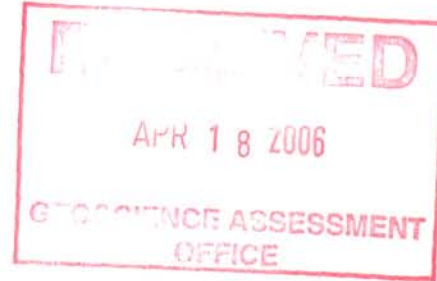




**MATRIX GEOTECHNOLOGIES LTD.**



# Assessment Report

**Regarding the  
INDUCED POLARIZATION and RESISTIVITY  
SURVEYS at the  
PLOMP FARM (ARDIS LAKE) PROPERTY,  
DRYDEN, ON  
on behalf of  
CHAMPION BEAR RESOURCES LTD  
CALGARY, AL**

2.32005

**MGT MGT MGT MGT MGT**

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## 1. INTRODUCTION

- **MGT Project #:** QS-180
- **Project Name:** Plomp Farm (Ardis Lake) Property
- **Survey Period:** February 19<sup>TH</sup> to March 8<sup>TH</sup>, 2004
- **Survey Type:** Induced Polarization \ Apparent Resistivity
- **Client:** Champion Bear Resources Ltd.
- **Representative:** Watts, Griffis and McOuat
- **Client Address:** Suite 400, 8 King Street East  
Toronto ON M5C 1B5
- **Objectives:**
  1. Document the physical properties of the major lithologic units and alteration patterns for compilation with the exploration database.
  2. Generate a geological model from the TD Induced Polarization\Resistivity data.
  3. Increase the exploration program efficiency by better directing the future exploration works and to assist in mapping of general geology, locating structural and alteration features that may favor the precious and base metals presence in the surveyed areas.

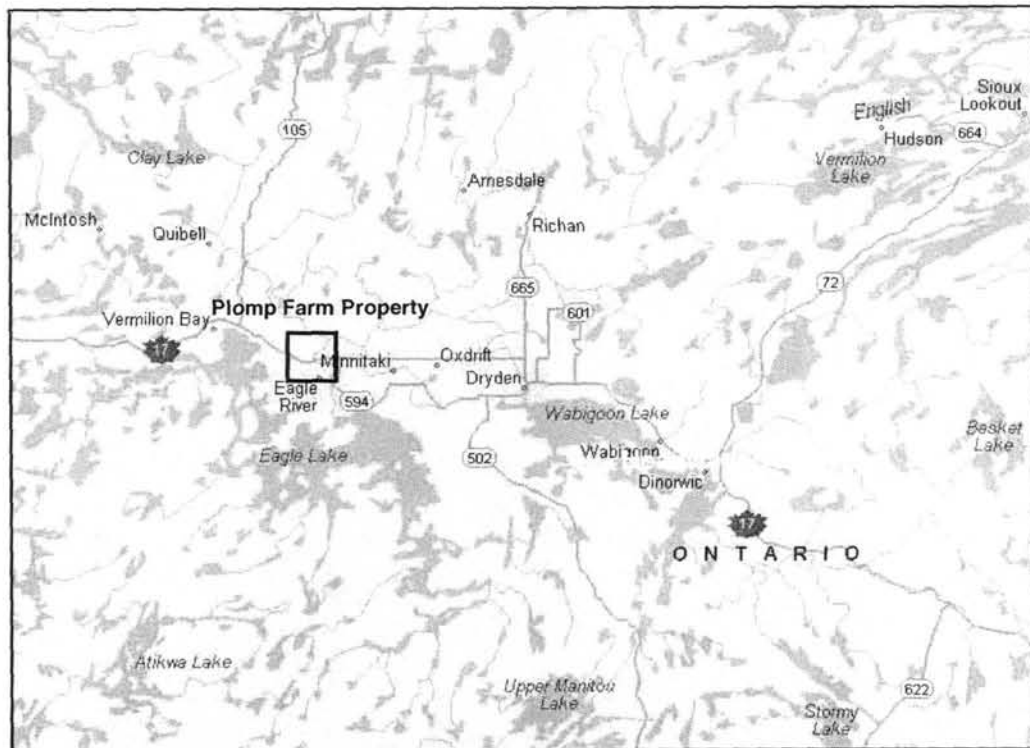
The Gradient array was designed to investigate up to 600m depth range and was chosen for its high resolution and deep penetration capabilities. The Pole-Dipole arrays are used as detailing tool and were designed to investigate in the 30-150 meters depth range.

- **Report Type:** Assessment Report

## 2. GENERAL SURVEY DETAILS

### LOCATION

- **Province:** Ontario
- **Country:** Canada
- **Nearest Settlement:** Dryden Twp.



***Figure 1: General Property Location of the Plomp Farm Property***

#### ACCESS

- **Base of Operations:** Dryden Township, Ontario
- **Grid Location:** The **Plomp Farm Property** is located approximately 25 km north west of Dryden Township
- **Mode of Access:** The property and survey grid area is accessible by truck

#### SURVEY GRID

- **Coordinate Reference System:** UTM (Map Datum NAD83)
- **Established:** During the survey execution
- **Line Direction:** True NS
- **Line Separation:** 100 metres
- **Station Interval:** 25 metres
- **Method of Chaining:** Metric-chained

### 3. SURVEY WORK UNDERTAKEN

#### GENERALITIES

- **Surveyed By:** Matrix GeoTechnologies Ltd.
- **Survey Dates:** February 16<sup>TH</sup> to March 6<sup>TH</sup>, 2004
- **Mob/Demob Days:** 4 days
- **Stand by:** 2 days
- **Survey Coverage:** approx. 20.0 km
- **Line Cutting Coverage:** approx. 3 km

#### PERSONNEL

- **Project Manager:** Ludvig Kapllani
- **Field Assistants:** Andrew Weiers  
Wayne Langanki  
Jonathan Errington

#### SPECIFICATIONS

- **Arrays:** 1) Gradient (see Fig. 2)  
2) Pole-Dipole (dipole-pole configuration - see Fig. 3)
- **Transmitting dipole spacing:** Gradient:  $C_1-C_2 = 3500, 2400$  and  $1150$  metres  
Pole-Dipole:  $C_1-C_2 = 1.8$  km minimum
- **Array Parameters:** Gradient:  $MN = 25$  m  
Pole-Dipole:  $n=2a, a=25$ m, dipole 1 to 6
- **Sampling Interval:** 25 metres
- **Total Gradient AB Blocks:** 2 blocks
- **Total Pole-Dipole Lines:** 5 lines
- **Areal Coverage:** approx.  $0.56 \text{ km}^2$

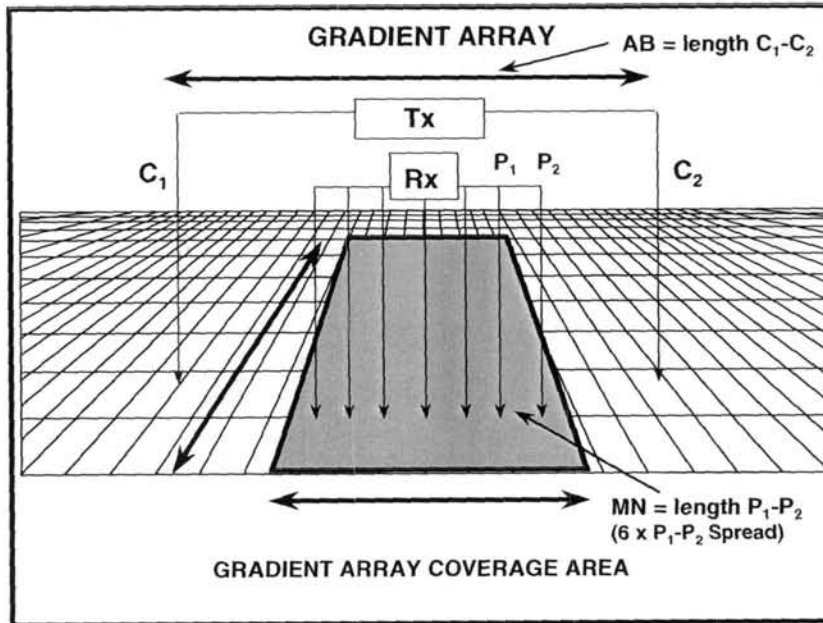


Figure 2: Gradient Schematic Array Layout.

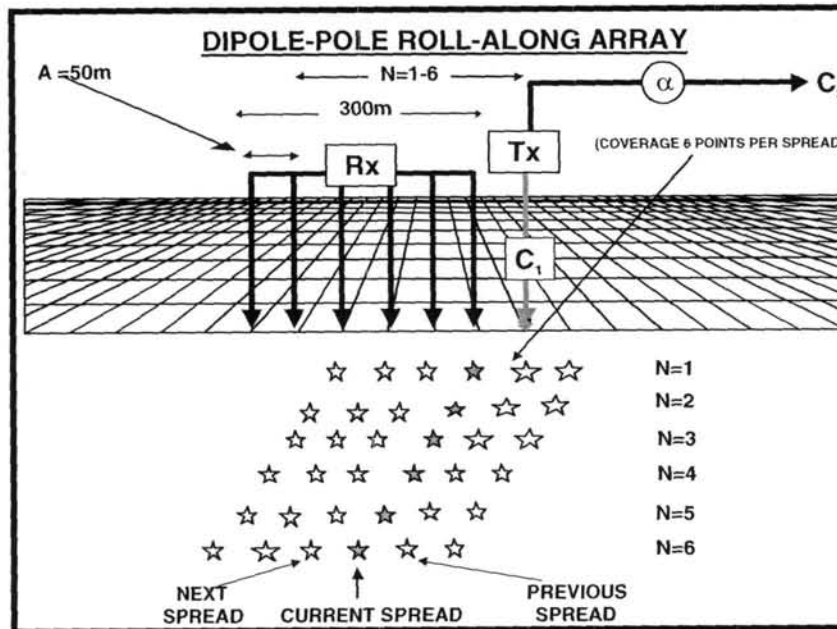


Figure 3: Pole-Dipole Schematic Array Layout.

**SURVEY COVERAGE:**

1. **Reconnaissance Gradient:** 20,325 m (see Table I)
2. **Pole-Dipole Array:** 4,325 m (see Table II)

LINE	START	END	TOTAL (m)
<b>AB=3500 m</b>			
L100w	400N	450S	850
L200w	400N	450S	850
L300w	200N	450S	650
L400w	350N	475S	825
L500w	400N	450S	850
L600w	400N	475S	875
L700w	400N	450S	850
L800w	350N	300S	650
		<b>TOTAL</b>	<b>6400</b>
<b>AB=2400m</b>			
L100w	400N	425S	825
L200w	450N	450S	900
L300w	350N	425S	775
L400w	425N	450S	875
L500w	400N	450S	850
L600W	475N	475S	950
L700w	450N	450S	900
L800w	375N	425S	800
		<b>TOTAL</b>	<b>6875</b>
<b>AB=1150 m</b>			
L100w	400N	450S	850
L200w	500N	450S	950
L300w	350N	450S	800
L400w	425N	450S	875
L500w	425N	450S	875
L600w	475N	475S	950
L700w	425N	475S	900
L800w	400N	450S	850
		<b>TOTAL</b>	<b>7050</b>

***Table I: Gradient Survey Coverage***

LINE	MIN EXTENT	MAX EXTENT	TOTAL (m)
L200W	450S	400N	850
L300W	450S	375N	825
L500W	450S	450N	900
L700W	450S	475N	925
L800W	425S	400N	825
		<b>TOTAL</b>	<b>4325</b>

***Table II: Pole-Dipole Survey Coverage***



**INSTRUMENTATION**

- **Receiver:** IRIS IP-6 (time domain / 10 channels)
- **Transmitter:** Hunttec 7.4 (maximum output 3200V) \ IPT1-B
- **Power Supply:** MG-15 Honda motor-generator (25 HP), driving Westinghouse 30 kVA alternator \ Honda 6.5 KW

**PARAMETERS**

- **Input Waveform:** 0.5 Hz square wave at 50% duty cycle (8 seconds On/Off)
- **Receiver Sampling Parameters:** Arithmetic and semi-logarithmic windows (see Table III)
- **Measured Parameters:**
  - 1) Chargeability in millivolts/Volt (10 time slices + total area under decay curve)
  - 2) Primary Voltage in millivolts and Input Current in amperes for Resistivity calculation according to the pole-dipole and gradient arrays geometry factor<sup>1</sup>.

Slice	Duration (msec)	Start (msec)	End (msec)	Mid-Point (msec)
T <sub>d</sub>	320	0	320	
T <sub>1</sub>	320	320	640	480
T <sub>2</sub>	320	640	960	800
T <sub>3</sub>	320	960	1280	1120
T <sub>4</sub>	320	1280	1600	1440
T <sub>5</sub>	640	1600	2240	1920
T <sub>6</sub>	640	2240	2880	2560
T <sub>7</sub>	640	2880	3520	3200
T <sub>8</sub>	1280	3520	4800	4160
T <sub>9</sub>	1280	4800	6080	5440
T <sub>10</sub>	1280	6080	7360	6720
<b>Total T<sub>p</sub></b>	<b>7360</b>			

***Table III: Decay Curve Sampling***

**MEASUREMENT ACCURACY AND REPEATABILITY**

- **Chargeability:** generally  $\leq \pm 0.5$  mV/V.
- **Resistivity:** less than 5% cumulative error from Primary voltage and Input current measurements.

<sup>1</sup> See BRGM/IRIS IP6 receiver operating manual and Appendix C.

## DATA PRESENTATION

- **Maps:**

Reconnaissance Plan Maps: Posted/contoured Total Chargeability and Apparent Resistivity, at 1:2500 scale.

Pole-Dipole Pseudosections: Posted/contoured pseudo depth section maps of combined Total Chargeability and Apparent Resistivity (interpreted) at 1: 2500 scale (non-terrain corrected).

Quantitative Sections: Interpreted IP\Resistivity results represented as conceptual geological model or geoelectric sections at 1:2500 scale.

Interpretation Plan Map: Outlining anomalies, interpreted zones of thickened-mineralization, resistivity zones + recommended drill targets (1<sup>st</sup> + 2<sup>nd</sup> priority) at 1:2500 scale (1 plan).

