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**INSIGHT GEOPHYSICS INC.**

95 WALBY DR., OAKVILLE, ONTARIO, CANADA, L6L-4C8  
905 465 2996

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# **Geophysics Logistical Report**

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Tuned Gradient and Insight Section Induced  
Polarization and Resistivity Surveys

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**COSBY PROPERTY**

Walker Township, Ontario

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Prepared for: Renforth Resources Inc.

December, 2006



Craig Pawluk

Insight Geophysics Inc

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## **INTRODUCTION**

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In November and December of 2006, Insight Geophysics Inc. was contracted by MPH Consulting Ltd. to perform Line Cutting, Tuned Gradient and Insight Section Time Domain Induced Polarization / Resistivity Surveys over the Cosby Property in Walker Township, Ontario, Canada on behalf of Renforth Resources Inc.

### **General Information**

- **Project Name:** Cosby Property, Walker Township, Ontario, Canada
- **Survey Type:** Time Domain Induced Polarization / Resistivity
- **Arrays Types Used:** Tuned Gradient, Insight Section
- **Client:** MPH Consulting Ltd.  
133 Richmond Street West, Suite 615  
Toronto, Ontario, Canada  
M5H 2L3  
Telephone (416) 365 0930  
Facsimile (416) 365 1839
- **Client Representatives:** **Mr. Howard Coates,**  
VP MPH Consulting Ltd.

## SURVEY GRID

### Grid Location

- Country: Canada
- Province: Ontario
- General Location: Walker Township

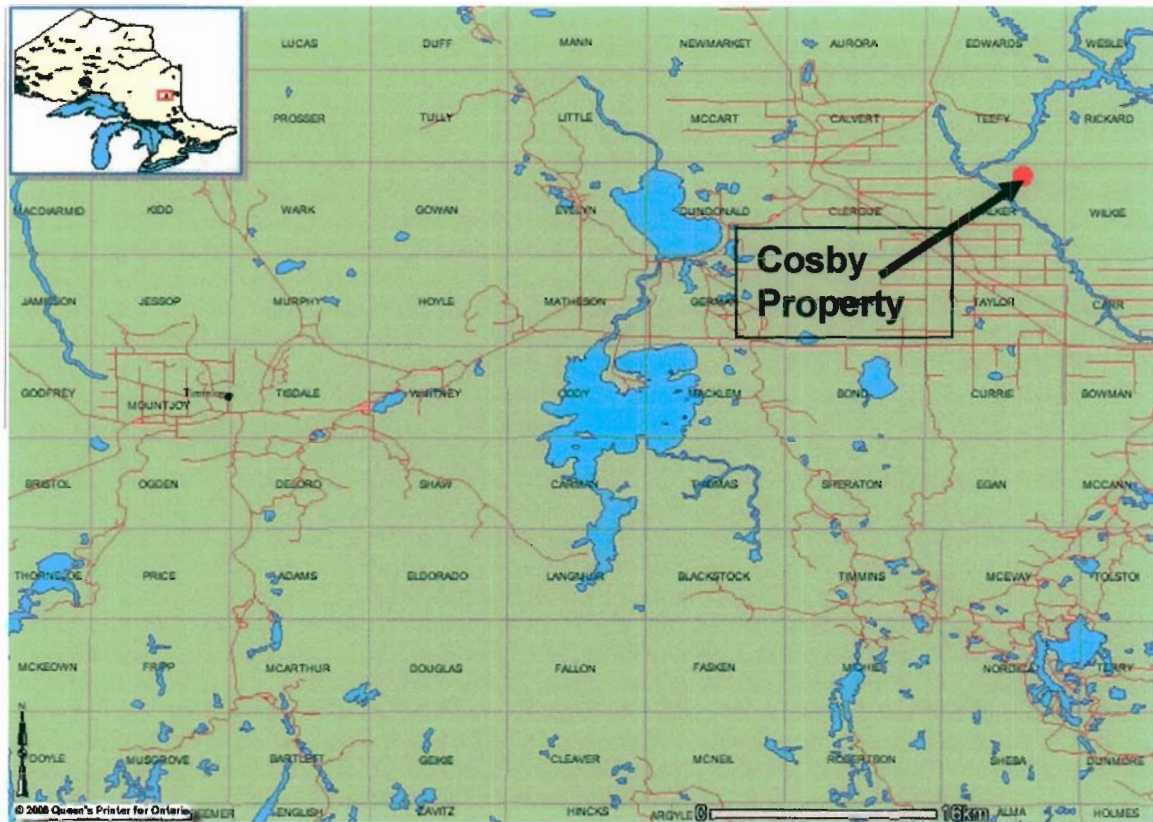
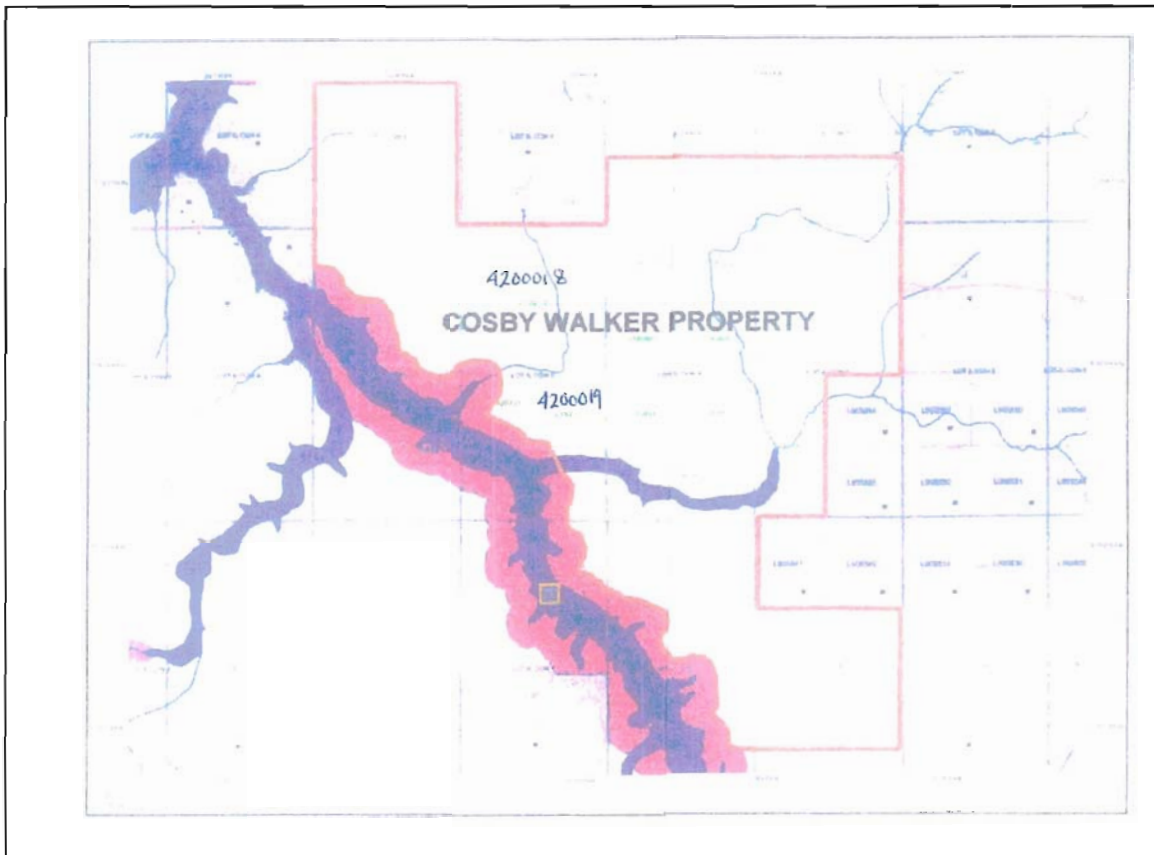


