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Assessment Report

Geophysical Ground VLF & Magnetometer Survey

Completed for Rich Copper Exploration Corp.

On the

Christy Lake Property

In Esten Township, District of Algoma
Sault Ste. Marie Mining Division
Claim Numbers 625373-625380

MLAS Grid Numbers 41J07A141 to 41JO7A143, 41J07A161 to 163, 41J07B160, 41J07B180

Prepared For

Rich Copper Exploration Corporation

Authored By: Shaun Parent, P.Geo
Superior Exploration & Climbing Co. Ltd.

November 29, 2022

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Introduction

Superior Exploration has completed a VLF & Magnetometer geophysics survey over mining claims held by Rich Copper Exploration Corp. in October 2022. The claims are located in Esten Township, District of Algoma, Sault Ste. Marie Mining Division.

The objective was to run a VLF and Ground magnetic survey along strike of previous drilling that carried massive sulphides and to perform a modern interpretation of the results.

Overall, 12 grid lines (10.44 km) of VLF & Magnetic data was collected during the geophysical survey and results were modelled and interpreted. The fieldwork was performed between October 14 and October 16, 2022, for a total of 3 days. The Coordinate System used was UTM Zone 17, NAD 83. No Exploration Plan was required.

This report discusses the results of the survey and provides new insight into the potential of Rich Copper's claims for a massive sulphide discovery.

The VLE & Magnetic survey was successful in identifying several VLF Trends indicating conductive zones. It is recommended that further survey work be completed to expand the grid to the East and West to follow VLF trends as listed in Table 3.

Mineral deposit type being explored

The mineralization at Christy Lake is expected to be typical copper in Breccia/quartz veins cutting Algoma sediments.

Geological model/concept being applied

The mineralization of this type typically occurs as linear zones of breccia with associated quartz veins and alteration. The copper is typically in the form of chalcopyrite and/or bornite.

Reason for exploration work / type performed

The copper mineralization and shear zones are known to respond to VLF EM surveys. The magnetic survey will assist in understanding the geology and may identify other structures.

Mining Claim Information

Tenure and Ownership

The property consists of 8 single mining claim cells (SCMC) and covers an area of approximately 1,600 hectares (Map 2/Table 1).

Rich Copper Exploration owns a 100% interest to the right and title to the mining claims that constitute the Christy Lake Property.

Table 1 List of Rich Copper's Mining Claims

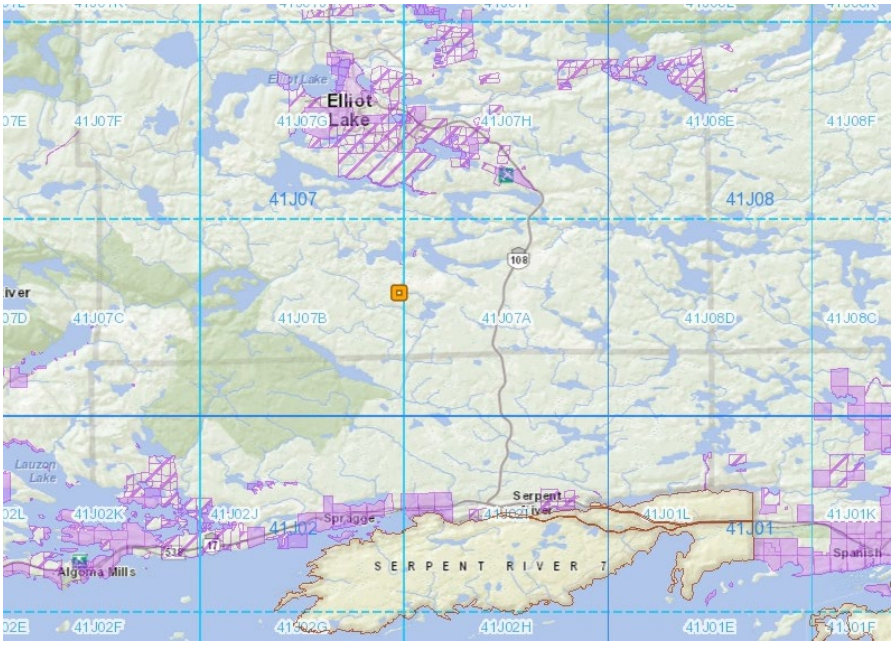
Tenure ID	Project	Cell ID (s)	Holder	Area (ha)	Township/Area
625375	Christy Lake	41J07B160	Rich Copper Exploration Corp.	22.29	Esten Township
625377	Christy Lake	41J07B180	Rich Copper Exploration Corp.	22.294	Esten Township
625374	Christy Lake	41J07A141	Rich Copper Exploration Corp.	22.292	Esten Township
625373	Christy Lake	41J07A161	Rich Copper Exploration Corp.	22.293	Esten Township
625376	Christy Lake	41J07A142	Rich Copper Exploration Corp.	22.292	Esten Township
625379	Christy Lake	41J07A162	Rich Copper Exploration Corp.	22.293	Esten Township
625380	Christy Lake	41J07A143	Rich Copper Exploration Corp.	22.292	Esten Township
625378	Christy Lake	41J07A163	Rich Copper Exploration Corp.	22.293	Esten Township
8				**178.34**	

Property Information

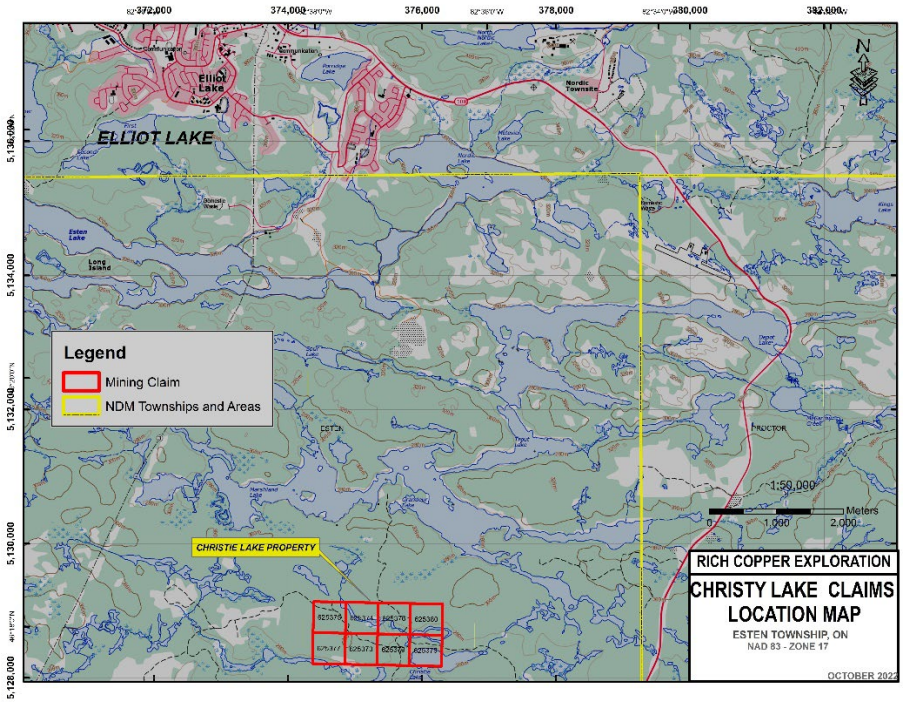
Location

The property is located in Esten Township approximately 15 km north of Spanish and 10 km south of Elliot Lake in Ontario.

Map 1 Christie Lake Property Location



Map 2 Rich Copper Exploration's Christy Lake Claim Location



Mining Claims Relevant to Geophysics Grids

Identification

The VLF & Magnetometer Geophysical Survey was completed over 6 of the 8 mining claims presently held by Rich Copper Exploration.

