GEOPHYSICAL REPORT FOR *VALGOLD RESOURCES LIMITED* ON THE *WHITNEY PROPERTY* WHITNEY TOWNSHIP PORCUPINE MINING DIVISION NORTHEASTERN, ONTARIO

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EXSICS EXPLORATION LIMITED GEOPHYSICAL REPORT FOR VALGOLD RESOURCES LIMITED ON THE WHITNEY PROPERTY WHITNEY TOWNSHIP PORCUPINE MINING DIVISION NORTHEASTERN, ONTARIO



# 2.30653



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## **INTRODUCTION:**

The services of Exsics Exploration Limited were retained by Mr. R. Skeries to complete a ground geophysical program consisting of the completion of 1, 750 meter grid line running north to south along the eastern boundary of a claim block held by Valgold located in Whitney Township of the Porcupine Mining Division, Timmins, Ontario. The purpose of this program was to complete the required assessment credits to keep the ground in good standing as well as to check the claim for the possible location of the Porcupine Destor fault which is thought to cross the claim group.

The program was completed between October 6<sup>th</sup> and 7<sup>th</sup>, 2005. In all, a total of 850 meters of compass and paced grid lines were established across the property, approximately 100 meters west of the eastern boundary of the claim unit. The line was then covered by and Induced Polarization, (IP), survey.

The results of this IP survey along with all conclusions and recommendations will be discussed in detail in this report.

# PROPERTY LOCATION AND ACCESS:

The Whitney Property is located in the southwest corner of Whitney Township which is located in the Porcupine Mining Division. Figures 1 and 2. More specifically it covers all of Lot 11, Concession 2 of the township as well as the southern section of Lot 11, Concession 3 and a narrow section of the eastern edge of Lot 12, Concession 2 of the township. The northern portion of the claim block follows the southern shoreline of Porcupine Lake.

The entire claim block is located just east of the old train station in South Porcupine which is about 10 kilometers east of the City of Timmins. Refer to Figures 1,2 and 3.

The access to the property during the survey period was relatively easy. Highway 101 travels east from Timmins to South Porcupine and Bruce Avenue which represents one of the main streets in South Porcupine. Bruce avenue cuts east through the town and provides good access to Porcupine Lake. A second street allows access to the old train station and also cuts across the northern section of the claim block. Traveling time from Timmins to the area is about 20 minutes. This road also provides access to the grid line which was labeled Line 0+00 and baseline. Refer to Figures 3.







# **CLAIM BLOCK**:

The claim number, held by Valgold Resources Limited and covered by the present ground program was P-1192525 which represents 3 claim units.

Refer to figure 3 copied from MNDM Plan of Whitney Townships for the positioning of the claim number within the Township.

## **PERSONNEL:**

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

D. Collins	Timmins, Ontario
S. Lessard	Timmins, Ontario
R. Bradshaw	Timmins, Ontario
E. Huission	Timmins, Ontario
J. Grant	Timmins, Ontario

Once the data was collected, J. C. Grant of Exsics Exploration Limited was responsible for the plotting and interpretation of the results.

# **GROUND PROGRAM**:

The ground program consisted of a 600 meter, compass and paced grid line that were completed using orange flagging tie and marked at 25 meters intervals from baseline 0 to and including 750 meters south. A creek and beaver pond was encountered at 750 meters south and the line was terminated. Line 0+00 was completed approximately 100 meters west of the eastern boundary of the claim block. Refer to figure 3 for the position of the grid line.

Once the line was established, a detailed IP survey was completed over whole line using the IRIS Elrec 6 receiver and the IRIS VIP 4000 Kwatt transmitter. Specifications for these units can be found as Appendix A of this report.

The following parameters were kept constant throughout the survey period.

# **IP SURVEY:**

Method:	Time domain
IP array:	Pole-dipole
Electrode spacing, (a):	25 meters
Electrode number,(n)	6, stainless steel rods
Transmitter pulse duration:	2 seconds on, 2 seconds off
Parameters measured:	Apparent resistively in ohms/ meters
	Chargeability in millivolts/volt

Upon the completion of the surveys, the collected data was plotted on individual line pseudo-sections, at a scale of 1:2500, and show the contoured results of the chargeability and resistively for each line that was read. A copy of each of these individual line sections is included in the back pocket of this report.

