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GEOPHYSICAL REPORT
FOR
DOUG LALONDE.
ON THE
MIDLOTHIAN AND HALLIDAY PROJECT
HALLIDAY AND MIDLOTHIAN TOWNSHIPS
PORCUPINE MINING DIVISION
NORTHEASTERN ONTARIO

2.57007

Prepared By: J.C.Grant, CET, FAGC
July 2016

TABLE OF CONTENTS

INTRODUCTION

The services of Exsics Exploration Limited were retained by Mr. D. Lalonde to complete a detailed ground geophysical program across a portion of his claim holdings in Halliday and Midlothian Townships of the Porcupine Mining Division in Northeastern Ontario

The ground program consisted of a detailed line cutting program that was then followed up by a total field magnetic survey that was done in conjunction with a VLF-EM survey. The purpose of this program was to test for a geological setting that could be an extension of the geological environment that hosted the Stairs Deposit as well as to test the property for similar geological settings as those of the Stairs.

In all a total of 5.28 kilometers of grid lines were cut and surveyed across the property between June 10th and July 2nd

PROPERTY LOCATION AND ACCESS

The grid area is situated approximately 30 kilometers west of the Town of Matachewan along the extension of the Larder Lake Fault system. The entire grid is situated in the central west section of Midlothian Township and the central east section of Halliday Township. The grid is between Bluebottle Lake to the northwest and Mule Lake to the south.

Access to the property during the survey period was relatively easy. Highway 66 runs west to northwest from Matachewan and provided access to a good gravel road locally called the Stairs Mine Road that runs west off of Highway 66 and continues west for 30 kilometers through the northwest section of Yarrow Township on into Doon Township and then into Midlothian and on into the northeast corner of Halliday Township and the former Stairs Minesite. This road then runs just to the south of the grid area and provided relatively good access to the lines and survey area.

Travelling time from Matachewan to the grid area is about 45 to 60 minutes. Matachewan is about 2 hours travelling time southeast of Timmins. Refer to Figures 1 and 2.

CLAIM GROUP

The claim numbers that were covered by this ground program are as follows.

P-4247042 and P-4247041

Refer to Figure 3, copied from MNDM Plan Map, G-3684, Midlothian Township and G-0976 Halliday Township for the location of the claims within the townships.

PERSONNEL

The field crew directly responsible for the collection of all of the raw data were as follows:

R. Bradshaw	Timmins, Ontario
J. Francoeur	Timmins, Ontario

The plotting, compilation, interpretation and report was completed by J. Grant of Exsics