Map 3 Rich Copper's Mining Claims showing Grid Area

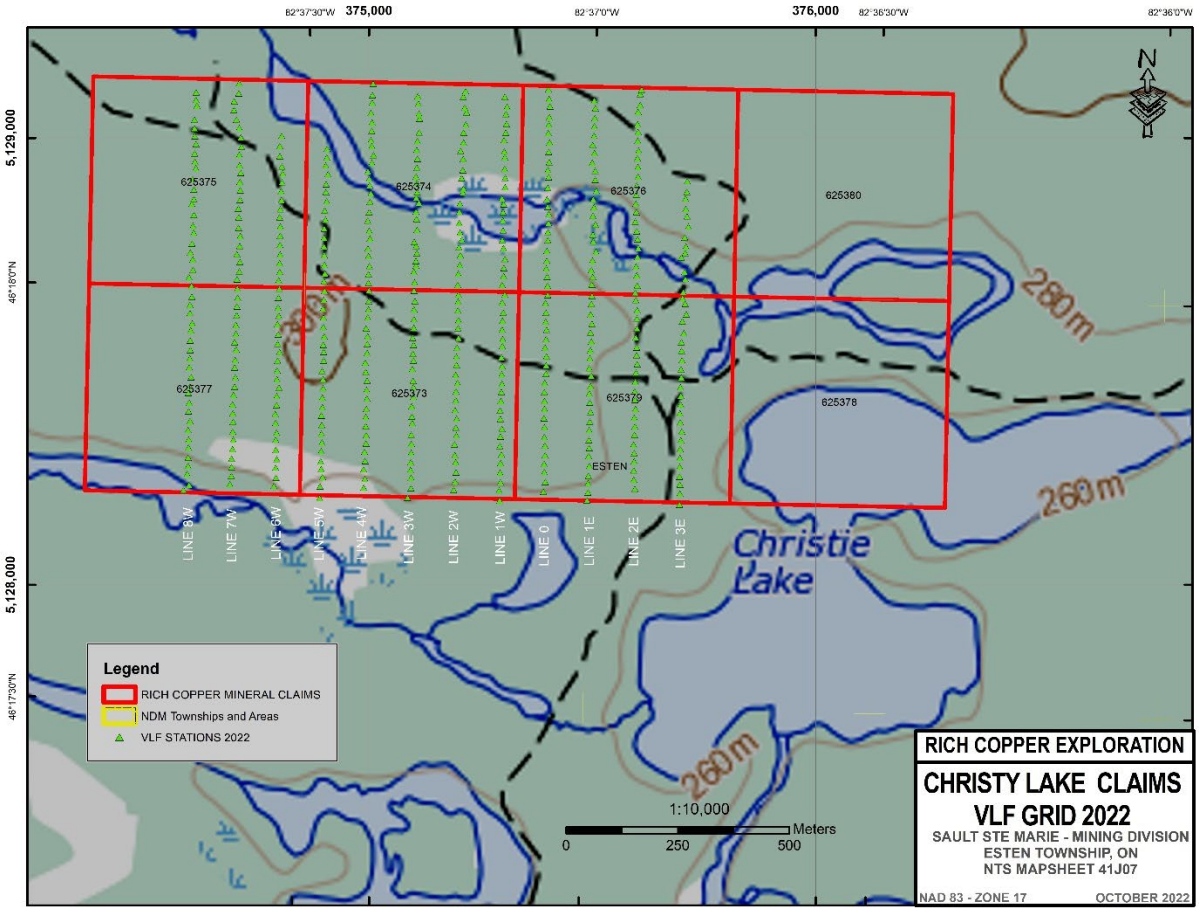


Table 2 Relevant Claims with VLF & Magnetometer Data Allocation

Total Number of VLF Lines	Total Amount of VLF & Mag(Km)	Claim Number	Allocation of VLF & Mag on Claims (Km)
12	10.44	625377	1.34
		625375	1.24
		625373	2.26
		625374	2.18
		625379	1.80
		625376	1.62
			10.44

Property Access

The Property is located in Esten Township approximately 15 km north of Spanish and 10 km south of Elliot Lake Ontario.

The property is approximately 4 Km west of Highway 108. A well-maintained gravel road (Christy Road) crosses the eastern part of the claim group.

To Access the Survey grid:

- Survey lines 2E to 6W cross the main Christy Lake Road at approximately station 300N

Topography and Vegetation Cover

The area consists mainly of Maple and Birch trees with Black Spruce in lowlands.

Much of the western portion of survey area has been cut over for logging. The main Christy Lake Road crosses the property.

Ground Conditions & Cultural Features

During the survey, the ground consisted of well-developed dry soils on high ground and wet sphagnum moss in low lying areas.

There were no cultural features that would interfere with the transmission of VLF signals or anomalous magnetic features that would affect the Earth's magnetic field.

History of the Property

1956: The property was trenched and drilled in 1956 by Federal Kirkland Mining Co. where 29 diamond drill holes were completed totaling 9,695 feet (2,950 m).

1955-1956: Drilling in 1955 and 1956 returned values up to 0.80% Cu over 11.46m and drilling in 1974 returned up to 0.78% Cu over 9.78 m at shallow depths. Surface trenching returned values over 1 % Cu over 5 to 6 m. A large number of good grade intersections have been obtained in the past in the drilling over a length of 120 m and to a depth of 120 m.

1963: The area was flown with airborne magnetics by the Geological Survey of Canada-Ontario Department of Mines in 1963, illustrating a strong WNW-trending four-kilometer-long magnetic anomaly. Further detailed airborne surveys confirmed the presence of the magnetic anomaly on the property.

2003-2005: Gitennes Exploration Inc. completed airborne geophysics, IP, prospecting, sampling, mapping, ground geophysics, geochemistry and confirmed the presence of copper mineralization associated with a 1 km long IP anomaly.

Drilling History:

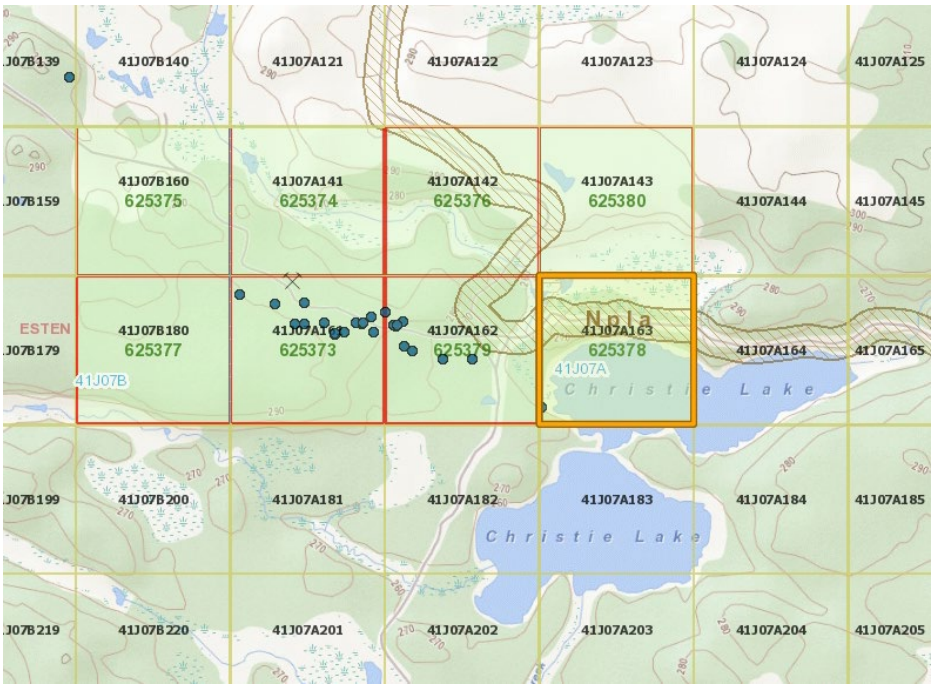
1956: Drilling completed by Federal Kirkland Mining Co. includes:

