

**AN ASSESSMENT REPORT**

**ON**

**MAGNETIC & INDUCED POLARIZATION SURVEYING**

Coles Creek Property  
Tahtsa Lake Area,  
Omineca M.D. , B.C.  
53° 31'N, 127° 13'W  
N.T.S. 93E/11

**For**

**CALLINAN MINES LTD.**

**Vancouver, B.C.**

**PETER E. WALCOTT & ASSOCIATES LIMITED**

**Vancouver, B.C.**

**AUGUST 2007**

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- Cost of Survey
- Personnel Employed on Survey
- Certification
- 21 point filter chargeability on topography with DDH's

## ACCOMPANYING MAPS

## MAP POCKET

I.P. Pseudo Sections on topographic profiles 1:5,000  
 Lines 150, 300, 450, 600, 750, 900, 1050, 1200, 1350, 1500,  
 1650, 1800, 1950, 2100, 2150, 2400, 2550, 2700 & 2850E

I.P. inverted sections on topographic profiles – same lines 1:5,000

Grid Location Map	1:5,000
Contours of Total Field Intensity	1:5,000
Contours of Apparent Resistivity n = 3	1:5,000
Contours of Apparent Chargeability n = 3	1:5,000
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Stacked Chargeability Pseudo sections	1:10,000
Stacked Resistivity Pseudo sections	1:10,000

## **INTRODUCTION.**

Between July 2<sup>nd</sup> and August 19<sup>th</sup>, 2006 Peter E. Walcott & Associates Limited undertook magnetic and induced polarization (I.P.) surveying over parts of the Coles Creek property, located some 105 kilometres southwest of the town of Houston, British Columbia, for Callinan Mines Ltd.

The survey was carried out over nineteen N40° W oriented lines, spaced 150 metres apart, established by linecutters contracted by Callinan.

Readings of the earth's total magnetic field were recorded using a GSM 19 proton magnetometer on the magnetic survey, while measurements – first to sixth separation – of apparent chargeability – the I.P. response parameter – and resistivity were made on each of the line traverses using the pole – dipole technique with a 50 metre dipole.

In addition the elevations and horizontal locations of the line stations were measured using a Brunton altimeter and a Garmin 76 GPS unit respectively.

The magnetic data is presented as a colour grid on the topography at a scale of 1:5,000, while the I.P. data is presented as individual pseudo sections plotted on topography at 1:5,000, and as stacked sections at 1:10,000.

The progress of the survey was hampered by the steep terrain, and snow and ice cover in places resulting in the need to dig through the cover to obtain electrical contact with the ground beneath. In places 2 to 3 metres excavations were necessary.

**PURPOSE.**

The purpose of the survey was to explore for copper-zinc-lead-molybdenum mineralization on the property, the presence of which was noted in limited outcroppings on previous work.

## **GEOLOGY.**

The property is underlain by Jurassic volcanic and sedimentary rocks of the Hazelton Group, intruded by feldspar-quartz porphyry, feldspar porphyry dykes and fine grain diorite.

Mineralization consisting mainly of pyrite with chalcopyrite, sphalerite and galena occurs in localized fractures and shear zones.

For further information the reader is referred to reports held by Callinan or authored by the staff of same.

## **PREVIOUS WORK.**

Previous work on the property consisted of geological mapping, geochemical surveying, geophysical surveying and diamond drilling.

Magnetic surveying was conducted in the seventies using a fluxgate magnetometer, while limited induced polarization surveying was done using a portable low wattage transmitter and obtaining first separation readings with a 200 foot (61 metre) dipole.

For further information the reader is referred to the aforementioned reports.

## **SURVEY SPECIFICATIONS.**

### **Magnetic Survey.**

The magnetic survey was carried out using a GSM 19 proton precession magnetometer manufactured by GEM Instruments of Richmond Hill, Ontario. This instrument measures variations in the total intensity of the earth's magnetic field to an accuracy of plus or minus one nanotesla. Corrections for daily variations in the earth's field – the diurnal – were made by comparison with a similar instrument set up at a fixed location – the base – where recordings were made at 10 second intervals.

### **The Induced Polarization Survey.**

The induced polarization (I.P.) survey was conducted using a pulse type system, the principal components of which were manufactured by Huntac Limited of Metropolitan Toronto, Canada and Iris Instruments of Orleans, France.

The system consists basically of three units, a receiver (Iris), transmitter (Huntac) and a motor generator (Huntac). The transmitter, which provides a maximum of 7.5 kw d.c. to the ground, obtains its power from a 7.5 kw 400 c.p.s. three phase alternator driven by a Honda 20 h.p. gasoline engine. The cycling rate of the transmitter is 2 seconds "current-on" and 2 seconds "current-off" with the pulses reversing continuously in polarity. The data recorded in the field consists of careful measurements of the current ( $I$ ) in amperes flowing through the current electrodes  $C_1$  and  $C_2$ , the primary voltages ( $V$ ) appearing between any two potential electrodes,  $P_1$  through  $P_7$ , during the "current-on" part of the cycle, and the apparent chargeability, ( $M_a$ ) presented as a direct readout in millivolts per volt using a 200 millisecond delay and a 1000 millisecond sample window by the receiver, a digital receiver controlled by a micro-processor – the sample window is actually the total of ten individual windows of 100 millisecond widths.

The apparent resistivity ( $\sigma_a$ ) in ohm metres is proportional to the ratio of the primary voltage and the measured current, the proportionality factor depending on the geometry

## **SURVEY SPECIFICATIONS cont'd**

of the array used. The chargeability and resistivity are called apparent as they are values which that portion of the earth sampled would have if it were homogeneous. As the earth sampled is usually inhomogeneous the calculated apparent chargeability and resistivity are functions of the actual chargeability and resistivity of the rocks.

The survey was carried out using the “pole-dipole” method of surveying. In this method the current electrode, C<sub>1</sub>, and the potential electrodes, P<sub>1</sub> through P<sub>7</sub>, are moved in unison along the survey lines at a spacing of “a” (the dipole) apart, while the second current electrode, C<sub>2</sub>, is kept constant at “infinity”. The distance, “na” between C<sub>1</sub> and the nearest potential electrode generally controls the depth to be explored by the particular separation, “n”, traverse.

On this survey a 50 metre dipole was employed and first to sixth separation readings were obtained. In all some 22 kilometres of I.P. and magnetic traversing were completed.

### Vertical control.

The elevations of the stations were recorded using an ADC Summit altimeter manufactured by Brunton of Wyoming, USA. This instrument measures elevations using barometric pressures to an accuracy of plus or minus 3 metres. Corrections for errors due to variations in atmospheric pressure were made by comparison to readings obtained on a similar instrument, held stationary at one location – the base -, at 10 minute intervals.

### Horizontal control.

The horizontal position of the stations were recorded using Garmin 76 GPS unit and a CDGPS receiver.

The latter output corrections were obtained from Canadian reference stations via Pacific Crest radio modems to the Garmin for more accurate horizontal locations.

## **SURVEY SPECIFICATIONS cont'd**

### *Data Presentation.*

The total field magnetic intensity is shown in contour form overlaid on the topographic base map at a scale of 1:5,000.

The I.P. data are presented as individual pseudo section plots of apparent chargeability and resistivity at a scale of 1:5,000 on topographic profiles.

Stacked sections of the apparent resistivity and chargeability are also shown at 1:10,000.

Contour plans of the third separation apparent chargeability and resistivity, on an idealized grid, are also added at a scale of 1:5,000.

The 21 point moving filter chargeability values are contoured on the topographic overlay for comparison with the magnetics at a scale of 1:5,000.

Two dimensional smooth model inversion of the resistivity and chargeability was carried out using the Geotomo RES2DINV Algorithm, an algorithm developed by Loke et-al. This algorithm uses a 2-D finite element method and incorporates topography in modeling resistivity and I.P. data. Nearly uniform starting models are generated by running broad moving-average filters over the respective lines of data. Model resistivity and chargeability properties are then adjusted iteratively until the calculated data values match the observed as closely as possible, given constraints which keep the model section smooth. The smooth chargeability and resistivity models were then imported into Geosoft format for presentation at the same scale of 1:5,000 on the topographic profile. A slight discrepancy can be observed between the measured and modeled plots as the former are processed in Geosoft which assumes horizontal distances for the station separation.

## **DISCUSSION OF RESULTS.**

These should be studied in conjunction with the rest of the results of the 2006 exploration programme contained in the report authored by the staff of Callinan Mines of which this report is a part.

The magnetometer survey showed the property to exhibit high magnetic relief – some 7000 nanoteslas.

A large elongated low striking northeast is observed north of the main Coles Creek tributary presumably reflecting intrusive rocks. Another undefined low seen open to the west is also thought to reflect underlying intrusives.

The higher magnetics are thought to reflect Hazelton andesite rocks with the more intense on the western edge probably due to magnetite stockworks in the same.

The chargeability data showed the core of the grid to exhibit low chargeabilities, as seen by the pronounced northeasterly trending low on the plots of the 21 point moving filter and the third separation contour plot.

Higher chargeabilities are observed undefined for the most part at the extremities of the lines, with the strongest values obtained coincident with the magnetic low in the southeastern part of the grid.

The contoured resistivity plot – third separation – showed a large resistivity low on the southeastern part of the grid coincident with the aforementioned chargeability high and magnetic low.

Two other linear resistivity features are observed striking northeasterly across portion of the grid.

The more southerly is associated with moderate relief chargeabilities while the other is only coincidental with higher chargeabilities on its westerly extent. Both presumably could be indicative of fault/shear zones.

### **DISCUSSION OF RESULTS cont'd**

These features are more clearly seen on the inverted sections which also want to cover the area with a layer of low resistivity.

## **SUMMARY, CONCLUSIONS & RECOMMENDATIONS**

Between July 2<sup>nd</sup> and 19<sup>th</sup>, Peter E. Walcott & Associates Limited undertook magnetic and induced polarization traversing over parts of the Coles Creek property for Callinan Mines Ltd.

The property is located straddling a tributary of Coles Creek some 105 kilometres southwest of Houston, British Columbia.

The surveys were carried out over nineteen northwesterly trending lines spaced one hundred and fifty metres apart.

The I.P. survey showed a large chargeability low to exist on the centre portion of the area surveyed surrounded by several distinct areas of higher chargeability.

The resistivity survey showed some of the above chargeability zones to be associated with lower resistivities and outlines two apparent northeasterly trending linear structures thought to be representative of fault/shear zones.

As a result the writer recommends that the data be further studied in conjunction with the known geology, geochemistry, previous geophysical and diamond drilling results in order to plan the next phase of exploration.

Respectfully submitted,

**PETER E. WALCOTT & ASSOCIATES LIMITED**

**Peter E. Walcott, P.Eng.  
Geophysicist**

**Vancouver, B.C.  
August 2007**

**Peter E. Walcott & Associates Limited  
Geophysical Services**

**Magnetic & Induced Polarization Surveying  
Coles Creek Property**

**APPENDIX**

**COST OF SURVEY.**

Peter E. Walcott & Associates Limited undertook the survey on a daily basis. Mobilization and reporting were extra so that the total cost of services provided was \$51,462.03.

**PERSONNEL EMPLOYED ON SURVEY.**

Name	Occupation	Address	Dates
Peter E. Walcott	Geophysicist	Peter E. Walcott & . Associates Limited 506-1529 W, 6 <sup>th</sup> Ave. Vancouver, B.C.	Aug. 28 <sup>th</sup> , 06 Aug. 30 <sup>th</sup> , 31 <sup>st</sup> , 2007
Alexander Walcott	Geophysicist	"	Sept 10 <sup>th</sup> -15 <sup>th</sup> , 2006
Andrea Cochrane	"	"	Jul 2nd -19 <sup>st</sup> 2006
S. Phillips	Geophysical Operator	"	"
Matt Russell	Geophysical Assistant	"	"
B. Lajeunesse	"	"	"
S. Cruikshank	"	"	"
T. Scott	"	"	"
J. Walcott	Report Prep.	"	Sept. 6 <sup>th</sup> , 2007

**CERTIFICATION.**

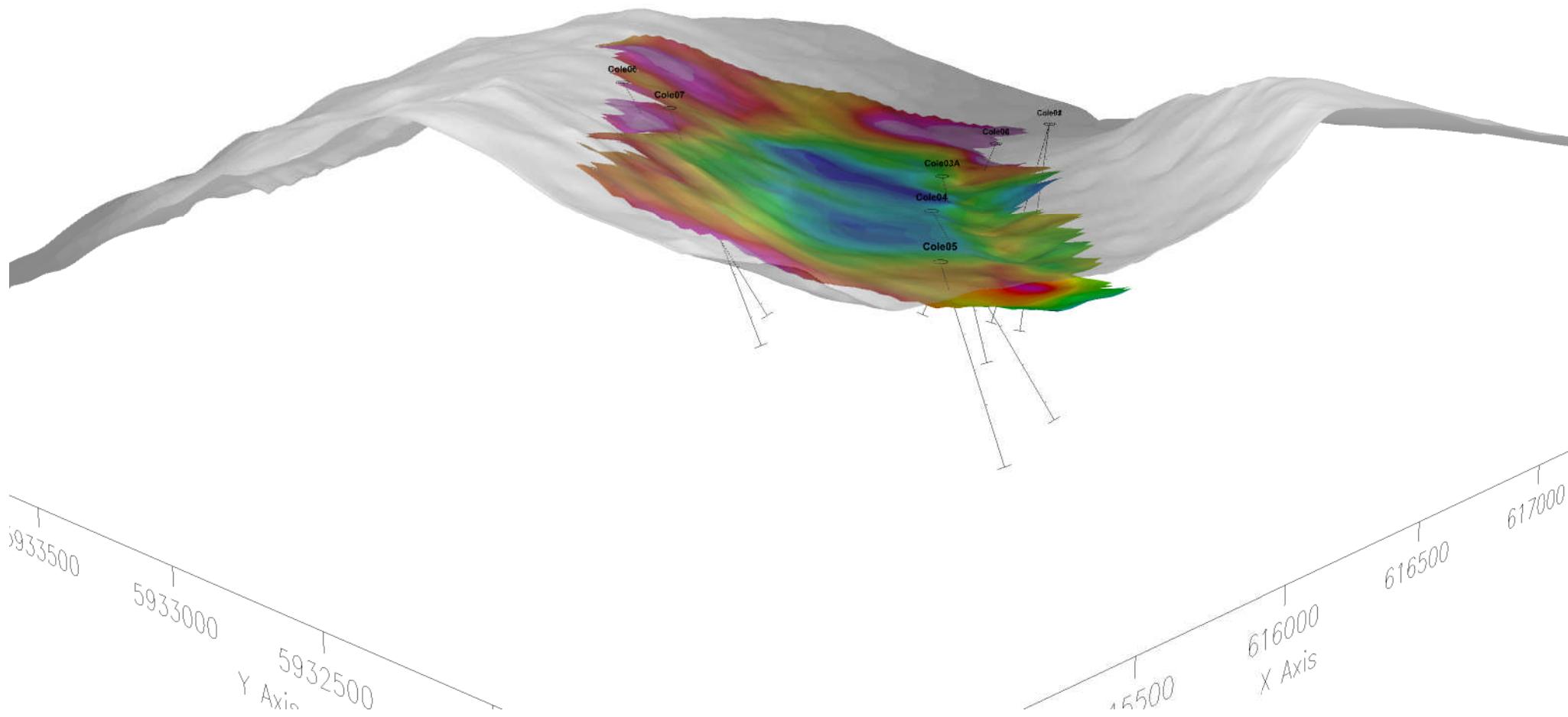
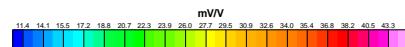
I, Peter E. Walcott of 605 Rutland Court, Coquitlam, British Columbia, hereby certify that:

1. I am a graduate of the University of Toronto in 1962 with a B.A.Sc. in Engineering Physics, Geophysics Option.
2. I have been practicing my profession for the last forty five years.
3. I am a member of the Association of Professional Engineers of British Columbia and Ontario.
4. I hold no interest, direct or indirect in Callinan Mines Ltd., nor do I expect to receive any.

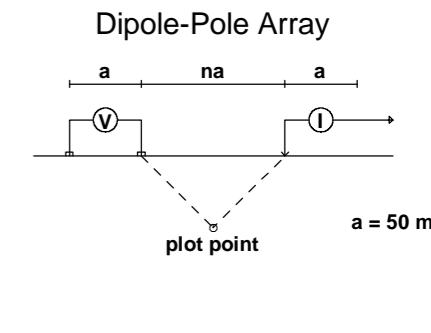
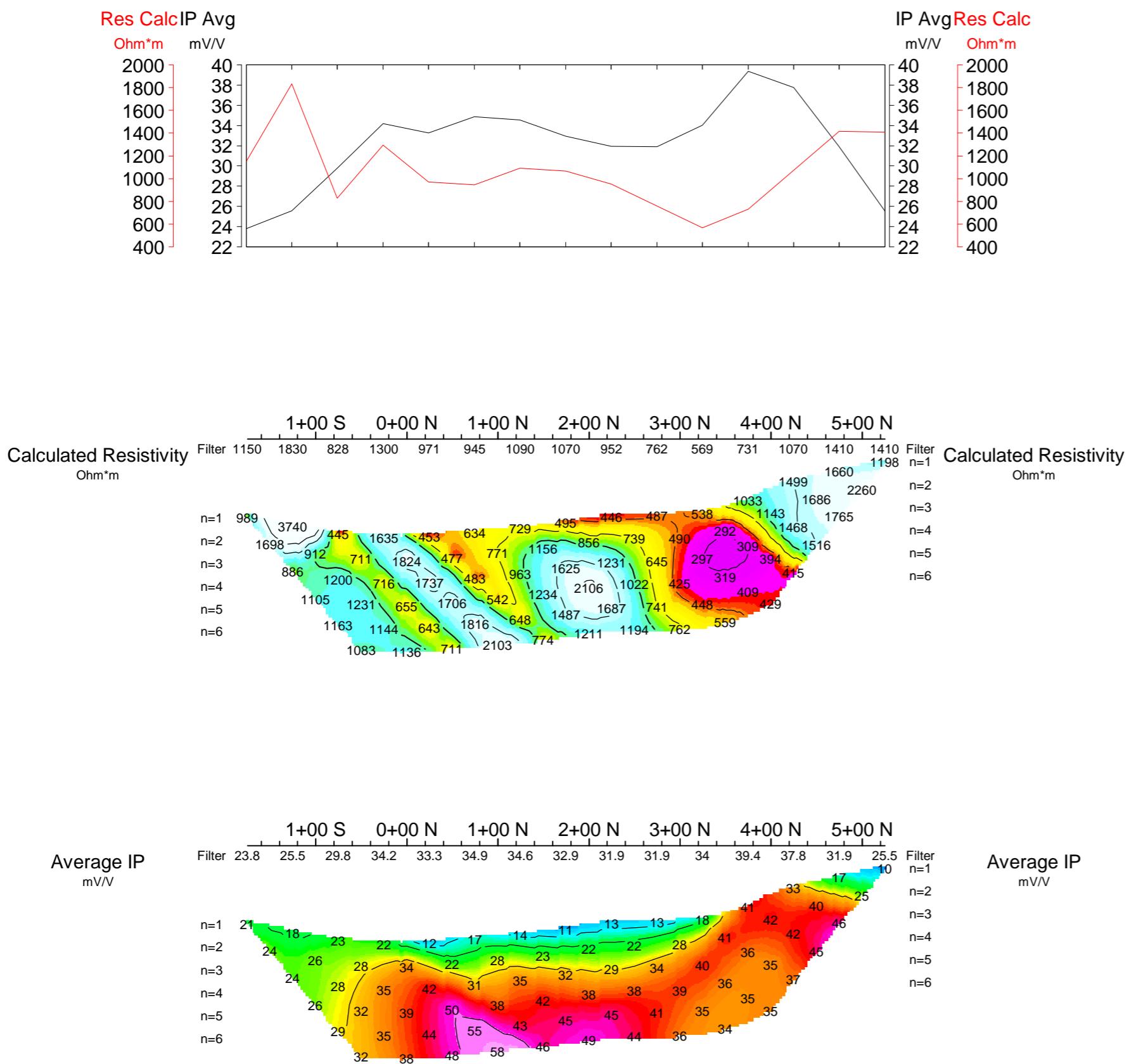
**Peter E. Walcott, P.Eng.**

**Vancouver, B.C.  
August 2007**

CALLINAN MINES LIMITED - COLES CREEK PROJECT  
3D View of Topography with drillholes and Apparent Chargeability (mV/V)



1+50 E



Instruments: HUNTEC 7.5 kw Tx, ELREC PRO Rx

Frequency: 0.125 Hz.

## Operators: A.C., S.P.

**Logarithmic  
Contours** 1, 1.5, 2, 3, 5, 7.5, 10,...

## INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Fairly well defined weak increase  
in polarization.

Resistivity feature.

Scale 1:5000

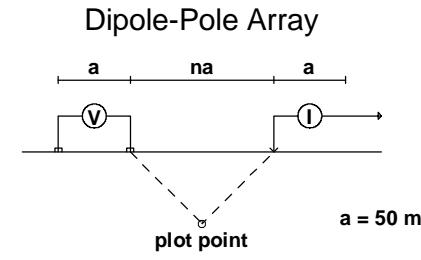
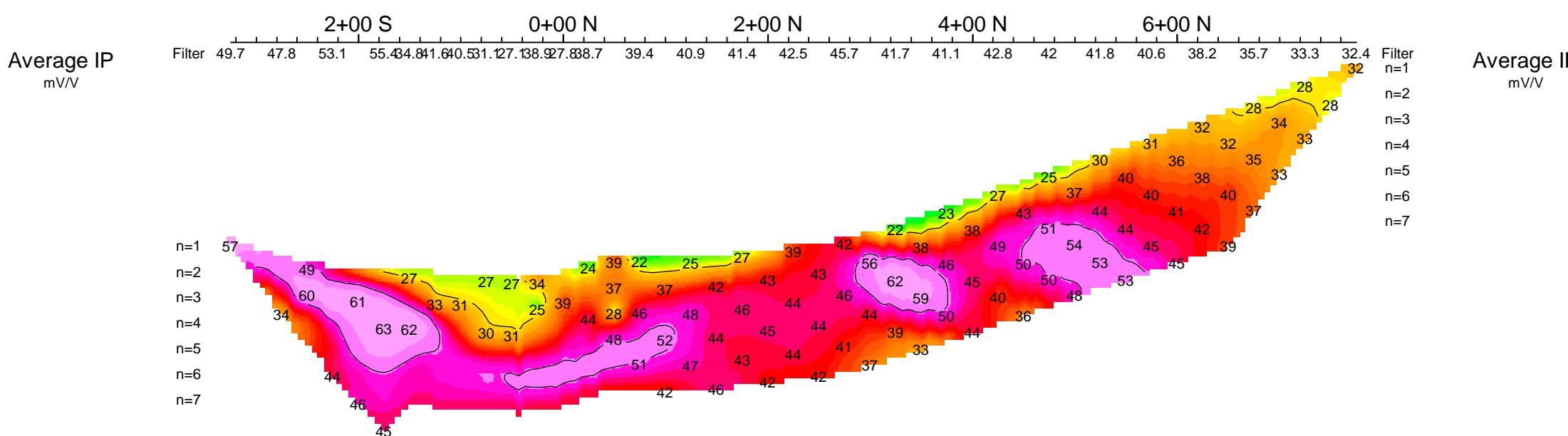
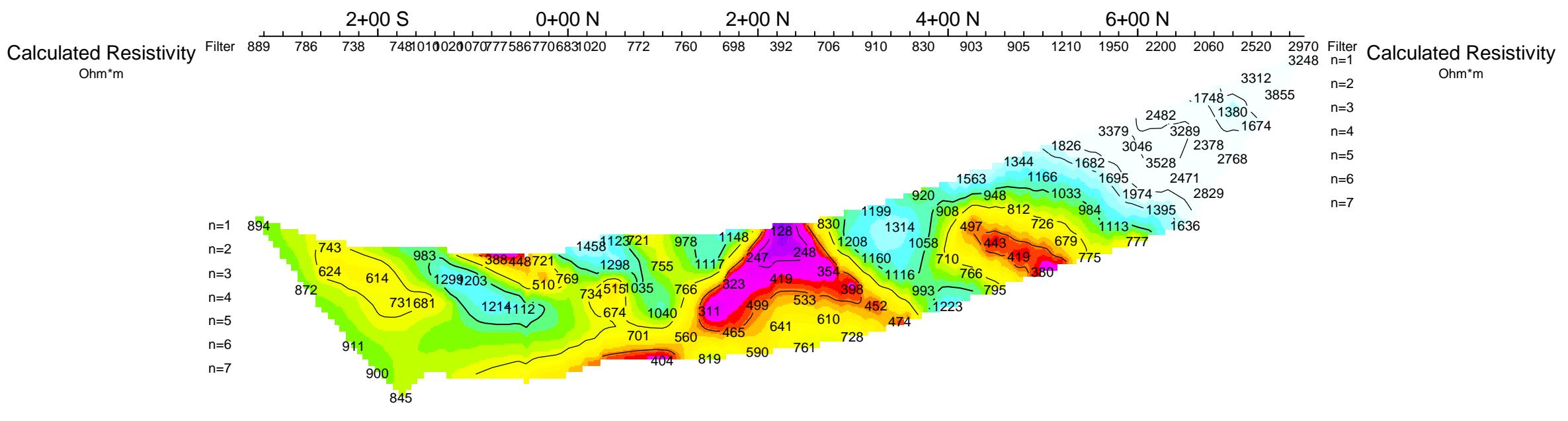
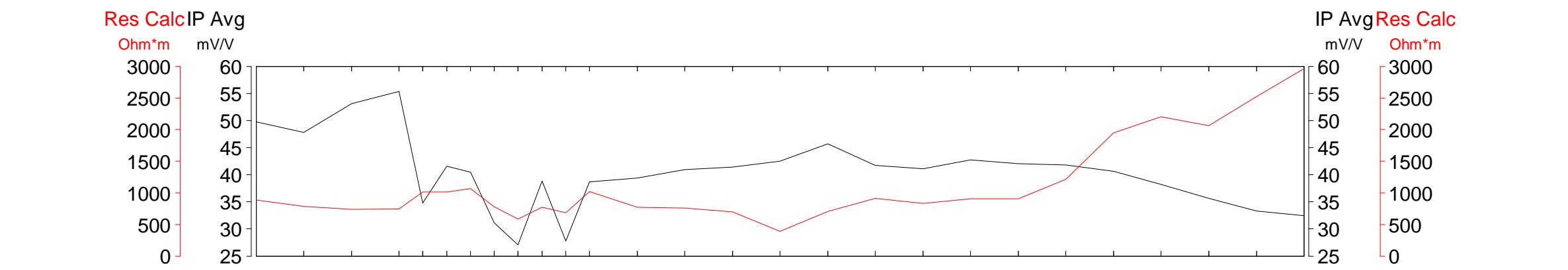
CALLINAN MINES LIMITED

## INDUCED POLARIZATION SURVEY COLES CREEK PROJECT

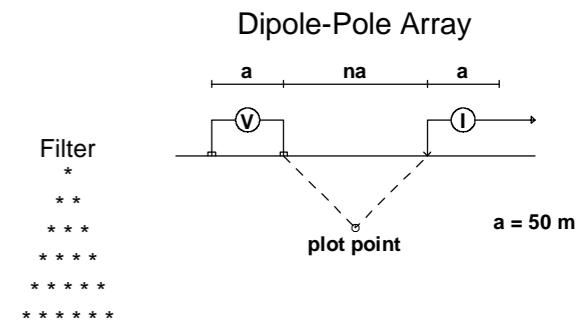
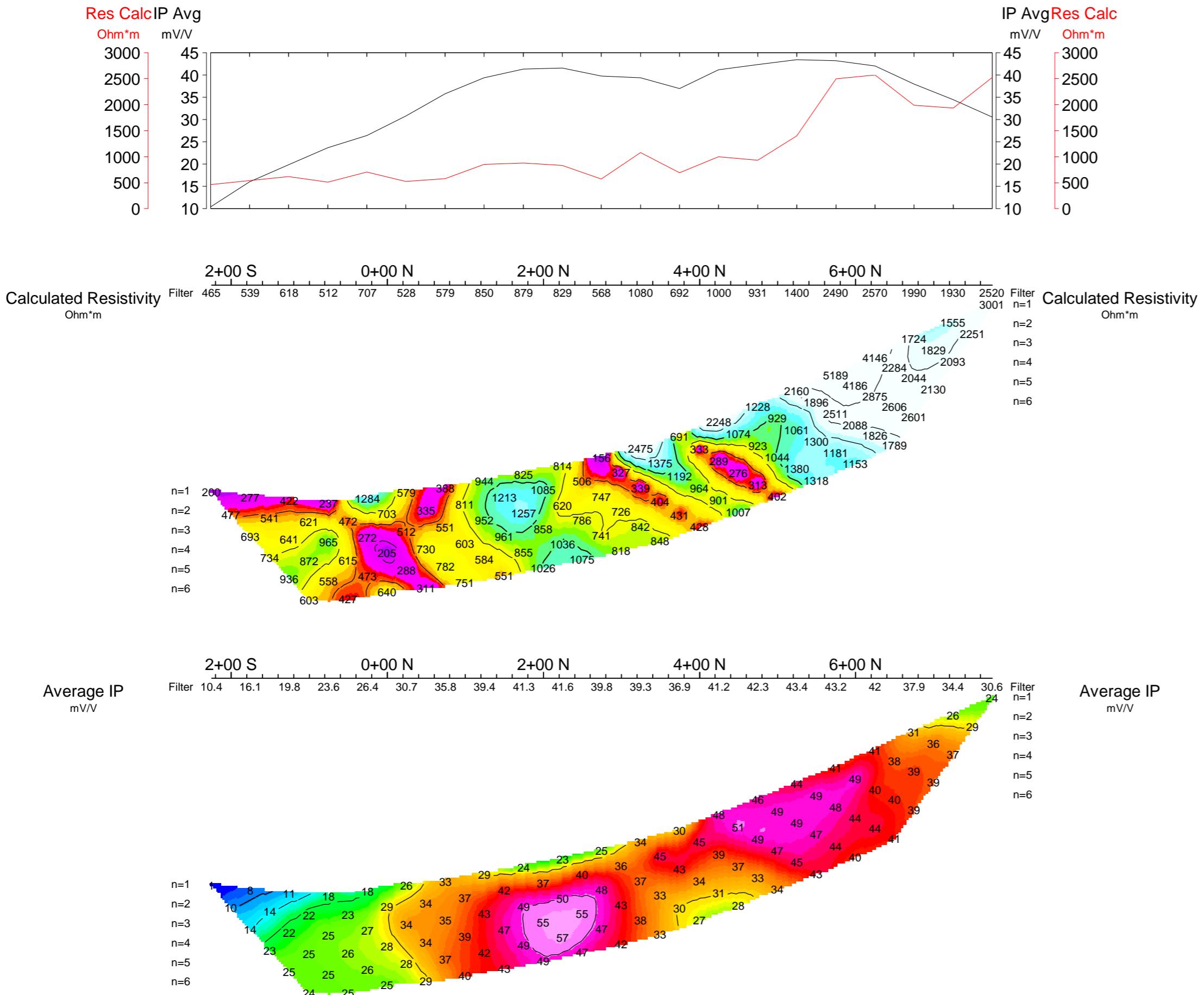
Date: JULY 2006  
Interpretation:

PETER E. WALCOTT & ASSOCIATES LIMITED

3+00 E



4+50 E



Instruments: HUNTEC 7.5 kw Tx, ELREC PRO Rx  
Frequency: 0.125 Hz.  
Operators: A.C., S.P.

Logarithmic  
Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

## INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Fairly well defined weak increase  
in polarization.

## Resistivity feature.

A scale bar and a north arrow are positioned at the bottom of the page. The scale bar is labeled 'Scale 1:5000' above it. It features a black and white checkered pattern followed by numerical markings at 50, 0, 50, 100, 150, 200, 250, and 300 meters. A north arrow is located to the right of the scale bar.

