GEOPHYSICAL REPORT
FOR
***FLETCHER NICKEL INC.***
ON THE
***TEXMONT MINE PROPERTY***
BARTLETTE AND GEIKIE TOWNSHIPS
PORCUPINE MINING DIVISION
NORTHEASTERN, ONTARIO





Prepared by: J. C. Grant,
January, 2007

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## INTRODUCTION:

The services of Exsics Exploration Limited were retained by Mr. David Belizhart on behalf of the Company, Fletcher Nickel Inc. to complete an Induced Polarization, (IP), survey and a total field magnetic survey across a selected group of grid lines that were cut across a portion of their claim holdings in Bartlette and Geikie Townships. Both of these Townships are situated within the Porcupine Mining Division in Northeastern Ontario.

The property is host to the Texmont Mine site which is currently being drilled by Fletcher Nickel. Fletcher is currently drilling the Texmont ore zones to expand the historical economical nickel resource on the property. ***In 1965 the reserves, to a depth of 1500 feet, were 4,770,000 tons averaging 1% nickel after dilution.*** They will also be expanding their drilling to the north of the known ore zones after the completion of an IP survey which has extended the potential mineralized significantly to the north.

The line cutting magnetic and IP surveys were completed between May 15th and August 17th, 2006. During this period approximately 23.82 kilometers of lines were either cut or re-brushed across the claim block. The entire 23.82 kilometers were then covered by the magnetic survey but only selected lines totaling 10 kilometers were covered by the IP surveys.

## PROPERTY LOCATION AND ACCESS:

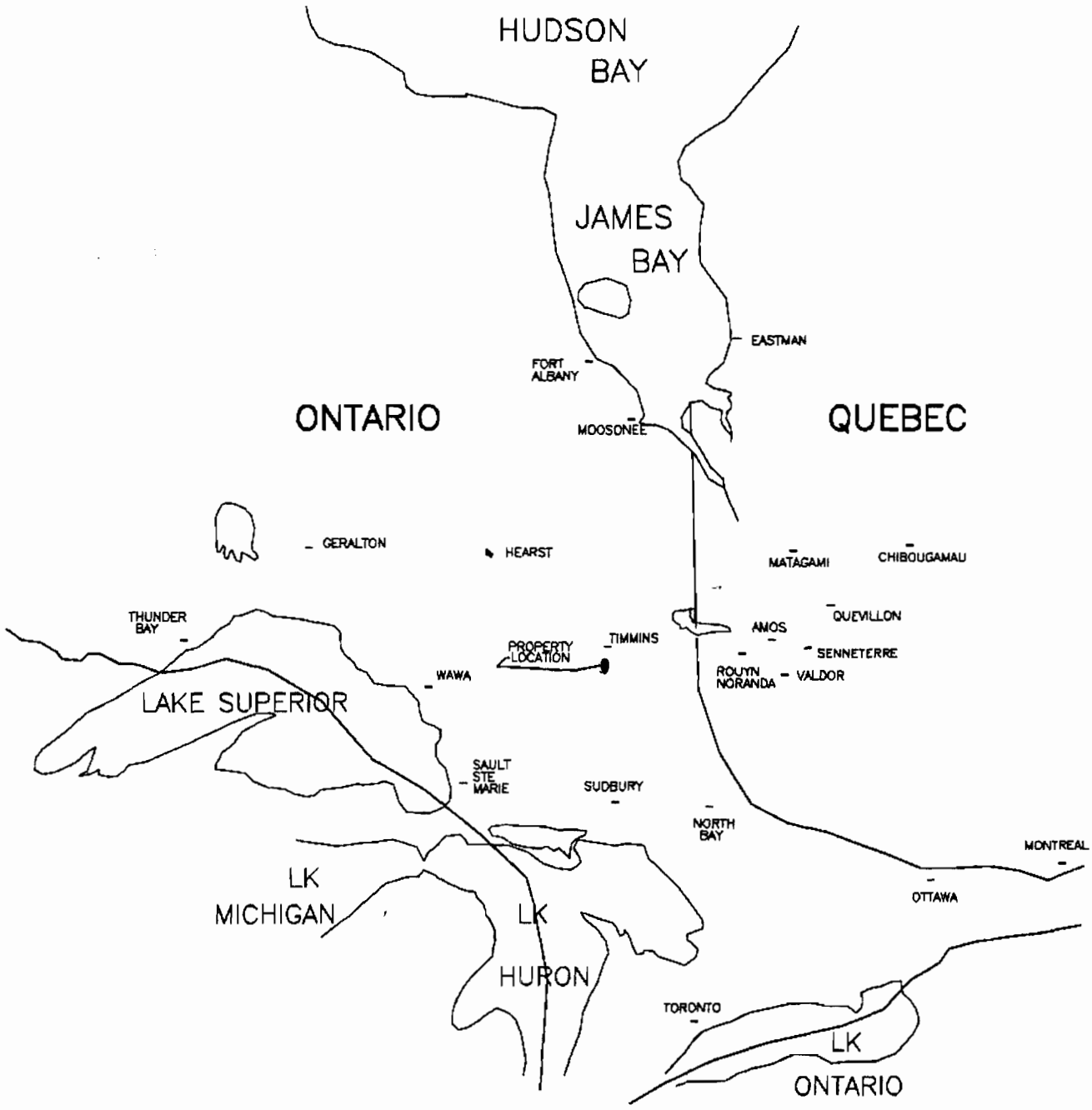
The Texmont south property is located in the northwest corner of Geikie Township and the northeast corner of Bartlett Township both of which are situated in the Porcupine Mining Division of Northeastern, Ontario.