Figure 1 General property setting

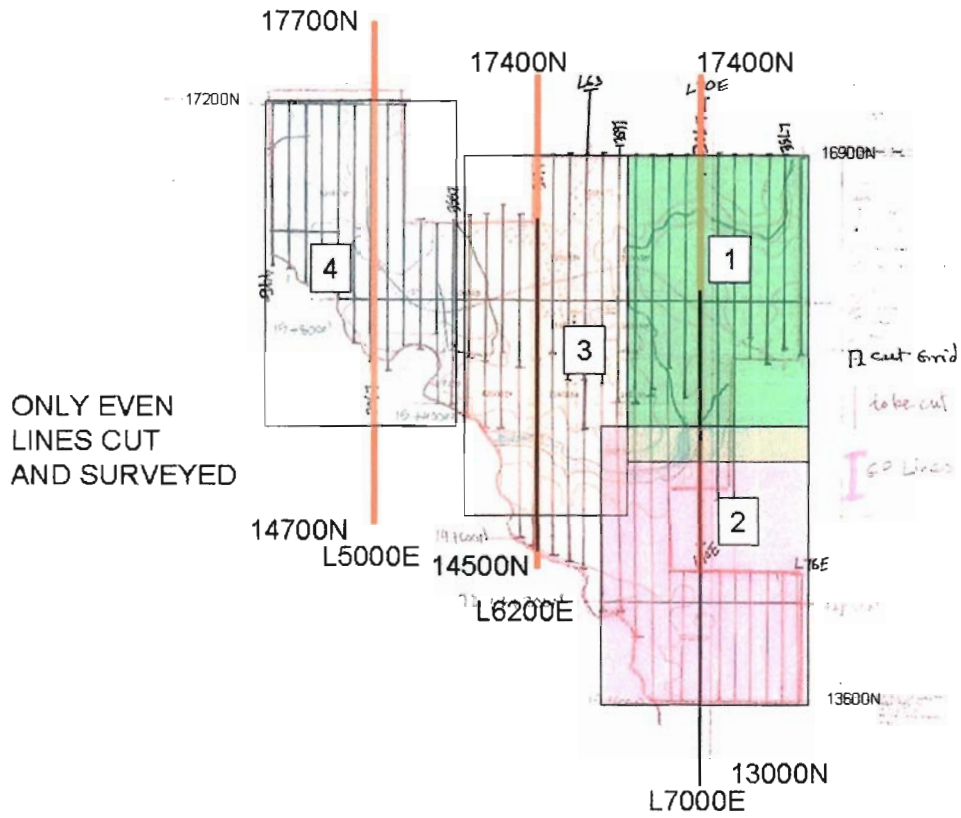
## Grid Specifics

### Cosby Property

- Established: Prior to and during survey
- Coordinate System: Metric
- Method: Surveyed
- Line Separation: 200m
- Station Interval: Picketed @ 25m



*Property Map*



Survey Line Location Map – Per MPH Consulting

## **SURVEY PARAMETERS**

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### **Specifications**

#### Tuned Gradient Survey

- Array: Tuned Gradient
- AB (Tx dipole length): ~ 3000m
- MN (Rx dipole spacing): 25m
- Sampling Interval: 25m

#### Insight Section Survey

- Array: Insight Array
- AB (Tx dipole spacing): Multiple AB dipoles  
~200m to 2000m
- Levels per section: ~20
- MN (Rx dipole spacing): 25m
- Sampling Interval: 25m

**Instrumentation**

- Receiver: Elrec Pro (refer to Appendix B ; Instrument Specifications)
- Transmitter: Hunttec Mk IV 7500W

**Parameters**

- Transmitted Waveform: Square wave @ 0.0625 Hz  
50% duty cycle
- Receiver Sampling: Semi-Logarithmic windows (20 windows)

Window	Width (ms)	Window	Width (ms)
M Daly	160		
1	80	11	160
2	80	12	160
3	80	13	160
4	80	14	160
5	80	15	320
6	80	16	320
7	80	17	320
8	80	18	320
9	160	19	320
10	160	20	320
		<b>TOTAL</b>	<b>3680ms</b>

*Semi -Log windows*

**Measured Parameters**

- IP measured Parameter: Chargeability in mV/V
- Resistivity measured Parameters: Primary Voltage in mV and Transmitted Current in mA.



## **SURVEY EXECUTION**

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### **Generalities**

- Survey Dates: November 16 to December 20, 2006
- Mob Days: 2 days
- Line Cutting 15 days - ~18 km
- Survey Days 17 days
- Weather/Standby Days 1 day

### **Personnel**

Martin Kratochvil, Operator, IGI

Don Whalen, Tx Operator, IGI

John Hilson, Field Assistant, IGI

Mason Stanger, Field Assistant, IGI

Charles Wabi, Field Assistant, IGI

### **Survey Coverage**

#### Tuned Gradient

A tuned gradient survey was conducted on all even lines. Four transmitter dipoles were used to cover the grid areas. Transmitted current was approximately 8-12 Amps.

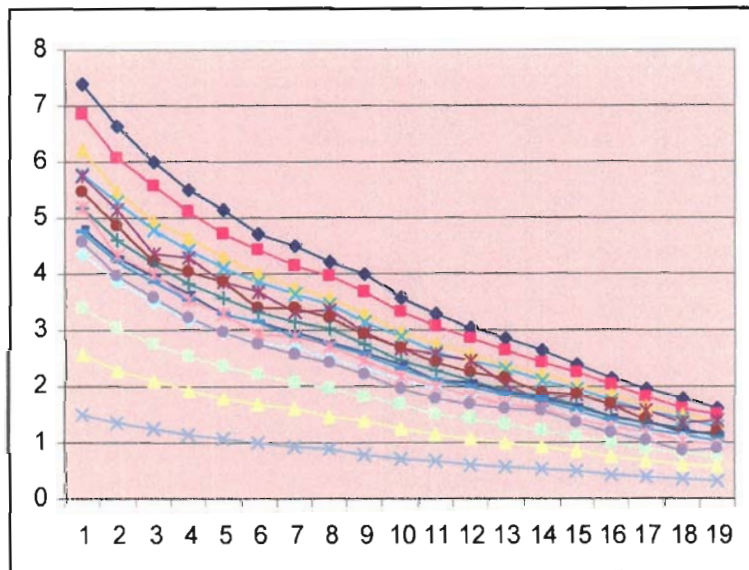
Tx#1	Line 7000E	14400N to 17400N
Tx#2	Line 7000E	13200N to 16000N
Tx#3	Line 6000E	14325N to 17425N
Tx#4	Line 5000E	14700N to 17700N

Approximately 10% of all survey readings were repeated for QA/QC assurances. The data collected was very clean. Chargeability typically repeated to less than 1 mV/V and apparent resistivity to less than 10%.

Insight Sections

An Insight Section was surveyed on Line 16200EE. The Insight Section was designed to provide Apparent Resistivity and Total Chargeability information to a maximum depth of approximately 400 meters.