FIG. 1 D. LALONDE STNIIZS BLOCK

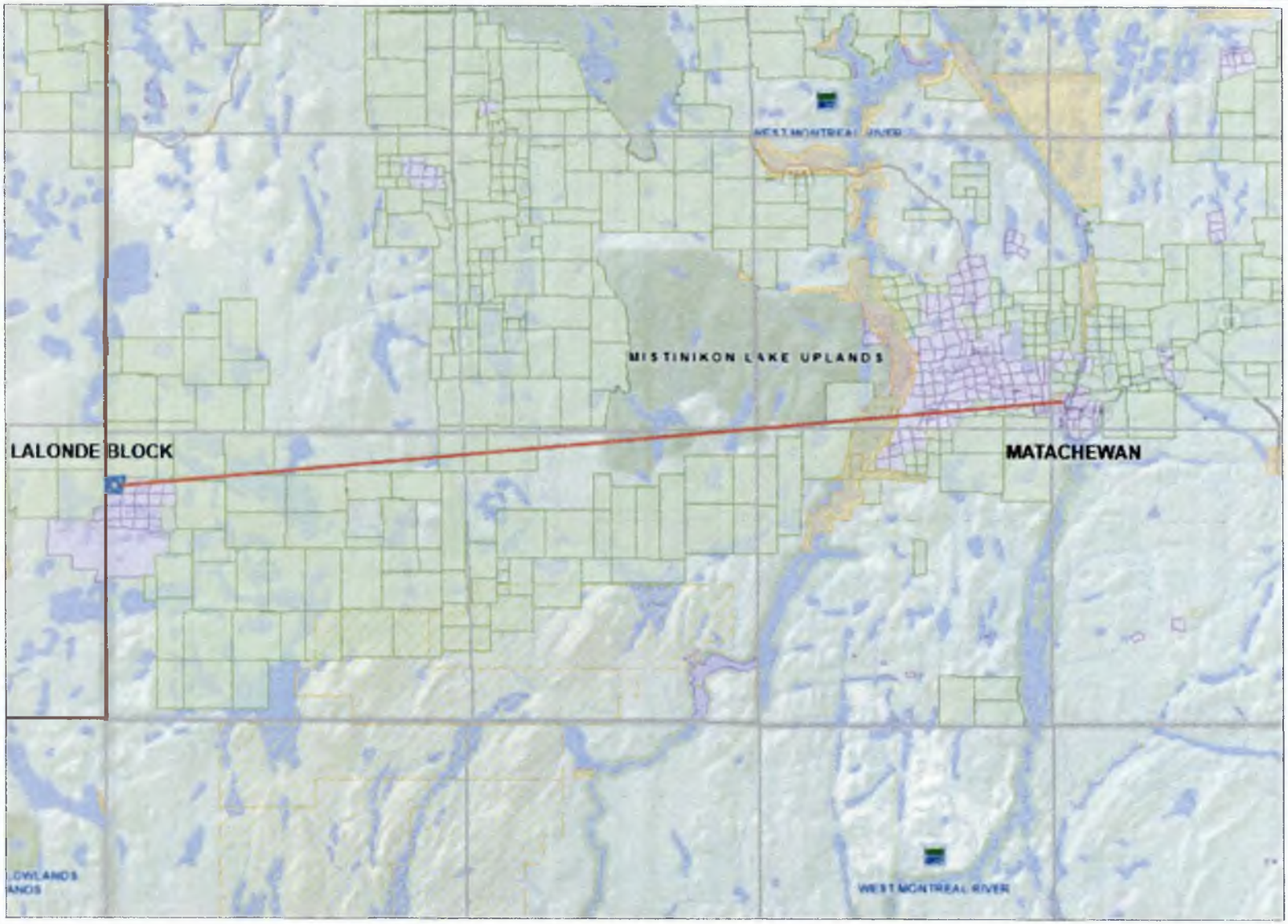
Ontario

MINISTRY OF NORTHERN DEVELOPMENT AND MINES

CLAIMaps

FIGURE 2, D LALONDE CLAIM BLOCK MIDLOTHIAN TWP.

Notes:
Enter map notes



Legend

Administration Boundaries
- Mining Divisions
- Resident Geologist District
- Townships and Areas

Mineral Tenure Grid
- OMTG Tenure Grid

Alienations
- Withdrawal
- Notice

Unpatented Claim
- Active
- 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 9.8 km

Projection: Web Mercator

Ontario

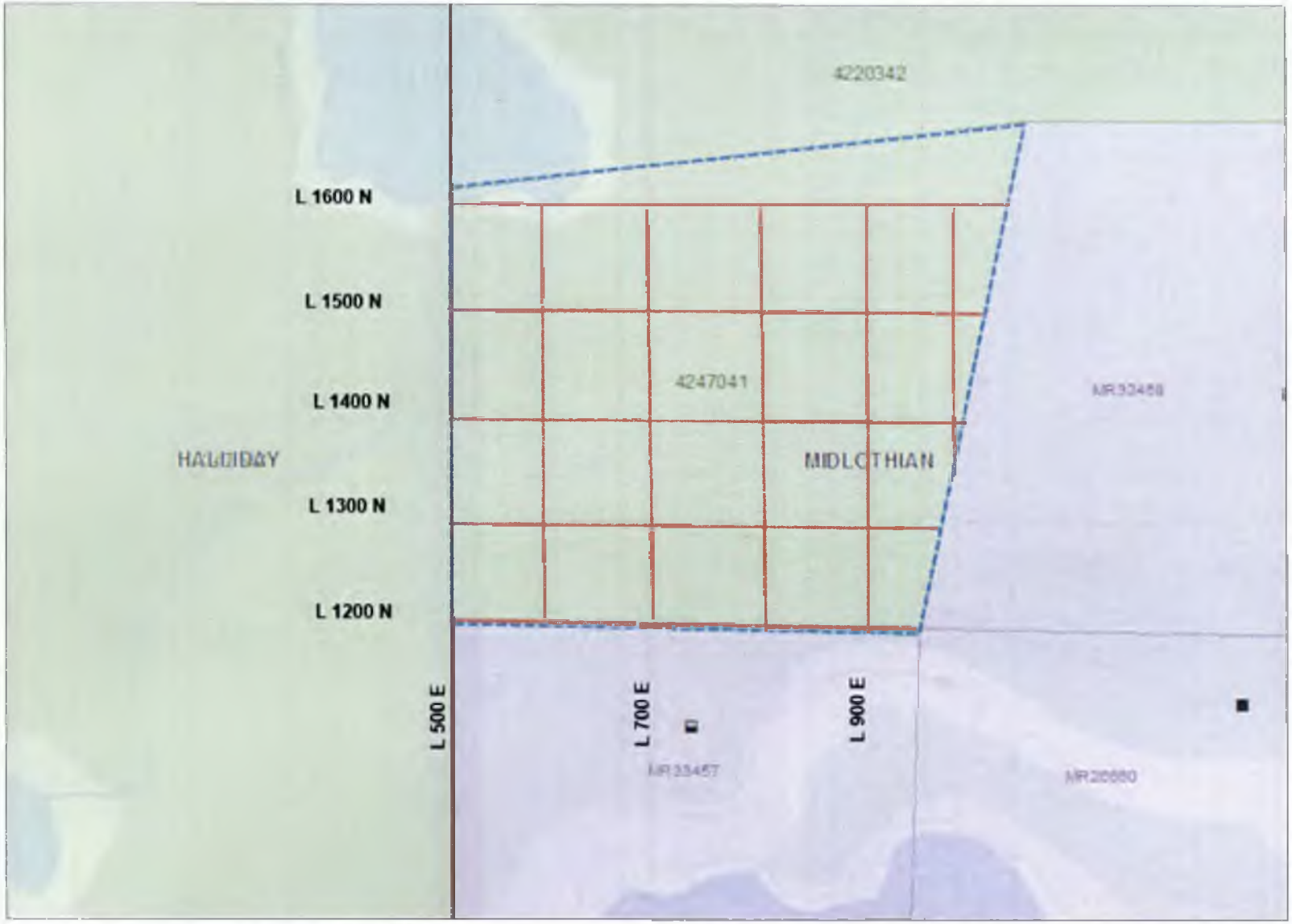
MINISTRY OF NORTHERN DEVELOPMENT AND MINES