More specifically the property is situated directly south of McArthur Lake and to the immediate west of the Redstone River.

The entire claim block is situated approximately 30 to 35 kilometers south of the City of Timmins. Figures 1 and 2.

Access to the grid during the survey period was ideal. A good gravel road, locally called Pine Street travels south to southeast from Timmins and crosses through the central eastern section of Bartlett Township. At about kilometer 35, there is a good secondary gravel road that runs east to southeast that provides access to the Texmont Mine site. This road has been upgraded and maintained by current logging operations in the area of the mine site.

Traveling time from Timmins to the grid area is about 90 minutes. Refer to Figures 2 and 3.




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

CLIENT: FLETCHER NICKEL INC.

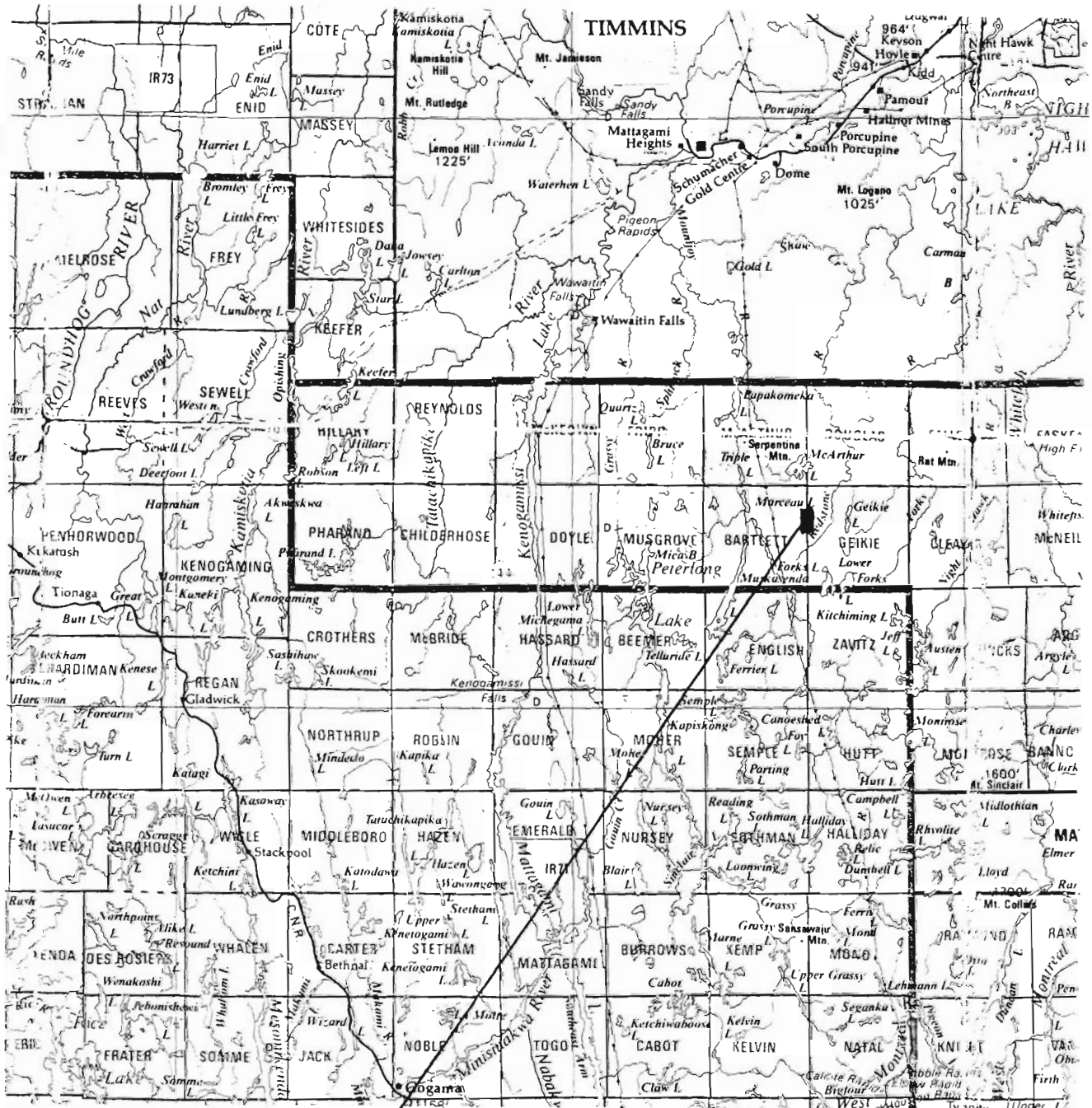