As with the tuned gradient survey data, approximately 10% of all survey readings were repeated for QA/QC assurances. Chargeability typically repeated to less than 1 mV/V and apparent resistivity to less than 10%.



*Typical Chargeability Decay Curves – Cosby Property*

## DATA PRESENTATION

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### Data Processing

Processing of the IP data was handled with two software packages:

- Prosys software from Iris, was used to dump the instrument and edit out spurious readings. It produces a binary and an ASCII text export.

#### **\*.bin**

Raw binary dump files from Elrec Pro, one file per day. Can be viewed and exported using Prosys software available on Iris website at the following link:

[http://www.iris-instruments.com/Support/Download/Download\\_geophy.html](http://www.iris-instruments.com/Support/Download/Download_geophy.html)

- Oasis Montaj from Geosoft, was used to compile and QC the data in a Database format. It produces a database and a \*.xyz format export as a final digital product. All map products were generated with the mapping portion of this package.

#### **\*.gdb**

Oasis database file.

### Digital Data

- Raw Data: Iris binary dump file
- Processed Data: CSV file of all parameters in binary dump file.  
Geosoft \*.gdb database file.

**Maps**

*Refer to attached map pocket for printed maps.*

**Insight Sections**

Map Name	Scale
L6200E Apparent Resistivity Insight Section	1:2500
L6200E Total Chargeability Insight Section	1:2500

**Plan Maps**

Map Name	Scale
Tuned Gradient - Apparent Resistivity	1:10000
Tuned Gradient - Total Chargeability	1:10000

## **COMMENTS**

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Insight would like to thank MPH Consulting Ltd. for their appreciated assistance and input during these surveys.

Respectfully Submitted

Craig Pawluk, P. Geo.,

Geophysicist

Insight Geophysics Inc.

## **APPENDIX A: INSTRUMENT SPECIFICATIONS**

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### **ELREC PRO Ten channel IP receiver**



Terraplus is pleased to announce the ELREC PRO, its new ten channel IP receiver, featuring 20 chargeability windows and a graphic LCD display.

The following improvements have been introduced in this new receiver with respect to the previous ELREC 10 unit :

#### **HARDWARE FEATURES:**

The size has been reduced by 4 cm in height: 31x 21x 21 cm

The power consumption has been reduced by a ratio of three, which means that with less battery it is possible to have a longer autonomy.

As a result, the new system is 2.5 kg lighter than the ELREC 10, with a weight of 5.5 kg only.

The data (21 000 readings max.) are stored in flash memories not requiring any lithium battery for safeguard.

The new system is compatible with the existing SWITCH Plus boxes for automatic switching of electrodes according to preset sequences. In such a case, the receiver is used as a single channel unit ; with SWITCH Pro boxes (to be developed next), the full ten-channel capability of the ELREC PRO will be usable for a higher acquisition speed.

#### SOFTWARE FEATURES:

Each new reading is stored as a specific unit file, making easier the grouping of readings corresponding to a given profile, specially for the last (edge) points of a line obtained with a smaller number of dipoles than the main part of the profile.

The data format is compatible with the PROSYS software, which means that the operator can easily visualize the numerical values of the data, automatically sort them according to the standard deviation of the chargeability measurement, merge two files stored under different names, introduce the elevation of each electrode, etc.

The ELECTRE II software can be used to define and upload preset sequences of measurements according to any type of electrode array.

