

#### A REPORT

# ON

# INDUCED POLARIZATION SURVEYING

Cedar Creek Property Likely Area, British Columbia 52° 35'N, 121° 30'W NTS 93 A/11 & 12

FOR

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# AN-KOBRA RESOURCES INC.

BY

#### PETER E. WALCOTT & ASSOCIATES LIMITED Vancouver, British Columbia

April 2006

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#### **INTRODUCTION.**

Between October 12<sup>th</sup> and 21<sup>st</sup>, 2005, Peter E. Walcott & Associates Limited undertook induced polarization (I.P.) surveying over parts of the Cedar Creek property, located some 5 kilometres southeast of the village of Likely, British Columbia, for An-Kobra Resources Inc.

The survey was carried out over fourteen N24° E lines established by personnel from Amex Exploration Services Ltd. of Kamloops, B.C.

Measurements – first to sixth separation – of apparent chargeability – the I.P. response parameter – and resistivity were made along the lines using the pole-dipole technique with a 50 metre dipole.

The elevation of the line stations were taken using a Brunton altimeter.

The data are presented as individual line plots and on contoured plans as discussed in this report.

# **PROPERTY LOCATION & ACCESS.**

The property, known as the Cedar Creek Property, is located in the Cariboo Mining Division of British Columbia.

It is situated on the eastern shores of Quesnel Lake, some 5 kilometres southeast of the village of Likely.

Access is obtained by means of two wheel drive vehicle along the paved road running southwards along the shore of Quesnel Lake to the provincial park at Cedar Point, and thence by gravel roads to the east that lead to placer operations.

# PREVIOUS WORK.

The earliest work in the area began with placer mining in Cedar Creek in the 1860's, with the placers on the Cedar Creek Plateau worked intermittently until this day.

Numerous companies have conducted geochemistry, magnetic, induced polarization and drilling programmes from the 1960's until the 90's.

For further information the reader is referred to the 2003 report by H.P. Salat, P.Eng. and to the numerous assessment reports in the ARIS system.

#### **GEOLOGY.**

The Cedar Creek Property is located near the eastern margin of the Quesnel Terrane, part of the Intermontane Belt of the Canadian Cordilleran.

The mainly black shale and volcaniclastic greenstone arc-related rocks of the Upper Triassic and Lower Jurassic age have been accreted against the Continental margin of ancestral North America represented by the Lower Paleozoic – Proterozoic Barkerville Terrane that lies to the east.

The contact between the two terranes is structural, with the Spanish Mountain slice, Upper Triassic black shale and siltstone, occurring between the two parallel thrust planes, the Spanish and Eureka.

Many plutonic stocks have intruded the Quesnel Terrane with larger ones hosting mines such as Gibraltar and Mount Polley, the latter a Cu-Au alkaline intrusion.

Locally the property is underlain by northwesterly trending assemblages of volcanic greenstones and phyllites, shales and siltstones. Scattered remnants of possible cogenetic dioritic material were observed at several locations.

Mineralization consists of placer gold occurrences in and around Cedar Creek, as well as several occurrences of gold, chalcopyrite and galena in bedrock, most notably in shear-vein showings in the Nicola Volcanics.

For a detailed description the reader is referred to the aforementioned report by H.P. Salat.

#### PURPOSE.

The purpose of the survey was to outline by the I.P. method areas of elevated sulphide/graphitic content that could be related to potential sizeable copper and/or gold occurrences.

#### SURVEY SPECIFICATIONS

#### 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 Huntec Limited of Metropolitan Toronto, Canada and Iris Instruments of Orleans, France.

The system consists basically of three units, a receiver (Iris), transmitter (Huntec) and a motor generator (Huntec). 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<sub>a</sub>) 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  $(\int_a)$  in ohm metres is proportional to the ratio of the primary voltage and the measured current, the proportionality factor depending on the geometry 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,  $C_1$ , and the potential electrodes,  $P_1$  through  $P_7$ , are moved in unison along the survey lines at a spacing of "a" (the dipole) apart, while the second current electrode,  $C_2$ , is kept constant at "infinity". The distance, "na" between  $C_1$  and the nearest potential electrode generally controls the depth to be explored by the particular separation, "n", traverse.

# SURVEY SPECIFICATIONS cont'd

On this survey a 50 metre dipole was employed and first to sixth separation readings were obtained for a total of 19.5 kms of traversing – the southern two thirds of the western grid shown in Figure 2.

#### Vertical control.

The elevation of the stations were recorded using an ADC Summit altimeter manufactured by Brunton of Wyoming, U.S.A. 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.

#### Data Presentation.

The I.P. data are presented as individual pseudo section plots of apparent chargeability and resistivity at a scale of 1:5000. Plots of the 21 point moving filter – illustrated on the pseudo section – for the above are also displayed in the top window to better show the location of the anomalous zones.

Three dimensional (3D) inversion of the resistivity and chargeability was carried out using the Geotomo RES3DINV Algorithm, an algorithm developed by Loke et al, that incorporates topography in modeling resistivity and I.P. data. This algorithm involves defining the 3D space beneath the survey area with a series of small discrete rectangular prism (a mesh). Additional prisms – padding cells – are added to the sides of the block to shift edge effects away from the area of interest.

Nearly uniform starting models are generated by running moving average filters over the data. Model resistivity and chargeability properties are then adjusted iteratively until the calculated values match the observed as closely as possible, given constraints which keep the model smooth.

#### SURVEY SPECIFICATIONS cont'd

The result can be viewed as 3D objects from different perspectives, and cut vertically and horizontally to produce cross sections. Here they are just shown as block models in appropriate screen captures.

Contoured maps of the modeled chargeability and resistivity at a depth slice of 30 and 60 metres respectively are also provided at a scale of 1:5,000 for a better understanding of the survey results.

# **DISCUSSION OF RESULTS.**

The results of the I.P. survey show most of the lines traversed to exhibit elevated chargeability values clearly discernible on the respective pseudo sections over a background of moderate relief -7's to high teens.

Discrete anomalies can be seen within these higher values at times associated with lower resistivities.

These are better illustrated on the slices through the modeled chargeabilities – Figure 10 and 13 -, at 30 and 60 metres depth respectively.

They can also be seen on the screen capture of modeled chargeability – Figure 7 – where 30 to 40 m/Vs per volt and above as the solid colour.

Two somewhat linear trends of higher chargeability can be seen on the depth slices, one north northwest, and the other, the stronger, northwest.

The latter trend is associated with one of lower resistivity, as can be seen from the slices through the modeled resistivity at the same depths – Figures 11 & 13.

This is also discernible when viewing the screen shot of the modeled resistivity – Figure 4 - where 380 ohm metres and above is the solid colour, and in Figure 5 where the 30 mV/V and above chargeability has been added in green, and in Figure 6 where the 40 mV/V and above chargeability is shown in red.

The resistivities themselves were generally in the low hundred across the grid except for the two areas, one in the southwest and the other in the northeast corners respectively. This is illustrated in Figure 3, the screen capture where 200 ohm metres and above is the solid colour, in Figure 4 described previously and on the respective depth slices.

The placer workings at Hamptons's pit – see grid location map Figure 2 – appear to lie above a chargeability high associated with a resistivity high that might reflect intrusive rock. This suggests that the source of the placer gold could be nearby bedrock mineralization.

# **DISCUSSION OF RESULTS cont'd**

They lie on a chargeability trend, the southern extension of which is suspected to be reflecting the mineralization associated with the Joy showing on Line 1100E circa 300N, although the writer is unsure of its location.

The northwesterly trending chargeability zone around the baseline between 800 and 1300E associated with a narrow resistivity low is most probably attributable to sulphides/graphite in a shear zone.

The dominant chargeability zones with accompanying low resistivities are thought to be due to graphitic horizons with or without sulphide content in the underlying rocks. These are undefined both to the north and east.

# SUMMARY, CONCLUSIONS & RECOMMENDATIONS.

Between October 12<sup>th</sup> and 21<sup>st</sup>, 2005, Peter E. Walcott & Associates Limited completed some 19 kilometres of pole-dipole I.P. surveying on the Cedar Creek property, located on the eastern shores of Quesnel Lake near Likely, B.C., for An-Kobra Resources Inc.

The results showed most of the area traversed to exhibit elevated chargeabilities above which two trends containing discrete anomalies were discernible. The trend directions are sub parallel to that of the general geology, and that of the gold geochemistry of the adjoining Sky Gold and Acrex properties. These anomalies are believed to be wholly and/or partially related to sulphide mineralization in the underlying volcanic package.

Before any consideration be given to investigating the causative sources of these by drilling the writer recommends that the grid be covered by geochemical and ground magnetic surveying, the former to see if any economic minerals might be indicated to be related to the chargeability responses, and the latter to see if any alteration – magnetic depletion – is associated.

Furthermore the results of these should be correlated with the known geology and mineral occurrences on the property. Should encouraging results be obtained then consideration should be given to completing the I.P. coverage on the remainder of the established grids.

Respectfully submitted,

PEȚER E. WALCOTT & ASSOCIATES LIMITED

Peter E. Walcott, P.Eng. Geophysicist

Vancouver, B.C. April 2006

PETER E. WALCOTT & ASSOCIATES LIMITED GEOPHYSICAL SERVICES

# APPENDIX

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PETER E. WALCOTT & ASSOCIATES LIMITED GEOPHYSICAL SERVICES

#### COST OF SURVEY.

Peter E. Walcott & Associates Limited undertook the survey on a daily basis. Mobilization and reporting costs were extra so that the total cost of the survey was \$37,882.60.