PROPERTY: TEXMONT MINE PROPERTY

TITLE: BARTLETT- GEIKIE TOWNSHIPS

# LOCATION MAP

Fig. 1

| | | |
|---|---|---|
| Date: JAN./07 | Scale:1"=125miles | NTS: |
| Drawn:J.C.Grant | Interp: J.C.Grant | Job No.: E-522 |





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# PROPERTY LOCATION MAP

Fig. 2

| | | |
|---|---|---|
| Date: JAN./07 | Scale: 1:600,000 | NTS: |
| Drawn: J.C.Grant | Interp: J.C.Grant | Job No.: E-522 |

**CLAIM BLOCK**:

The claim numbers that represent a portion of the Fletcher block and that were covered by this ground program were as follows.

Geikie Township:

P-36106, P-36107, P-36108, P-36110, P-36052,

Bartlett Township:

P-36092, P-36098, P-36099, P-36100, P-36101, P-36102,

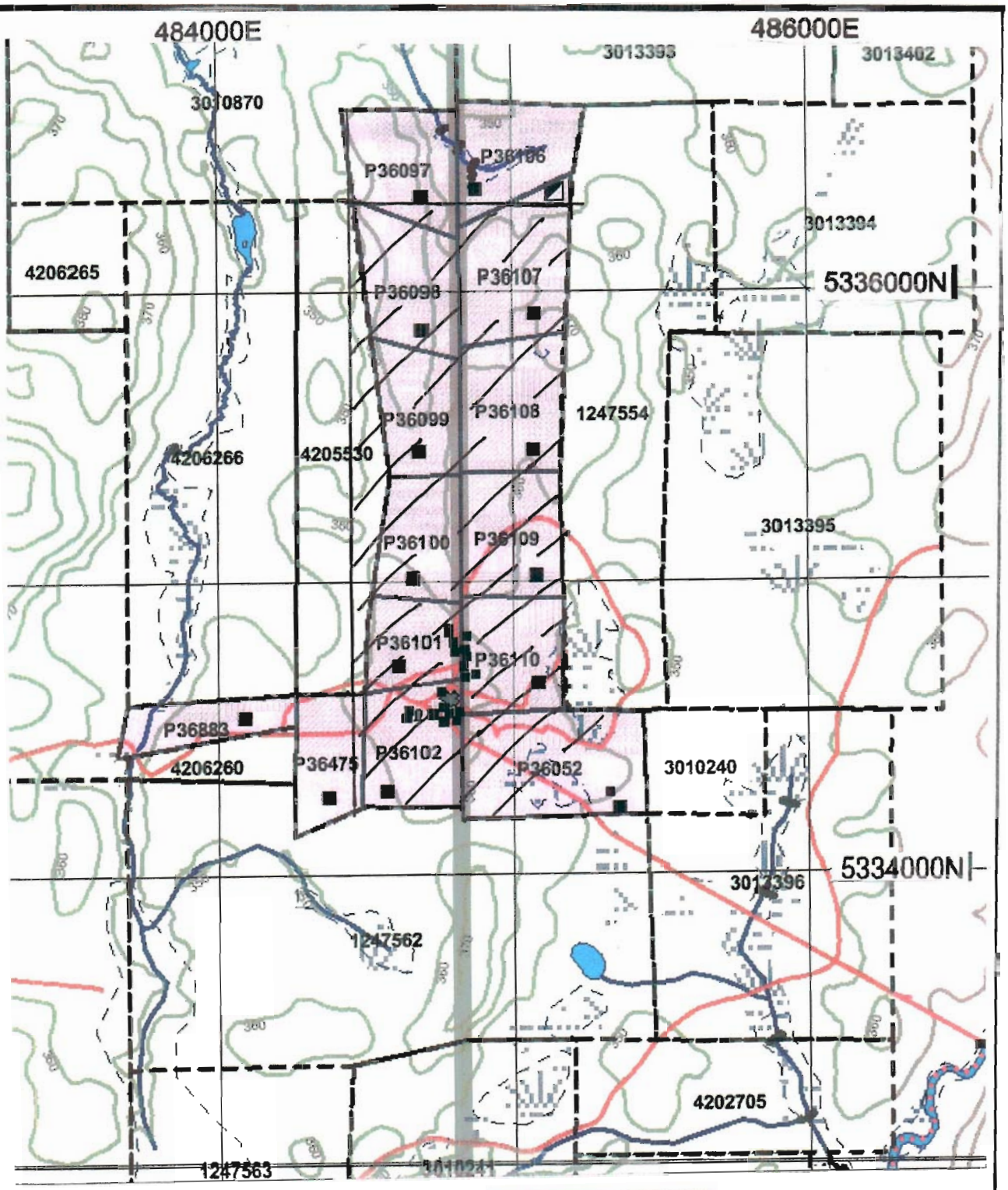
Refer to Figure 3 copied from MNDM Plan Map M-0320, Geikie Township and the MNDM Plan map for Bartlett Township for the positioning of the grid and claims within the area.