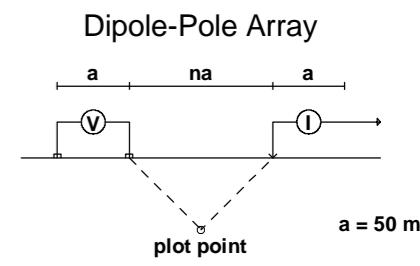
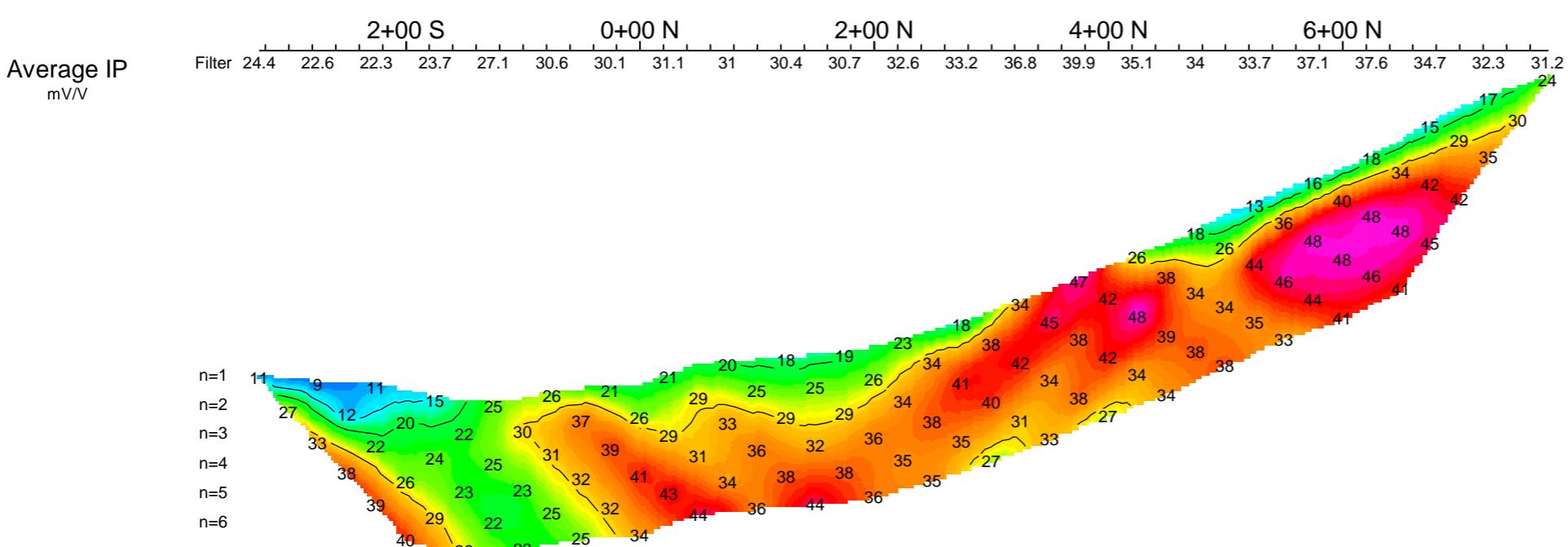
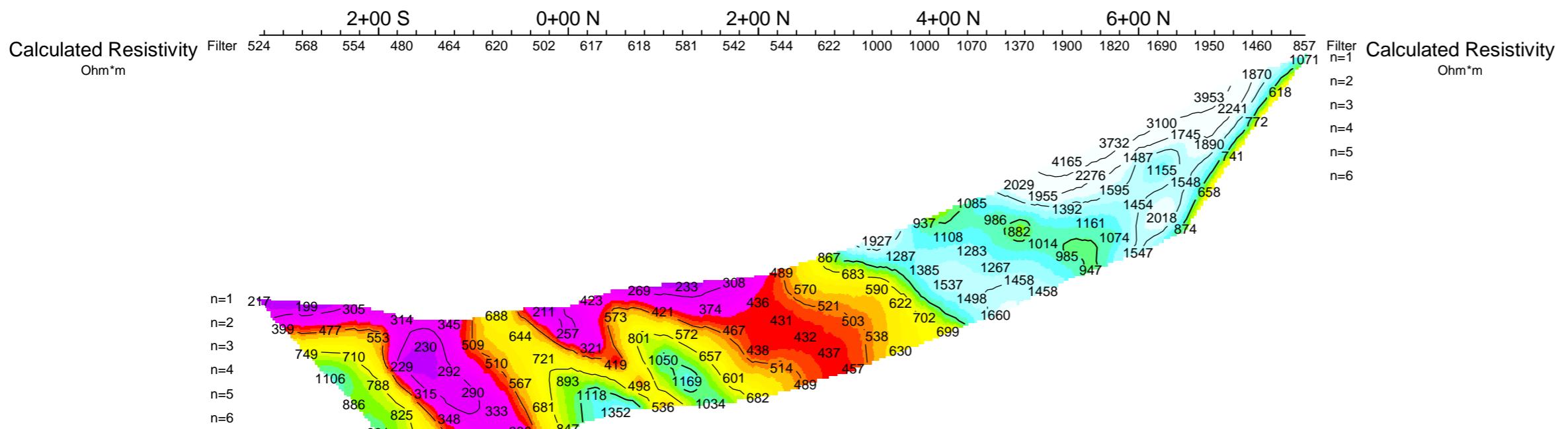
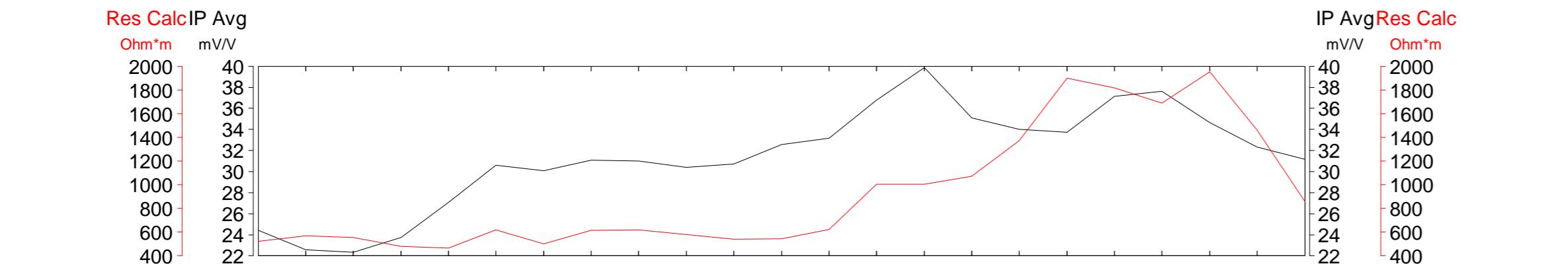
CALLINAN MINES LIMITED

# INDUCED POLARIZATION SURVEY COLES CREEK PROJECT

Date: JULY 2006  
Interpretation:

PETER E. WALCOTT & ASSOCIATES LIMITED

6+00 E



Instruments: HUNTEC 7.5 kw Tx, ELREC PRO Rx  
Frequency: 0.125 Hz.  
Operators: A.C., S.P.

Logarithmic Contours      1, 1.5, 2, 3, 5, 7.5, 10,...

#### INTERPRETATION

— Well defined, strong increase in polarization with or without marked decrease in resistivity.

●●● Fairly well defined moderate increase in polarization.

●●●● Fairly well defined weak increase in polarization.

| Resistivity feature.

Scale 1:5000  
50 0 50 100 150 200 250 300 metres

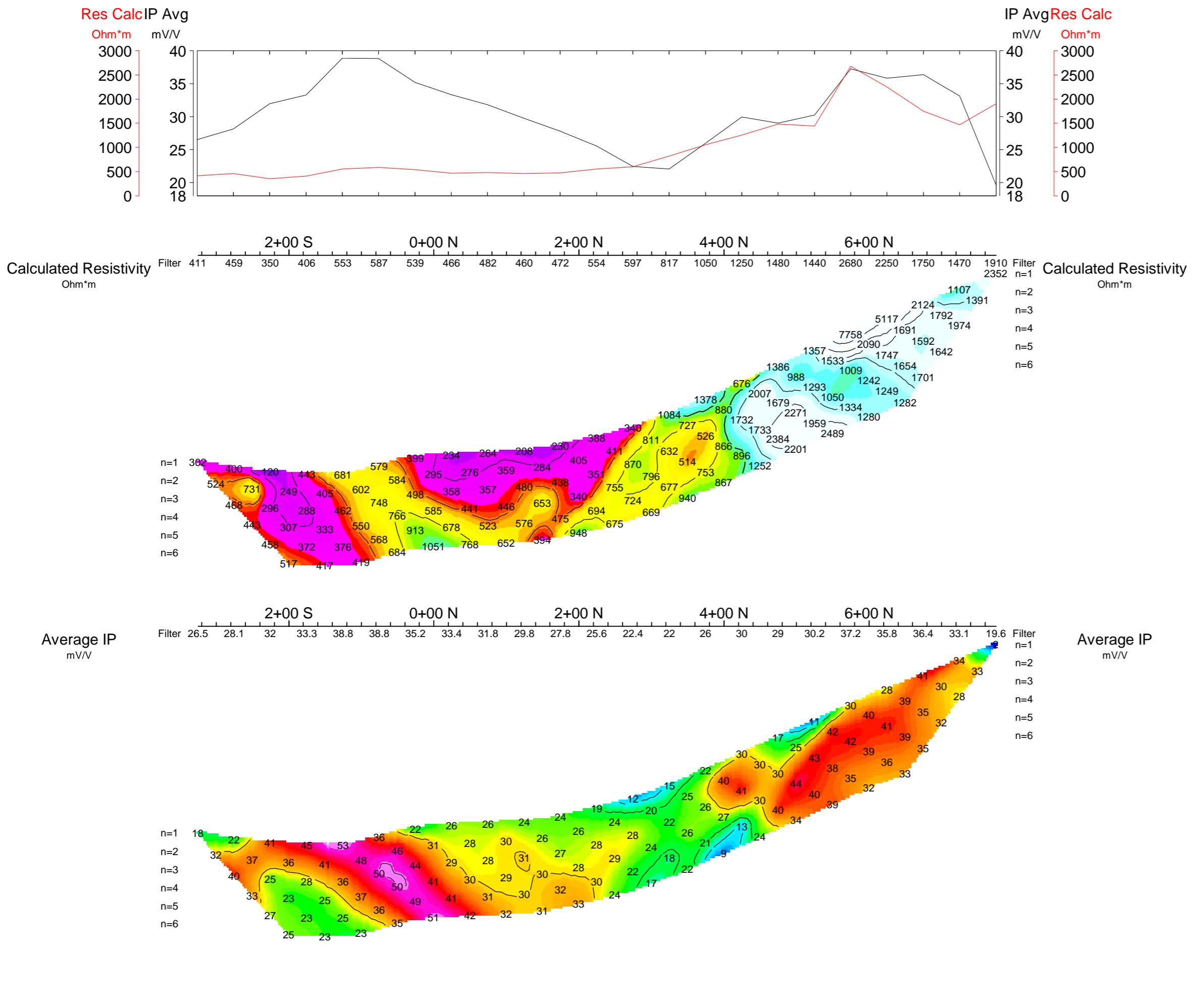
CALLINAN MINES LIMITED

INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT

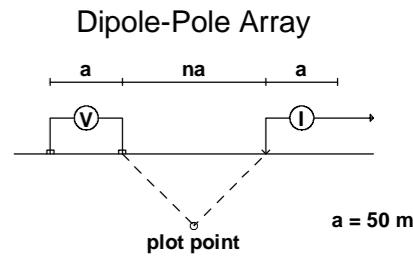
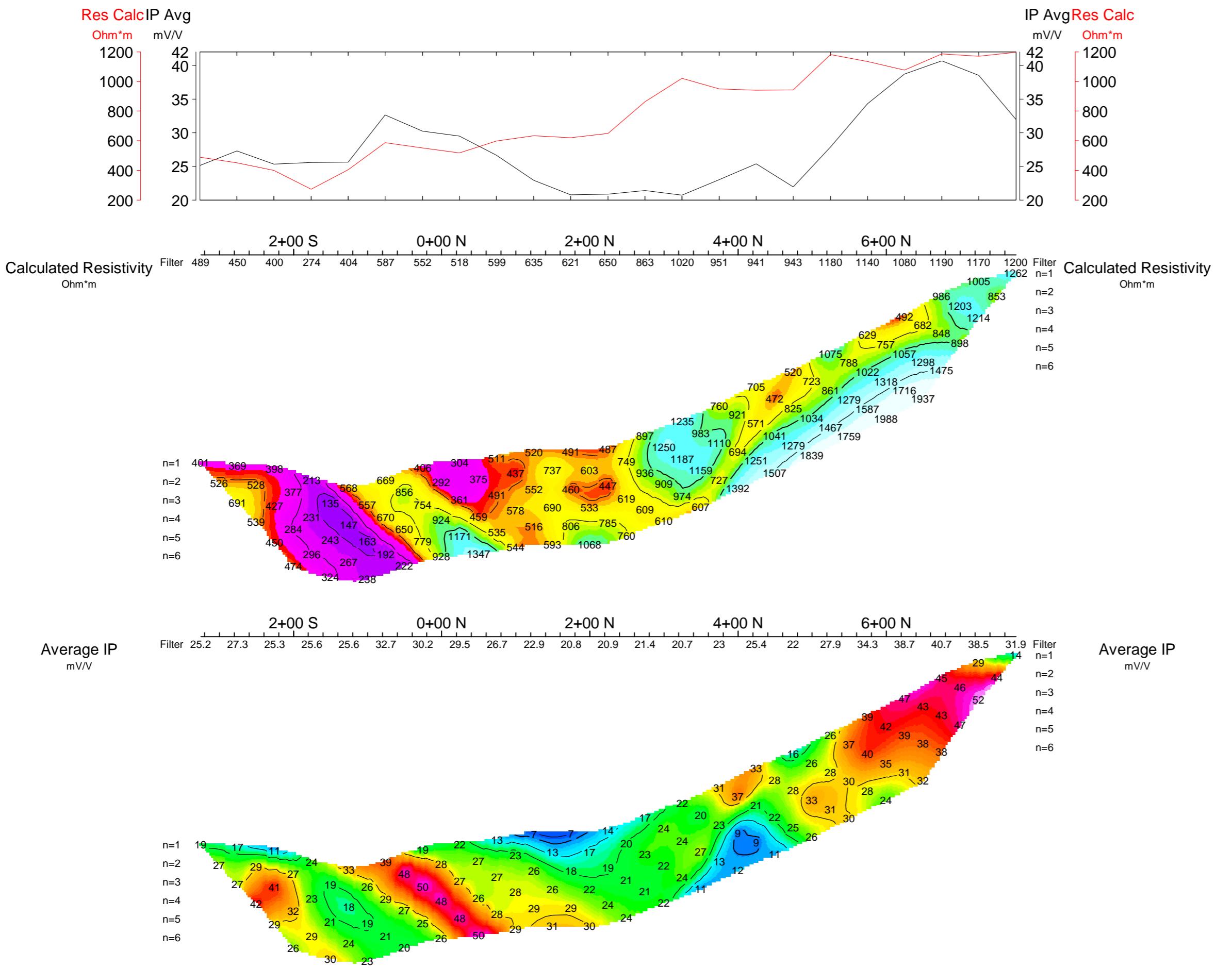
Date: JULY 2006  
Interpretation:

PETER E. WALCOTT & ASSOCIATES LIMITED

7+50 E



9+00 E



Instruments: HUNTEC 7.5 kw Tx, ELREC PRO Rx  
Frequency: 0.125 Hz.  
Operators: A.C., S.P.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

#### INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Fairly well defined weak increase in polarization.

Resistivity feature.

Scale 1:5000  
metres

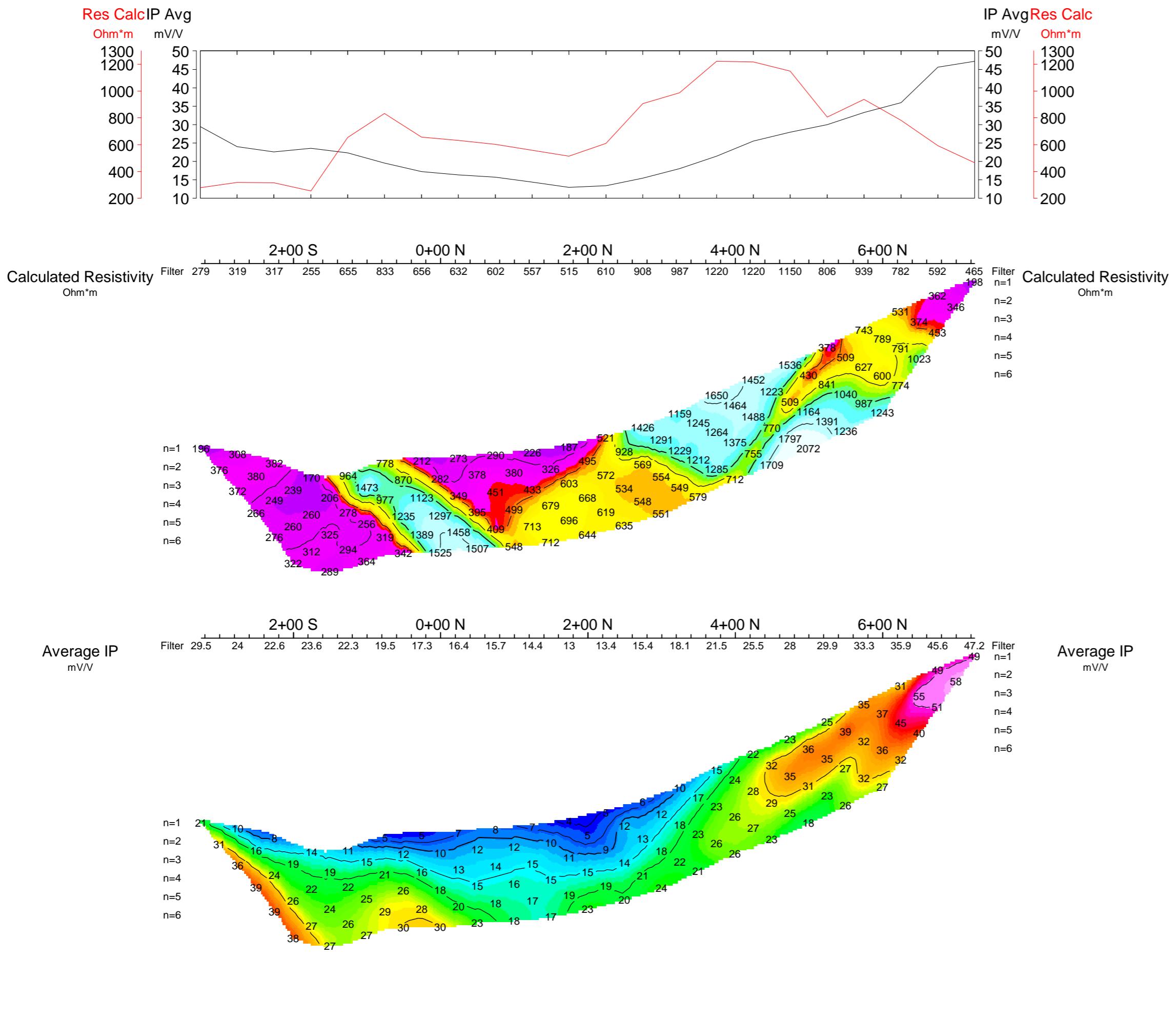
CALLINAN MINES LIMITED

INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT

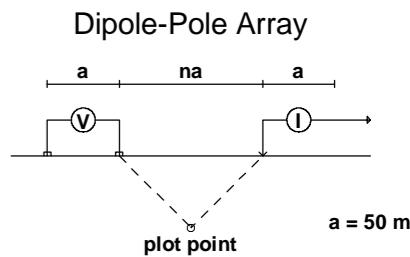
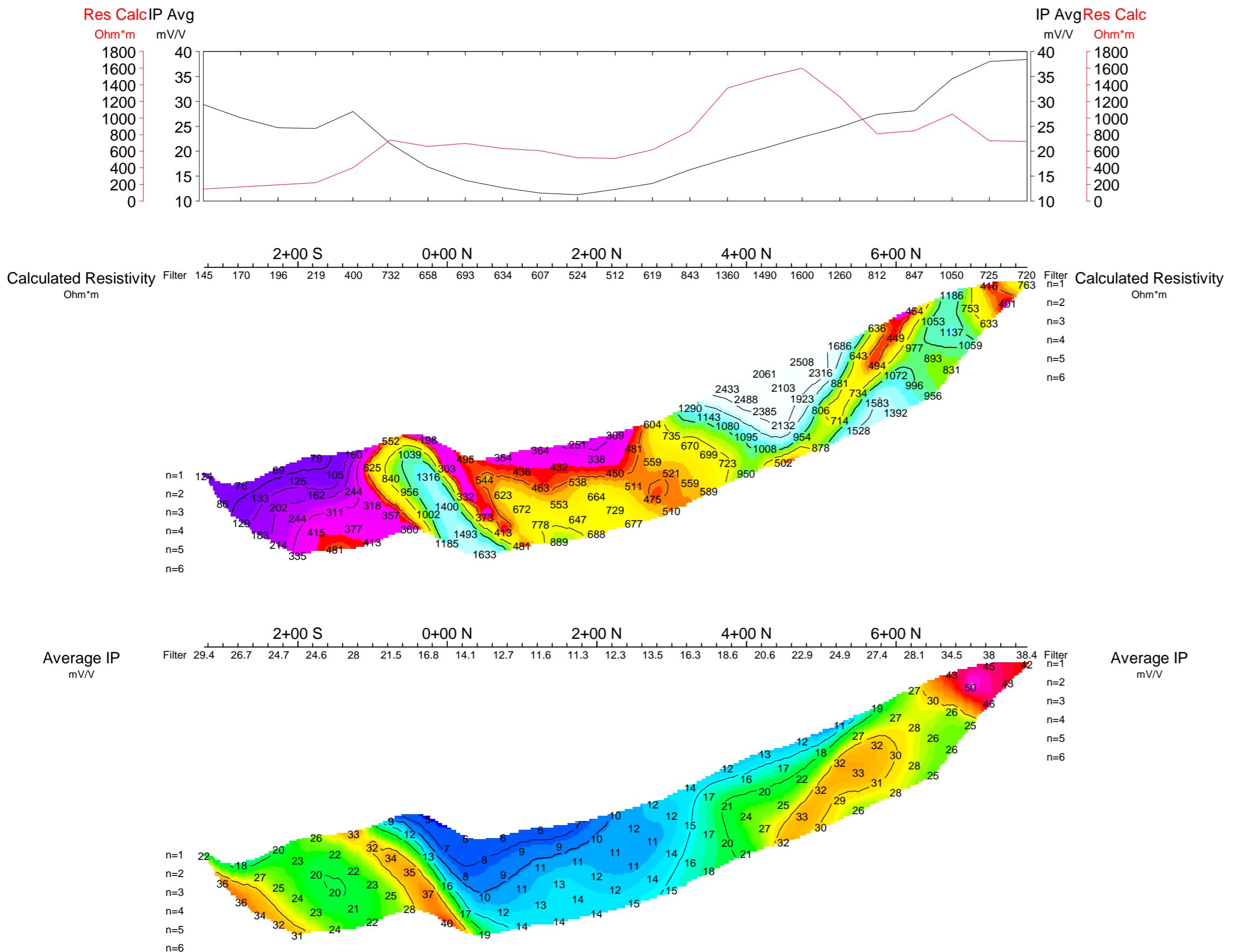
Date: JULY 2006  
Interpretation:

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10+50 E



12+00 E



Instruments: HUNTEC 7.5 kw Tx, ELREC PRO Rx  
Frequency: 0.125 Hz.  
Operators: A.C., S.P.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

#### INTERPRETATION

— Well defined, strong increase in polarization with or without marked decrease in resistivity.

●●● Fairly well defined moderate increase in polarization.

○ Fairly well defined weak increase in polarization.

| Resistivity feature.

Scale 1:5000  
metres

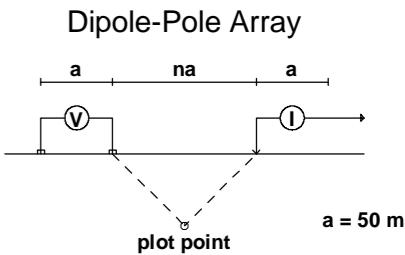
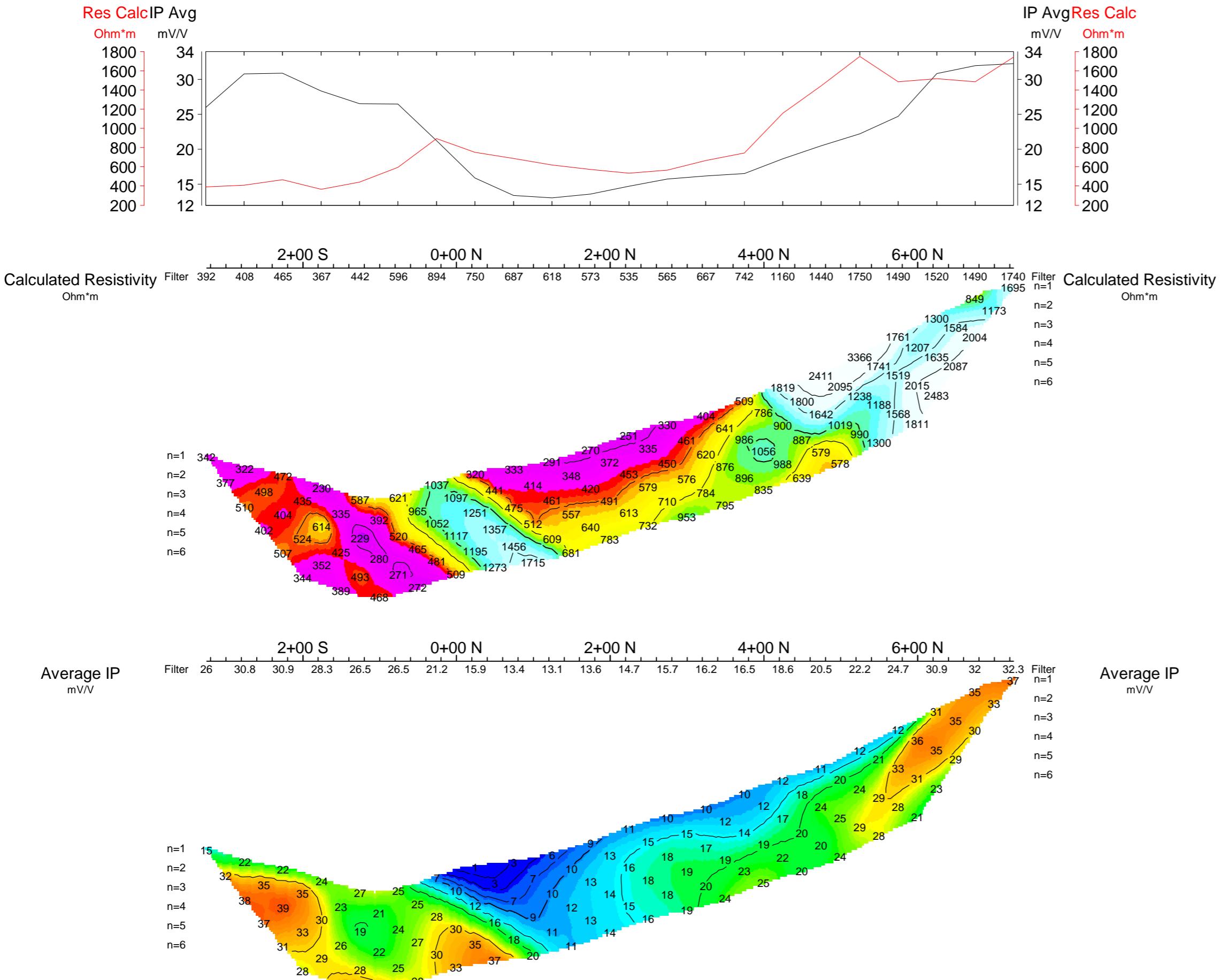
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INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT

Date: JULY 2006  
Interpretation:

PETER E. WALCOTT & ASSOCIATES LIMITED

13+50 E



Instruments: HUNTEC 7.5 kw Tx, ELREC PRO Rx  
Frequency: 0.125 Hz.  
Operators: A.C., S.P.

logarithmic  
Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

## INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Fairly well defined weak increase in polarization.

Scale 1:5000

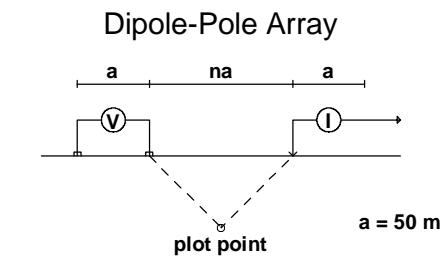
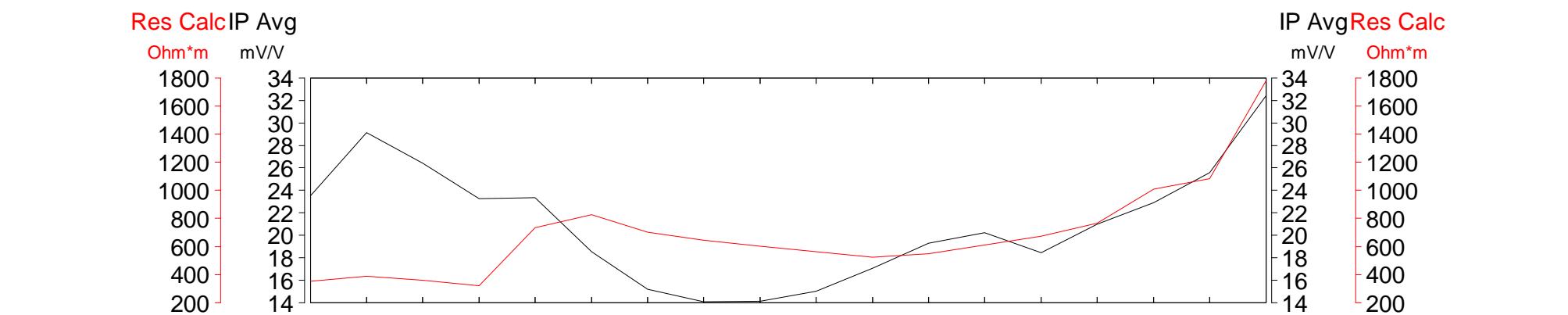
CALINAN MINES LIMITED

## INDUCED POLARIZATION SURVEY COLES CREEK PROJECT

Date: JULY 2006  
Interpretation:

## PETER E. WALCOTT & ASSOCIATES LIMITED

15+00 E



Instruments: HUNTEC 7.5 kw Tx, ELREC PRO Rx

Frequency: 0.125 Hz.

Operators: A.C., S.P.