# PERSONNEL EMPLOYED ON SURVEY.

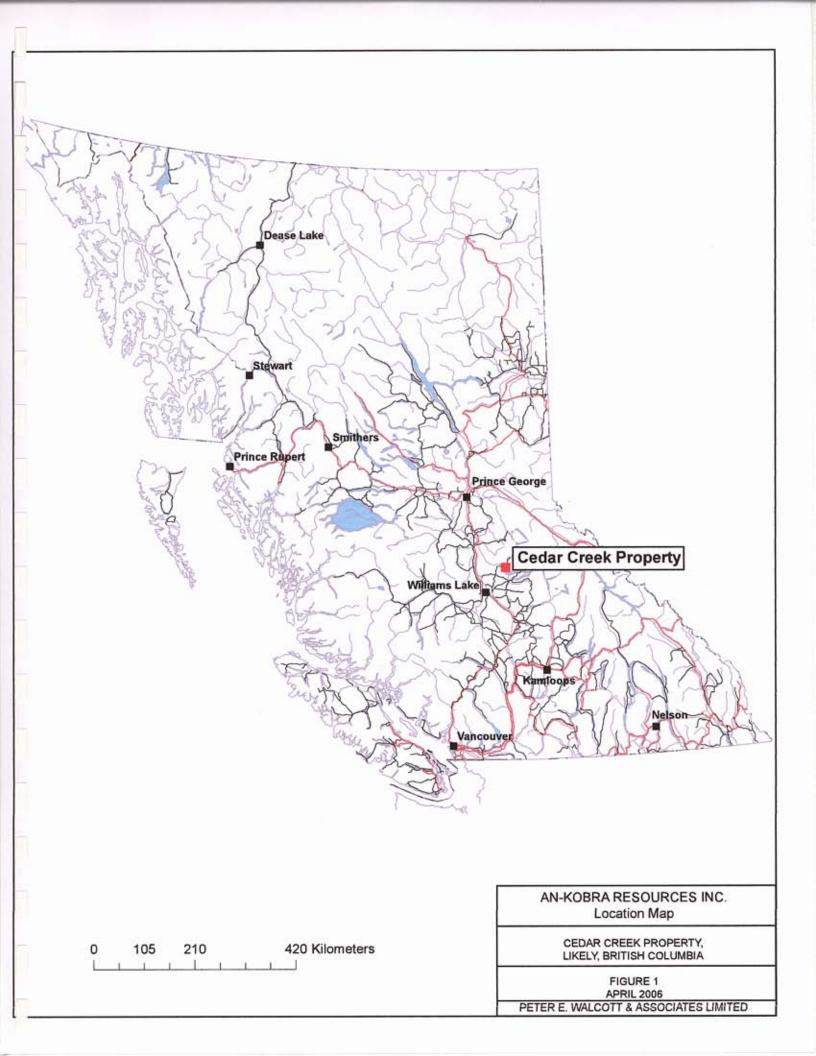
Name	Occupation	Address	Dates
Peter E. Walcott	Geophysicist	Peter E. Walcott & Associates Limited 506-1529 W. 6 <sup>th</sup> Ave. Vancouver, B.C.	Nov. 3 <sup>rd</sup> , 2005 Jan. 10 <sup>th</sup> , 2006 Apr.24-25 <sup>th</sup> ,06
Alexander Walcott	**	22	Oct. $12^{th} - 13^{th}$ Nov. $1^{st} - 5^{th}$ , 2005 Jan. 11-14 <sup>th</sup> , 06
Andrea Cochrane	ći	"	Oct.14 <sup>th</sup> -22 <sup>nd</sup> 2005
E. Dombrowski	Geophysical Operator	دد	Oct. 12 <sup>th</sup> -14 <sup>th</sup> , 2005
Sean Cruikshank	u u	"	Oct. 14 <sup>th</sup> -22 <sup>nd</sup> , 2005
N. Young	Geophysical Assistant	"	Oct. 12 <sup>th</sup> -22 <sup>nd</sup> , 2005
B. Denny	44	46	54
B. Lajeunesse	66	44	64
J. Dafosso	٤٤	46	<u> </u>
J. Walcott	Report Prep.	**	April 26 <sup>th -</sup> 28th, 06

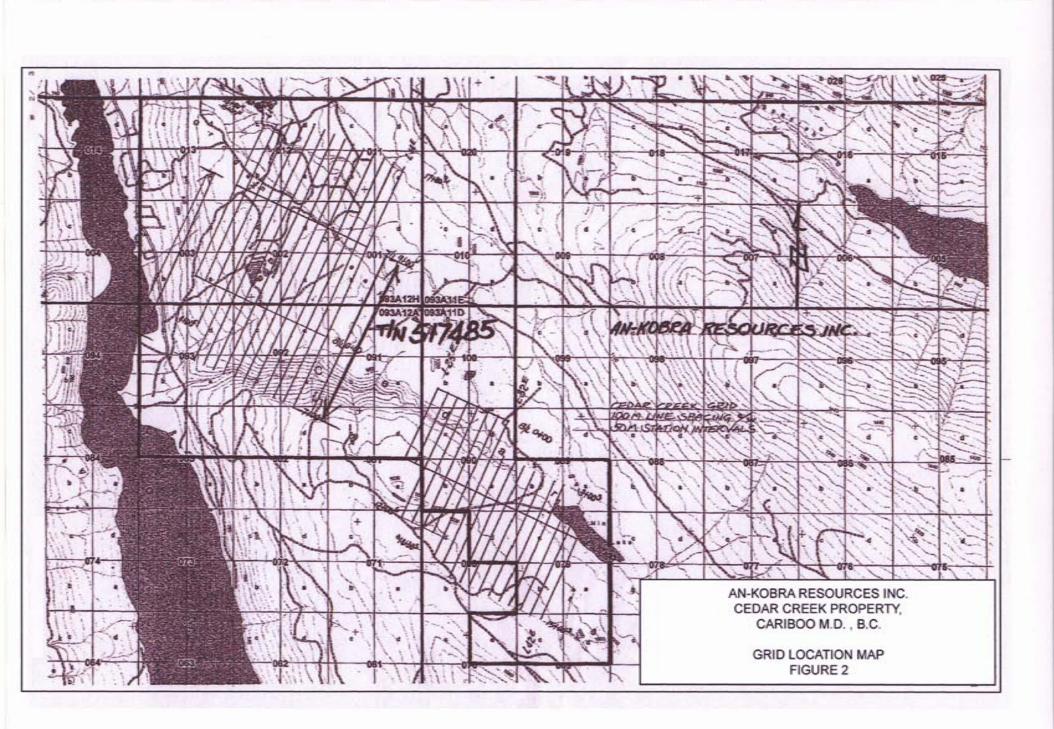
#### **CERTIFICATION.**

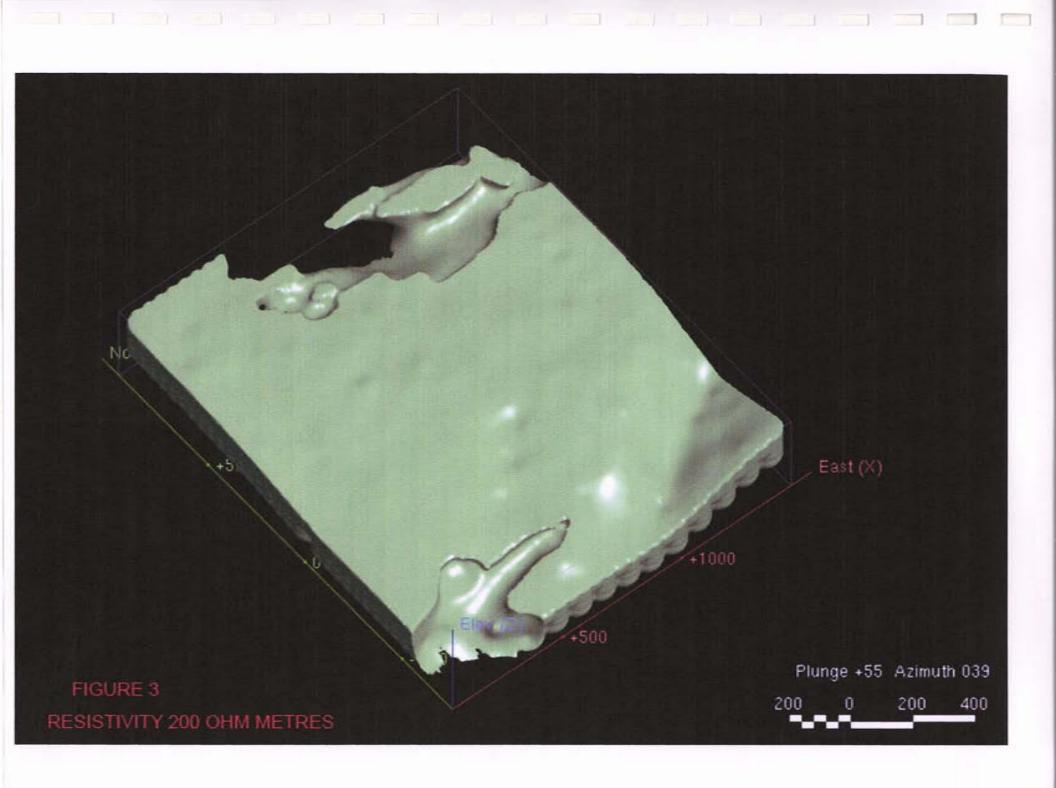
- 1. I am a Graduate of the University of Toronto in 1962 with a B.A.Sc. in Engineering Physics, Geophysics Option.
- 2. I have been practicing my profession for the last forty three years.
- 3. I am a member or the Association of Professional Engineers of British Columbia and Ontario.
- 4. I hold no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

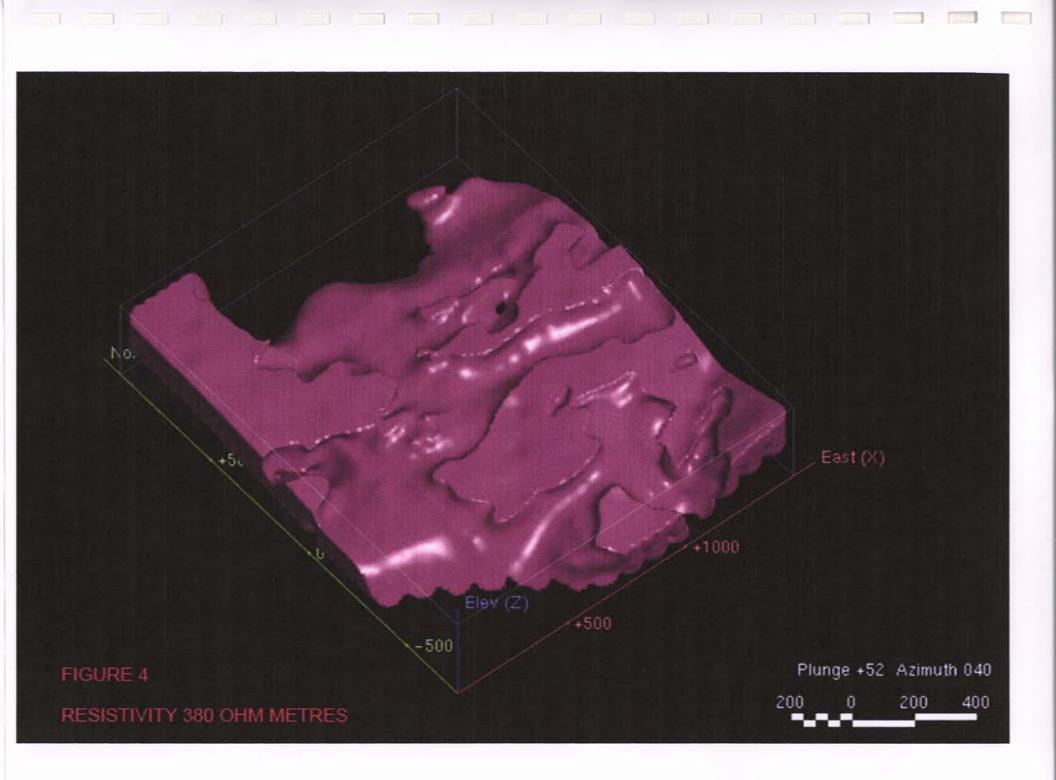
Peter E. Walcott, P.Eng.