- Drill Hole 1: 4.3 feet at 1.10% Cu and 2.5 feet at 1.34% Cu
- Drill Hole 2: 2.5 feet at 4.67% Cu and 3.2 feet at 1.59% Cu and 3.4 feet at 2.23% Cu and 3.0 feet at 2.23% Cu.
- Drill Hole 4: 2.9 feet at 1.13% Cu and 2 feet of 1.05% Cu
- Drill Hole 7: 2.7 feet of 1.70% Cu
- Drill Hole 8: 2.6 feet of 1.32% Cu and 4.1 feet of 1.03% Cu
- Drill Hole 9: 5.1 feet of 1.05% Cu and 3.3 feet of 2.23% Cu
- Drill Hole 11: 1.9 feet of 1.15% Cu
- Drill hole 20: 5 feet of 1.14% Cu and 4 feet of 1.17% Cu
- Drill Hole 21: 1.4 feet of 2.68% Cu

1974: Drilling completed by Esten Exploration Inc. includes:

- Hole 74-7: 2.5 feet of 2.64% Cu
- Hole 74-8: 3.8 feet of 2.79% Cu, 5.9 feet of 1.06% Cu, 5.9 feet of 1.12% Cu, 7 feet at 1.42% Cu, 4.2 feet of 1.78% Cu.
- A number higher grade intersections were obtained in the drilling over a length of 380 feet (115 m) and to a depth of 400 feet (120m). An estimate of probable ore was made as follows: 76,900 Tons grading at 1.74% with an average width of 8.04 feet (2.56m) comprising approximately 2.7 million lbs of copper.
- The drilling appears to have extended the zone to a length of over 1000 meters.

Map 4 Christy Lake Property Showing Drilling (from MLAS)



Geology and Mineralization

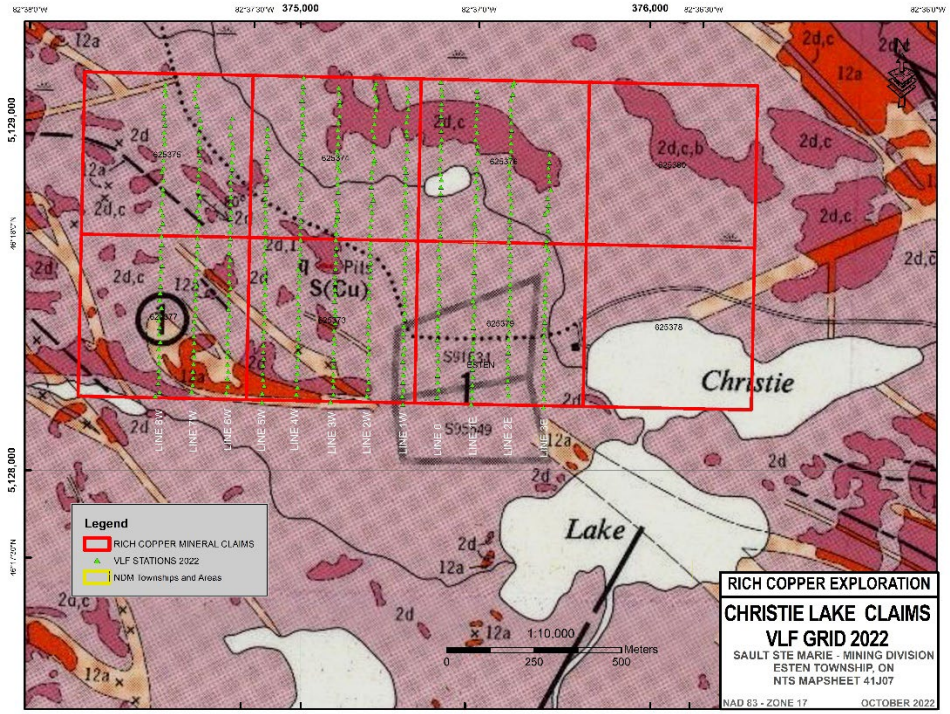
Regional Geology in the Area of the Christy Lake Property

The Christy Lake area is underlain by granitic and gneissic units which are cut by mafic dykes.

Property Geology

The copper mineralization is describe as related to highly silicified chloritic granite with abundant quartz veins. The geological mapping the area describes older granite and gneiss cut by younger granite, breccia, and dykes

Map 5 General Geology in the Christy Lake Property Area



Mineralization

The copper mineralization is described as related to highly silicified chloritic granite with abundant quartz veins. The geological mapping of the area describes older granite and gneiss cut by younger granite, breccia, and dykes.

The mineralization varies from disseminated to narrow widths of massive sulphides. Chalcopyrite occurs in stringers and disseminations in highly silicified schists and breccias within a strong NW trending sheared zone. Talc and chloritic schists and diabase are present within the sheared zone and within the adjacent rocks, which are predominantly granitic.

Work Completed

About the Geophysics Used

VLF

VLF surveying is the most widely used electromagnetic geophysical instrument of all time. Local tilt and ellipticity of VLF broadcasts from Naval Antennas worldwide are measured and resolved into in-phase and quadrature components of VLF response.

A Ground VLF survey is a relatively simple and economic geophysical survey that is used to better understand shallow, vertical and sub vertical bedrock conductors.

This report describes the findings and results of the survey utilizing our inversion processing software. It enables the processing and inversion of electromagnetic (EM) induction data acquired along a survey area using a Very Low Frequency (VLF) (Santos 2013)

Magnetometer

In mining exploration, magnetic values help in the direct detection of associated mineralization such as magnetic minerals and for mapping large and local scale structures (faults, dykes and shear zones).

Personnel

The field navigator responsible for the collection of all raw data was Guillaume-Olivier Porier. Processing, Modelling and Interpretation of data was conducted by Shaun Parent and Sandra Slater.

Dates of Work:

Fieldwork was completed over 3 days between October 14 and 16, 2022 using a GSM-19WV "Walking" Overhauser Magnetometer with built in GPS and VLF.

Data processing, modelling and interpretation was completed over 8 days, between October 15 and 22, 2022.

This report was completed between October 15 and November 24, 2022

Work Description

Overall, the geophysical survey consisted of collecting 10.44 km of ground VLF & Magnetometer data over 12 grid lines. All data was assembled, processed, and modelled. (Table 2)

Grid Layout

The geophysical survey lines were chosen to obtain information on the strike extension of historical drilling

12 Survey grid lines were spaced 100 meters apart.

Each survey station where a reading was taken was located based on the distance from the start of the survey line at 0+00 at the south end of the grid.

Magnetometer and 3 VLF transmitters were read at 20-meter stations using a GSM-19WV "Walking" Overhauser Magnetometer with VLF & GPS. Only TX NAA is interpreted in this report

Fieldwork / Data Collection

The VLF EM & Magnetometer survey consisted of running 12 VLF traverse Lines. A total of 10.44 km of VLF & Magnetometer surveying was completed.

Parameters of VLF Survey

Equipment Used: GEM GSM-19 Overhauser Magnetometer with GPS and VLF Option (Appendix 1 &2)

VLF Transmitters Used:

NAA: 24.0 kHz. Cutler, Maine (East)
NLK: 24.8 kHz Seattle, Washington (West)
NML: 25.2 kHz La Moure, North Dakota (West)

Datum: Data was collected using UTM NAD 83 / Zone 17

VLF survey direction: Readings were taken while facing 00 Degrees-True North

Parameters of Measurement:

VLF: In-phase and Quad-phase components of a vertical magnetic field is measured as a percentage of horizontal primary fields. (Tangent of tilt angle and ellipticity). VLF transmitter NAA (East), NLK (West), NML (West). The transmitters are chosen so that the direction to the transmitting station is as close to the orientation of the bedrock strike.

Magnetometer: is widely used for measuring the Earth's magnetic field, in geophysical surveys, to detect magnetic anomalies of various types. The values are measured in Nanoteslas.

Data Collection Process

Field data was collected as follows on each surveyed line.

