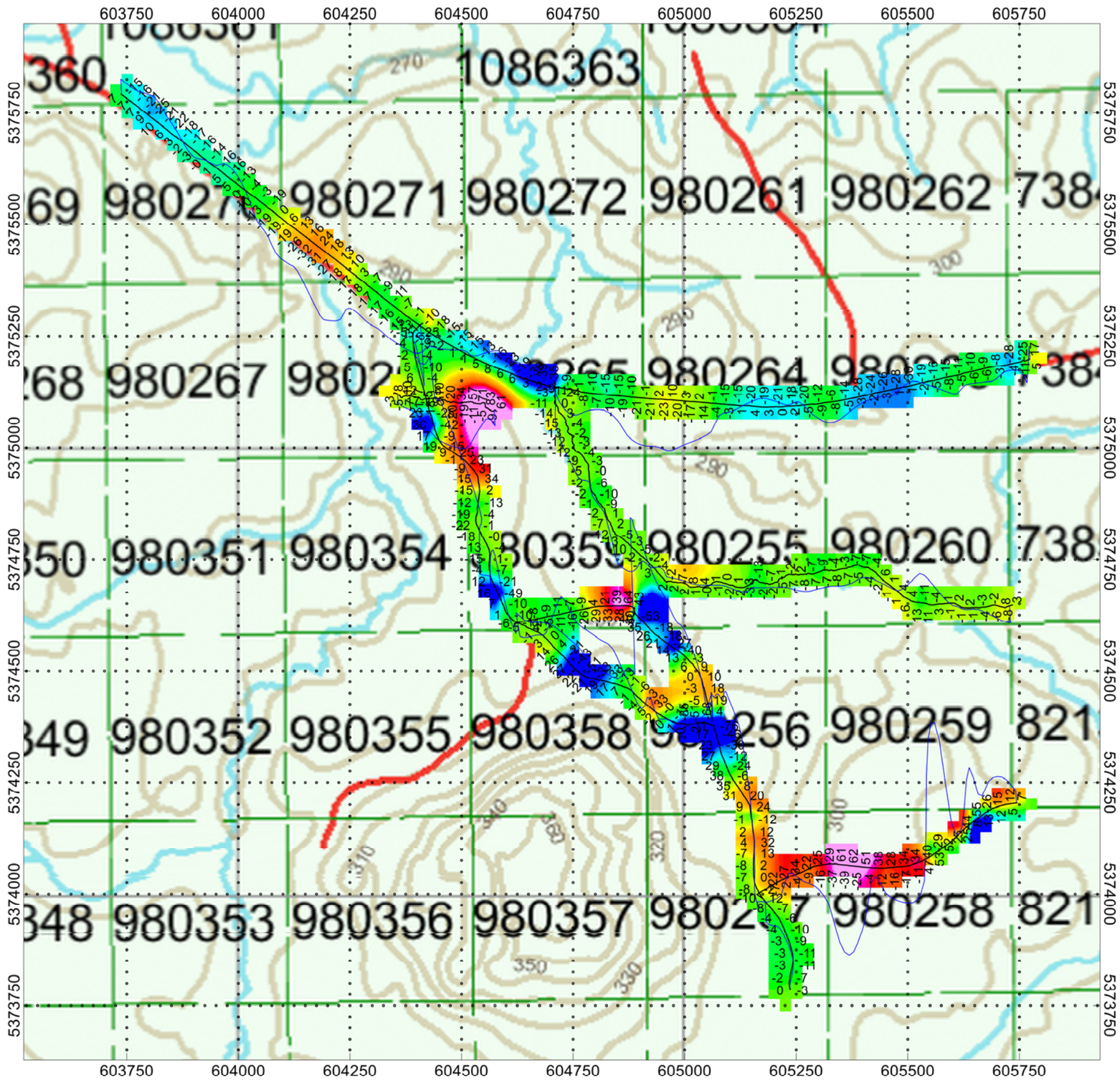
LIST OF MAPS (IN MAP POCKET)

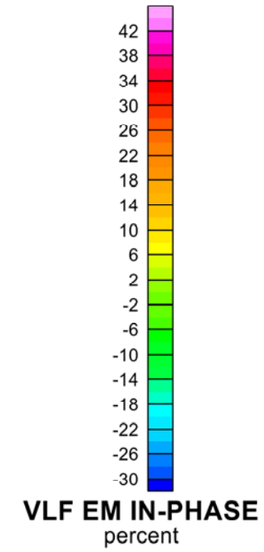
VLF EM Plan Map (1:10000)

1) Q2154-TIGER-HARKER HERITAGE-AREA 12-VLF-NML

TOTAL MAPS = 1

877.504.2345 | info@cxsltd.com | www.cxsltd.com





Scale 1:10000

100 0 100 200 300 400 500 600 700

(meters)

NAD83 / UTM zone 17N

TIGER GOLD
EXPLORATION CORPORATION

HARKER HERITAGE PROPERTY
Area 12
Marriott Township, Ontario

VLF IN PHASE/OUT PHASE PROFILE
25.2kHz NML - LaMORE USA

In Phase: Posted Right/Bottom (Red)
Out Phase: Posted Left/Top (Blue)

Vertical Profile Scales: 2 %/mm

Station Seperation: 25 meters
Posting Level: 0

GSM-19 VLF v7

Operated By: Bruce Lavalley
Processed by: C Jason Ploeger, B.Sc.
Map Drawn By: C Jason Ploeger, B.Sc.
February 2017

CXS
CANADIAN EXPLORATION SERVICES LTD

Drawing: TIGER-HARKER HERITAGE-AREA 12-VLF-NML