GEOPHYSICAL REPORT
For
**RYKALA REOURCES INC.**
On The
**MOBERLY PROPERTY**
MOBERLY-THORBURN TOWNSHIPS
PORCUPINE MINING DIVISION
NORTHEASTERN, ONTARIO



Prepared by: J.C.Grant, CET, FGAC
June, 2008

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## INTRODUCTION:

The services of Exsics Exploration Limited were retained by Mr. S. Dunn, on behalf of the Company, Rykala Resources Inc., to complete a recognizance ground geophysical program on a portion of their claim holdings, the Moberly Property, which is located in the northeast corner of Moberly and the northwest corner of Thorburn Townships, both of which represent a portion of the Porcupine Mining Division of Northeastern Ontario. This claim block represents a portion of Rykala holdings in Moberly, Thorburn, Loveland and Byers Townships.

The purpose of this ground program was to initially locate a series of weak airborne targets that were noted in Moberly Township as well as two dike like units that were thought to cross cut the claim block in the northeast corner of Moberly. The intent was to re-chain an existing 10 year old metric grid that had been completed across a portion of the claim block to make it suitable for a detailed magnetic survey that was to be done in conjunction with an Induced Polarization, (IP), survey.

The ground program commenced during the latter portion of May 2008 and was completed by the 7th of June 2008

In all, a total of 10.7 kilometers of grid lines were re chained across the property with 8.4 kilometers covered by the magnetic survey and 5.2 kilometers covered by the IP survey.

## PROPERTY LOCATION AND ACCESS:

The Moberly Property is situated in the northwest section of Thorburn and the Northeast section of Moberly Townships approximately 6 kilometers northwest of Thorburn Lake and Enid Creek cross cuts the eastern edge of the grid area in a north to south direction. The entire grid area is about 51 kilometers north-northwest of the City of Timmins. Refer to Figures 1 and 2. The area lies within the Porcupine Mining Division of Northeastern, Ontario.

Access to the grids during the survey period was relatively easy. Highway 101 travels west from Timmins and crosses the south end of the Kamiskotia Highway that runs north northwest to Kamiskotia Lake. A good gravel road locally called the Abitibi logging road runs north off of the Kamiskotia Highway just to the north of the lake and provided drivable access to the east of the claim block. A series of good ingress gravel roads provided drivable access to the east boundary of the grid area.

Traveling time from Timmins to the grid was about 1.2 hours.