# **SURVEY RESULTS:**

The IP survey was successful in locating two conductive zones across the line. The most predominant feature lies between 200MS and 275MS and represents a good chargeability anomaly lying on the northern flank of a modest resistivity high to low contact. The IP anomaly appears to continue to depth.

The second zone lies between 550MS and 600MS and is coincidental with an outcrop area. This zone also has and associated modest resistivity high, which continues to depth. This feature may relate to the outcrops in the area.

# CONCLUSIONS AND RECOMMENDATIONS:

The results of the IP suggest that the claim group should be followed up more thoroughly. This could be done by establishing a detailed 100 meter line spaced grid cut off of an east-west baseline with all cross lines extended to the southern edge of the claim block. The program may be considered for the winter as there is a creek and beaver pond covering a portion of the claim block at about 750MS from the railway tract.

An MMI survey over the IP zones should also be considered after ground proofing the zones to rule out any cultural effects.

Respectfully submitted

J. C. Grant October, 2005



# **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 an Honors Diploma in Geological and Geophysical Technology.
- 2). I have worked subsequently as an Exploration Geophysicist for Teck Exploration Limited, (5 years), and currently as Exploration Manager and Geophysicist for Exsics Exploration Limited, since 1980.
- 3). I am a member in good standing of the Certified Engineering Technologist Association, (CET), since 1984
- 4). I am a Fellow of the Geological Association of Canada, (FGAC), since 1986.
- 5). I have been actively engaged in my profession since the 15<sup>th</sup> of May of 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 in the herein described property. I have been retained by the property holders and or their Agent as a Geophysical Consultant and Contract Manager.

John Charles Grant, CET., FGAC.



<u>APPENDIX A</u>

ELREC 6

# MULTI CHANNEL IP RECEIVER FOR MINERAL EXPLORATION

- . Six simultaneous dipoles
- . Ten programmable chargeability windows
- . High accuracy and sensitivity





**ELREC 6** is a six dipole Time Domain Induced Polarization receiver designed for high productivity surveys in mineral exploration.

ELREC 6 has been designed for being both a user friendly and very sensitive IP receiver.

# ELREC 6 OUTSTANDING FEATURES

#### . Six dipole :

The six channels of the receiver permit to measure six dipoles simultaneously, which provides a high efficiency in the field.

- Ten programmable windows: Beside the classical preset logarithmic and arithmetic modes, ELREC 6 also offers ten fully independant programmable windows which the operator can define by himself according to the way he wants to sample the IP decay curve.
- . Automatic measuring process :

A microprocessor fully controls the synchronization, the gain ranging, the stacking, and the display of the results including the apparent resistivity.



Monitoring display :

During the acquisition, the chargeabilities of the six dipoles can be displayed simultaneously on the LCD display for a global visualization of the readings; the standard deviations of these chargeabilities can also be displayed simultaneously for a real time monitoring of the quality of the on going readings.

#### Internal memory :

The memory can store up to 2500 readings, each reading including the full set of parameters characterizing the measurements; the date and time of the reading, given by the Real Time Clock of the instrument, are also stored. A serial link permits to transfer the data to a printer or a micro computer.

#### Remote control :

**ELREC 6** can be fully driven by a micro computer through the serial link for remote operation applications.

#### Frequency mode :

The frequency effect and the phase shift between the fundamental and the third harmonics may be measured for a Frequency Domain waveform (ON+, ON-), or for a Time Domain waveform (ON+, OFF, ON-, OFF).

Time Domain waveform (ON+, OFF, ON-, OFF).

#### Field proof instrument :

**ELREC 6** operates in a wide temperature range and features a fiber-glass case for resisting to field shocks and vibrations.

#### **ELREC 6 MEASURING PROCESS**

ELREC 6 measuring process has been optimized to provide the best possible accuracy in real field conditions.