- Each station UTM was saved onto the GEM System Unit. Any local features such as outcrops, showing and drill holes were saved on a handheld Garmin GPS.
- VLF & Magnetometer readings for each station were recorded on the GEM System corresponding to the line number and station number.
- All data collected was downloaded onto a computer

Data Processing, Modelling & Interpretation

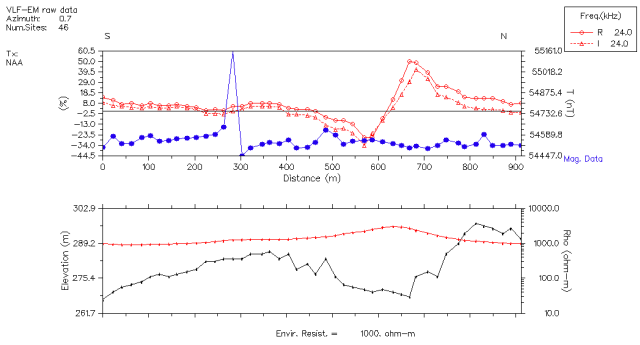
- All data was reviewed and data integrity confirmed. Corrections were made to raw data, if identified.
- Data was assembled and formatted for processing.
- Profiling & modeling of individual line data was completed. (as per Profile & Model examples below)
- Individual filter / inversion results were compiled to form a grid and Contoured Plan Maps were produced.
- Review of data results was done and an Interpretation Report completed.

Profiles & Model Examples

The following Profiles and Models are examples of what was produced using various filters and inversions. Results were used in the interpretation process.

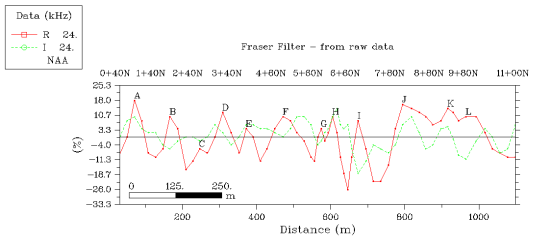
Combined Raw VLF & Magnetometer Profile

The Raw VLF & Magnetometer data collected in the field is plotted, showing In-Phase inflections and cross overs as plus to minus, while Quadrature responses are negative to positive. VLF data shows as red dots and Magnetometer data shows as blue dots at each station.



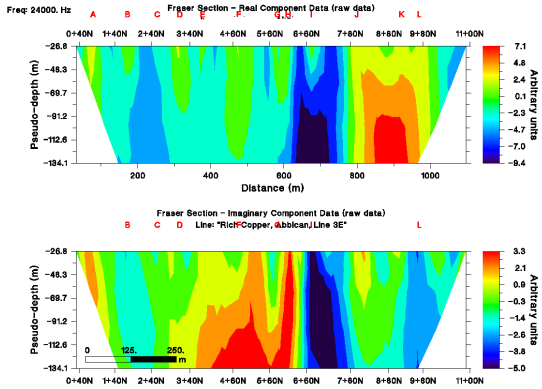
Fraser Filter Profile

The data processing technique commonly referred to as the Fraser Filter was applied to the raw data. This filter transforms In-Phase cross overs and inflections into positive peaks, while Quadrature responses are negative to positive giving a negative peak anomaly when the Fraser Filter is applied. Fraser Filter positive value data from each line was combined to produce a Plan Map. (Pages 15 & 16)



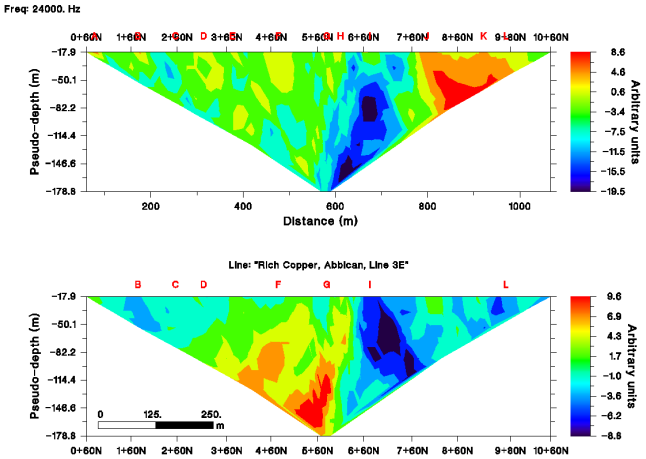
Fraser Filtered Sections

Fraser filtered data is profiled as contoured results on Line profiles, showing the intensity of the response.



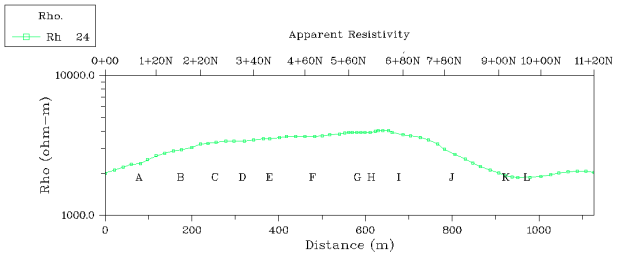
VLF K-H Profiles

Raw Data was run through the Karous-Hjelt (K-H) filter. The filter is applied to obtain a section of current density. The higher values are generally associated with conductive structures. (Karous, Hjelt 1983)



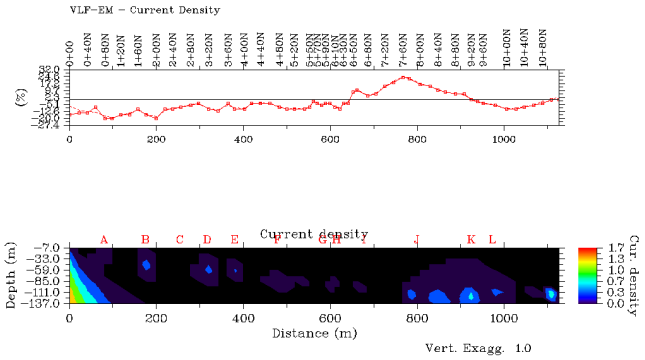
VLF Resistivity Profile: @ 2000 Ohm

The apparent resistivity was calculated. The resistivity can be calculated if the mean environmental resistivity is known at the beginning of the VLF profile. A mean resistivity of 2000 ohm's and 4000 ohm's was used for all lines.



VLF JY Section Model:

A 2D inversion that looks for the best distribution of the density of current (JY). The output is the apparent current density with positive values associated with conductors and negative values associated to resistive units.

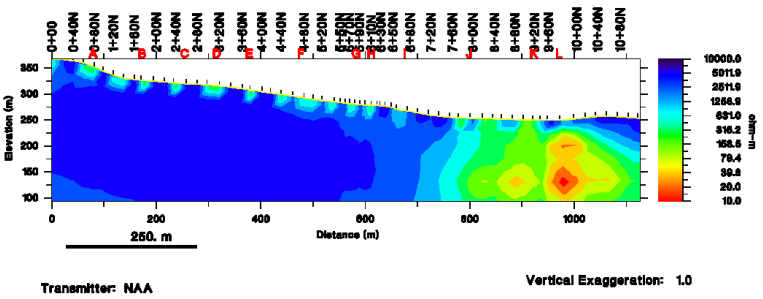


VLF 2D Inversion Resistivity Model @ 2000 Ohm

A resistivity of 2000 Ohm's and 4000 Ohm's was used to build initial models used in the inversion to obtain a realistic cross section of the line surveyed. Models show conductive and resistive zones at various depths. Conductive zones at surface show little depth extent and have a horizontal display.