Logarithmic  
Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

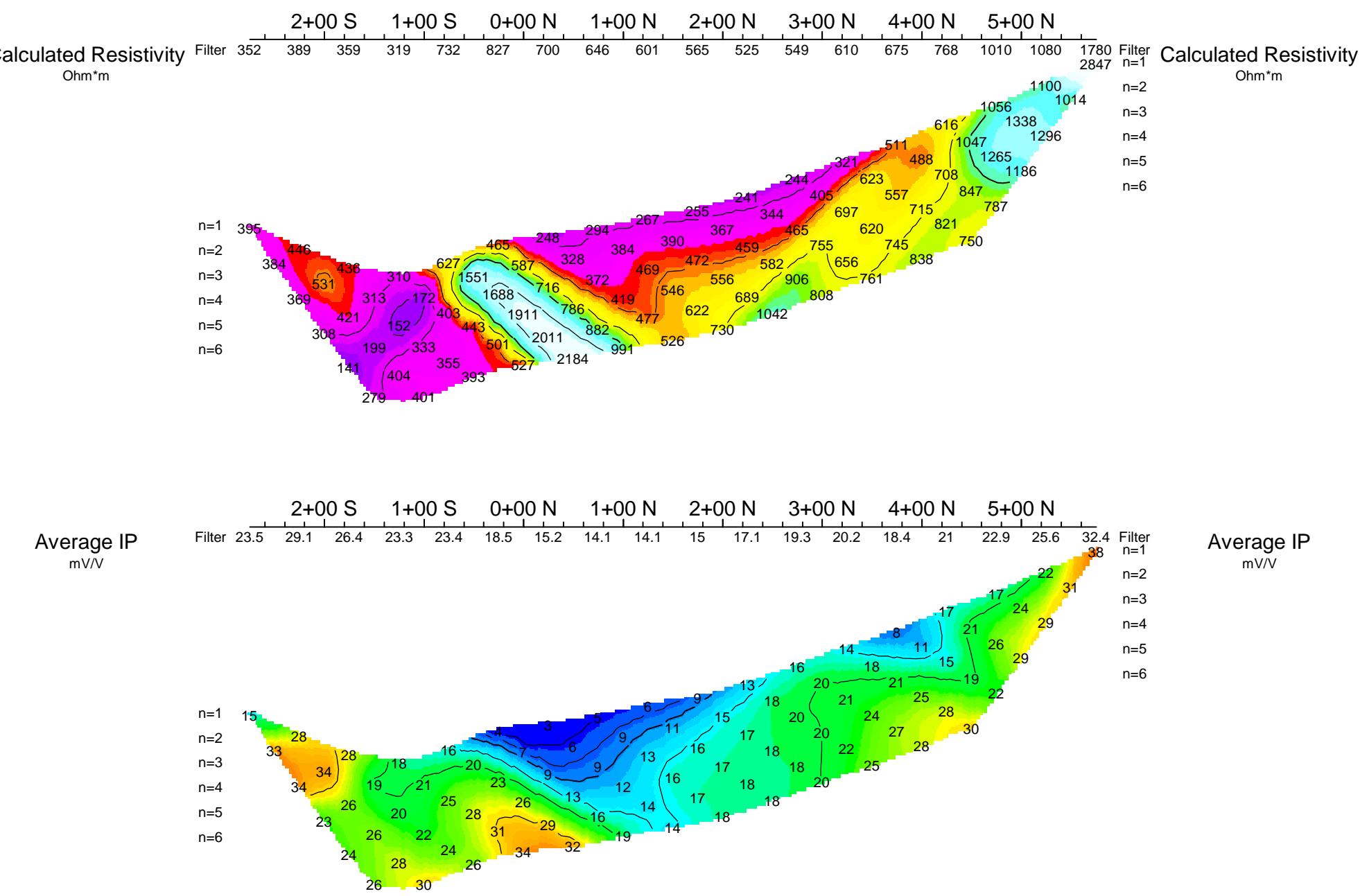
## INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Fairly well defined weak increase  
in polarization.

Resistivity feature.



Scale 1:5000

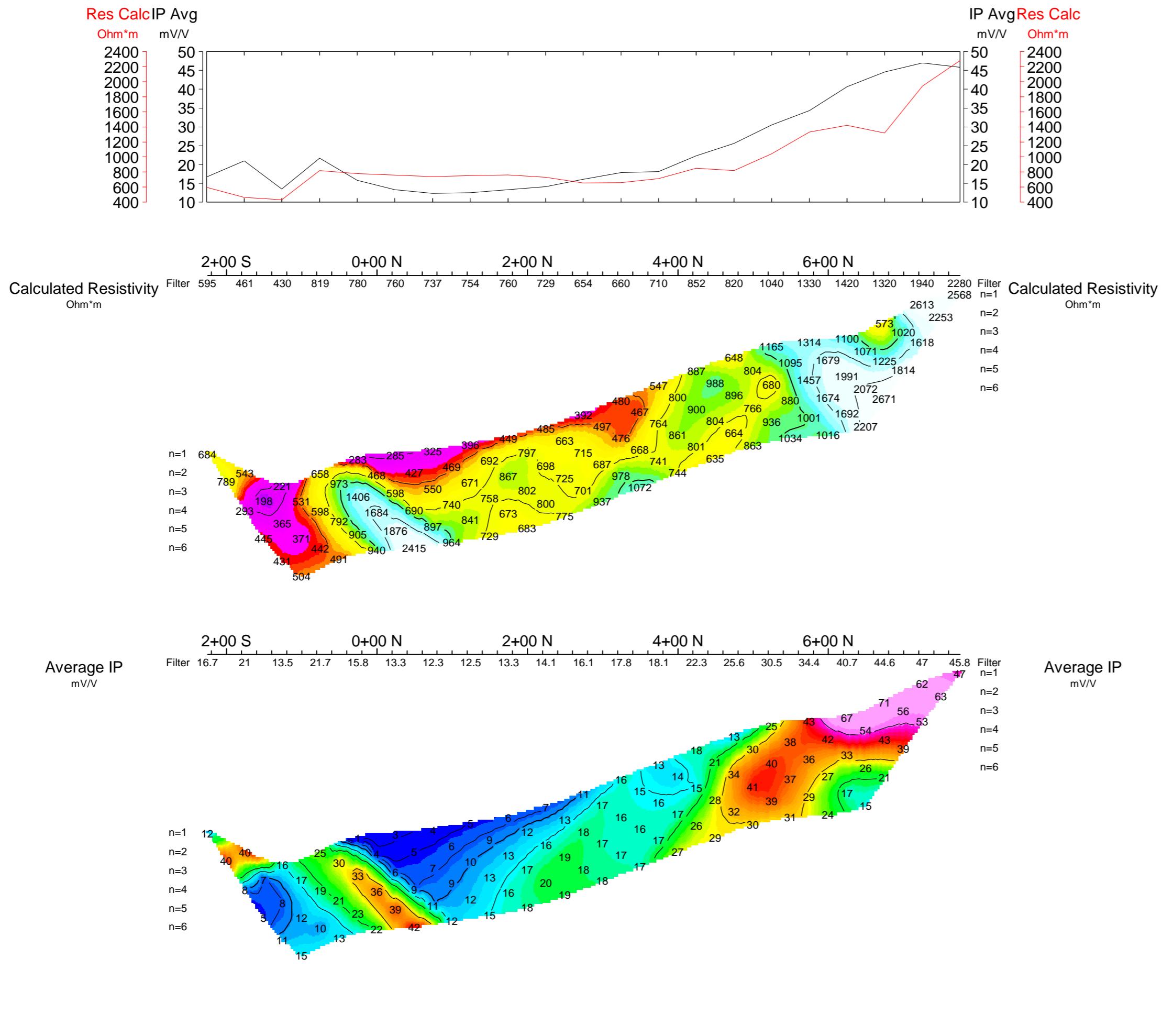
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INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT

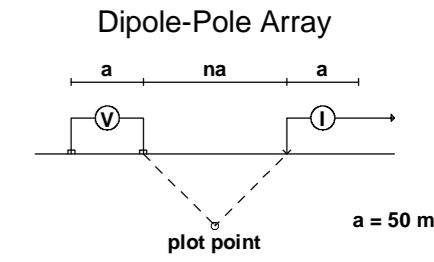
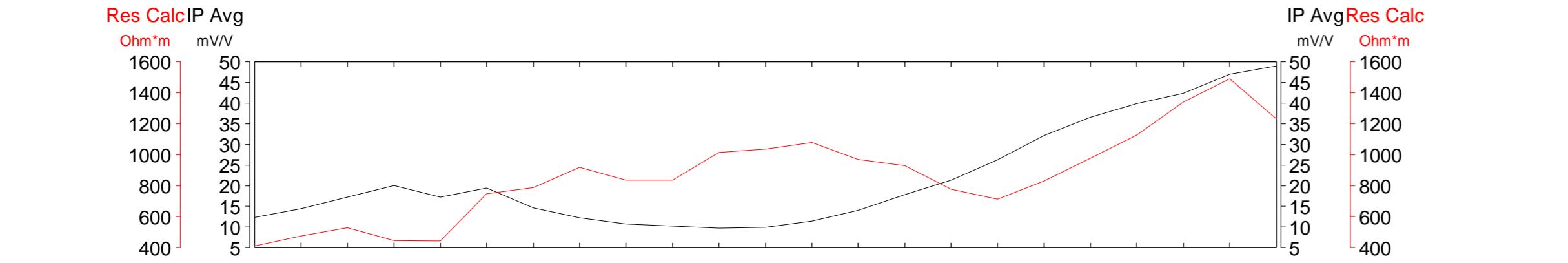
Date: JULY 2006  
Interpretation:

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16+50 E



18+00 E



Calculated Resistivity

Filter n=1

Calculated Resistivity

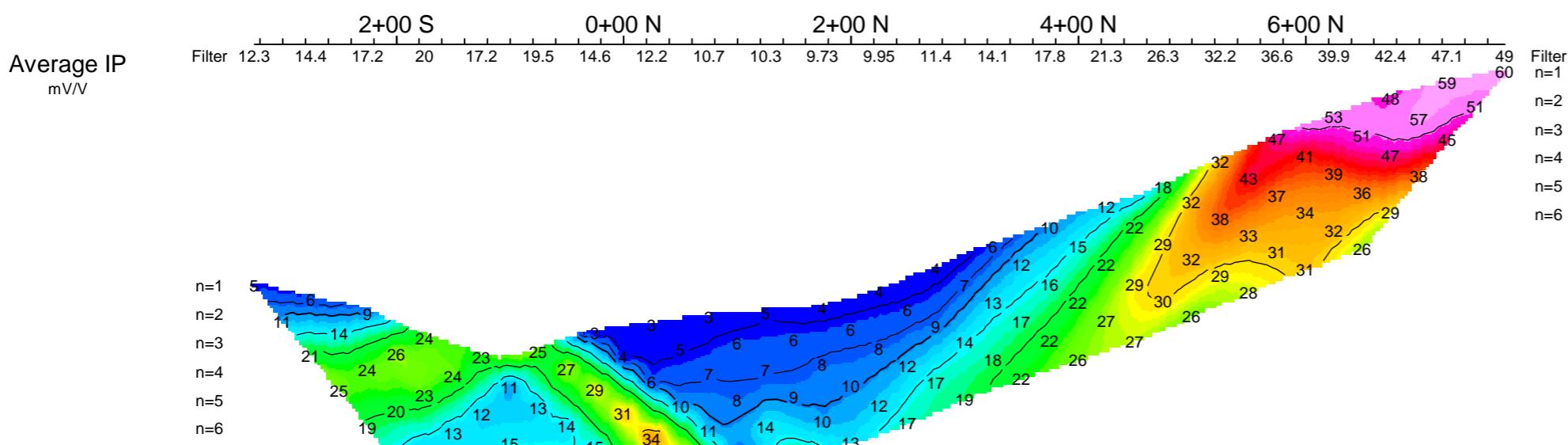
Filter n=2

Instruments: HUNTEC 7.5 kw Tx, ELREC PRO Rx  
Frequency: 0.125 Hz.  
Operators: A.C., S.P.

A contour plot showing the distribution of values across a grid. The x-axis represents  $n=1$  to  $n=6$  and the y-axis represents  $n=1$  to  $n=6$ . The color scale ranges from purple (low values) to red (high values). Numerical labels indicate specific values at various grid points.

	$n=1$	$n=2$	$n=3$	$n=4$	$n=5$	$n=6$
$n=1$	295	382	567	630	690	730
$n=2$	426	574	642	650	1017	1673
$n=3$	562	597	460	650	1612	1943
$n=4$	578	481	350	832	718	960
$n=5$	480	405	349	623	1943	1093
$n=6$	432	419	410	471	619	1363

**Logarithmic  
Contours**      1, 1.5, 2, 3, 5, 7.5, 10,...



- Fairly well defined moderate increase in polarization.
- Fairly well defined weak increase in polarization.
- | Resistivity feature

Resistivity feature:

A scale bar diagram titled "Scale 1:5000". It features a horizontal line with tick marks at intervals of 50 units. The first tick mark is labeled "50" below it. The second tick mark is labeled "0" below it. The third tick mark is labeled "50" below it. The fourth tick mark is labeled "100" below it. The fifth tick mark is labeled "150" below it. The sixth tick mark is labeled "200" below it. The seventh tick mark is labeled "250" below it. The eighth tick mark is labeled "300" below it. Below the line, the word "metres" is written.

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Digitized by srujanika@gmail.com

## CALLINAN MINES LIMITED

Digitized by srujanika@gmail.com

REDUCED POLARIZATION SURVEY

# REDUCED POLARIZATION SURVEY COLES CREEK PROJECT

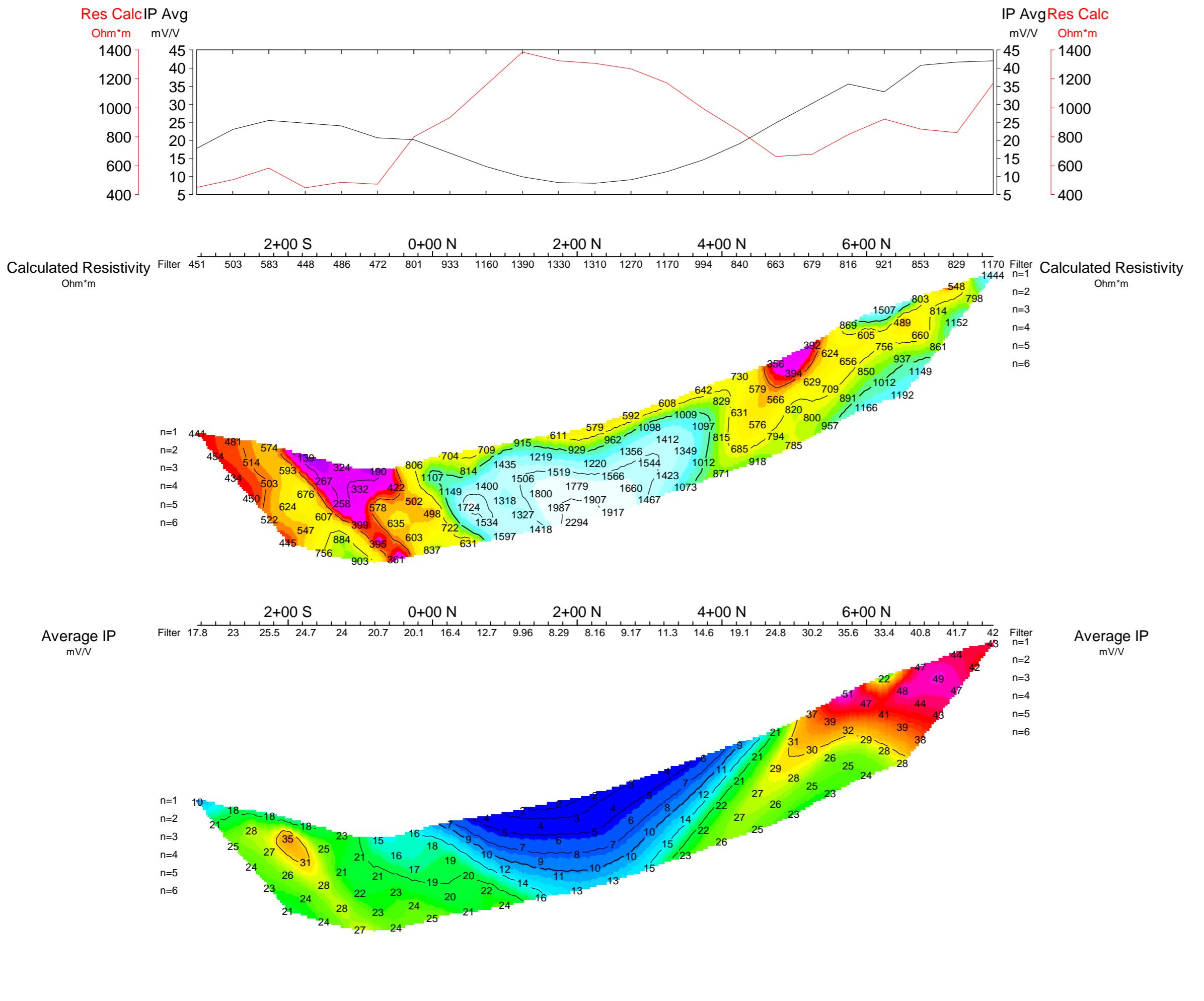
## COLES CREEK PROJECT

Date: JULY 2006  
Last updated:

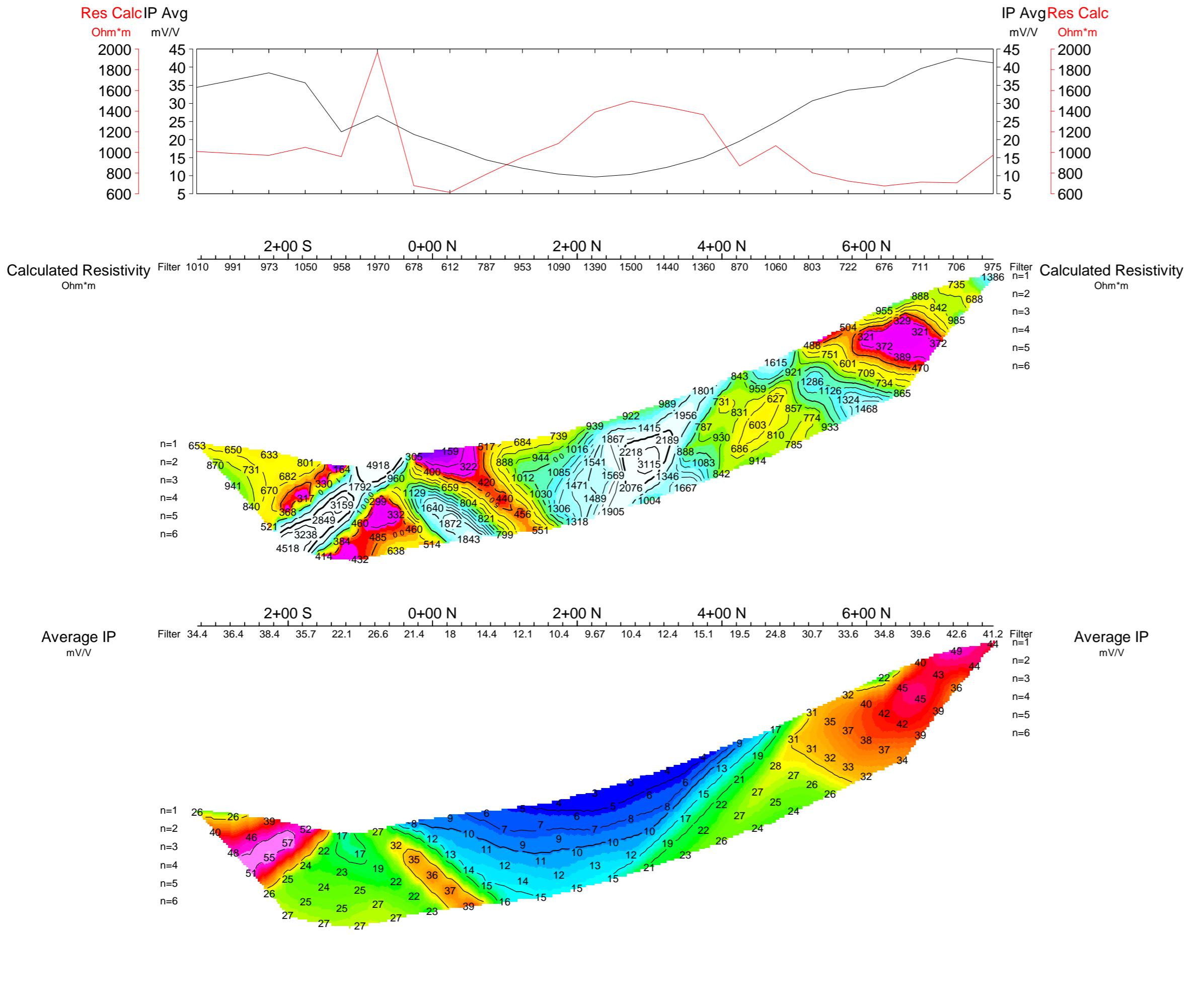
## Interpretation:

# R E. WALCOTT & ASSOCIATES LIMITED

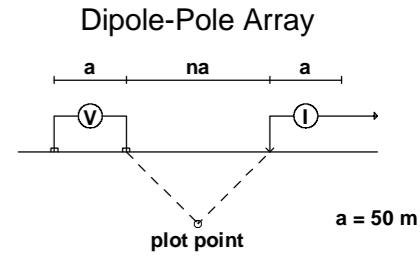
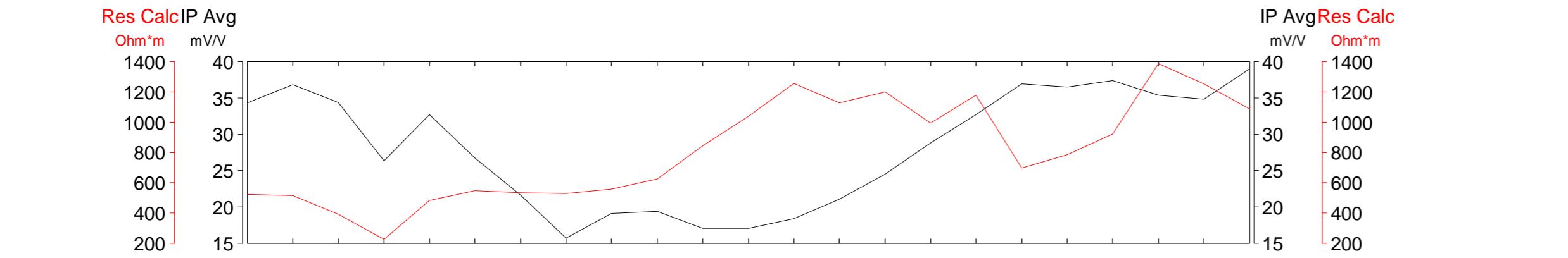
19+50 E



21+00 E



22+50 E



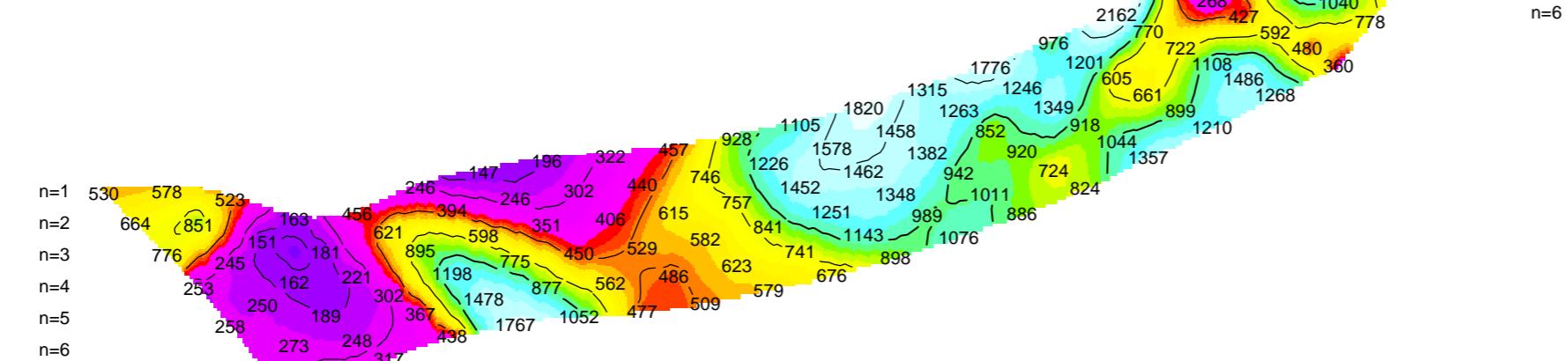
Calculated Resistivity (Ohm\*m) vs. Position (m)

Position (m)	Calculated Resistivity (Ohm*m)
2+00 S	523, 515, 392, 228, 483, 548
0+00 N	534, 529, 557, 624, 844, 1040
2+00 N	1260, 1130, 995, 1180
4+00 N	1200, 698, 784, 923, 1390, 1250
6+00 N	1090, 1762, 2642

Filter applied at n=1

Instruments: HUNTEC 7.5 kw Tx, ELREC PRO Rx  
Frequency: 0.125 Hz.  
Operators: A.C., S.P.

Logarithmic  
Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

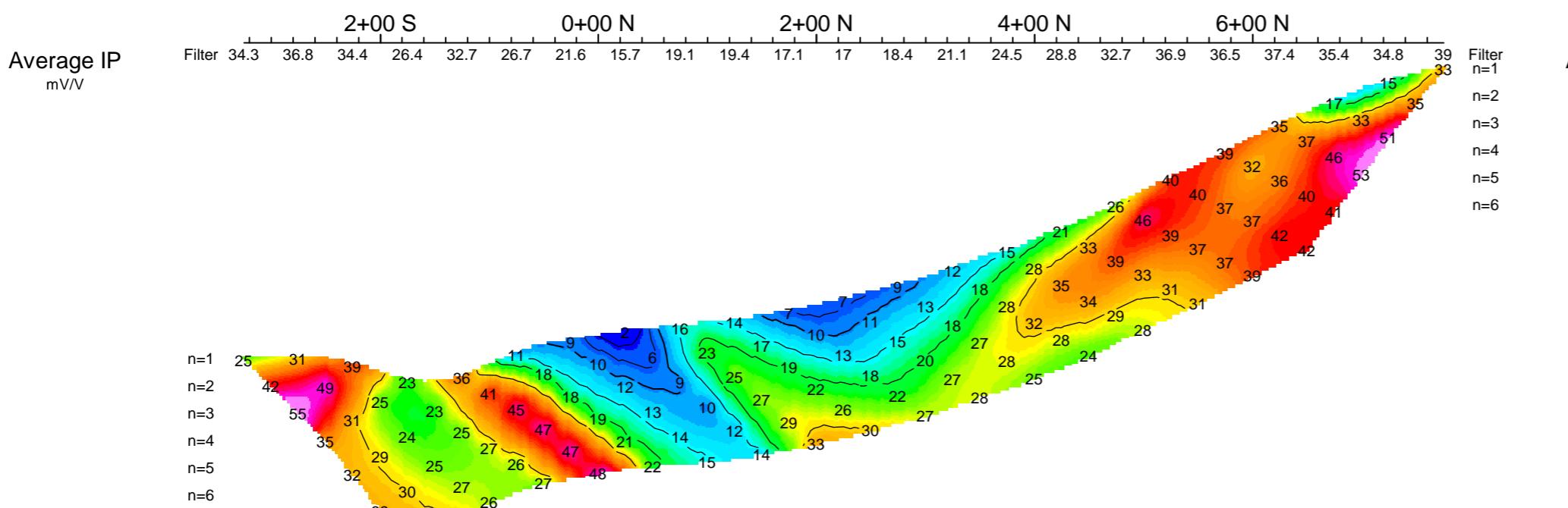


Well defined, strong increase in polarization with or without marked decrease in resistivity.

••• Fairly well defined moderate increase in polarization.

Fairly well defined weak increase in polarization.

| Resistivity feature.

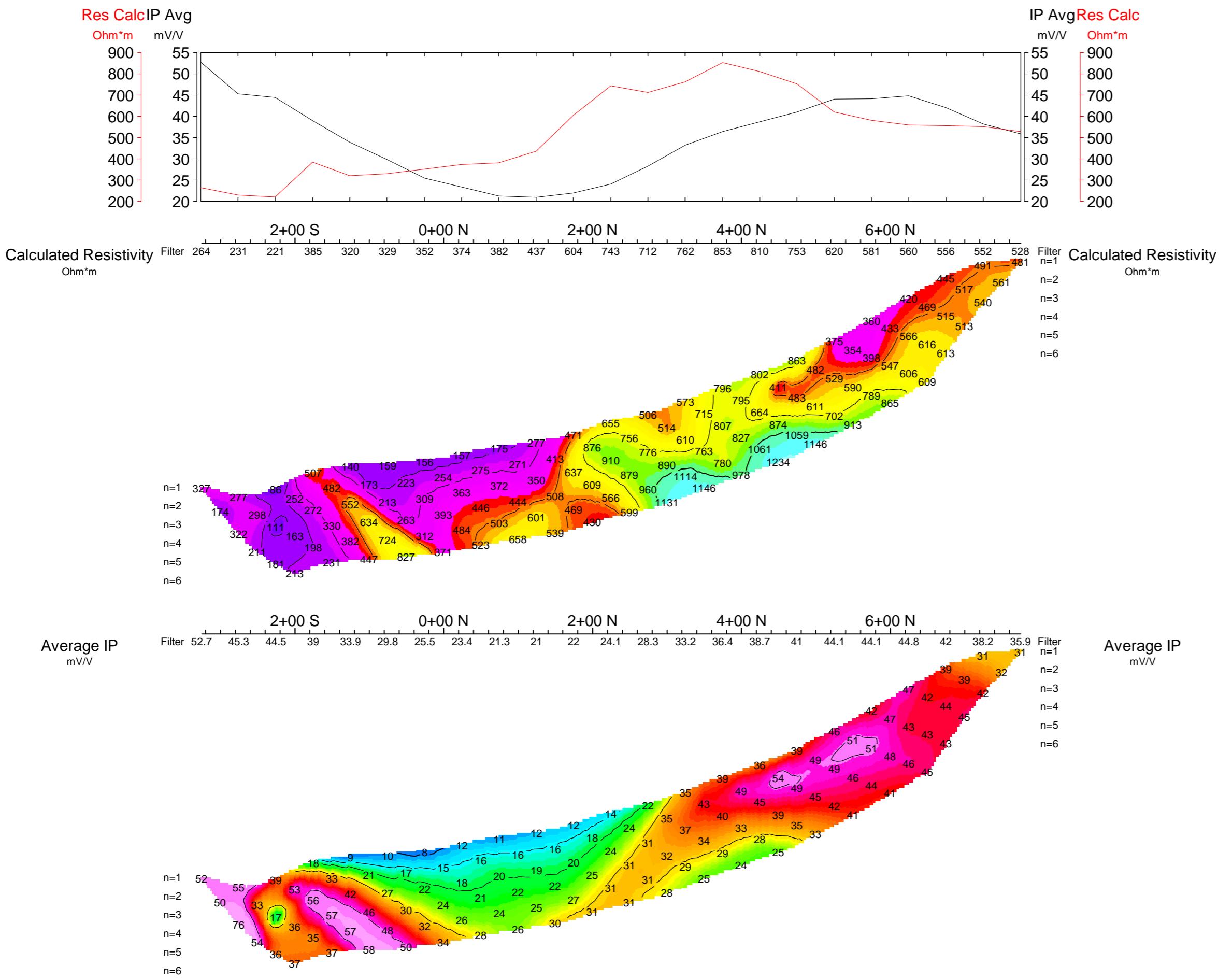


CALLINAN MINES LIMITED

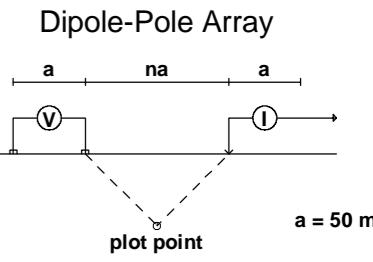
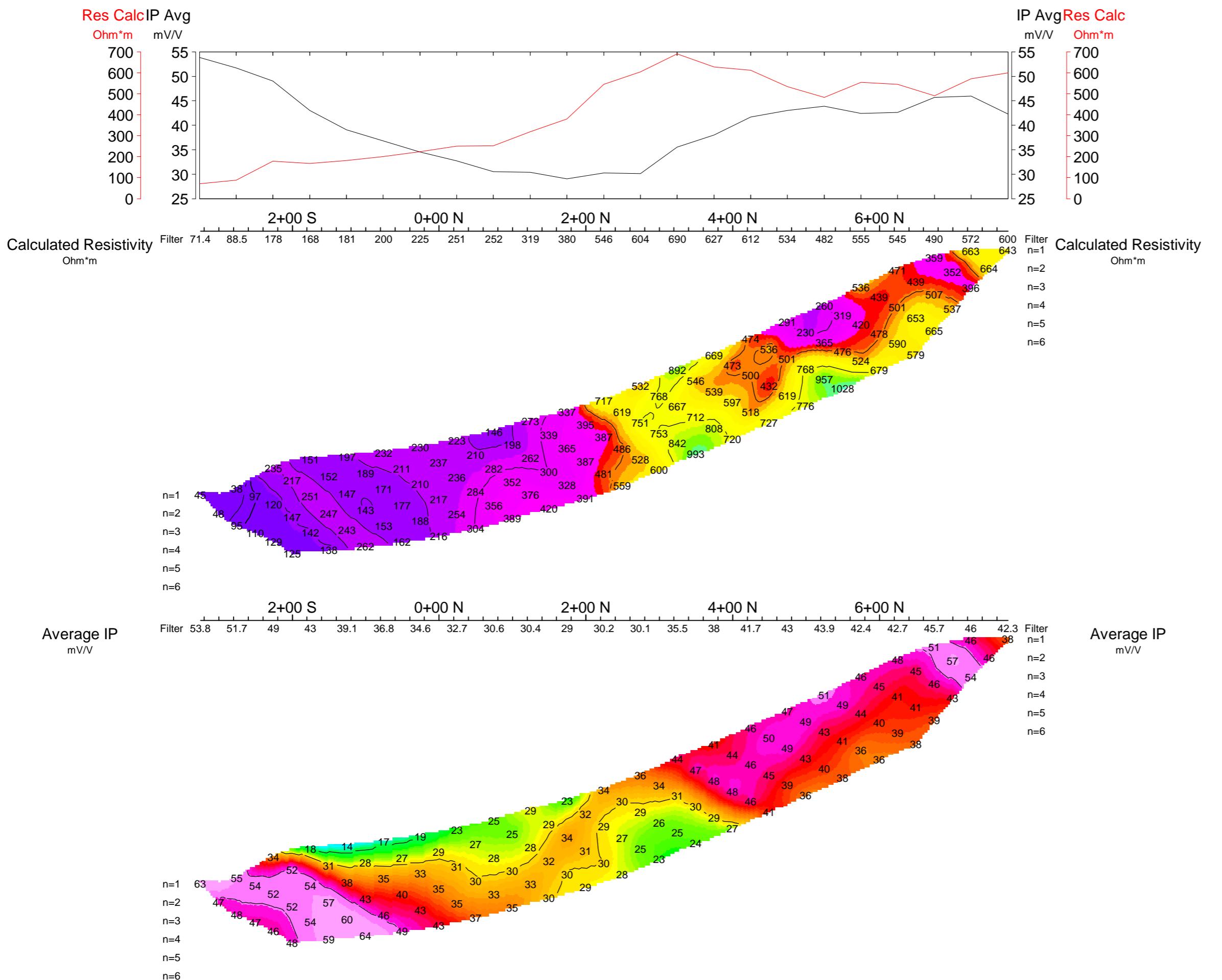
## INDUCED POLARIZATION SURVEY COLES CREEK PROJECT

Date: JULY 2006  
Interpretation:

24+00 E



25+50 E



Instruments: HUNTEC 7.5 kw Tx, ELREC PRO Rx  
Frequency: 0.125 Hz.  
Operators: A.C., S.P.

Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

#### INTERPRETATION

Well defined, strong increase in polarization with or without marked decrease in resistivity.

Fairly well defined moderate increase in polarization.

Fairly well defined weak increase in polarization.

Resistivity feature.

Scale 1:5000  
metres

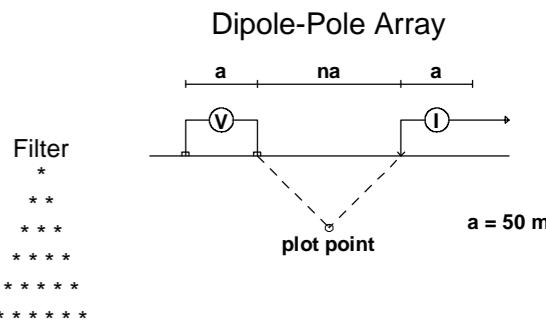
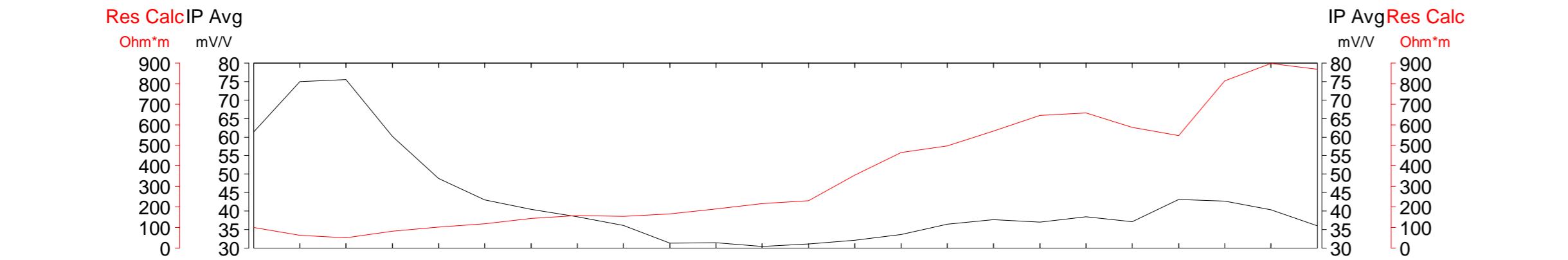
CALLINAN MINES LIMITED

INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT

Date: JULY 2006  
Interpretation:

PETER E. WALCOTT & ASSOCIATES LIMITED

27+00 E



Instruments: HUNTEC 7.5 kw Tx, ELREC PRO Rx  
Frequency: 0.125 Hz.  
Operators: A.C., S.P.

Calculated Resistivity  $\text{Ohm} \cdot \text{m}$

Filter 101 61.1 50.4 82.9 101 119 144 158 153 166 190 216 230 355 465 497 570 646 658 587 548 815 897 1309 871 Filter

2+00 S 0+00 N 2+00 N 4+00 N 6+00 N

Calculated Resistivity  $\text{Ohm} \cdot \text{m}$

Filter n=1 n=2 n=3 n=4 n=5 n=6

101 61.1 50.4 82.9 101 119 144 158 153 166 190 216 230 355 465 497 570 646 658 587 548 815 897 1309 871 898

1499 1449 1418 1365 1309 1255 1200 1169 1135 1090 1056 1021 983 957 922 897 862 827 792 757 735 708 686 650 624 608 575 550 522 497 470 456 435 428 408 392 352 315 296 274 255 236 226 206 188 178 163 152 145 132 122 112 103 99 93 92 89 87 81 71 60 59 58 57 56 55 54 53 52 51 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

**Logarithmic  
Contours** 1, 1.5, 2, 3, 5, 7.5, 10,...

Average IP  
mV/V

Well defined, strong increase in polarization with or without marked decrease in resistivity.

••• Fairly well defined moderate increase in polarization.

Fairly well defined weak increase in polarization.

#### | Resistivity feature.

A scale bar and north arrow are positioned at the top left of the map. The scale bar is labeled 'Scale 1:5000' above it. It features a black and white checkered pattern followed by numerical markings at 50, 0, 50, 100, 150, 200, 250, and 300 meters. Below the scale bar is a north arrow pointing upwards.

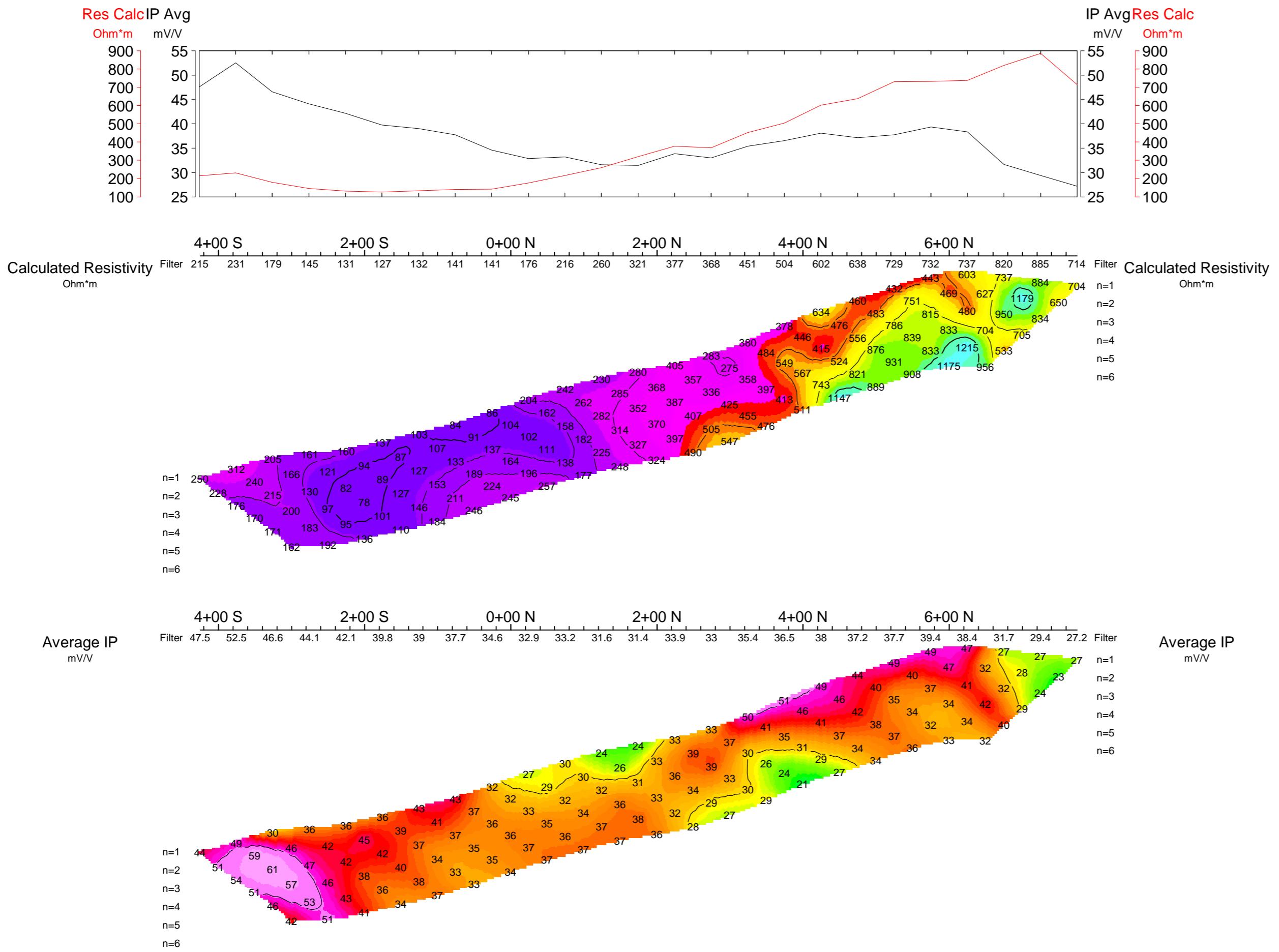
CALLINAN MINES LIMITED

INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT

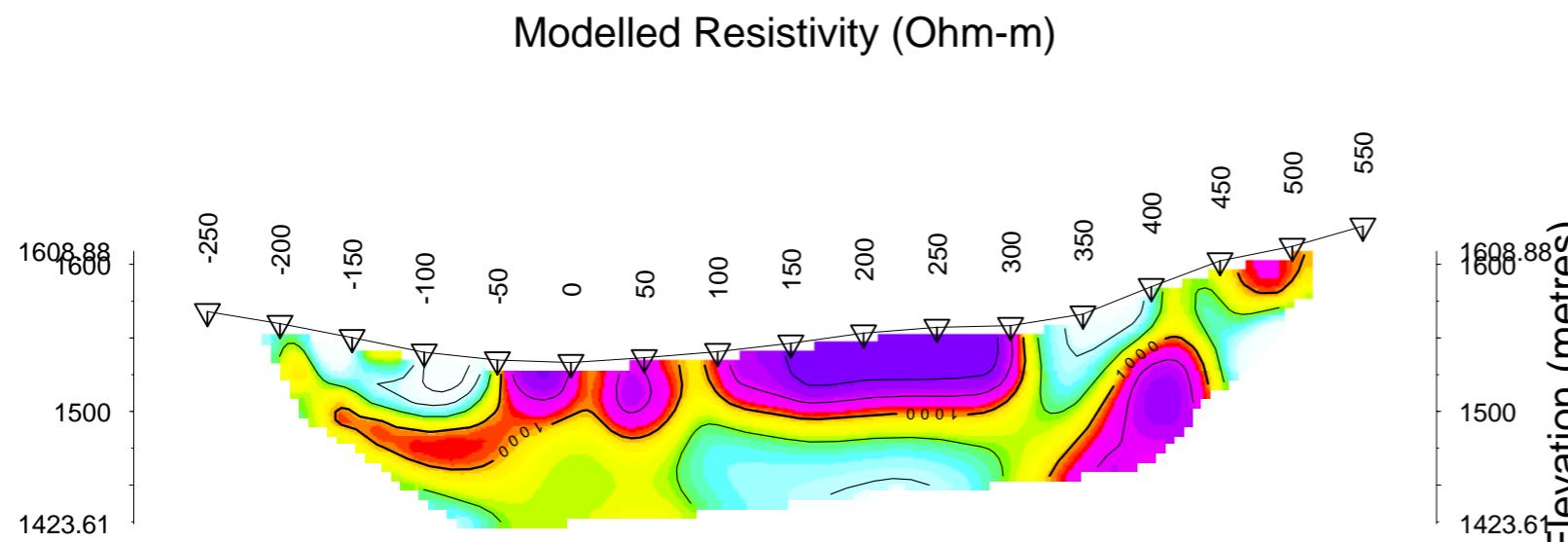
Date: JULY 2006  
Interpretation:

PETER E. WALCOTT & ASSOCIATES LIMITED

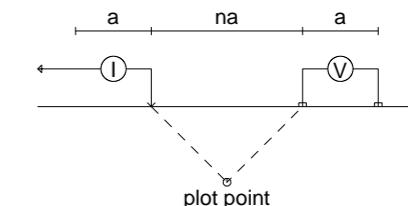
28+50 E



Line 150



Pole-Dipole Array



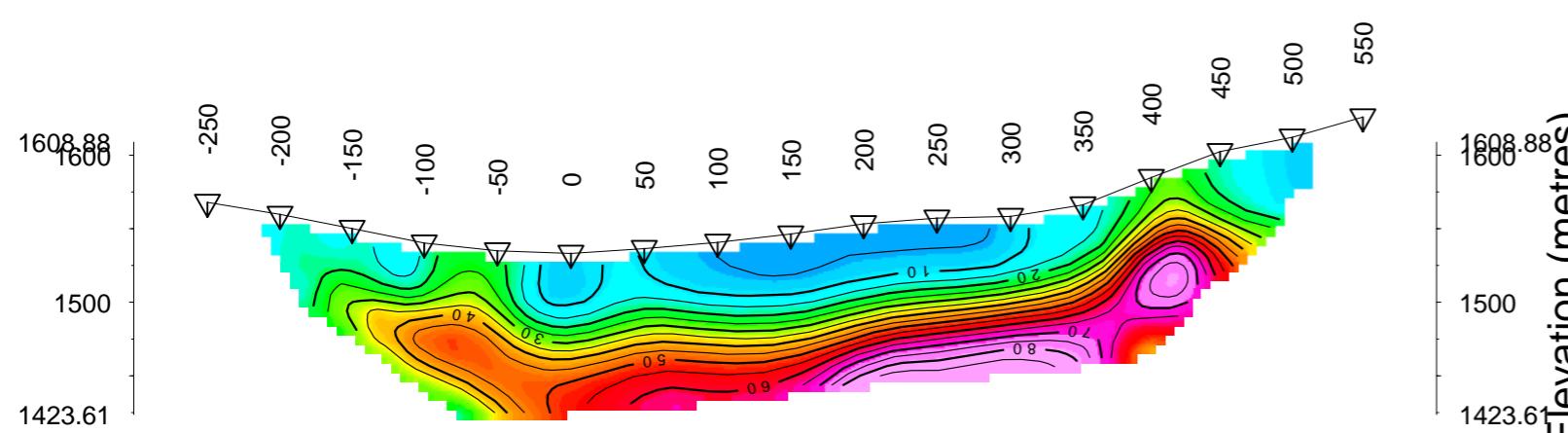
78.25
71.34
66.64
63.12
60.75
58.12
55.79
53.69
51.72
49.88
48.15
46.49
45.22
43.67
42.15
40.67
39.23
37.80
36.39
34.98
33.86
32.45
31.03
29.60
28.17
26.69
25.16
23.62
22.34
20.68
18.96
17.12
15.15
13.04
10.71
8.09
5.71
2.20
-2.51
-9.41

Modelled Chargeability  
mV/V

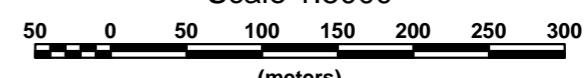
3216.63
2622.14
2293.57
2063.52
1886.22
1741.45
1620.11
1514.32
1420.43
1334.71
1257.12
1184.73
1117.17
1052.84
991.63
931.79
874.02
816.95
760.03
701.69
641.40
577.07
504.76
411.47

Modelled Resistivity  
ohm-m

Modelled Chargeability (mV/V)



Scale 1:5000



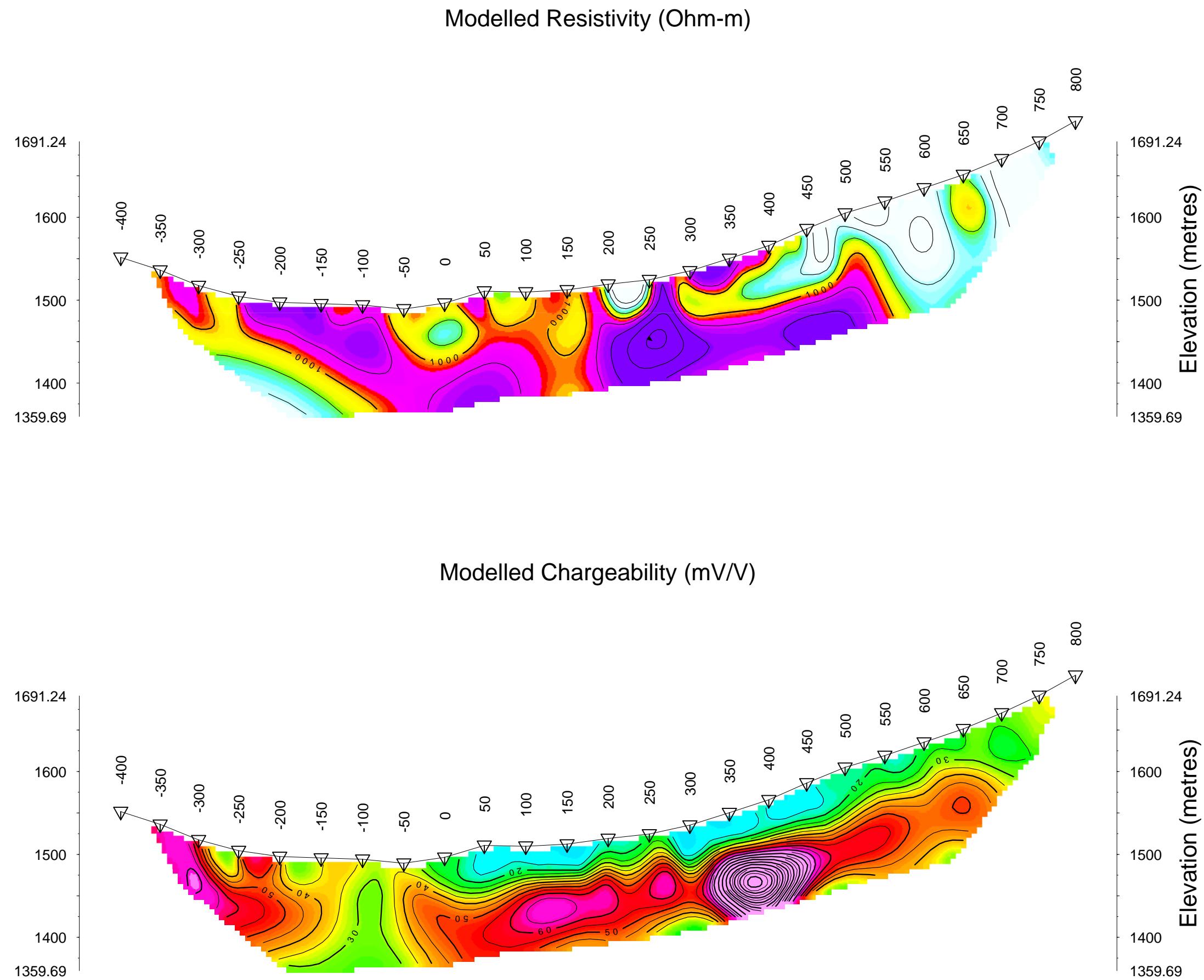
CALLINAN MINES LIMITED

INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT  
BRITISH COLUMBIA

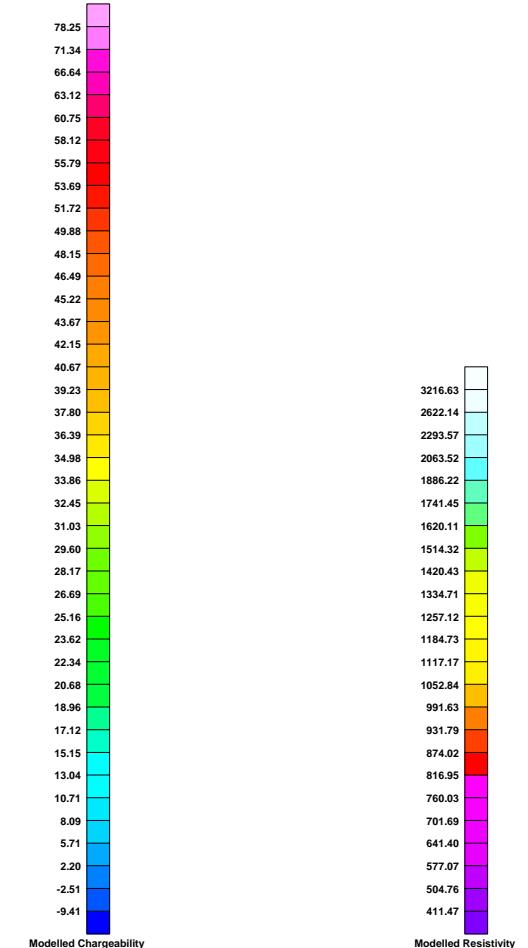
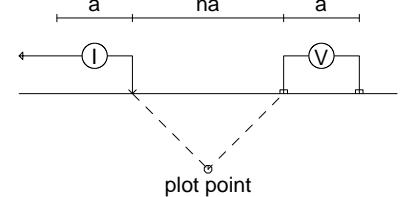
INVERSION DATE: AUGUST 2006, RES2DINV

PETER E. WALCOTT & ASSOCIATES LIMITED

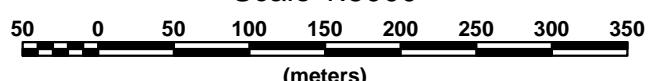
Line 300



Pole-Dipole Array



Scale 1:5000

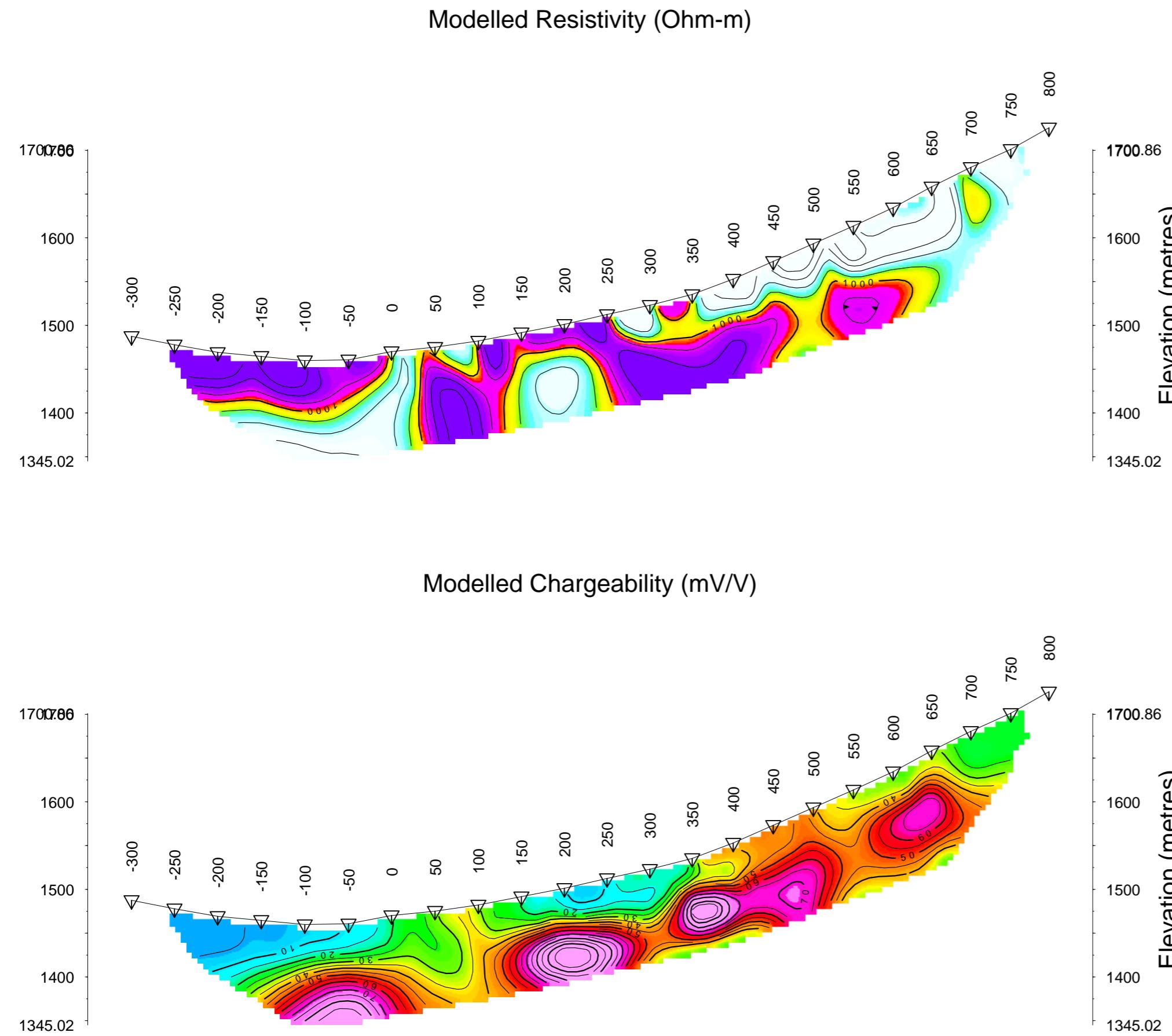


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INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT  
BRITISH COLUMBIA

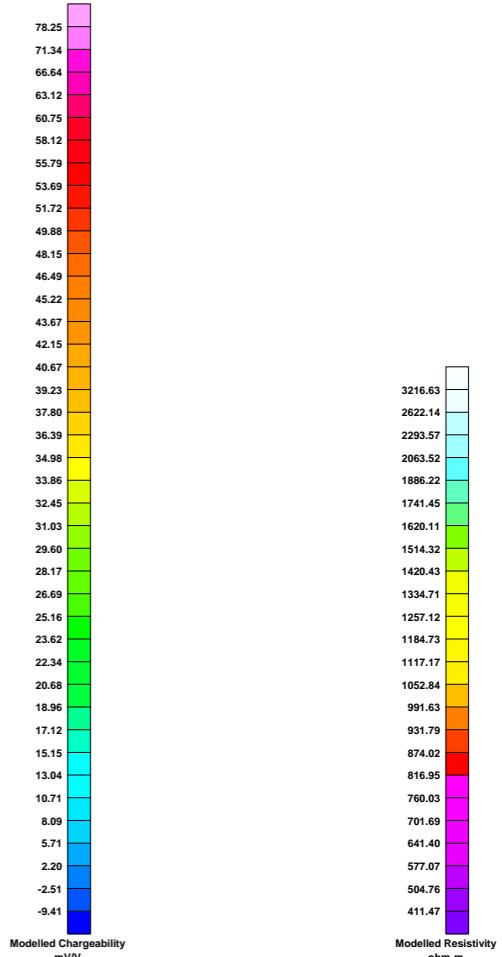
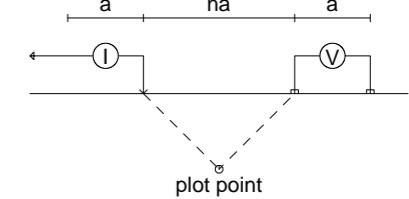
INVERSION DATE: AUGUST 2006, RES2DINV

PETER E. WALCOTT & ASSOCIATES LIMITED

Line 450



Pole-Dipole Array



Scale 1:5000

50 0 50 100 150 200 250 300 350  
(meters)

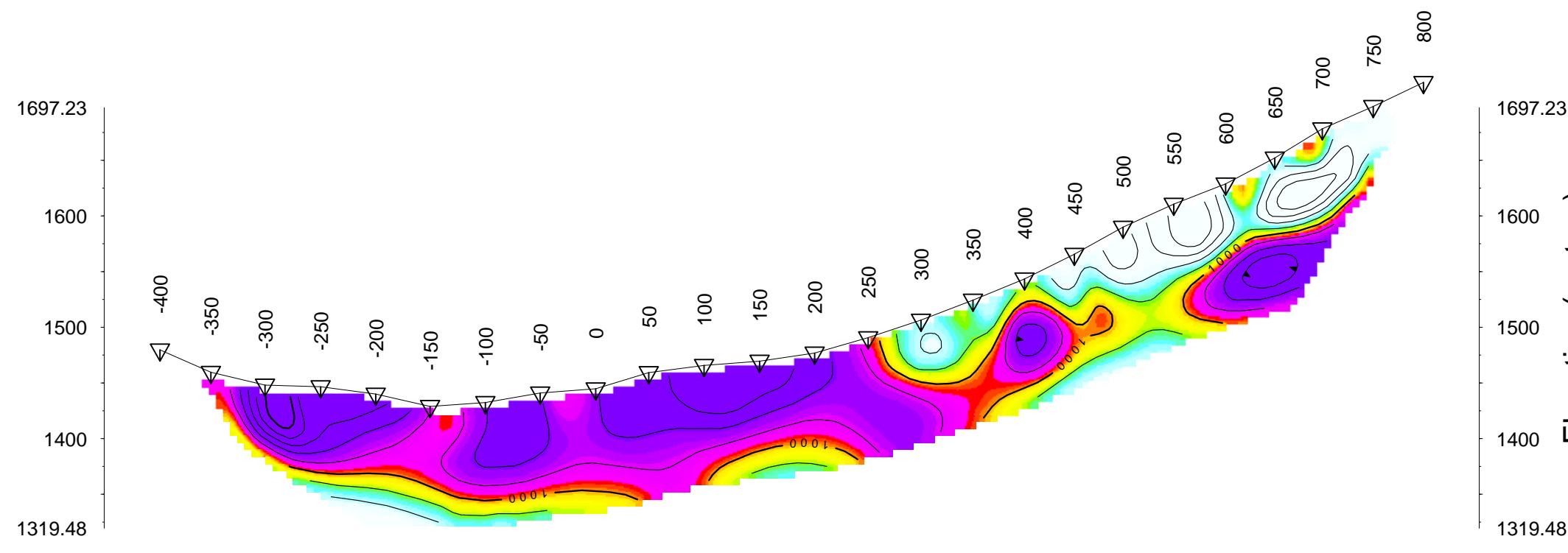
**CALLINAN MINES LIMITED**  
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COLES CREEK PROJECT  
BRITISH COLUMBIA

