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Ontario

CANADIAN EXPLORATION SERVICES LTD

PO Box 219, 14579 Government Road, Larder Lake, Ontario, P0K 1L0, Canada
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KIRKLAND LAKE PROJECT

Induced Polarization Survey Over the Goldbanks Property Teck Township, Ontario

C. Jason Ploeger, P.Geo
April 22, 2016

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF TABLES AND FIGURES

1. SURVEY DETAILS

1.1 Project Name

This project is known as the **Goldbanks Property**.

1.2 Client

Canadian Malartic Mining Corporation

36 Prospect Avenue
Kirkland Lake, ON
P2N 2V4

1.3 Location

The Goldbanks Property is located approximately 5.5km west of Kirkland Lake, Ontario. The entire survey area is located in Teck Township, within the Larder Lake Mining Division.

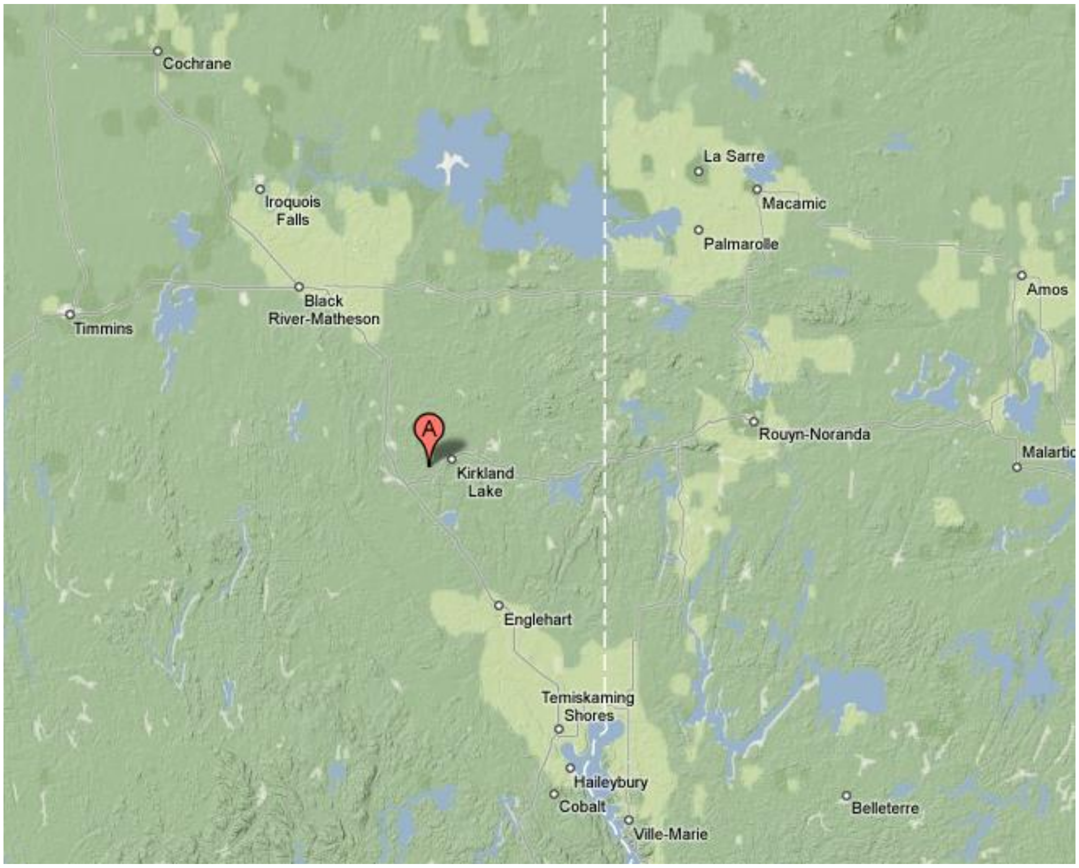


Figure 1: Location of the Goldbanks Property

1.4 ACCESS

Access to the Goldbanks Property was directly from Swastika, Ontario. From the north side of the village, the OFSC skidoo trail was travelled for approximate 1 kilometer before a secondary trail was taken to the grid site.

1.5 SURVEY GRID

The grid consists of 2.35 kilometers of previously established grid lines. The grid lines are spaced at 100 meter increments with stations picketed every 25m intervals. The baseline runs at 64° for a total length of 400 meters

Figure 2: Cut Grid Sketch on Claim Map

The cut survey grid covers parts of mining claim 3013133 and lease 571400. This mining lease falls entirely within Teck Township, within the Larder Lake Mining Division.

2. SURVEY WORK UNDERTAKEN

2.1 Survey Log

Date	Description	Line	Min Extent	Max Extent	Total Survey (m)
April 19, 2016	Locate access and survey area. Mobilize gear and begin setup.				
April 20, 2016	Complete survey and recover gear.	5200E	600N	950N	350
		5100E	400N	1000N	600
		5000E	400N	1000N	600
		4900E	450N	900N	450
		4800E	400N	750N	350

Table 1: Survey Log

2.2 Personnel

Jason Ploeger of Larder Lake operated the receiver with Neil Jack of Kirkland Lake, Ontario operating the Transmitter. The crew consisted of Jordan Potts and Bill Boney of Kirkland Lake, Bill Hume of Engelhart and Mathew Cliché of Larder Lake.

2.3 Instrumentation

A 10 channel Elrec Pro receiver was employed for this survey. The transmitter consisted of a GDDII (5kW) with a Honda 6500 as a power plant.

2.4 Survey Specifications

Dipole-Dipole Array

The dipole-dipole survey configuration was used for this survey. This array consists of 11 mobile stainless steel read electrodes and one current electrode (C1). The eleven potential electrodes were connected to the receiver by means of the "Snake". The power locations C1 and C2 were maintained at a distance of 50m behind read electrode and the read electrodes had a 50m spacing to a depth of n=10. A two second transmit cycle time was used with a minimum number of receiver stacks of 12.

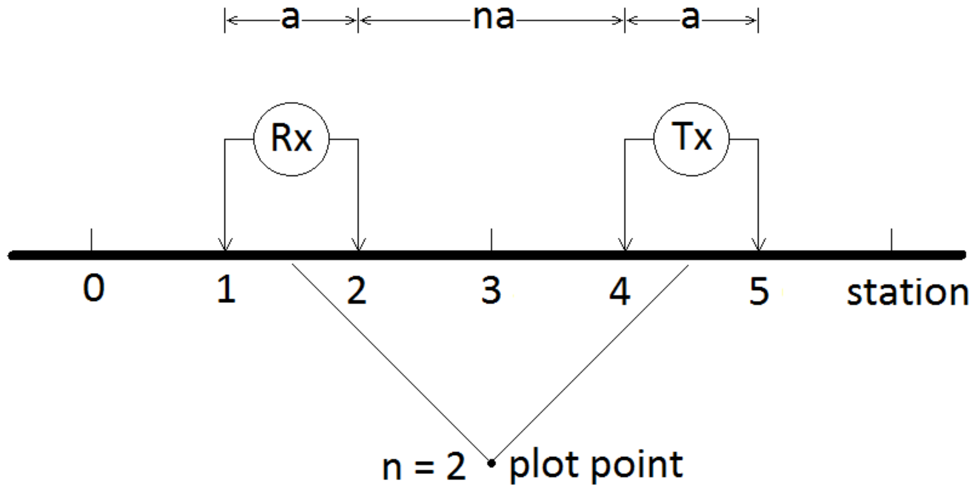


Figure 3: Dipole-Dipole Configuration

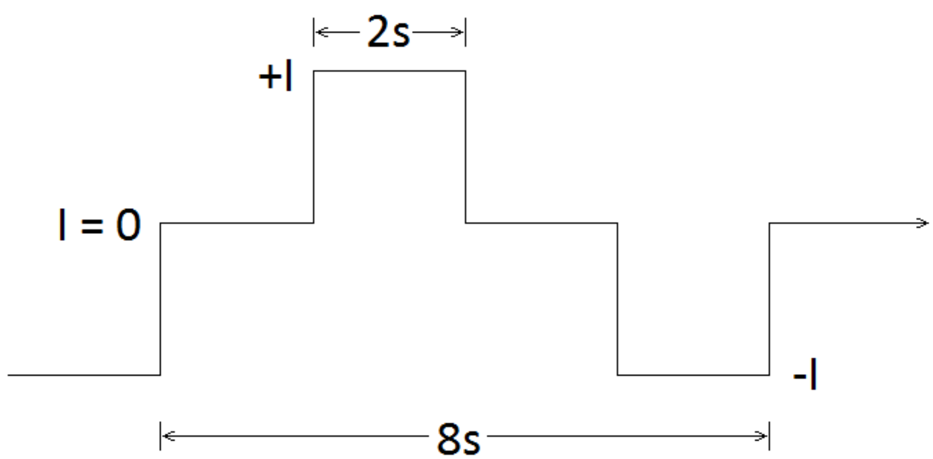


Figure 4: Transmit Cycle Used

A total of 2.35 line kilometers of Dipole-Dipole IP was performed on April 19th and 20th, 2016. This consisted of 5 grid lines labeled 4800E through 5200E.