The maximum depth slice with a bedrock resistivity of 2000 Ohms is:

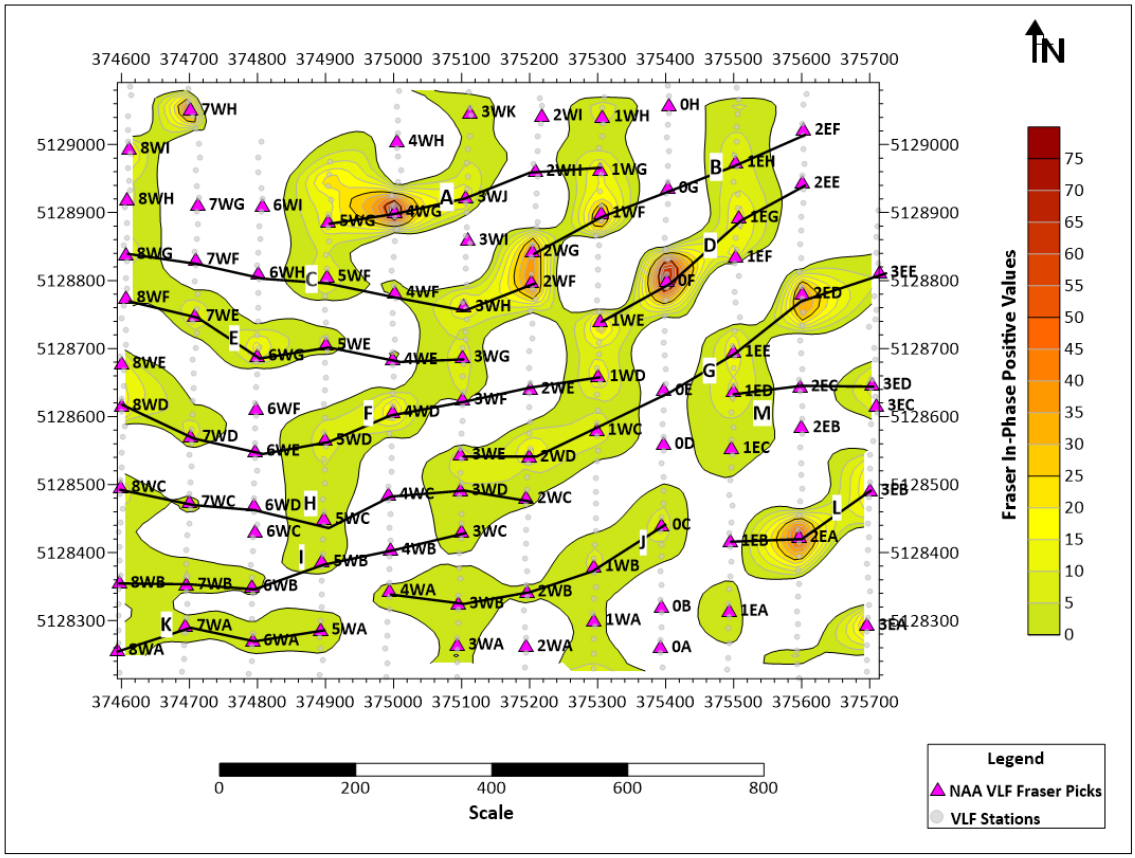
- 144 meters for transmitter NAA (24.0 kHz.)
- 142 meters for transmitter NLK (24.8 kHz.)
- 137 meters for transmitter NML (25.2 kHz)



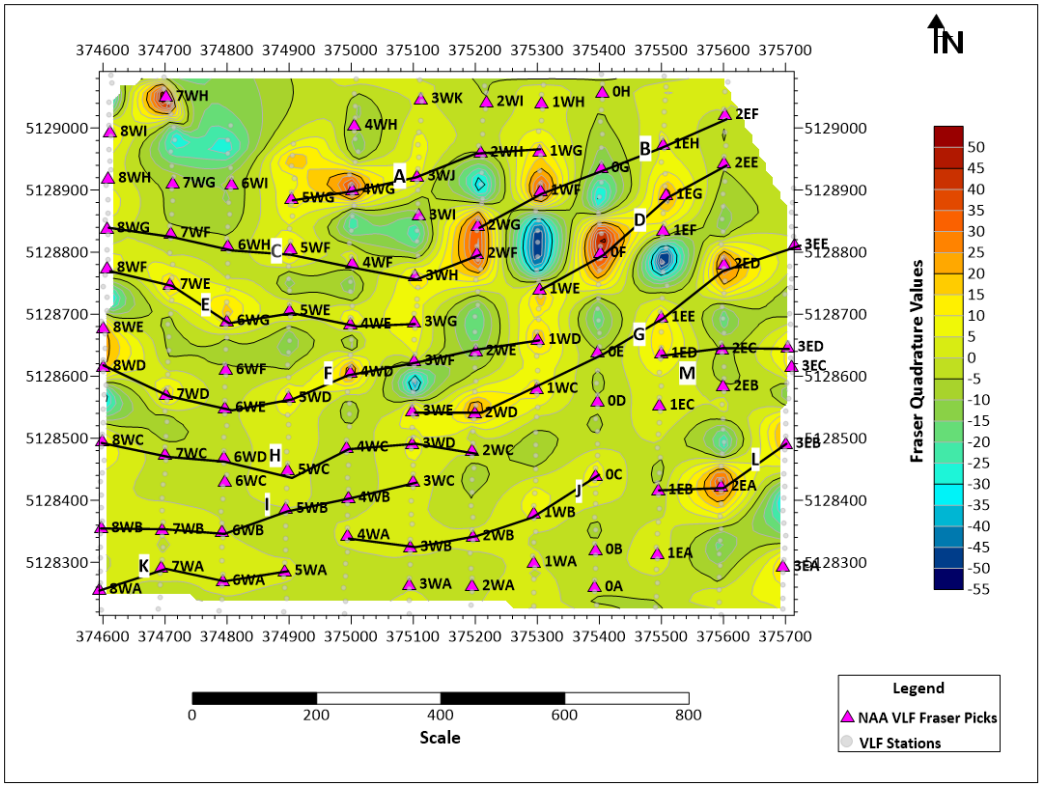
Discussion of Interpretation Results

A total ground VLF & Magnetometer Survey consisting of 10.44 Km over 12 Lines (8W-3E) was surveyed and modelled.

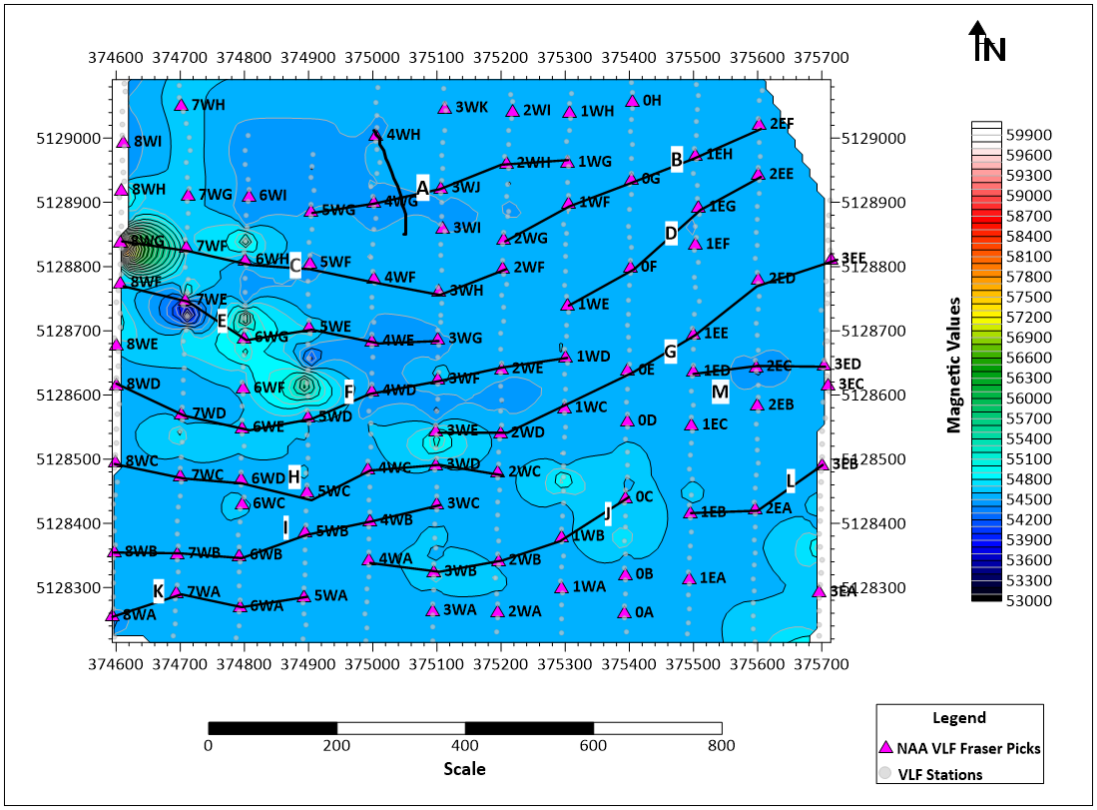
Map 6 NAA Fraser In-Phase Positive Value Contours Showing VLF Fraser Trends



Map 7 NAA Fraser Filter Quadrature Contours Showing VLF Fraser Trends



Map 8 Magnetic Contours Showing VLF Fraser Trends



NAA VLF Anomaly Picks & Trends

A total of 96 VLF picks were identified over the survey grid.