- **Digital:**

TDIP Raw data: Iris IP-6 format (see Appendix B)

Gradient Processed data: Geosoft **.XYZ** files using the following format:

Column 1 ⇒ Station - Eastings, in metres  
Column 2 ⇒ Line – Northings, in metres  
Column 3 ⇒ Total Chargeability, in mV/V  
Column 4 ⇒ Apparent Resistivity, in  $\Omega$ -m  
Column >5 ⇒ Cole-Cole Parameters as derived by IPREDC

Pole-Dipole Processed data: Geosoft **.IP** (Chargeability in mV/V), **.RES** (Apparent Resistivity in  $\Omega$ -m) and **.MF** (Metal Factor) files using the following format:

Column 1 ⇒ Station - Eastings, in metres  
Column 2 ⇒ Filtered Data  
Columns 3-8 ⇒ n=1 to 6 Data

## 4. RESULTS AND SUMMARY INTERPRETATION

### INTRODUCTION

The following discussion summarizes the results of the Gradient/ Pole-Dipole TDIP/Resistivity surveys over the **PLOMP FARM (ARDIS LAKE) PROPERTY**, undertaken by Matrix GeoTechnologies Ltd. The present geophysical interpretation makes use of both the Resistivity and Time Domain Induced Polarization parameters using Gradient and Pole-Dipole surveys, with chargeability parameter able to detect and discern mineralization ranging from disseminate to massive concentrations and resistivity characterizing the structures.

The gradient array survey results are relied upon as a bulk conductivity/chargeability mapping tool and large transmit dipoles employed provide significant depth of investigation in the central region of the grid and the relatively narrow receiver dipoles also offer significant lateral resolution, but are none the less subject to significant volume averaging.

Based on the array geometry chosen, gradient investigation depths approaching 250 to 500 meters were obtained - with the deepest penetration in the middle third of the array and shallower depths of investigation progressively closer to the transmit electrodes. The gradient apparent resistivity and chargeability data therefore represent a bulk average, from surface to depth, when observed in plan view. Additionally, the gradient array anomaly patterns are essentially sub-vertical (i.e. without complex, asymmetric pant-leg shapes, as in pdp and dpdp), and can be visualized in plan in the same manner as magnetic or gravity data. However, in the presence of moderate to shallow dips, the gradient array anomalies tend to be shifted down-dip relative to shallower arrays, such as pole-dipole – greater discrepancies can also occur with dipole-dipole, owing to the asymmetric array geometry, which tends to bias anomalies towards the infinity pole.

The geophysical interpretation plan presents the interpreted anomaly axes, highlighting the strength and resistivity association of the IP axes to their source/alteration type:

- a) High resistivity IP axes, related to either disseminated sulphides or magnetite possibly associated with quartz-carbonate alteration or, alternatively, more felsic/less porous geology and/or bedrock/overburden topographic effects;
- b) Nil (flat) resistivity and contact-type IP axes likely correspond to possibly more weakly-altered and/or thin/buried sulphide zones and/or mineralization along geologic contacts, or magnetite/hematite; and
- c) Low (conductive) resistivity IP axes representing the key target signature relating to possible massive to stringer sulphides or, alternatively, faulted or clay-altered disseminated sulphides □ magnetite/hematite.

Clearly, while all anomaly types (high  $\rho$  / low  $\rho$  / nil  $\rho$ ), could potentially represent equally valid exploration targets, the low resistivity/high chargeability association best represents the key geophysical target signature, based on the geologic model, although the resistive IP signatures are indicators of disseminated mineralization along quartz/silica or sericitization.

The chargeability axes identified on the anomaly axis map have been: a) categorized according to their strength (weak, moderate, strong, very strong) using different thickness, and b) classified according to their resistivity association (high  $\rho$ , nil  $\rho$ /contact-type, low  $\rho$ ) using colored axes. The line-to-line correlation of anomalies into axes is based primarily on the resistivity association (i.e. resistive and conductive anomalies never aligned along the same axis due to likely dissimilar mineralogy / alteration / origin) – thereby providing some measure of geologic/geophysical control to the interpretation. Note that, due to the relative insensitivity of Gradient to depth of burial, target depths have not been determined for the anomalies of interest. In addition, fault structures have also been interpreted based on evidence from the TDIP results, generally represented by lower resistivity and lower chargeability.

## GEOLOGICAL OVERVIEW

The property lies within "Warclub" Sedimentary Assemblage. The bedrock comprise argillites, greywackes and iron formation that is interbedded with felsic volcanic, quartz porphyry and minor mafic intrusive rocks.

The Ontario Geological Survey ("OGS") remarked in recently published work that "At the Plomp Farm, drill core samples from base metal-mineralized alteration zones (Lichtblau et al. 2002) returned 53.5 g/t gold with 0.19% Zn in sphalerite-bearing quartz sericite schist and 92.7 g/t gold with 0.42% Cu in chalcopyrite-bearing quartz sericite schist. Six samples that contained >1% BaO also had elevated gold (> 0.6 g/t). A direct correlation between the introduction of barium-bearing hydrothermal fluids and the gold mineralizing event is indicated."

The OGS also remarked that "Gold mineralization at the Thunder Lake Deposit and on the Plomp Farm property occurs as disseminated and vein-type within an altered felsic volcanic-metasedimentary package. A thick sequence of iron formation occurs in the footwall of both deposits. Significant gold mineralization is associated with silicification (silica or quartz), sericitization, pyritization and the formation of barium-microcline."

## GRADIENT TDIP\RESISTIVITY SURVEY RESULTS

The main objective of the gradient was to define the plan continuation of gold mineralization and the respective alteration. The survey consists on observing the IP\Resistivity signatures along eight NS lines. The grid was established during survey execution using handheld Garmin 12 GPS system, with the intention of accurately positioning the survey grid.

The gradient IP\Resistivity results over the **PLOMP FARM GRID** successfully define the geophysical signatures potentially associated to mineralization, lithological changes, structures, and chemical alteration. The gradient survey consists in three transmitting dipoles, respectively 3500, 2400 and 1150 meters spacing, covering three investigation depths ranging from 600 meters to 200 meters. The gradient interpretation is based on results of gradient arrays of 2400 meters and 1150 meters dipole.

The total chargeability plan map shows that the property is generally characterized by very strong to very low chargeability values, displaying IP responses, ranging from -50 mV/V to 90 mV/V, with the high values most likely suggesting the presence of IF able to create distorted chargeability responses. These chargeability distortions are observed as well in pole-dipole surveys, suggesting the possible strong IF presence along the section. The anomalous chargeabilities are associated with high\nil\low resistivity, forming almost EW bands, suggesting either mineralization along the silicification (high and high\nil association) and/or massive mineralization\IF presence (low and low\nil association). More moderate/weaker chargeabilities associated with similar resistivity are also present in the property, and either indicates more deeply buried \ shallower mineralization or weaker sulphide\IF content.

The gradient chargeability responses at **PLOMP FARM GRID** are characterized by extremely wide range in strength, varying between very weak to very strong but generally falling in the weak category (avg. 5.8 mV/V) – consistent with altered volcanics-meta-sediments, having weak disseminate sulphide content, with the peaks corresponding to higher mineralization content. The most important IP lineament, located in the center of survey grid, likely extends further to the east and west is associated to low\nil resistivity, symptomatic of either concentration of massive mineralization (low resistivity) and/or mineralization along contacts. In addition, the zone of increased chargeability (zone of geophysical interest) widens to the east, starting from L.4+00W, most likely suggesting the presence of several mineralized zones.

The second prominent IP feature, located in north of the grid, relatively thin IP signature centered in high resistivity, likely related to silicification\quartz alteration. There is possible that this signature extends further to the north, east and north-west, and additional geophysical survey is strongly recommended in

order to verify the extension of this prominent feature. In addition, the gradient survey shows the IP signatures is stronger at the upper levels, likely suggesting increased content and/or more disseminated mineralization near surface.

The correlation of IP gradient plan maps indicate possible north dipping of the central-located prominent anomaly, with strongest IP values at depth. On the other hand, apparent resistivity plan map show the modification of conductivity from very high a depth to nil/contact, likely due to changes on the mineralization texture\increased IF or faulting\intensification of silica alteration, however does not indicate any plunging of the unit.

The most important IP axes are generally short strike, suggesting displacements and/or faulting, however display variations in strength, ranging from weak to very strong, either reflecting differences in mineral concentration or depth of burial along the strike.

The apparent resistivities display a wide range, varying from 15 ohm-m to 25 k ohm-m (avg. 2 k ohm-m), indicative of the combination of both very conductive features and low porosity bedrock. The apparent resistivity defines high resistivity EW trending zones associated to increased chargeability, mapping the silica\quartz alteration, still open to the grid east and west. Conversely, the anomalous IP associated to low resistivity seems to be more local and rounded, which likely suggest more local massive mineralization content\IF presence. The apparent resistivity correlates very well from one gradient level to the other, reinforcing the idea that it is more likely that there is a modification in the mineralization texture\content rather than structural modification at depth.

In addition, the apparent resistivity plan map show the presence of a high resistivity trend to the grid south-west, likely representing another dyke, associated to weak/moderate chargeability and extending to the west.

Generally, the apparent resistivity plan map shows a very complicated distribution of the geological units. The very high resistivity values possibly reflect the outcropping and/or shallow occurrence of felsic volcanics or dyke. The apparent resistivity plan map shows the correspondingly the possible extension of the interpreted north dyke to the east and west.

The interpretation of apparent resistivity parameter shows the presence of several interpreted faults, trending NW-SE \ NE-SW and likely crosscutting the surveyed grid.

#### **QUANTITATIVE INTERPRETATION AND GEOLOGICAL MODEL**

The Pole-Dipole (PDP) array ( $n=2a$ ,  $a=25$  meters) was used as follow-up detailing tool over the **PLOMP FARM GRID**. The PDP results are integrated with gradient results, and represented in five **QUANTITATIVE SECTIONS (QS)**, in order to educe a geological model.

The PDP survey shows the presence of several anomalous chargeabilities, with "dyke" type anomalies very well defined to the north (L.200W and 300W) and the central anomaly very well defined further to the west (L.700W and 800W). The detailing survey shows that it is quite possible that this anomaly come near surface or outcrops at L.800W, and more likely continues to the west. On the other hand, the PDP survey shows that the central anomaly is more complex and deeper to the east. The results suggest that the PDP technique offers better detail on geoelectric layering and apparently better indications of vertical \ horizontal extent of the mineralization.

In addition, the PDP apparent resistivity shows the high resistivity features (quartz\silica alteration, volcanics and bedrock) occur at greater depth in the central part of the grid (likely L.400W, L.500W and L.600W), and coming near surface to the east and west.

The **QUANTITATIVE SECTIONS** show the geology, acquired from the quantitative interpretation of the

**specific resistivity** parameter, is predominated by sub-vertical elements, likely continuing at greater depth. The sections are characterized by low specific resistivity values, ranging from 70 to 750 Ohmm, implying the presence of conductive \ porous sedimentary units, intruded by high to very high resistivity units.

Based on the previous geological information, the geological similarity with the known deposits around the **PLOMP FARM GRID** and the geoelectric-facial<sup>2</sup> sections, the following exemplify the interpreted structural model:

#### **LOW RESISTIVITY UNITS**

less than 100 Ohmm – IF and sulphides, argillic material – old lake basement

100 ÷ 1000 Ohmm – sedimentary rocks, metasediments, sericite schist

#### **HIGH RESISTIVITY UNITS**

1.0 ÷ 4 kOhmm - mafic-derived sediments, altered volcanic, felsic, quartz\silica alteration.

> 4.0 kOhmm - mafic volcanic, gabbro, diabase.

The interpreted strong \ very strong chargeability signatures generally follow the high\nil resistivity hosts and seem to form a polarizable vein\dyke type of response, although high conductivity chargeability host are present. The sub-vertical IP\conductive signatures are well defined, correlated from line-to-line, and characterized by very strong chargeability values. The PDP and Gradient surveys shows that the veining system of the interpreted ore might be up to 600 meters wide at depth. The **QUANTITATIVE SECTIONS** emphasize the idea that the mineralization surges near surface or out-cropping; the interpreted IP seems to extend to the surface and the interpreted resistivity shows the possible absence of OB. Furthermore, the Quantitative Sections show that the geological set is very complicated with severe transitions from line to line, mainly due to pre and post mineralization intrusions.

**QUANTITATIVE SECTION OVER L.2+00W:** shows the presence of several IP signatures, ranging from weak\moderate to very strong, and extending at depths. The most extensive anomalies (located from St.0 to St.50N and from St.250N to St.375N), characterized by strong to very strong chargeabilities, are associated with high resistivity, suggesting disseminated type of mineralization along silica\quartz alteration. Generally, the interpreted IP targets are depth extended and seem to either outcrop\expose to surface or extended to shallow depths (up to 50 m). Furthermore, the northern anomaly seems to be divided in two parallel IP\Resistivity signatures, with the weakest one (the southern IP anomaly) not coming at surface, but most likely surrounded by more scattered mineralization.

Besides high resistivity targets, the interpretation shows the presence of low\nil resistivity type of IP signature (moderate to strong IP) hosted by low resistivity units, centered on St.87.5N, similar to the signature observed in L.8+00W, and more likely represent massive mineralization if not of geological nature.

Structurally, the section is characterized by a sequence of sub-vertical low resistivity (<100 ohmm to 800 ohmm) \ high resistivity (> 1 kohmm to 4 kohmm) features intruded by local very resistive sub-horizontal to near horizontal units, interpreted as mafic volcanics. The conductive structural units (metasediments) predominant to the south, are intruded by low conductivity units (2 kohmm to 4 kohm), more likely felsic.

**QUANTITATIVE SECTION OVER L.3+00W:** shows the conductive units (interpreted as metasediments) predominant to the south, however the presence of high resistivity units is stronger. The structural model is characterized by sequences of low resistivity \ high resistivity units, but less very high unit

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<sup>2</sup> Geoelectric-facial model represents the geoelectric section build based on the quantitative interpretation of specific resistivity, and no geological significance is assigned to the geoelectric units.

intrusions. Judging from the relation between the mineralization and the very high resistivity units it is quite possible that the mafic volcanic intrusion occurred at later stages disrupting the mineralization.

The interpreted IP signatures are associated high resistivity units, suggesting disseminated mineralization along silica\quartz alteration. The northern interpreted mineralized dyke, located between St.200N and St.325N, seems to extend to near surface or outcrop, is characterized by strong chargeability signature. Most likely is complex system, constituted by two separate quartz dykes enveloped by more scattered mineralization, showing the same nature as the same anomaly over L.2+00W.