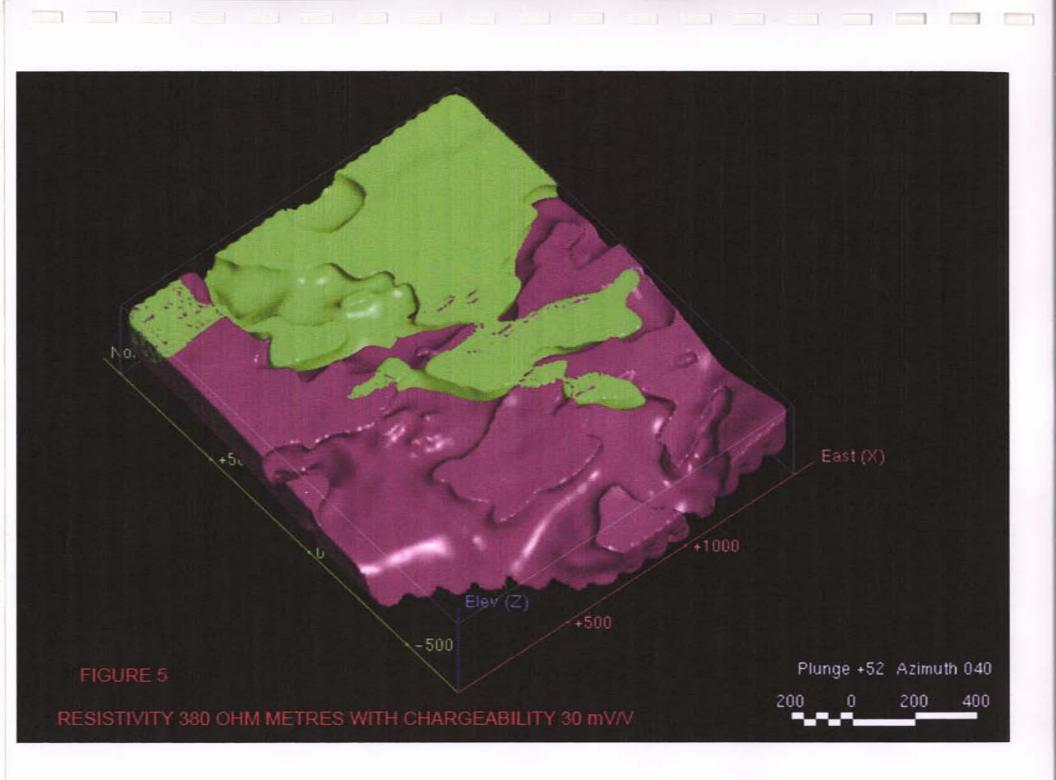
Vancouver, B.C. April 2006

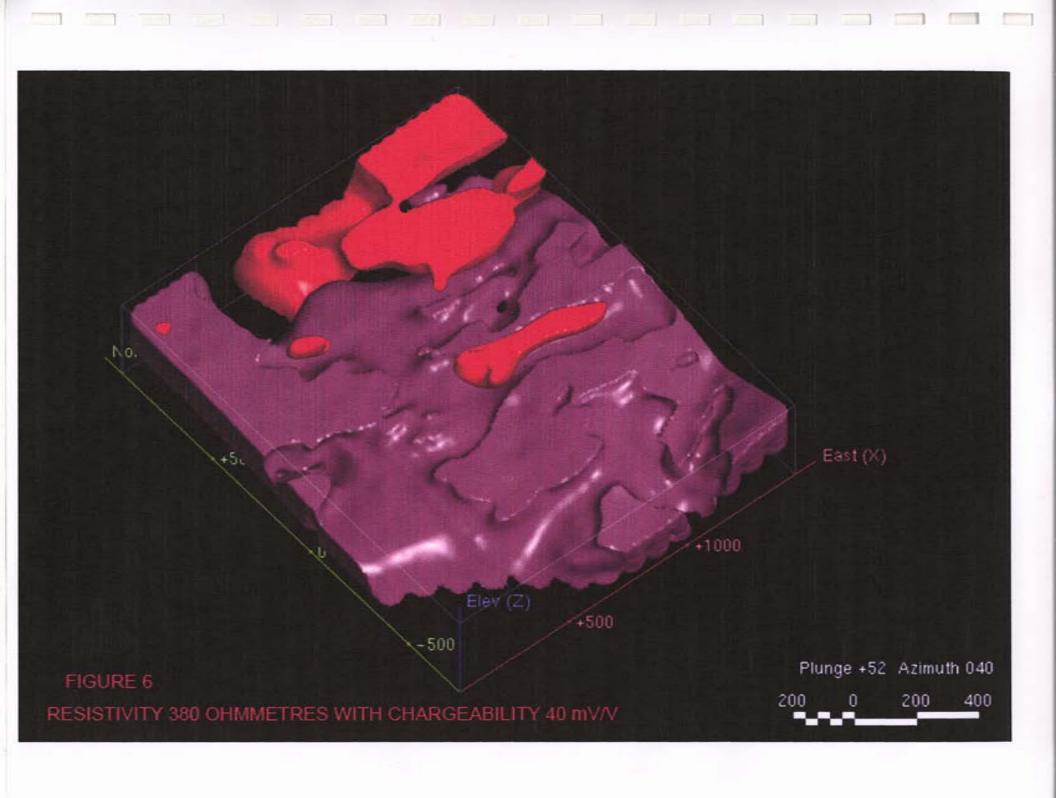


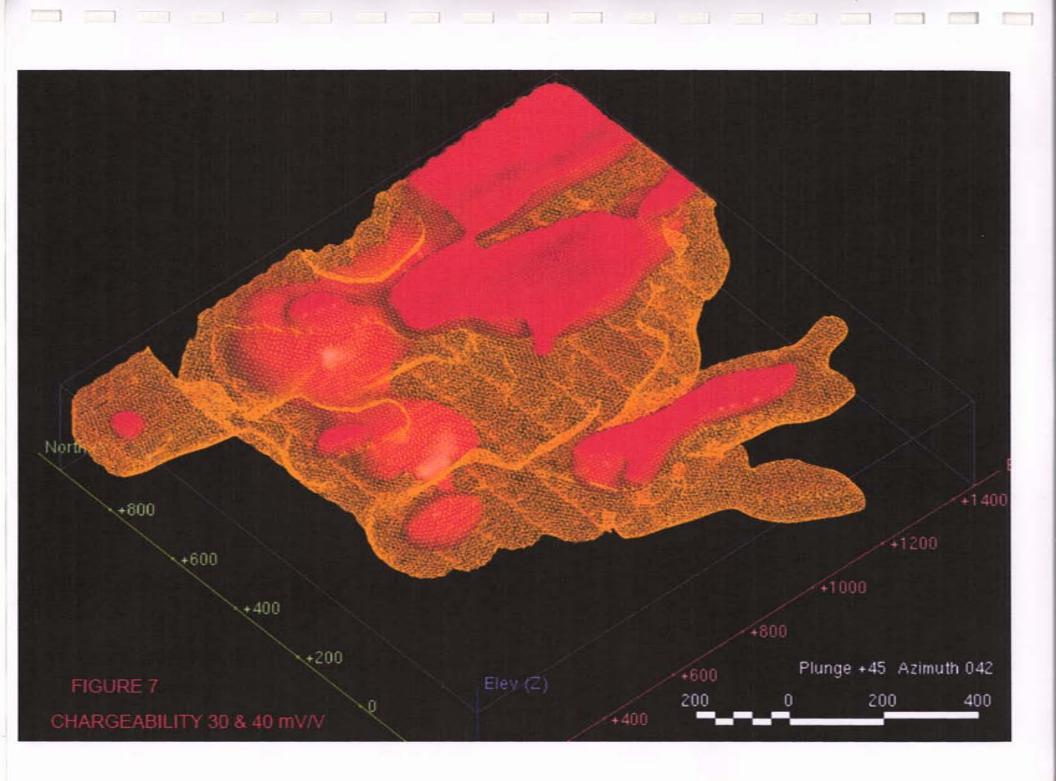