13 VLF Trends containing 70 VLF Picks were identified. Of those trends and picks, 11 trends (yellow highlights) and 18 picks (red lettering) are recommended for ground follow-up/prospecting.

Trends are signified by Line number followed by Pick letter and separated by a dash (-) as in the following example:
Trend A: 5WG-4WG-3WJ-2WH-1WG
(Line 5 West Pick G to Line 4W Pick G to Line 3W Pick J to Line 2W Pick H to Line 1 West Pick G

Table 3 VLF Trends with Picks

Trend Letter	VLF Picks in Trends
A	5WG-4WG-3WJ-2WH-1WG
B	2WG-1WF-0G-1EH-2EF
C	8WG-7WF-6WH-5WF-4WF-3WH-2WF
D	1WE-0F-1EG-2EE
E	8WF-7WE-6WG-5WE-4WE-3WG
F	8WD-7WD-6WE-5WD-4WD-3WF-2WE-1WD
G	3WE-2WD-1WC-0E-1EE-2ED-3EE
H	8WC-7WC-6WD-5WC-4WC-3WD-2WC
I	8WB-7WB-6WB-5WB-4WB-3WC
J	4WA-3WB-2WB-1WB-0C
K	8WA-7WA-6WA-5WA-
L	1EB-2EA-3EB
M	1ED-2EC-3ED

Conclusions

The Ground VLF Survey Interpretation was successful in Identifying:

- Several Long and short strike length VLF Trends that run across many of the VLF lines
- Trend A has a good strike length and a strong response at 4WG
- Trends B and C run in the middle of the grid. Trend B has a good response at 2WG, 1WF. Trend C has good anomaly at 2WF. Pick 2WG and 2WF may indicate a wide conductive zone.
- Trend D has a good response at 0F
- Trend E has good response at 6WG
- Trend F has good responses at 5WD,4WD and 1WD
- Trend G has good response at 2WD,1WC,2ED
- Shorter VLF Trends I, J, K, L have good responses.

The Ground Magnetic Survey interpretation was successful in:
Correlation with VLF Picks on
Trend C- 8WG, 6WH
Trend E- 6WG
Trend F- 5WG
Trend G- 2WE
There is a possible magnetic feature running from VLF Pick 8WG-7WE-6WG-5WD-3WE-0C

Recommendations

- Ground proofing and prospecting, sampling of VLF Picks and trends found in Table 2, prioritizing those in red.
- Run 50-meter spaced VLF lines within the present VLF grid to obtain more detail along the strike of VLF Trends
- Expand the VLF Grid to the west of Line 8W to follow trends C, E, F, H, I, K
- Expand the VLF Grid to the East of Line 2E to follow trends B, D, G, M, L
- Place VLF Picks and Trends on Airborne EM and Magnetic maps to orientate VLF Field work
- Run depth slice plan maps of KH Values to filter out surficial responses, but also to determine plunge and dip of conductive trends
- Use an MPP Probe in the field and on all samples to determine the conductivity and magnetic susceptibility of samples, and how this relates to VLF picks
- Plot historical drill holes on VLF and Magnetometer survey plan maps to determine which VLF trend is mineralized.

Anticipated Costs for Further Work

The proposed budget cost for work in 2023 is estimated to be $113,300 (Table 3)

Table 3 Estimated Budget Costs for Future Work

Proposed Budget for 2023 for Christy				
Item	Units	Number	Rate	Total
Prospecting	Days	10	$800	$8,000
Mapping	Days	10	$1,000	$10,000
Sampling	Samples	100	$50	$5,000
Expand VLF	KM	25	$2,000	$50,000
Accommodation etc	Days	10	$500	$5,000
Stripping	Days	10	$2,500	$25,000
Supervision	10%			$10,300
			TOTAL	$113,300

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Monteiro Santos, F.A / EMTOMO LDA: 2017 VLF2D-V1.6 A program for 2D inversion of VLF EM data

Terraplus Brochure: Overhauser Magntometers
GPS Options for Magnetometers

Certificate of Qualifications

I, Shaun Parent, P. Geo . Residing at 282 B Whispering Pines Road, Batchawana Bay, Ontario do certify that:

I am a consulting Geoscientist with Superior Exploration, Adventure & Climbing Co. Ltd.

I graduated with a Geological Technician Diploma from Sir Sandford Fleming College in 1986.

I graduated with a BSc. from the University of Toronto in 1986.

I am a member in good standing with the Association of Professional Geoscientists of Ontario #1955 and a member of the Prospectors and Developers Association of Canada.

I have been employed continuously as a Geoscientist for the past 29 years since my graduation from University.

Dated this 29^{h} day of November 2022

Shaun Parent, Diploma-Geo, BSc. P. Geo

Appendix 1

Terraplus Brochure GEM GSM-19 Overhauser Magnetometer with VLF

Appendix 1 Terraplus Brochure GSM-19 Overhauser Magnetometer/VLF Information

Terraplus
empowering discovery

your source for geophysical instruments

Overhauser Magnetometers

Magnetometer - Walking Magnetometer GSM-19/19W
Gradiometer - Walking Gradiometer GSM-19G/19GW

Our Supplier GEM Systems is the number one global leader in the manufacture and sale of high precision magnetometers.

GEM is the only commercial manufacturer of Overhauser magnetometers that are accepted and used at magnetic Observatories over the world.

GEM's Potassium Magnetometers are the most precise magnetometers in the world.

GEM's Proton sensors are considered the most practical and robust magnetometers for general field use.

Proven reliability based on GEM's 35 years of R&D

Integrated systems with GPS and additional survey capability with VLF-EM are available as options for convenience and high productivity

GEM is creating the absolute best in airborne sensors and are leading the way in super sens ally designed for highly sensitive studies with super large sensors for research of Natural Hazards globally and now smaller and lighter sensors for practical UAV applications.

GEM Leadership and Success in the World of Magnetics is your key to success in applications from Archaeology, Volcanology and UXO detection to Exploration and Magnetic observation Globally.

GEM Overhauser Magnetometer system. It can be configured with additional survey sensors for simultaneous gradiometer readings as well as VLF.
System configurations can also include walking mode and gps.

GEM-Overhauser Magnetometers

The GEM GSM-19 Overhauser total field magnetometer and the GSM-19G Gradiometer provide improved data quality and greater absolute accuracy than Proton magnetometers, while providing a robust and comparable system to costlier Cs magnetometers for ground applications.

Technically Superior

The GSM-19 Overhauser instrument is the total field magnetometer / gradiometer of choice in today's earth science environment. GEM Overhauser technology provides a unique blend of physics, chemistry and engineering. Sophisticated system design and solid experience in the field of magnetics help to clearly differentiate it from other quantum magnetometers.