CLAIMaps

FIGURE 3 GRID MAP CLAIM MAP 4247041

Notes:

Enter map notes



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- 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
- Town
- WPLA

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

0 0.3 km

Projection: Web Mercator

GROUND PROGRAM

This program was completed in two phases. The first phase was to establish a detailed metric grid over the entire claim group in a north south and east west direction. The number 3 post of claim 4247041 was the start point for the grid and it was labelled line 500ME and 1200MN. East lines were then put in at 100 meter intervals from 500ME to and including 1000ME and these lines were chained from 1200MN to 1600MN. Lines were also cut at 100 meter intervals from 1200MN to and including 1600MN and these lines were chained from 500ME to 1000ME. All of these grid lines were chained with 25 meter station intervals. In all a total of 5.28 kilometres of grid lines were established across the claim block.

The second phase of the program was to then cover the entire cut grid with a total field magnetic survey that was done in conjunction with a VLF-EM survey. These surveys were completed using the Scintrex Envi Mag system. Specifications for this unit can be found as Appendix A of this report. The following parameters were kept constant throughout the survey.

PROPERTY GEOLOGY:

The majority of the area is underlain by a belt of steeply dipping metasediments which disconformably overlie older rhyolitic strata. The southern section of the area is underlain by rhyolitic rich dacites and breccias. Two potential faults cross cut the geology of the area as well. A major northwest to southeast striking fault called the Mitt Lake fault cuts across the eastern section of the area. There is a second west to northwest striking fault, that seems to emanate from the main fault, that cuts across the central section of the area and runs just to the north of Mac and Frank Lakes that also seems to have been cut off on its western extension by a suspected northeast to southwest striking shear zone that comes out of Slipper Lake and cuts across the area to the southwest. A second wide shear zone lies between Dumbell Lake and Sirola Lake that is offset by the Mitt Lake fault zone.

The Stairs Shaft appears to be situated on the southern edge of this northwest to west striking fault zone just to the northeast of the eastern shore of Frank Lake. The mine is on the southern edge of the steeply dipping metasediments and metavolcanic contact. Two northeast striking quartz carbonate veins run on either side of the shaft location and seem to emanate from the west striking fault. A large 50 to 100 foot wide continuous lenses is found to parallel the geological contact between the metasediments and metavolcanics. This zone contains disseminated to massive pyrite and nodular marcasite along with graphitic tuffs and slate. This zone can be traced from the northern shore of Mac Lake along the north shores of Frank and Mule Lakes over to the north shore of Bowl Lake and then across the southern bay of Campbell Lake in Halliday Township where it runs into a northeast striking fault zone. Refer to Figure 4 copied from Map 2187, Halliday and Midlothian Townships.

MAGNETIC SURVEY:

Line spacing:	100 meters
Station spacing:	25 meters
Reading intervals:	12.5 meters
Diurnal monitoring:	Base station recorder
Base record intervals:	30 seconds
Base reference field:	56,500 gammas
Datum subtracted:	56,000 gammas
Unit accuracy:	+/- 0.5 gammas

Once the data was collected it was then merged with the base station data, corrected, levelled and then plotted onto a base map at a scale of 1:2500. The plotted data was then contoured at 25 gamma intervals wherever possible. A copy of this color contoured base map is included in the back pocket of this report.

VLF-EM SURVEY:

Line spacing:	50,100 meters
Station spacing:	25 meters
Reading intervals:	12.5 meters
Transmitter station:	Cutler, Maine 24.0 Khz
Parameters measured:	In Phase and Quadrature components of the secondary field
Parameters plotted:	In phase and Quadrature components
Unit accuracy:	+/- 0.5%

Once the data was collected it was then plotted onto a base map at a scale of 1:2500 and then profiled at 1 cm to +/- 10%. Any and all conductor axis were then plotted onto the base map. A copy of this profiled map is included in the back pocket of this report.

The line cutting commenced in early June and the magnetic and VLF-EM surveys were completed by the early July 2016.

MAGNETIC and VLF-EM SURVEY RESULTS:

Generally the grid area is magnetically quiet with the exception of several narrow magnetic highs and lows. The spot high that covers line 1000ME at 1550MN is unexplained at this writing. The zone may represent a possible intrusive unit coming into the grid from the northeast.

There is no VLF response with this magnetic high. The single line conductors outlined on lines 500ME at 1450MN, line 600ME at 1525MN and 700ME at 1550MN correlate directly with a well define quartz structure that has been followed to the southwest and off of the grid as well as to the northeast and off of the grid. The zone appears to dip near vertical and it is most likely striking northeast to southwest and it continues off of the grid in both directions.

