

Report of Induced Polarization and Total Field Magnetic Surveys

At the

Dogpaw Project

Bag Lake and Flint Lake Grids

Dog Paw Lake Area, Ontario

Mining Claim Nos.

4213381 3001241 3010496

30103433 3003583

Kenora Mining Division

For

Metals Creek Resources Corp.

March 1, 2010  
Timmins, Ontario

Matthew Johnston

1226 Gatineau Blvd.  
Timmins, Ont. P4R 1E3

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Total Field Magnetic Survey – Posted Data Flint & Bag Lake Grids	1:5000

## **1.0 Introduction**

The Bag Lake and Flint Lake grids are located on the Dogpaw property of Metals Creek Resources Corp., located in northwestern Dog Paw Lake Area, Kenora Mining Division. The Bag Lake grid covers portions of or all of mining claims numbered 3010496, 30103433, and 3003583; while the Flint Lake grid covers portions of or all of claims 4213381 and 3001241. These claims property are currently under option to Metals Creek Resources Corp. During January and February 2010, a geophysical survey program consisting of induced polarization and resistivity surveys and total field magnetic surveys was conducted over a portion of these claims. Ray Meikle and Associates of North Bay, Ontario, carried out the IP and magnetic geophysical surveys, while Lunik Explores of Rouyn-Noranda, Quebec completed the line cutting and gridding. The geophysical surveys were performed in order to evaluate and map the presence of disseminated to massive sulphides with respect to their location, width, and concentrations.

## **2.0 Location And Access**

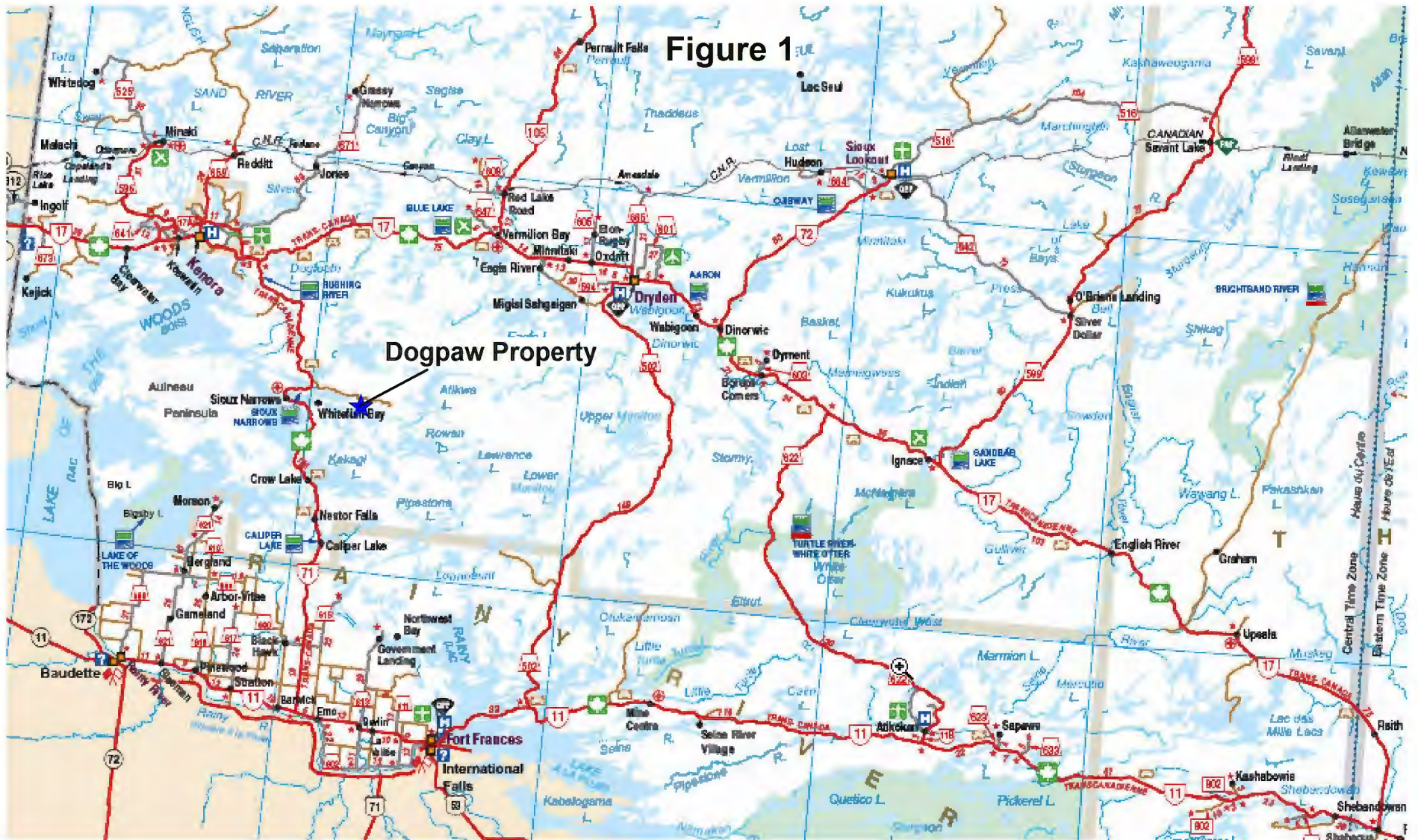
The Dogpaw Property is located within the Kenora Mining District in Northwestern Ontario, within the Dogpaw Lake Area. The property is located within the NTS Map Sheet 52F/05SW as well as portions of 52F/05SE. The Dogpaw property is located approximately 55 km Southeast of the town of Kenora. (Figures 1 & 2).

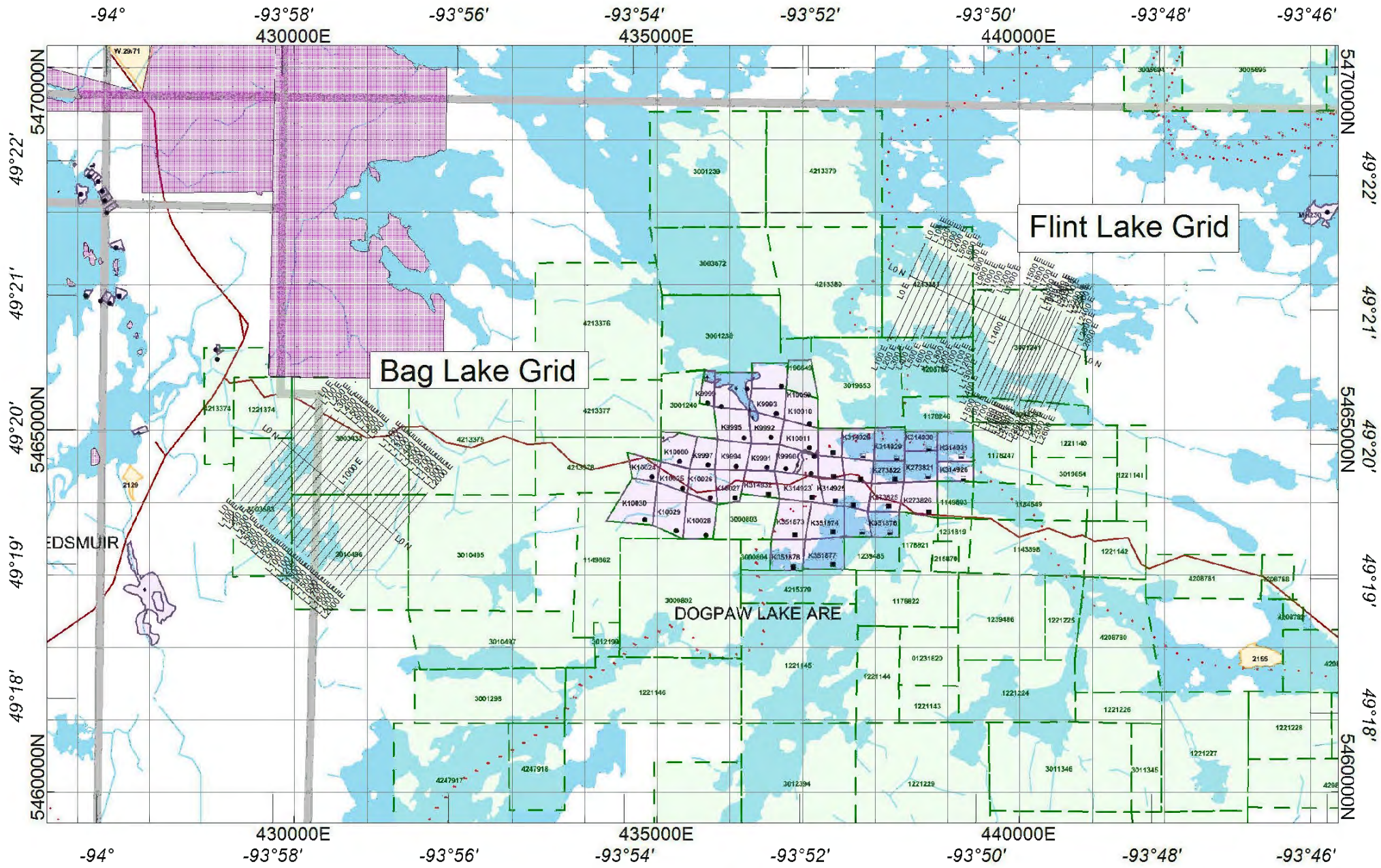
The various claims of the Dogpaw Lake Property can be accessed by either boat, snowmobile or road. Highway 71, a paved highway transects the western portion of the property and runs mainly North-South.