The GSM-19 is a standard in many fields, including:

- **Mineral exploration**
- **Environmental and engineering**
- **Pipeline mapping**
- **Airborne base station**
- **Unexploded Ordnance Detection**
- **Archaeology**
- **Magnetic observatory measurements**
- **Volcanology and earthquake prediction**

Taking Advantage of the Overhauser Effect

Overhauser effect magnetometers are essentially proton precession devices - except that they produce an order-of magnitude greater sensitivity.

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 measurements.**

In comparison with proton precession methods, RF signal generation also keeps **power consumption to an absolute minimum.** RF frequencies are well out of the bandwidth of the precession signal and they do not impair the sensitivity i.e. polarization and signal measurement can occur simultaneously - which enables **faster, sequential measurements** and increased cycling rates (i.e. sampling speeds). Measurements can therefore be near continuous.

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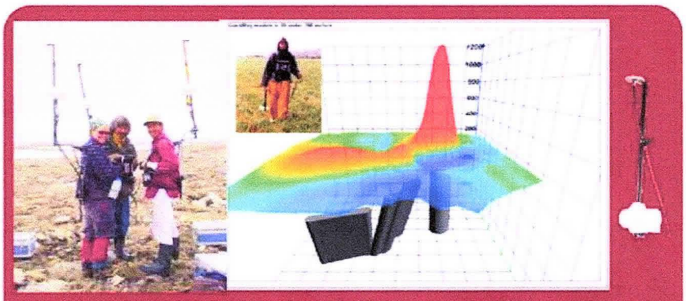
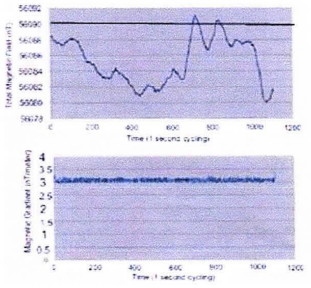


Single sensor and gradiometer modes provide flexibility and fast sampling and are used for detecting changes in the magnetic field. Applications include; alteration mapping, structural geology, archaeology and UXO applications

GEM-Overhauser Sensor Technology

Gem's sensors represent a **proprietary innovation** that combines advances in electronics design and quantum magnetometer chemistry. Each sensor head houses a **proprietary** hydrogen-rich liquid solvent which is combined with free electrons (free radicals) in the GEM laboratory to increase the signal intensity under RF polarization.

GEM-GSM-19 Overhauser Magnetometer
Small and light weight. Rugged plastic housing protects the internal components during operation and transport.



Sample data
Gradiometer data shows very low noise level (<0.2nT. peak to peak)

GPS and Navigation

Along with basic GPS tracking, we provide a Navigation feature with real-time coordinate transformation to UTM and local grid. A survey "lane" guidance system with cross track display coupled with automatic end-of-line flag and guidance to the next line allows the operator to navigate seamlessly while carrying out the magnetic survey. Operators can define a complete survey on PC and download points to the magnetometer via RS-232 before leaving for the field.

GEMLink+

Software for Processing Magnetic Data
GEMLink+ processing software is provided with every GEM magnetometer system. GEMLink+ provides all of the data visualization needed by the geoscientist to quickly assess the data quality in the field. The software provides diurnal correction, profile plotting, line path maps and some basic mapping and modeling functions. Files can be imported/exported to Google kmz format and coordinate transformations can be made.

GEMLink+ Data QAQC software with multi window data processing and plotting (screen shot)

Specifications

Performance

Sensitivity: Standard GSM 19	0.022 nT @ 1 Hz
GSM 19PRO	0.015 nT @ 1 Hz
Resolution:	0.01 nT
Absolute Accuracy:	0.1 nT
Dynamic Range:	20,000 to 120,000 nT
Gradient Tolerance:	up to 10,000 nT/m
Samples at:	60+, 5, 3, 2, 1, 0.5, 0.2 sec
Operating Temperature:	-40°C to +50°C

Operating Modes

Manual: Coordinates, time, date and reading stored automatically at upto 0.2 sec.
Base Station: Time, date and reading stored at 1 to 60 second intervals.
Remote Control: Optional remote control using RS-232 interface.
Input / Output: Input/Output: RS-232 using 6-pin weatherproof connector with USB adapter.

Memory - (# of Readings in millions)
Mobile: 1.4M, Base Station: 5.3M, Gradiometer: 1.2M, Walking Mag: 2.6M

Dimensions

Console:	223mm x 69mm x 240 mm (8.7x2.7x9.5in)
Sensor:	175mm x 75mm diameter cylinder (6.8in long by 3 in diameter)

Weights

Console with Belt:	2.1 kg
Sensor and Staff Assembly:	1.0 kg

Standard Components
GSM-19 console, GEMLink software, battery, harness, charger, sensor with cable, RS-232 cable and USB adapter, staff, instruction manual, and shipping case.

Options
Gradient Magnetometer, Walking Mode, Multi sensor

Available GPS
GPS Time Only (Option A)
Standard GPS (Option B):
• 0.7m SBAS (WAAS, EGNOS, MSAS)
• < 1.5m non-SBAS
Enhanced GPS (Option C):
• 0.6m SBAS (WAAS, EGNOS, MSAS), GLONASS, BeiDou, Galileo
• Consult GEM for availability
High resolution GPS (Option D):
• 0.6m SBAS (WAAS, EGNOS, MSAS), GLONASS, BeiDou, Galileo
• 40 cm or 4cm accuracy with NovaTel Correct (TerraStar Subscription required)
• Consult GEM for availability

VLF Option : Frequency Range: 15 to 30.0 kHz with up to 3 stations. Parameters: Vertical in-phase and out-of-phase components as % of total field.

The GSM 19,19G,19W and 19GW systems come complete with an industry leading three year warranty

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Appendix 2

Terraplus Brochure GPS Option

Appendix 2 Terraplus Brochure GPS Option

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GPS
Options for Magnetometers

Our Supplier GEM Systems is the number one global leader in the manufacture and sale of high precision magnetometers.

GEM is the only commercial manufacturer of Overhauser magnetometers that are accepted and used at magnetic Observatories over the world.

GEM's Potassium Magnetometers are the most precise magnetometers in the world.

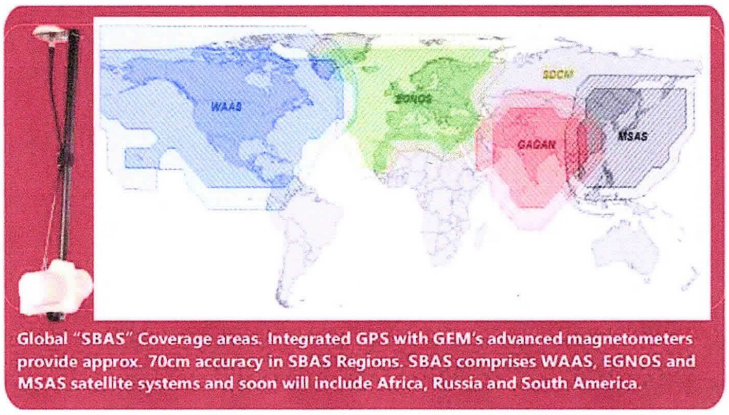
GEM's Proton sensors are considered the most practical and robust magnetometers for general field use.

Proven reliability based on GEM's 35 years of R&D

Integrated systems with GPS and additional survey capability with VLF-EM are available as options for convenience and high productivity

GEM is creating the absolute best in airborne sensors and are leading the way in super sens ally designed for highly sensitive studies with super large sensors for research of Natural Hazards globally and now smaller and lighter sensors for practical UAV applications

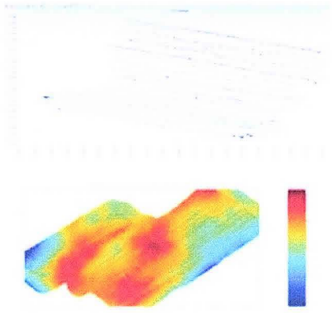
GEM Leadership and Success in the World of Magnetics is your key to success in applications from Archaeology, Volcanology and UXO detection to Exploration and Magnetic observation Globally.