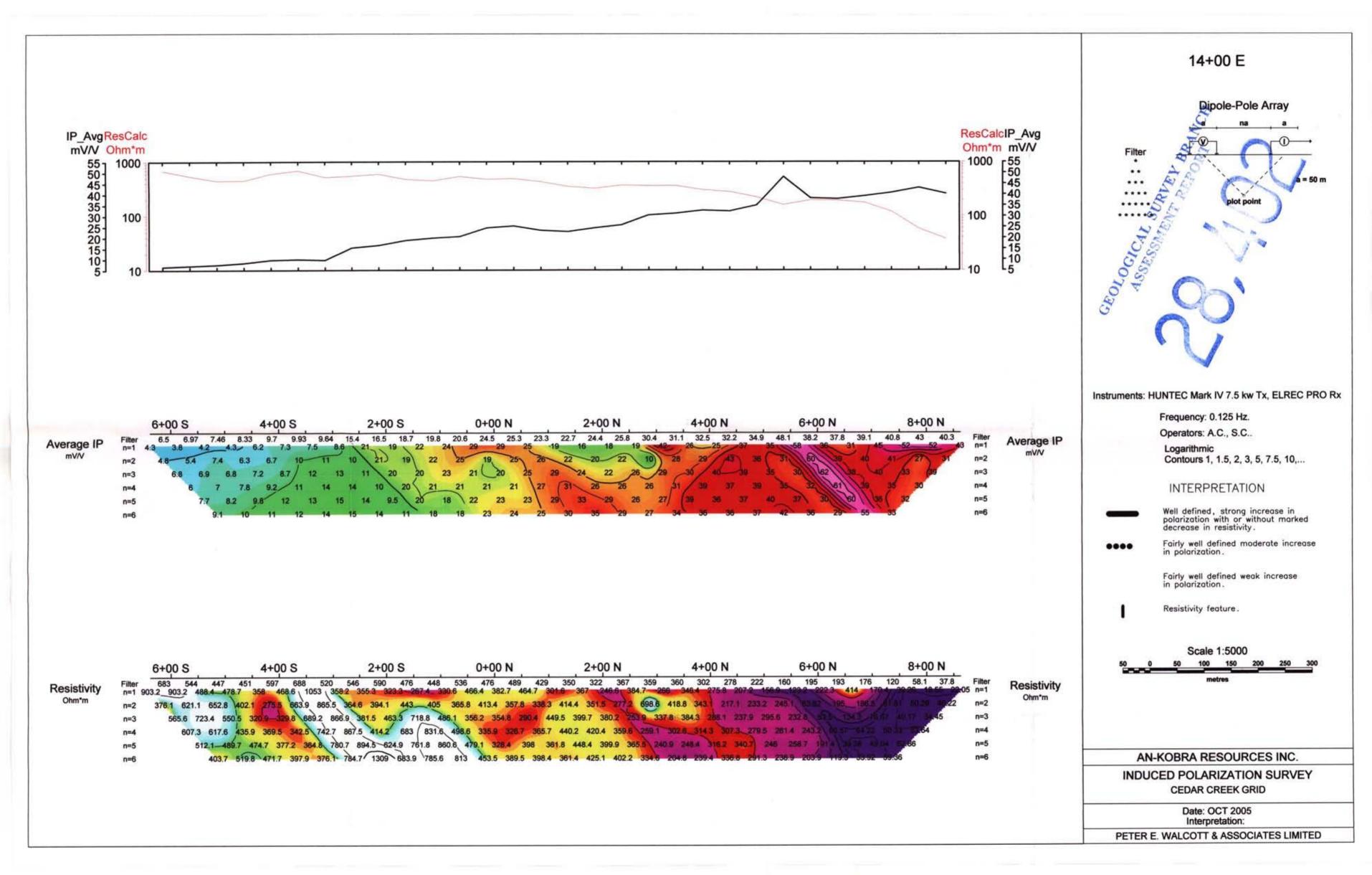


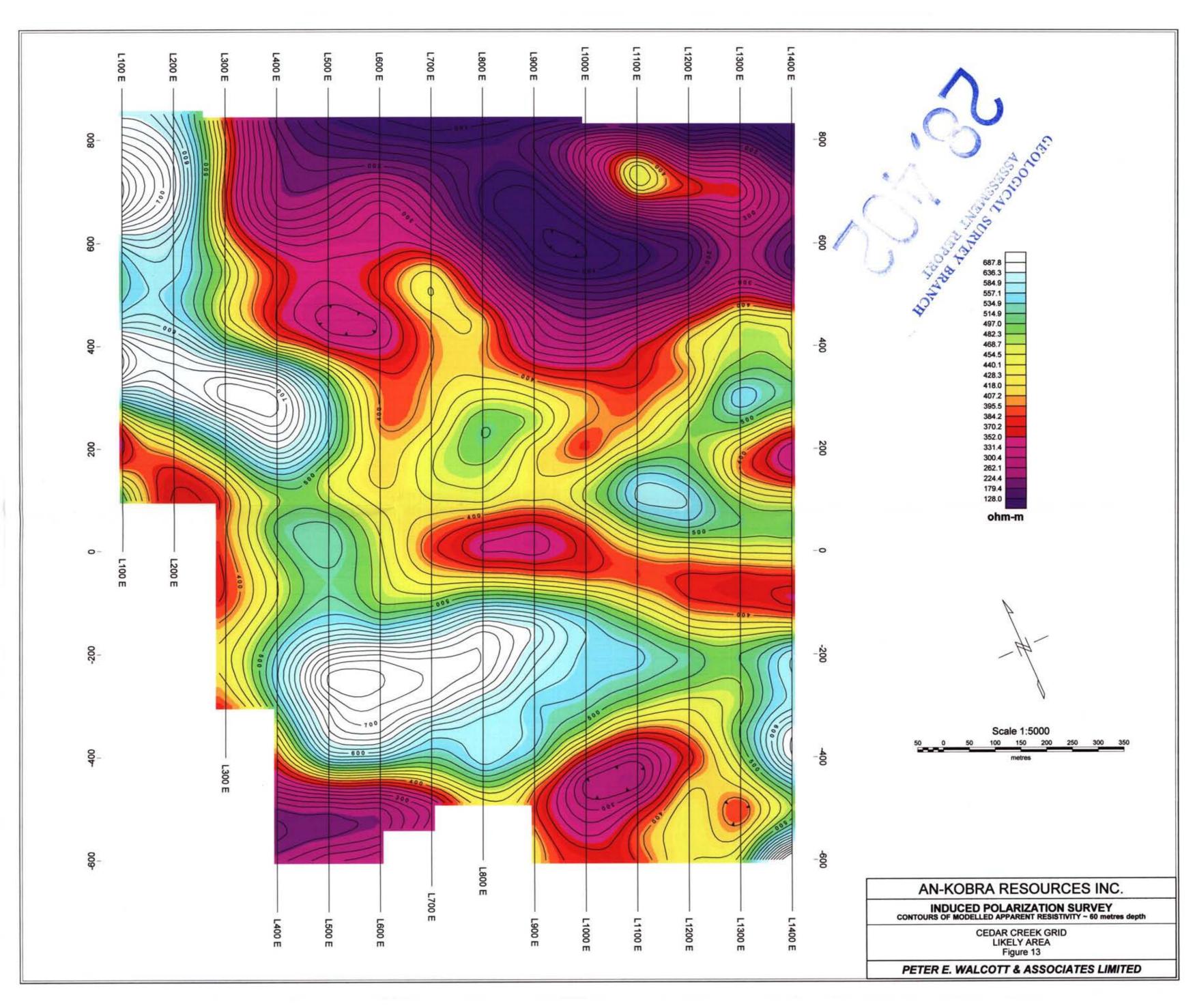


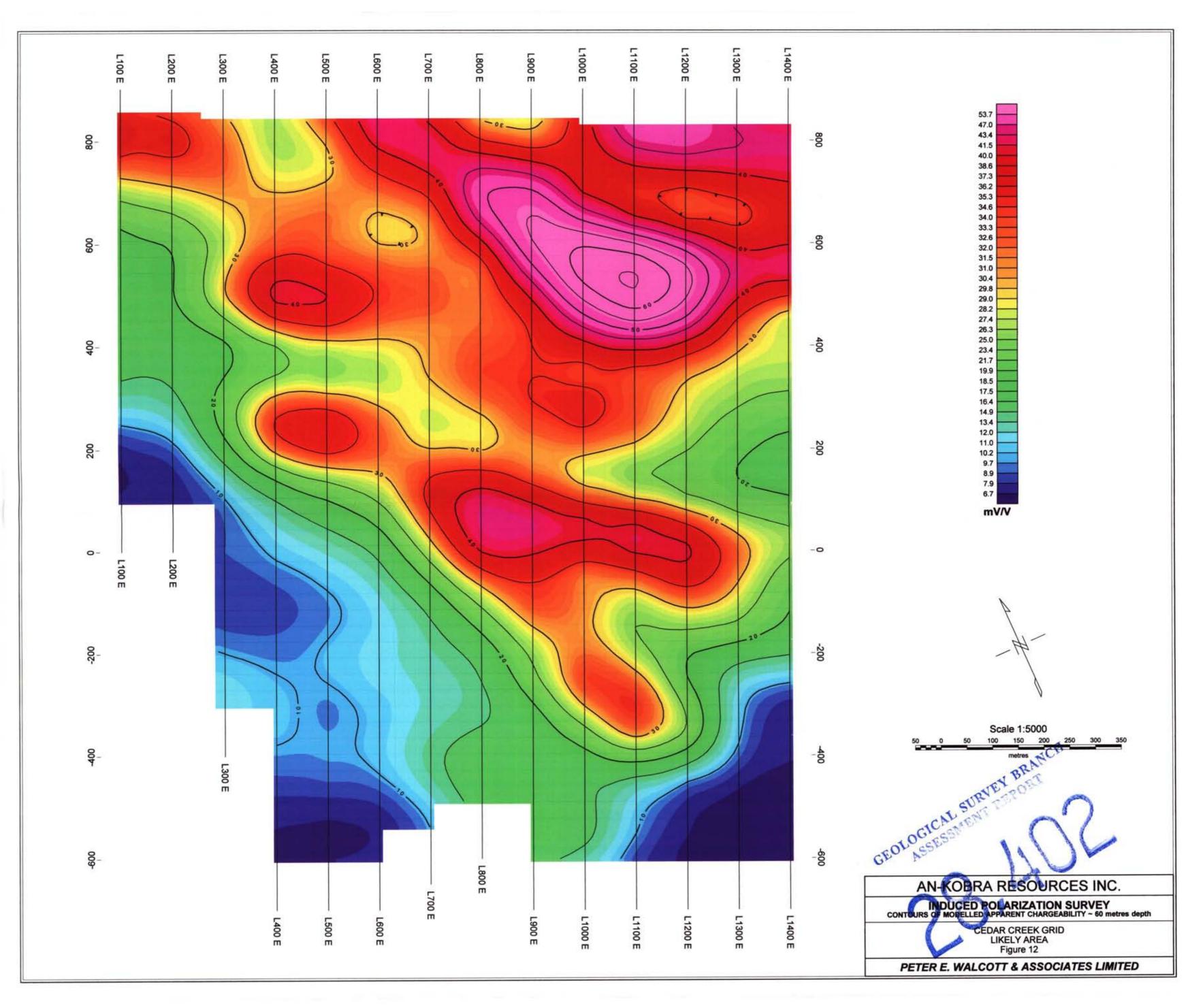