The VLF zone that strikes from 900ME at 1275MN to 800ME at 1340MN correlates to a shear zone that has been exposed by stripping and lies in the vicinity of lines 900ME to 950ME and between 1200MN and 1300MN. There is a modest magnetic high associated with the south eastern tip of the VLF trend.

CONCLUSIONS AND RECOMMENDATIONS

The ground program was successful in locating and outlining the geological characteristics of the grid area. The most interesting areas for further follow up would be the VLF zone that parallels the quartz structure that has been exposed across the northern ends of lines 500ME to 700ME and the southeast to northwest striking trend that strikes across lines 950MN to 800Mn between 1200MN and 1300MN. This southeast to northwest trend correlates to a good exposed shear zone.

A detailed geological survey along these trends may better define the VLF trend as well as the potential fault structures outline by the magnetic survey. A follow up program of IP surveys may help in better defining the magnetic and VLF trends.

A detailed Soil sampling program would also help in explaining and or highlighting these potential areas of interest.

Respectfully submitted

J.C.Grant, CET, FGAC.
July 2016

CERTIFICATION

I, John Charles Grant, of 108 Kay Crescent, in the City of Timmins, Province of Ontario, hereby certify that:

1). I am a graduate of Cambrian College of Applied Arts and Technology, 1975, Sudbury Ontario Campus, with a 3 year Honors Diploma in Geological and Geophysical Technology.

2). I have worked subsequently as an Exploration Geophysicist for Teck Exploration Limited, (5 years, 1975 to 1980), and currently as Exploration Manager and Chief Geophysicist for Exsics Exploration Limited, since May, 1980.

3). I am a member in good standing of the Certified Engineering Technologist Association, (CET), since 1984.

4). I am in good standing as a Fellow of the Geological Association of Canada, (FGAC), since 1986.

5). I have been actively engaged in my profession since the 15th day of May, 1975, in all aspects of ground exploration programs including the planning and execution of field programs, project supervision, data compilation, interpretations and reports.

6). I have no specific or special interest nor do I expect to receive any such interest in the herein described property. I have been retained by the property holders and or their Agents as a Geological and Geophysical Consultant and Contract Manager.

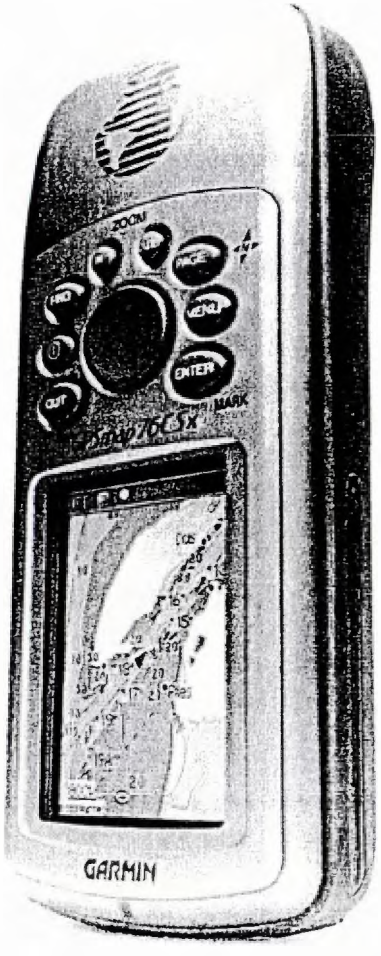
John Charles Grant, CET., FGAC.

APPENDIX A

Amazing detail and color meet high-sensitivity GPS performance in

Waterproof navigation with a splash of color

the GPSMAP 76Cx and 76CSx. These manner-friendly handhelds are WAAS-enabled, waterproof, and they'll even float if dropped overboard. They're set to go the distance on land or sea thanks to a long battery life and 128 megabytes of microSD card memory for loading optional MapSource® detail: BlueChart®, City Navigator™, TOPO, and more. The 76CSx adds electronic compass and barometric altimeter for extremely accurate heading and elevation readings. Automatic pressure trend recording even lets you can keep an eye on the weather.



GARMIN — GPSMAP® 76Cx and 76CSx

WAAS enabled · Fishing Hot Spots · BlueChart compatible

Navigation features

Waypoints/icons:	1000 with name and graphic symbol, 10 proximity
Routes:	50 reversible routes with up to 250 points each, plus MOB and TracBack® modes
Tracks:	Automatic track log; 20 saved tracks let you retrace your path in both directions
Trip computer:	Current speed, average speed, resettable max. speed, trip timer and trip distance
Alarms:	Anchor drag, approach and arrival, off-course, proximity waypoint, shallow water and deep water
Tables:	Built-in celestial tables for best times to fish and hunt, sun and moon rise/set based on date and location
Map datums:	More than 100 plus user datum
Position format:	Lat/Lon, UTM/UPS, Maidenhead, MGRS, Loran TDs and other grids, including user grid

GPS performance

Receiver:	High sensitivity SiRFstarIII™ GPS receiver; WAAS-enabled; continuously tracks and updates your position
Acquisition times*:	
Warm:	<1 sec
Cold:	<38 sec
Factory reset:	<45 sec
Update rate:	1/second, continuous
GPS accuracy:	
Position:	<10 meters, typical
Velocity:	.05 meter/sec steady state
DGPS (WAAS) accuracy:	
Position:	<5 meters, typical
Velocity:	.05 meter/sec steady state
Dynamics:	4 g's
Protocol messages:	NMEA 0183 output protocol
Antenna:	Built-in quad helix receiving antenna, with external antenna connection (MCX)