**PERSONNEL**:

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

E. Jaakkola.....Timmins, Ontario
S. Lessard.....Timmins, Ontario
D. Collins.....Timmins, Ontario
B. McWhirter.....Timmins, Ontario
R. Bradshaw.....Timmins, Ontario

The plotting and interpretation as well as the report was completed by J. C. Grant of Exsics Exploration Limited.

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Telephone: 705-267-4151, 267-2424

| | |
|---|---|
| CLIENT: | FLETCHER NICKEL INC. |
| PROPERTY: | TEXMONT MINE PROPERTY |
| TITLE: | BARTLETT- GEIKIE TOWNSHIPS |

# CLAIM MAP/ GRID MAP

Fig. 3

| | | |
|---|---|---|
| Date: JAN./07 | Scale:1:20,000 | NTS: |
| Drawn:J.C.Grant | Interp: J.C.Grant | Job No.: E-522 |

**GROUND PROGRAM**:

The ground program was completed in two phases. The first phase was to re-cut and chain the old existing grid that had been done several years previous. This started with the cutting of a north-south baseline which followed the Township line between Bartlett and Geikie Townships. This baseline was cut from line 11500MN to and including line 9500MN. Grid lines were then turned off perpendicular to this baseline at 50 meters intervals from line 9500MN to and including line 10800MN and then at 100 meter intervals from line 10800MN to and including line 11500MN. These cross lines were then cut from 300MW to the eastern claim boundary or 500ME. Several of the lines between 9700MN and 9850Mn were stopped on their eastern extension by a flooded tailings pond. All of these lines were cut and chained with 25 meter station intervals. In all, a total of 23.82 kilometers were done across the area.

Once the grid lines were cut a total field magnetic survey was completed over all of the cut lines. This survey was done using the Scintrex Envi Mag system. Specifications for this system can be found as Appendix A of this report.

The following parameters were kept constant throughout the survey period.

| | |
|---|---|
| Line spacing | 50, 100 meters |
| Station spacing | 25 meters |
| Reading intervals | 12.5 meters |
| Diurnal monitoring | base station recorder |
| Base record intervals | 30 seconds |
| Reference field | 57500nT |
| Datum subtracted | 57000nT |

Once the data was collected, corrected and leveled it was then plotted directly onto a base map at a scale of 1:2500 and then contoured at 100nT intervals wherever possible. A copy of this color contoured map is included in the back pocket of this report.

An IP survey was also completed across a selected group of grid lines which generally covered the main area of interest around the original ore zones as well a several northern lines to check for possible extensions.

This survey was done using the IRIS Elrec 10 and the G.D.D. 3.6 kilowatt transmitter system. Specifications for these units can be found as Appendix B of this report. The following parameters were kept constant throughout the survey period.

| | |
|---|---|
| IP method | Time domain |
| IP array | Pole-dipole |
| Number of electrodes | 6 |
| Electrode spacing | 25 meters |
| Transmitter | GDD 3.6 kilowatt |
| Time base cycle | 2 seconds on, 2 seconds off |
| Receiver | IRIS Elrec 10 |
| Mdly | 240ms, delay time before 1st Msample measurement |
| Vdly | 1260ms, delay time before 1st Vp primary voltage sample. |
| Sample stack time | 6 |
| Parameters measured | Apparent chargeability in MV/V and Resistively in OHM/M |

Once the lines were read the data was presented as individual line pseudosections showing the contoured results of the chargeability and resistively values.