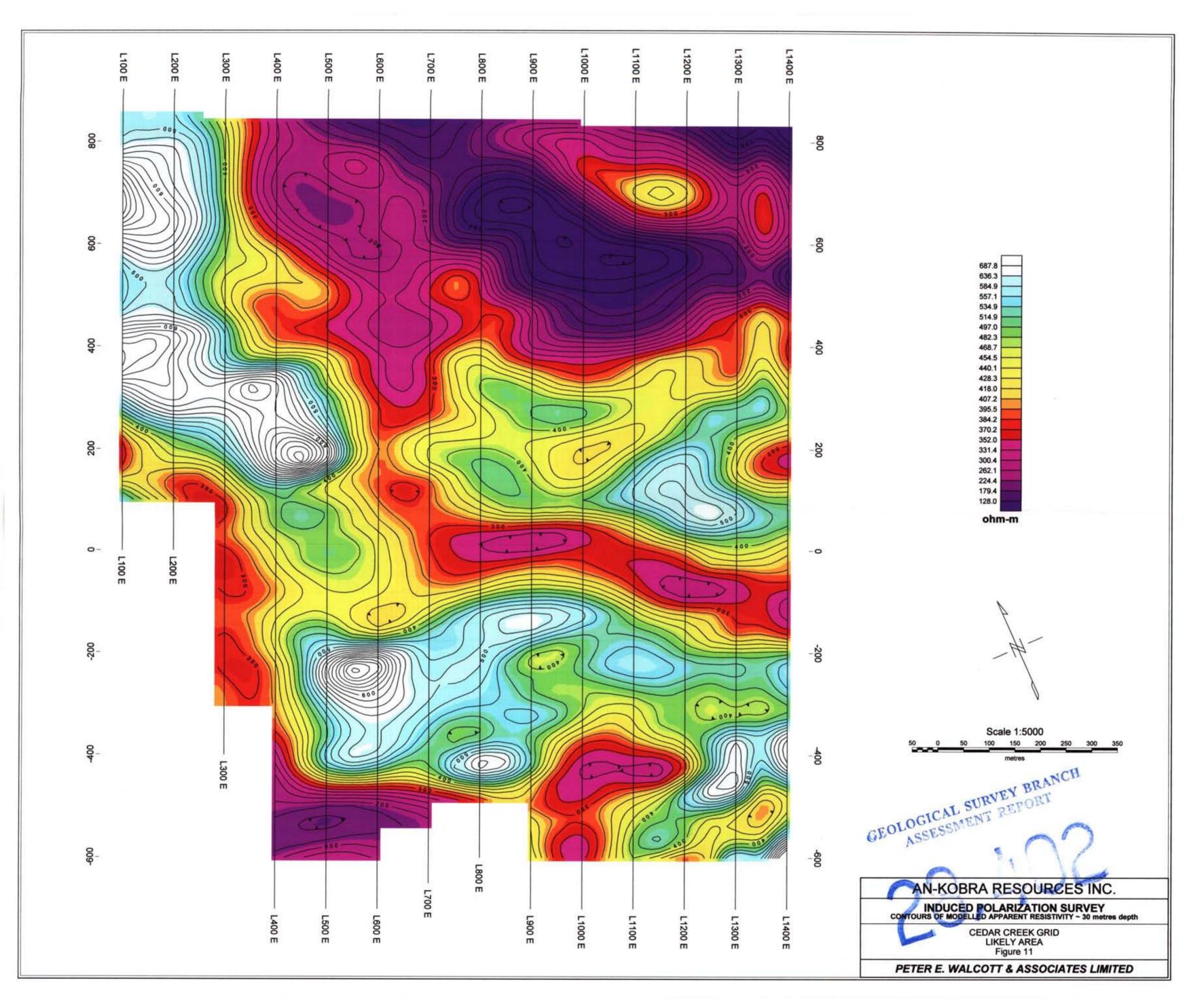


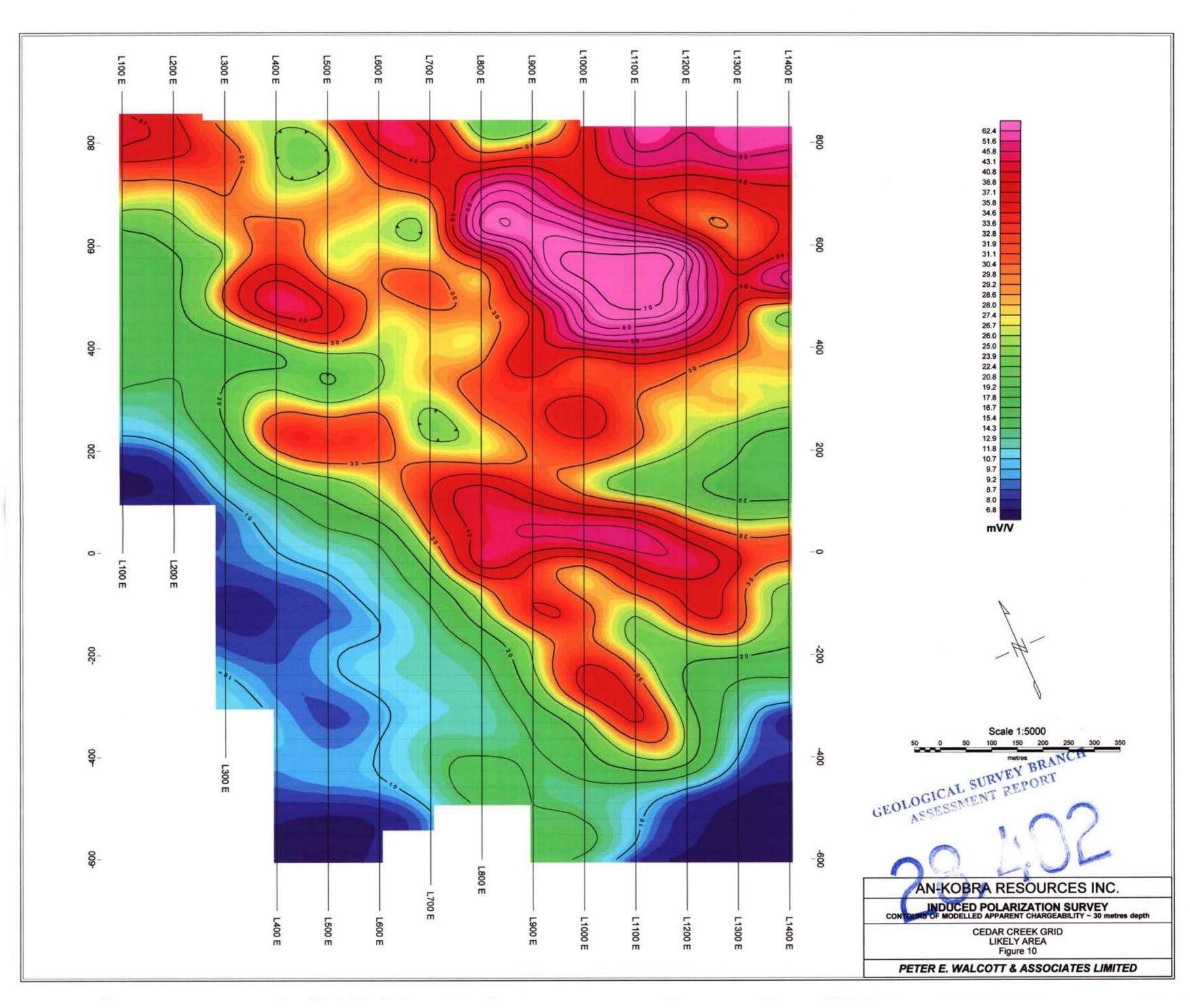


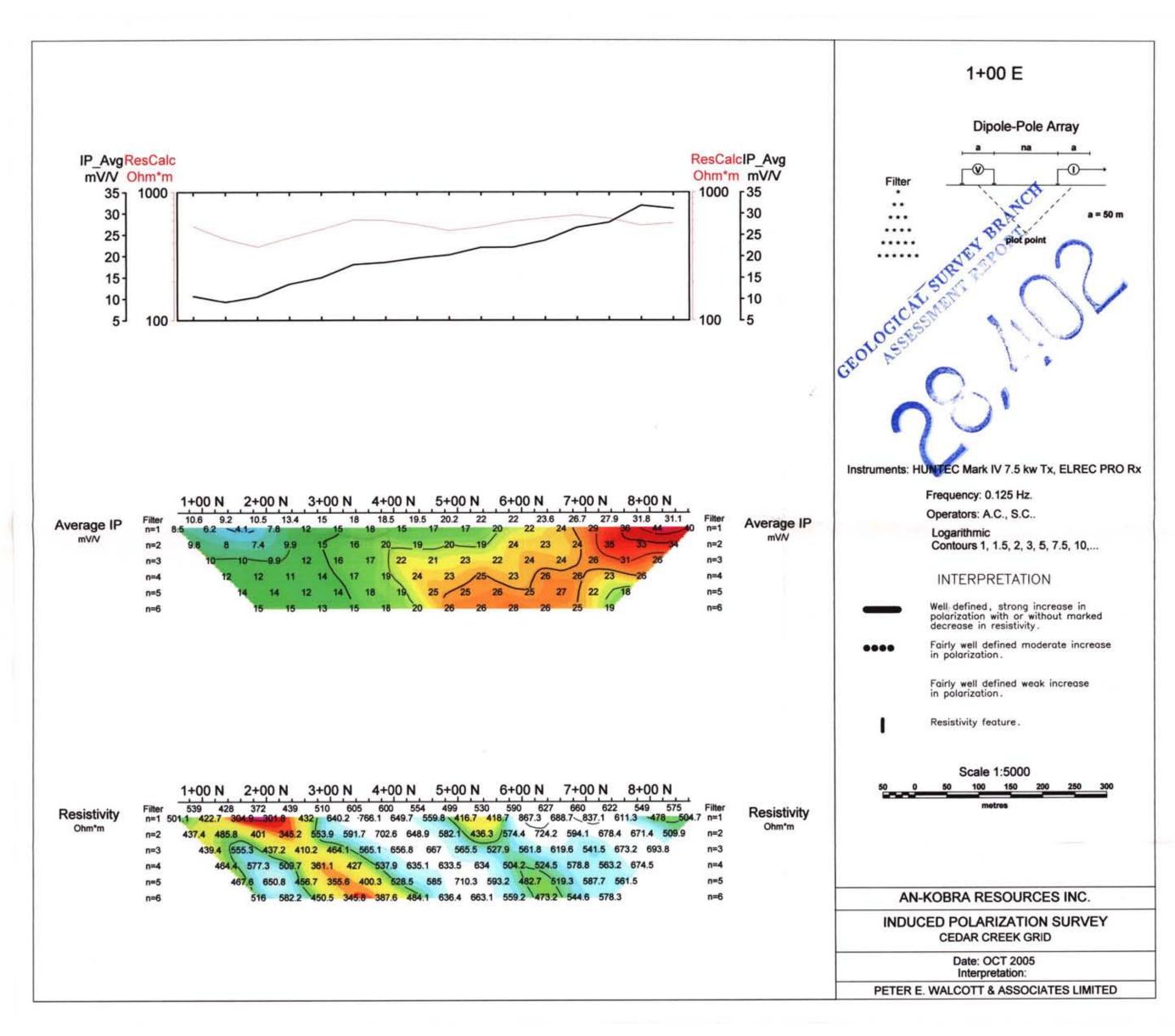