The Cameron Lake road runs east from Highway 71 through the southern portion of the northern block on the Dogpaw Lake Property.

Lake access can be gained via these roads to enable access to other portions of the property by boat or snowmobile.

Figure 1





**Figure 2**  
 Dogpaw Project  
 February 2010 Geophysics

1000 0 1000 2000 3000  
 (meters)  
 \*GRS 1980 / UTM zone 15N

### **3.0 Summary of 2010 Geophysical Program**

The geophysical program at the Bag Lake Grid consisted of induced polarization and resistivity surveying (I.P.) and total field magnetic surveys. These surveys were carried out on a grid of recently cut lines oriented at 40° spaced every 100 meters and chained and marked every 25 meters. The grid lines were surveyed every 100 meters along a baseline 2 km. in length and ranged in length between 1000 and 1700 meters.

The geophysical program at the Flint Lake Grid consisted of induced polarization and resistivity surveying (I.P.) and total field magnetic surveys. These surveys were carried out on a grid of recently cut lines oriented at 25° spaced every 50 and 100 meters and chained and marked every 25 meters. The grid lines were surveyed every 100 meters along a baseline 2.6 km. in length and ranged in length between 550 and 1500 meters.

The I.P. surveys were performed using a pole-dipole electrode configuration. The dipole 'a' spacing was 25 meters and increasing separations of  $n=1$ ,  $n=2$ ,  $n=3$ ,  $n=4$ , and  $n=5$ , times the dipole spacing was measured in order to map the response at depth. A total of approximately 8.0 km of I.P. data was measured and recorded at the Bag Lake Grid, while approximately 1 km of I.P. data was surveyed at the Flint Lake grid. The I.P. equipment used for the surveys consisted of a Phoenix IPT-1 3000 watt transmitter operating in the time domain powered by a 2 kilowatt motor generator. The chargeability (measured in mV/V) between the transmitted current and the received voltage is recorded by an Iris Elrec IP Pro receiver which records the chargeability and the apparent resistivity for each set of dipoles. The chargeability measured in this survey is a measure of the polarization of the underlying lithology.

The total field magnetic survey, using a GEM GSM-19 magnetometer, totaled 37.5 kilometers at Flint Lake and 37.8 kilometers at the Bag Lake grid; with readings collected every 12.5 meters along all lines.

A description of the survey method and equipment used can be found in Appendix A.

#### **4.0 Discussion of Results**

The results of the I.P. survey are presented as contoured and posted pseudo-sections of the apparent resistivity and recorded chargeability's at a scale of 1:2500. In addition, plan maps at a scale of 1:5,000 showing the contours of the total magnetic field with the interpretation and location of the I.P. anomalies is also presented for the Bag Lake and Flint Lake grids. All maps accompany this report in the pocket at the back of this report.

The magnetic data has been presented on plan maps at a scale of 1:5000, showing the contours and postings, as well as the I.P. interpretations (see maps in pocket).

##### **Bag Lake Grid**

The resistivity data for the Bag Lake grid shows a wide variation of measured resistivities in the range of 11 to 12480 ohm-m with a mean background resistivity of approximately 431 ohm-m. The higher resistivity areas of the grid may likely be mapping areas of bedrock ridges and sub-cropping bedrock areas. These areas are quite evident on the pseudo sections. It is also possible the high resistivity zones may be outlining more resistive felsic lithology or silica altered horizons as well.

The I.P. anomalies have been interpreted and are displayed on the plan map of the total field magnetics. Emphasis was placed on identifying I.P. anomalies, which were thought to originate within the bedrock as opposed to cultural sources; and those I.P. anomalies that, may be associated with bedrock relief. Four significant anomaly trends were identified and labeled on the plan map as B1 through B4. In addition several isolated moderate and strong IP anomalies were also mapped which are not readily grouped into trends. Anomalies B1, and B2 are well defined IP anomalies and trends and should be followed up. The depths of the identified I.P. anomalies are interpreted to be shallow; within the range of 5 to 25 meters below surface.

The magnetic survey on the Bag Lake grid indicates a very active magnetic background with magnetic values ranging between 54538 and 61864 nT. The background magnetic field strength is 57370 nT. The overall magnetic pattern is disrupted by

numerous strong linear anomalous magnetic highs striking at approximately 40 degrees azimuth; as well as numerous discontinuous isolated magnetic highs. These magnetic anomalies are easily seen on the magnetic contour map. These magnetic anomalies may represent diabase dikes, common to this geologic setting or possibly mafic or ultramafic lithology. The isomagnetic contour pattern suggests an underlying lithology striking in an generally easterly direction through the grid area. All of the anomalies are easily identified on the plan maps.

In addition several fault zones have been interpreted within the grid area. These anomalies may represent major lithological contacts or structural anomalies which may be significant in this area. These anomaly locations are indicated and shown on the contour map.

### **Flint Lake Grid**

No significant anomalies were mapped by the I.P. survey conducted at the Flint Lake Grid.

The magnetic survey on the Flint Lake grid indicates a quiet magnetic background disrupted by several highly anomalous magnetic signatures; with magnetic values ranging between 56490 and 61189 nT. The background magnetic field strength is 57430 nT. The overall magnetic pattern is disrupted by one strong, linear anomalous magnetic high, labeled as M1, striking at approximately 125 degrees azimuth. In addition there are numerous discontinuous isolated magnetic highs located in the northeast area of the grid. These magnetic anomalies are easily seen on the magnetic contour map. These magnetic anomalies may represent diabase dikes, common to this geologic setting or possibly mafic or ultramafic lithology. The isomagnetic contour pattern suggests an underlying lithology striking in an generally northwesterly direction through the grid area. All of the anomalies are easily identified on the plan maps.

In addition several fault zones have been interpreted within the grid area. These anomalies may represent major lithological contacts or structural anomalies which may



be significant in this area. These anomaly locations are indicated and shown on the contour map.

## **5.0 Conclusions and Recommendations**

The induced polarization and magnetic surveys and completed over the Bag Lake and Flint Lake grid was successful in mapping several zones of anomalous I.P. effects, magnetic anomalies, as well as mapping the bedrock resistivity. All of the interpreted I.P. anomalies are moderate to strong in strength and generally well defined and will likely require further investigation in order to determine their causes. The most promising I.P. anomalies, which are thought to arise from bedrock sources, have been interpreted and identified. In particular IP anomalies B1, B2, B3, and B4 should be considered as priority exploration follow-up targets.

It is always difficult to quantitatively rate all of the I.P. anomalies in terms of their economic potential when searching for exploitable mineral deposits, but it is possible that some of the I.P. anomalies mapped by this survey are caused by disseminated to semi-massive metallic mineralization. This type of mineralization is often associated with valuable deposits of massive sulphides, gold and platinum group minerals.

All of the responses should be investigated further in order to determine the priority of follow-up needed. The anomalies should be further screened utilizing any other different types of geophysical surveys that may have been undertaken on the Bag Lake and Flint Lake grids. This would aid greatly in further refining the interpretation of the I.P. survey. Any existing geological, diamond drilling or geochemical information that may exist in the mining recorder assessment files should be investigated and compiled prior to further exploration of the Dogpaw property in order to accurately

assess the area of the current geophysical surveys and to determine the most effective follow-up exploration method for this property.

Respectively Submitted,

A handwritten signature in dark ink, appearing to read "Matthew Johnston". The signature is written in a cursive style with a large, stylized initial "M".