The interpreted chargeability anomaly located between 100S and 100N, is characterized by weak to moderate chargeability responses near surface to mid depths (from 50 meters to 250 meters depth) and likely represent a complex zone of disseminated mineralization. The anomaly thins out at depth, showing dyke type anomaly, but centered along geological contact.

**QUANTITATIVE SECTION OVER L.5+00W:** is characterized by the presence of high conductivity\ porous units (<100 ohmm to 300 ohmm) on the upper part of the section (near surface up to 100 meters), suggesting a west dipping of the resistive units (no outcrop or near surface exposure). The structural model shows the predominant presence of conductive units at depth, intruded by high resistivity units.

The interpreted chargeability supports the idea of possible west dipping of the eastern IP signatures. The **QUANTITATIVE SECTION** shows the presence of several IP signatures, ranging from weak\moderate to strong, generally at depth. The most extensive anomalies located at St.300N, characterized by strong chargeabilities surrounded by weak\moderate chargeability, is associated with nil\contact resistivity, suggesting disseminated type of mineralization along geological contact. It is quite possible that this target is part of a complex dyke system (see L.2+00W and L.3+00W) however additional geophysical work is strongly recommended to north in order to verify the hypothesis.

The central anomaly, located between St.50S and St.50N, is characterized by moderate chargeability responses between 100 and 150 meters depth and is associated with high resistivity. The IP anomaly extends at depth, but is characterized by much weaker chargeability and most likely is a complex zone of several disseminated to poorly disseminated mineralization occurrences.

In addition, two weak\moderate anomalies, centered on 200S and 300S, are observed, most likely being of geological nature. Further to the south, the **QUANTITATIVE SECTION** shows the presence of a dyke type anomaly (sub-vertical increased IP associated to relatively high resistivity), although not well resolved and additional geophysical work is strongly recommended.

**QUANTITATIVE SECTION OVER L.7+00W:** exhibits the predominant presence of low resistivity units on the upper part of the **QUANTITATIVE SECTION** covering higher resistivity geological units. The lower part of the section is characterized by sub-vertical relatively to very high resistive units, such as metasediments, sericites, felsic rocks and mafic units.

The **QUANTITATIVE SECTION** shows the presence of several IP signatures, ranging from weak\moderate to very strong, generally extended at depth. The most extensive anomalies located between St.125S and St.75N, characterized by strong chargeabilities surrounded by weak\moderate chargeability, near surface (30 to 175 meters depth) is associated with low resistivity, either suggesting massive\stringer mineralization and/or strong alteration of host. On the other hand, the anomaly seems to be associated with much higher resistivity host (500-1000 ohmm) at depth (>250 meters depth), likely representing mineralized sericite schists. The anomalous chargeabilities show slight north dipping at depth, which is not the case of resistivity host, most likely related to tectonic activity. Furthermore, the section shows NS possible fault displacement of mineralization along the baseline, shifting the anomalous upper part to the south and the deeper part to the north, as well vertically. Of note, the anomaly might be a complex system of mineralized zone of different content, expressed by one major anomaly surrounded by weaker IP signatures.

In addition, another anomaly of the same nature (weaker IP) is located to st.425S, but still open to the south and additional geophysical coverage is strongly recommended. The anomaly is of deep nature and pinches out around 100 meters depths, although as previously mentioned it might continue further to the south.

The section exhibits the presence of a different type of target, characterized by weak\moderate IP responses associated to high resistivity, interpreted as mineralized silicification. The anomaly is still open to the north and additional geophysical coverage is recommended.

Finally, there are two very deep, respectively St.237.5S and St.200N, weak\moderate IP anomalies associated to nil\contact and relatively high resistivity, but due to their deep nature they will not be described.

**QUANTITATIVE SECTION OVER L.8+00W:** shows that the main IP signature located between 150S and 100N has the same nature as the central anomaly described in L.7+00W. The anomaly is slightly wider at depth, but weaker and associated with relatively high resistivity host (500 – 1000 ohmm), interpreted as sericite schists. The section shows NS possible fault displacement of mineralization along the baseline, shifting the anomalous upper part to the south and the deeper part to the north, as well vertically. Again, the anomaly seems to be complex and most likely is composed by several thin mineralized zones.

Two other anomalous signatures, centered at St.212.5N and St.362.5S, are associated to high resistivity hosts, interpreted as qtz\silica alteration. These two anomalies correlate with the same anomalies observed at L.7+00W.

The **QUANTITATIVE SECTION** shows a drastic change of the structural model to the north, exhibiting conductive units occupying the northern part of the section. Other than that the structural model demonstrates the same features as section over L.7+00W.

The **GEOLOGICAL MODEL**, derived from **QUANTITATIVE SECTIONS**, is represented by thin, very high specific resistivity rocks, presumably representing mafic units intruding high resistivity units, interpreted as felsic rock or silica\quartz alteration, and low resistivity units interpreted as sediments\metasediments. The interpreted targets are mostly associated to relatively high to high resistivity, interpreted as silicification or sericitization.

The anomalous IP signatures associated to high resistivity hosts (2 to 2.5 kohmm) are interpreted as mineralization along qtz\silicification. The anomalous IP signatures associated to relatively high resistivity hosts are interpreted as mineralization along sericitization. The conductive IP anomalies most likely represent massive\stringer mineralization and/or mineralization along altered hosts.



### FOLLOW-UP TARGETS ANALYSIS

Following an evaluation of the Gradient \ PDP and **QUANTITATIVE SECTIONS** results, at least five (5) first priority targets (Table IV) have been selected based on their chargeability strength, resistivity association and their characteristics, in terms of geometry, source depth and vertical \ horizontal extent. These are interpreted to represent zones of potential increased sulphide, in plan and section. In addition, as many as four (4) second priority targets have been selected, which match the 1<sup>ST</sup> priority targets but lack adequate **QUANTITATIVE SECTIONS** coverage, so it can adequately be prioritized for drill-targeting. Targets presenting a deeper nature/ weaker magnitude or limited extension are prioritized as second priority. In addition, other IP\Resistivity features are present in the sections, however not prioritized due to either deep occurrence, weaker magnitude or their relation with first and second priority target (e.g. not in proximity of the prioritized targets such as the anomaly at L.5+00W, st. 300N).

Nearly all the strong anomalies present good drill-targets, especially those exhibiting conductive and nil/contact type resistivity association which represent the primary target - the list presented in Table I is designed to help direct follow-up and possible DDH-testing into the best portion of the major axes.

LINE	STATION	STRENGTH	RES. ASSOC.	PRIORITY	DEPTH	COMMENTS
L2+00W	325N – 375N	Very Strong	High	1	Near Surface	IP target centered in high resistivity axis, likely mineralization along quartz/silica alteration. Extended near surface, however extending at depth (up to 600 metres).
	200N – 275N	Moderate	High\Nil	2	>75m	Slightly south dipping dyke type IP anomaly. Extended at depth. Must be tested in connection with the anomaly located at St. 325N – 375N.
	25N	Strong	High	1	Near Surface	Likely mineralization along quartz/silica alteration. Extended near surface, however extending at depth (up to 600 metres). Most likely multiple anomalies.
	100N	Strong\Moderate	Nil\Low	2	75m	Likely extending at depth, however strong chargeability located at shallow depth (50-150m)
L3+00W	225N – 325N	Strong\Moderate	High	1	>50m	IP target centered in high resistivity axis, likely mineralization along quartz/silica alteration. Extended near surface, however extending at depth (up to 600 metres). Target better expressed on L.2+00S.
L5+00W	0	Moderate	Nil>Contact	2	125m	Moderate IP target centered along resistivity contact. Likely extend at depth, not very well resolved.
L7+00W	75S – 25S	Very Strong	Low	1	Near Surface	IP target centered associated with low resistivity, likely massive mineralization. Probably extends at depth, but strong possibility to be faulted and displaced.
	425S	Strong\Moderate	Low	2	>125m	Moderate IP target centered along conductive axis, likely massive mineralization. Additional work to the south recommended
L8+00W	75S – 25S	Very Strong	Nil	1	Near Surface	IP target centered associated with low resistivity, likely massive mineralization. Probably extends at depth, but strong possibility to be faulted and displaced.

**Table IV: Recommended Targets for DH Follow up at Plomp Farm Grid**

## 5. CONCLUSION AND RECOMMENDATIONS

The Gradient/Pole-Dipole induced polarization and resistivity surveys over the **PLOMP FARM PROPERTY** have identified geophysical signatures, potentially relating to lithologic contacts or geochemical alteration, fault-fracture structures and, most importantly, the presence of increased chargeability, potentially relating to sulphide mineralization.

In response to the survey objectives, five (5) higher priority targets have been identified in the surveyed grid, which are of significant strength and depth extension to warrant DH-testing. As many as four (4) lower priority targets have also been identified.

Unquestionably, the complicated geological/geophysical model and the logistical complications, make the property geophysically unfriendly. The authors have the opinion that the combination of gradient array with pole-dipole array aggregate is very efficient exploration tool, emphasizing the merit of pole-dipole configuration on the determination of a conceptual geological model derived from **QUANTITATIVE SECTION**.

The IP/Resistivity responses at **PLOMP FARM PROPERTY** can be divided based on their associated resistivity and strength: MS/stringer type signatures and disseminated type signatures along silica/quartz alteration or sericitization.

Considering some anomalous zones are still open to the north, south, and east, additional IP/Resistivity program is strongly recommended to fully explain their nature.

The **QUANTITATIVE SECTIONS** have provided the geological model, and most importantly, have also identified signatures of interest across the survey area, which may either reveal potential extensions of known mineralization or additional, undiscovered mineralization.

The **QUANTITATIVE SECTIONS** show that the mineralization is generally sub-vertical. In addition to the possible presence of disseminated mineralization, evidenced by increased chargeability hosted in contact/high resistivity host, the sections show the possible massive/stringer mineralization, evidenced by increased chargeability hosted in conductive host.

The **QUANTITATIVE SECTIONS** determined the contacts of major geological units, the lower resistivity sediments/metasediments with resistive felsic/silica/quartz alteration/mafic units and were capable to define the prominent geological host associated with increased chargeability, consequently with the mineralization.

It is quite possible that the central anomaly at L.7+00W and L.8+00W, are shifted North-South approximately at baseline, and most likely vertically as well.

In addition, the TD total chargeability \ apparent resistivity survey show two areas of geophysical interest; the first one to the north and the second one in the center of the surveyed grid.

We recommend that these results and prioritized targets be combined with the existing geoscientific database and the results carefully evaluated prior to DDH-testing. Particular attention should be given to the probable type of mineralization and/or alteration indicated by the resistivity association in plan map (i.e. high  $\rho$  = disseminated, nil  $\rho$  = contact, low  $\rho$  = argillic or stringer-to-massive).

Furthermore, integrating existing or upcoming drilling data to respective **QUANTITATIVE SECTIONS** might help to refine the geological/structural model.

Matrix GeoTechnologies Ltd  
IP\Resistivity Surveys

Champion Bear Resources Ltd  
Plomp Farm (Ardis Lake) Property

RESPECTFULLY SUBMITTED

**GENC KALLFA, B.Sc., P.GEO.**  
Senior Geophysicist

**LUDVIG KAPLLANI, PH.D., P.GEO.**  
Senior Geophysicist

Toronto, April 29, 2004

## APPENDIX A

### STATEMENT OF QUALIFICATIONS:

I, Ludvig Kapllani, declare that:

1. I am a consulting geophysicist with residence in Toronto, Ontario and am presently working in this capacity with Matrix GeoTechnologies Ltd. of Toronto, Ontario.
2. I obtained a Bachelor's of Science Degree, (B.Sc.), Geophysics, in spring 1976, a Masters of Science Degree, (M.Sc.), Geophysics, in June 1986, and a Ph.D in January 1995, Geophysics, from Polytechnic University of Tirana, Albania, recognized by Comparative Education Services of University of Toronto in August 1999.
3. I have practiced my profession continuously since May 1976, in North and South America, Africa and Europe.
4. I am member of **ASSOCIATION OF GEOSCIENTISTS OF ONTARIO (AGO)**, membership number 1163.
5. I have no interest, nor do I expect to receive any interest in the properties or securities of **Champion Bear Resources Ltd.**
6. I am the author of this report and the statements contained represent my professional opinion based on my consideration of the information available to me at the time of writing this report.

Toronto, Ontario  
April, 2004

Ludvig Kapllani, Ph.D., P.Ge. (ON)

Senior Geophysicist  
Matrix GeoTechnologies Ltd.

## APPENDIX A

### STATEMENT OF QUALIFICATIONS:

I, Genc Kallfa, declare that:

1. I am a consulting geophysicist with residence in Toronto, Ontario and am presently working in this capacity with Matrix GeoTechnologies Ltd. of Toronto, Ontario.
2. I obtained a Bachelor's of Science Degree, (B.Sc.), Geophysics, from the Polytechnic University, in Tirana, Albania, in spring 1987.
3. I have practiced my profession continuously since May 1987, in North and South America, Africa and Europe.
4. I am member of **ASSOCIATION OF PROFESSIONAL GEOSCIENTISTS OF ONTARIO (APGO)**, membership number 0404.
5. I have no interest, nor do I expect to receive any interest in the properties or securities of **Champion Bear Resources Ltd.**
6. I am the author of this report and the statements contained represent my professional opinion based on my consideration of the information available to me at the time of writing this report.

Toronto, Ontario  
April, 2004

Genc Kallfa, B.Sc., P.Ge. (ON)

Senior Geophysicist  
Matrix GeoTechnologies Ltd.