Moving map features

Basemap: (GPSMAP 76Cx & 76CSx)	Built-in routable basemap (North and South America) with cities, highways, interstates, local thoroughfares and secondary roads within metro areas, interstate exit services, airports, rivers, lakes, coastlines and tide stations

GPSMAP 76Cx

GPS 76CSx

Uploadable maps: (GPSMAP 76Cx & 76CSx)	Accepts up to 1 GB (gigabyte) microSD™ data card for downloaded map detail from a variety of optional MapSource® media (extra microSD data cards optional)

Electronic compass feature
(GPSMAP 76CSx only)

Accuracy:	±2 degrees with proper calibration (typical); ±5 degrees extreme northern and southern latitudes
Resolution:	1 degree

Barometric altimeter feature
(GPSMAP 76CSx only)

Accuracy:	10 feet with proper calibration (user and/or automatic calibration)
Resolution:	1 foot
Range:	-2,000 to 30,000 feet
Elevation computer:	Current elevation, resettable minimum and maximum elevation, ascent/descent rate, total ascent/descent, average and maximum ascent/descent rate
Pressure:	Local pressure (mbar/inches HG), 48-hour automatic pressure trend recording

Power

Source:	Up to 30 hours (76Cx) Up to 20 hours (76CSx)
Battery life:	Up to 16 hours; 10 hours typical on GPSMAP 76CSx

Physical

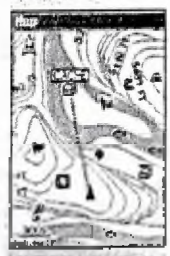
Size:	2.7"W x 6.2"H x 1.2"D (6.9 x 15.7 x 3.1 cm)
Weight:	7.7 ounces with batteries (not included)
Display:	1.6"W x 2.2"H (4.1 x 5.6 cm) 256-color transflective TFT display (160 x 240 pixels)
Case:	Fully gasketed, high impact plastic alloy, waterproof to IEC 60529 IPX7 standards
Temp. range:	5°F to 158°F (-15°C to 70°C)
User data storage:	Indefinite, no memory battery required

Accessories

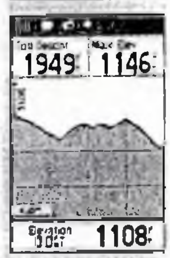
Standard:	128 MB microSD card PC/USB interface cable MapSource Trip & Waypoint Manager CD Owner's manual Quick reference guide Wrist strap
Optional:	Marine mount Carrying case 12-volt adapter cable Power/data cable Remote GPS antenna

Accepts MapSource® BlueChart® data for detailed offshore cartography

Get detailed street maps plus the location of services with MapSource® City Navigator™



MapSource TOPO data is ideal for outdoor sports such as hiking or geocaching.



The barometric altimeter feature on the GPSMAP 76CSx provides elevation profiles

GARMIN

Garmin International, Inc.
1200 East 151st Street
Olathe, Kansas 66062, U.S.A.
913/397.8200 fax 913/397.8282

Garmin (Europe) Ltd.
Unit 5, The Quadrangle
Abbey Park Industrial Estate
Romsey, SO51 9DL, U.K.
44/1794.519944 fax 44/1794.519222

Garmin Corporation
No. 68, Jangshu 2nd Rd.
Shijr, Taipei County, Taiwan
886/2.2642.9199 fax 886/2.2642.9099

www.garmin.com

Specifications are preliminary and subject to change without notice.

*[illegible]

SCINTREX

ENVI GEOPHYSICAL SYSTEM

The Scintrex ENVI System gives you the flexibility to find the increasingly more elusive anomalous targets. A complete ENVI system is low cost, lightweight, portable proton precession magnetometer/gradiometer with VLF capabilities which enables you to survey large areas quickly and accurately. Whether it is for Magnetic surveys, VLF electromagnetic surveys or a combination of these techniques, the ENVI system can be designed to suit your own unique requirements. This customized approach gives you the ability to select the following options for your instrument:

- Portable Field and Base Station Magnetometer
- True Simultaneous Gradiometer
- VLF Electromagnetic Receiver
- VLF Resistivity Option

BENEFITS

Customize Your System

At the heart of the ENVI system is a lightweight console with a large screen alphanumeric display and high capacity memory which is common to all configurations. Included with each system are the appropriate sensors, sensor staff and/or backpack, a rechargeable battery, battery charger, an RS-232 cable and a transit case.

Increase Productivity

For magnetic surveys you can select sampling rates of 0.5 second, 1 second and 2 seconds.

Rapidly Recall Data

For quality of data and for rapid analysis of the magnetic characteristics of the survey line, several modes of review are possible. These include the measurements at the last four stations, the ability to scroll through any or all previous readings in memory and a graphic display of the previous data as profiles, line by line.