Matthew Johnston

## Statement of Qualifications

This is to certify that: MATTHEW JOHNSTON

I am a resident of Timmins; province of Ontario since June 1, 1995.

I am self-employed as a Consulting Geophysicist, based in Timmins, Ontario.

I have received a B.Sc. in geophysics from the University of Saskatchewan; Saskatoon, Saskatchewan in 1986.

I have been employed as a professional geophysicist in mining exploration, environmental and other consulting geophysical techniques since 1986.

Signed in Timmins, Ontario, this March 1, 2010

A handwritten signature in dark ink, appearing to read "Matthew Johnston". The signature is written in a cursive, flowing style with some overlapping letters.

## **Appendix A**

## Induced Polarization Surveys

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

Two main mechanisms are known to be responsible for the IP effect although the exact causes are still poorly understood. The main mechanism in rocks containing metallic conductors is electrode polarisation (overvoltage effect). This results from the build up of charge on either side of conductive grains within the rock matrix as they block the flow of current. On removal of this current the ions responsible for the charge slowly diffuse back into the electrolyte (groundwater) and the potential difference across each grain slowly decays to zero. The second mechanism, membrane polarisation, results from a constriction of the flow of ions around narrow pore channels. It may also result from the excessive build up of positive ions around clay particles. This cloud of positive ions similarly blocks the passage of negative ions through pore spaces within the rock. On removal of the applied voltage the concentration of ions slowly returns to its original state resulting in the observed IP response. In TD-IP the current is usually applied in the form of a square waveform, with the polarisation voltage being measured over a series of short time intervals after each current cut-off, following a short delay of approximately 0.5s. These readings are integrated to give the area under the decay curve, which is used to define  $V_p$ . The integral voltage is divided by the observed steady voltage (the voltage due to the applied current plus the polarisation voltage) to give the apparent chargeability ( $Ma$ ) measured in milliseconds or  $mV/V$ . For a given charging period and integration time the measured apparent chargeability provides qualitative information on the subsurface geology.

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

# Survey Theory - Total Field Magnetics

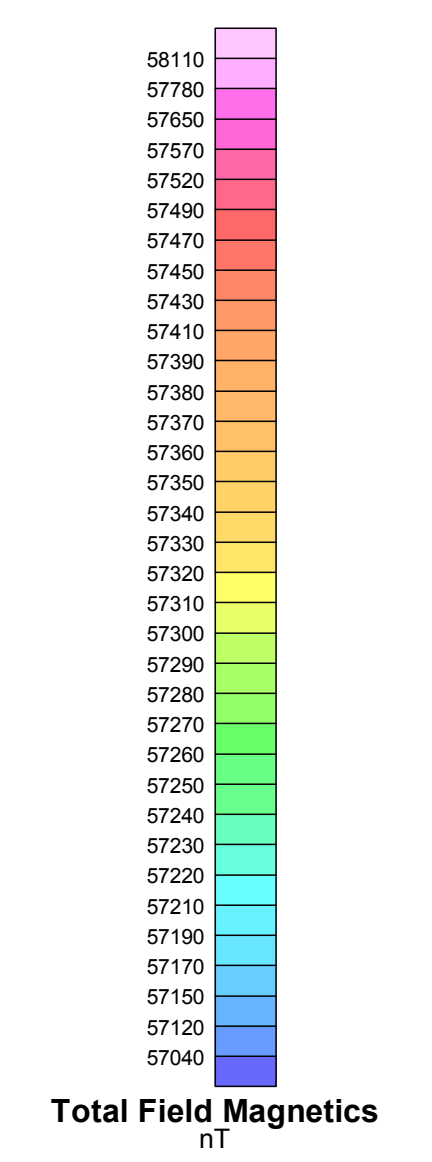
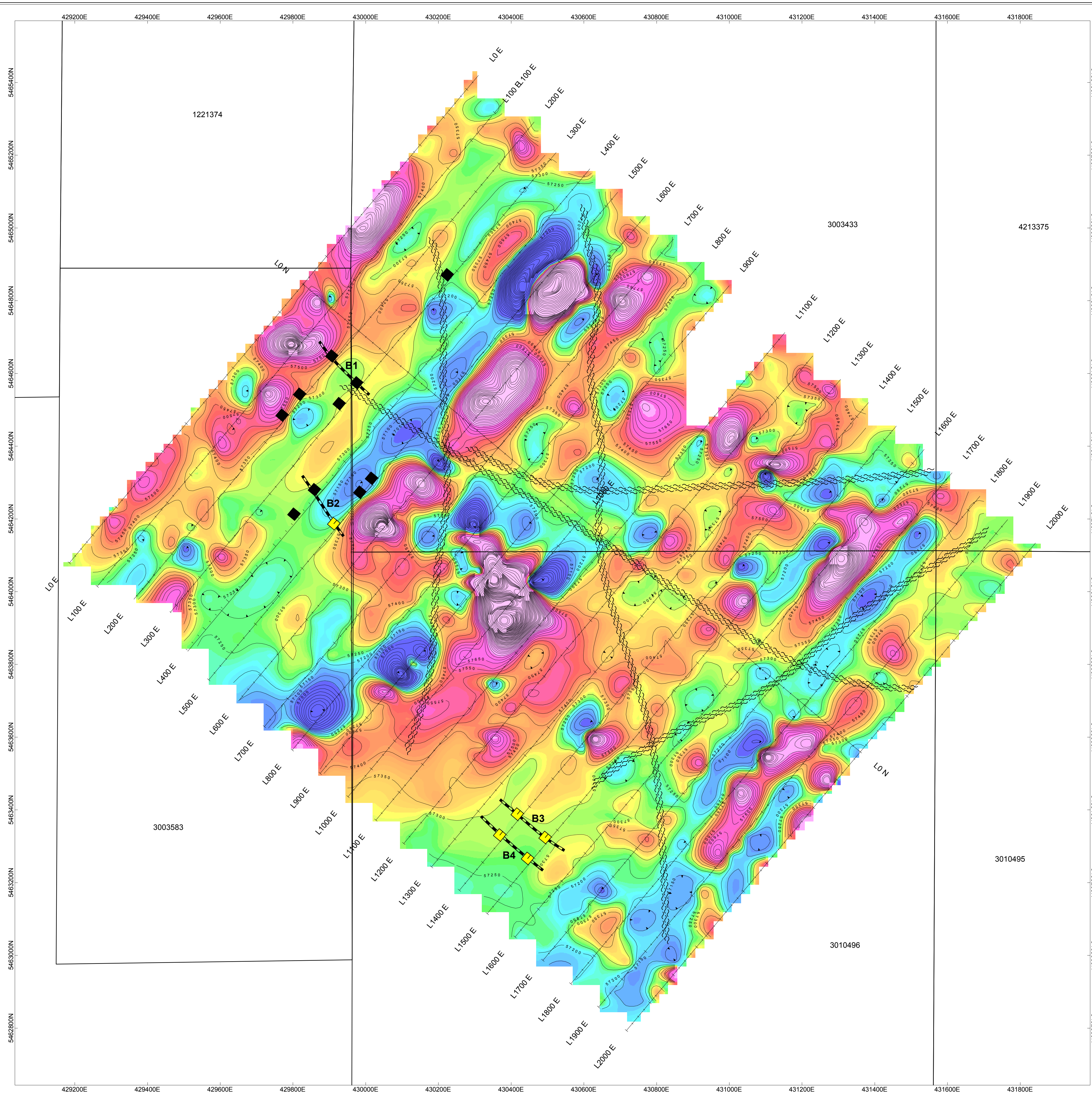
## Magnetic Survey

### Theory:

The magnetic method is based on measuring alteration in the shape and magnitude of the earth's naturally occurring magnetic field caused by changes in the magnetization of the rocks in the earth. These changes in magnetization are due mainly to the presence of the magnetic minerals, of which the most common is magnetite, and to a lesser extent illuminite, pyrrhotite, and some less common minerals. Magnetic anomalies in the earth's field are caused by changes in two types of magnetization: (1) Induced, caused by the magnetic field being altered and enhanced by increases in the magnetic susceptibility of the rocks, which is a function of the concentration of the magnetic minerals. (2) Remanent magnetism is independent of the earth's magnetic field, and is the permanent magnetization of the magnetic particles (magnetite, etc.) in the rocks. This is created when these particles orient themselves parallel to the ambient field when cooling. This magnetization may not be in the same direction as the present earth's field, due to changes in the orientation of the rock or the field. The **unit** of measurement (variations in intensity) is commonly known as the Gamma which is equivalent to the nanotesla (nT).