## APPENDIX B

### PRODUCTION SUMMARY

DATE	DESCRIPTION	LINE	START	END	SUBTOTAL
13.02.2004	Mobilization from Toronto				
14.02.2004	Mobilization from Toronto, arriving to Dryden				
15.02.2004	Grid reconnaissance and meeting with field assistants. Standby Charge.				
16.02.2004	Establish Tx dipole (3500m), digging electrode trenches, starting the grid in the lake and GPS the stations.				
17.02.2004	Finishing the Tx dipole, continuing setting the grid.				
18.02.2004	Continuing setting the grid and GPS the stations. – Standby Charge				
19.02.2004	Low signal, digging more trenches and putting salt to improve the Tx resistivity. Very deep permafrost slowing down the crew.				
20.04.2004	Continuing improving the current, digging more trenches. Continuing setting the grid in the lake.				
21.02.2004	Finishing the grid in the lake. Meantime part of the crew working to improve the Tx dipole resistivity. Start surveying.	300W 400W	200N 350N	125S 125S	325 475
22.02.2004	Surveying	500W 600W 700W 800W	400N 400N 400N 350N	75S 0 100S 200S	475 400 500 550
23.02.2004	Surveying Establish Tx dipole 2400m	300W 400W	125S 125S	450S 450S	225 225
24.02.2004	Surveying	500W 400W 300W 200W	400N 350N 200N 400N	450S 475S 450S 0	850 825 650 400
25.02.2004	Surveying	200W 100W 600W	0 400N 475N	450S 100S 475S	450 500 950
26.02.2004	Surveying Change Tx dipole to 3500m	100W 500W 600W 700W	100S 75S 0 100S	425S 450S 475S 450S	325 375 475 350
27.02.2004	Surveying Change Tx dipole to 2400m Wind in wires (Tx 3500m)	100W 200W 800W	400N 400N 200S	450S 450S 300S	850 850 100
28.02.2004	Surveying Establish Tx dipole 1100m/L.300W	800W 700W 600W 500W	375N 400N 400N 400N	450S 450S 475S 450S	825 850 875 850
29.02.2004	Establish Tx dipole 1100m/L.300W	100W 200W 300W 400W 500W	400N 500N 350N 425N 425N	450S 450S 450S 450S 450S	850 950 800 875 875
01.03.2004	Establish Tx dipole 100m/L.600W	800W	400N	450S	850

	Surveying Wind in the Tx wires	700W 600W 500W	425N 475N 425N	475S 475S 450S	900 950 875
02.03.2004	Establish infinity for PDP Surveying	300W	375N	450S	825
03.03.2004	Surveying	200W	400N	450S	850
04.03.2004	Surveying Pulling out the electrodes from lake (L.200W,L300W and L400W)	800W	400N	425S	825
05.03.2004	Surveying Pulling out the electrodes from lake (L.700W and L300W)	700W	475N	450S	925
06.03.2004	Surveying Pulling out the electrodes from lake (L.500W and L600W) and wind in the infinity wire	500W	450N	450S	900
07.03.2004	Demobilization from Dryden				
08.03.2004	Demobilization from Dryden, arriving to Toronto				

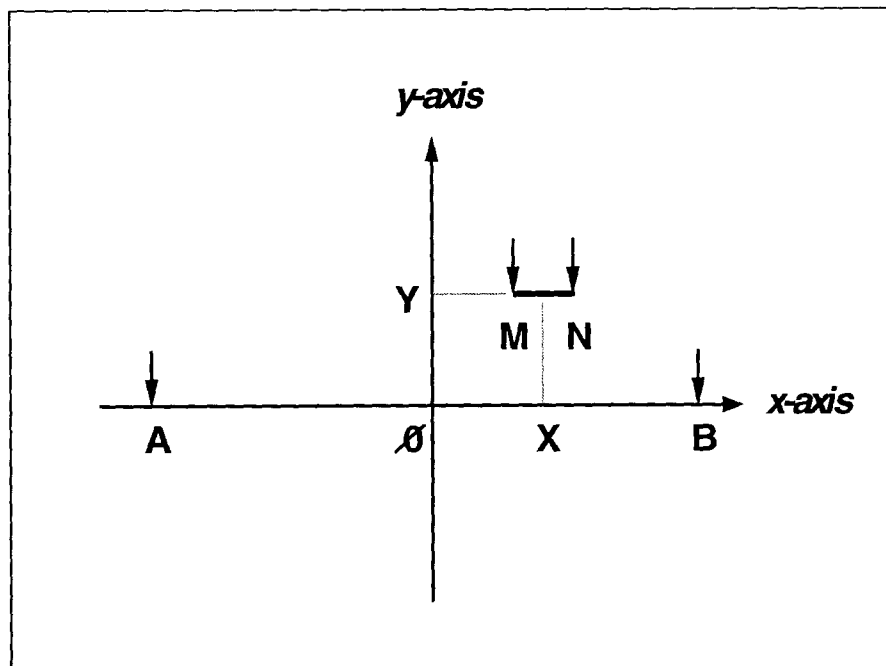
## APPENDIX C

### THEORETICAL BASIS AND SURVEY PROCEDURES

#### GRADIENT TDIP SURVEYS

The Gradient Array measurements are unique in that they best represent a bulk average of the surrounding physical properties within a relatively focused sphere of influence, roughly equal to the width of the receiver dipole, penetrating vertically downward from surface to great depths.

The resistivity is among the most variable of all geophysical parameters, with a range exceeding  $10^6$ . Because most minerals are fundamentally insulators, with the exception of massive accumulations of metallic and submetallic ores (electronic conductors) which are rare occurrences, the resistivity of rocks depends primarily on their porosity, permeability and particularly the salinity of fluids contained (ionic conduction), according to Archie's Law. In contrast, the chargeability responds to the presence of polarizable minerals (metals, submetallic sulphides and oxides, and graphite), in amounts as minute as parts per hundred. Both the quantity of individual chargeable grains present, and their distribution within subsurface current flow paths are significant in controlling the level of response. The relationship of chargeability to metallic content is straightforward, and the influence of mineral distribution can be understood in geologic terms by considering two similar, hypothetical volumes of rock in which fractures constitute the primary current flow paths. In one, sulphides occur predominantly along fracture surfaces. In the second, the same volume percent of sulphides are disseminated throughout the rock. The second example will, in general, have significantly lower intrinsic chargeability.



**Figure C1: Gradient Array Configuration.**

Using the diagram in Figure C1 for the gradient array electrode configuration and nomenclature:<sup>3</sup>, the gradient array apparent resistivity is calculated:

- where:
- the origin  $\emptyset$  is selected at the center of **AB**
  - the geometric parameters are in addition to  $a = AB/2$  and  $b = MN/2$
  - X** is the abscissa of the mid-point of **MN** (positive or negative)
  - Y** is the ordinate of the mid-point of **MN** (positive or negative)

<sup>3</sup> From Terraplus\BRGM, IP-6 Operating Manual, Toronto, 1987.



**Gradient Array Apparent Resistivity:**

$$\rho_a = K \frac{VP}{I} \text{ ohm - metres}$$

$$\text{where: } K = \frac{2\pi}{(AM^{-1} - AN^{-1} - BM^{-1} + BN^{-1})}$$

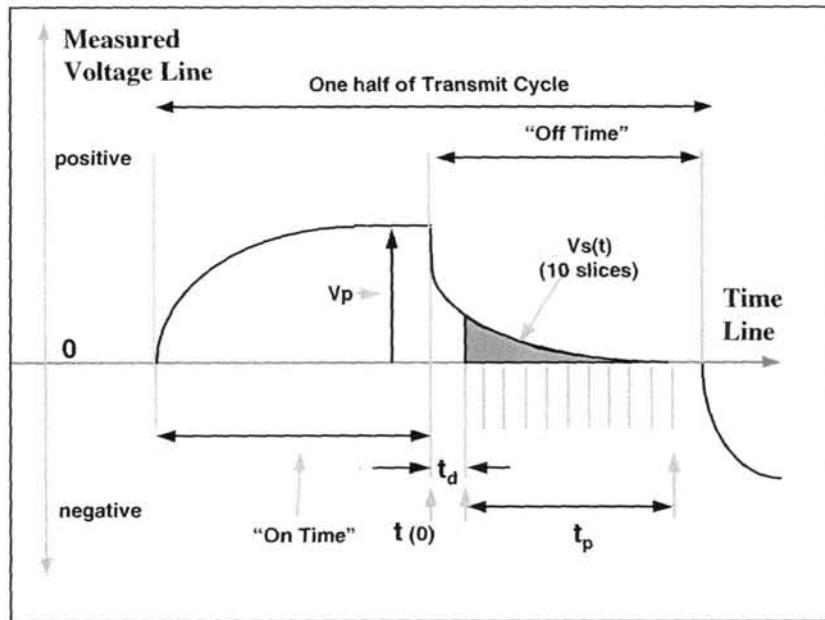
$$AM = \sqrt{(a+x-b)^2 + y^2}$$

$$AN = \sqrt{(a+x+b)^2 + y^2}$$

$$BM = \sqrt{(x-b-a)^2 + y^2}$$

$$BN = \sqrt{(x+b-a)^2 + y^2}$$

Using the diagram in Figure C2 for the Total Chargeability:



**Figure C2 The measurement of the time-domain IP effect.**

the total apparent chargeability is given by:

**Total Apparent Chargeability:<sup>4</sup>**

$$M_T = \frac{1}{t_p V_p} \sum_{i=1}^{10} \int_{t_i}^{t_{i+1}} V_s(t) dt \quad \text{millivolts per volt}$$

where  $t_i, t_{i+1}$  are the beginning and ending times for each of the chargeability slices,

More detailed descriptions on the theory and application of the IP/Resistivity method can be found in the following reference papers:

Cogan, H., 1973, Comparison of IP electrode arrays, *Geophysics*, 38, p 737 - 761.

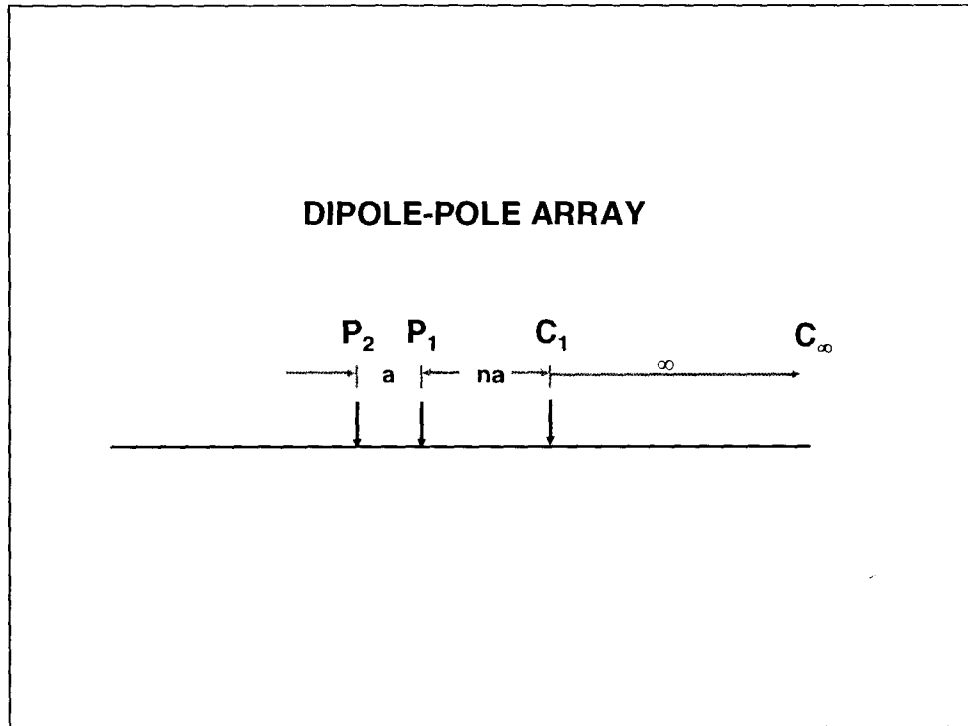
<sup>4</sup> From Telford, et al., *Applied Geophysics*, Cambridge U Press, New York, 1983.

## THEORETICAL BASIS AND SURVEY PROCEDURES

### POLE-DIPOLE TDIP SURVEY

The collected data sets are reduced, using IP6 receiver, to apparent resistivity, total chargeability and metal factor as explained in the following figures and equations:

Using the following diagram (Fig. C3) for the electrode configuration and nomenclature:<sup>5</sup>



***Figure C3: Pole-Dipole Electrode Array***

the apparent resistivity is given by:

$$\rho_a = 2\pi n(n+1)a \times \frac{V_P}{I} \text{ ohm - metres}$$

where:

- “a” is the MN dipole spacing (metres)
- “n” is the separation parameter between C<sub>1</sub> and P<sub>1</sub>P<sub>2</sub>
- “V<sub>P</sub>” is the primary voltage measured between P<sub>1</sub>P<sub>2</sub> (volts)
- “I” is the output current between C<sub>1</sub>C<sub>2</sub> (amperes)

The Total Chargeability calculations are the same as the Gradient arrays as explained above:

The sets are then ready for plotting, profiling using the Geosoft **Sushi™** program. The **Apparent Resistivity**, **Total Chargeability** and **Metal Factor** (IP/Resistivity\*1000) results of the Pole-Dipole surveys are presented in pseudo section format. All resistivities are in Ω-metres and chargeabilities in mV/V.

<sup>5</sup> From Telford, et al., Applied Geophysics, Cambridge U Press, New York, 1983..