These color pseudo sections were then plotted at a scale of 1:2500 and each section is included in the back pocket of this report.

The results of the IP survey and magnetic survey will be discussed in detail.

## LOCAL GEOLOGY:

The mineralization at the Texmont comprises disseminations and veinlets of pentlandite in serpentinite with some talc. There is no pyrrhotite in the ore. To the west there is a narrow zone with iron formation which contains sulphides which should act as a marker horizon for the IP survey. Most of the nickel mineralization is expected to occur either on line with the existing head frame both to the north and south and in front of the head frame. Also there may be a narrow unmineralized serpentinite zone between the nickel zones to the east and the iron formation to the west.

An olivine diabase dike, post mineral, occurs to the east of the head frame and cuts all units to the north of the head frame at an angle. This may suggest that there are associated and parallel dikes with this feature as well.

## SURVEY RESULTS:

The magnetic and IP surveys were quite successful in mapping the geological characteristics of the grid as well as to locate a define several well defined conductive horizons on the grid.

The magnetic survey outlined a good broad magnetic high unit that generally straddles the baseline from line 9700MN to and including 11200MN and lies between 225MW and 300ME with the highest portion lying between 9750MN and 10700MN. The highest intensity portion of this magnetic unit appears to have been faulted off to both the north and south. The southern fault can be traced from line 9650Mn at the west end to probably line 9550Mn at about 100ME where it appears to continue off of the grid to the southeast.

The northern cross fault possibly parallels lines 10450Mn and 10500MN, west to east. Minor faulting may also occur between 10500Mn and 10800MN which is evident in the distortion of the magnetic high unit between 10500Mn and 10800MN.

The magnetic high that continues north of line 10800MN to 11200Mn may represent the extension of the iron rich formation which lies to the west of the original shaft area.

There is another magnetic high unit situated on the eastern ends of lines 9600MN and 10050MN that may represent a dike like feature but should be investigated further. Increased flooding of the tailings pond during the summer resulted in lack of IP coverage over this magnetic unit.

## IP SURVEY RESULTS.

The IP survey was successful in locating a number of conductive zones across the survey lines. The lines will be discussed separately and in detail.

## LINE 9900MN:

This line represents the southern most line read on the grid. There is a good strong IP anomaly situated between 225MW and 175MW that correlates to the northern flank of a good resistivity high and a good magnetic low. This would suggest that the zone relates to the expected iron formation.

There is another good IP anomaly situated between 50MW and the baseline. This zone is a good IP anomaly that correlates to a moderate resistivity low and lies on the eastern flank of a good magnetic trend.

Several narrow lens type IP responses were noted between these two main zones which relate to possible iron rich units within the overall formation.

**LINE 10100MN**:

This line also outlined a strong IP anomaly on the western section which correlates to the expected iron formation. The IP anomaly correlates to the northern flank of a resistivity high and a broad magnetic low. The next IP anomaly lies between the baseline and 65ME and extends to depth. It to a good strong target that appears to come to surface and correlates to a moderate resistivity low situated between two modest highs.

The zone correlates to the north trending magnetic high unit.

**LINE 10200MN:**

This line outlined the iron formation on the western section of the grid as well as a good strong IP anomaly situated between 50MW and 100ME that is open to the east and appears to be getting stronger at depth. The eastern extension of this line is under the water filled tailings pond to the immediate east of the line. This eastern target correlates to a moderate resistivity low that lies to the immediate east of a modest resistivity high.

The zone also correlates to the magnetic high north trending unit.

**LINE 10300MN:**

This line picked up the iron formation on the western tip of the grid as well as a good IP zone situated between 75MW and 25ME that extends to depth and appears to be broadening to the east at depth. The zone correlates to a modest narrow resistivity high and the north trending magnetic high unit. That portion of the zone between 75MW and 50MW may represent a narrow sulphide rich lens just to the west of the stronger zone.

**LINE 10400MN:**

The iron formation is evident on the western tip of the line. The main area of interest lies between 100MW and 50ME that correlates to a moderate resistivity low situated between two modest highs. The zone extends to depth and appears to broaden to the north.

A third deep rooted zone appears to be coming into the line at 175 to 200ME that lies on the western flank of a moderate resistivity high. All of these eastern zones correlate to the north striking magnetic high unit.