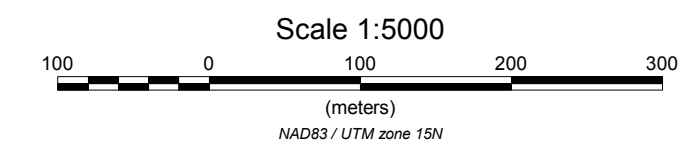
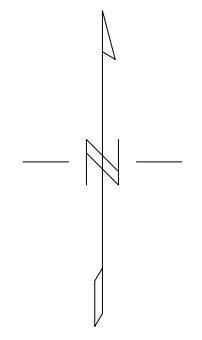
### Method:

The magnetometer, a GEM Systems **GSM-19** with an Overhauser sensor measures the **Total Magnetic Field** (TFM) perpendicular to the earth's field (horizontal position in the polar region). The unit has no moving parts, produces an absolute and relatively high resolution measurement of the field and displays the measurement on a digital lighted display and is recorded (to memory). Initially, the tuning of the instrument should agree with the nominal value of the magnetic field for each particular area. The Overhauser procession magnetometer collected the data with a **0.2 nanoTesla accuracy**. The operator read each and every line at a 12.5 **m** intervals with the sensor attached to the top of four (56cm), aluminum tubing sections. The readings were corrected for changes in the earth's magnetic field (diurnal drift) with a similar GSM-19 magnetometer, acting as a stationary base station which automatically read and stored the readings at every 15 seconds. The data from both units was then downloaded to PC and base corrected values were computed.



**Legend**

- Well Defined Strong IP Chargeability Anomaly/Trend
- Weak to Moderate Strength IP Chargeability Anomaly/Trend
- Interpreted Magnetic Fault/Lineament Location

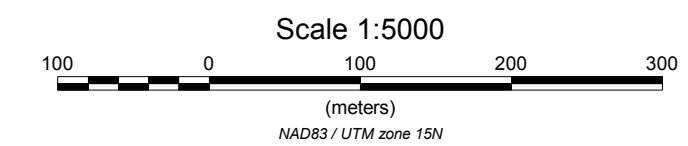
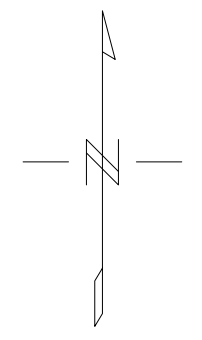
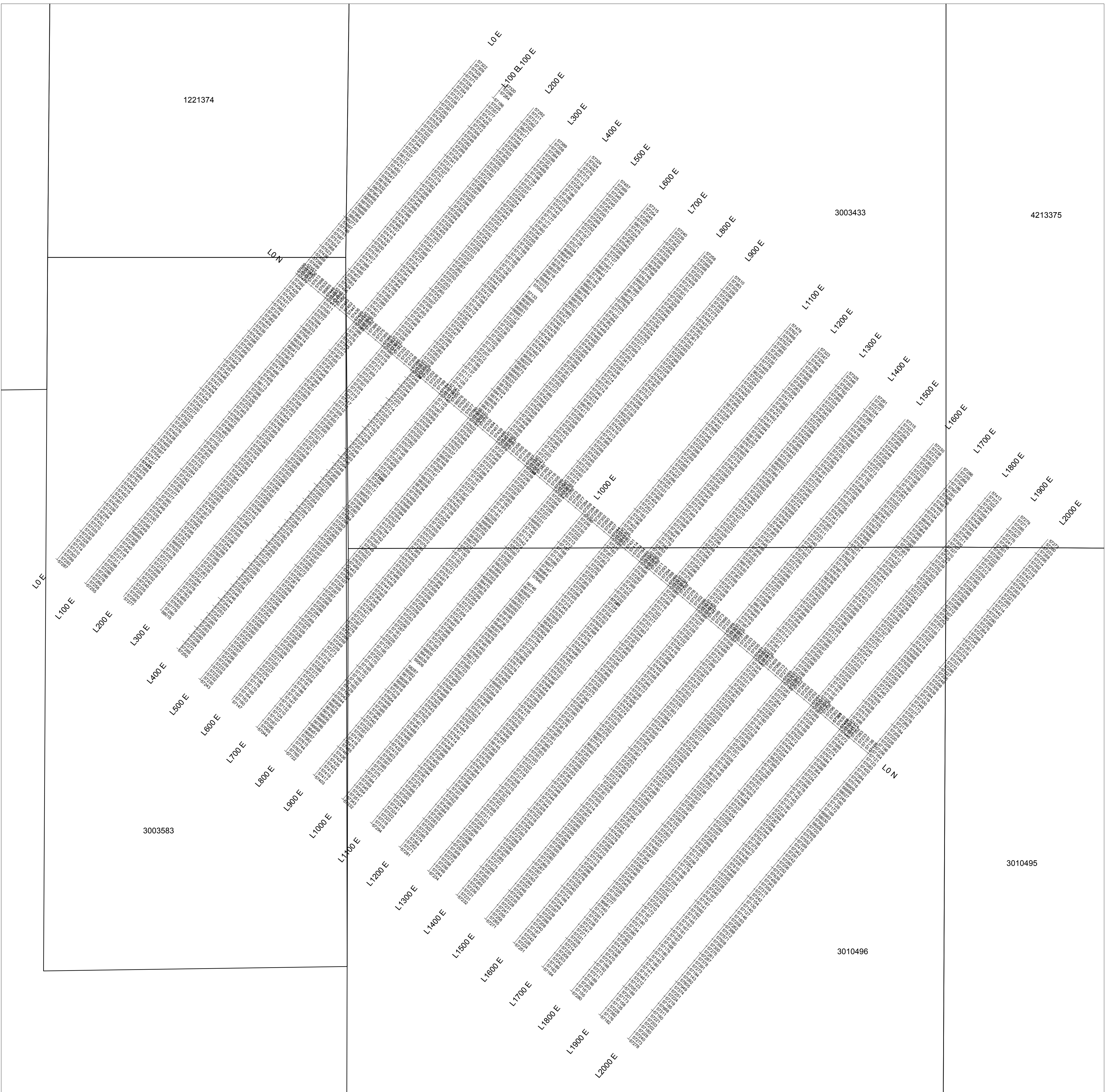


Line Kilometers Surveyed: 37.8

**METALS CREEK RESOURCES CORP.**  
**DOGPAW PROJECT - BAG LAKE GRID**  
**TOTAL FIELD MAGNETIC SURVEY - CONTOURS**  
**FEBRUARY 2010**

DOG PAW LAKE AREA - KENORA MINING DIVISION  
 CLAIMS: POSTED ON MAP  
 CONTOUR INTERVAL = 50, 250 nT  
 INSTRUMENT: GEM SYSTEMS GSM-19 MAGNETOMETER

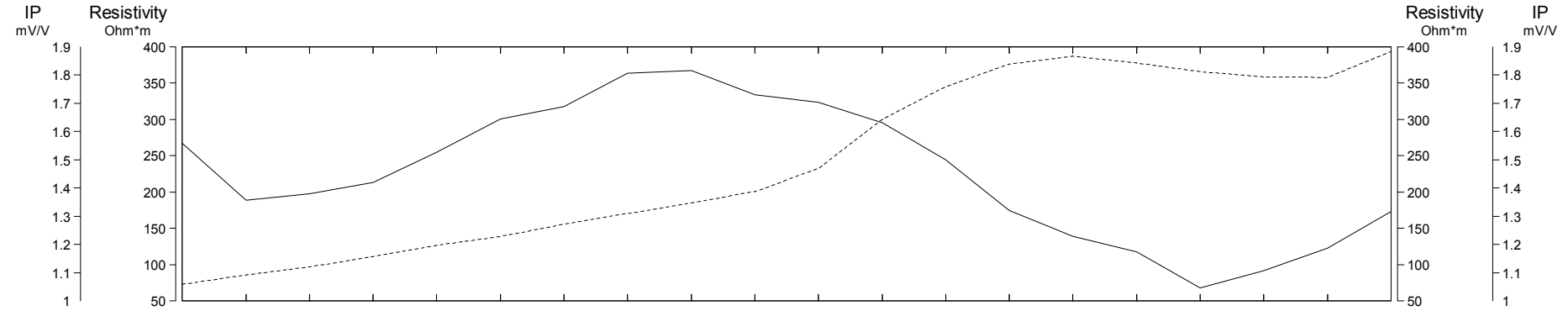
**SURVEYED BY: RJ MEIKLE AND ASSOCIATES**