INVERSION DATE: AUGUST 2006, RES2DINV

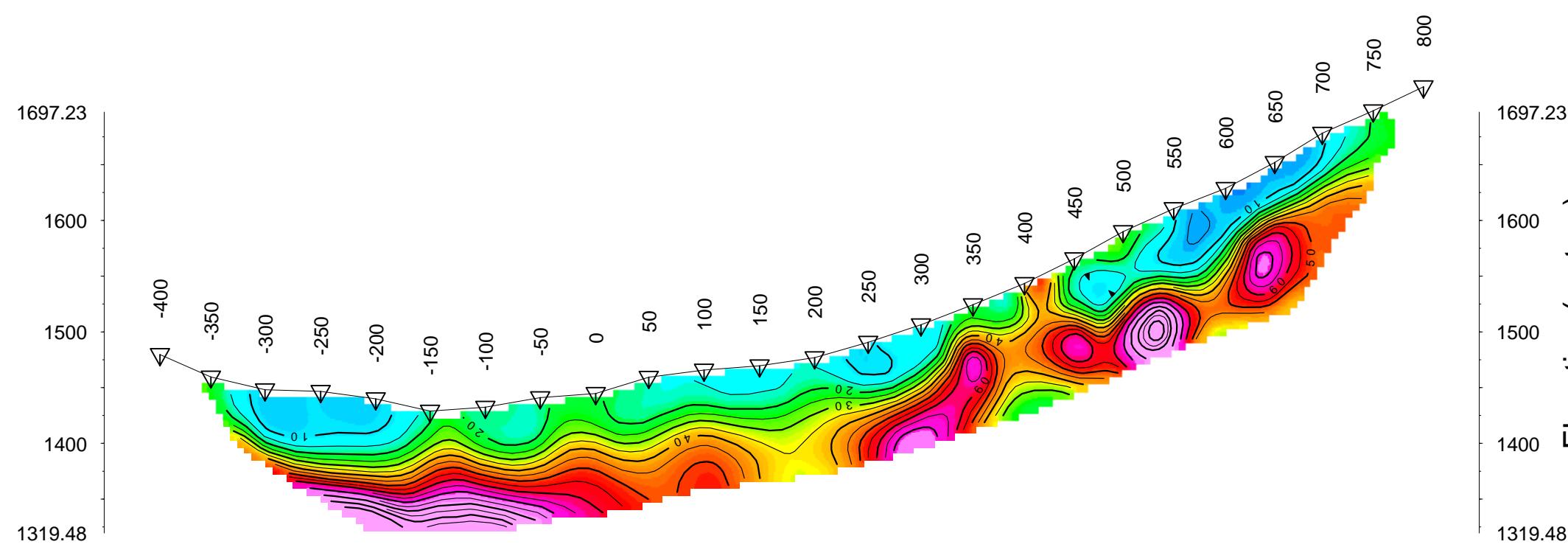
PETER E. WALCOTT & ASSOCIATES LIMITED

Line 600

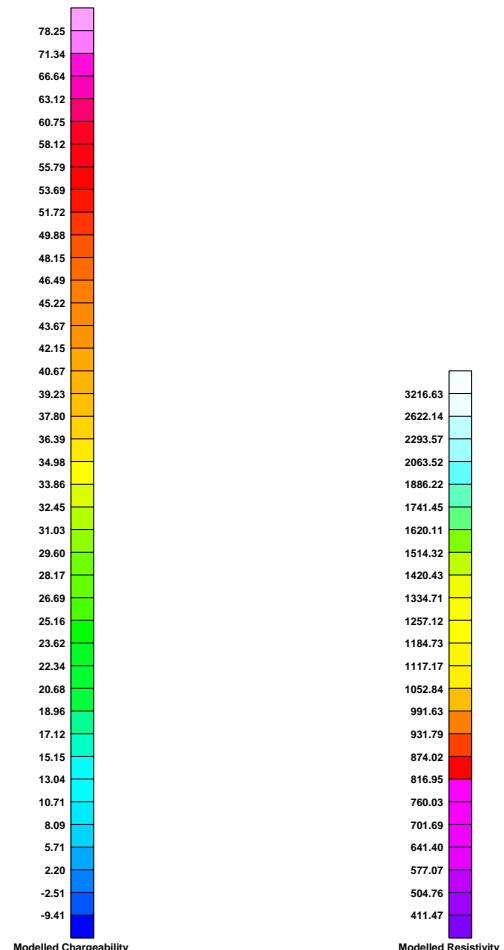
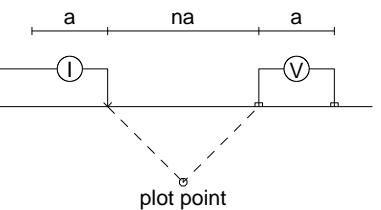
### Modelled Resistivity (Ohm-m)



### Modelled Chargeability (mV/V)



### Pole-Dipole Array

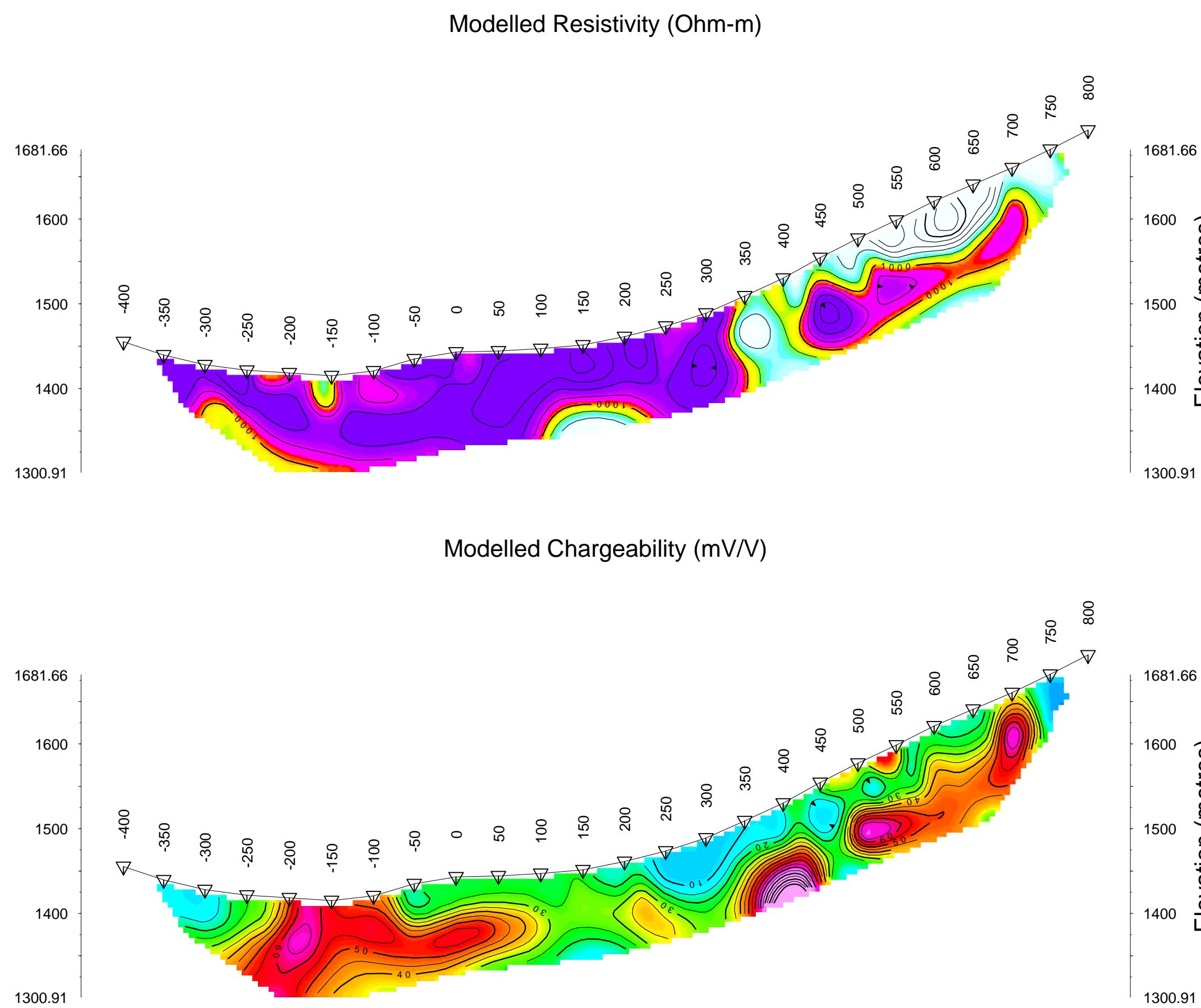


Scale 1:5000  
50 0 50 100 150 200 250 300 350  
(meters)

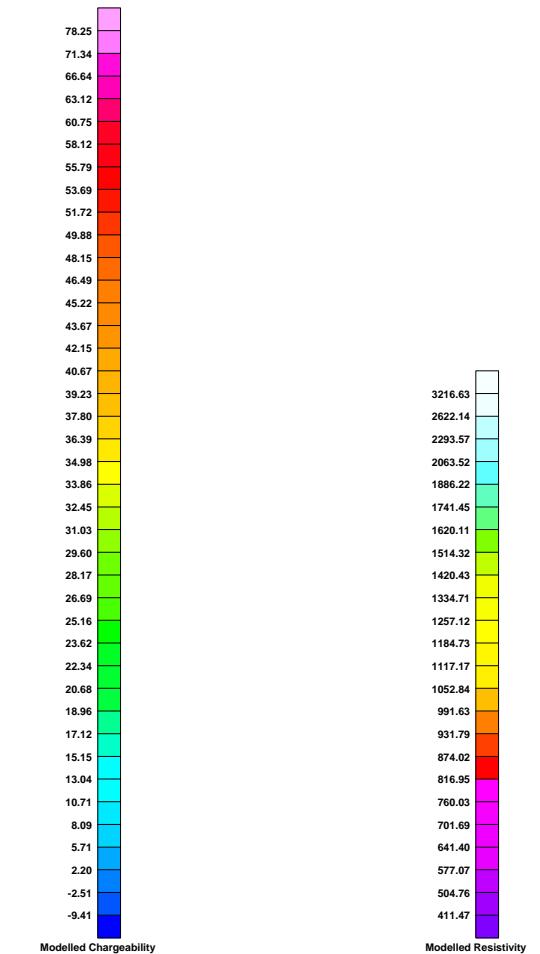
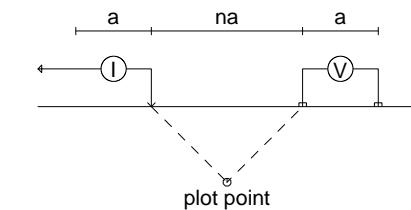
**CALLINAN MINES LIMITED**  
INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT  
BRITISH COLUMBIA  
INVERSION DATE: AUGUST 2006, RES2DINV

PETER E. WALCOTT & ASSOCIATES LIMITED

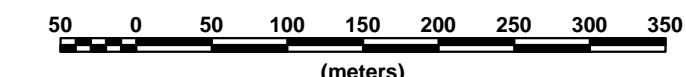
Line 750



Pole-Dipole Array



Scale 1:5000

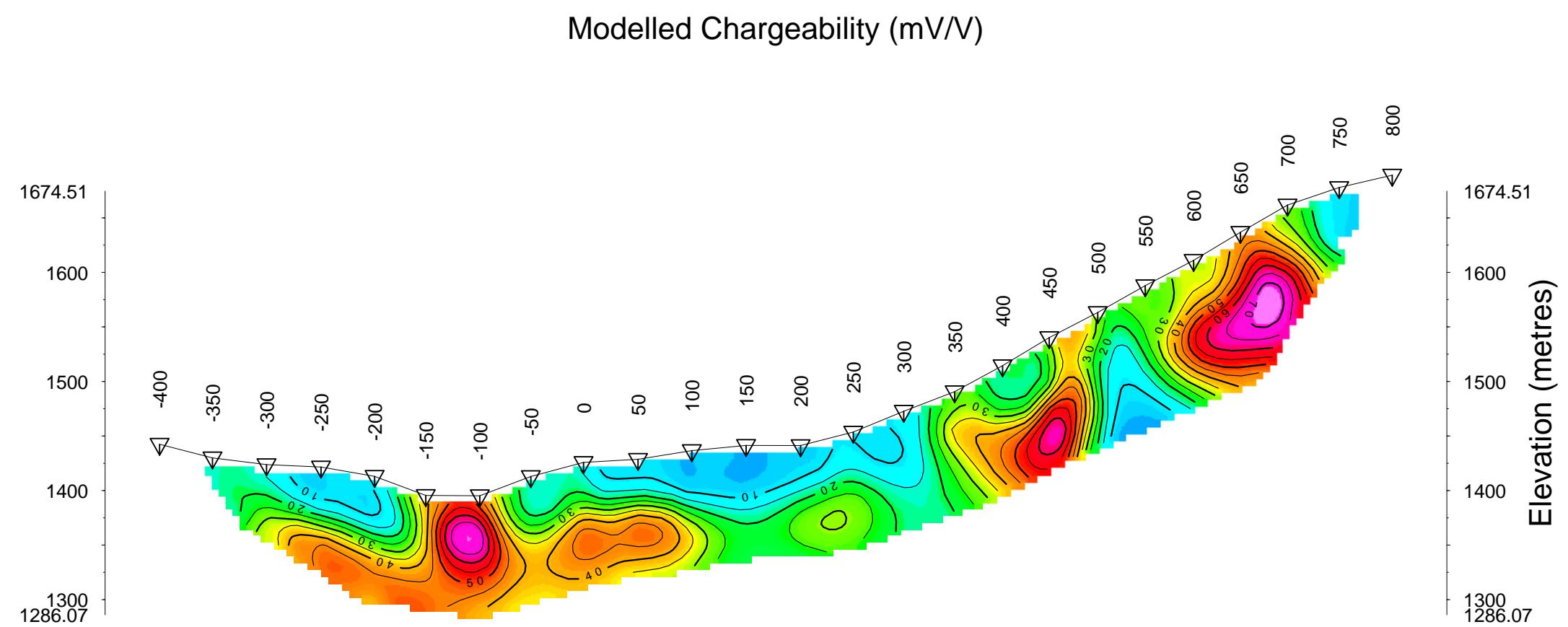
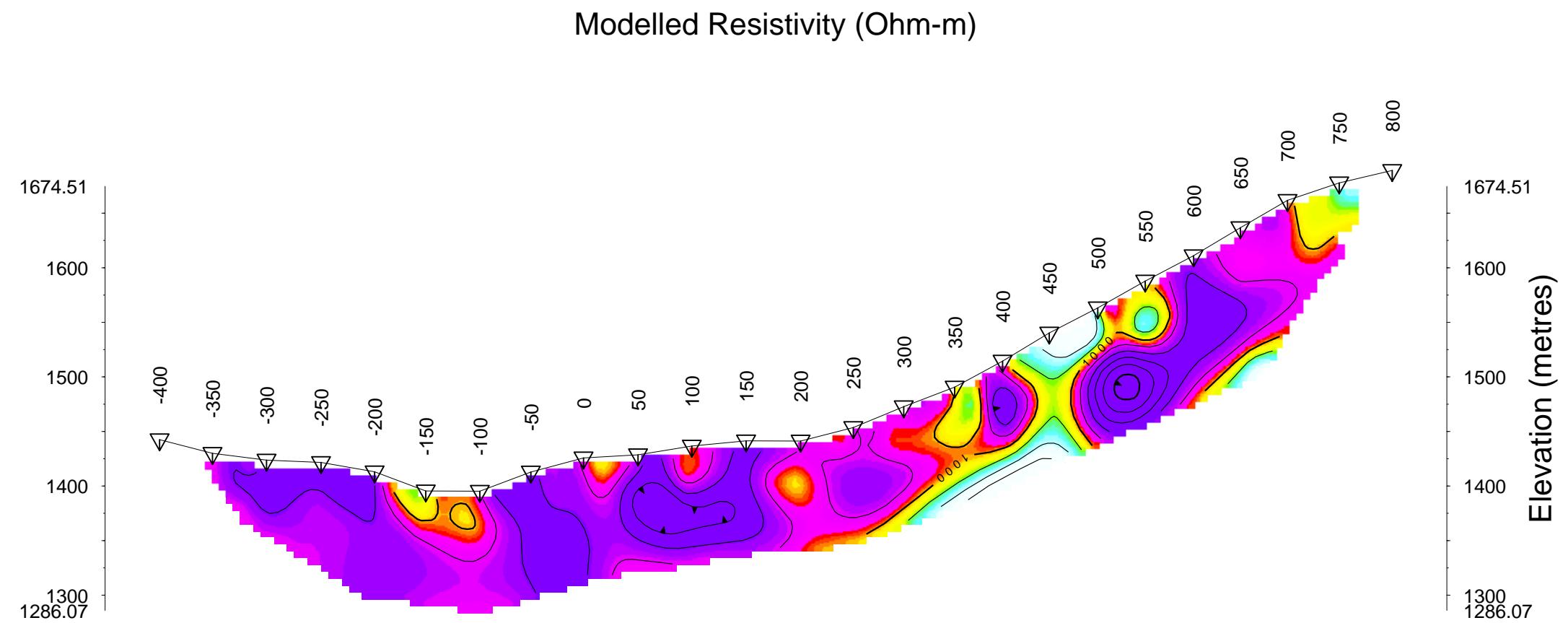


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BRITISH COLUMBIA

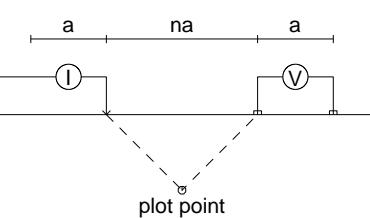
INVERSION DATE: AUGUST 2006, RES2DINV

PETER E. WALCOTT & ASSOCIATES LIMITED

Line 900



Pole-Dipole Array



78.25

71.34

66.64

63.12

60.75

58.12

55.79

53.69

51.72

49.88

48.15

46.49

45.22

43.67

42.15

40.67

39.23

37.80

36.39

34.98

33.86

32.45

31.03

29.60

28.17

26.69

25.16

23.62

22.34

20.68

18.96

17.12

15.15

13.04

10.71

8.09

5.71

2.20

-2.51

-9.41

Modelled Chargeability  
mV/V

3216.63  
2622.14  
2293.57  
2063.52  
1886.22  
1741.45  
1620.11  
1514.32  
1420.43  
1334.71  
1257.12  
1184.73  
1117.17  
1052.84  
991.63  
931.79  
874.02  
816.95  
760.03  
701.69  
641.40  
577.07  
504.76  
411.47

Modelled Resistivity  
ohm-m

Scale 1:5000

50 0 50 100 150 200 250 300 350  
(meters)

CALLINAN MINES LIMITED

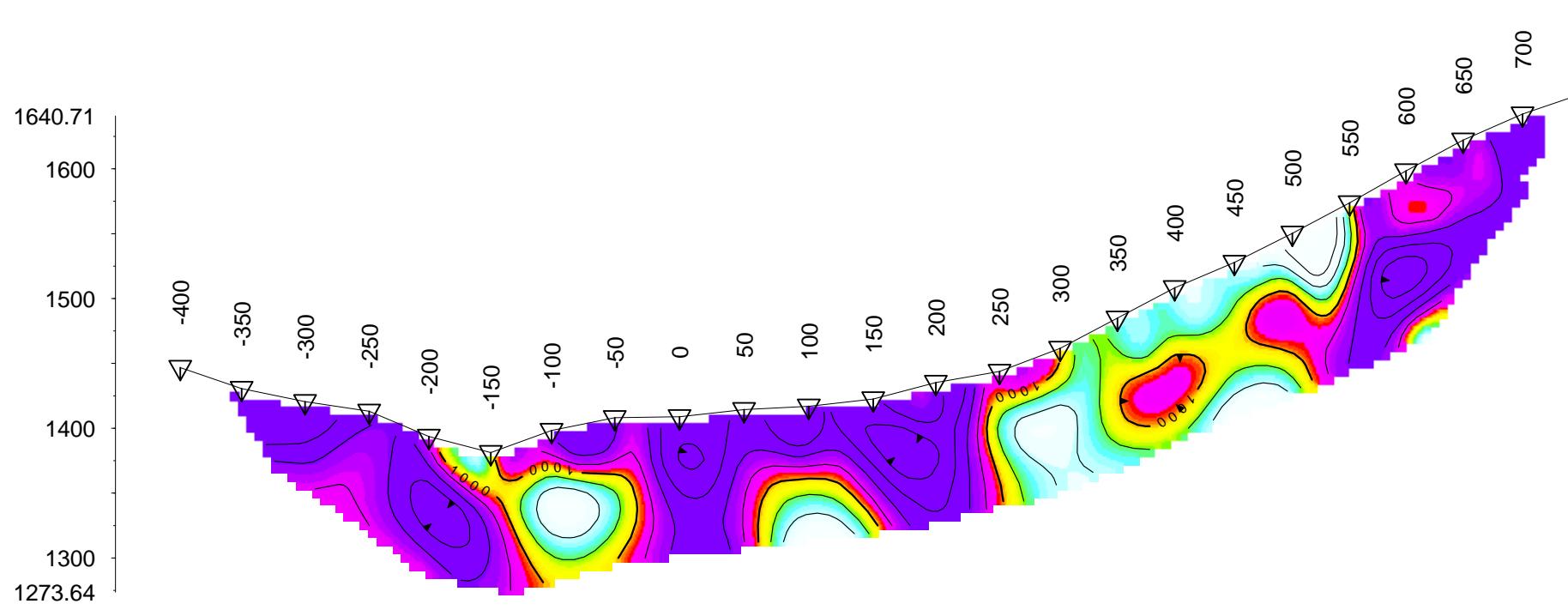
INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT  
BRITISH COLUMBIA

INVERSION DATE: AUGUST 2006, RES2DINV

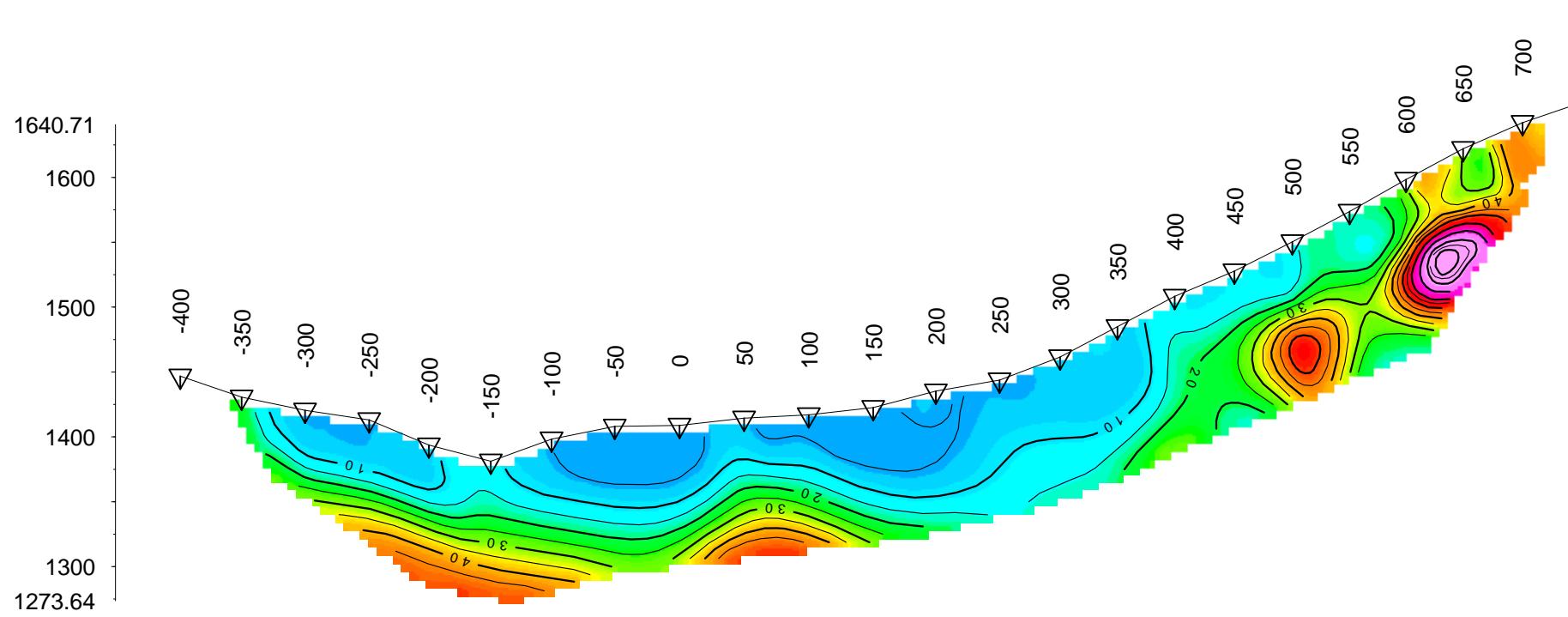
PETER E. WALCOTT & ASSOCIATES LIMITED

Line 1050

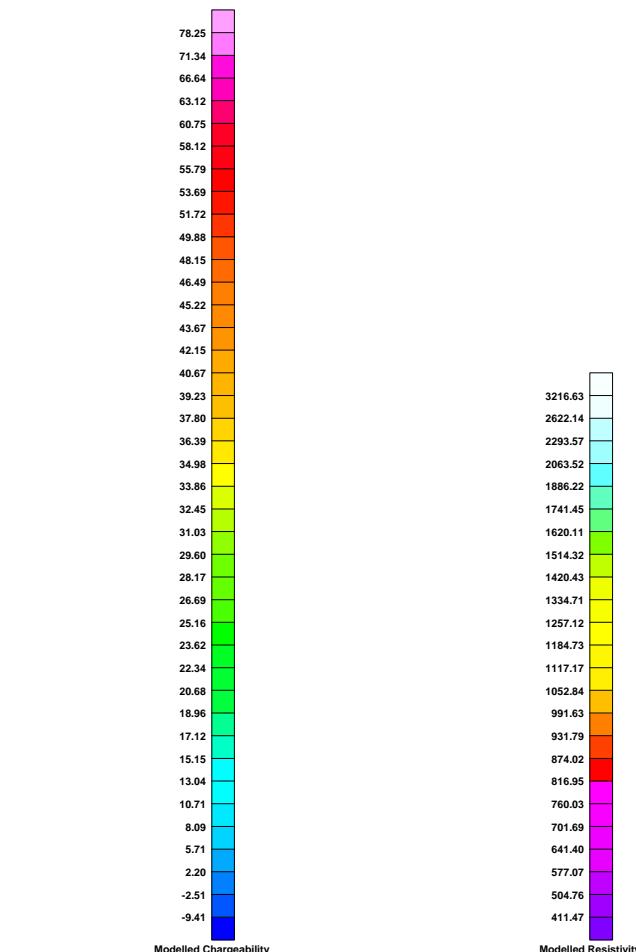
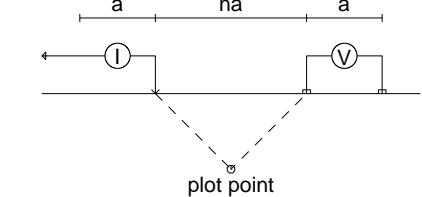
### Modelled Resistivity (Ohm-m)



### Modelled Chargeability (mV/V)



### Pole-Dipole Array



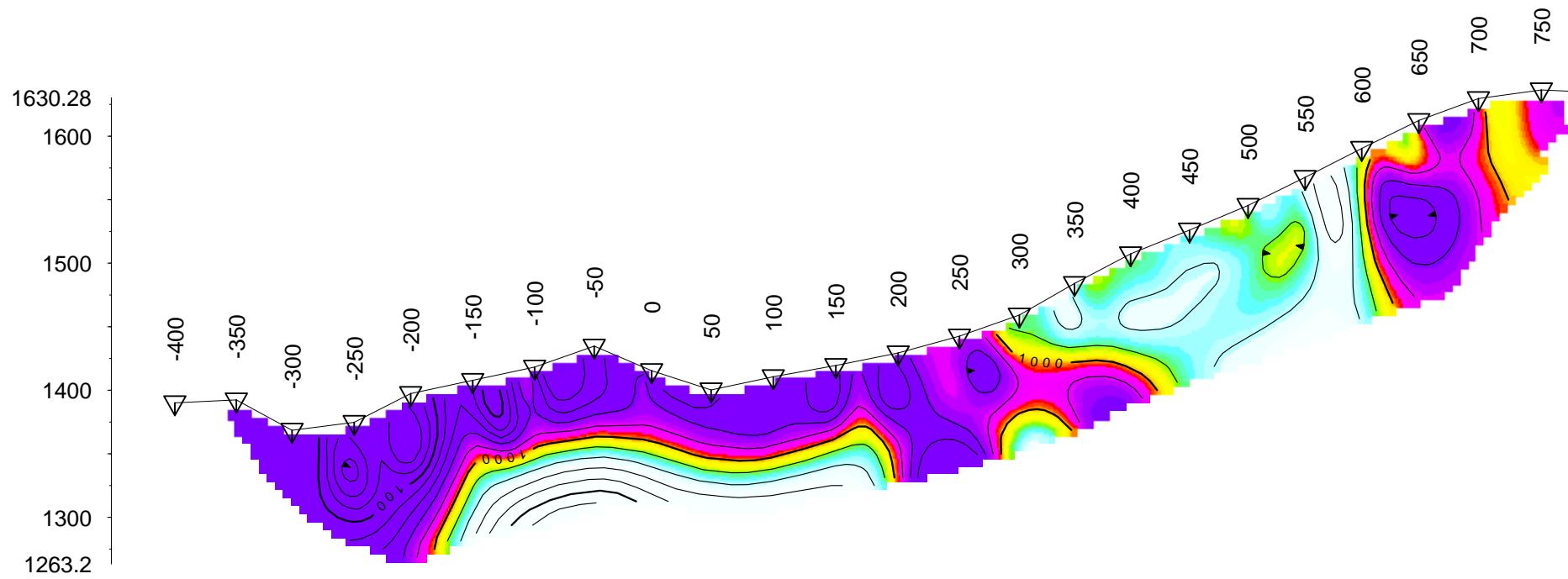
Scale 1:5000  
(meters)

CALLINAN MINES LIMITED  
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COLES CREEK PROJECT  
BRITISH COLUMBIA  
INVERSION DATE: AUGUST 2006, RES2DINV