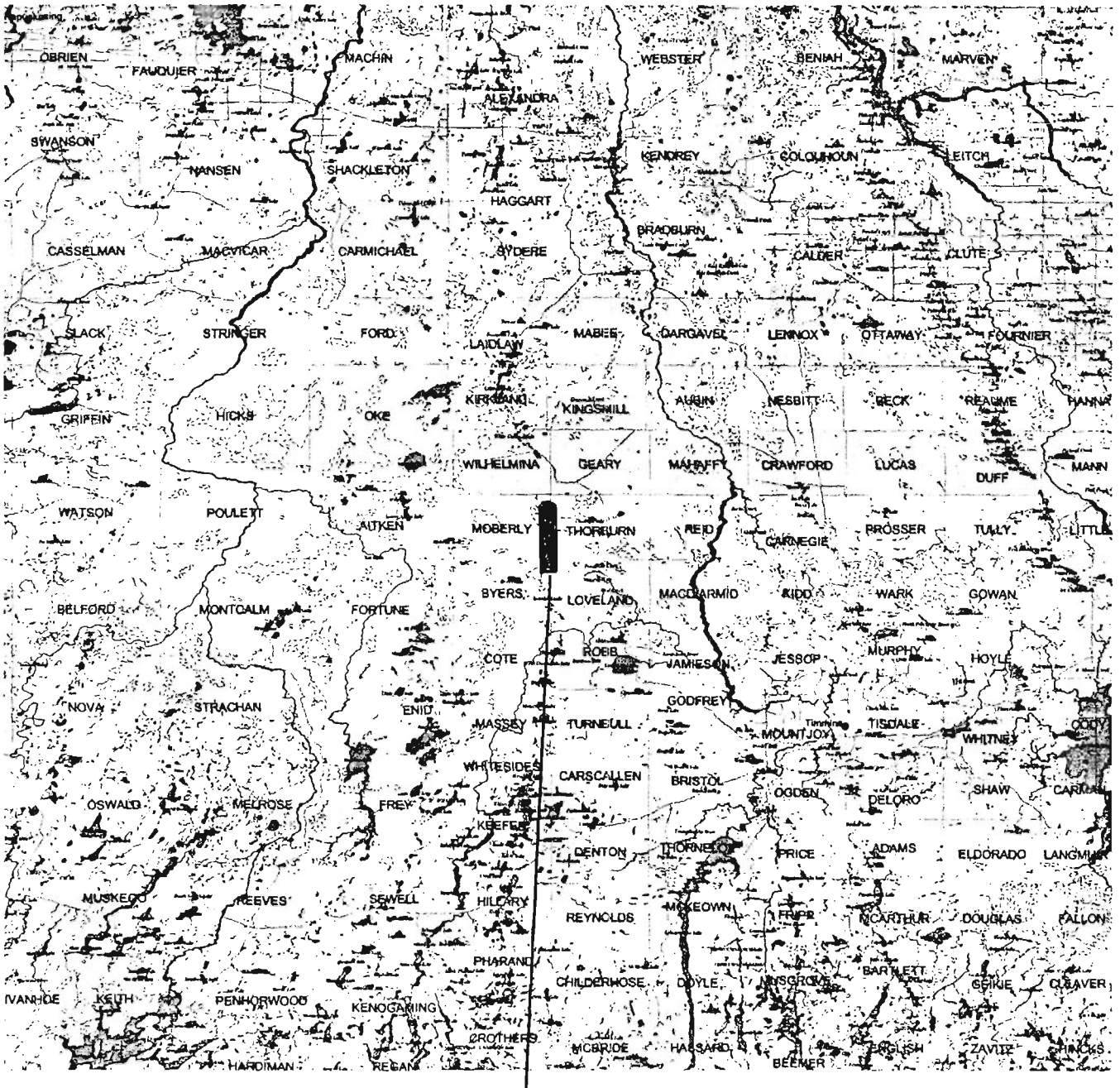
EXSICS EXPLORATION LTD.
P.O. Box 1880, P4N-7X1
Suite 13, Hollinger Bldg, Timmins Ont.
Telephone: 705-267-4151, 267-2424


| | |
|---|---|
| CLIENT: | RYKALA RESOURCES INC. |
| PROPERTY: | BYERS PROPERTY |
| TITL | BYERS, MOBERLY,THORBURN TOWNSHIPS |

# LOCATION MAP

Fig. 1

| | | |
|---|---|---|
| Date: JUNE./08 | Scale: | NTS: |
| Drawn:J.C.Grant | Interp: J.C.Grant | Job No.: E-580 |

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| PROPERTY: | BYERS PROPERTY |

TITL BYERS, MOBERLY,THORBURN TOWNSHIPS

# PROPERTY LOCATION MAP

Fig. 2

| | | |
|---|---|---|
| Date: JUNE./08 | Scale:1:600,000 | NTS: |
| Drawn:J.C.Grant | Interp: J.C.Grant | Job No.: E-580 |

**CLAIM BLOCK:**

The claim numbers that were covered by this current ground program and represent a portion of the claim holdings in the area are as follows.

P-4217936, P-4217933, P-4217932 and P-4217935

Refer to Figure 3 of this report, which was copied from MNDM Plan Map, G-3978, Thorburn Township for the positioning of the claims within the area.