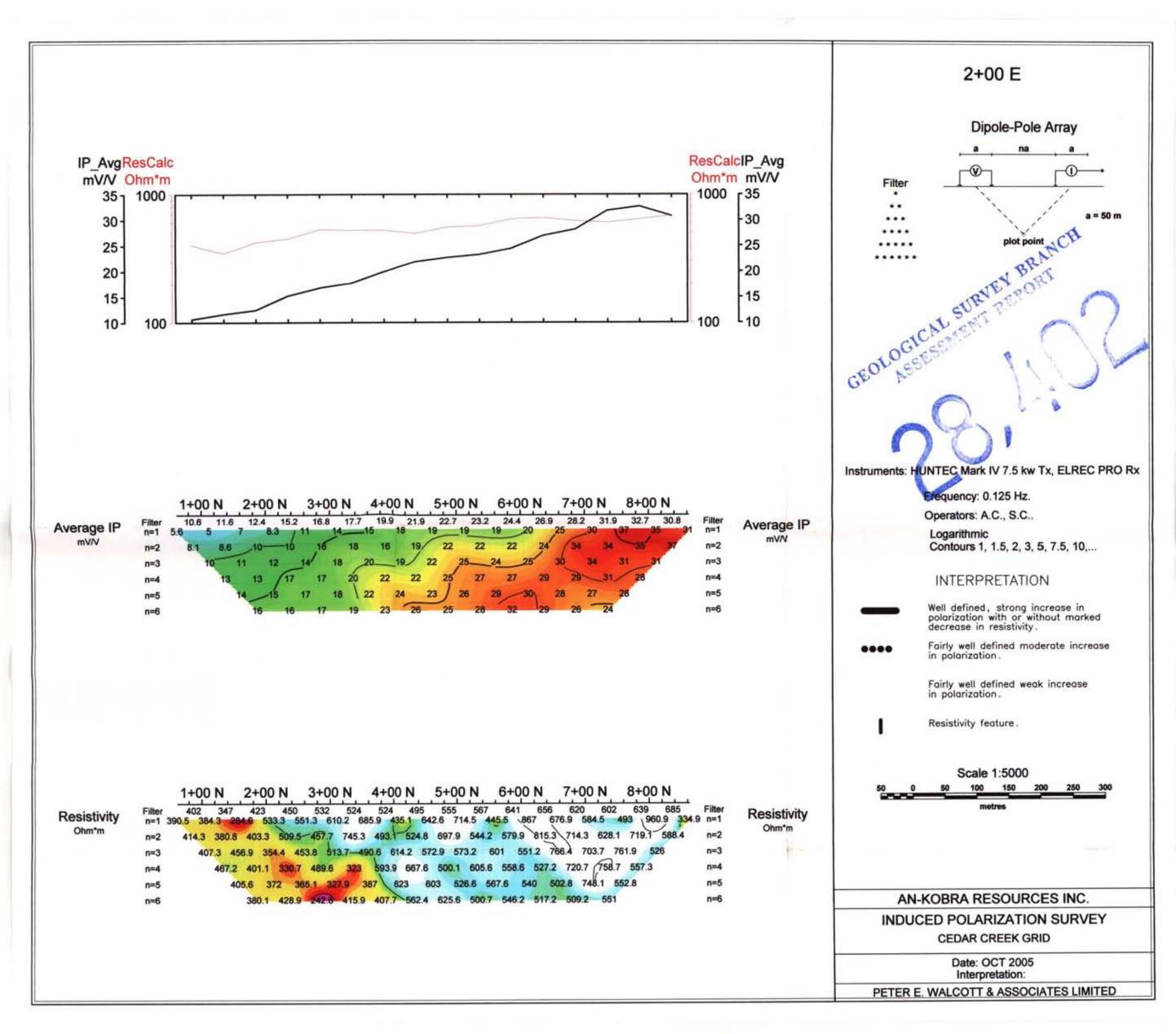


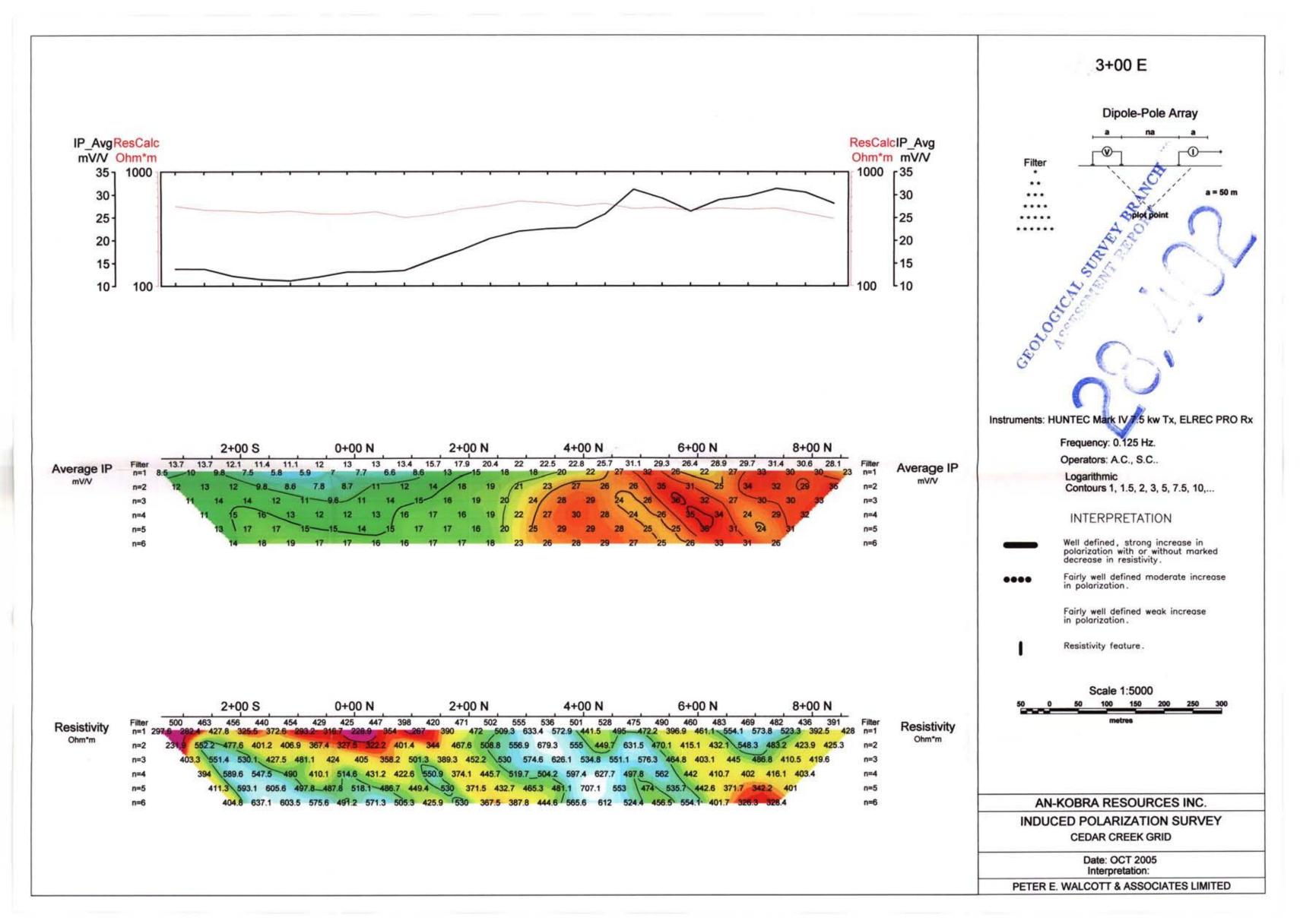


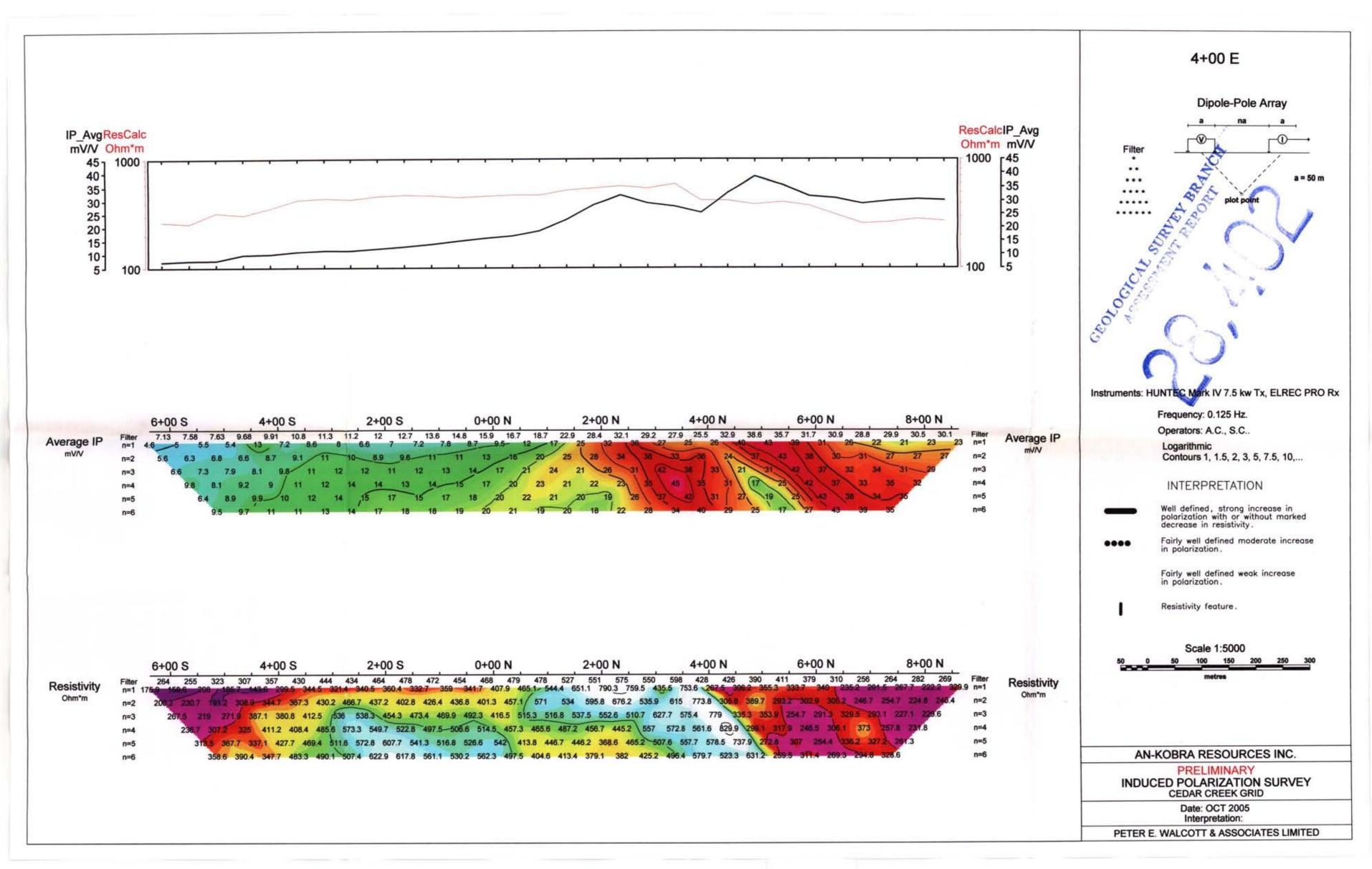