#### **Huntec Mk IV Transmitter**

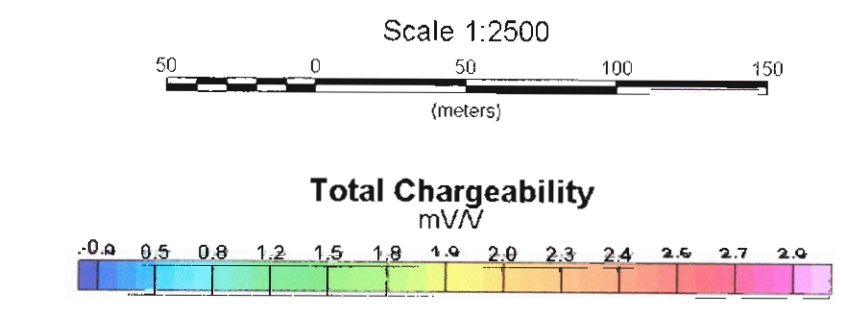
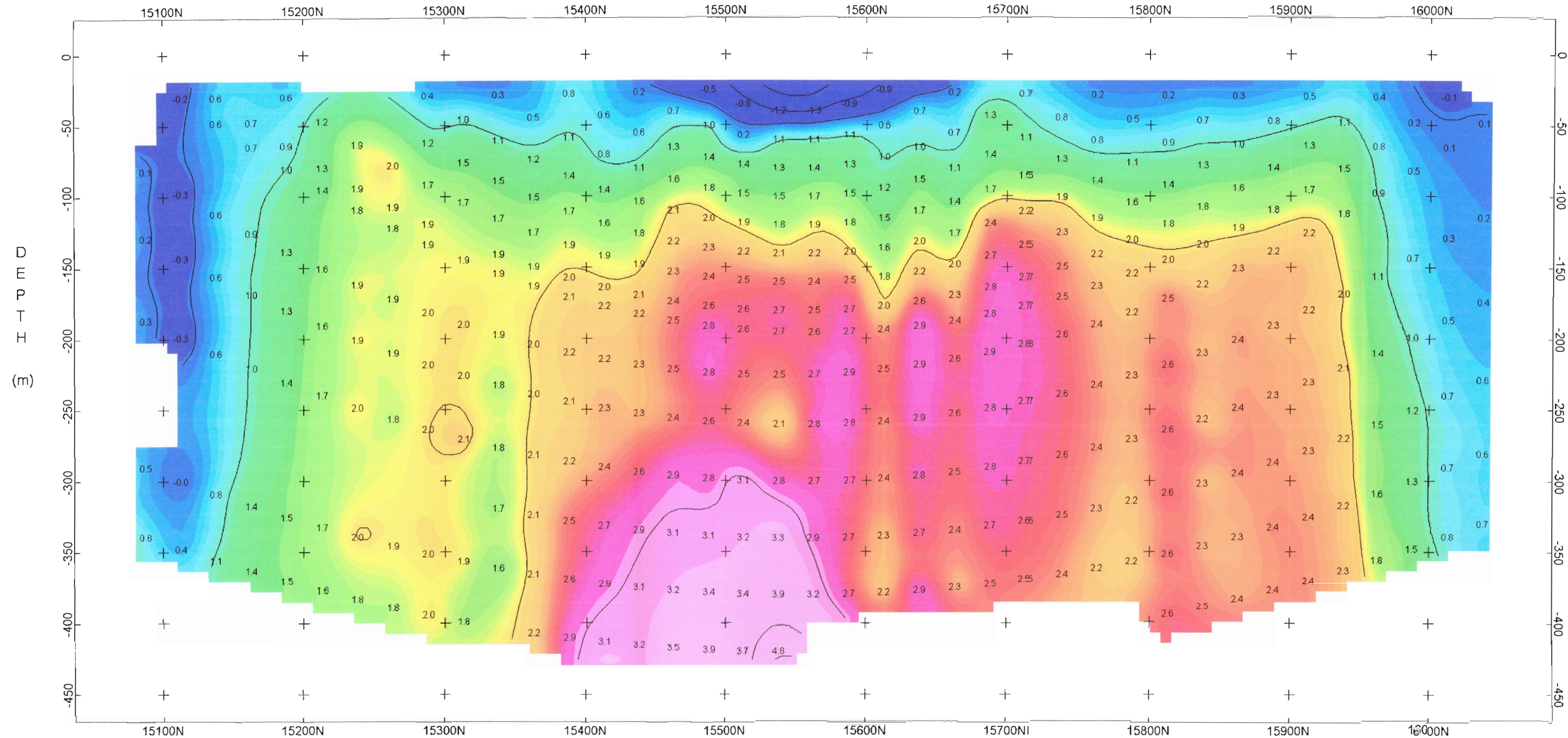
Power:	96-144V line to neutral, 3 phase, 400 Hz (from Huntec generator set), 7500W
Output: Voltage:	100-3200 V dc
Current:	16A maximum on low voltage ranges
Current regulator:	< 0.1% current change for 10% change in load resistance
Output frequency:	1/16 Hz to 1 Hz (time domain and complex resistivity); 1/16 Hz to 4 Hz (frequency do-main)
Frequency accuracy:	50 ppm, -300C to 600C
Output duty cycle:	(Defined as $t_{ON}/(t_{ON} + t_{OFF})$ ) 1/2 to 15/16 in increments of 1/16 (time domain); 15/16 (complex resistivity); 3/4 (frequency domain)
Output current meter:	Two ranges; 0-10A, 0-20A
Input voltage meter:	0-150V
Temperature range:	-34.0C to 40.0C
Size:	53 X 43 X 43 cm
Weight:	50 kg

**APPENDIX B : MAP POCKET**

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# Line 6200E Total Chargeability