**PERSONNEL:**

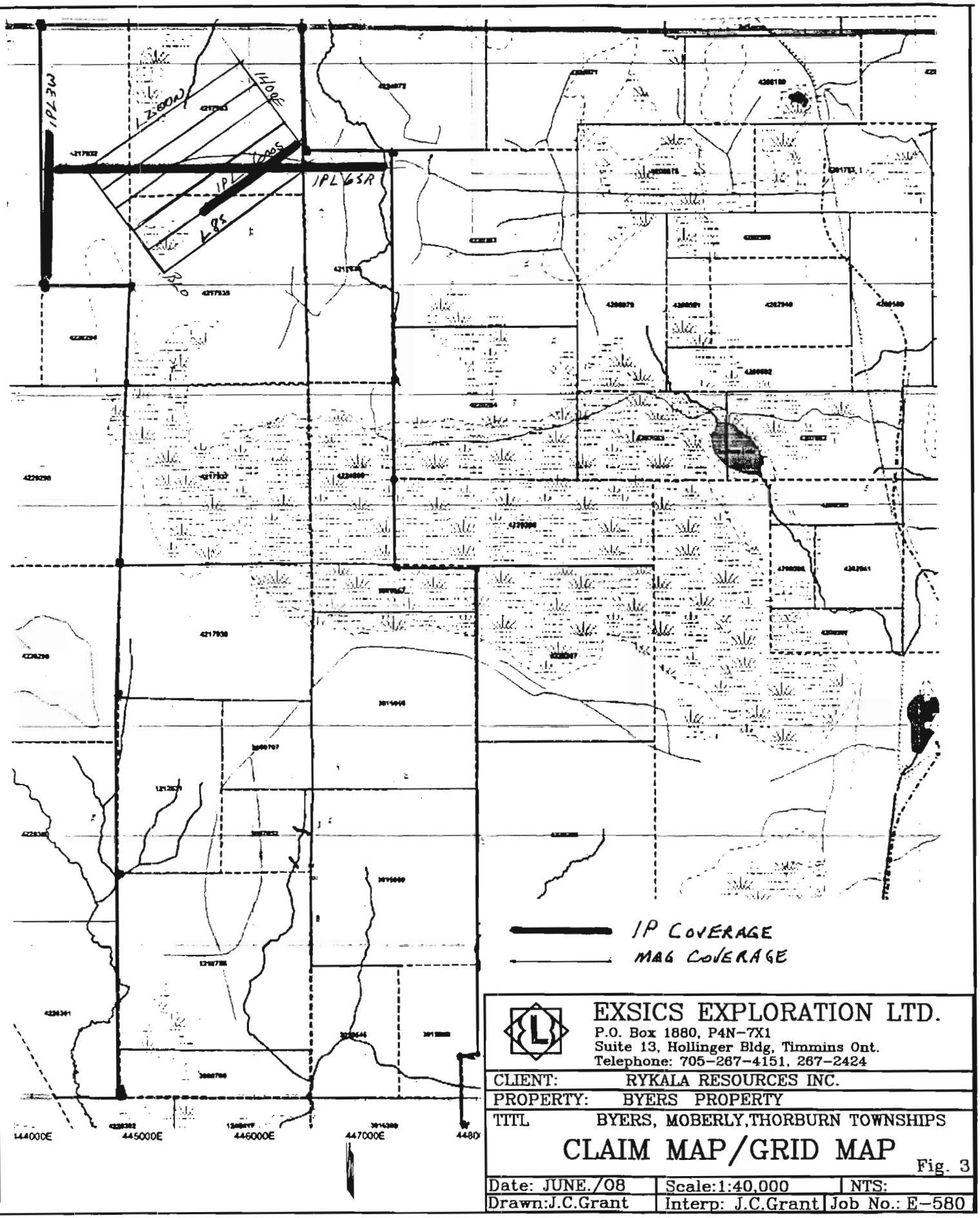
The field crew directly responsible for the collection of all of the raw field data was as follows.

| | |
|---|---|
| E. Jaakkola | Timmins, Ontario |
| R. Bradshaw | Timmins, Ontario |
| R. Belair | Timmins, Ontario |
| C. Grant | Timmins, Ontario |
| D. Poirier | Timmins, Ontario |
| L. Duhamel | Timmins, Ontario |

The entire program was completed under the direct supervision of J.C.Grant and all of the plotting; compilation, interpretation and reports were completed by in-house staff.