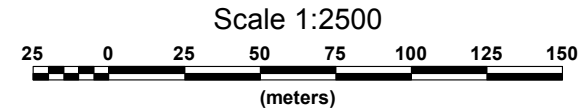
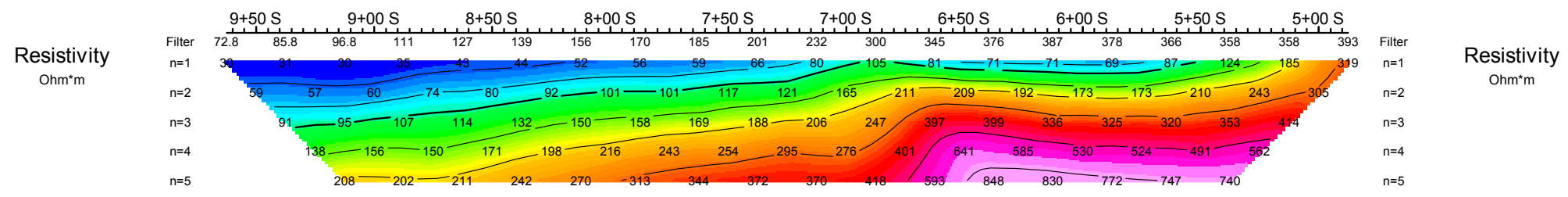
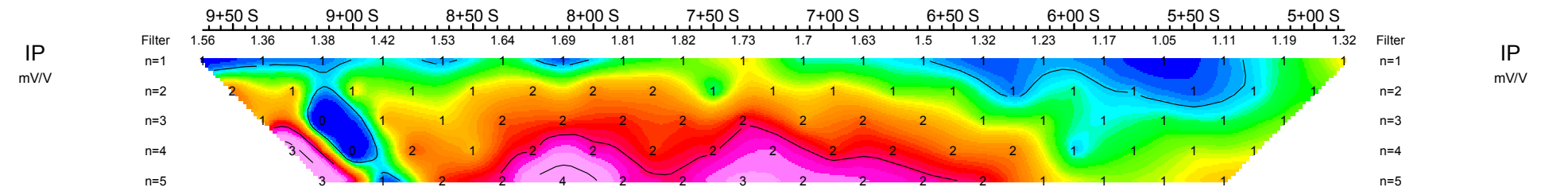
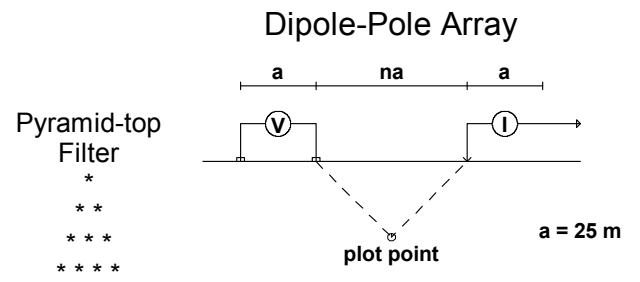
Line Kilometers Surveyed: 37.8

METALS CREEK RESOURCES CORP.  
 DOGPAW PROJECT - BAG LAKE GRID  
 TOTAL FIELD MAGNETIC SURVEY - POSTED DATA  
 FEBRUARY 2010  
 DOG PAW LAKE AREA - KENORA MINING DIVISION  
 CLAIMS: POSTED ON MAP  
 MAGNETIC REFERENCE FIELD = 57000 nT  
 INSTRUMENT: GEM SYSTEMS GSM-19 MAGNETOMETER

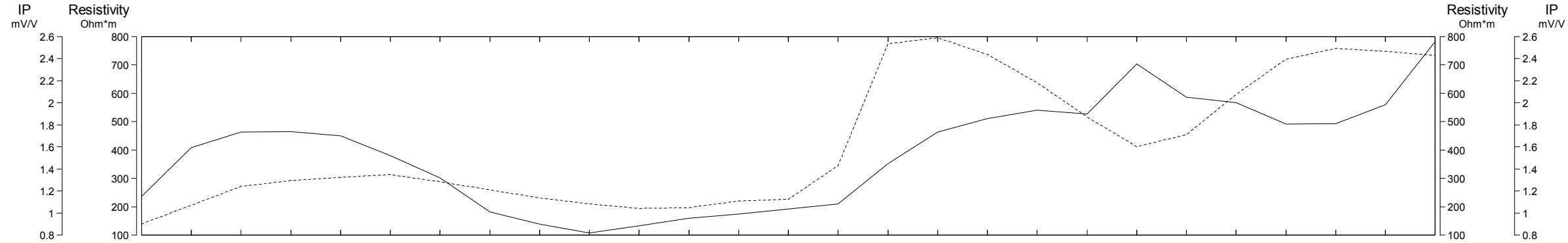




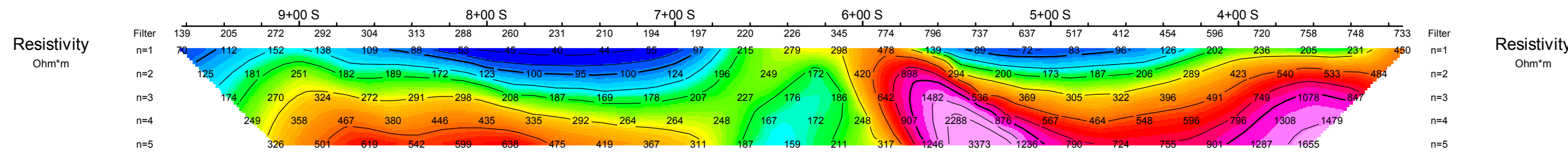
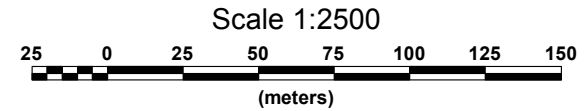
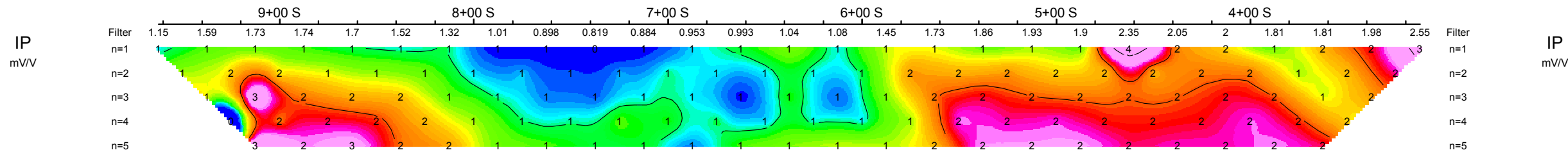
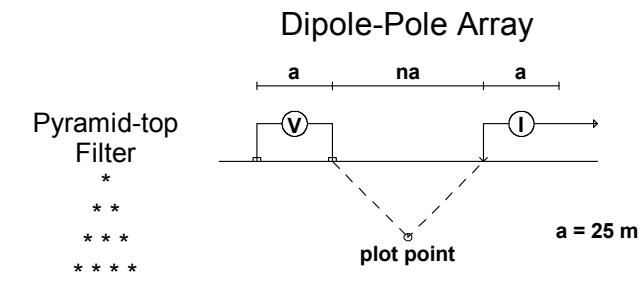
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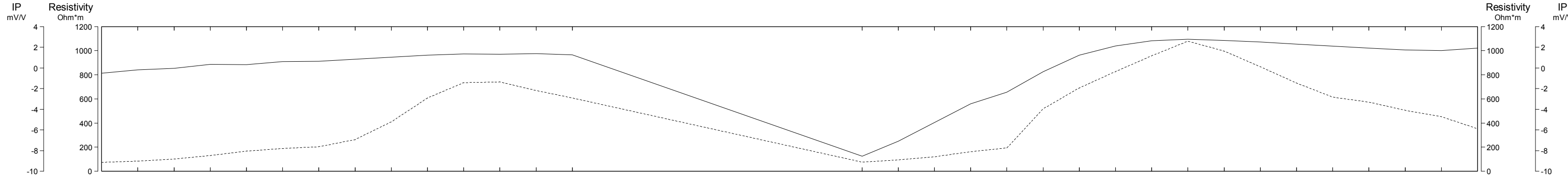
**METALS CREEK RESOURCES CORP.**  
**INDUCED POLARIZATION SURVEY**  
**BAG LAKE GRID**  
**February 2010**  
 Dogpaw Lake Area  
 Kenora Mining Division  
**SURVEYED BY: R J MEIKLE AND ASSOCIATES**