Global "SBAS" Coverage areas. Integrated GPS with GEM's advanced magnetometers provide approx. 70cm accuracy in SBAS Regions. SBAS comprises WAAS, EGNOS and MSAS satellite systems and soon will include Africa, Russia and South America.

GPS for accurate survey positioning and real time navigation

Magnetics are an increasingly key investigative method for many applications from Exploration to Archaeological and Engineering studies. Integrated GPS makes magnetic data easy to plot and easy to use.



Survey tracking and path is produced in the field the same day as the survey. When surveying in SBAS regions, GEM standard positional accuracy is to within 70cm.

About GPS

In the past, geophysical surveying tools, such as magnetometers, relied on time-consuming manual positioning options, usually via a grid-based system of staked lines. However, the development of Global Positioning via satelite communications in the late 1980's provided a quick means for positioning. Since then, vast improvements have occurred to the technology and methodology of collecting GPS information. Today GNSS (Global Navigational Satellite Systems) incorporates a variety of Satellite information from different networks of Satellites. (Glonass, Galileo, Beidou, GPS, etc.) to provide better accuracy across the globe. The design of the receivers today is focused on utilizing combinations of different satellite configurations to improve results.

Today positioning accuracy can be achieved at the cm accuracy level via differential global positioning systems (DGPS) Accurate Real-Time information is used to navigate in remote regions and record positioned survey data to sub metre accuracy. With an integrated system to collect the data at the same time as the magnetometer readings, end users benefit from having access to free positioning for global applications.

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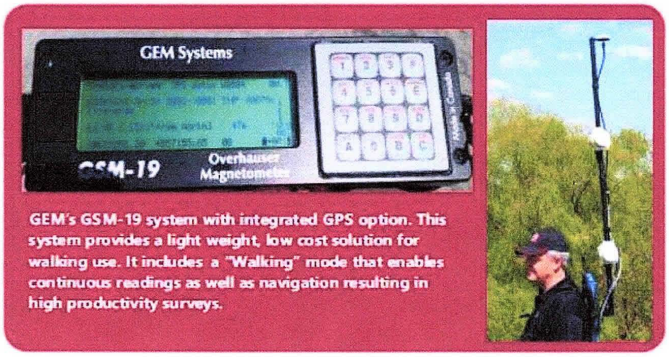

GEM's GSM-19 system with integrated GPS option. This system provides a light weight, low cost solution for walking use. It includes a "Walking" mode that enables continuous readings as well as navigation resulting in high productivity surveys.

SBAS Support

Positioning technologies include new options for working around the world as well as for working in Canada, USA, and Mexico. DGPS (differential GPS) is now provided in certain regions around the globe. SBAS GPS coverage (Satellite Based Augmentation Systems (SBAS)), is automatically supplied differential GPS. Users of integrated GEM / GPS systems benefit with roughly 70 cm positional accuracy when in SBAS regions. (see map for SBAS regions)

SBAS supports wide-area or regional augmentation through the use of a satellite-broadcast message. Such systems are commonly composed of multiple ground stations, which take measurements concerning the networks' accuracy, reliability, and availability, and one or more satellites, which broadcast the information to the receivers.

SBAS is freely available to GEM magnetometer users through its integrated positoning support. Where SBAS does not exist, typically users can still achieve positioning accuracy to roughly 1.5 metres with our antennas which obtain information from the standard GPS satellite as well as GLONASS satellites.

Improved Positioning Accuracy

GEM Magnetometer systems can be upgraded to include a GPS module which can take advantage of the Novatel "Correct" service. This service provides additional accuracy through a paid subscription for DGPS. Two services are currently available (40 cm and 4 cm) . In addition , these units can also be configured for RTK corrections which can provide cm accuracy.

GPS and Navigation

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GEM Link+

Software for Processing Magentic Data

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GEMLink+ Data QAQC software with multi window data processing and plotting (screen shot)

Available GPS

Enhance positioning resolution.

GPS Time Only (Option A)
Standard GPS (Option B):
- 0.7m SBAS (WAAS, EGNOS, MSAS)
- < 1.5m non-SBAS

Enhanced GPS (Option C):
- 0.6m SBAS (WAAS, EGNOS, MSAS), GLONASS, BeiDou, Galileo
- Consult GEM for availability

High resolution GPS (Option D):
- 0.6m SBAS (WAAS, EGNOS, MSAS), GLONASS, BeiDou, Galileo
- 40 cm or 4cm accuracy with NovaTel Correct (TerraStar Subscription required)
- 1cm accuracy with RTK
- Consult GEM for availability

Correct is a paid subscription service offering resolution of less than 0.1 m horizontal and vertical. SBAS comprises the US-based WAAS, European EGNOS, and Japanese MSAS systems.

Standard GPS offer benefis that include:
- Superior performance in foliated conditions

Magnetometer Specifications

Overhauser Performance
Sensitivity: 0.022 nT /√Hz
Resolution: 0.01 nT
Absolute Accuracy: 0.1 nT
Range: 20,000 to 120,000 nT
Gradient Tolerance: > 10,000 nT/m
Samples at: 60+, 5, 3, 2, 1, 0.5, 0.2 sec.
Operating Temperature: -40°C to +55°C

Dimensions & Weights:
Console: 223 x 69 x 240 mm, 2.1 kg
Sensor: 175 x 75 mm dia. cylinder, 1.0 kg

Potassium Performance
Sensitivity: 0.0003 nT @ 1 Hz
Resolution: 0.0001 nT
Absolute Accuracy: 0.1 nT
Range: 20,000 to 120,000 nT
Low/High Field Options: 3000 to 350,000 nT
Gradient Tolerance: 50,000 nT/m
Heading Error: +/- 0.05 nT between 10° to 80° and 360° full rotation about axis.
Samples at: 1, 5, 10, 20 Hz
Operating Temperature: -40°C to +55°C

Dimensions & Weights:
Electronics box: 229 x 56 x 39 mm; 0.63 kg
Sensor: 112 x 64 mm external dia., 0.9 kg

All components are backed by GEM's industry leading

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Expenditure Details (Receipt entries)													Invoice Reference #
Primary Cost Category		Secondary Cost Category	Work Performed		Invoicee	Invoice Reference #	Invoice Date	Billing Unit	Unit Price	# Units	Total Cost (No Tax)	Rounded	
Primary Exploration Activity	Work Subtype	Associated Cost Type	Start Date	End Date									
Ground_Geophysical_Survey_Work	Electromagnetics		October 14, 2022	October 16, 2022	Superior Exploration	22RCCL10	October 31, 2022	KM	$ 1,600.00	10.44	$ 16,704.00	$ 16,704.00	1A
		Contractor Mob/Demob	October 14, 2022	October 17, 2022	Superior Exploration	22RCCL10	October 31, 2022	Each	$ 600.00	1.00	$ 600.00	$ 600.00	1B
		Rental	October 15, 2022	October 16, 2022	Superior Exploration	22RCCL10	October 31, 2022	Day	$ 165.00	2.00	$ 330.00	$ 330.00	1C
		Lodging	October 14, 2022	October 16, 2022	Superior Exploration	22RCCL10	October 31, 2022	Day	$ 125.00	3.00	$ 375.00	$ 375.00	1D
		Food	October 15, 2022	October 16, 2022	Superior Exploration	22RCCL10	October 31, 2022	Day	$ 75.00	2.00	$ 150.00	$ 150.00	1E
		Report/Map	October 15, 2022	November 24, 2022	Superior Exploration	22RCCL11	November 24, 2022	Hours	$ 104.55	44.00	$ 4,600.00	$ 4,600.00	2
		Rental	October 15, 2022	October 17, 2022	Terraplus	323924	October 31, 2022	Day	$ 259.44	3.00	$ 778.32	$ 778.00	3
										Total	$ 23,537.32	$ 23,537.00	