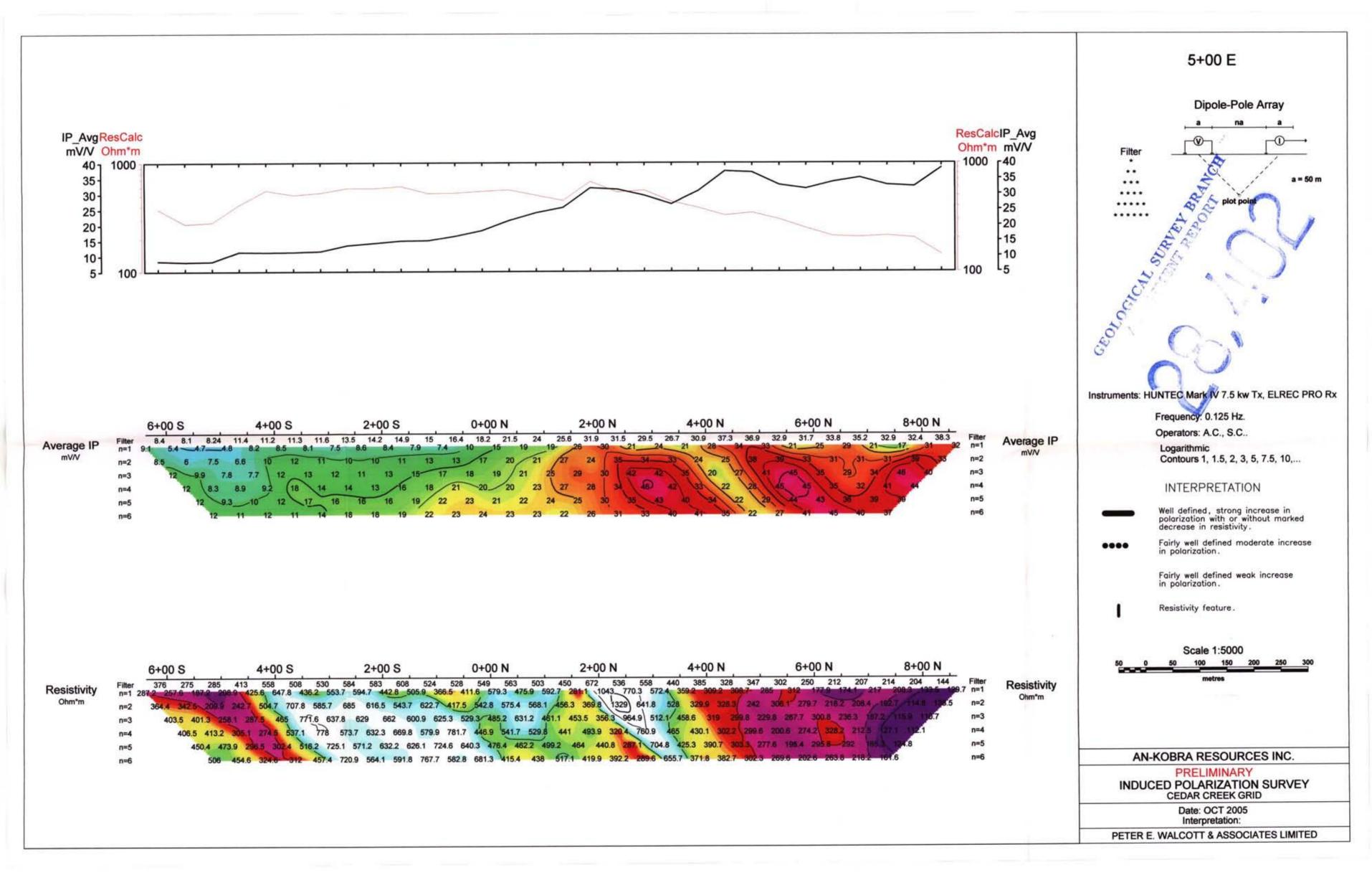


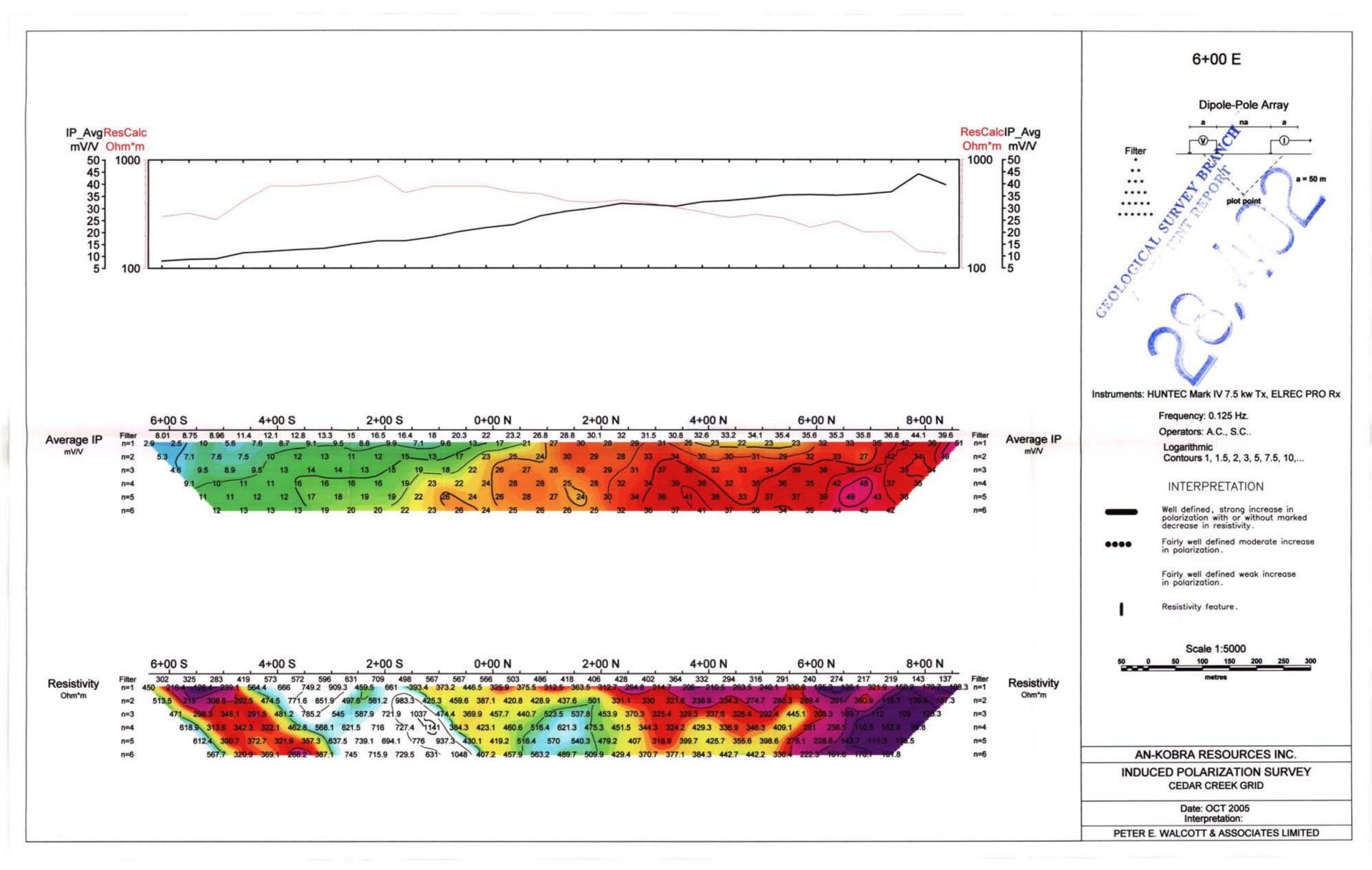


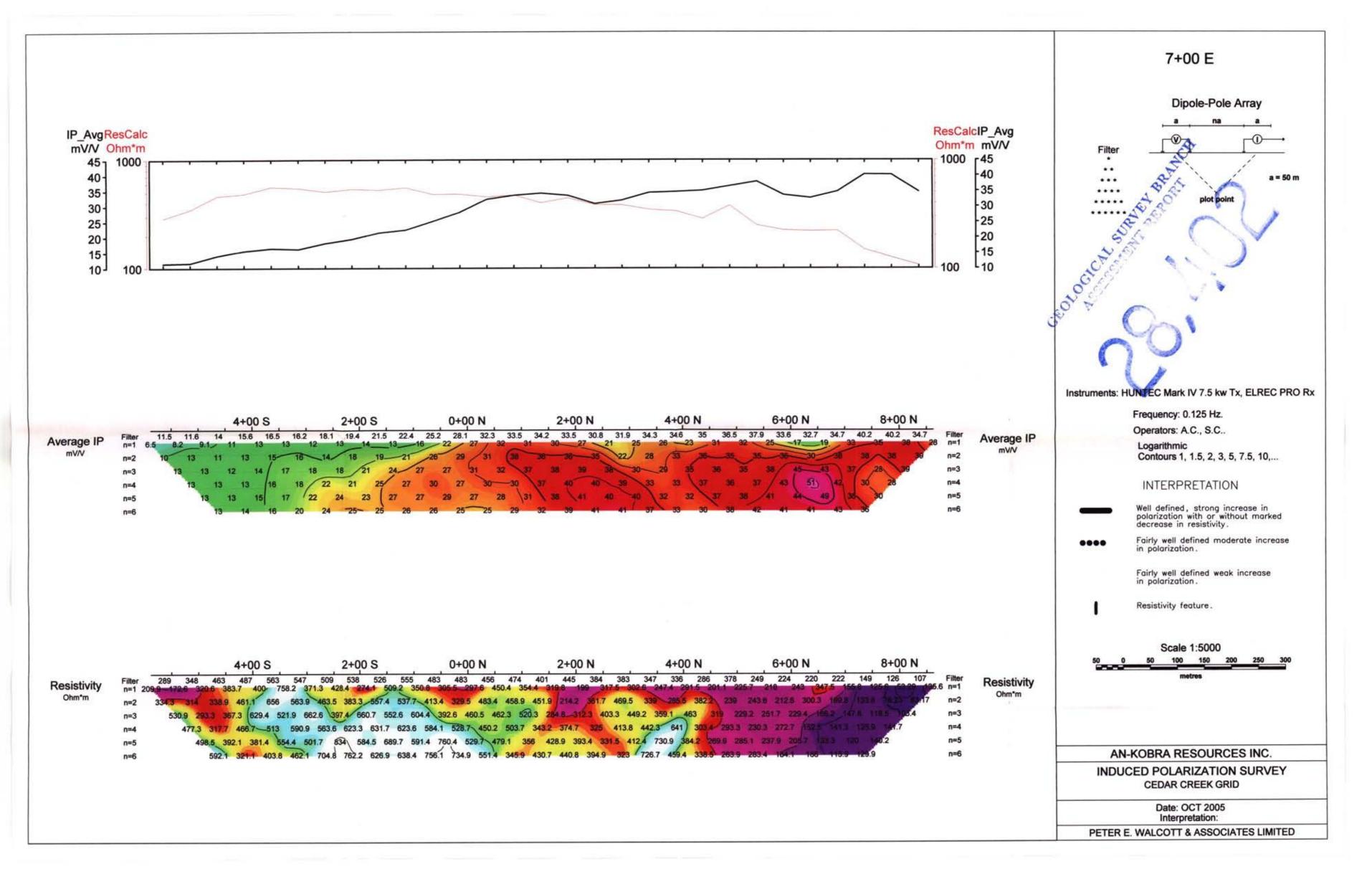