## APPENDIX D

### INSTRUMENT SPECIFICATIONS

#### IRIS ELREC 6 RECEIVER



#### Weather proof case

<b>Dimensions:</b>	31 cm x 21 cm x 21 cm
<b>Weight:</b>	6 kg with dry cells 7.8 kg with rechargeable bat.
<b>Operating temperature:</b>	-20°C to 70°C (-40°C to 70°C with optional screen heater)
<b>Storage:</b>	(-40°C to 70°C)
<b>Input channels:</b>	6
<b>Input impedance:</b>	10 Mohm
<b>Input overvoltage protection:</b>	up to 1000 volts
<b>Input voltage range:</b>	10 V maximum on each dipole 15 V maximum sum over ch 2 to 6
<b>SP compensation:</b>	automatic $\pm 10$ V with linear drift correction up to 1 mV/s
<b>Noise rejection:</b>	50 to 60 Hz powerline rejection 100 dB common mode rejection (for $R_s=0$ ) automatic stacking
<b>Primary voltage resolution:</b>	1 $\mu$ V after stacking
<b>accuracy:</b>	0.3% typically; maximum 1 over whole temperature range
<b>Secondary voltage windows:</b>	up to 10 windows; 3 preset window specs. plus fully programmable sampling.
<b>Sampling rate:</b>	10 ms
<b>Synchronization accuracy:</b>	10 ms, minimum 40 $\mu$ V
<b>Chargeability resolution:</b>	0.1 mV/V
<b>accuracy:</b>	typically 0.6%. maximum 2% of reading $\pm 1$ mV/V for $V_p > 10$ mV
<b>Grounding resistance:</b>	0.1 to 467 kohm
<b>Memory capacity:</b>	2505 records, 1 dipole/record
<b>Data transfer:</b>	serial link @ 300 to 19200 baud remote control capability through serial link @ 19200 baud

## APPENDIX D

### INSTRUMENT SPECIFICATIONS

#### Phoenix IPT-1 Transmitter



**Input:** 80 – 90 V AC  
400 Hz / 3 Phase  
Powered by MG1 / MG2 / MG3

**Output:** 75V – 1200V in 5 steps  
3 mA – 10 A  
3 KVA

**Output Switching:**  
"A" Model  
Frequency Domain: DC – 4Hz  
TD: 2 sec.on/2 sec.off  
  
"B" Model  
Frequency Domain: DC – 4 Hz  
TD: Seconds on/off switching  
1,2,4 and 8 seconds

**Size:** 20cm X 40cm X 55cm

**Weight:** 18 kg

## APPENDIX E

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**APPENDIX F**

**LIST OF MAPS**

- **Posted/Contoured Plan Maps at scale of (1:2500)**

PLAN	TOTAL CHARGEABILITY	APPARENT RESISTIVITY
	DWG #: P180-PLAN-CHG-1	DWG #: P180-PLAN-RES-1
<b>TOTAL</b>	<b>1</b>	<b>1</b>

- **Stacked Posted/Contoured PDP PseudoSection Maps at 1:2500 scale:**

LINE	TOTAL CHARGEABILITY + APPARENT RESISTIVITY
L2+00W	Pseudosection Plot L2+00W
L3+00W	Pseudosection Plot L3+00W
L5+00W	Pseudosection Plot L5+00W
L7+00W	Pseudosection Plot L7+00W
L8+00W	Pseudosection Plot L8+00W
<b>TOTAL</b>	<b>5</b>

- **Interpretation Plan Map at scale of (1:2500); DWG #: P180-PLAN-INT-1**

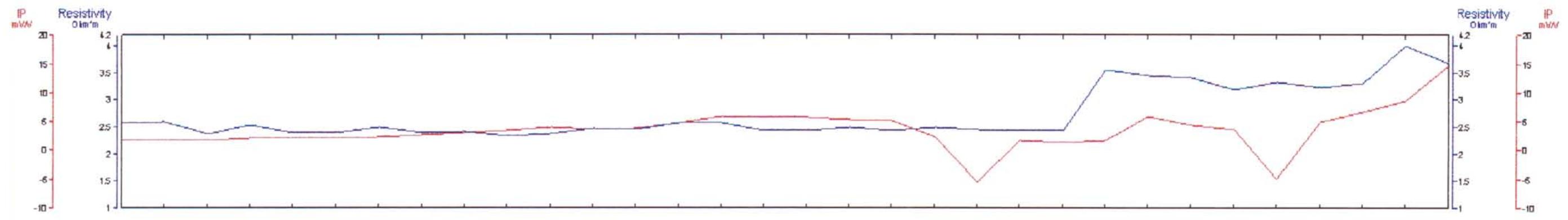
- **Quantitative Sections at 1:2500 scale:**

LINE	QUANTITATIVE SECTION
L2+00W	Quantitative Section L2+00W
L3+00W	Quantitative Section L3+00W
L5+00W	Quantitative Section L5+00W
L7+00W	Quantitative Section L7+00W
L8+00W	Quantitative Section L8+00W
<b>TOTAL</b>	<b>5</b>

**APPENDIX G**

**MAPS AND SECTIONS**

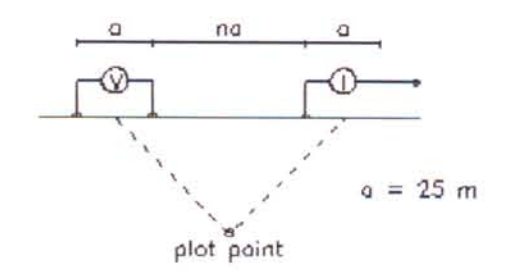




### Pseudo Section Plot

3+00 W

Dipole-Pole Array

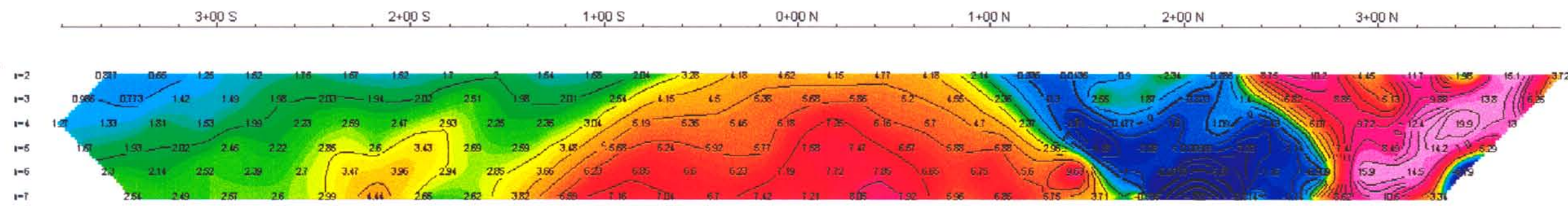


Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

#### INTERPRETATION

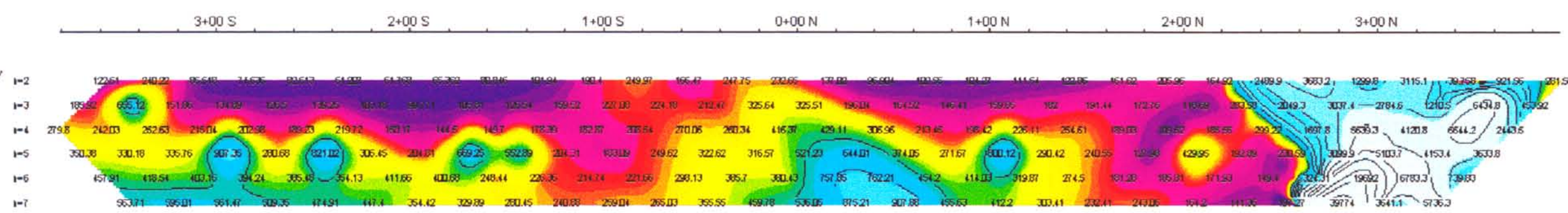
- Strong increase in polarization accompanied by marked decrease in resistivity.
- Well defined increase in polarization without marked resistivity decrease.
- Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

Total Chargeability  
mV/V



Total Chargeability  
mV/V

Apparent Resistivity  
Ohm\*m



Apparent Resistivity  
Ohm\*m



**CHAMPION BEAR RESOURCES**

TD IP/RESISTIVITY SURVEY  
ARDIS LAKE GRID  
DRYDEN, ON

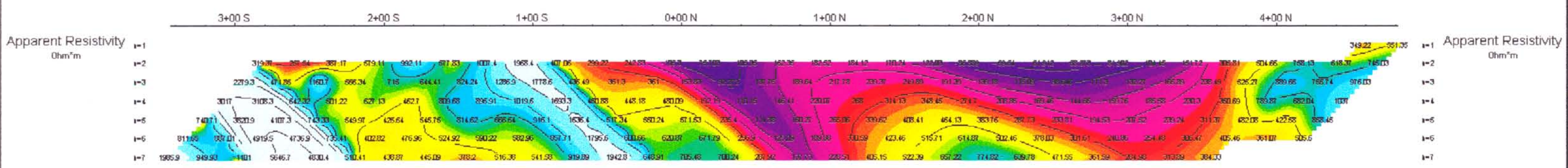
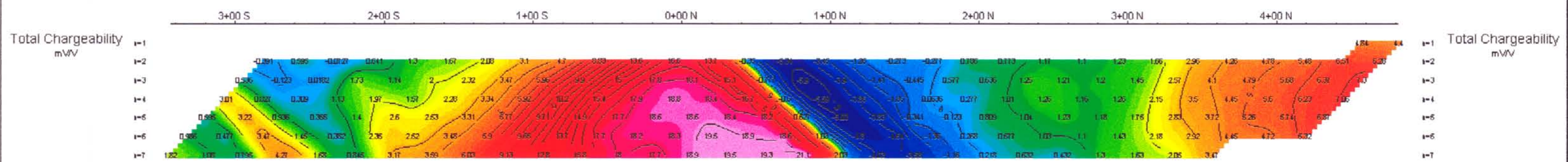
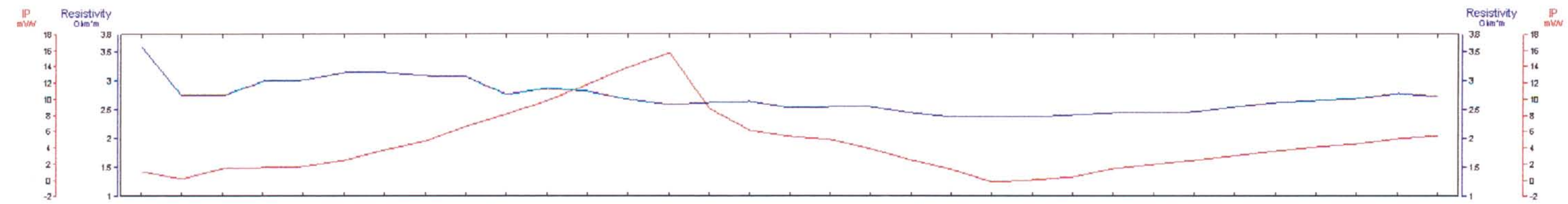
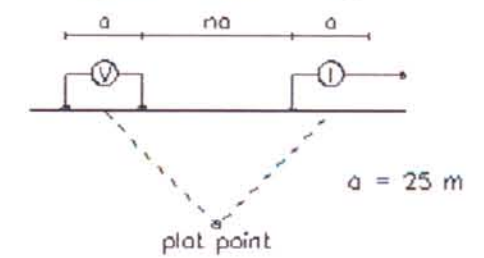
Date: March, 2004

MATRIX GEOTECHNOLOGIES LTD

2.32005



Pseudo Section Plot  
7+00 W  
Dipole-Dipole Array



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

INTERPRETATION

- Strong increase in polarization accompanied by marked decrease in resistivity.
- Well defined increase in polarization without marked resistivity decrease.
- Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.



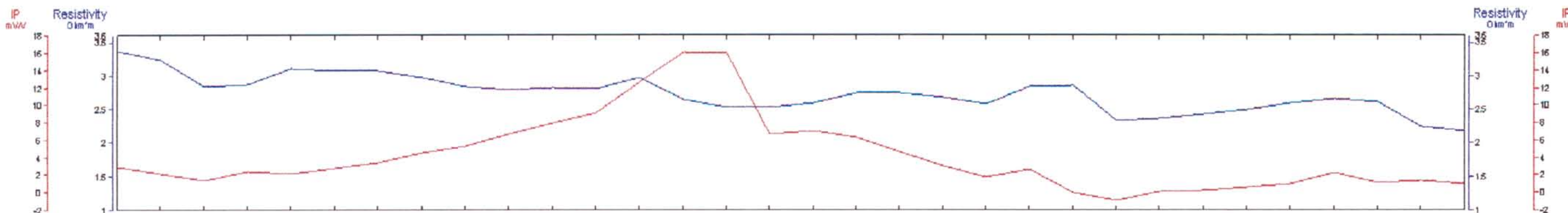
**CHAMPION BEAR RESOURCES**

TD IP RESISTIVITY SURVEY  
ARDIS LAKE GRID  
DRYDEN, ON

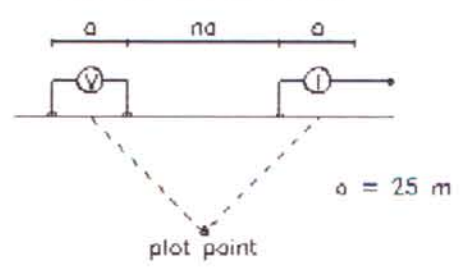
Date: March, 2004

MATRIX GEOTECHNOLOGIES LTD





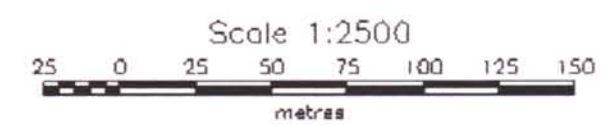
Pseudo Section Plot  
8+00 W  
Dipole-Pole Array



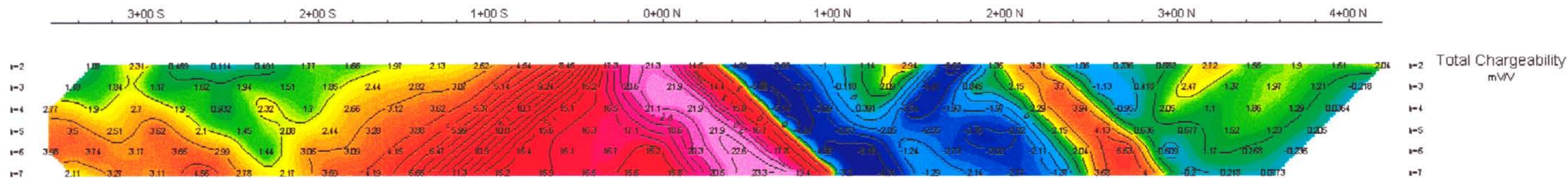
Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

INTERPRETATION

- Strong increase in polarization accompanied by marked decrease in resistivity.
- Well defined increase in polarization without marked resistivity decrease.
- Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

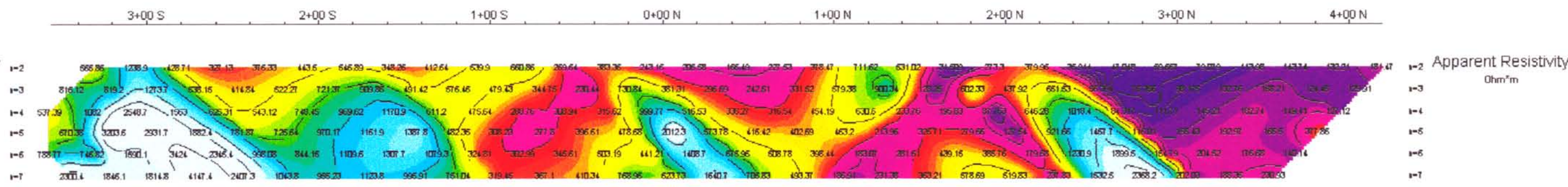


Total Chargeability  
mV/V



Total Chargeability  
mV/V

Apparent Resistivity  
Ohm·m



Apparent Resistivity  
Ohm·m

**CHAMPION BEAR RESOURCES**

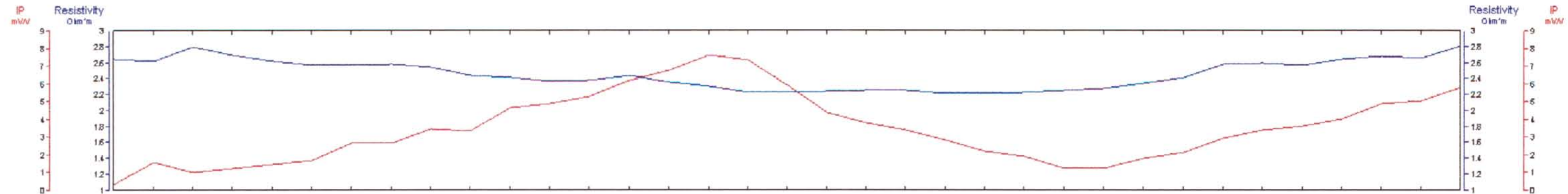
TD IP/RESISTIVITY SURVEY  
ARDIS LAKE GRID  
DRYDEN, ON