3. OVERVIEW OF SURVEY RESULTS

3.1 Summary

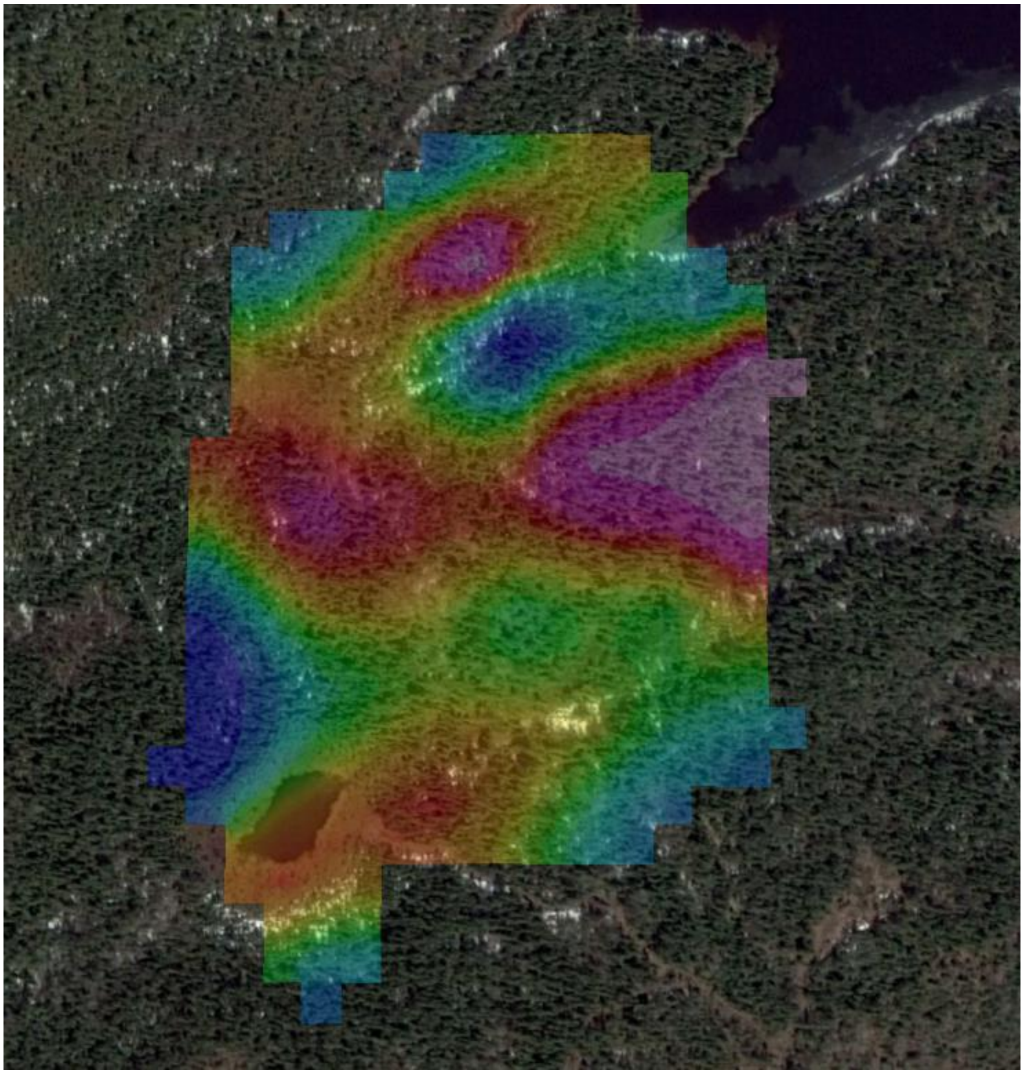


Figure 5: Chargeability N=2 Plan on Google Earth

The survey indicates no strong anomalies exist within the survey area.

Over lines 5200E and 5100E at 700N exists what appears to be a high resistivity zone. Coincident with this zone can be seen a slight increase in chargeability. This area was topographically elevated which may be the source of the response.

There is an indication a low resistivity anomaly may exist near the southern extents of the grid lines. Flanking this appears a weak chargeability response which may indicate the existence of a structural feature.

I recommend extending the survey area and prospecting this area.

APPENDIX A

STATEMENT OF QUALIFICATIONS

I, C. Jason Ploeger, hereby declare that:

1. I am a professional geophysicist with residence in Larder Lake, Ontario and am presently employed as a Geophysicist and Geophysical Manager of Canadian Exploration Services Ltd. of Larder Lake, Ontario.

2. I am a Practicing Member of the Association of Professional Geoscientists, with membership number 2172.

3. I graduated with a Bachelor of Science degree in geophysics from the University of Western Ontario, in London Ontario, in 1999.

4. I have practiced my profession continuously since graduation in Africa, Bulgaria, Canada, Mexico and Mongolia.

5. I am a member of the Ontario Prospectors Association, a Director of the Northern Prospectors Association and a member of the Society of Exploration Geophysicists.

6. I do not have nor expect an interest in the properties and securities of **Canadian Malartic Corporation.**

7. I am responsible for the final processing and validation of the survey results and the compilation of the presentation of this report. The statements made in this report represent my professional opinion based on my consideration of the information available to me at the time of writing this report.

PROFESSIONAL GEOSCIENTIST
C. JASON PLOEGER
PRACTISING MEMBER
2172
ONTARIO

C. Jason Ploeger, P.Geo., B.Sc.
Geophysical Manager
Canadian Exploration Services Ltd.

Larder Lake, ON
April 22, 2016

APPENDIX B

THEORETICAL BASIS AND SURVEY PROCEDURES

Induced Polarization Surveys

Time domain IP surveys involve measurement of the magnitude of the polarization voltage (Vp) that results from the injection of pulsed current into the ground.

Two main mechanisms are known to be responsible for the IP effect although the exact causes are still poorly understood. The main mechanism in rocks containing metallic conductors is electrode polarization (overvoltage effect). This results from the buildup of charge on either side of conductive grains within the rock matrix as they block the flow of current. On removal of this current the ions responsible for the charge slowly diffuse back into the electrolyte (groundwater) and the potential difference across each grain slowly decays to zero.

The second mechanism, membrane polarization, results from a constriction of the flow of ions around narrow pore channels. It may also result from the excessive buildup of positive ions around clay particles. This cloud of positive ions similarly blocks the passage of negative ions through pore spaces within the rock. On removal of the applied voltage the concentration of ions slowly returns to its original state resulting in the observed IP response.

In TD-IP the current is usually applied in the form of a square waveform, with the polarization voltage being measured over a series of short time intervals after each current cut-off, following a short delay of approximately 0.5s. These readings are integrated to give the area under the decay curve, which is used to define Vp. The integral voltage is divided by the observed steady voltage (the voltage due to the applied current, plus the polarization voltage) to give the apparent chargeability (Ma) measured in milliseconds. For a given charging period and integration time the measured apparent chargeability provides qualitative information on the subsurface geology.

The polarization voltage is measured using a pair of non-polarizing electrodes similar to those used in spontaneous potential measurements and other IP techniques.

APPENDIX C

Iris Elrec Pro Receiver

ELREC Pro unit with its graphic LCD screen

Specifications

- 10 CHANNELS / IP RECEIVER FOR MINERAL EXPLORATION
- 10 simultaneous dipoles
- 20 programmable chargeability windows
- High accuracy and sensitivity

ELREC Pro: this new receiver is a new compact and low consumption unit designed for high productivity Resistivity and Induced Polarization measurements. It features some high capabilities allowing to work in any field conditions.

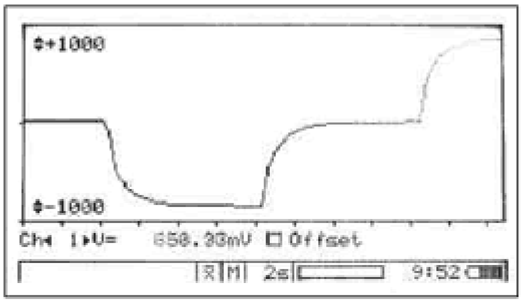
Reception dipoles: the ten dipoles of the ELREC Pro offer an high productivity in the field for dipole-dipole, gradient or extended poly-pole arrays.

Programmable windows: beside classical arithmetic and logarithmic modes, ELREC Pro also offers a Cole-Cole mode and a twenty fully programmable windows for a higher flexibility in the definition of the IP decay curve.

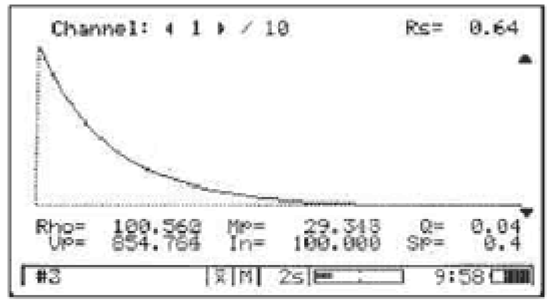
IP display: chargeability values and IP decay curves can be displayed in real time thanks to the large graphic LCD screen. Before data acquisition, the ELREC Pro can be used as a one channel graphic display, for monitoring the noise level and checking the primary voltage waveform, through a continuous display process.

Internal memory: the memory can store up to 21 000 readings, each reading including the full set of parameters characterizing the measurements. The data are stored in flash memories not requiring any lithium battery for safeguard.

Switching capability: thanks to extension Switch Pro box(es) connected to the ELREC Pro unit, the 10 reception electrodes can be automatically switched to increase the productivity in-the-field.



Monitoring of the Primary voltage waveform before acquisition



Display of numeric values and IP decay curve during acquisition

FIELD LAY-OUT OF AN ELREC PRO UNIT

The ELREC Pro unit has to be used with an external transmitter, such as a VIP transmitter.
The automatic synchronization (and re-synchronization at each new pulse) with the transmission signal, through a waveform recognition process, gives an high reliability of the measurement.

Before starting the measurement, a grounding resistance measuring process is automatically run; this allows to check that all the electrodes are properly connected to the receiver.

Extension Switch Pro box(es), with specific cables, can be connected to the ELREC Pro unit for an automatic switching of the reception electrodes according to preset sequence of measurements; these sequences have to be created and uploaded to the unit from the
ELECTRE II software.

The use of such boxes allows to save time in case of the user needs to measure more than 10 levels of investigation or in case of large 2D or 3D acquisition.