#### ELREC 6 features :

- . A noise monitoring system :
- A monitor function enables the operator the check the level of noise observed on each dipole before the measurement : the digital voltmeter function displays on the LCD the raw instantaneous value of potential. In particular, it is possible to numerically observe the presence of a pulse square waveform corresponding to a primary voltage signal and showing the operation of a transmitter. This function is also available during the acquisition of a reading.
- A line check/ground resistance measurement which permits to check that all seven electrodes are properly connected to the receiver.
- A low-pass analog filter which reduces the effect of higher frequency natural and cultural noises (50-60 Hz).
- . Automatic SP compensation, including linear drift correction (up to 1 mV/s) through a digital filter.
- . Automatic gain ranging, within a voltage range of  $\pm$  10V.
- . Automatic synchronization process : ELREC 6 automatically synchronizes with the signal through a waveform recognition process ; besides it automatically resynchronizes at each new pulse to avoid errors due to a possible shift in the period of the transmitted signal.
- . Automatic digital stacking to enhance the signal-to-noise ratio for as long as the operator wants, with a maximum of 250 stacks. During the stacking, the operator can monitor either the instantaneous value (to observe the level of noise), or the cumulative value (to observe the convergence of the average value).
- . A continuous quality test procedure, which stops the averaging process when the noise level becomes too high, but keeps the previously stacked data. The averaging procedure starts again when noise decreases. This procedure optimizes the time of data acquisition in very noisy areas.
- A resolution after stacking of 1  $\mu$ V for primary voltage, and of 0.01 mV/V for chargeability, for pointing out low amplitude anomalies. The standard deviations of the chargeability of the six dipoles are displayed during and after the acquisition to give an indication on the noise level.
- A Normalized chargeability option : The Normalized chargeability option refers the chargeability to a standard IP decay curve, and permits to point out any EM coupling effect on the measured signal.

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Automatic calibration



Automatic synchronization









#### Digital stacking

$$\left(\sum (\bar{M} - M_{i})^{2} / N\right)^{1/2}$$

Standard deviation



- DIPOLE DIPOLE MEASUREMENTS WITH ELREC 6 RECEIVER -



#### SPECIFICATIONS

- \* Six input channels
- \* Signal waveform : Time Domain (ON+, OFF, ON-, OFF) with pulse duration of 0.5, 1, 2, 4, seconds;
- Up to ten arithmetic, logarithmic, or ful programmable IP chargeability windows.
- Computation of apparent resistivity, avera; chargeability and standard deviation.
- \* Input impedance 10 Mohm
- \* Input overvoltage protection up to 1000 vol
- Input voltage range : each dipole : 10V max sum of voltage of dipoles 2 to 6 : 15V max
- Automatic SP bucking <u>+</u> 10V with line: drift correction up to 1 mV/s
- \* 50 to 60 Hz power line rejection
- \* Sampling rate : 10 mS
- Common mode rejection : 100 dB (for RS = 0)
- \* Grounding resistance measurement fror 0.1 to 467 Kohm
- \* Battery test : manual and automatic befor each measurement
- Primary voltage : resolution : 1 μV after stacking accuracy : typ. 0.3%
- Chargeability : resolution : 0.01 mV/V accuracy : typ. 0.6%
- Memory capacity : 2500 readings
- RS 232 link for data transfert to micro computers and printers (300 to 19200 baud: rate)
- \* Remote control through the serial link

#### FREQUENCY MODE

- Signal waveform : (ON+, ON-) or (ON+, OFF, ON-, OFF)
- Pulse duration : 1s or 2s
- Frequency effect and relative phase c fundamental and third harmonics
- Resolution : about 0.01 degree after stacking

#### **GENERAL FEATURES :**

- \* Dimensions : 31x21x21 cm
- \* Weight : 6 kg with dry cells 8 kg with internal battery
- Operating temperature : -20°C to +70°C (-40°C to +70°C optional)
- Power supply : 12V internal battery, or six 1.5V D size dry cells. In both cases, a 12V external battery car

# **VIP 3000**

# RESISTIVITY AND IP ADVANCED TRANSMITTER

- 3000V output voltage
- Full microprocessor control
- Ease-of-use
- Standard motor generator

VIP 3000 is a three kilowatt power eurrent regulated Time Domain and Frequency Domain electrical transmitter.

# VIP 3000 MAJOR BENEFITS

• Light in weight and provided with a high voltage (3000V) output, the VIP 3000 is particularly convenient for IP surveys in high resistivity rugged areas and for deep resistivity soundings.

• Microprocessor controlled for ease of operation and protection against misuse. All injection parameters (current, voltages, ...) are controlled. The VIP 3000 can also be operated through its remote control port (RS232).

• The VIP 3000 eight output dipoles provide for higher productivity in the field. Powered from a standard 220V single phase motor generator, the VIP 3000 eliminates the maintenance and supply problems associated with custom power sources.





## **VIP 3000 MAIN FEATURES**

#### **HIGH OUTPUTS**

• The VIP 3000 will generate up to 3000 volts for work in high resistivity areas and up to 5 amperes at 600 volts for low resistivity regions.