Simplify Fieldwork

The ENVI makes surveys easier to conduct as the system:

- provides simple operator menus
- presents the data both numerically and graphically on the large LCD screen
- eliminates the need to write down field data as it simultaneously stores time, field measurements and grid coordinates
- clears unwanted last readings if selected
- calculates statistical error for each measurement
- automatically calculates the difference between the current reading and the previous one (base station)
- provides the ability to remove the coarse magnetic field value or data from the field data to simplify plotting of the field results
- automatically calculates diurnal corrections
- allows for hands free operation with the backpack sensor option

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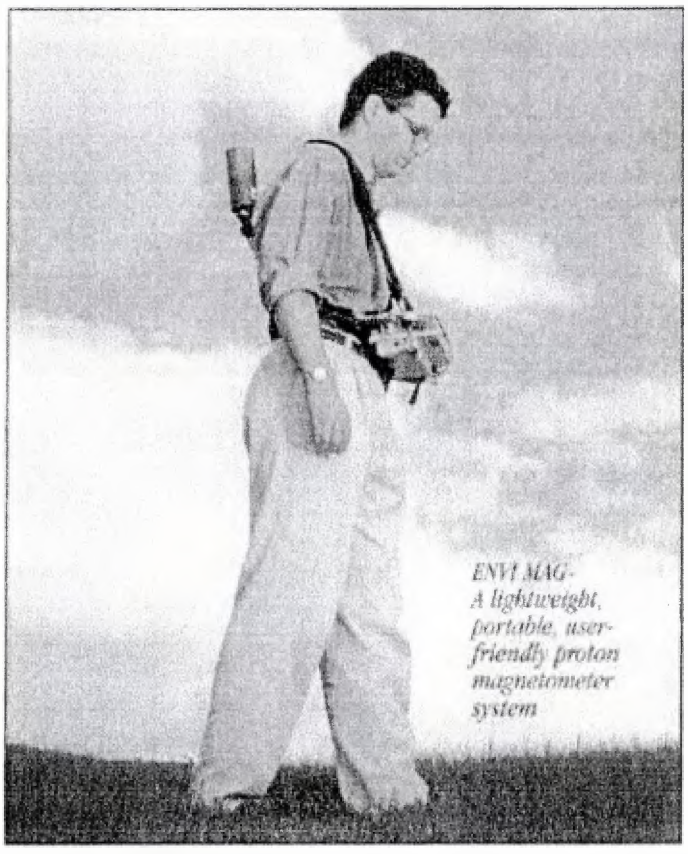


Saves You Time

Only one instrument is needed for magnetometer, gradiometer, VLF and VLF resistivity surveying. A complete ENVI System can calculate and record 4 VLF magnetic field parameters from 3 different transmitters, a magnetic total field reading and a simultaneous magnetic gradient reading. It can also measure and record 2 VLF electric field parameters from 3 different transmitters with the VLF Resistivity option.

Upgrade Your Unit at any Time

The ENVI is based on a modular design, you can upgrade your system at any time. This built-in flexibility allows you to purchase an ENVI system with only the surveying equipment that you need for now but does not limit you to one application. When your surveying needs grow, so can your ENVI system. Existing users of OMNI systems can also upgrade their consoles.

SYSTEM CONFIGURATIONS

- ENVI MAG
- ENVI GRAD
- ENVI VLF
- ENVI MAG/VLF
- ENVI GRAD/VLF

ENVI MAG

The ENVI system when configured as a total field magnetometer is referred to as the ENVI MAG. In this set up the ENVI system can be operated a traditional stop and measure mode, thus providing the full sensitivity obtainable with a proton magnetometer, ideally suited for mineral exploration. Alternatively the ENVI MAG can be operated in the "WALKMAG" mode, where readings may be made continuously at a user selectable rate of up to 2 readings per second. Although this reduces the accuracy marginally, it does allow the user to collect increased volumes of data and cover more area in a shorter period of time. This is particularly important for large signal near surface targets as typically found in environmental surveys. This makes the ENVI a very cost effective tool for environmental surveys. The ENVI MAG provides the following information:

- Total Magnetic Field
- Time/Date of Reading
- Co-ordinates of Reading
- Statistical Error of the Reading
- Signal Strength and Decay Rate of the Reading

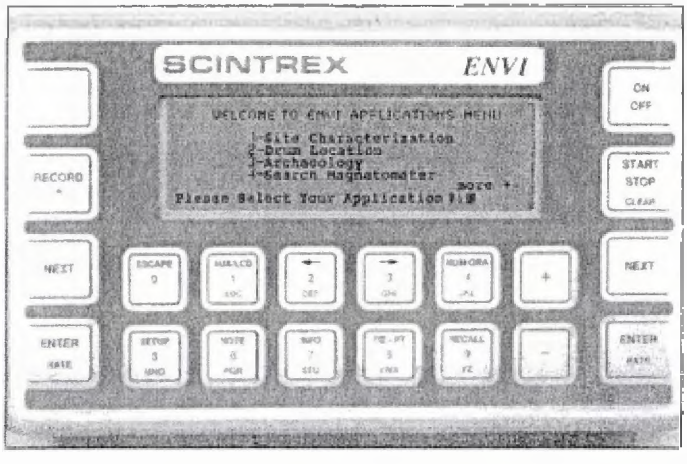
As a magnetic base station instrument the ENVI can be set up to record variations of the earth's magnetic field. Using this information from a stationary ENVI MAG the total field readings obtained with other roving magnetometers can be corrected for these fluctuations thus improving the accuracy of your magnetic data. All ENVI MAG systems can be operated as either field of base station instruments. The optional base station accessories kit is recommended for base station applications.