Date: March, 2004

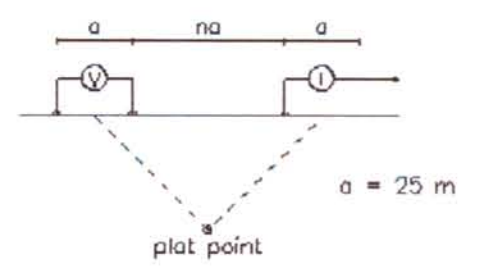
MATRIX GEOTECHNOLOGIES LTD

**2.32005**





Pseudo Section Plot  
5+00 W  
Dipole-Pole Array

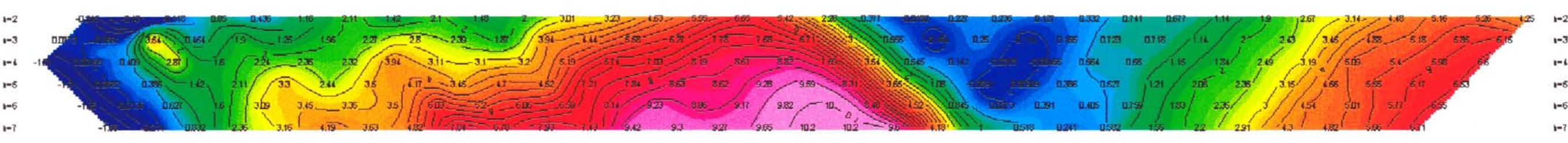


Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

INTERPRETATION

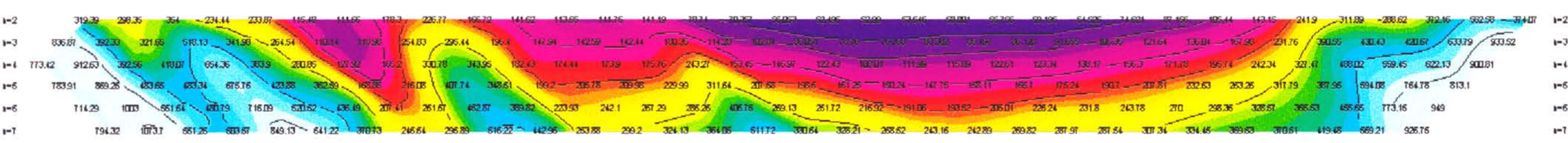
- Strong increase in polarization accompanied by marked decrease in resistivity.
- Well defined increase in polarization without marked resistivity decrease.
- Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

Total Chargeability  
mV/V

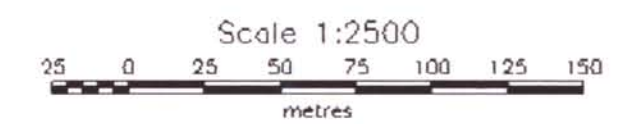


Total Chargeability  
mV/V

Apparent Resistivity  
Ohm·m



Apparent Resistivity  
Ohm·m



**CHAMPION BEAR RESOURCES**

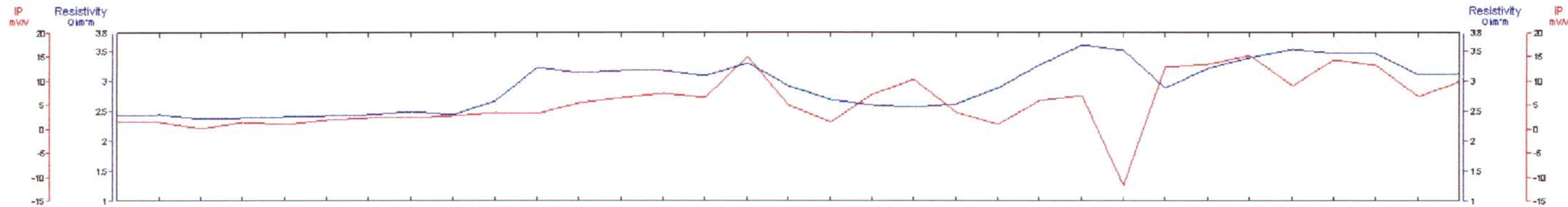
TD IP/RESISTIVITY SURVEY  
ARDIS LAKE GRID  
DRYDEN, ON

Date: March, 2004

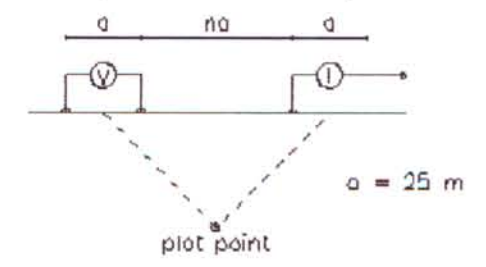
MATRIX GEOTECHNOLOGIES LTD







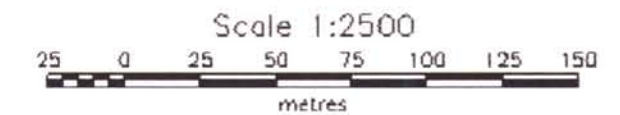
Pseudo Section Plot  
2+00 W  
Dipole-Pole Array



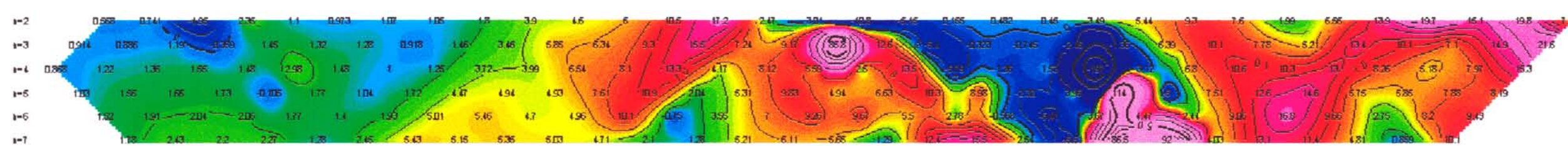
Logarithmic Contours 1, 1.5, 2, 3, 5, 7.5, 10, ...

INTERPRETATION

- Strong increase in polarization accompanied by marked decrease in resistivity.
- Well defined increase in polarization without marked resistivity decrease
- Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

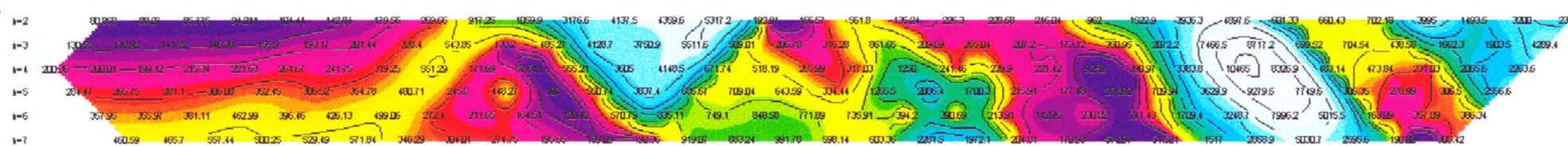


Total Chargeability  
mV/V



Total Chargeability  
mV/V

Apparent Resistivity  
Ohm·m



Apparent Resistivity  
Ohm·m

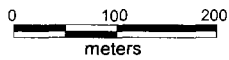
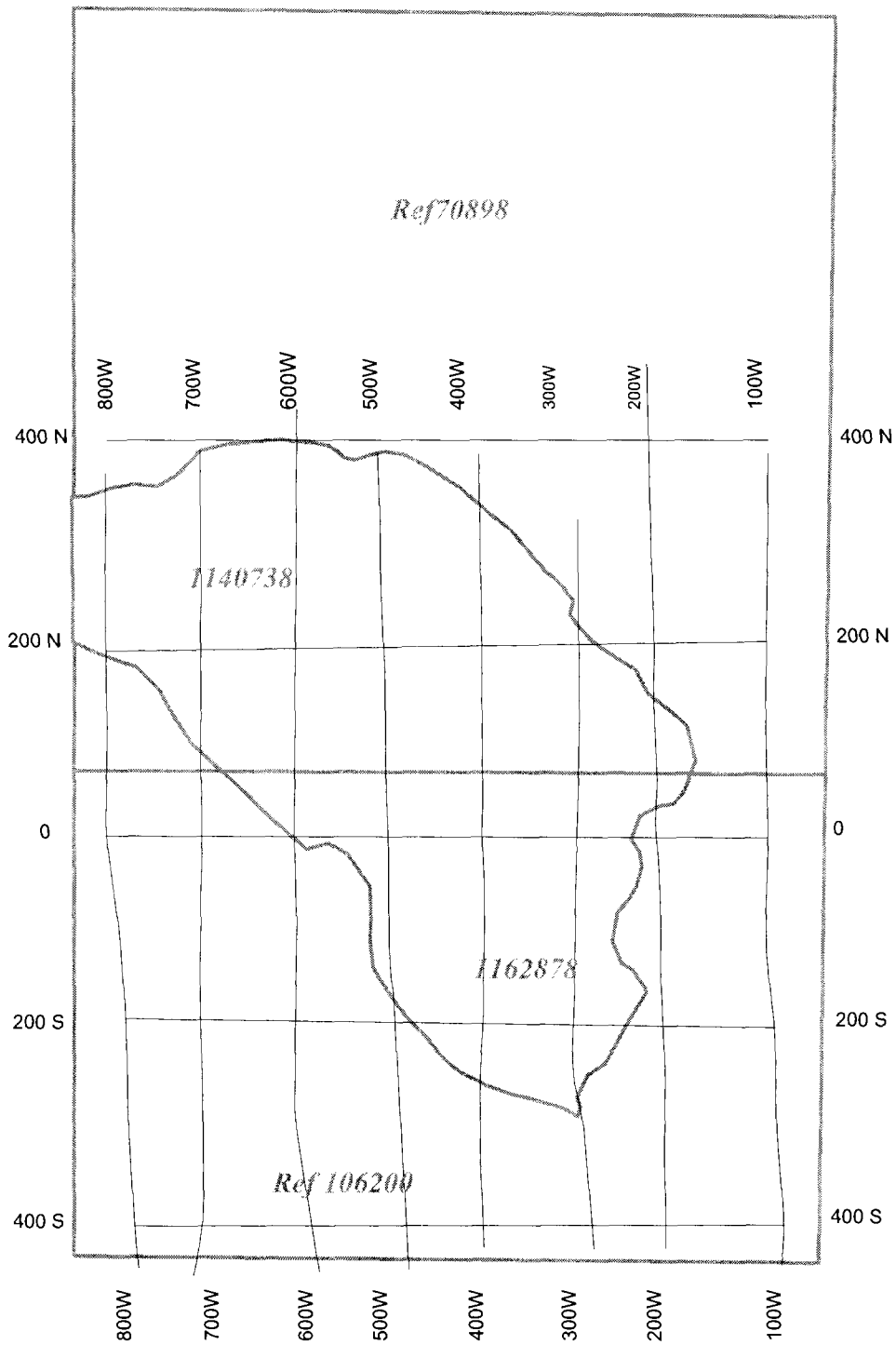
**CHAMPION BEAR RESOURCES**