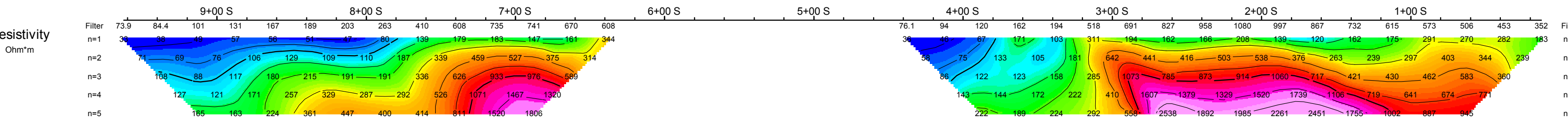
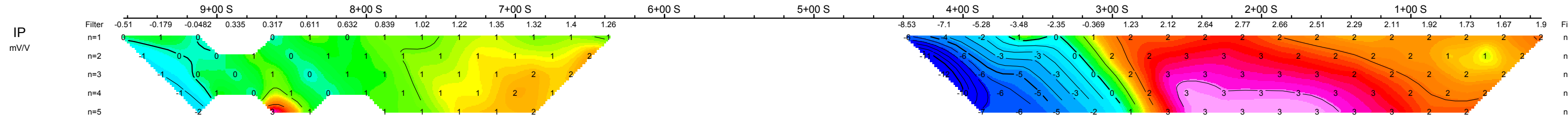
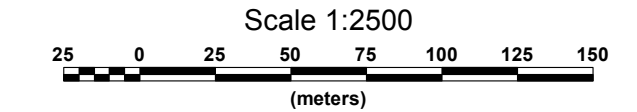
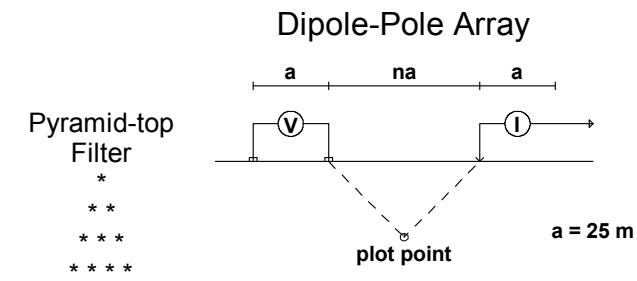
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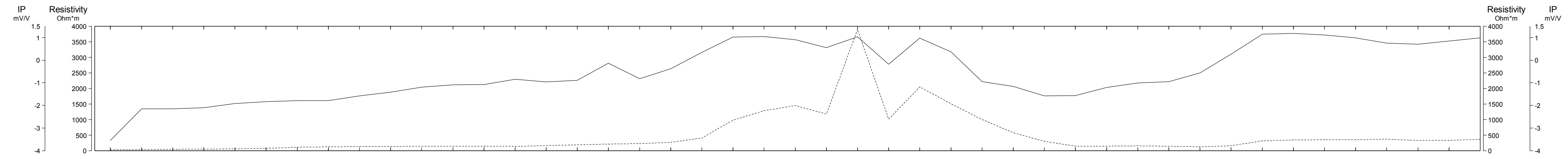
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**February 2010**  
 Dogpaw Lake Area  
 Kenora Mining Division  
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**Pseudo Section Plot  
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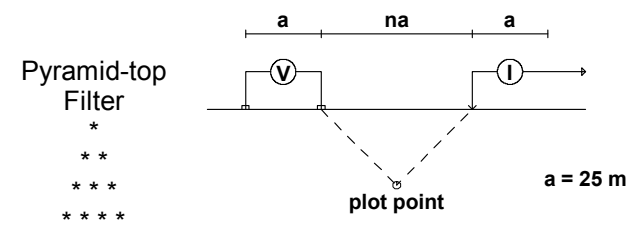


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**INDUCED POLARIZATION SURVEY**  
**BAG LAKE GRID**  
**February 2010**  
 Dogpaw Lake Area  
 Kenora Mining Division  
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**Pseudo Section Plot  
5+00 E**

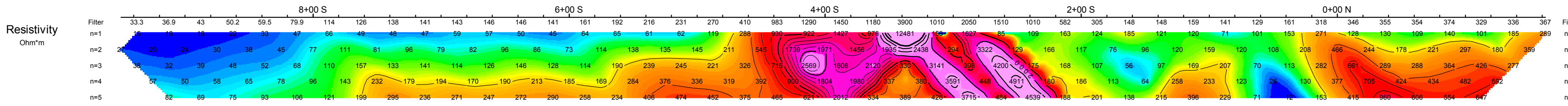
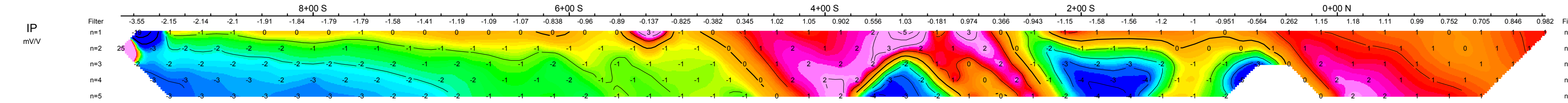
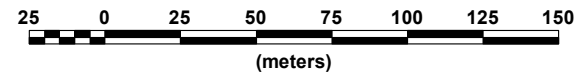
Dipole-Pole Array



Pyramid-top Filter  
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a = 25 m

Scale 1:2500

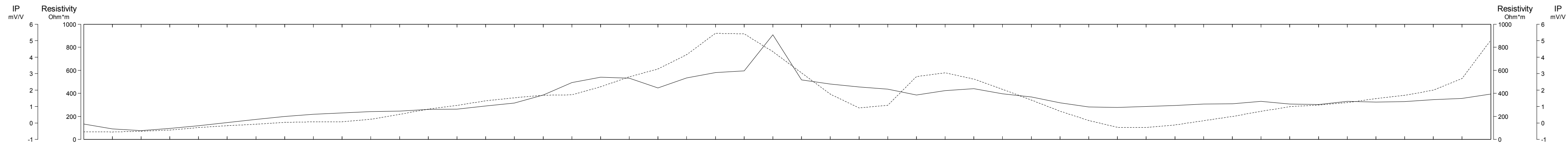


**METALS CREEK RESOURCES CORP.**

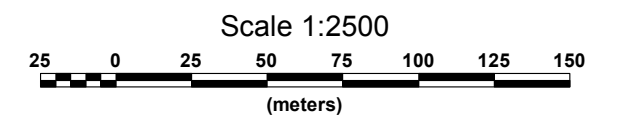
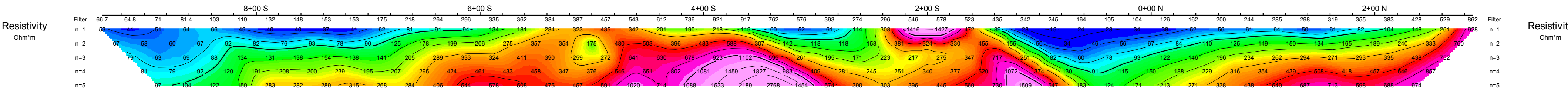
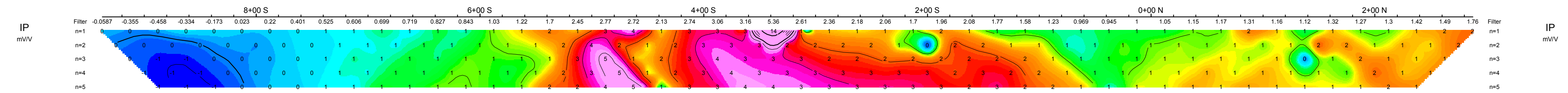
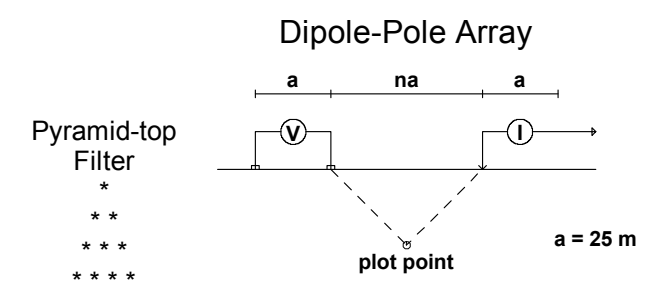
**INDUCED POLARIZATION SURVEY  
BAG LAKE GRID  
February 2010**