**LINE 10500MN:**

The iron formation was noted on the extreme west end of the line. The main target area is situated between 100MW and 25ME and relates to a strong IP zone that extends to depth and appears to dip slightly to the east. The zone correlates to a modest resistivity high and relates to the southern tip of a magnetic high unit that appears to be the northern extension of the main zone. This portion of the magnetic trend sits to the north, northwest of a possible fault structure.

There may be a deep rooted zone situated between 200ME and 275ME that correlates to a modest resistivity high. This zone also correlates to the eastern edge of a broad magnetic high unit.

**LINE 10600MN:**

The iron formation was just noticed on the extreme west end of this line. The main zone lies between 50MW and 50ME that represents a well defined zone that extends to depth. The zone correlates to a modest resistivity high on the western flank and a shallow high with its central portion.

The main zone correlates to the strong magnetic feature that covers the central portion of the grid.

**LINE 10700MN:**

The main area of interest lies between 25ME and 125ME with a parallel zone between 200ME and 300ME. The zone between 25ME and 125ME correlates to a modest resistivity high and a good narrow magnetic high unit within the overall magnetic high trend. The zones between 200ME and 300ME correlate to a resistivity low. These two eastern zones correlate to the eastern edge of the magnetic high trend.

**LINE 10800MN:**

This line returned multiple zones across its length. The zone at 200MW represents a narrow shallow zone with a good resistivity high as well as a good magnetic high association. The narrow zone at 50MW may be a dike like feature that lies on the western edge of a broad modest resistivity high and a magnetic high.

The main zone is between 25ME and 125ME and represents a good strong zone that extends to depth and correlates to a modest resistivity high. This zone lies within the magnetic high trend. The last zone lies between 250ME and 325ME and again represents a good zone extending to depth that correlates to a contact between a resistivity high and low feature. The zone lies along the eastern edge of the magnetic high trend.

**LINE 10900MN:**

This line outlined three conductive zones. The first is situated at the western edge of the line and represents a good zone extending to depth with a good resistivity high association and a modest magnetic high.

The second zone lies between 50MW and the baseline and represents a good zone that appears to strengthen at depth and correlates to a deep-rooted resistivity high as well as a good magnetic high.

The main zone lies between 100ME and 200ME and represents a good conductor that extends to depth but appears to come to surface. The zone lies at the contact between a strong narrow resistvity high and modest low. The zone lies along a modest magnetic low feature contained within the magnetic high trend.

**LINE 11000MN:**

The first zone outlined lies between 250MW and 150MW and it correlates to a strong resistivity high and a magnetic low. A narrow zone was located at 50MW that also relates to a resistivity high and a weak magnetic high.

The main zone lies between 100ME and 250ME and is represented by two zones possibly emanating from the same source. The western edge of the zone has a resistivity high association where as the remaining portion of the zone correlates to a resistivity low. The entire zone correlates to the magnetic high trend.

**LINE 11100MN:**

The line represents the most northerly line covered by the IP survey. The first zone lies between 150MW and 50MW and extends to depth with a good resistivity high association and lies directly on the northern tip of a modest magnetic high trend.

The second zone lies between 100ME and 150ME and has a deep resistivity high association and lies within the strong magnetic high trend.

The third zone lies between 200ME and 300ME and is associated to a modest resistivity low situated between two highs. The zone lies along the eastern edge of the magnetic high trend.

## CONCLUSION AND RECOMMENDATIONS:

The ground program was successful in locating and outlining at least three conductive horizons across the survey grid. The magnetic survey outlined the geological setting of the Texmont ore zones and this survey was able to trace the setting to the north and south of the shaft area. The magnetic survey also outlined at least two major fault structures across the grid. The first fault zone cam be followed from line 9750MN at the western edge to line 9500MN at about 100ME. This zone strikes northwest to southeast. Minor faulting is also evident striking northward off of this main zone in the area of lines 9500MN at 100ME to line 9750MN at 075ME.

A second major cross structure is evident striking parallel to lines 10450MN and 10500MN that appears to interrupt the main magnetic high unit that hosts at least two of the IP conductive zones.

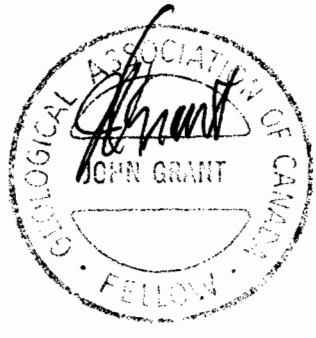
The magnetic unit covering the southeast section of the grid was not fully defined due to the tailings pond but it appears to parallel the main feature to the west. There was not IP coverage over this feature again due to the tailings pond.