**GROUND PROGRAM:**

Upon the completion of the re-chaining the grid was then read with a total field magnetic survey and an IP survey that was completed by Exsics Exploration Limited. The specifications for the Elrec 10 and the GDD 3.6 kilowatt transmitter can be found as Appendix A of this report. The specifications for the Scintrex Envi Mag system can be found as Appendix B of this report. The following parameters were kept constant throughout the survey period.

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# CLAIM MAP/GRID MAP

Fig. 3

| | | |
|---|---|---|
| Date: JUNE./08 | Scale:1:40,000 | NTS: |
| Drawn:J.C.Grant | Interp: J.C.Grant | Job No.: E-580 |

**MAGNETIC SURVEY:**

| | |
|---|---|
| Line spacing: | 100 meters |
| Station spacing: | 25 meters |
| Reading intervals: | 12.5 meters |
| Instrument: | Scintrex Envi mag system |
| Accuracy: | +/- 0.1 % |
| Reference field: | 57,500 nT |
| Datum subtracted: | 57,000 nT |
| Diurnal monitor: | Base station recorder |
| Record intervals: | 30 seconds |

Upon completion of the survey the collected data was corrected, leveled and then plotted onto a base map at a scale of 1:2500 and then contoured at 50 gamma intervals wherever possible. A color copy of this contour map is included in the back pocket of this report.

**IP SURVEY:**

| | |
|---|---|
| Line spacing: | 100 meters |
| Station spacing: | 25 meters |
| Reading intervals: | 25 meters |
| IP method: | Time domain |
| IP array: | Pole-Dipole |
| Electrode spacing: | a= 25 meters |
| Electrode number | n= 4 |
| Transmitter: | GDD 3.6 Kilowatt |
| Receiver: | Elrec 10 |
| Parameters measured: | Chargeability in millivolts/volt<br>Resistivity in ohms/meter |

Upon the completion of the survey, the data was then presented as individual line pseudosections at a scale of 1:2500 showing the contoured results of the chargeability and resistivity. Copies of these sections are also included in the back pocket of this report.

**SURVEY RESULTS:**

The magnetic survey outlined the expected geological characteristics of the grid area. Several magnetic high trends were noted on the grid. The most predominant magnetic feature relates to a strong magnetic high unit generally striking northwest to southeast and it can be followed from line 600ME to line 200MW and it continues off of the grid to the northwest. The zone relates to a possible dike like unit that is relatively shallow. This unit is also host to several airborne electromagnetic conductors.

The second magnetic unit can be followed from line 800ME to line 200MW and continues off of the grid in both directions. This zone also represents a dike like unit that may be deeper than the south zone. This unit does not host any airborne targets.

The IP survey was completed on three lines across the grid area. Line **600S is actually grid line 600ME of the magnetic grid. It was read from 1600MN to and including 800MN.** The profile did not return any encouraging results. There is a weak deep zone between 1175MN and 1275MN with a corresponding resistivity high which correlates to the northern limb of the weaker dike like unit noted by the magnetic survey. The narrow resistively high between 900ME and 950ME correlates to the dike.

**Line 600RS represents a grid line that was read across the original grid at an angle of about 40 degrees. It was read from 2800ME to 300MW** and crosscut both of the dike like units. The survey located a modest conductive zone between 500ME and 600ME that correlates directly with the stronger of the two dikes and the airborne targets. The zone appears to be shallow but may also continue to depth.

A second weaker zone was also noted between 1475ME and 1550ME that may correlate to the deeper-rooted dike like unit. This second zone has a narrow resistivity high association.

**The last line read was called line 300MW and was done to test the western limits of the claim block. This line was read from 400MS to 1500MS.** Two weak zones were noted between 850MS and 750MS and 475MS and the north end of the survey line. Both of these zones may be the northwest extension of the strong magnetic unit that was noted on the southern section of the magnetic survey. The resistivity results suggest that this line seems to be sub paralleling the magnetic high and that it is broadening and possibly getting deeper. **The claim line between 4220294 and 4217932 represents station 1500MS of this IP line.**

**CONCLUSIONS AND RECOMMENDATIONS:**

The ground surveys were successful in locating and outlining the geological characteristics of the grid. The most predominant magnetic zone relates to a dike like unit that is host to several airborne targets. This zone was also noted in the IP survey as being a moderate conductive zone that comes near surface but also extends to depth. The weaker dike like unit was also noted by the IP survey albeit quite a bit weaker.