DATA MANAGING

PROSYS software allows to download data from the unit. From this software, one has the opportunity to visualize graphically the apparent resistivity and the chargeability sections together with the IP decay curve of each data point. Then, one can process the data (filter, insert topography, merge data files…) before exporting them to “txt” file or to interpretation software:

RES2DINV or RESIX software for pseudo-section inversion to true resistivity (and IP) 2D section.
RES3DINV software, for inversion to true resistivity (and IP) 3D data.

TECHNICAL SPECIFICATIONS

- Input voltage:
  - Max. for channel 1: 15 V
  - Max. for the sum from channel 2 to channel 10: 15 V
  - Protection: up to 800V
- Voltage measurement:
  - Accuracy: 0.2 % typical
  - Resolution: 1 µV
- Chargeability measurement:
  - Accuracy: 0.6 % typical
- Induced Polarization (chargeability) measured over to 20 automatic or user defined windows
- Input impedance: 100 MW
- Signal waveform: Time domain (ON+, OFF, ON-, OFF) with a pulse duration of 500 ms - 1s - 2s - 4s -8s
- Automatic synchronization and re-synchronization process on primary voltage signals
- Computation of apparent resistivity, average chargeability and standard deviation
- Noise reduction: automatic stacking number in relation with a given standard deviation value
- SP compensation through automatic linear drift correction
- 50 to 60Hz power line rejection
- Battery test

GENERAL SPECIFICATIONS.

- Data flash memory: more than 21 000 readings
- Serial link RS-232 for data download
- Power supply: internal rechargeable 12V, 7.2 Ah battery; optional external 12V standard car battery can be also used
- Weather proof
- Shock resistant fiber-glass case
- Operating temperature: -20 °C to +70 °C
- Dimensions: 31 x 21 x 21 cm
- Weight: 6 kg

APPENDIX C

GGD II 5kW

SPECIFICATIONS

- Protection against short circuits even at 0 ohms
- Output Voltage range: 150V to 2400V in 14 steps
- Power source is a standard 220/240V, 20/60 Hz source
- Displays electrode contact, transmitting power and current

ELECTRICAL CHARACTERISTICS

- Standard Time Base of 2 seconds for time domain – 2 seconds on, 2 seconds off
- Optional Time Base of DC, 0.5, 1, 2, 4 or 8 seconds
- Output Current Range, 0.030 to 10A
- Output Voltage Range, 150 to 2400V in 14 steps
- Ability to Link 2 GDD transmitters to double power output

CONTROLS

- Switch ON/OFF
- Output Voltage Range Switch: 150V, 180V, 350V, 420V, 500V, 600V, 700V, 840V, 1000V, 1200V, 1400V, 1680V, 2000V and 2400V

DISPLAYS

- Output Current LCD: reads +- 0.0010A
- Electrode Contact Displayed when not Transmitting
- Output Power Displayed when Transmitting
- Automatic Thermostat controlled LCD heater for LCD
- Total Protection Against Short Circuits
- Indicator Lamps Indicate Overloads

GENERAL SPECIFICATIONS

- Weather proof
- Shock resistant pelican case
- Operating temperature: -40 °C to +65 °C
- Dimensions: 26 x 45 x 55 cm
- Weight: 40 kg

APPENDIX D

LIST OF MAPS (IN MAP POCKET)

Posted Contoured Pseudo-Sections (1:2500)

1) Q2124-CMC-GOLDBANKS-IP-DpDp-5200E
2) Q2124-CMC-GOLDBANKS-IP-DpDp-5100E
3) Q2124-CMC-GOLDBANKS-IP-DpDp-5000E
4) Q2124-CMC-GOLDBANKS-IP-DpDp-4900E
5) Q2124-CMC-GOLDBANKS-IP-DpDp-4800E

Posted plan maps (1:2500)

6) Q2124-CMC-GOLDBANKS-IP-DpDp-N2-CHR
7) Q2124-CMC-GOLDBANKS-IP-DpDp-N2-RES

Grid on Claim Map (1:20000)

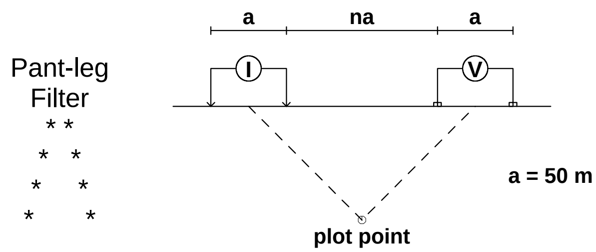
8) Q2124-CMC-GOLDBANKS-GRID

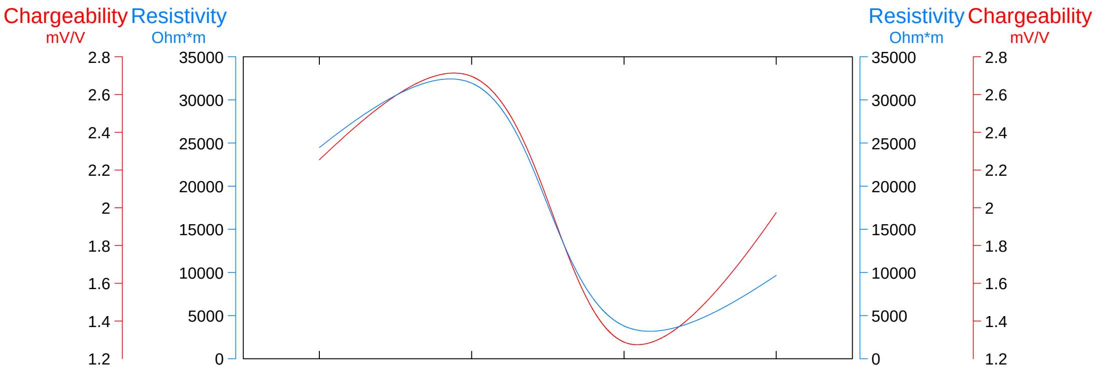
TOTAL MAPS = 8

Pseudo Section Plot

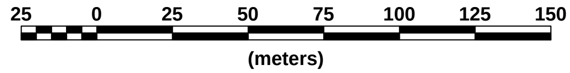
52+00 E

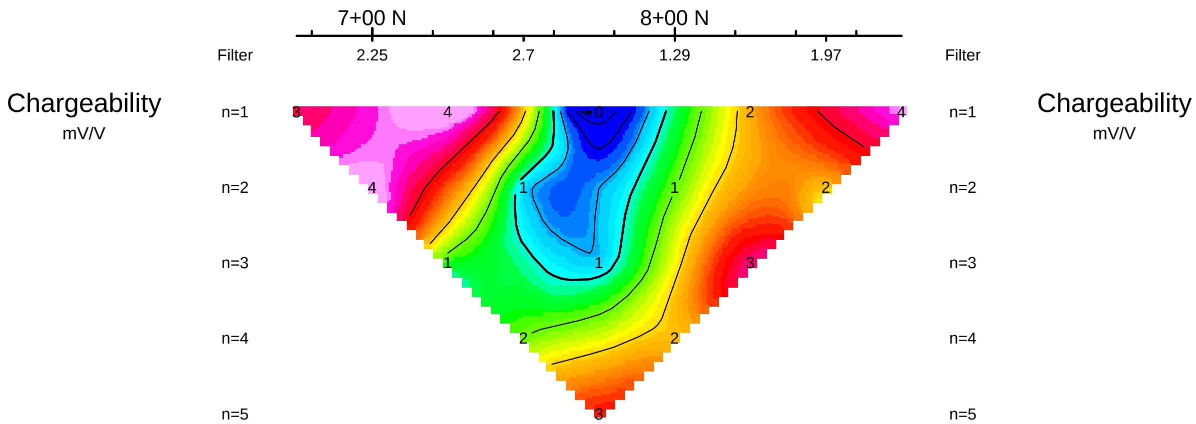
Dipole-Dipole Array

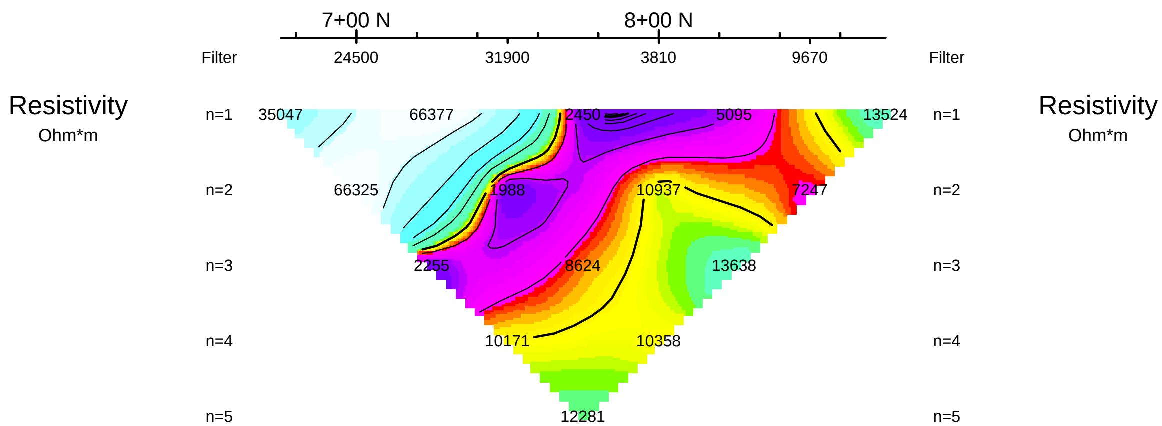




Scale 1:2500







KIRKLAND LAKE PROJECT

Kirkland Lake Project
Goldbanks Grid
Teck Township, Ontario

Dipole Dipole Induced Polarization Survey

Interval: 2 seconds
Current: 50-500 mA
Rx: Iris Elrec Pro
Tx: GDD II (5kW Time Domain)