The magnetic zone north of the fault zone striking east west along lines 10500MN has been distorted and or folded and faulted between lines 10500MN and 10900MN. This portion of the magnetic unit is host to two good IP zones that remain open to the north.

The strong IP zones outlined along line 9900MN are also open to the south and should be followed up fully.

The survey should be expanded to the north of line 11100MN to determine the strike extent of the northern zones.

Respectfully submitted




J.C. Grant, CET, FGAC
January, 2007.

## 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.

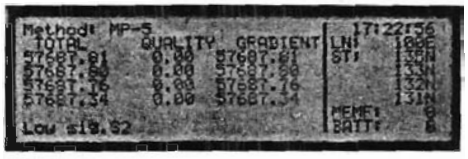
John Charles Grant, CET., FGAC.

# APPENDIX A

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

# 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**

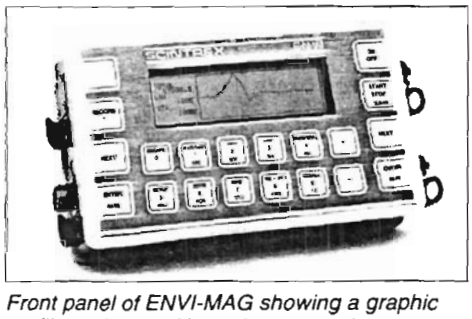
An optional upgrade kit is available to configure ENVI-MAG as a gradiometer to make true, simultaneous gradiometer measurements. Gradiometry is useful for geotechnical and archaeological surveys where small near surface magnetic targets are the object of the survey.

**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

# APPENDIX B

Fugro Instruments
Company Profile
Products
Instrument Sales
Software Sales
Instrument Rentals
Related Services
Technical Papers
Related Links
Contact Us

# Elrec 10 Specifications @ Fugro Instruments

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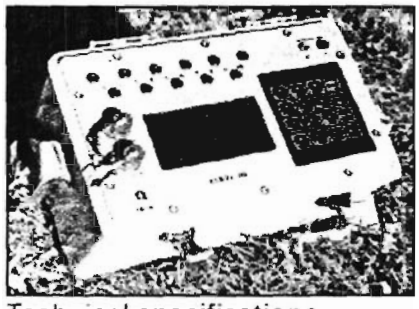

## Technical specifications

- Ten input dipoles
- Signal waveform: Time Domain (ON+, OFF, ON

-, OFF) with pulse duration of 0.5 , 1 , 2 , 4 or 8 seconds
- Up to twenty arithmetic, logarithmic or fully programmable IP chargeability windows
- Computation of apparent resistivity, average chargeability and standard deviation
- Input impedance: >50 Mohms
- Input overvoltage protection up to 1000 Volts
- Automatic SP bucking ±15V with linear drift connection
- Internal calibration generator for a true calibration on request of the operator
- Automatic synchronization and re-synchronization process on primary voltage signals whenever needed
- Automatic stacking number in relation with a given standard deviation value
- Proprietary intelligent stacking process rejecting strong non-linear SP drifts
- Common mode rejection: more than 100 dB (for Rs = 0)
- Ground resistance measurement from 0.1 to 100 kohms
- Battery test: graphic plot of battery status
- Primary voltage: range: 10 µV to 15V, resolution: 1µV, accuracy: typ. 0.3%
- Chargeability: range: 10µV to 15V, accuracy: typ. 0.6%
- Self Potential: range: ±15V, resolution: 0.1 mV
- Time constant (tau) range, Cole-Cole inversion continuous from 10 milliseconds to 100 seconds ; Customized range on request

- Dimensions: 31x21x25 cm
- Display: 16 lines by 40 characters, 128 x

☐ ELREC 10, Ten dipole IP receiver

*The With graphics display for data quality monitoring*

TEN SIMULTANEOUS DIPOLES
TWENTY PROGRAMMABLE CHARGEABILITY WINDOWS
HIGH ACCURACY AND SENSITIVITY

ELREC 10 is a ten dipole Time Domain Induced Polarization receiver designed for high productivity surveys in Mineral Exploration. ELREC 10 is a highly sensitive receiver and features a large graphic display for user friendly operation and a Cole-Cole parameter computation for in-the-field time constant analysis.

**Ten dipoles:**
The ten dipoles of ELREC 10 offer an increased productivity in the field for dipole-dipole, gradient or extended poly-pole arrays. It is also possible to measure five differential (non adjacent) dipoles, for special electrode configurations.

**Twenty programmable windows:**
Beside classical arithmetic and logarithmic modes, ELREC 10 also offers twenty fully programmable windows for a higher flexibility in the definition of the IP decay curve.