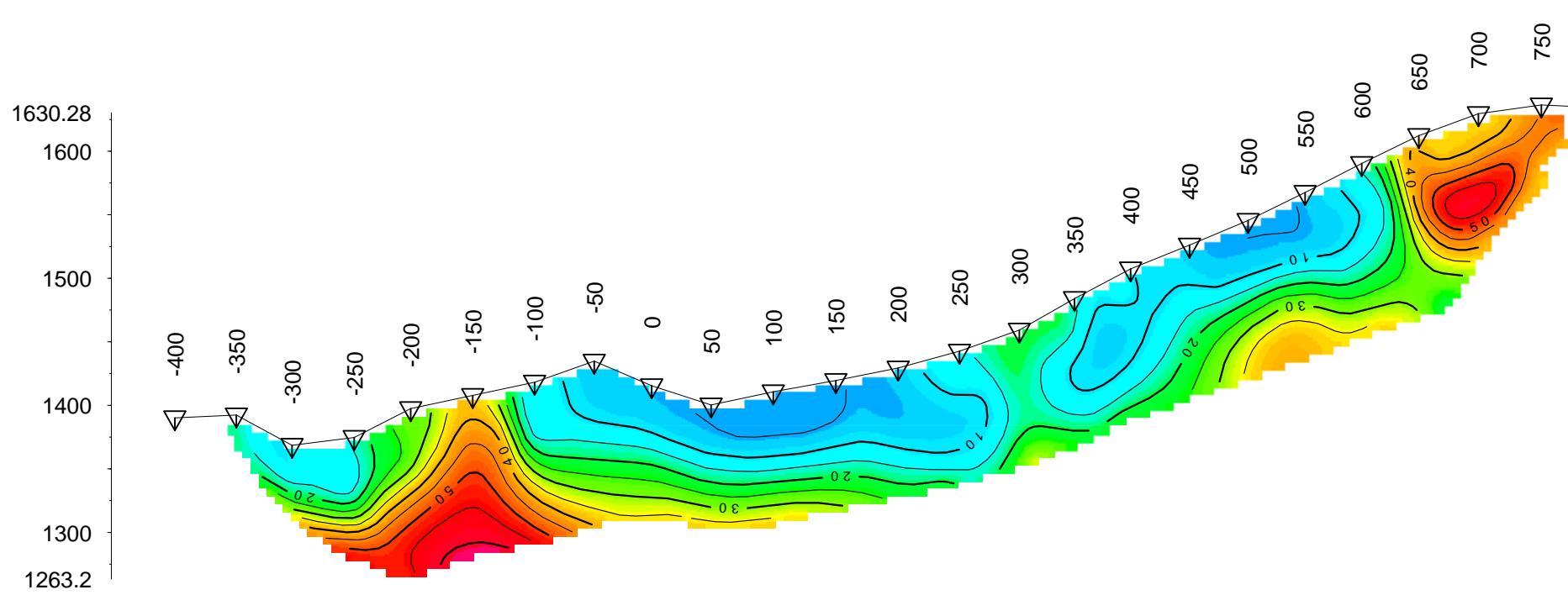
PETER E. WALCOTT & ASSOCIATES LIMITED

Line 1200

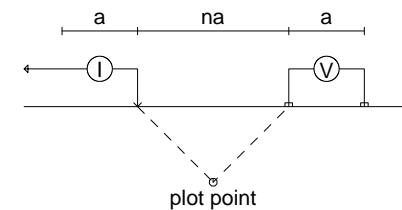
### Modelled Resistivity (Ohm-m)



### Modelled Chargeability (mV/V)



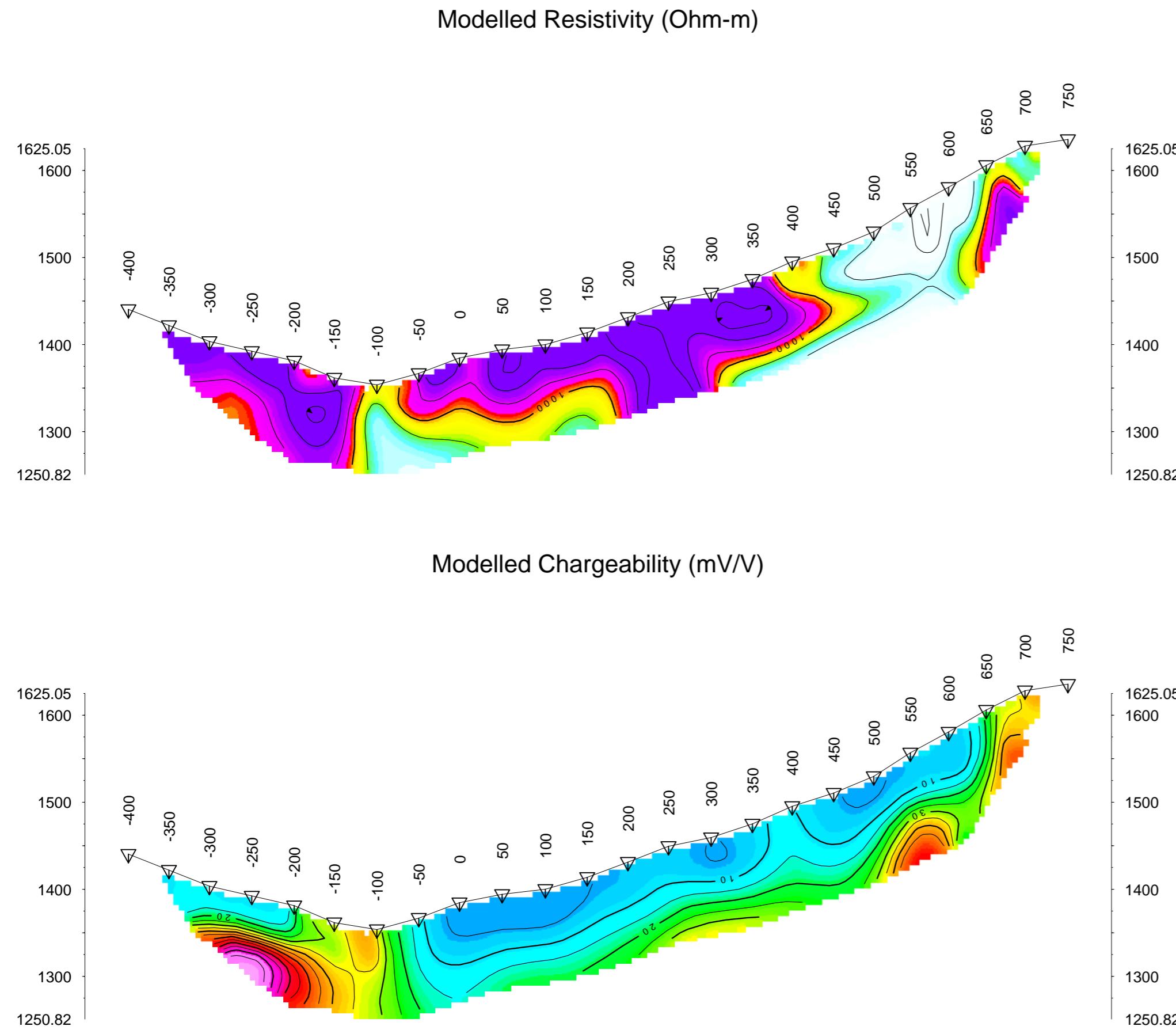
### Pole-Dipole Array



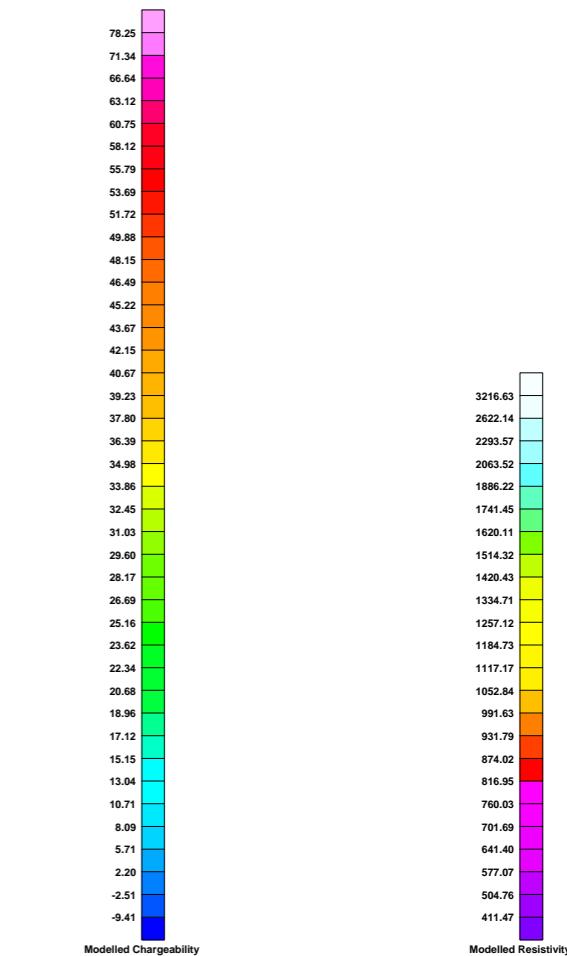
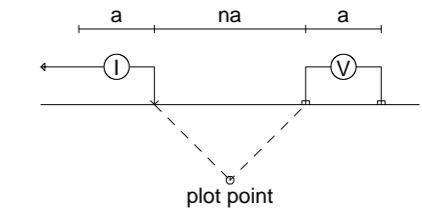
Scale 1:5000  
(meters)

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COLES CREEK PROJECT  
BRITISH COLUMBIA  
INVERSION DATE: AUGUST 2006, RES2DINV  
PETER E. WALCOTT & ASSOCIATES LIMITED

Line 1350



Pole-Dipole Array



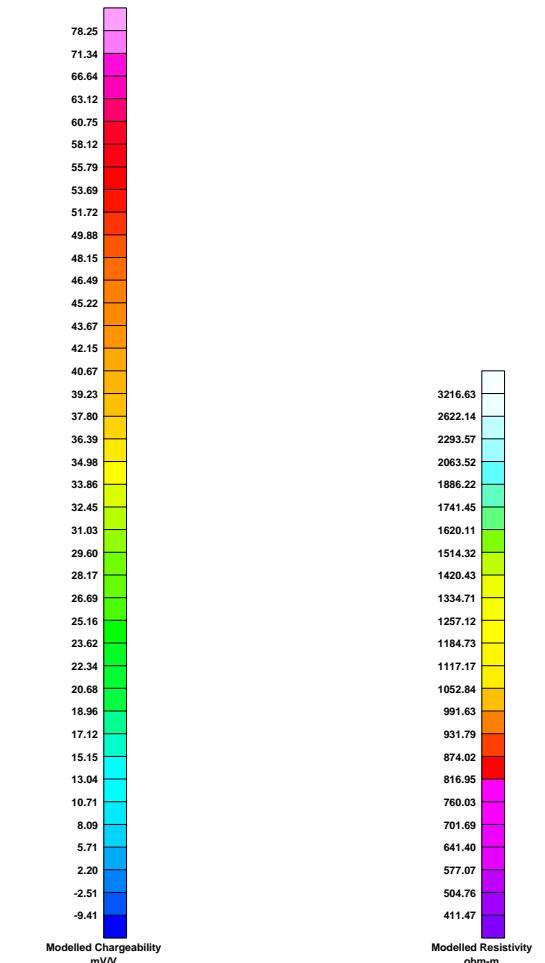
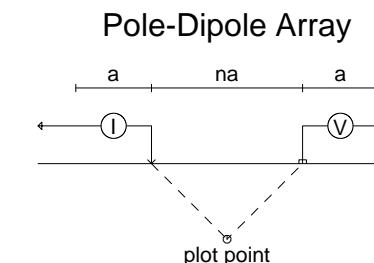
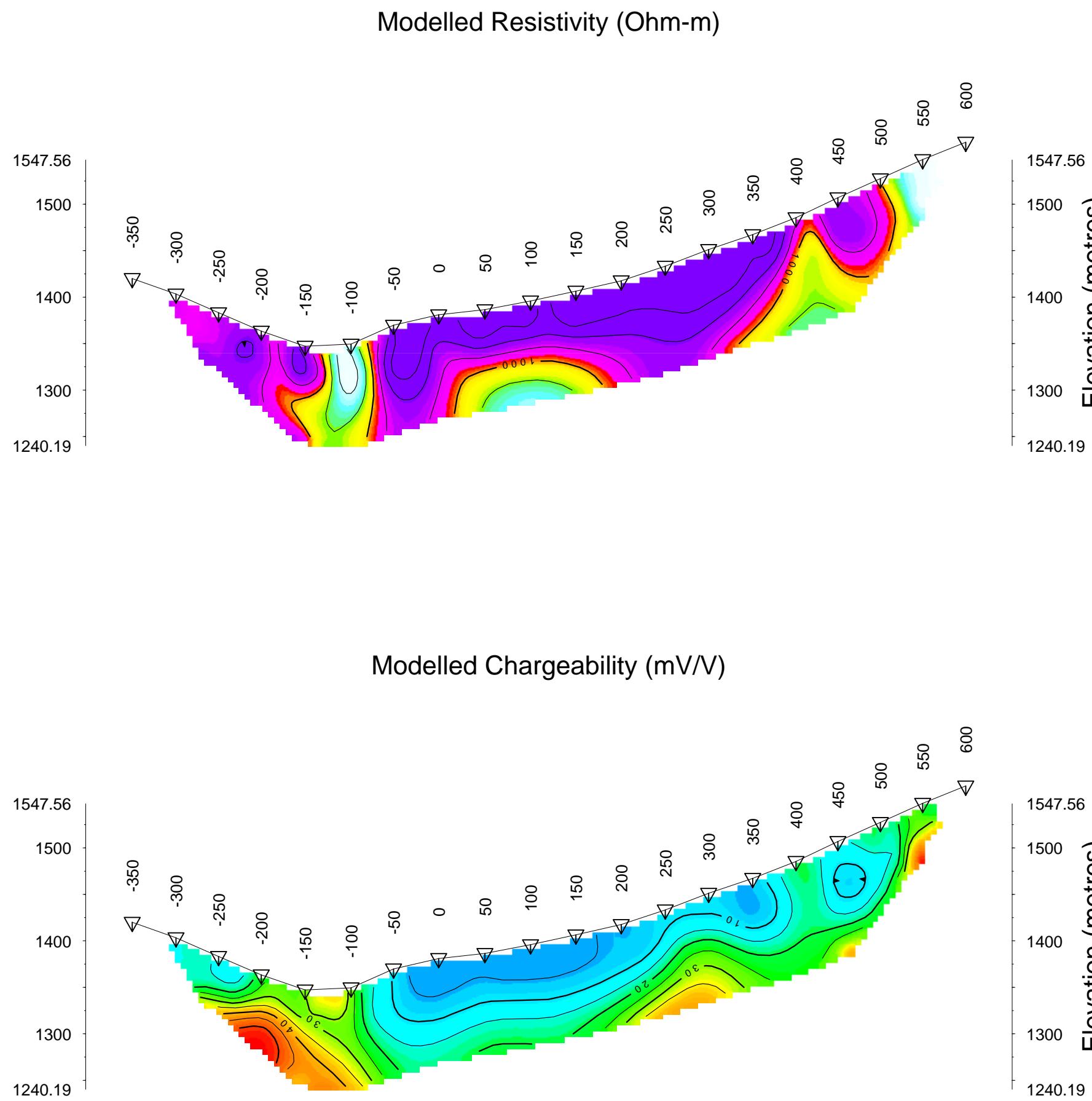
Scale 1:5000  
50 0 50 100 150 200 250 300 350  
(meters)

CALLINAN MINES LIMITED  
INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT  
BRITISH COLUMBIA

INVERSION DATE: AUGUST 2006, RES2DINV

PETER E. WALCOTT & ASSOCIATES LIMITED

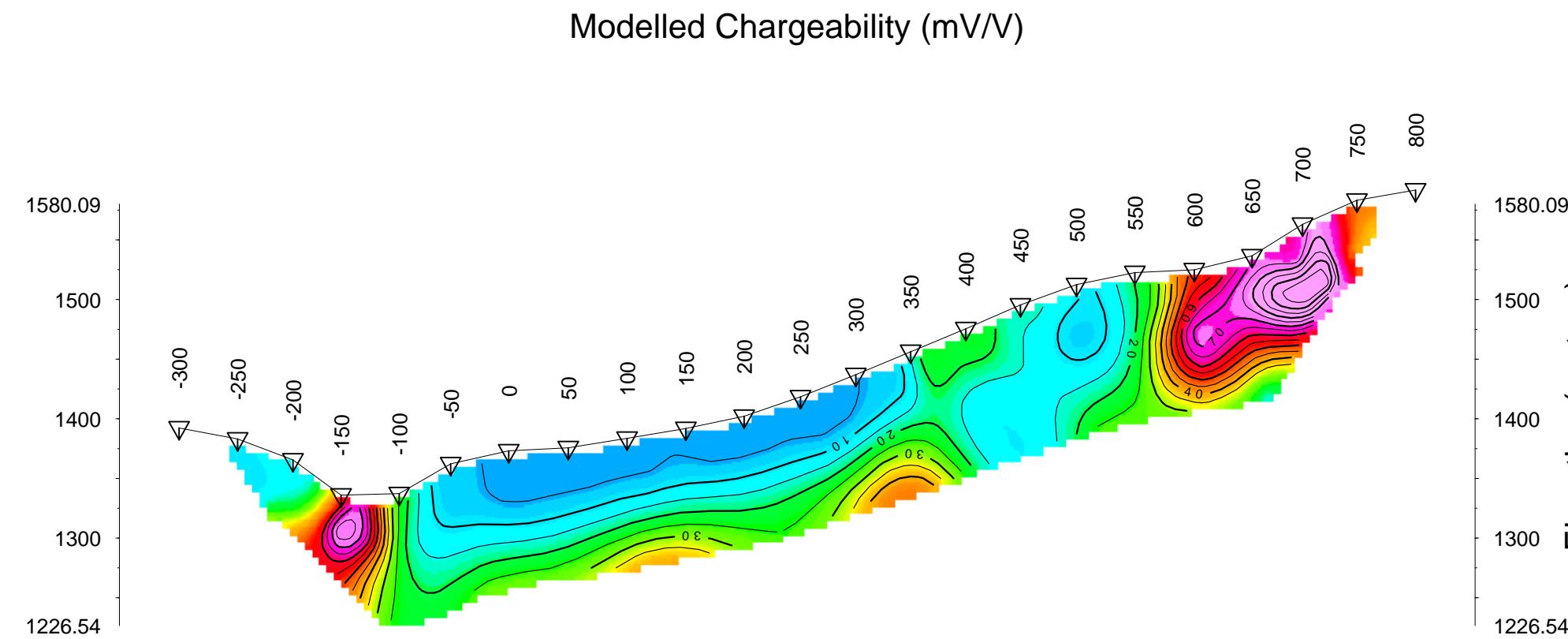
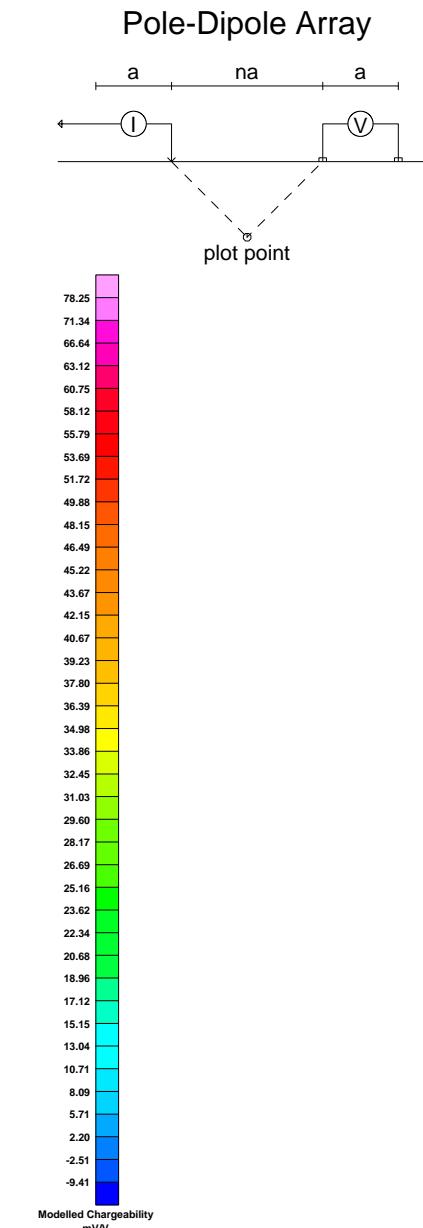
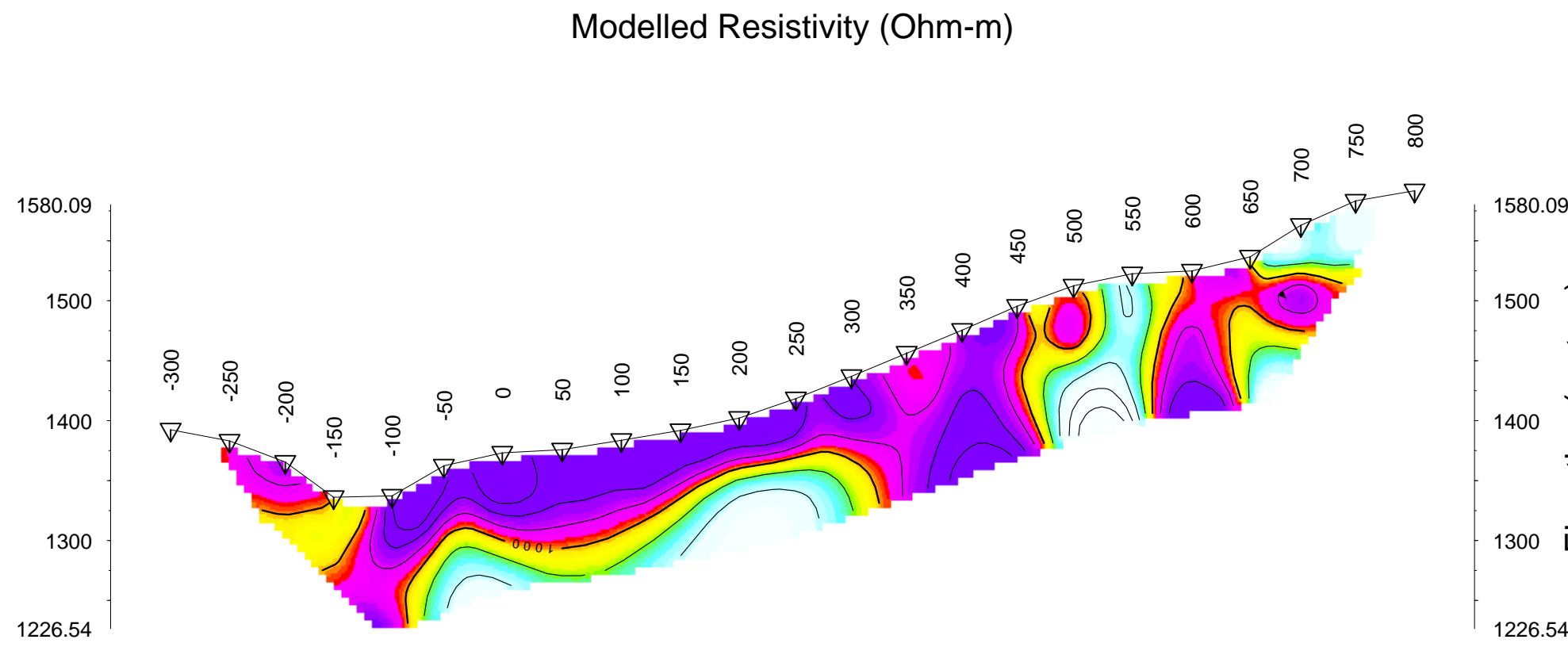
Line 1500



Scale 1:5000  
(meters)

CALLINAN MINES LIMITED  
INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT  
BRITISH COLUMBIA  
INVERSION DATE: AUGUST 2006, RES2DINV  
PETER E. WALCOTT & ASSOCIATES LIMITED

Line 1650



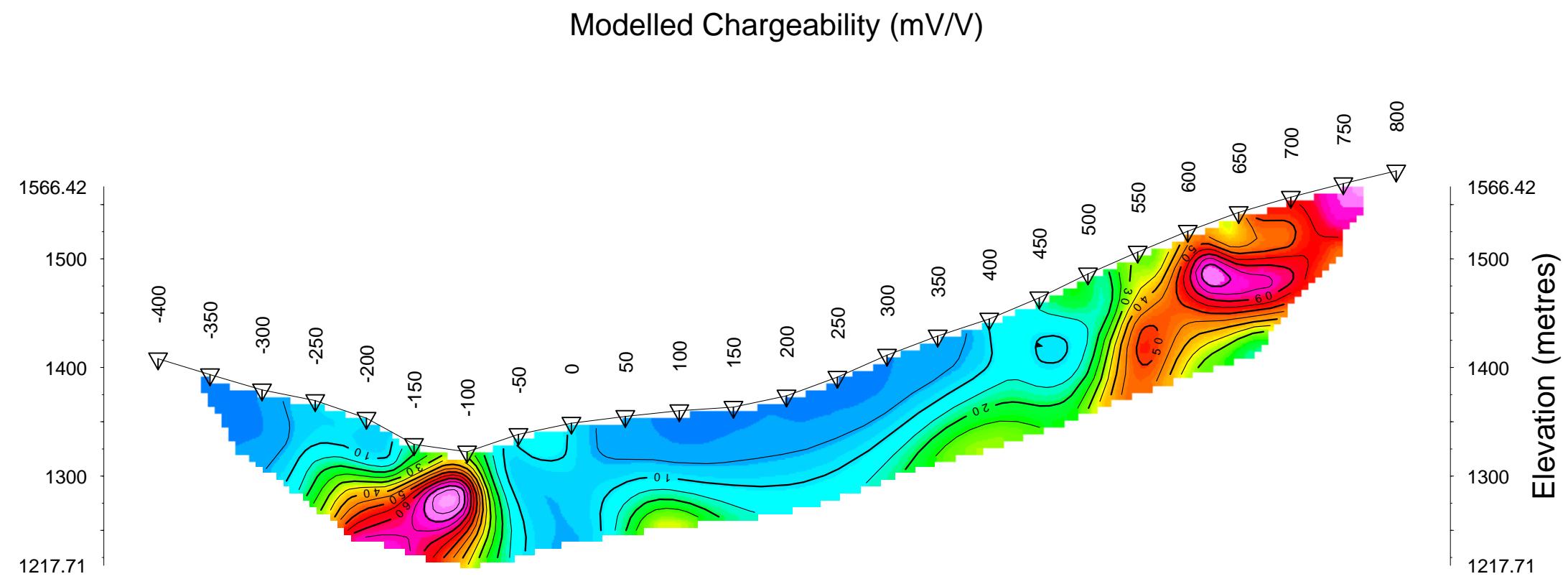
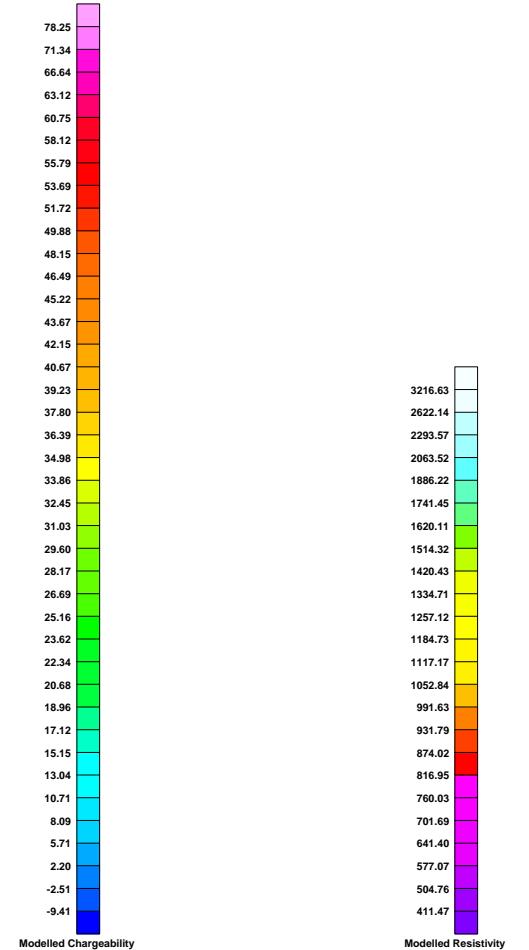
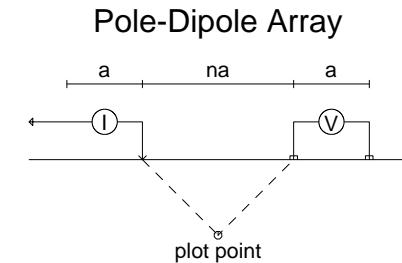
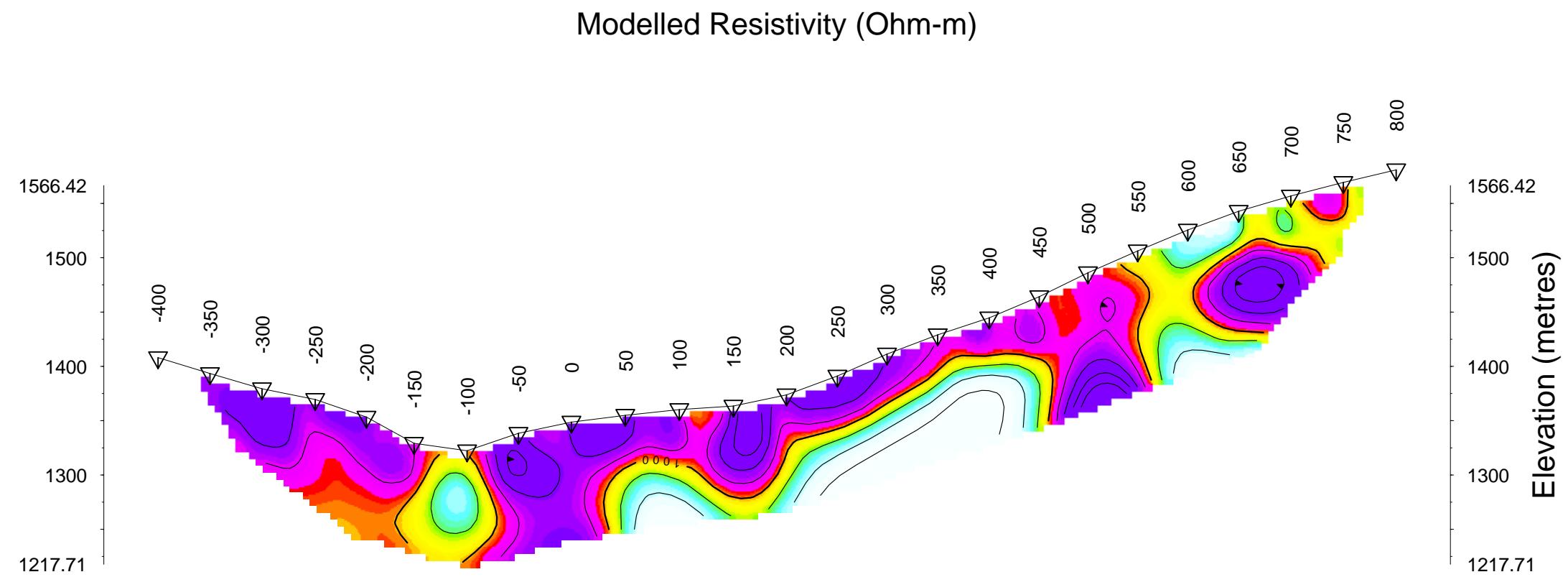
Scale 1:5000  
(meters)

CALLINAN MINES LIMITED  
INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT  
BRITISH COLUMBIA

INVERSION DATE: AUGUST 2006, RES2DINV

PETER E. WALCOTT & ASSOCIATES LIMITED

Line 1800

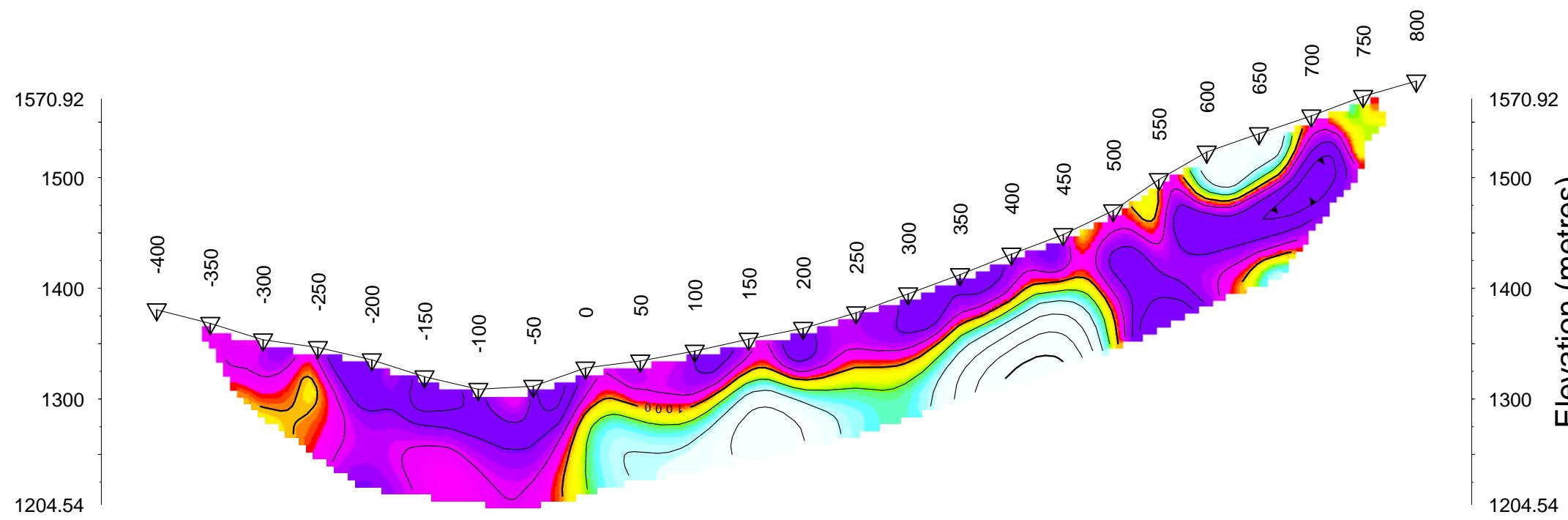


Scale 1:5000  
50 0 50 100 150 200 250 300 350 (meters)