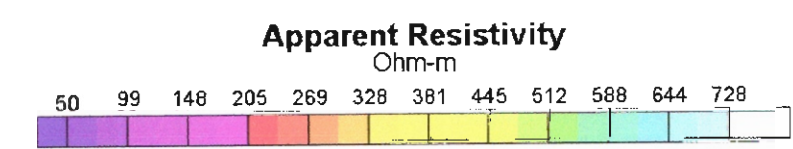
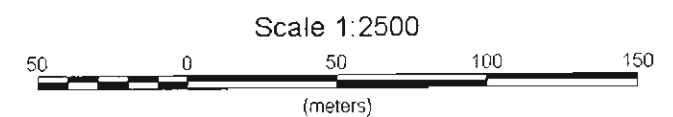
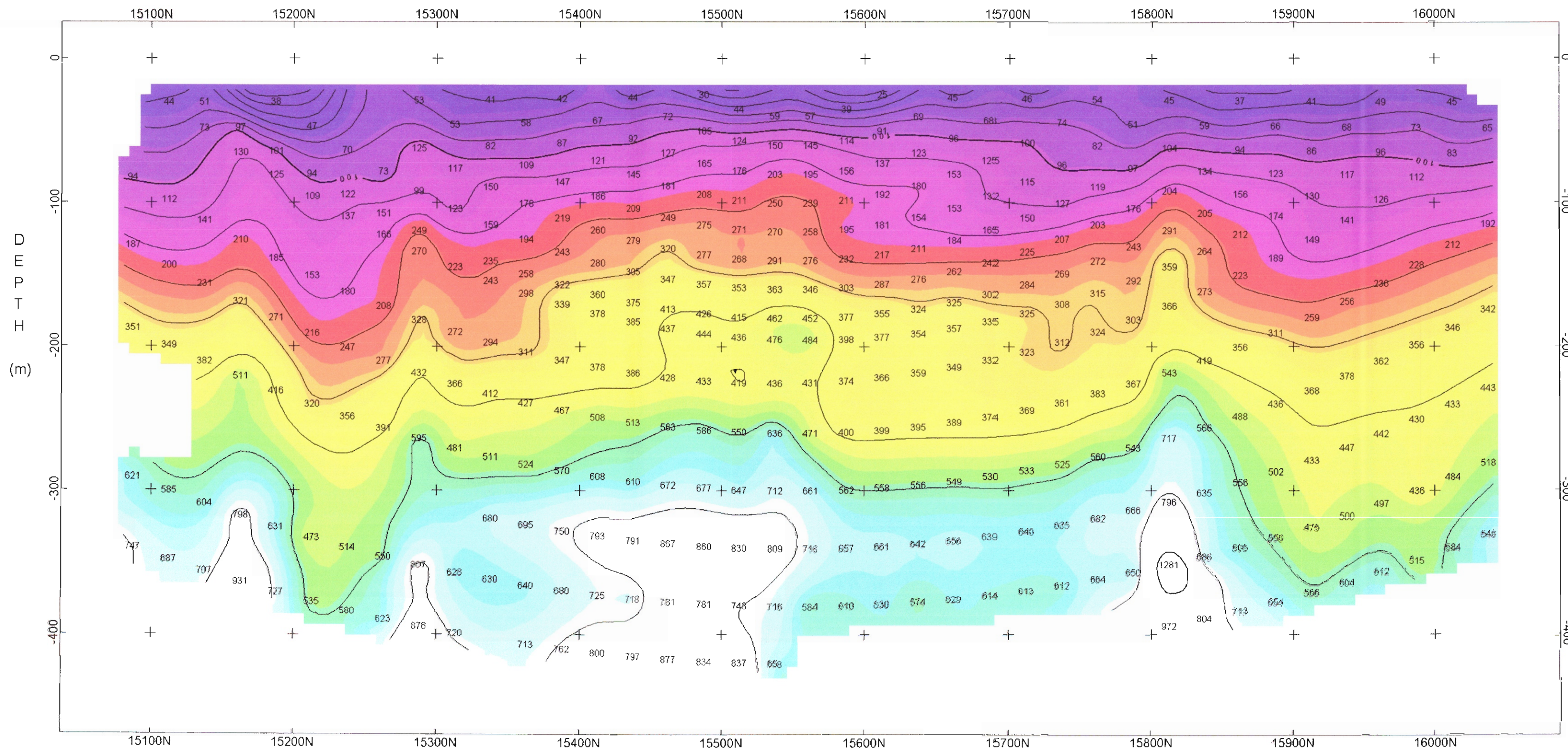


**Renforth Resources**  
**Cosby Walker Property**  
**Walker Township, Ontario**  
**Insight Section 62+00E - Total Chargeability**

Time Domain - 4 Sec Square Wave  
 Elrec Pro - Walcer 9000 (9kW)  
 Data QA/QC: DD Final Processing: DD  
 C51 December, 2006