• With its weight of only 16kg, the VIP 3000 is the lightest **3000W** unit on the market.

## HEAVY DUTY CONSTRUCTION

• Very high quality connectors, and heavy duty industrial components are used throughout. The VIP 3000 is shock resistant and weatherproof, for a higher reliability.



#### FULLY AUTOMATED

• The VIP 3000 is designed for ease of operation. It has a much simplified front panel: current, dipole and frequency (in the frequency domain) settings are the only parameters to be selected by the operator. All the other functions, like voltage range setting, are fully automated.

#### PROGRAMMABLE

Programming functions are also available, either through the front panel, with a suitable key, or from an external computer terminal. These functions are used to select the parameters and options that are not normally changed during a survey: operating mode, time or frequency domain, cycle time, frequencies, etc.

• This approach reduces front panel cluttering and drastically reduces the possibility of operator mistake. **Instrument reliability** is also increased. For example, it is not possible to switch dipoles when transmitting. This eliminates the possibility of burning out the selector switch or the output circuitry.

#### COMPLETE DISPLAY

A backlighted liquid crystal alphanumeric display is provided for the simultaneous indication of **all output parameters**. Ouput current, output voltage, contact resistance and output power are continuously displayed.

#### ERROR MESSAGES

Intelligent messages and warnings are displayed in case of problem or malfunction. Besides, the permanent storage of all the parameters relating to the operation of the unit make easier the remote identification of a trouble by the manufacturer for quicker instrument servicing.

#### INTELLIGENT REGULATION

The VIP 3000 internal microprocessor is capable of excellent current regulation in almost any load.

Current is operator selectable in preprogrammed steps from 50mA to 5 amperes. Intelligent current adjustment algorithms are always in operation. For example, the contact resistance will occasionally be too high for the VIP 3000 to provide the requested current setting. In such cases, the VIP 3000 will display a warning message and will set the current to the maximum value allowable under that combination of current setting and contact resistance. Some reserve current capacity will always be kept to insure that the current stays constant during the measurements, whatever the contact resistance fluctuations.

#### **REMOTE CONTROL**

The VIP 3000 is provided with a **remote** control port. By using radio modems, it can be operated from a remote location.

The VIP 3000 can also be linked to an intelligent receiver, or to a computer, for the automatic recording of current settings.

Finally, synchronization with a receiver or system is also possible in both directions (i.e. Rx to Tx or Tx to Rx).



VIP 3000 CURRENT WAVEFORMS

# WORKS WITH ALMOST ANY POWER GENERATOR

The VIP 3000 IP transmitter can be powered by almost **any motor generator** providing a nominal 230V, 45-450 Hz output, single phase, at a suitable KVA rating.

Low cost commercial generator sets, available at local hardware or equipment rental stores are perfectly suitable.





VIP 3000 LOAD LIMITS







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## SPECIFICATIONS

- Output Power: 3000 VA maximum
- Output Voltage: 3000 V maximum Automatic voltage range selection
- Output Current: 5 amperes maximum, current regulated
- Current accuracy: better than 1%
- Current stability: 0.1%
- Dipoles: 8, selected by push button

• Output Connectors: Uniclip<sup>TM</sup> connectors accepts bare wire or plug of up to 4 mm. diameter.

#### • Time Domain Waveforms:

On +, off, on-, off, (on = off) preprogrammed cycle. Automatic circuit opening in off time. Preprogrammed on times from 0.5 to 8 seconds by factor of two. Other cycles programmable by user.

• Frequency Domain Waveforms: Square wave,

Preprogrammed frequencies from 0.0625 Hz to 4 Hz by factors of 2. Alternate or simultaneous transmission of any two frequencies. Other frequencies programmable by user.

• Time and Frequency Stability: 0.01%, 1 PPB optional

#### • Display:

Alphanumeric liquid crystal display. Simultaneous display of output current, output voltage, contact resistance, and output horse-power

#### • Protection:

Short circuit at 20 ohms, Open loop at 60000 ohms, Thermal Input overvoltage and undervoltage.

## • Remote Control:

Full duplex RS-232A, 300-19200 bauds. Direct wire sync for on-time and polarity.

#### GENERAL FEATURES

Dimensions (h w d): 41 x 32 x 24 cm.
Weight: 16 kg
Power Source:
175 to 270 VAC, 45-450 Hz, single phase.
Operating Temperature: -40 to +50 degrees Celsius.
Supplied Accessories:
Programming key
Operation manual.