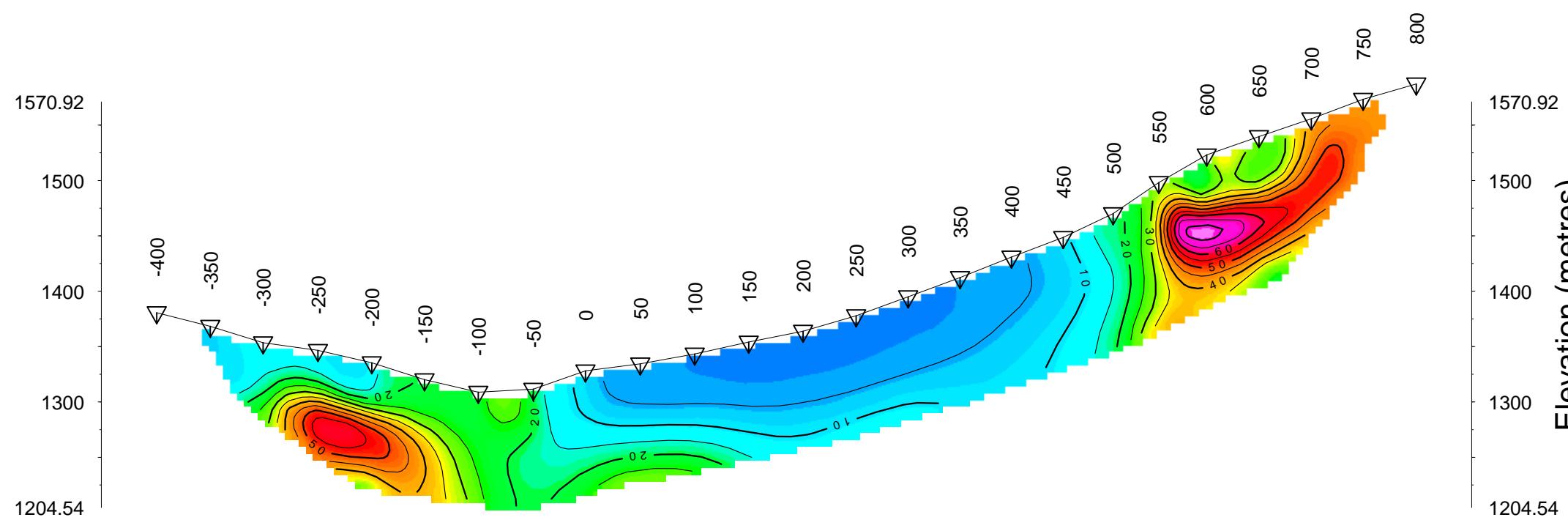
CALLINAN MINES LIMITED  
INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT  
BRITISH COLUMBIA  
INVERSION DATE: AUGUST 2006, RES2DINV  
PETER E. WALCOTT & ASSOCIATES LIMITED

Line 1950

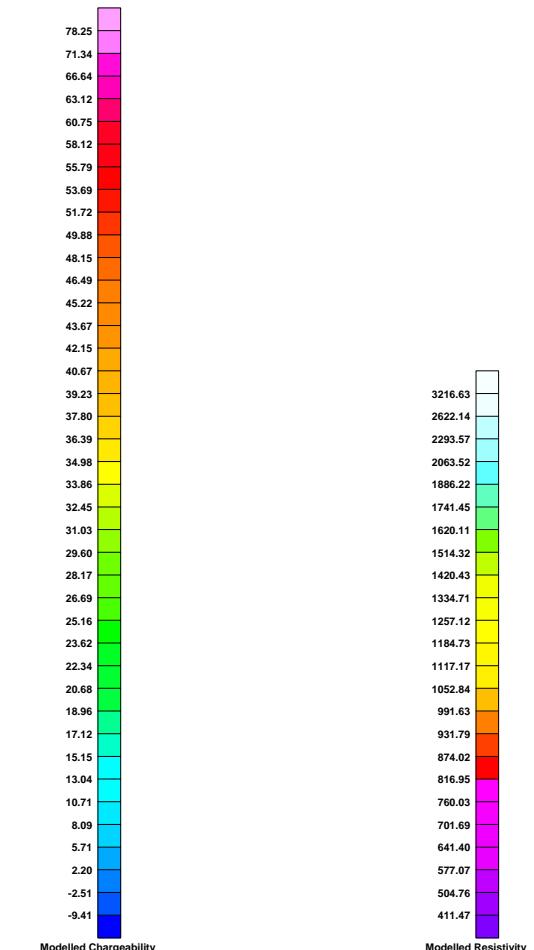
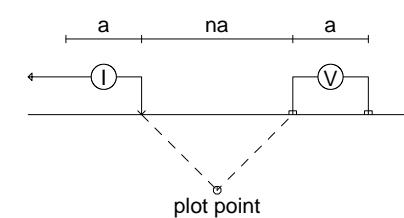
### Modelled Resistivity (Ohm-m)



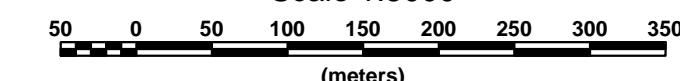
### Modelled Chargeability (mV/V)



### Pole-Dipole Array



Scale 1:5000

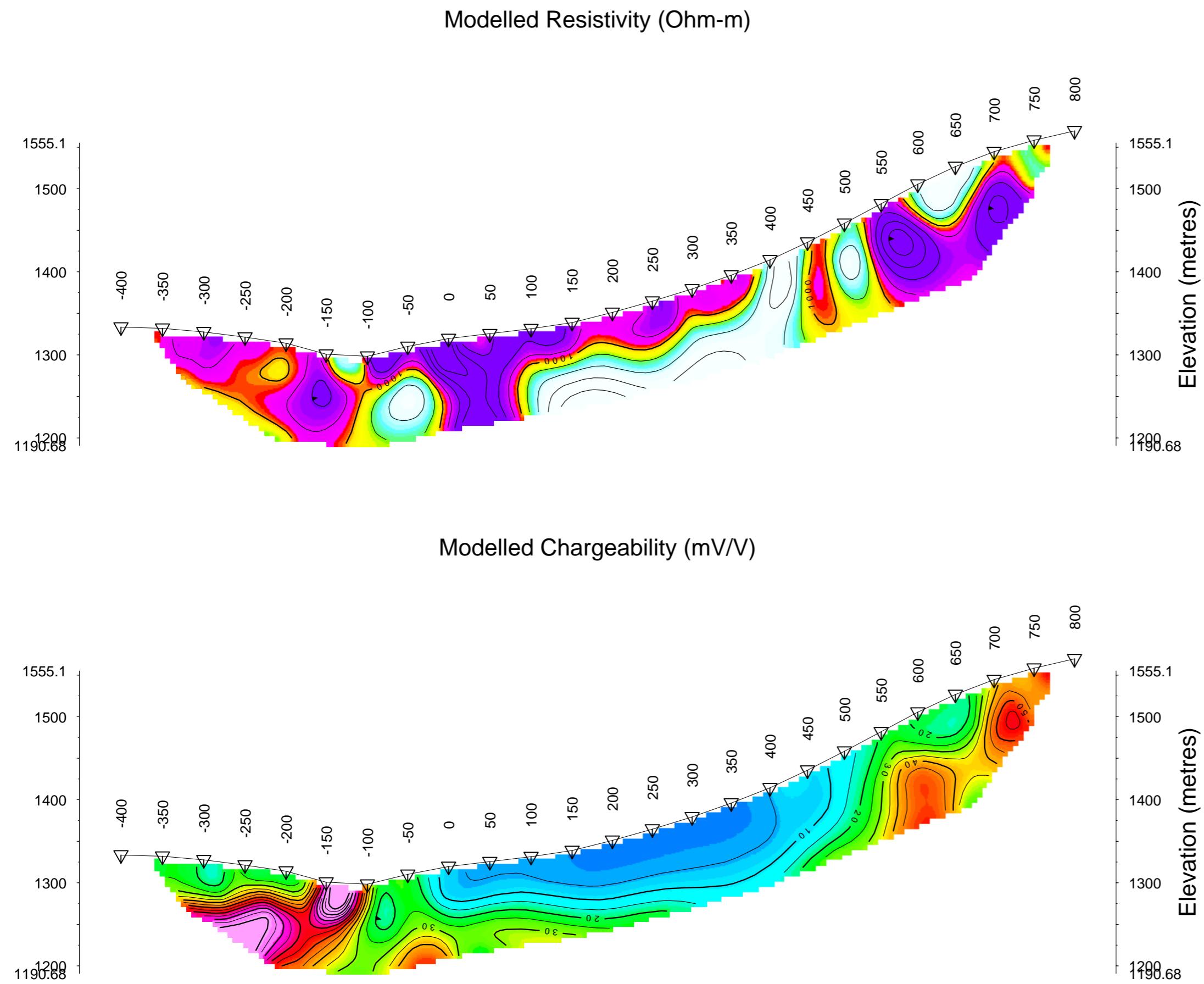


**CALLINAN MINES LIMITED**  
INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT  
BRITISH COLUMBIA

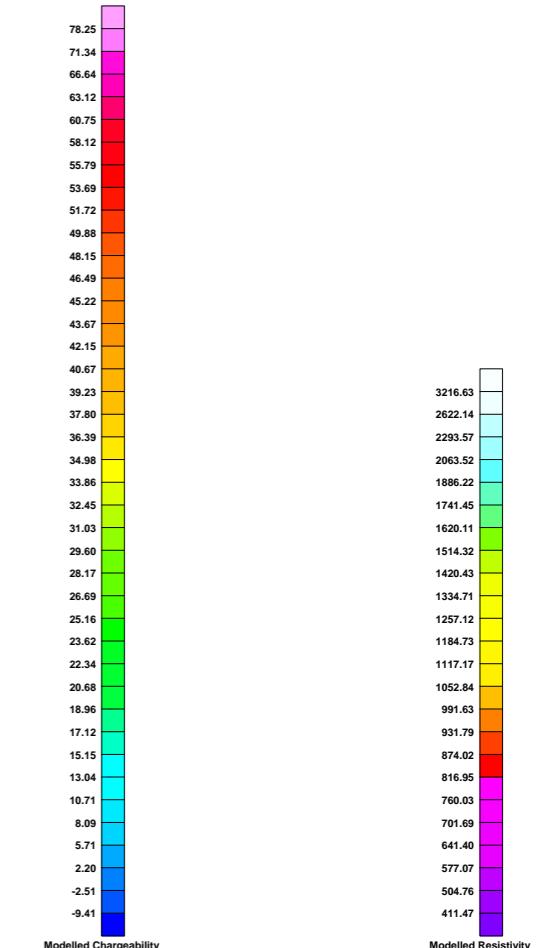
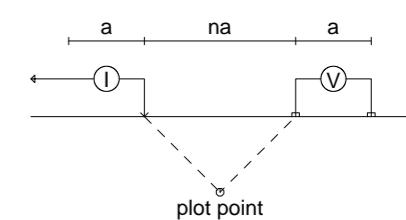
INVERSION DATE: AUGUST 2006, RES2DINV

PETER E. WALCOTT & ASSOCIATES LIMITED

Line 2100



Pole-Dipole Array



Scale 1:5000

50 0 50 100 150 200 250 300 350 (meters)

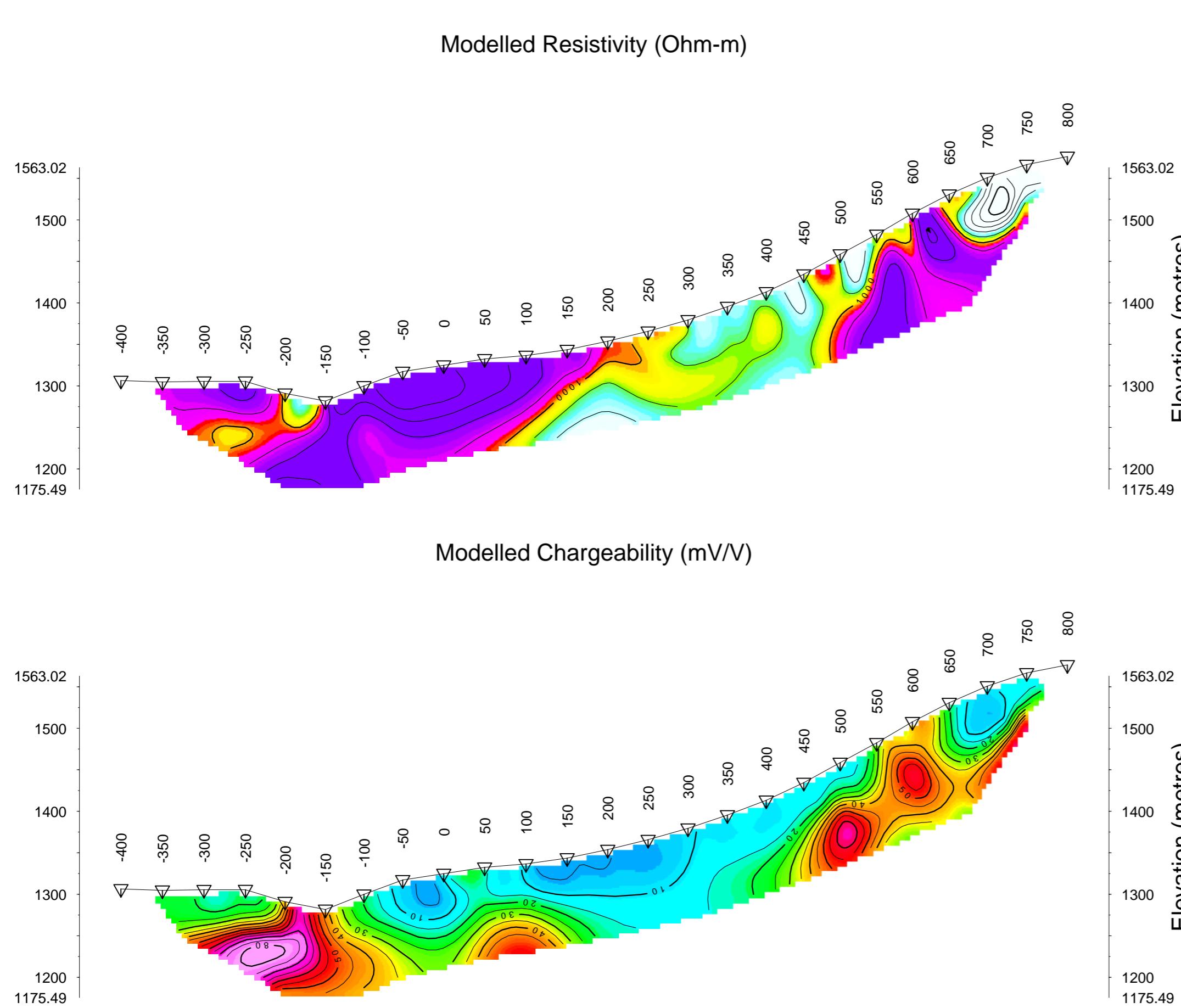
CALLINAN MINES LIMITED

INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT  
BRITISH COLUMBIA

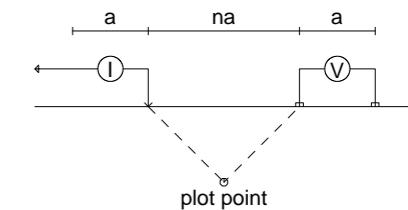
INVERSION DATE: AUGUST 2006, RES2DINV

PETER E. WALCOTT & ASSOCIATES LIMITED

Line 2250



Pole-Dipole Array



78.25
71.34
66.64
63.12
60.75
58.12
55.79
53.69
51.72
49.88
48.15
46.49
45.22
43.67
42.15
40.67
39.23
37.80
36.39
34.98
33.86
32.45
31.03
29.60
28.17
26.69
25.16
23.62
22.34
20.68
18.96
17.12
15.15
13.04
10.71
8.09
5.71
2.20
-2.51
-9.41

Modelled Chargeability  
mV/V

3216.63
2622.14
2293.57
2063.52
1886.22
1741.45
1620.11
1514.32
1420.43
1334.71
1257.12
1184.73
1117.17
1052.84
991.63
931.79
874.02
816.95
760.03
701.69
641.40
577.07
504.76
411.47

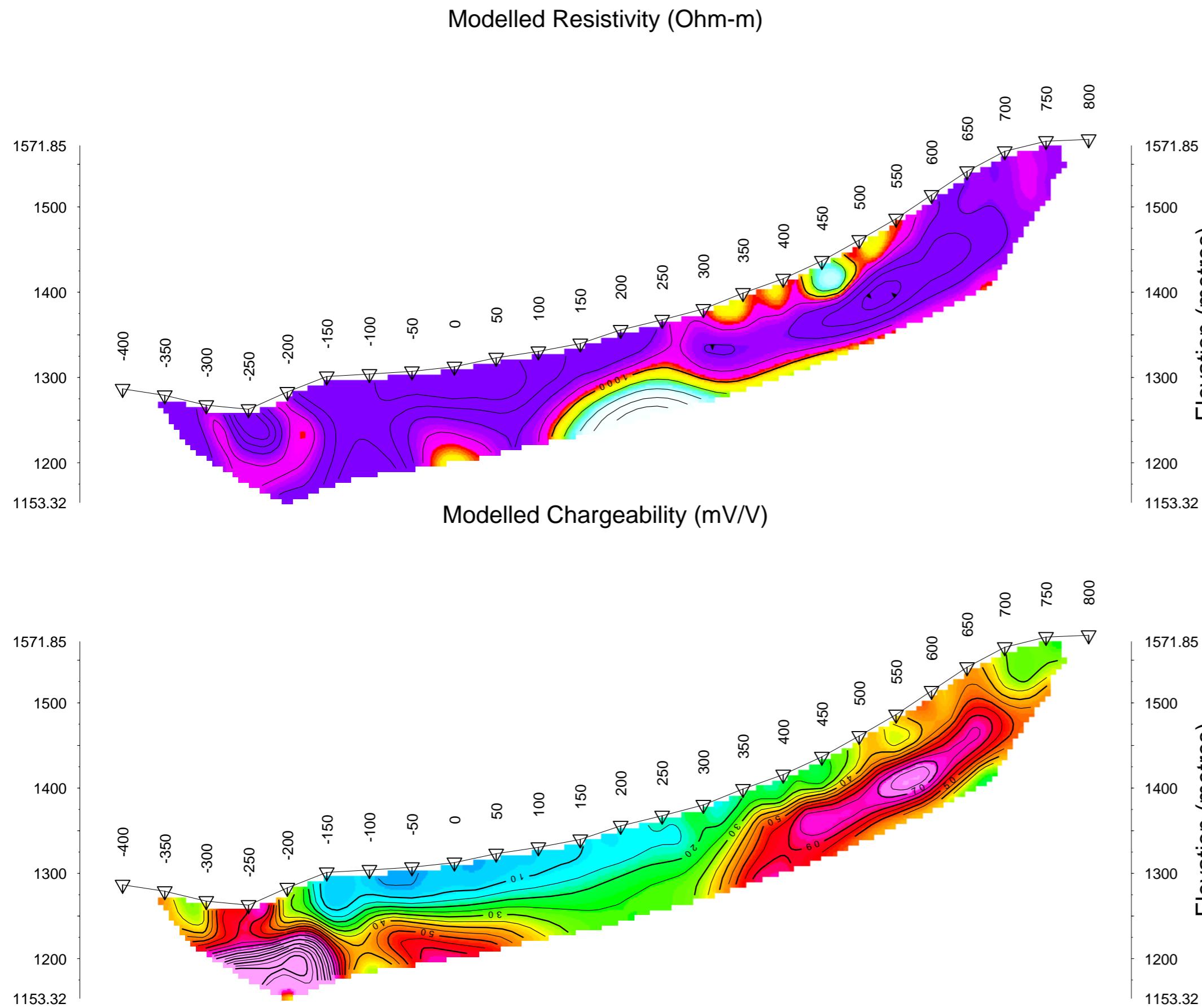
Modelled Resistivity  
ohm-m

Scale 1:5000  
50 0 50 100 150 200 250 300 350  
(meters)

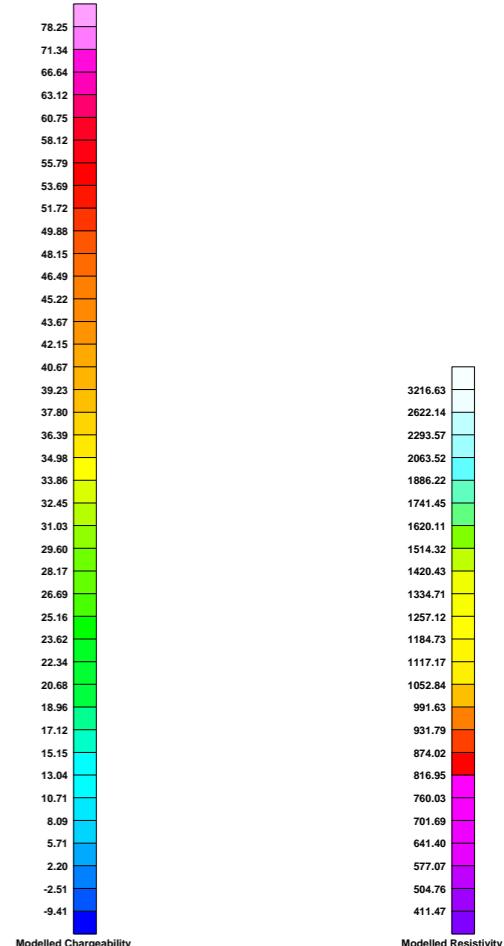
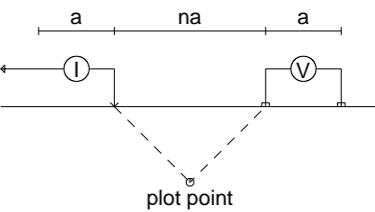
CALLINAN MINES LIMITED  
INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT  
BRITISH COLUMBIA  
INVERSION DATE: AUGUST 2006, RES2DINV

PETER E. WALCOTT & ASSOCIATES LIMITED

Line 2400



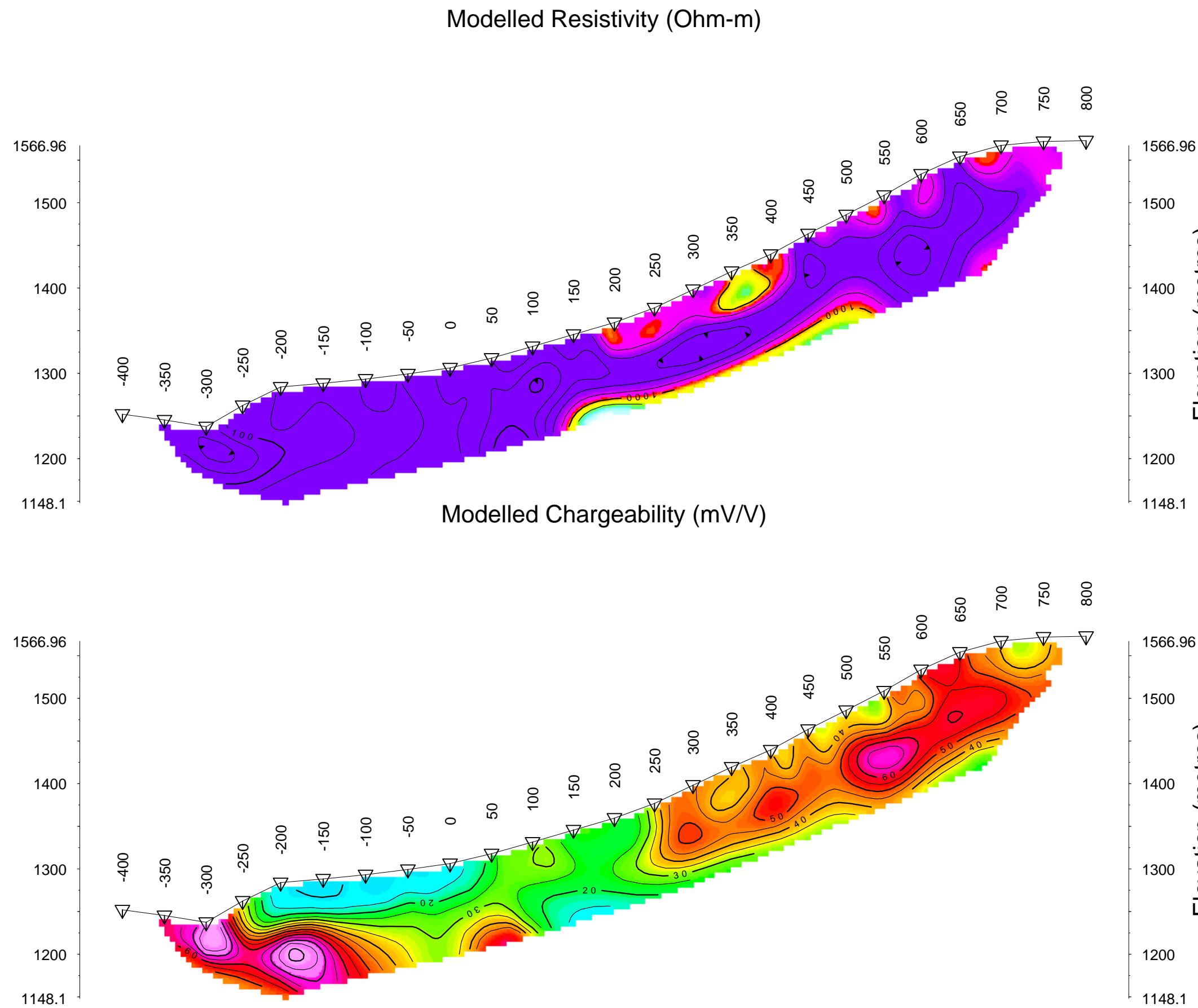
Pole-Dipole Array



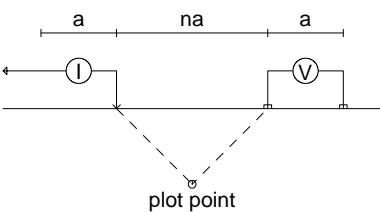
Scale 1:5000  
(meters)

**CALLINAN MINES LIMITED**  
INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT  
BRITISH COLUMBIA  
INVERSION DATE: AUGUST 2006, RES2DINV  
PETER E. WALCOTT & ASSOCIATES LIMITED

Line 2550



Pole-Dipole Array



78.25
71.34
66.64
63.12
60.75
58.12
55.79
53.69
51.72
49.88
48.15
46.49
45.22
43.67
42.15
40.67
39.23
37.80
36.39
34.98
33.86
32.45
31.03
29.60
28.17
26.69
25.16
23.62
22.34
20.68
18.96
17.12
15.15
13.04
10.71
8.09
5.71
2.20
-2.51
-9.41

Modelled Chargeability  
mV/V

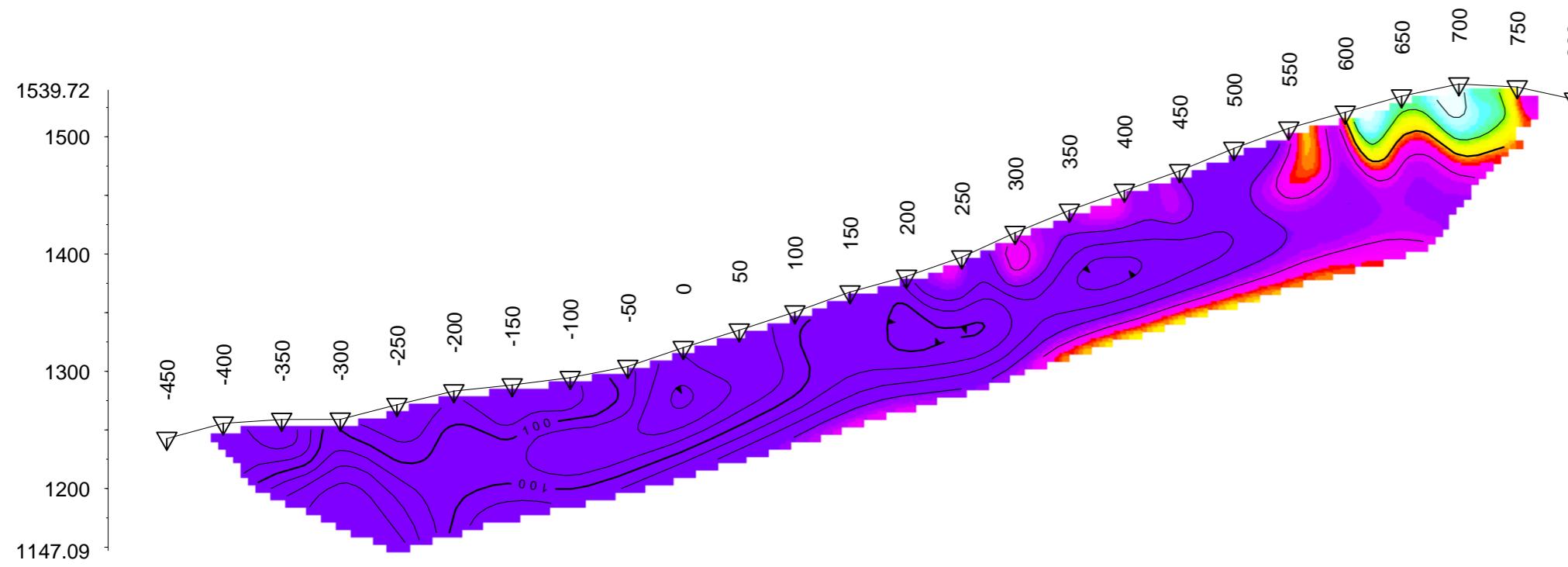
Modelled Resistivity  
ohm-m

Scale 1:5000  
50 0 50 100 150 200 250 300 350  
(meters)