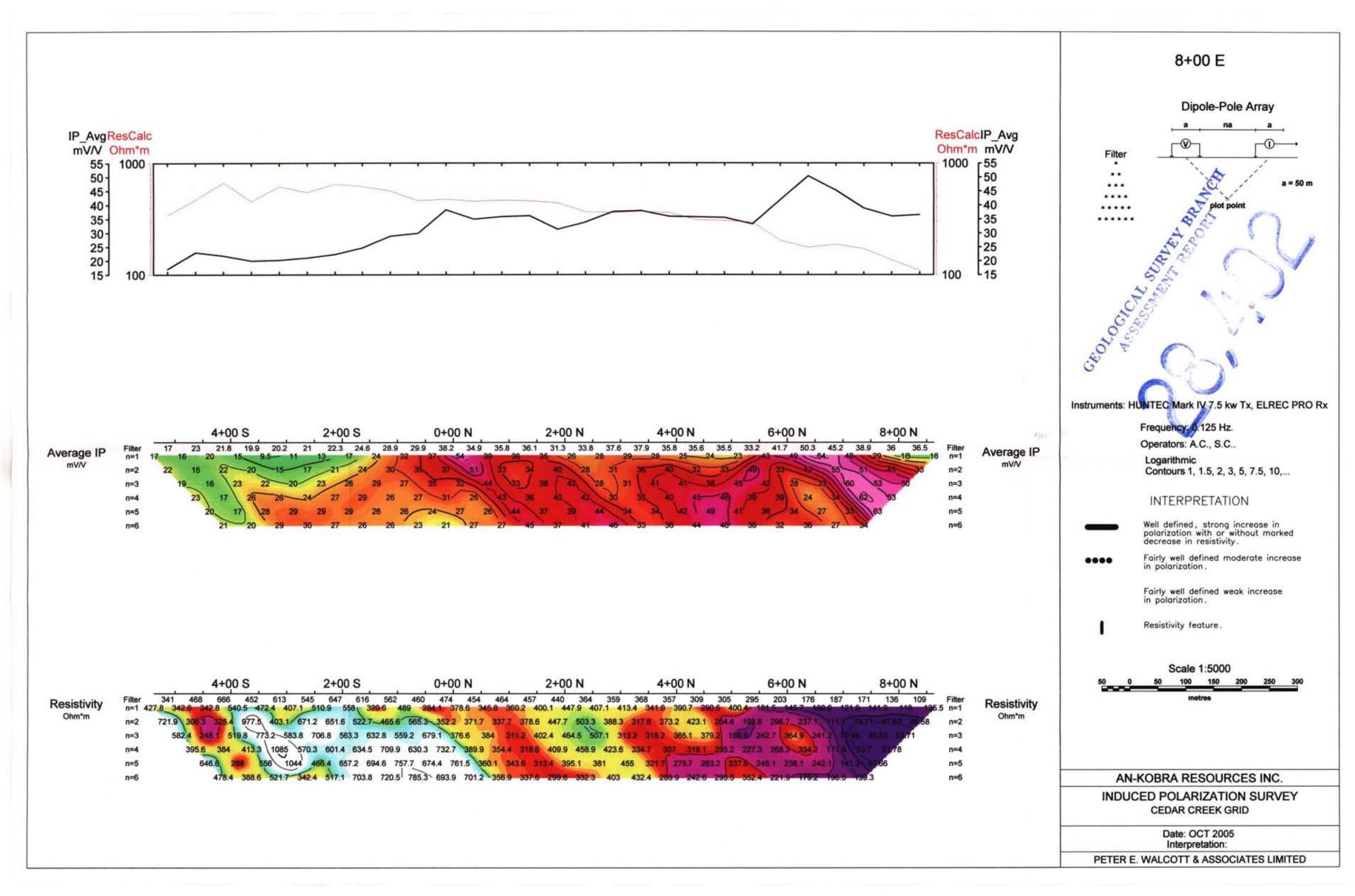


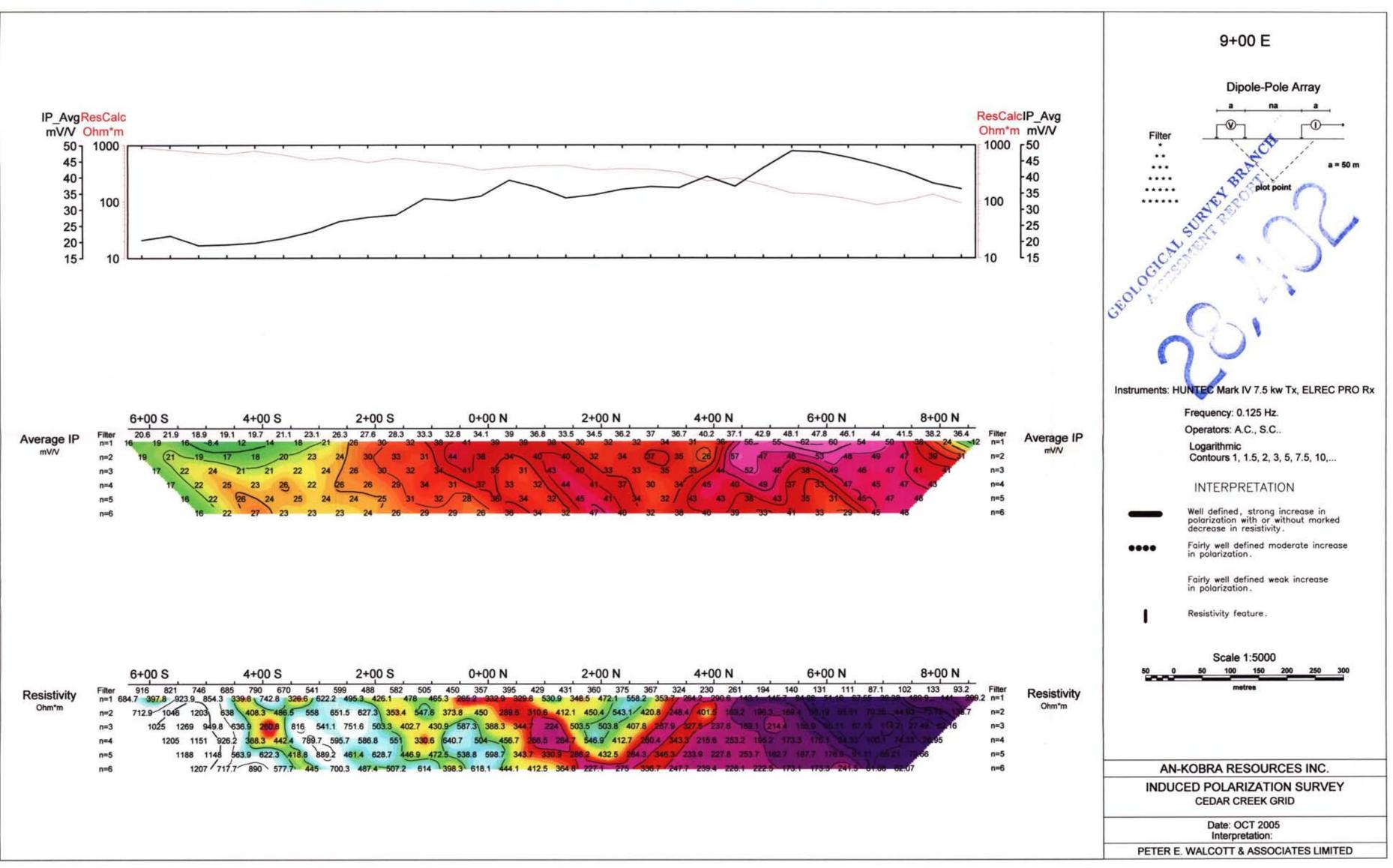












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