Processed by:
C Jason Ploeger, B.Sc.
Map Drawn By:
C Jason Ploeger, B.Sc.
April 2016

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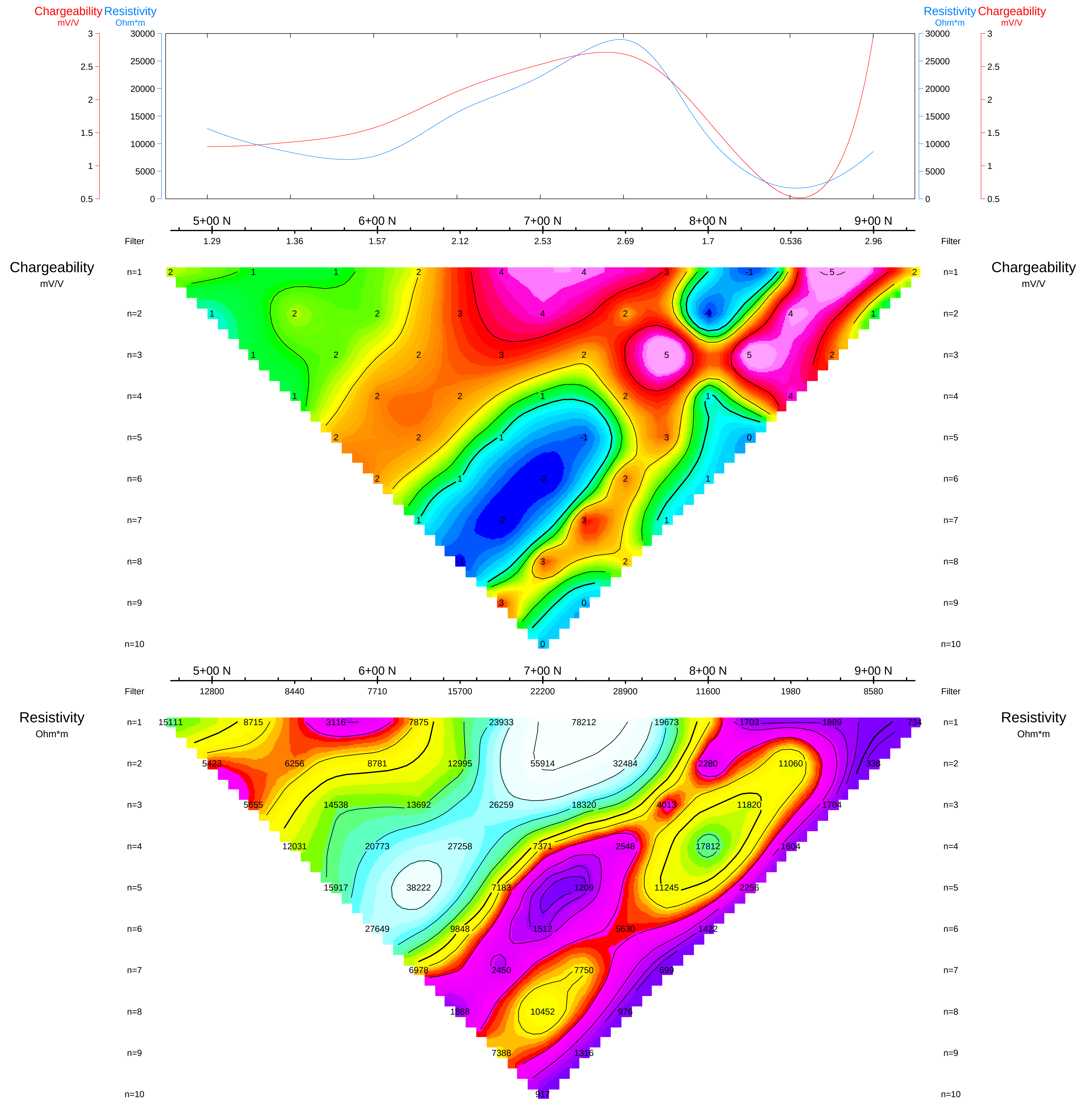
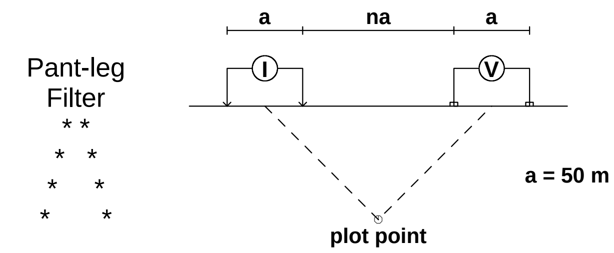
Drawing: Q2124-CMC-GOLDBANKS-IP-DPDP-5200E



Pseudo Section Plot

51+00 E

Dipole-Dipole Array



Scale 1:2500

25 0 25 50 75 100 125 150

(meters)

KIRKLAND LAKE PROJECT

Kirkland Lake Project
Goldbanks Grid
Teck Township, Ontario

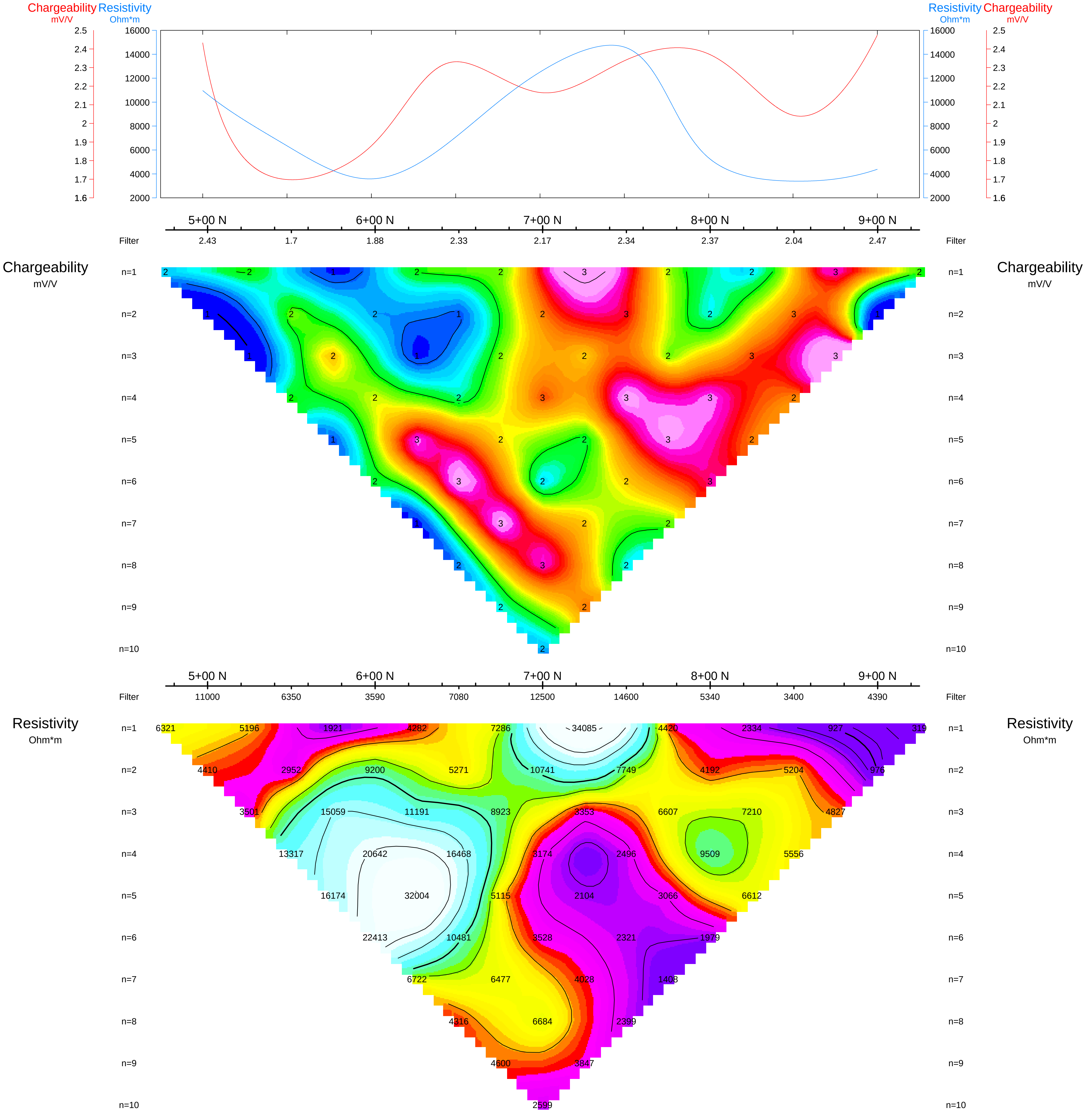
Dipole Dipole Induced Polarization Survey

Interval: 2 seconds
Current: 50-240 mA
Rx: Iris Elrec Pro
Tx: GDD II (5kW Time Domain)

Processed by:
C Jason Ploeger, B.Sc.
Map Drawn By:
C Jason Ploeger, B.Sc.
April 2016

CXS CANADIAN EXPLORATION SERVICES LTD

Drawing: Q2124-CMC-GOLDBANKS-IP-DPDP-5100E

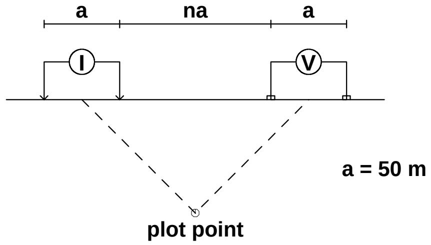


Pseudo Section Plot

50+00 E

Dipole-Dipole Array

Pant-leg Filter



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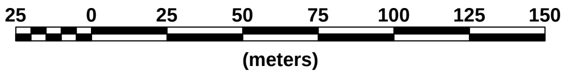