TD IP RESISTIVITY SURVEY  
ARDIS LAKE GRID  
DRYDEN, ON

Date: March, 2004

MATRIX GEOTECHNOLOGIES LTD

2.32005

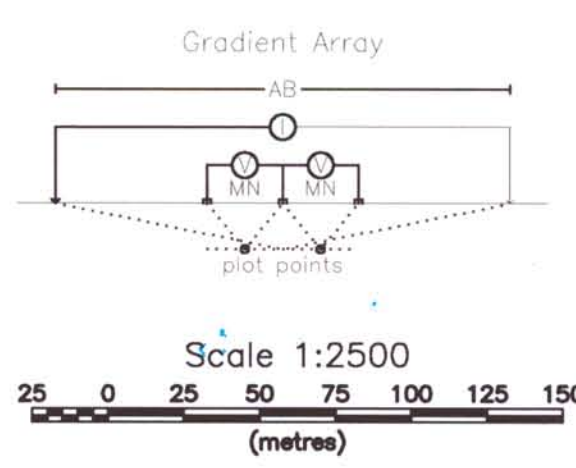
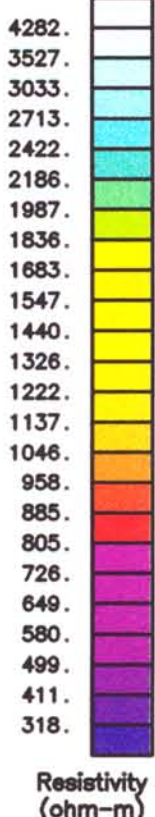
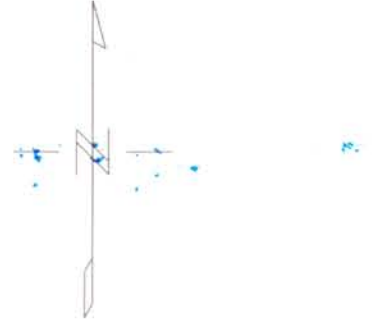
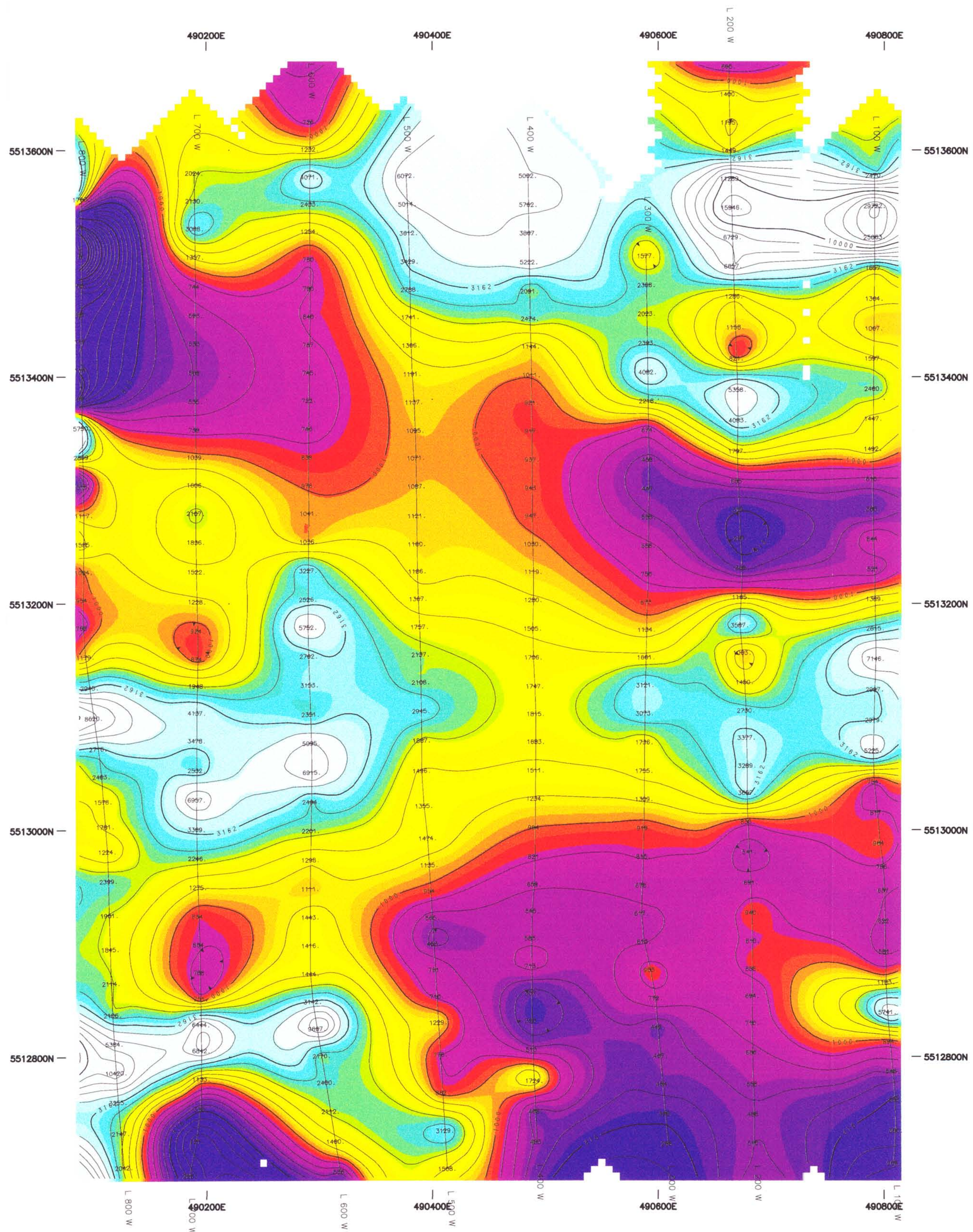


Claim boundaries
  Survey Grid

Figure 1.  
**CHAMPION BEAR RESOURCES LTD.**  
 Plomp Farm Property  
*Survey Grid and Claims Outline*



# APPARENT RESISTIVITY (ohm-metres)



**CHAMPION BEAR RESOURCES LTD**  
**ARDIS LAKE PROPERTY**  
**DRYDEN, ON**

**TIME DOMAIN IP RESISTIVITY SURVEY**  
**Gradient Array**  
**APPARENT RESISTIVITY**  
**AB= 1150 meters**

Transmitter Frequency: 0.250 Hz (50% duty cycle)  
 Transmitter Current: 2.1 to 3.0 Amps  
 Decay Curve: IP-6 Semilogarithmic Windows  
 10 Gates

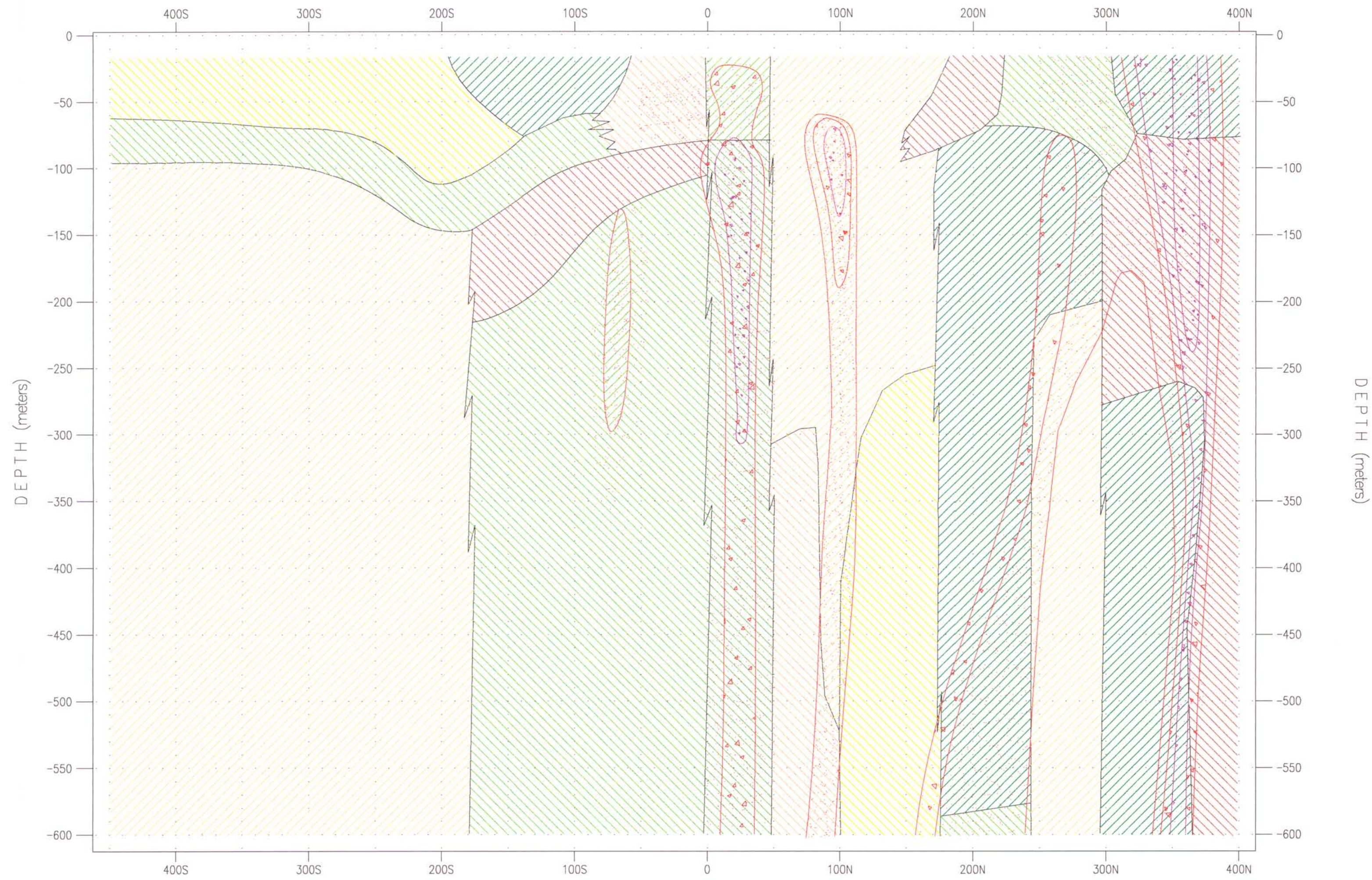
Station Interval: 25 meters  
 Resistivity Contour Interval: 10 levels/log decade  
 Colour Scale: Equal Area Zoning

Survey Date: March 2004  
 Instrumentation: Rx = IRIS IP-6 (6 channels)  
 Tx = PHOENIX IPT1-B + HONDA (6.5 kVA)

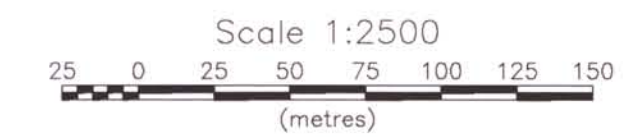
Surveyed & Processed by:  
**MATRIX GEOTECHNOLOGIES LTD.**  
 DWG. #: P180-PLAN-RES-1



# LINE 2+00W QUANTITATIVE SECTION



LINE 2+00W



< 100 Ohmm	2000 - 2500 Ohmm	7 - 8 mV/V	15 - 20 mV/V
100 - 200 Ohmm	3000 - 4000 Ohmm	8 - 10 mV/V	> 20 mV/V
200 - 500 Ohmm	> 6000 Ohmm	10 - 12.5 mV/V	
500 - 1000 Ohmm		12.5 - 15 mV/V	

CHAMPION BEAR RESOURCES LTD  
PLOMP FARM GRID  
DRYDEN, ON

GRADIENT \ POLE-DIPOLE SURVEY  
QUANTITATIVE SECTION L2+00W

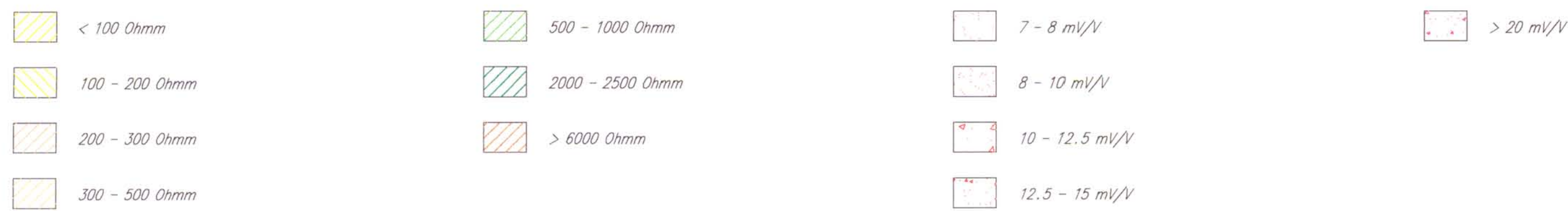
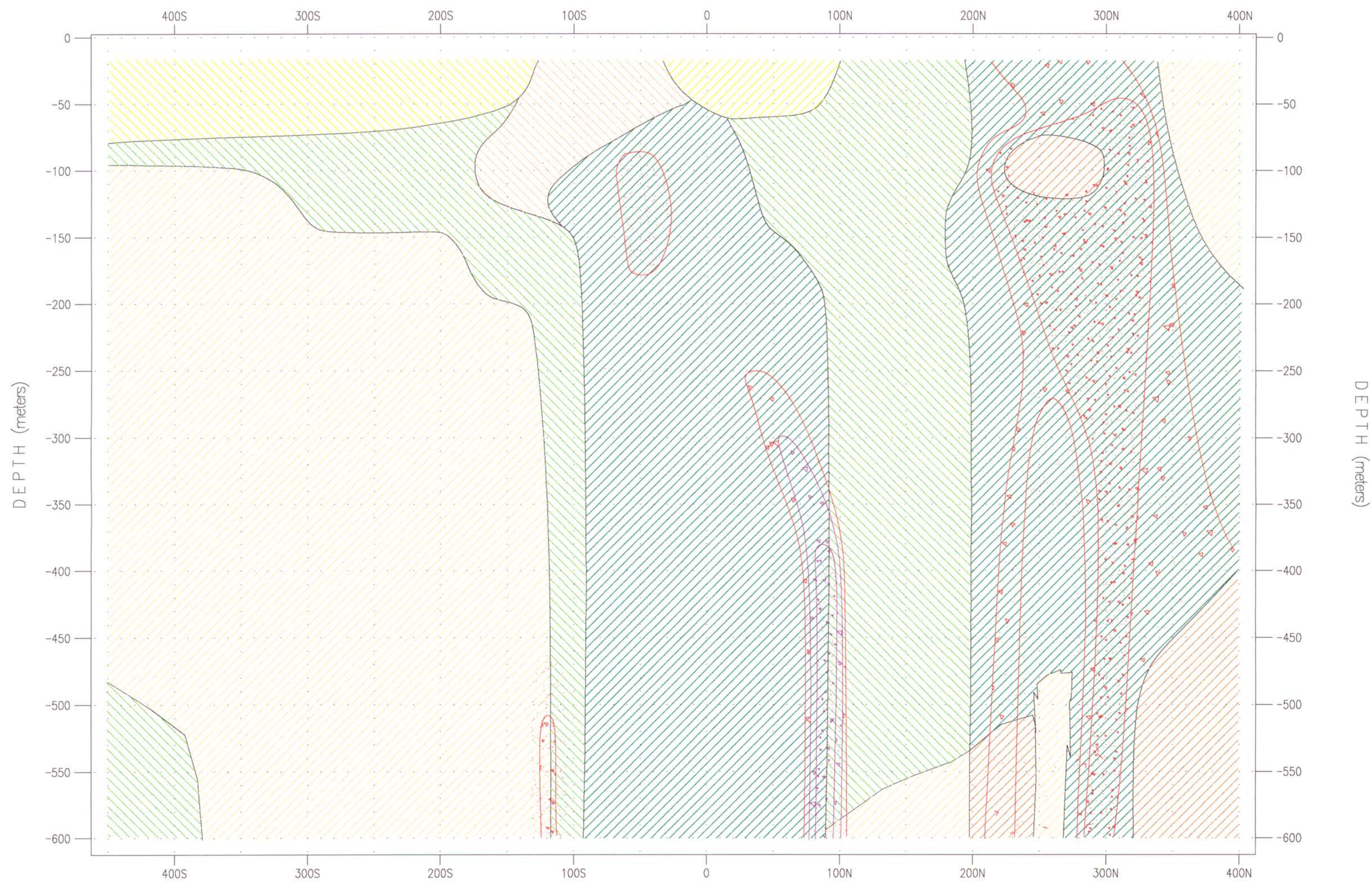
Interpreted by: L Kapllani Phd, PGeo  
G Kallfa PGeo  
Date: March 2004