**Insight Geophysics Inc.**

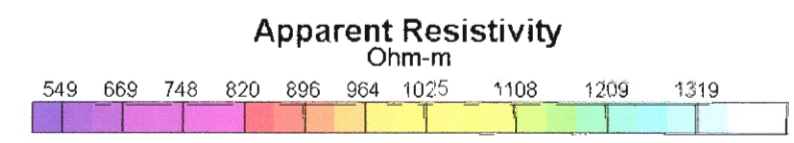
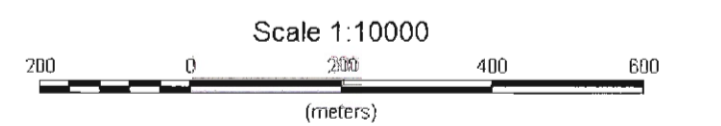
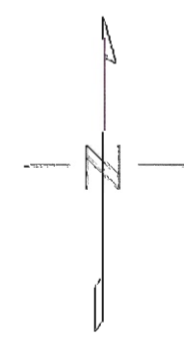
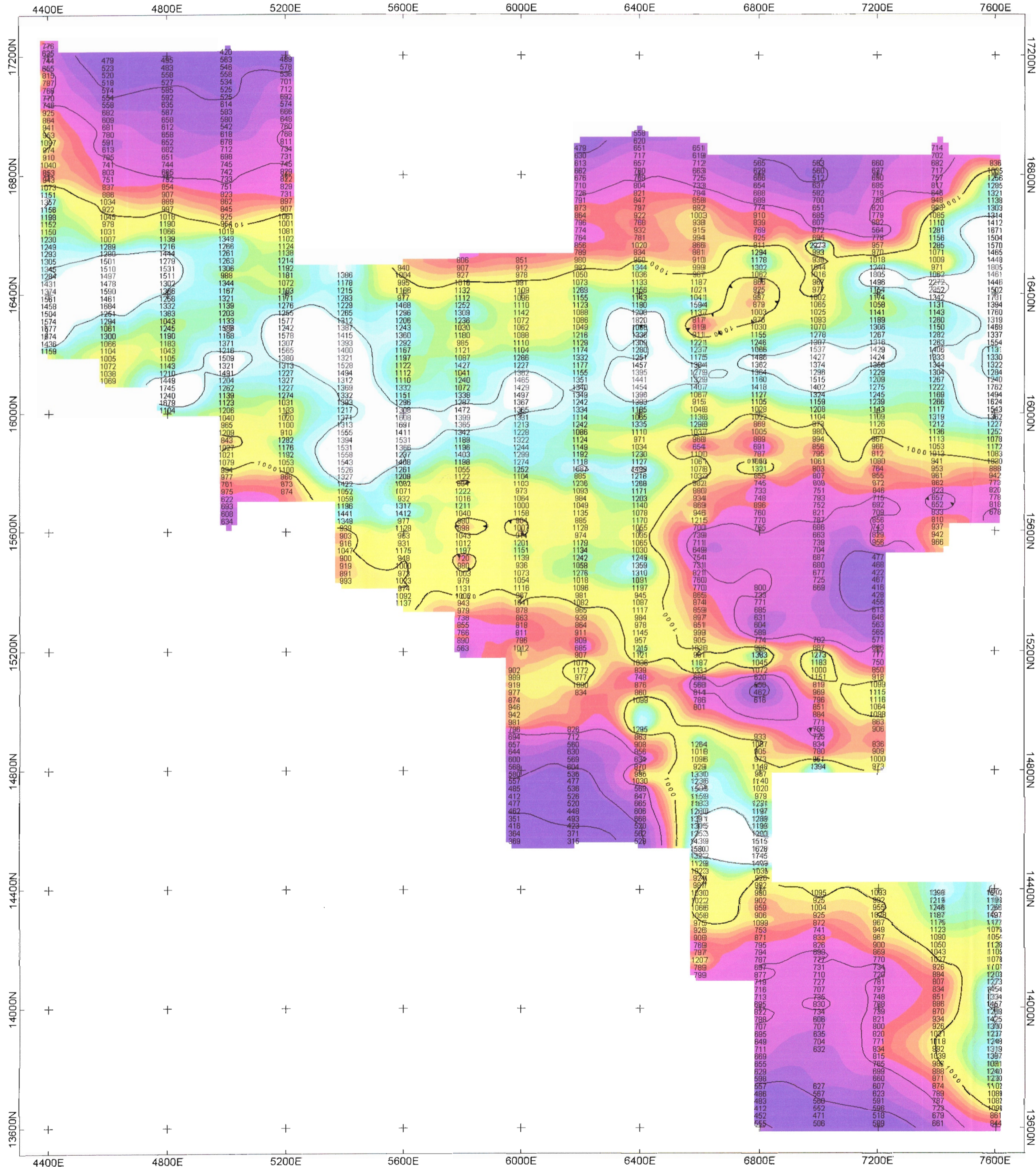
# Line 6200E Apparent Resistivity