ENVI GRAD

The ENVI System configured as an ENVI GRAD enables true simultaneous gradiometer measurements to be obtained.

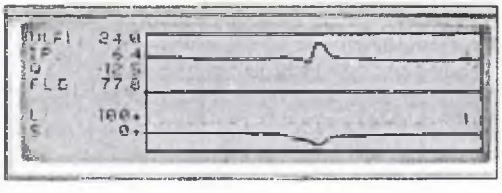
The ENVI GRAD provides you with an accurate means of measuring both the total field and the gradient of the total field. It reads the measurements of both sensors simultaneously to calculate the true gradient measurement.

In the gradient mode, the ENVI sharply defines the magnetic responses determined by total field data. It individually delineates closely spaced anomalies rather than collectively identifying them under one broad magnetic response. The ENVI GRAD is well suited for geotechnical and archaeological surveys where small near surface magnetic targets are the object of the survey. In addition to what the ENVI MAG provides the ENVI GRAD also provides the gradient of the total magnetic field.



Left: Application oriented menus provide the user with the utmost flexibility

Below: Large screen graphics capability allows for rapid data analysis.



Line cutting on Claim #474041

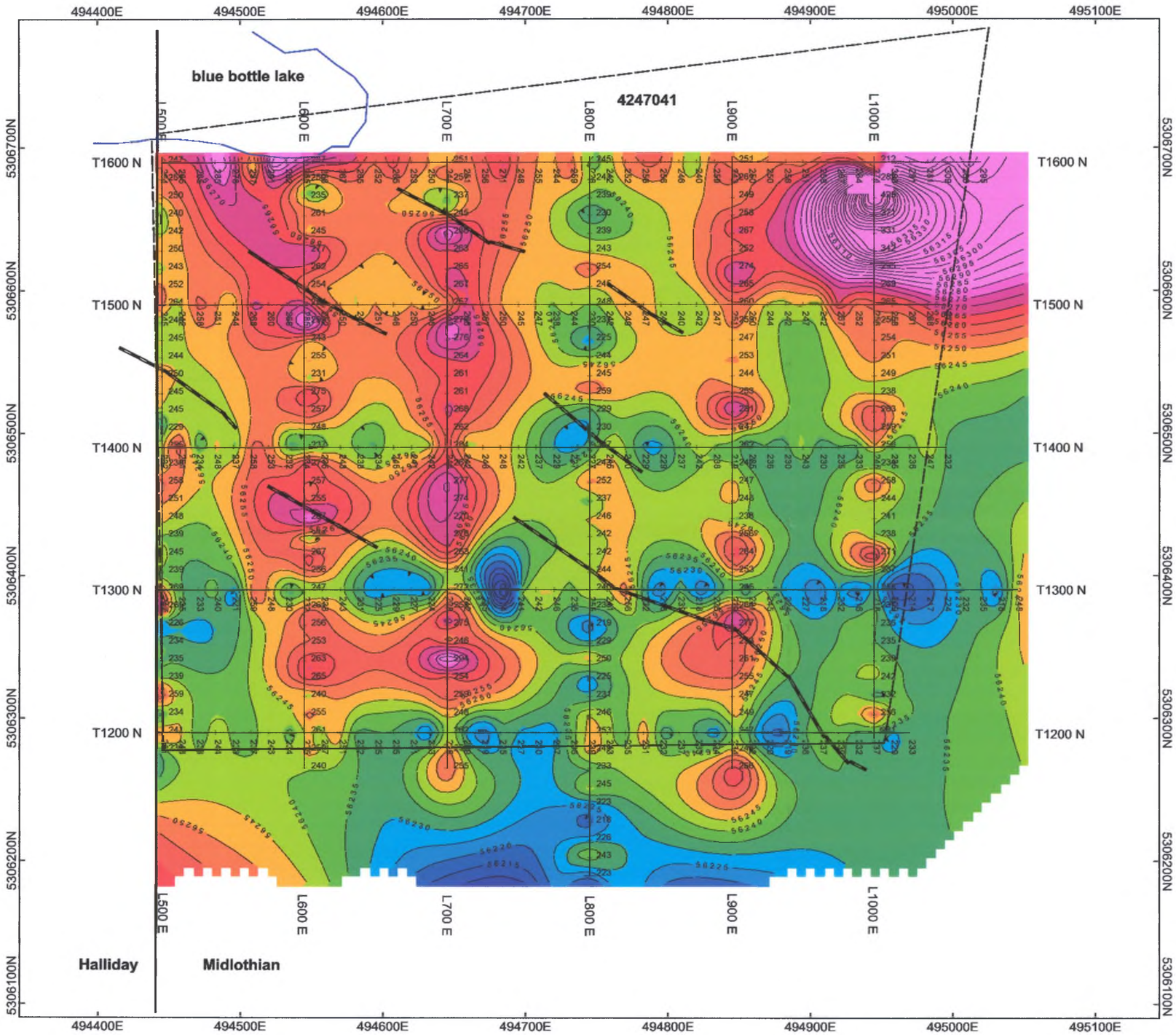
Line cutting on claim #4247041

Line cutting on Claim #424704

Line cutting on Claim #447041

Line cutting on claim #447041


Line cutting crew
setup To cut Lines
On Claim # 4247041



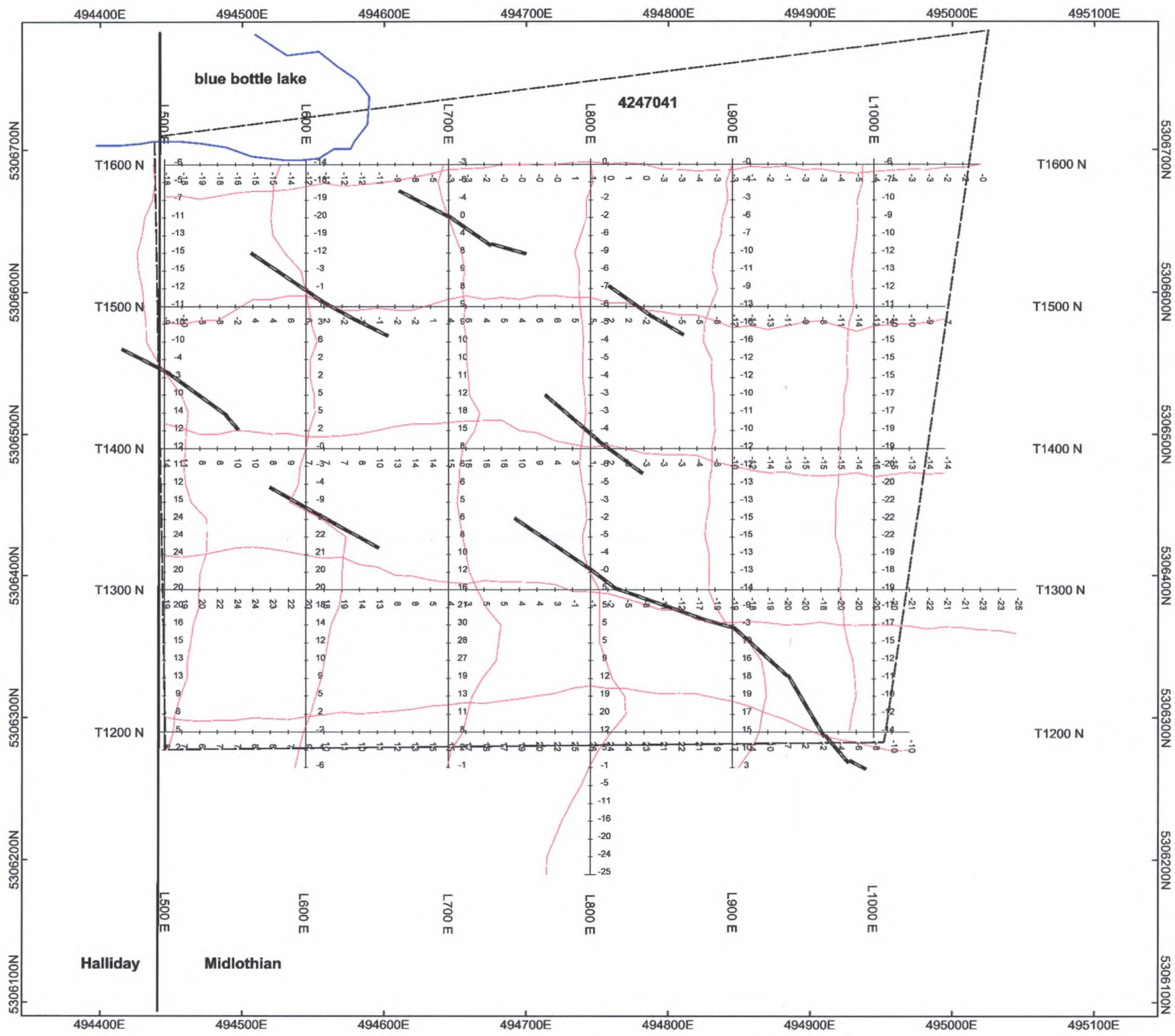
TOTAL FIELD MAGNETICS
BASE REMOVED 56000nT

56210 56215 56220 56225 56230 56235 56240 56245 56250 56255 56260 56265 56270 56275 56280

Scale 1:2500

50 0 50 100 150
(meters)
NAD83 / UTM zone 17N

DOUG LALONDE
BLUEBOTTLE LAKE PROPERTY **MIDLOTHIAN TOWNSHIP**
TOTAL FIELD MAGNETIC SURVEY SCINTREX ENVI MAG SYSTEM CONTOURED: 5 NT
JUNE 2016 EXSICS EXPLORATION LIMITED E-



Scale 1:2500

50 0 50 100 150

(meters)

NAD83 / UTM zone 17N

DOUG LALONDE

BLUEBOTTLE LAKE PROPERTY
MIDLOTHIAN TOWNSHIP

VLF-EM SURVEY, CUTLER, MAINE 24.0kHZ
SCINTREX ENVI MAG SYSTEM
PROFILED: 1CM=+/- 5%

JUNE 2016 EXSICS EXPLORATION LIMITED E-