KIRKLAND LAKE PROJECT

Kirkland Lake Project
Goldbanks Grid
Teck Township, Ontario

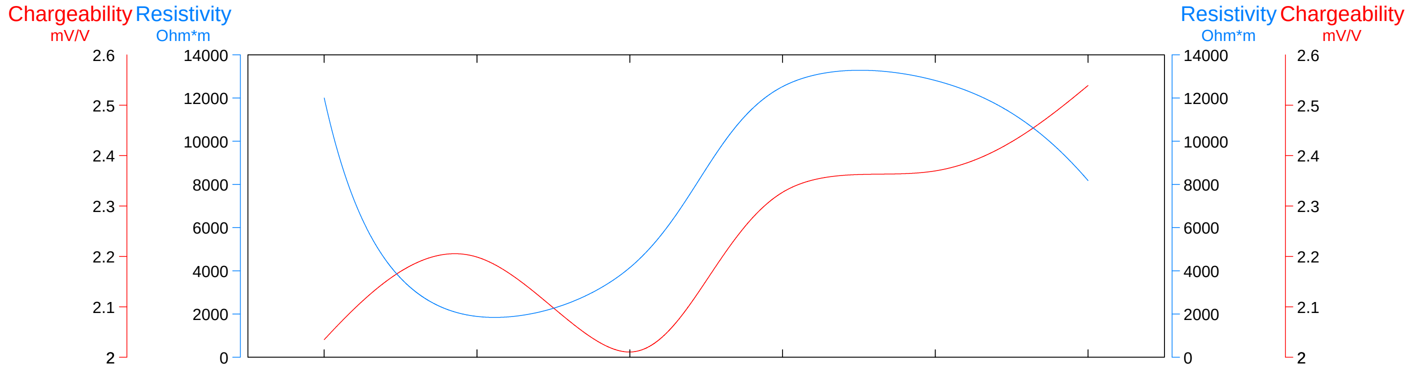
Dipole Dipole Induced Polarization Survey

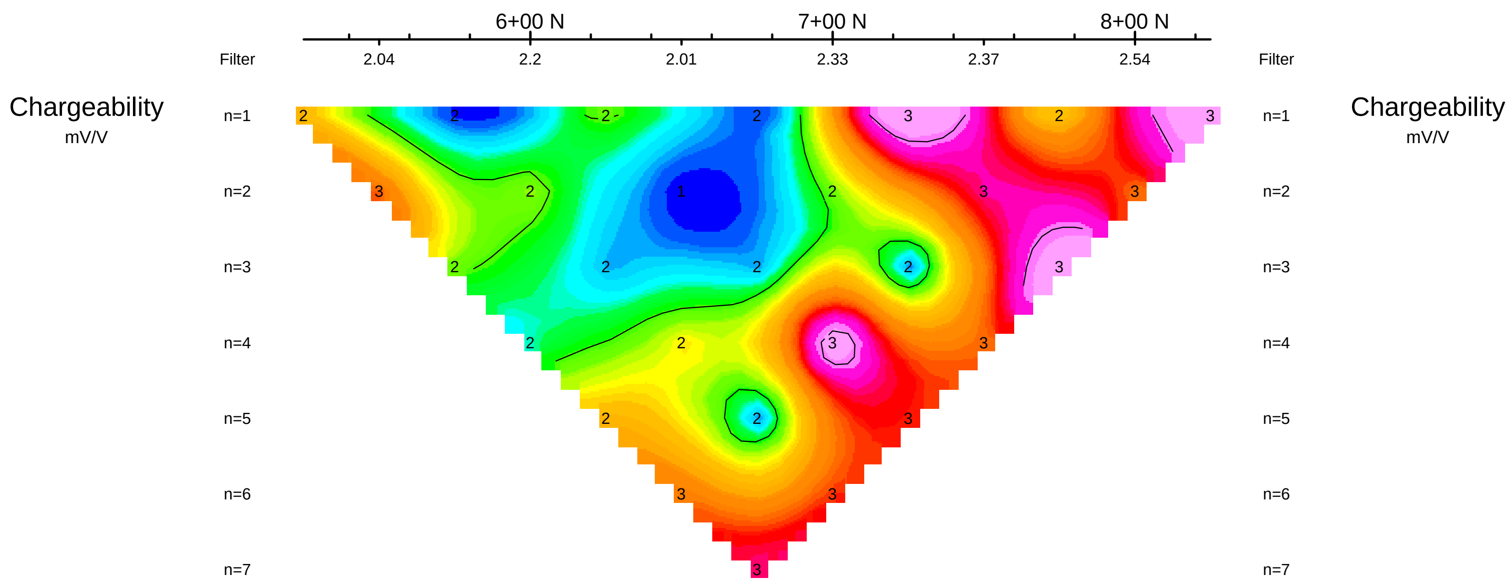
Interval: 2 seconds
Current: 160-1000 mA
Rx: Iris Elrec Pro
Tx: GDD II (5kW Time Domain)

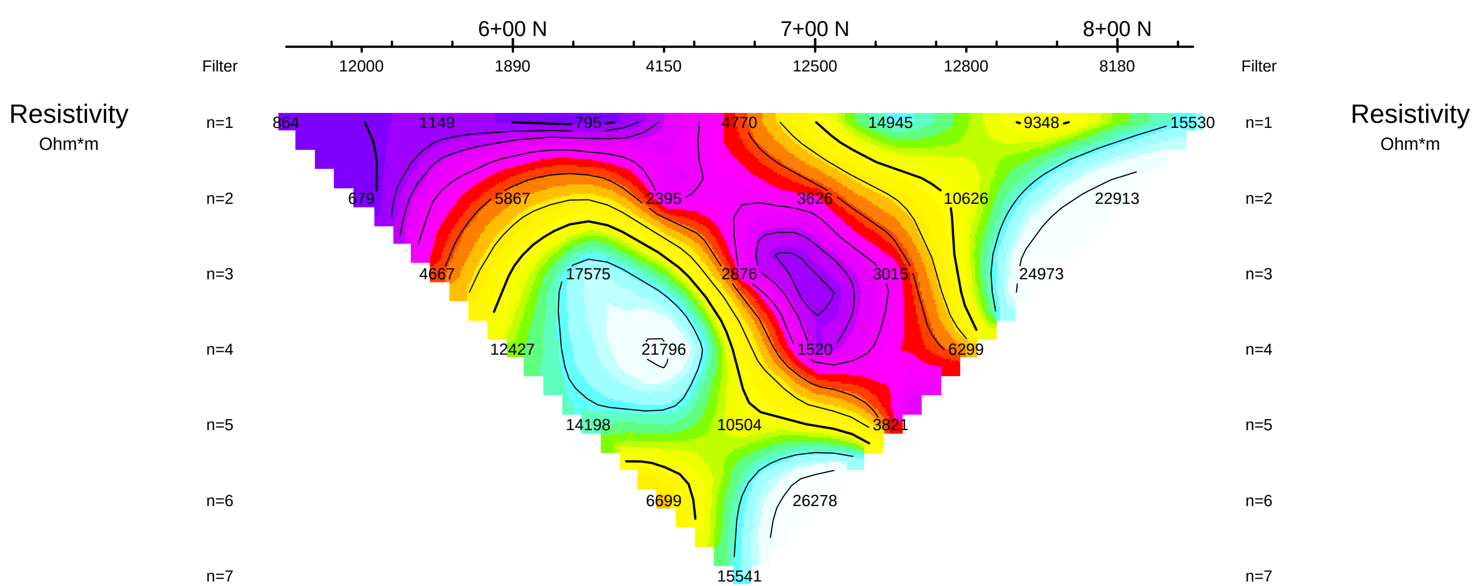
Processed by:
C Jason Ploeger, B.Sc.
Map Drawn By:
C Jason Ploeger, B.Sc.
April 2016

CANADIAN EXPLORATION SERVICES LTD

Drawing: Q2124-CMC-GOLDBANKS-IP-DPDP-5000E



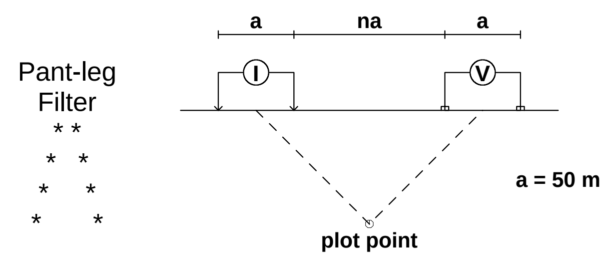




Pseudo Section Plot

49+00 E

Dipole-Dipole Array



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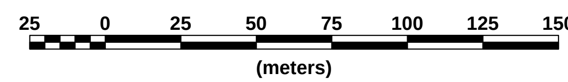


KIRKLAND LAKE PROJECT

Kirkland Lake Project
Goldbanks Grid
Teck Township, Ontario

Dipole Dipole Induced Polarization Survey

Interval: 2 seconds
Current: 170-420 mA
Rx: Iris Elrec Pro
Tx: GDD II (5kW Time Domain)