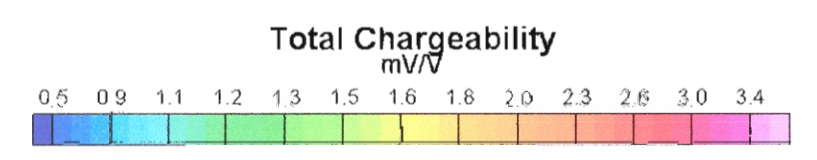
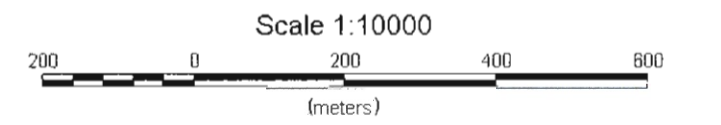
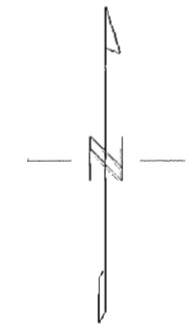
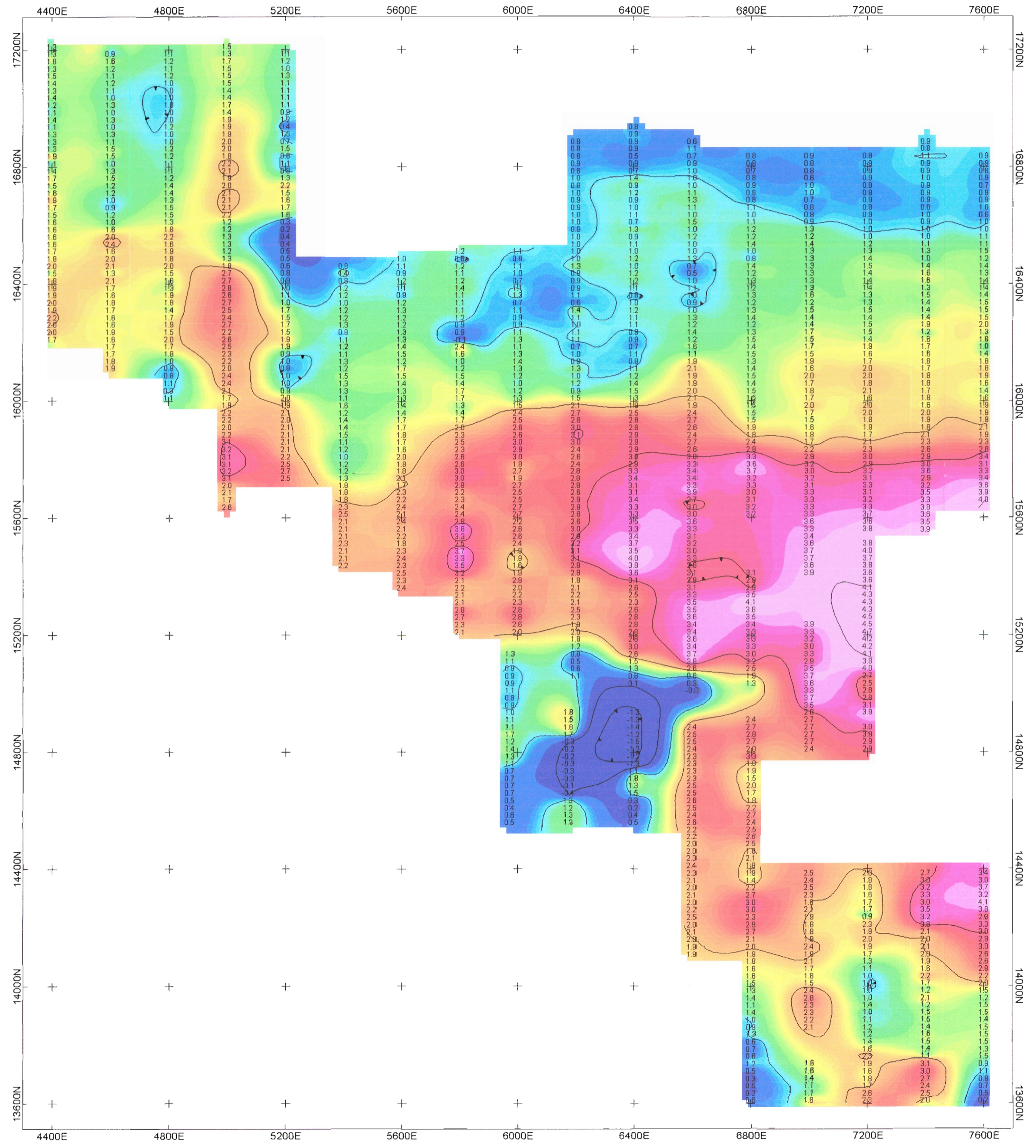
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**Walker Township, Ontario**  
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Time Domain - 4 Sec Square Wave  
 Elrec Pro - Walcer 9000 (9kW)  
 Data QA/QC: DD Final Processing: DD  
 C51 December, 2006

**Insight Geophysics Inc.**



**Renforth Resources**  
**Cosby Walker Property**  
**Walker Township, Ontario**  
**Tuned Gradient Survey- Apparent Resistivity**  
 Time Domain - 4 Sec Square Wave  
 Eirec Pro - Walcer 9000 (9kW)  
 Data Qa/QC: MK Final Processing/CP  
 C51 December, 2006  
**Insight Geophysics Inc**



**Renforth Resources**  
**Cosby Walker Property**  
**Walker Township, Ontario**  
**Tuned Gradient Survey- Total Chargeability**  
 Time Domain - 4 Sec Square Wave  
 Elrec Pro - Walcer 9000 (9kW)  
 Data Qa/QC: MK Final Processing.CP  
 C51 December, 2006  
**Insight Geophysics Inc**