Processed by:  
**MATRIX GEOTECHNOLOGIES**  
DWG. #: PQS-180-QS-2+00W

**2.32005**



# LINE 3+00W QUANTITATIVE SECTION



CHAMPION BEAR RESOURCES LTD  
 PLOMP FARM GRID  
 DRYDEN, ON

GRADIENT \ POLE-DIPOLE SURVEY  
 QUANTITATIVE SECTION L300W

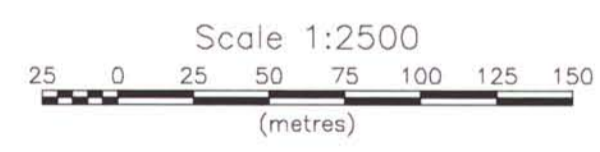
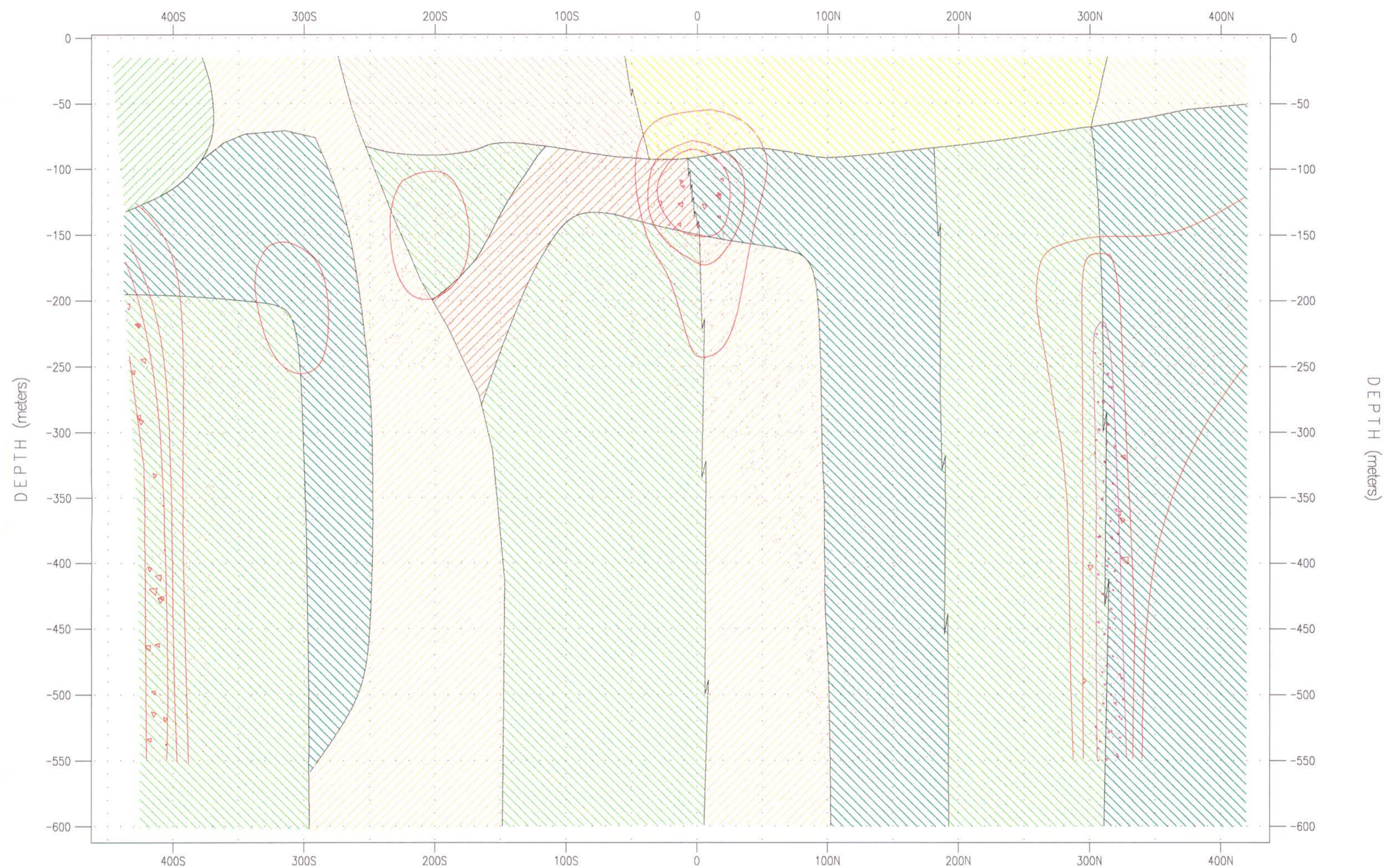
Interpreted by: L Kaplani Phd, PGeo  
 G Kallifa PGeo  
 Date: March 2004

Processed by:  
**MATRIX GEOTECHNOLOGIES**  
 DWG. #: PQS-180-QS-300W

2.32005



# LINE 5+00W QUANTITATIVE SECTION



CHAMPION BEAR RESOURCES LTD  
 PLOMP FARM GRID  
 DRYDEN, ON

GRADIENT \ POLE-DIPOLE SURVEY  
 QUANTITATIVE SECTION L500W

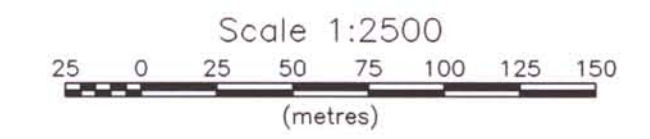
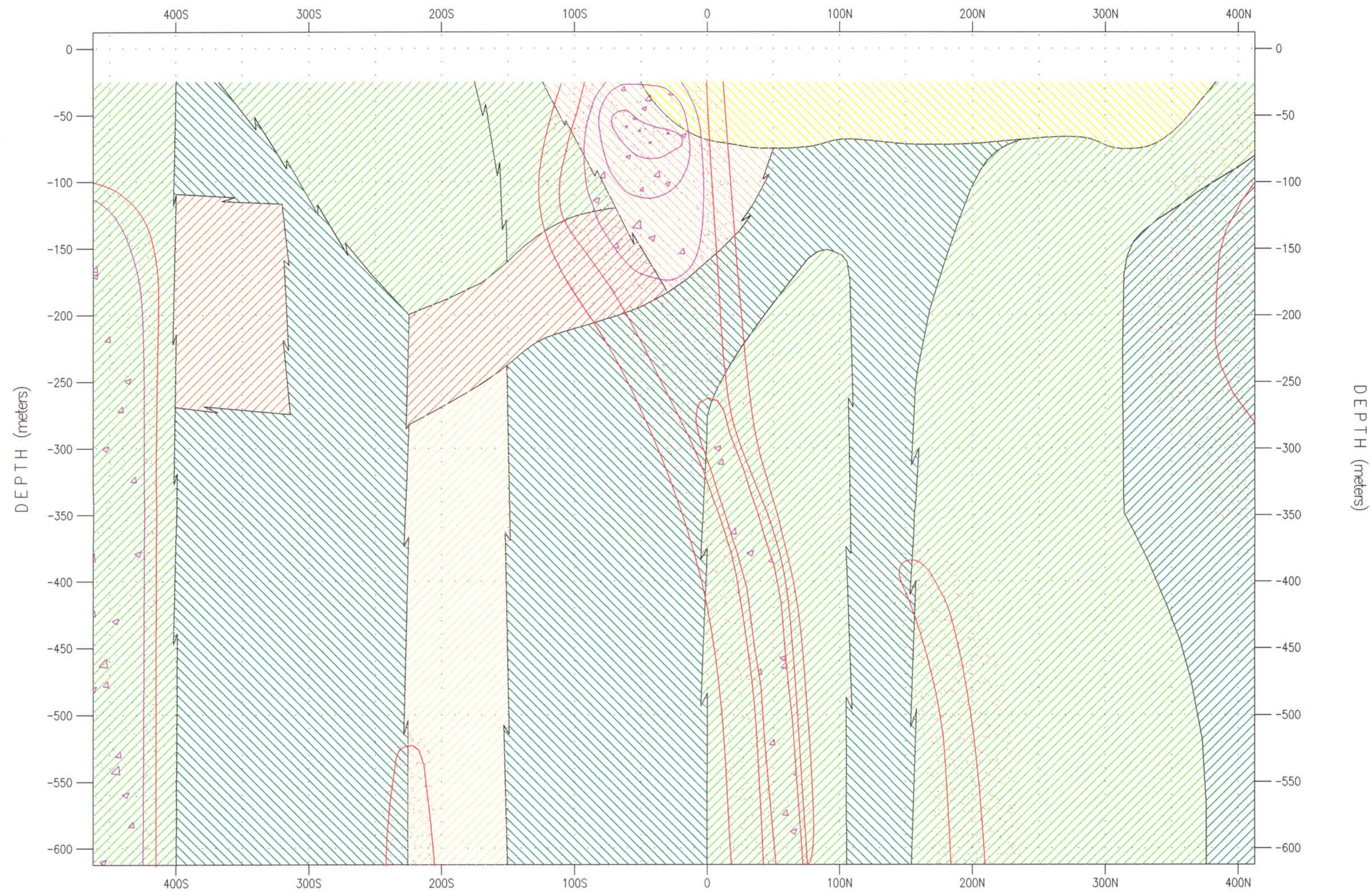
Interpreted by: *L. Kapllani Phd, PGeo*  
*G. Kallfa PGeo*  
 Date: *March 2004*

Processed by:  
**MATRIX GEOTECHNOLOGIES**  
 DWG. #: PQS-180-QS-500W

**2.32005**



# LINE 700W QUANTITATIVE SECTION



CHAMPION BEAR RESOURCES LTD  
 PLOMP FARM GRID  
 DRYDEN, ON

GRADIENT \ POLE-DIPOLE SURVEY  
 QUANTITATIVE SECTION L700W

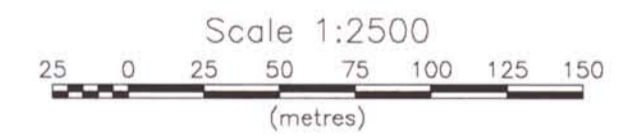
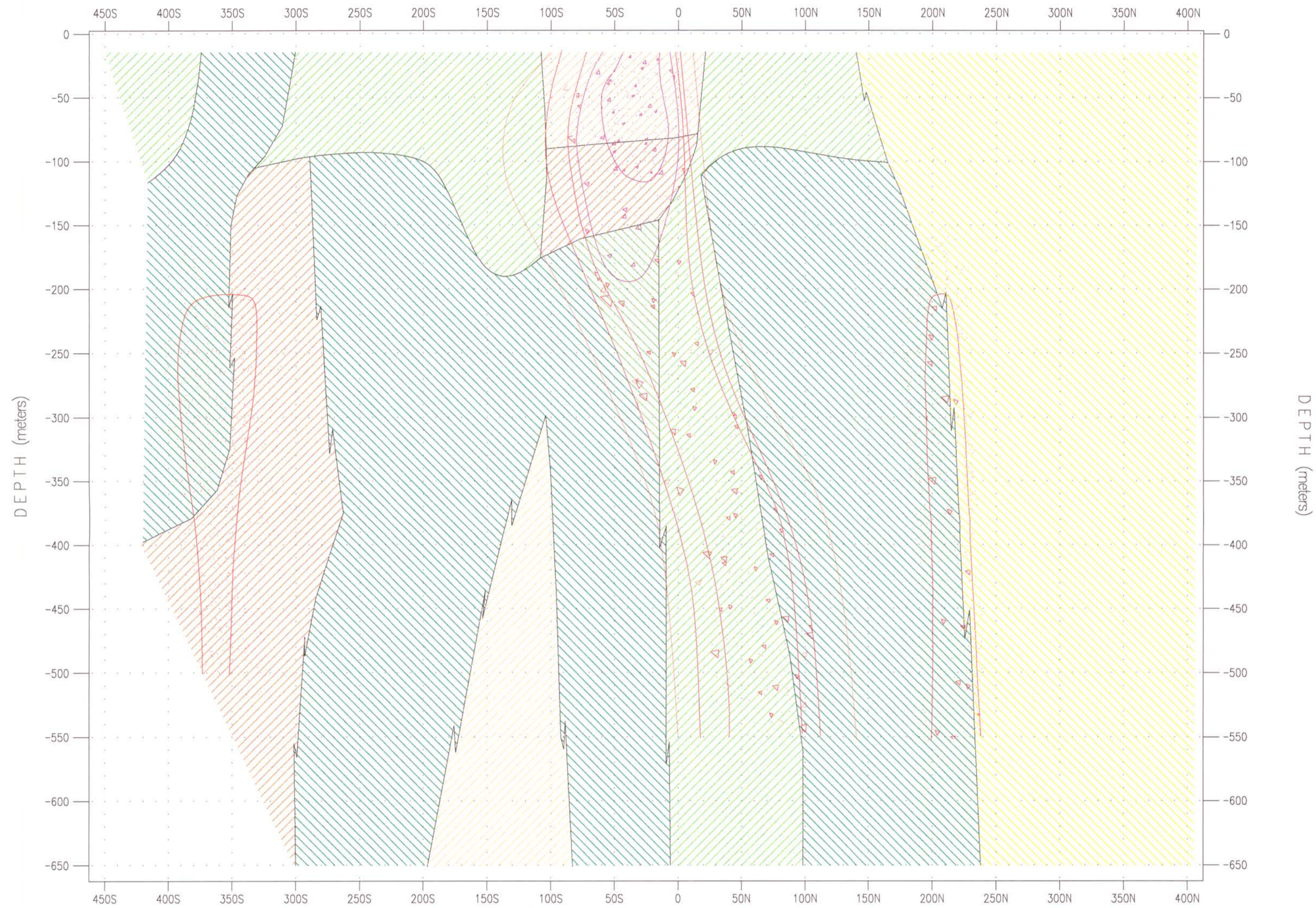
Interpreted by: *L. Kaplani Phd, PGeo*  
*G. Kallfa PGeo*  
 Date: Feb 2004

Processed by:  
**MATRIX GEOTECHNOLOGIES**  
 DWG. #: PQS-180-QS-700W

2.32005



# LINE 800W QUANTITATIVE SECTION



CHAMPION BEAR RESOURCES LTD  
 PLOMP FARM GRID  
 DRYDEN, ON

GRADIENT \ POLE-DIPOLE SURVEY  
 QUANTITATIVE SECTION L800W

Interpreted by: *L. Kaplani Phd, PGeo*  
*G. Kallfa PGeo*  
 Date: *March 2004*

Processed by:  
**MATRIX GEOTECHNOLOGIES**  
 DWG. #: PQS-180-QS-800W

**2.32005**