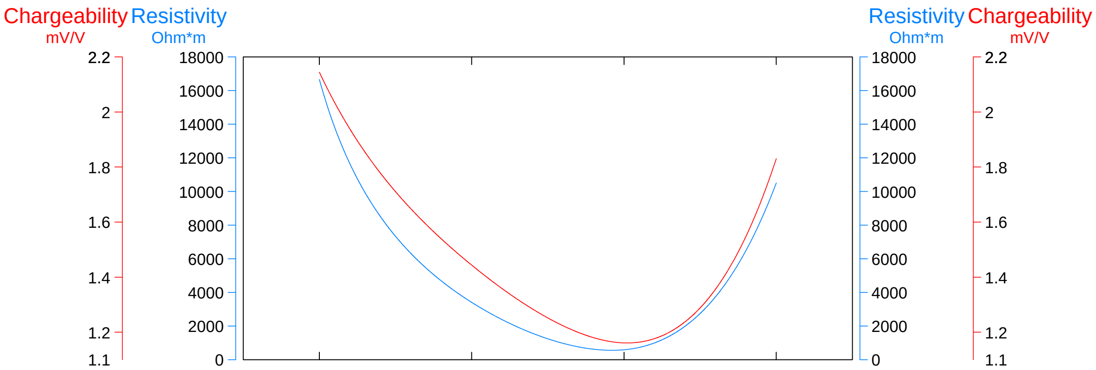
Processed by:
C Jason Ploeger, B.Sc.
Map Drawn By:
C Jason Ploeger, B.Sc.
April 2016

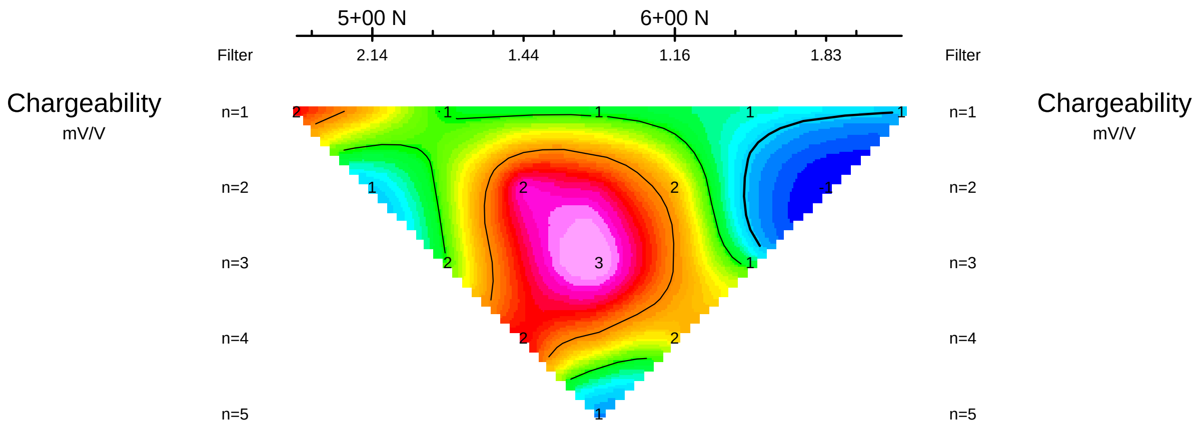
CXS CANADIAN EXPLORATION SERVICES LTD

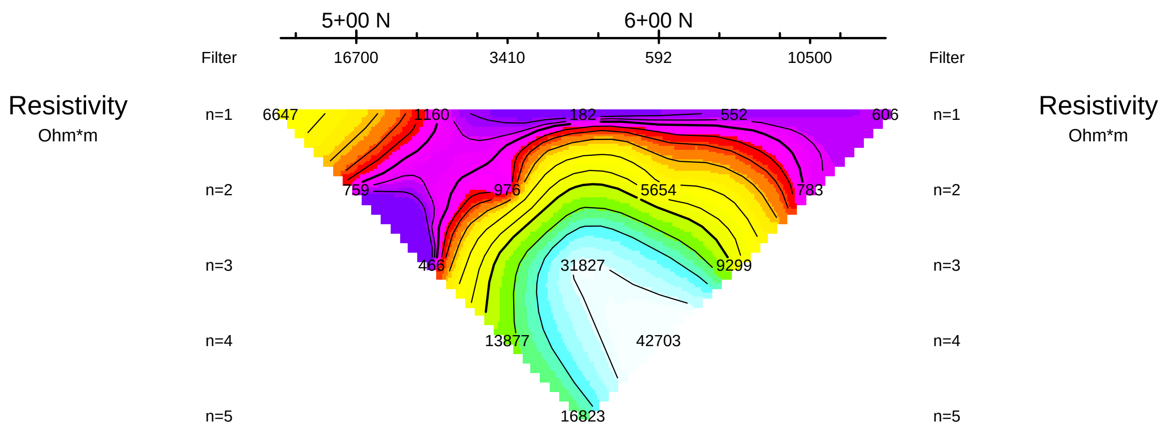
Drawing: Q2124-CMC-GOLDBANKS-IP-DPDP-4900E

Pseudo Section Plot

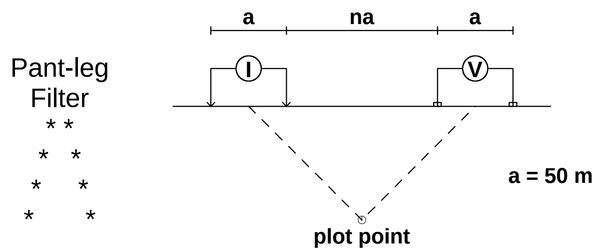
48+00 E







Dipole-Dipole Array



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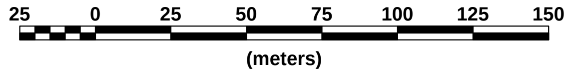


KIRKLAND LAKE PROJECT

Kirkland Lake Project
Goldbanks Grid
Teck Township, Ontario

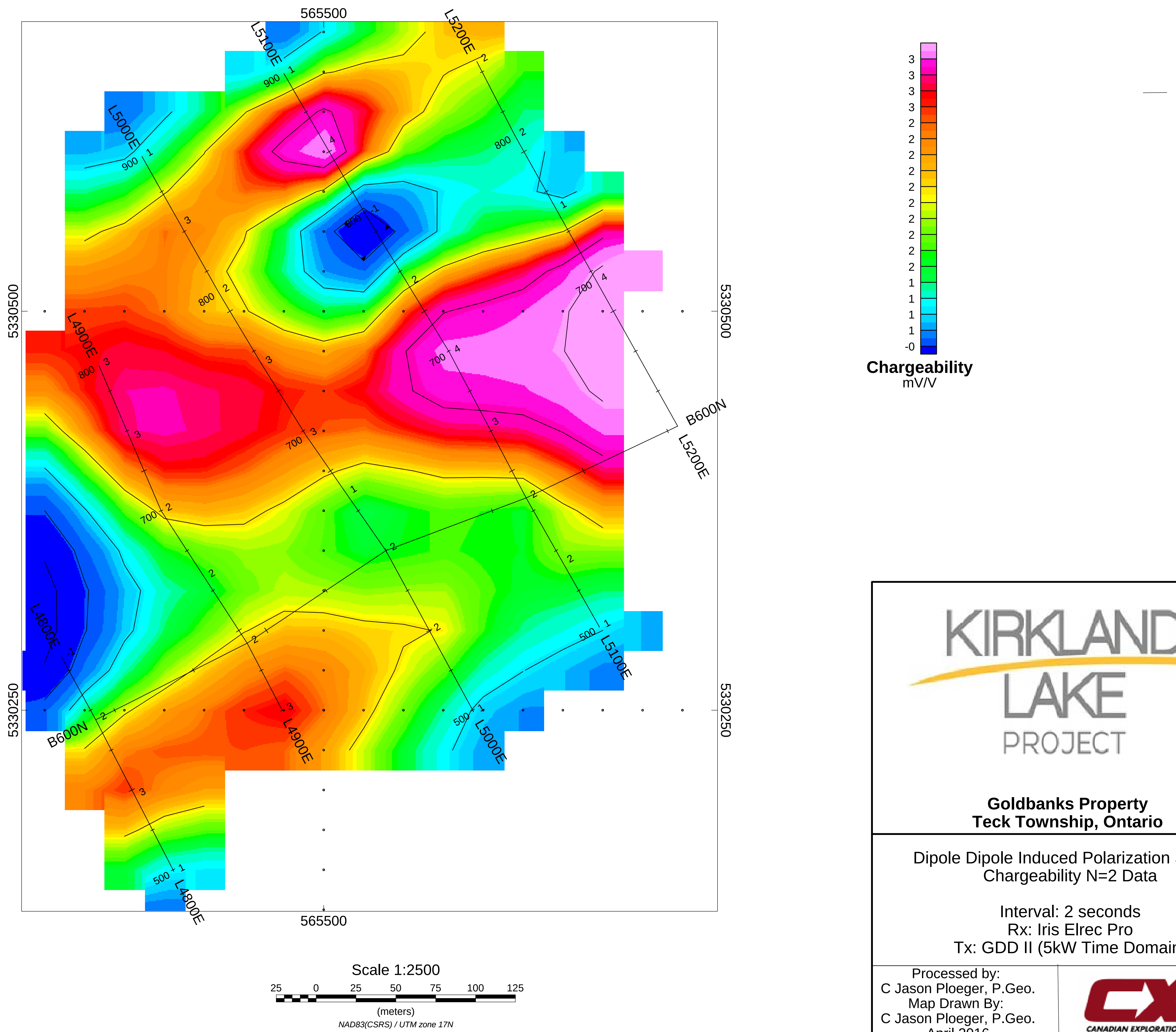
Dipole Dipole Induced Polarization Survey

Interval: 2 seconds
Current: 150-1200 mA
Rx: Iris Elrec Pro
Tx: GDD II (5kW Time Domain)

Processed by:
C Jason Ploeger, B.Sc.
Map Drawn By:
C Jason Ploeger, B.Sc.
April 2016