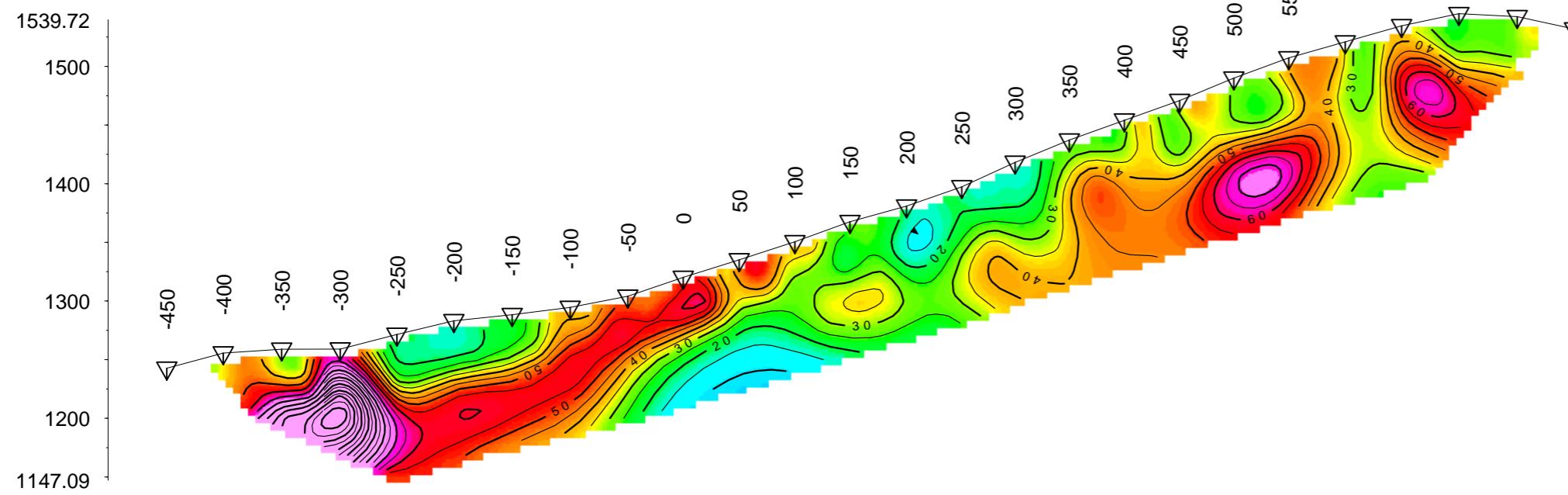
**CALLINAN MINES LIMITED**  
INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT  
BRITISH COLUMBIA  
INVERSION DATE: AUGUST 2006, RES2DINV  
PETER E. WALCOTT & ASSOCIATES LIMITED

Line 2700

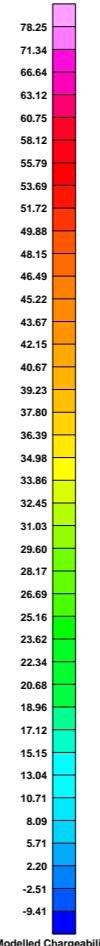
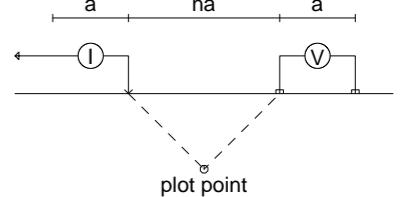
### Modelled Resistivity (Ohm-m)



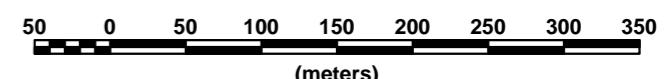
### Modelled Chargeability (mV/V)



### Pole-Dipole Array



Scale 1:5000



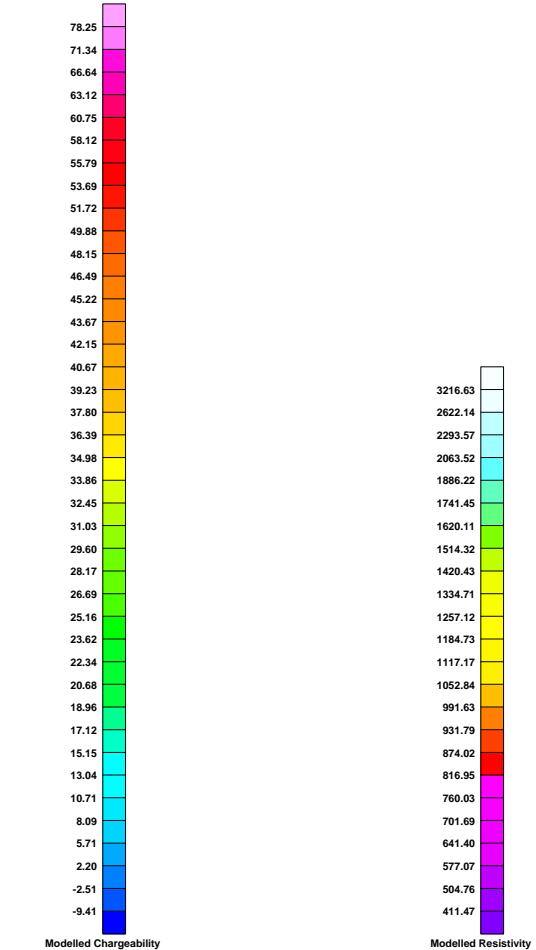
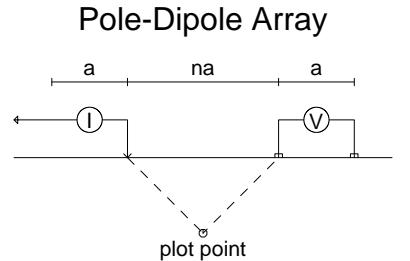
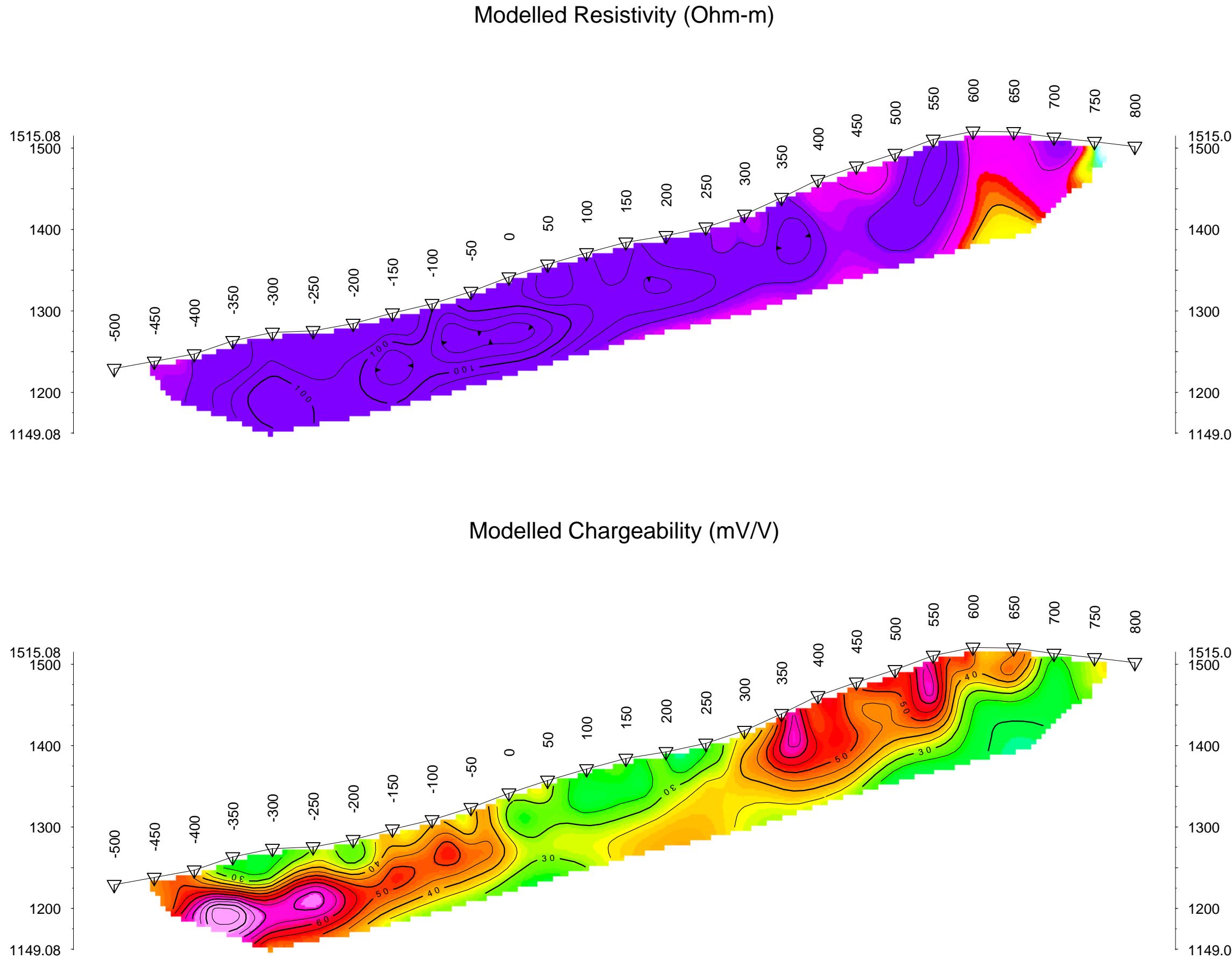
CALLINAN MINES LIMITED

INDUCED POLARIZATION SURVEY  
COLES CREEK PROJECT  
BRITISH COLUMBIA

INVERSION DATE: AUGUST 2006, RES2DINV

PETER E. WALCOTT & ASSOCIATES LIMITED

Line 2850

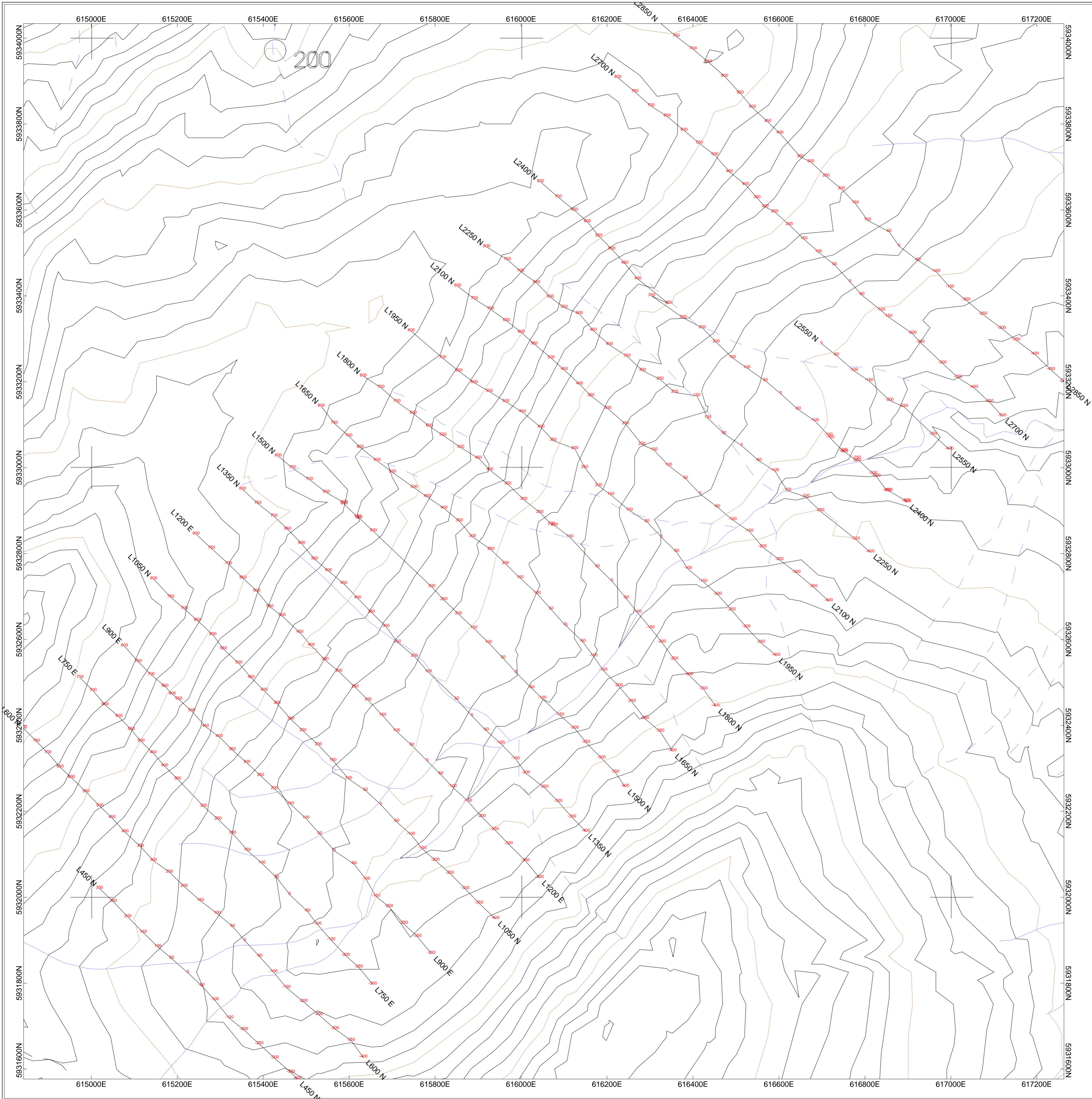


Scale 1:5000

**CALLINAN MINES LIMITED**  
**INDUCED POLARIZATION SURVEY**  
**COLES CREEK PROJECT**  
**BRITISH COLUMBIA**

INVERSION DATE: AUGUST 2006, RES2DINV

## PETER E. WALCOTT & ASSOCIATES LIMITED

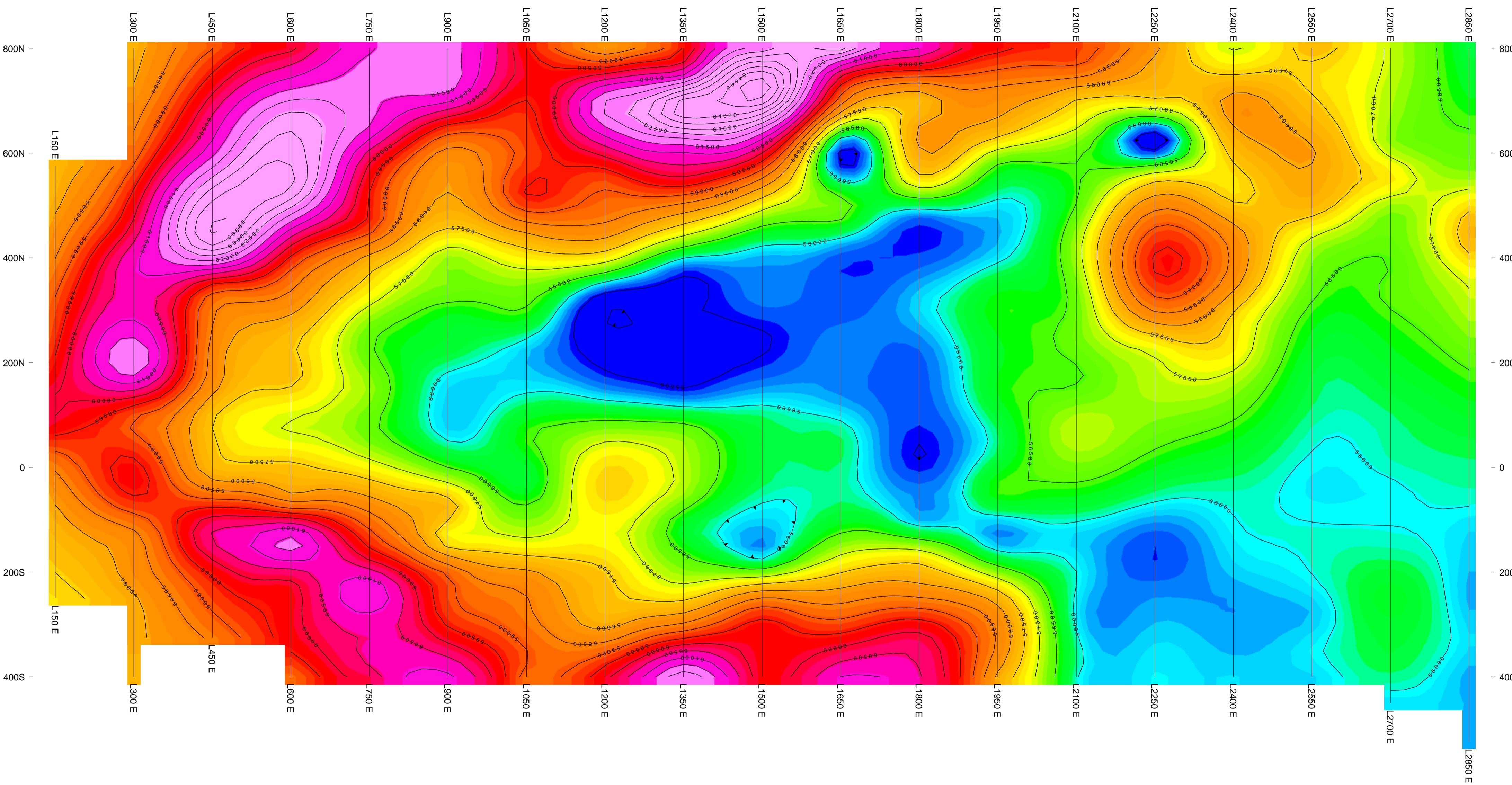


CALLINAN MINES LIMITED

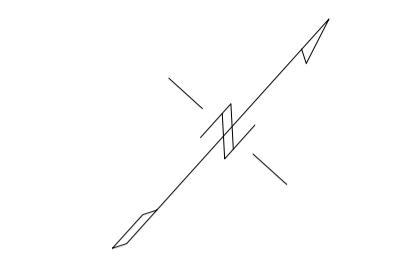
## **GRID LOCATION MAP**

COLES CREEK GRID  
HOUSTON AREA

**PETER E. WALCOTT & ASSOCIATES LIMITED**



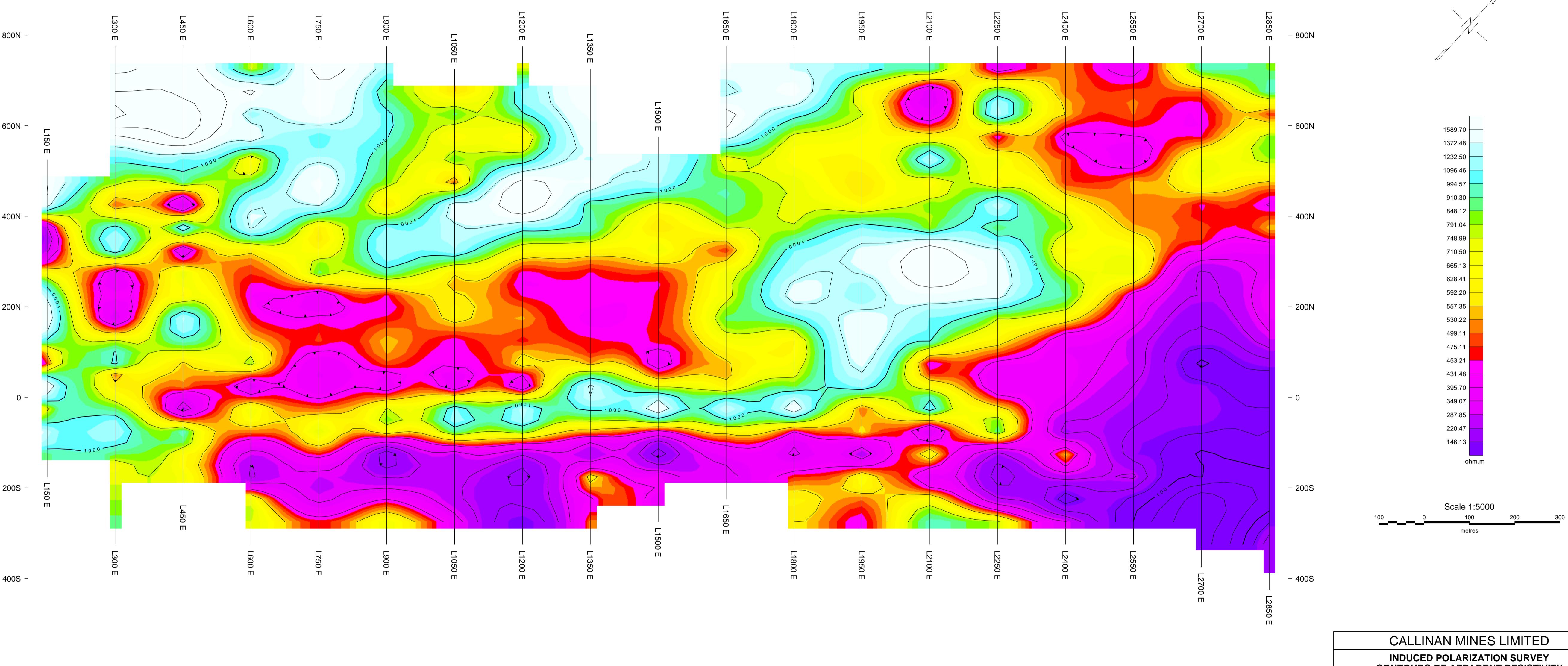
CALLINAN MINES LIMITED
MAGNETIC SURVEY
CONTOURS OF TOTAL FIELD INTENSITY
COLES CREEK GRID
HOUSTON AREA
PETER E. WALCOTT & ASSOCIATES LIMITED



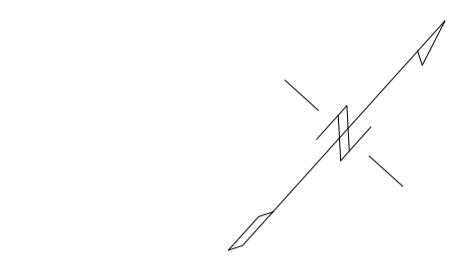
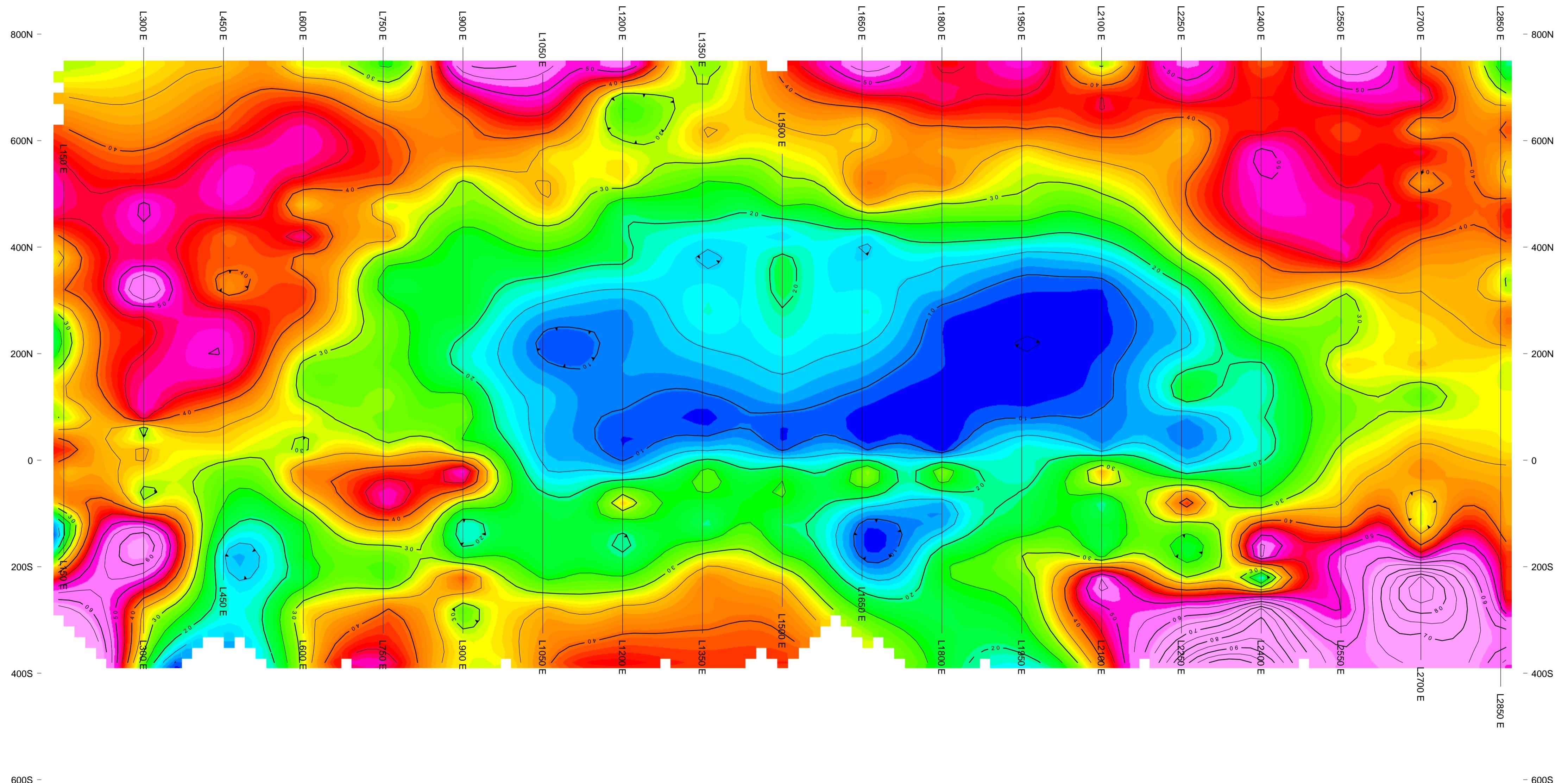
Scale 1:5000  
metres

62423.0  
6123.9  
60939.9  
60541.1  
60193.7  
59847.1  
59585.6  
59364.4  
59142.2  
58912.1  
58673.4  
58439.3  
58190.6  
58023.9  
57846.1  
57695.3  
57540.6  
57392.3  
57246.7  
57089.9  
56942.3  
56815.1  
56710.6  
56614.1  
56518.5  
56433.4  
56340.7  
56257.2  
56172.6  
56107.3  
56048.9  
56006.3  
55961.7  
55909.5  
55851.1  
55777.4  
55687.1  
55571.6

T



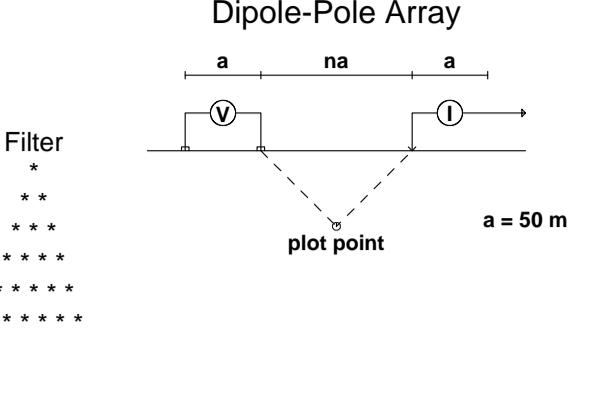
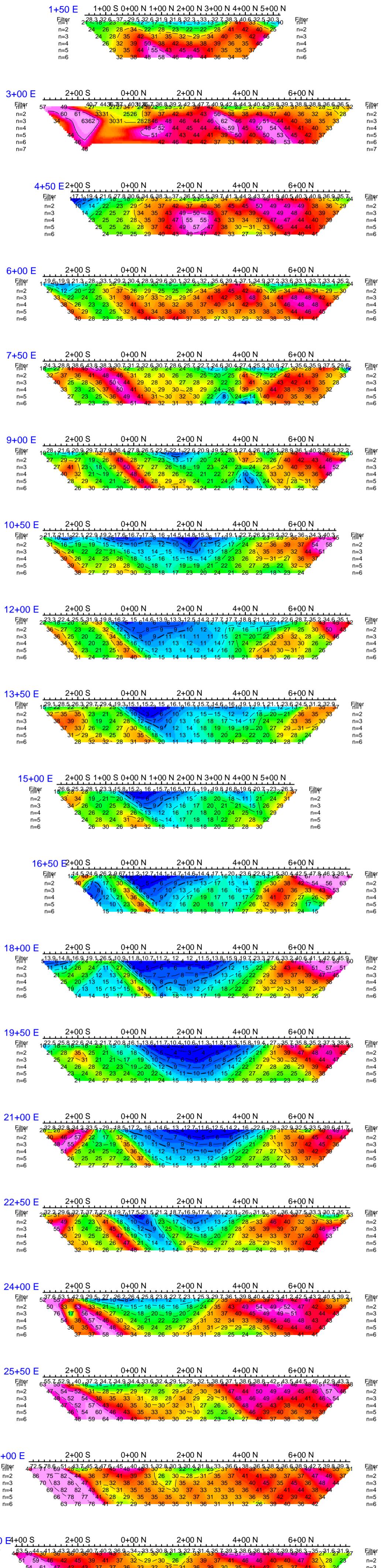
CALLINAN MINES LIMITED
INDUCED POLARIZATION SURVEY
CONTOURS OF APPARENT RESISTIVITY
$n = 3$
COLES CREEK GRID
HOUSTON AREA
PETER E. WALCOTT & ASSOCIATES LIMITED



Scale 1:5000  
metres

CALLINAN MINES LIMITED
INDUCED POLARIZATION SURVEY
CONTOURS OF APPARENT CHARGEABILITY
$n = 3$
COLES CREEK GRID
HOUSTON AREA
PETER E. WALCOTT & ASSOCIATES LIMITED

## Apparent Chargeability (mV/V)



Instruments: HUNTEC 7.5 kw Tx, ELREC PRO Rx

Frequency: 0.125 Hz.  
 Operators: A.C., S.P., R.H.

Scale 1:10000

100 0 100 200 300 400 500 600 (meters)

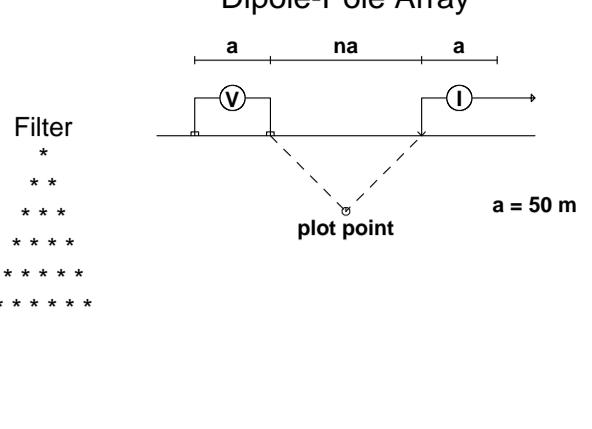
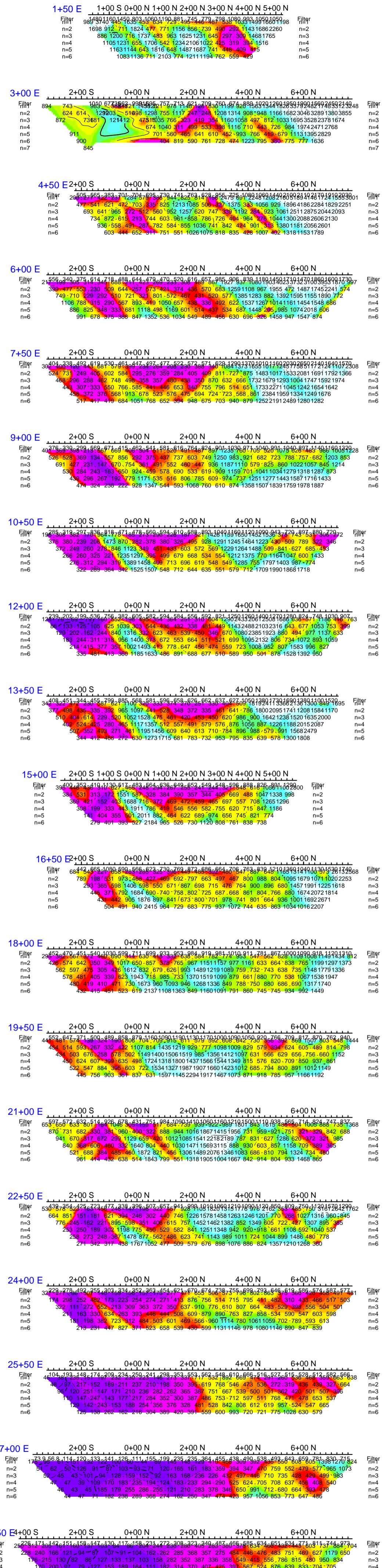
**CALLINAN MINES LIMITED**

**INDUCED POLARIZATION SURVEY**  
**COLES CREEK PROJECT**

Date: JULY 2006  
 Interpretation:

PETER E. WALCOTT & ASSOCIATES LIMITED

## Apparent Resistivity (ohm-m)



Scale 1:10000

## WAN MINES LTD.