A follow up program of IP surveys would also help in tracing the main target area that has the high magnetic signature. This zone should be followed out to its limits and then drill tested as there does not appear to any visible outcrop in the immediate area. Further ground surveys would then be based on the drilling results.

Respectfully submitted:

J. C. Grant, CET, FGAC
June, 2008

## 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.

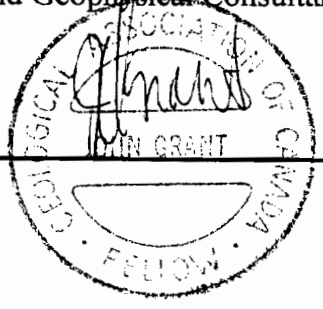
3). I am a member in good standing of the Certified Engineering Technologist Association, (CET), since 1984.

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

# SCINTREX

# ENVI-MAG Environmental Magnetometer/Gradiometer

## Locating Buried Drums and Tanks?

The ENVI-MAG is the solution to this environmental problem. ENVI-MAG is an inexpensive, lightweight, portable "WALKMAG" which enables you to survey large areas quickly and accurately.

ENVI-MAG is a portable, proton precession magnetometer and/or gradiometer, for geotechnical, archaeological and environmental applications where high production, fast count rate and high sensitivity are required. It may also be used for other applications, such as mineral exploration, and may be configured as a total-field magnetometer, a vertical gradiometer or as a base station.

**The ENVI-MAG**

- easily detects buried drums to depths of 10 feet or more
- more sensitive to the steel of a buried drum than EM or radar
- much less expensive than EM or radar
- survey productivity much higher than with EM or radar

**Main features Include:**

- select sampling rates as fast as 2 times per second
- "WALKMAG" mode for rapid acquisition of data
- large internal, expandable memory
- easy to read, large LCD screen displays data both numerically and graphically
- ENVIMAP software for processing and mapping data

ENVI-MAG comprises several basic modules; a lightweight console with a large screen alphanumeric display and high capacity memory, a staff mounted sensor and sensor cable, rechargeable battery and battery charger. RS-232 cable and ENVIMAP processing and mapping software.

For gradiometry applications an upgrade kit is available, comprising an additional processor module for installation in the console, and a second sensor with a staff extender.

*ENVI-MAG Proton Magnetometer in operation*

For base station applications a Base Station Accessory Kit is available so that the sensor and staff may be converted into a base station sensor.

## Features and Benefits

**"WALKMAG" Magnetometer/Gradiometer**

The "WALKMAG" mode of operation (sometimes known as "Walking Mag") is user-selectable from the keyboard. In this mode, data is acquired and recorded at the rate of 2 readings per second as the operator walks at a steady pace along a line. At desired intervals, the operator "triggers" an event marker by a single key stroke, assigning coordinates to the recorded data.

**True Simultaneous Gradiometer**

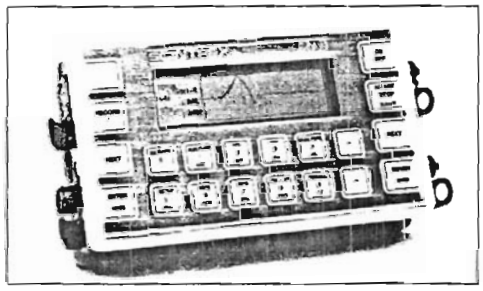
An optional upgrade kit is available to configure ENVI-MAG as a gradiometer to make true, simultaneous gradiometer measurements. Gradiometry is useful for geotechnical and archaeological surveys where small near surface magnetic targets are the object of the survey.

**Selectable Sampling Rates**

0.5 second, 1 second and 2 second reading rates user selectable from the keyboard.

**Large-Key Keypad**

The large-key keypad allows easy access for gloved-hands in cold-weather operations. Each key has a multi-purpose function.