CXS CANADIAN EXPLORATION SERVICES LTD

Drawing: Q2124-CMC-GOLDBANKS-IP-DPDP-4800E



KIRKLAND LAKE PROJECT

Goldbanks Property
Teck Township, Ontario

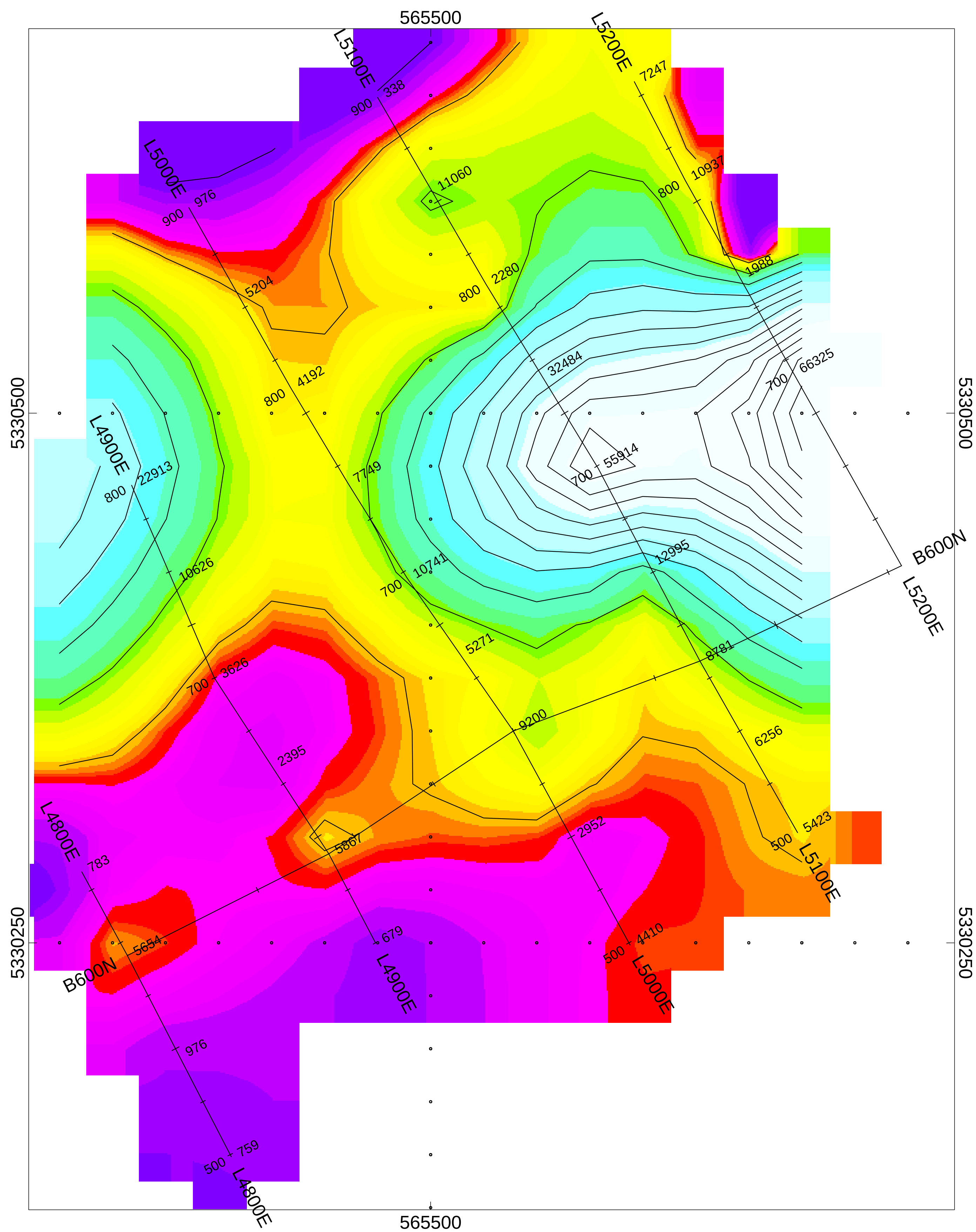
Dipole Dipole Induced Polarization Survey
Chargeability N=2 Data

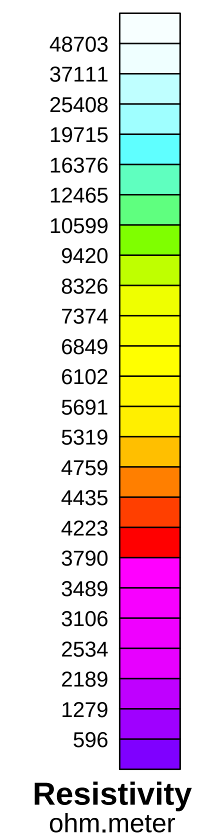
Interval: 2 seconds
Rx: Iris Elrec Pro
Tx: GDD II (5kW Time Domain)

Processed by:
C Jason Ploeger, P.Geo.
Map Drawn By:
C Jason Ploeger, P.Geo.
April 2016

CANADIAN EXPLORATION SERVICES LTD

Drawing: Q2124-CMC-GOLDBANKS-IP-DpDp-N2-CHR





Scale 1:2500

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(meters)

NAD83(CSRS) / UTM zone 17N

KIRKLAND LAKE PROJECT

Goldbanks Property
Teck Township, Ontario

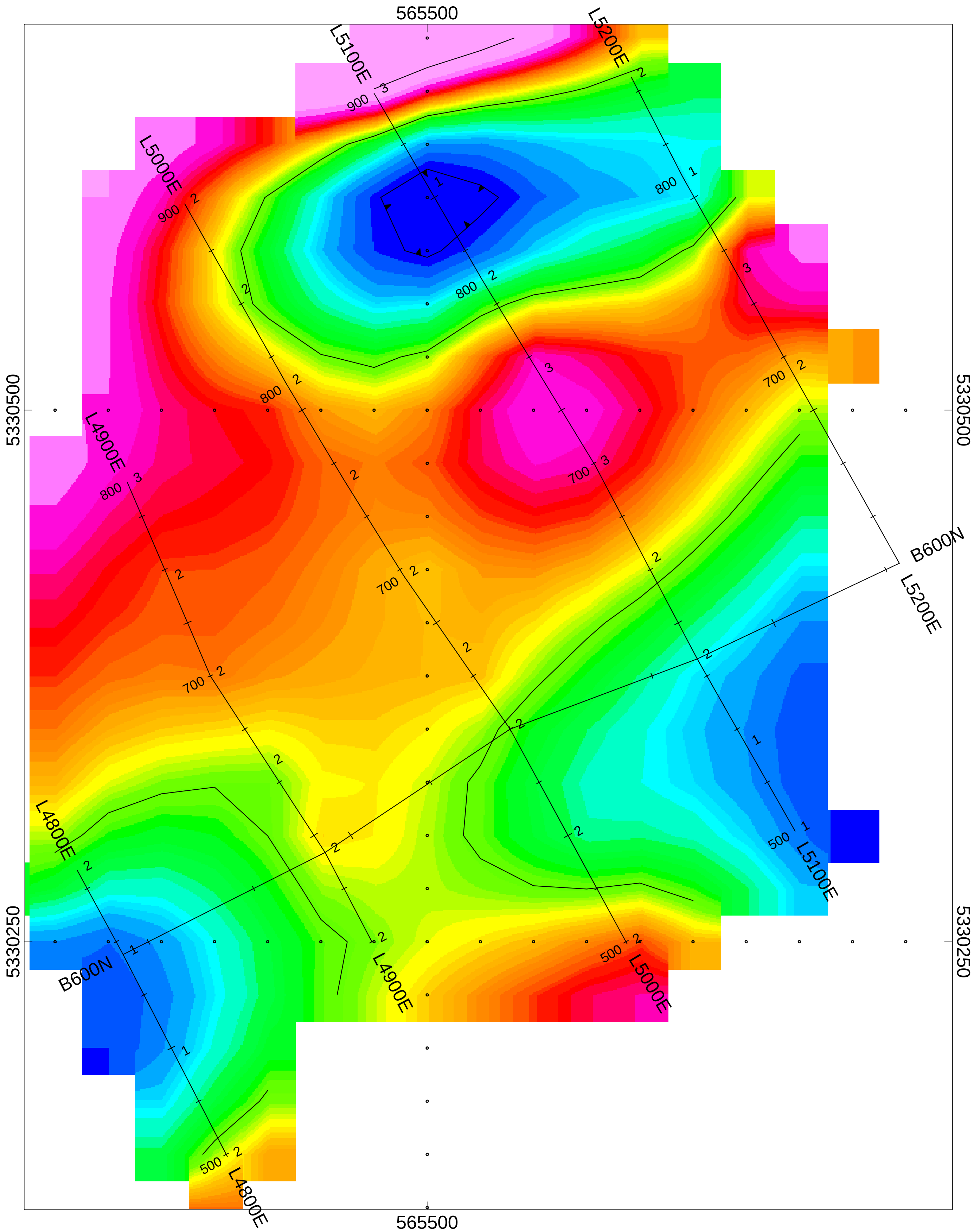
Dipole Dipole Induced Polarization Survey
Resistivity N=2 Data

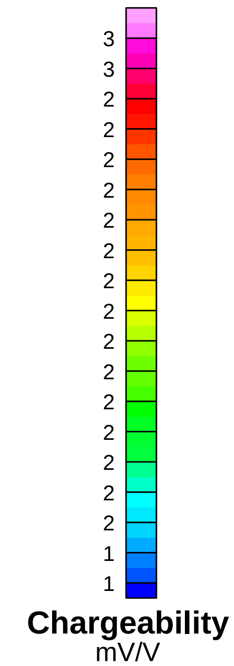
Interval: 2 seconds
Rx: Iris Elrec Pro
Tx: GDD II (5kW Time Domain)