Dogpaw Lake Area  
Kenora Mining Division

**SURVEYED BY: R J MEIKLE AND ASSOCIATES**



**Pseudo Section Plot  
4+00 E**

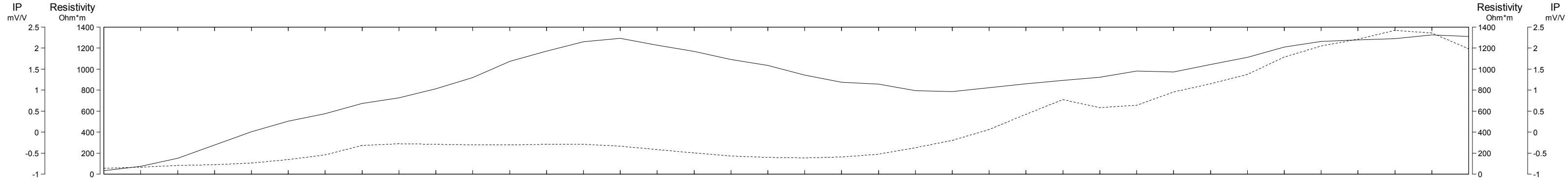


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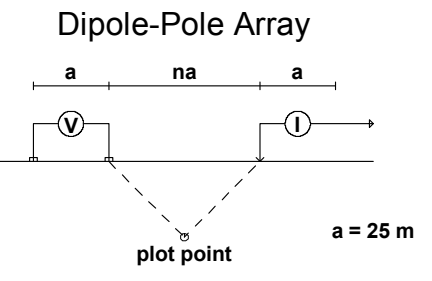
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BAG LAKE GRID  
February 2010**

Dogpaw Lake Area  
Kenora Mining Division

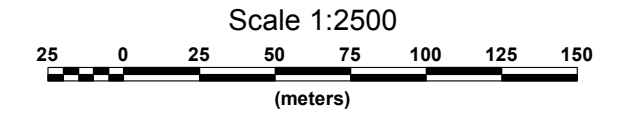
**SURVEYED BY: R J MEIKLE AND ASSOCIATES**



**Pseudo Section Plot  
3+00 E**



Pyramid-top Filter  
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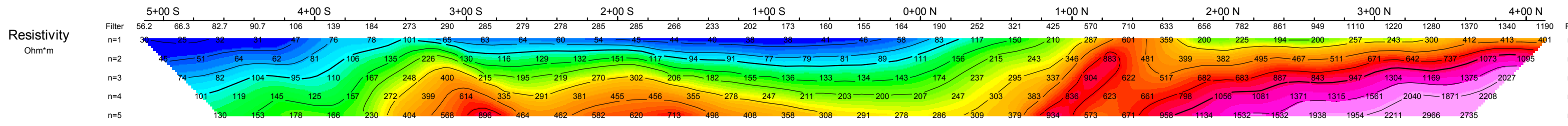
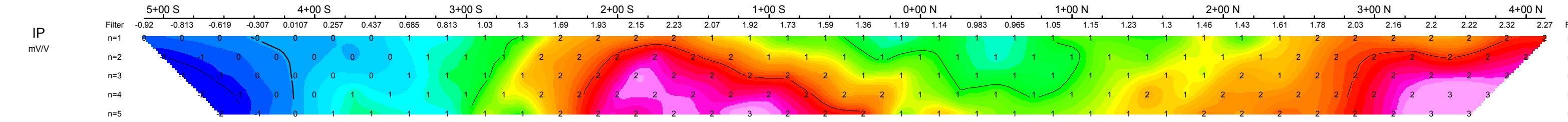


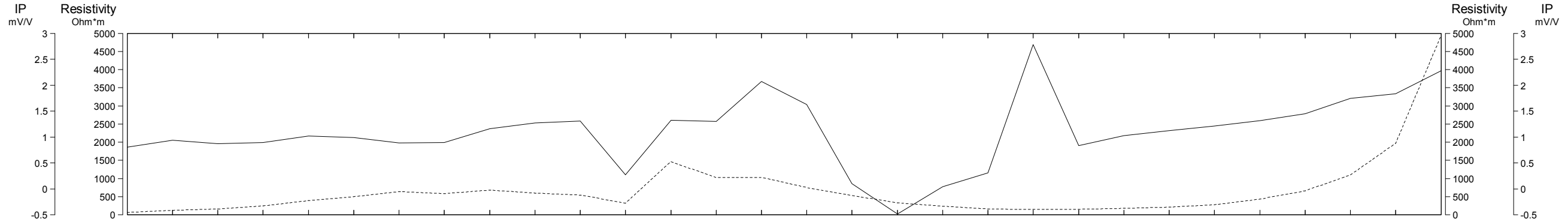
**METALS CREEK RESOURCES CORP.**

**INDUCED POLARIZATION SURVEY  
BAG LAKE GRID  
February 2010**

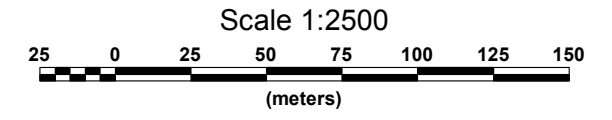
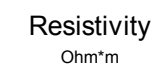
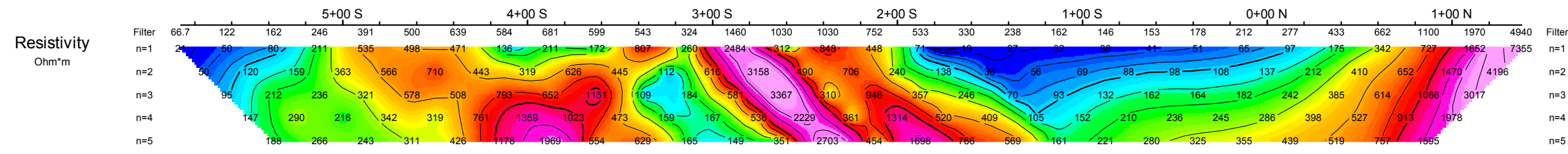
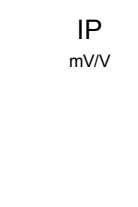
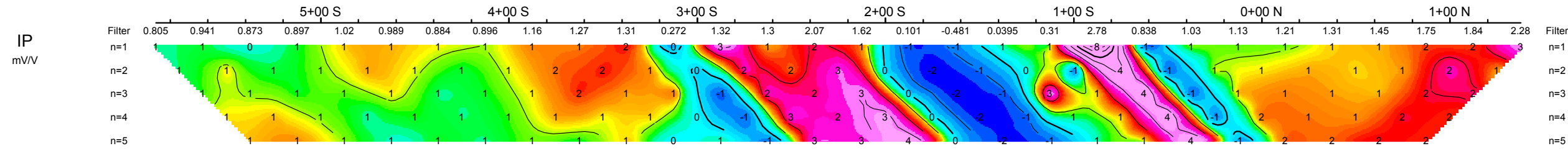
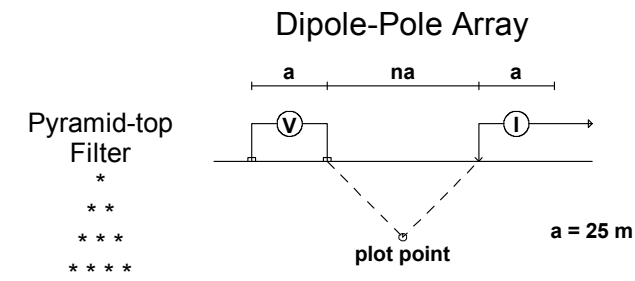
Dogpaw Lake Area  
Kenora Mining Division