*Front panel of ENVI-MAG showing a graphic profile of data and large-key keypad*

**Large Capacity Memory**

ENVI-MAG with standard memory stores up to 28,000 readings of total field measurements, 21,000 readings of gradiometry data or 151,000 readings as a base station. An expanded memory option is available which increases this standard capacity by a factor of 5.

**Easy Review of Data**

For quality of data and for a 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. This feature is very useful for environmental and archaeological surveys.

**Highly Productive**

The "WALKMAG" mode of operation acquires data rapidly at close station intervals, ensuring high-definition results. This increases survey productivity by a factor of 5 when compared to a conventional magnetometer survey.

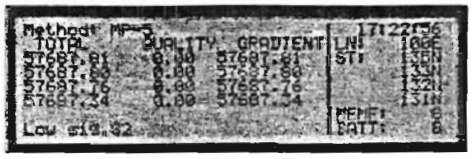
**"Datacheck" Quality Control of Data**

"Datacheck" provides a feature wherein at the end of each survey line, data may be reviewed as a profile on ENVI-MAG's screen. Datacheck confirms that the instrument is functioning correctly and

allows the user to note the magnetic relief (anomaly) on the line.

### Large Screen Display

"Super-Twist" 64 x 240 dot (8 lines x 40 characters), LCD graphic screen provides good visibility in all light conditions. A display heater is optionally available for low-temperature operations below 0°C.



*Close-up of the ENVI-MAG screen showing data presented after each reading*

### Interactive Menus

The set-up of ENVI-MAG is menu-driven, and minimizes the operator's learning time, and on-going tasks.


*Close-up of display of ENVI-MAG showing interactive set-up menu*

### Rechargeable Battery and Battery Charger

An "off-the-shelf" lead-acid battery and charger are provided as standard. The low-cost "Camcorder" type battery is available from electronic parts distributors everywhere.

### HELP-Line Available

Purchasers of ENVI-MAG are provided with a HELP-Line telephone number to call in the event assistance is needed with an application or instrumentation problem.

### ENVIMAP Processing and Mapping Software

Supplied with ENVI-MAG, and custom designed for this purpose, is easy-to-use, very user-friendly, menu driven data processing and mapping software called ENVIMAP. This unique software appears to the user to be a single program, but is in fact a sequence of separate programs, each performing a specific task. Under the menu system, there are separate programs to do the following:

a) read the ENVI-MAG data and reformat it into a standard compatible with the ENVIMAP software
b) grid the data into a standard grid format
c) create a vector file of posted values with line and baseline identification that allows the user to add some title information and build a suitable surround
d) contour the gridded data
e) autoscale the combined results of the posting/surround step and the contouring step to fit on a standard 8.5 ins. wide dot-matrix printer
f) rasterize and output the results of step e) to the printer

ENVIMAP is designed to be as simple as possible. The user is required to answer a few basic questions asked by ENVIMAP, and then simply toggles "GO" to let ENVIMAP provide default parameters for the making of the contour map. The user can modify certain characteristics of the output plot. ENVIMAP'S menu system is both keyboard and mouse operable. HELP screens are integrated with the menu system so that HELP is displayed whenever the user requests it.

### Options Available

- True simultaneous gradiometer upgrade
- Base station upgrade
- Display heater for low temperature operations
- External battery pouch

## Specifications

**Total Field Operating Range**
20,000 to 100,000 nT (gammas)

**Total Field Absolute Accuracy**
+/- 1nT

**Sensitivity**
0.1 nT at 2 second sampling rate

**Tuning**
Fully solid state. Manual or automatic, keyboard selectable

**Cycling (Reading) Rates**
0.5, 1 or 2 seconds, up to 9999 seconds for base station applications, keyboard selectable

**Gradiometer Option**
Includes a second sensor, 20 inch (½m) staff extender and processor module

**"WALKMAG" Mode**
0.5 second for walking surveys, variable rates for hilly terrain

**Digital Display**
LCD "Super Twist", 240 x 64 dots graphics, 8 line x 40 characters alphanumerics

**Display Heater**
Thermostatically controlled, for cold weather operations

**Keyboard Input**
17 keys, dual function, membrane type

**Notebook Function**
32 characters, 5 user-defined MACRO's for quick entry

**Standard Memory**
Total Field Measurements: 28,000 readings
Gradiometer Measurements: 21,000 readings
Base Station Measurements: 151,000 readings