**User Friendly Interface:**
user friendly interface has been set up in ELREC 10 with a minimal number of key strokes for each operation.

**Intelligent Stacking Process:**
When the electric noise has strong non-linear effects, the standard arithmetic stacking process requires a long acquisition time to measure the IP effect ; a proprietary intelligent stacking

- Weight: 8 kg including internal battery
- Operating temperature: -30°C to +70°C
- Power supply: 12V internal rechargeable battery with more than 20 hours service at +20°C ; a 12V external battery can be also used.

SP bursts and minimize the acquisition time for a given reading accuracy

**Monitoring Display:**
A large graphic LCD (128x240 dots) permits the operator to display simultaneously the IP decay curves of the ten dipoles during the acquisition, for a global visualization of the readings and for better quality control. Before the acquisition, the ELREC 10 can be used as a one channel DC graphic display, for monitoring the noise level and checking the primary voltage waveform, through a continuous display process.

**Cole-Cole Parameters:**
An inversion procedure has been implemented to compute Cole-Cole time constant at the end of the acquisition. This allows a possible grain size discrimination analysis.

**Internal Memory:**
The memory can store up to 3200 dipole readings, each reading including the full set of parameters characterizing the measurements. An explicit data storage procedure has been developed including the display of warning messages for data not yet stored. File names are available for a better memory management of sets of readings.

**Field proof Instrument:**
ELREC 10 operates in a wide temperature range and features a fiber-glass case for resistance to field shocks and vibrations.

## 1.2 Transmitter description

In this section, the Tx II components are shown, named and explained.

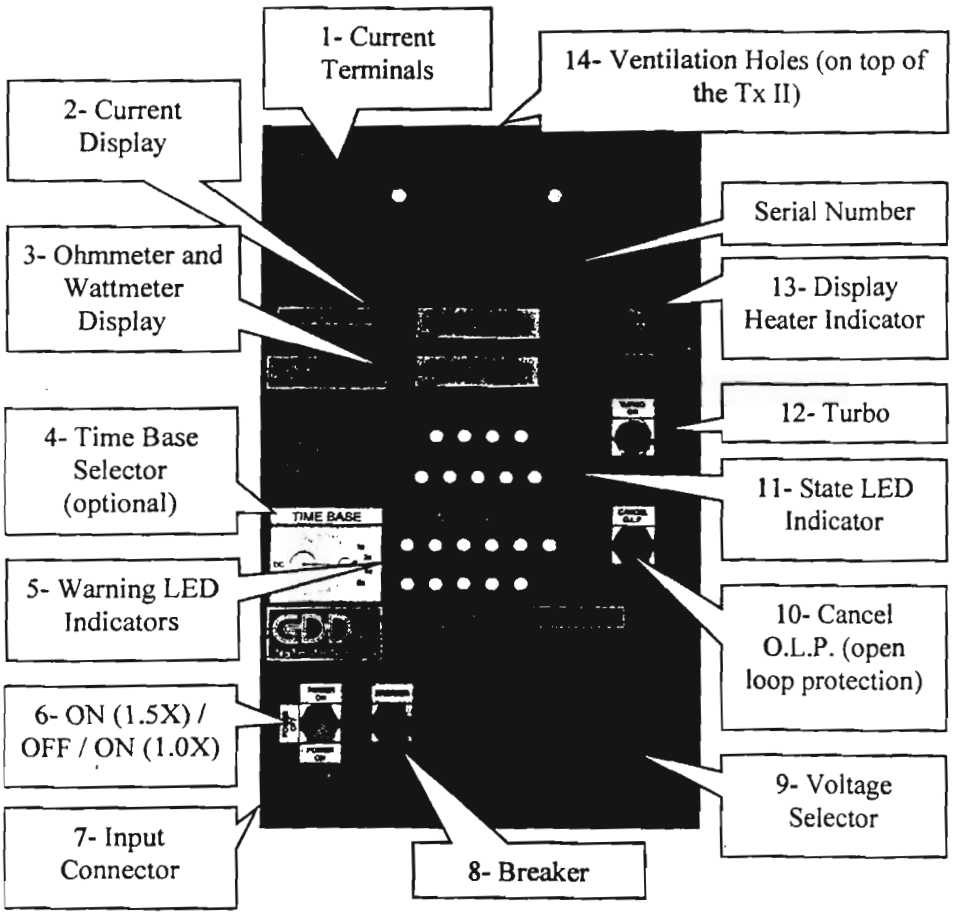


**Figure 1 : Transmitter components**

# 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) |