Processed by:
C Jason Ploeger, P.Geo.
Map Drawn By:
C Jason Ploeger, P.Geo.
April 2016

CXS CANADIAN EXPLORATION SERVICES LTD

Drawing: Q2124-CMC-GOLDBANKS-IP-DpDp-N2-RES





Scale 1:2500

25 0 25 50 75 100 125

(meters)

NAD83(CSRS) / UTM zone 17N

KIRKLAND LAKE PROJECT

Goldbanks Property
Teck Township, Ontario

Dipole Dipole Induced Polarization Survey
Chargeability Filter Data

Interval: 2 seconds
Rx: Iris Elrec Pro
Tx: GDD II (5kW Time Domain)

Processed by:
C Jason Ploeger, P.Geo.
Map Drawn By:
C Jason Ploeger, P.Geo.
April 2016

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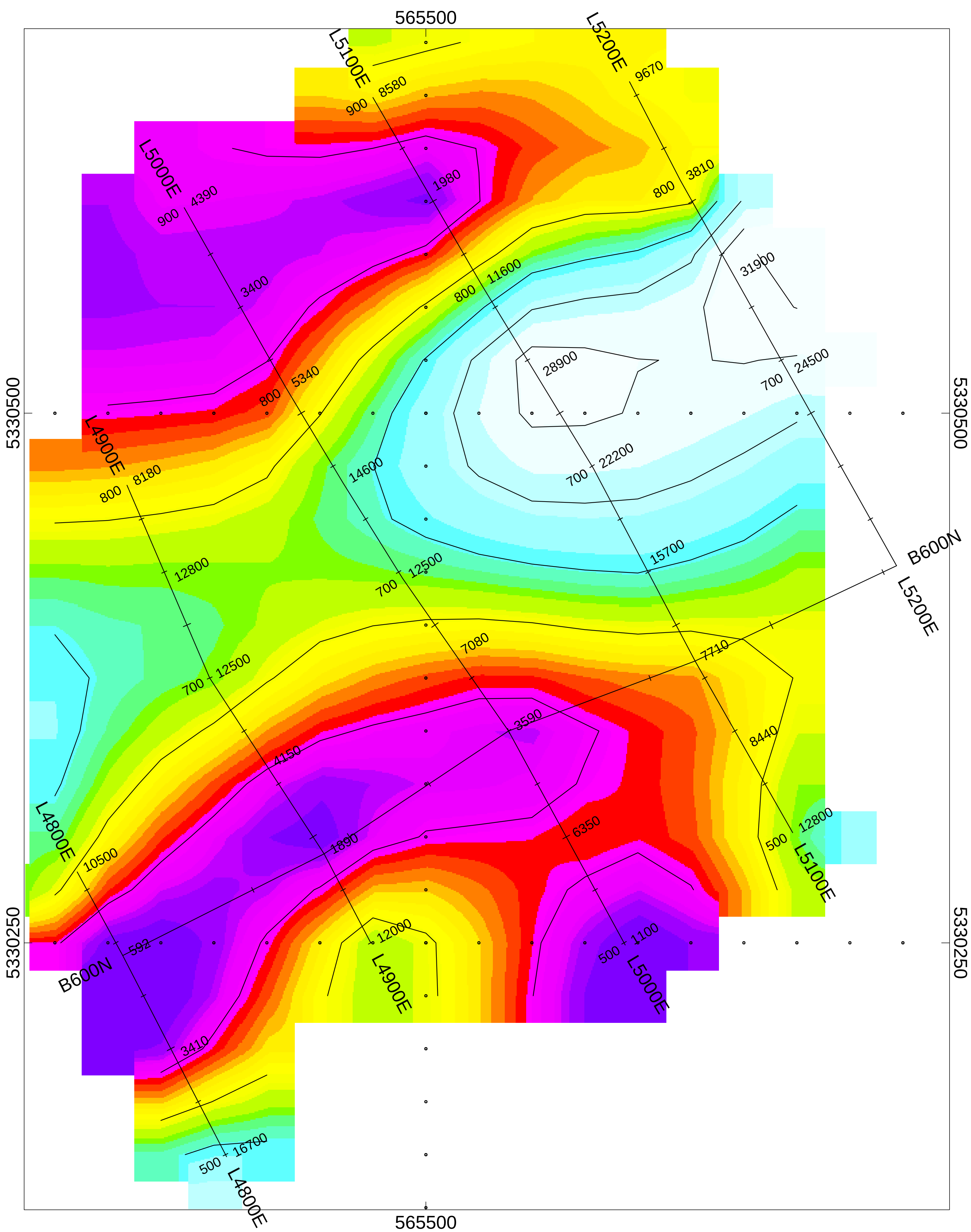
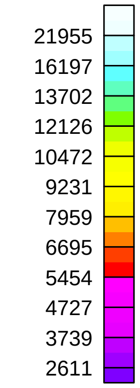
Drawing: Q2124-CMC-GOLDBANKS-IP-DpDp-FILTER-CHR





Resistivity
ohm.meter

Scale 1:2500

25 0 25 50 75 100 125

(meters)

NAD83(CSRS) / UTM zone 17N

KIRKLAND LAKE PROJECT

Goldbanks Property
Teck Township, Ontario

Dipole Dipole Induced Polarization Survey
Resistivity Filter Data

Interval: 2 seconds
Rx: Iris Elrec Pro
Tx: GDD II (5kW Time Domain)

Processed by:
C Jason Ploeger, P.Geo.
Map Drawn By:
C Jason Ploeger, P.Geo.
April 2016

CANADIAN EXPLORATION SERVICES LTD

Drawing: Q2124-CMC-GOLDBANKS-IP-DpDp-FILTER-RES

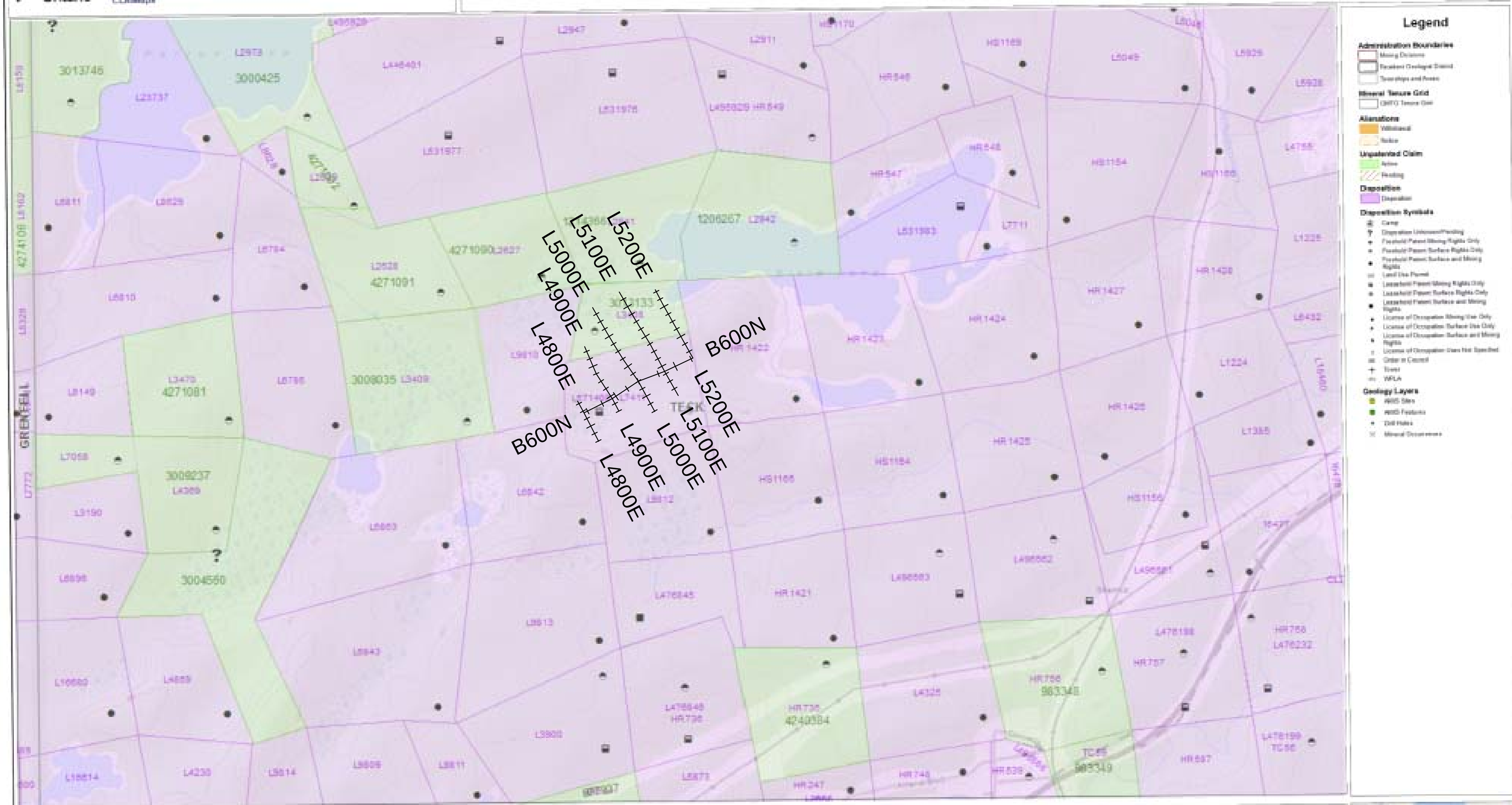
Ontario

MINISTRY OF NORTHERN DEVELOPMENT AND MINES

CLAIMaps

Enter map title

Notes: Enter map notes



0 0.6 km

Projection: Web Mercator

N

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