**Expanded Memory**
Total Field Measurements: 140,000 readings
Gradiometer Measurements: 109,000 readings
Base Station Measurements: 750,000 readings

**Real-Time Clock**
Records full date, hours, minutes and seconds with 1 second resolution, +/- 1 second stability over 12 hours

**Digital Data Output**
RS-232C interface, 600 to 57,600 Baud, 7 or 8 data bits, 1 start, 1 stop bit, no parity format. Selectable carriage return delay (0-999 ms) to accommodate slow peripherals. Handshaking is done by X-on/X-off

**Analog Output**
0 - 999 mV full scale output voltage with keyboard selectable range of 1, 10, 100, 1,000 or 10,000 nT full scale

**Power Supply**
Rechargeable "Camcorder" type, 2.3 Ah, Lead-acid battery.

12 Volts at 0.65 Amp for magnetometer, 1.2 Amp for gradiometer,

External 12 Volt input for base station operations

Optional external battery pouch for cold weather operations

**Battery Charger**
110 Volt - 230 Volt, 50/60 Hz

**Operating Temperature Range**
Standard 0° to 60°C
Optional -40°C to 60°C

**Dimensions**
Console - 10 x 6 x 2.25 inches (250 mm x 152 mm x 55 mm)
T.F. sensor - 2.75 inches dia. x 7 inches (70 mm x 175 mm)
Grad. sensor and staff extender - 2.75 inches dia. x 26.5 inches (70 mm x 675 mm)
T.F. staff - 1 inch dia. x 76 inches (25 mm x 2 m)

**Weight**
Console - 5.4 lbs (2.45 kg) with rechargeable battery
T. F. sensor - 2.2 lbs (1.15 kg)
Grad. sensor - 2.5 lbs (1.15 kg)
Staff - 1.75 lbs (0.8 kg)

SCINTREX

**Head Office**
222 Snidercroft Road
Concord, Ontario, Canada L4K 1B5
Telephone: (905) 669-2280
Fax: (905) 669-6403 or 669-5132
Telex: 06-964570

**In the USA:**
Scintrex Inc.
85 River Rock Drive
Unit 202
Buffalo, NY 14207
Telephone: (716) 298-1219
Fax: (716) 298-1317

# APPENDIX B

# *Tx II Transmitter*

## *3600 W*

### *User's Guide*


**INSTRUMENTATION INC.**

3700, boul. de la Chaudière, suite 200, Québec (Qc) Canada G1X 4B7

Tel.: (418) 877-4249 Fax: (418) 877-4054

E-Mail: gdd@gddinstrumentation.com

# 6. SPECIFICATIONS

**Size :** 51 x 41.5 x 21.5 cm- built in transportation box from Pelican

**Weight :** approximately 32 kg

**Operating temperature :** -40 °C to 65 °C

| | |
|---|---|
| **Cycle :** | time domain : 2 s ON, 2 s OFF |
| Optional: | 1, 2, 4 or 8 s |
| | 0.5, 1, 2 or 4 s |
| | DC |
| **Output current :** | 0.030 A to 10 A (normal operation) |
| | 0.000 A to 10 A (cancel open loop) |
| **Output voltage :** | 150 V to 2400 V |
| **Display :** | LCD, reads to 0,001 A |
| **Power source :** | 240 V / 60 Hz (220 V / 50 Hz) |

# *IP RECEIVER*

## *GRx 8-32*

## *User's Guide*

INSTRUMENTATION

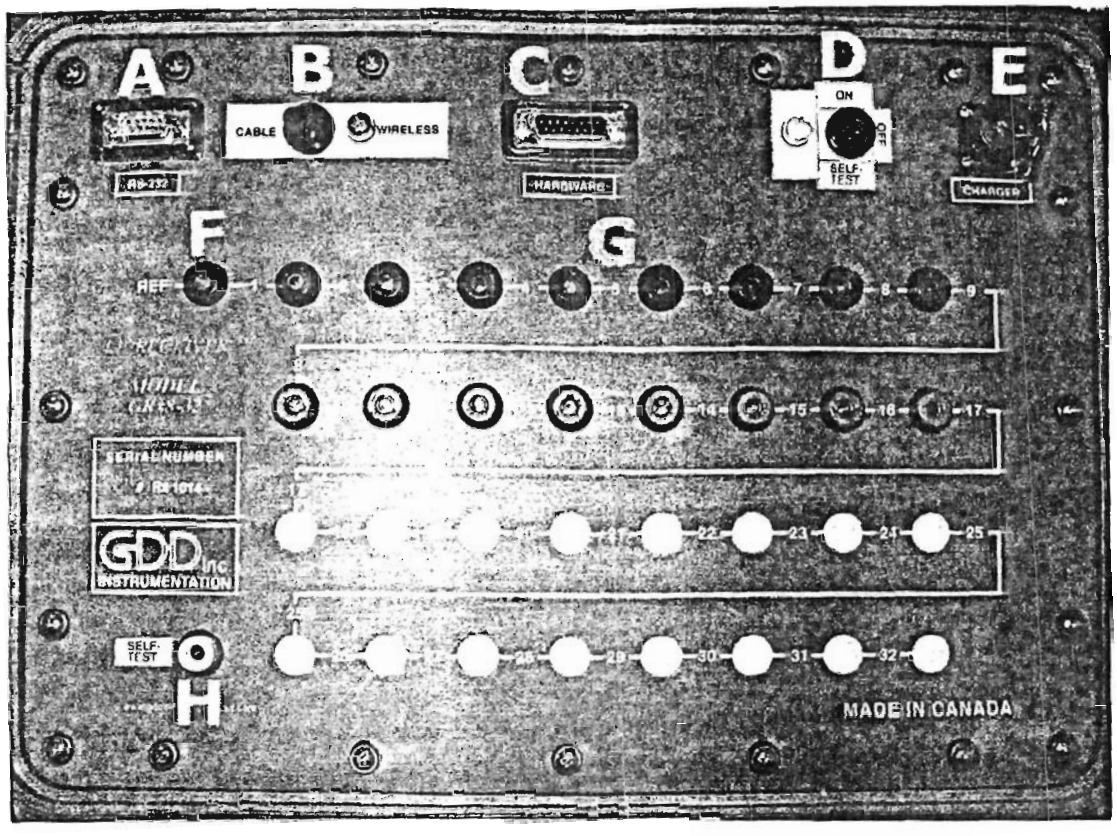
GDD

Canadian Manufacturer of
Geophysical Instruments Since 1976

**INSTRUMENTATION GDD INC.**
3700, boul. de la Chaudière, Québec (Québec) Canada G1X 4B7
Tel. : +1 (418) 877-4249 Fax : +1 (418) 877-4054
**WWW.GDDINSTRUMENTATION.COM**

## 3 GRx8-32 components

The GRx8-32 components are described in this section.




**A - RS-232 connector - 9 pin serial communication port**

This connector is used to connect the RS-232 cable between the Allegro Cx and the GRx8-32.

**B - CABLE/WIRELESS switch**

This switch is used to select CABLE (RS-232) or WIRELESS (Bluetooth) communication with the PDA. The red light indicates WIRELESS position.

**C - HARDWARE connector - 15 pin programmation port**

This connector is used to update the CPU and PLD software.

**D - ON/OFF/SELF-TEST switch**

This switch is used to turn the GRx8-32 ON or to perform a self-test. The red light indicates ON or SELF-TEST position.

**E - CHARGER connector**

This connector is used to charge the 12V receiver's battery.

**F - REF terminal**

This terminal is the infinite electrode in pole configuration. In dipole configuration, this terminal is the first electrode in differential with the second electrode.

**G - NUMBERED terminals**

These terminals are referenced to the Ref terminal, infinity in pole configuration. In dipole configuration, the numbered terminals are differential terminals.

**H - SELF-TEST terminal**

This terminal is used to perform a self test.