**SURVEYED BY: R J MEIKLE AND ASSOCIATES**

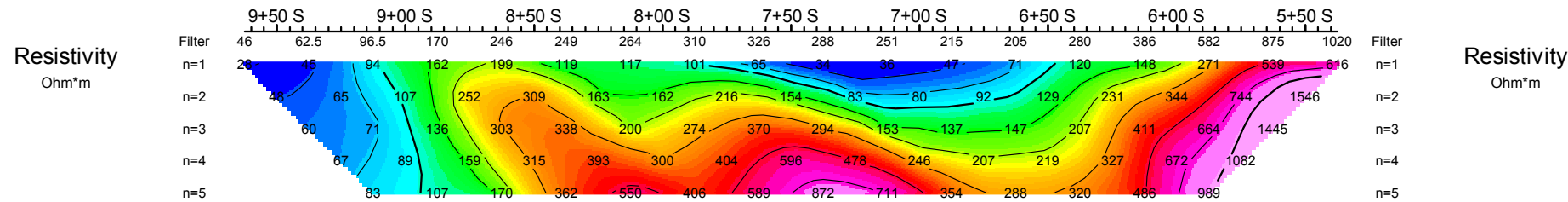
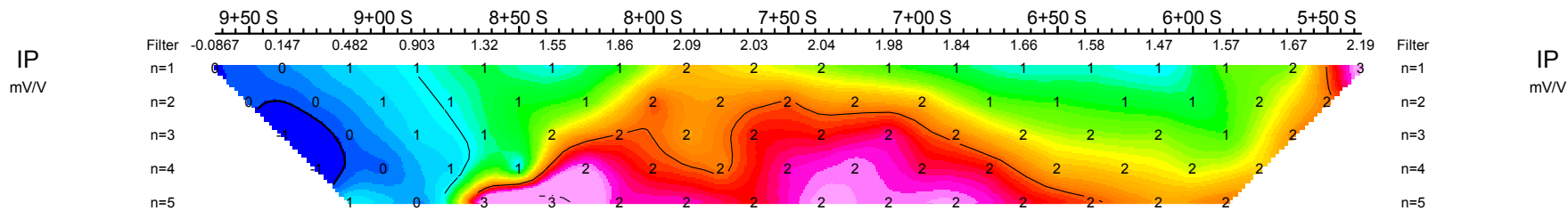
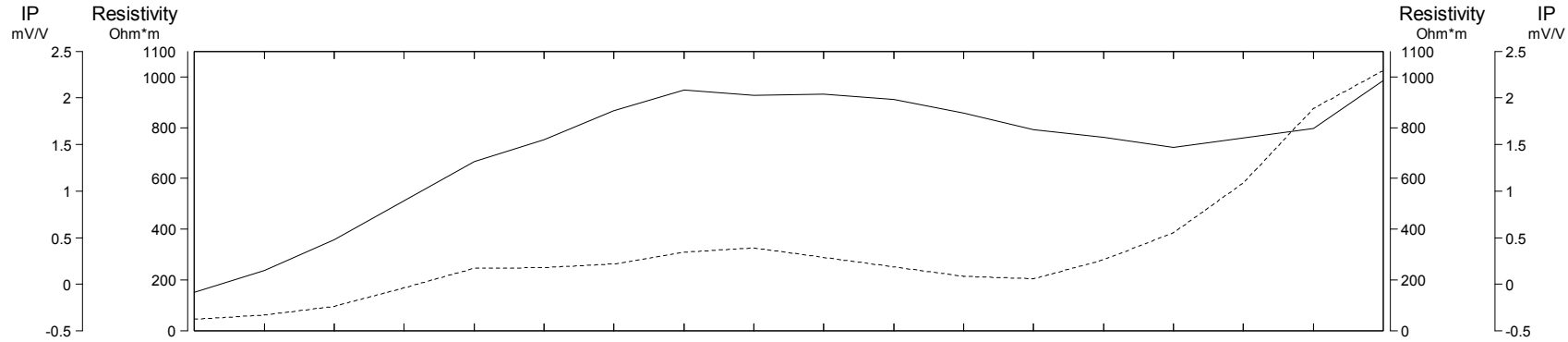




**Pseudo Section Plot  
2+00 E**

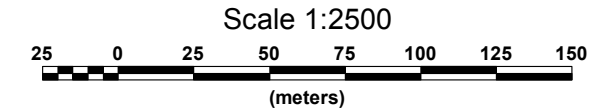
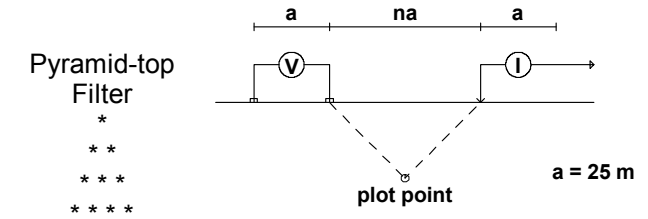


**METALS CREEK RESOURCES CORP.**  
**INDUCED POLARIZATION SURVEY**  
**BAG LAKE GRID**  
**Februrary 2010**  
 Dogpaw Lake Area  
 Kenora Mining Division  
**SURVEYED BY: R J MEIKLE AND ASSOCIATES**



### Pseudo Section Plot 15+00 E

Dipole-Pole Array



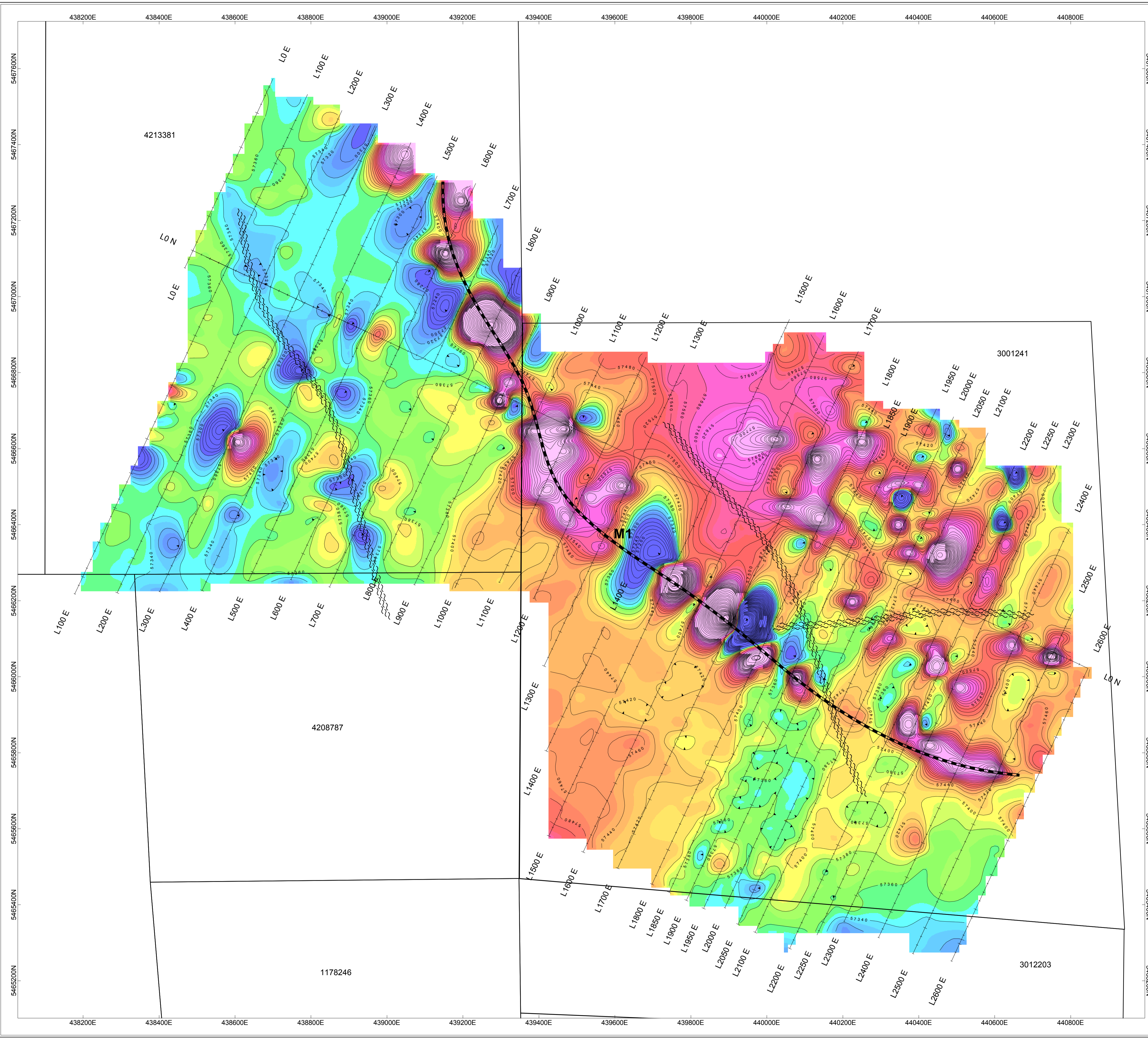
**METALS CREEK RESOURCES CORP.**

**INDUCED POLARIZATION SURVEY  
BAG LAKE GRID  
February 2010**

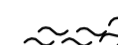

Dogpaw Lake Area  
Kenora Mining Division

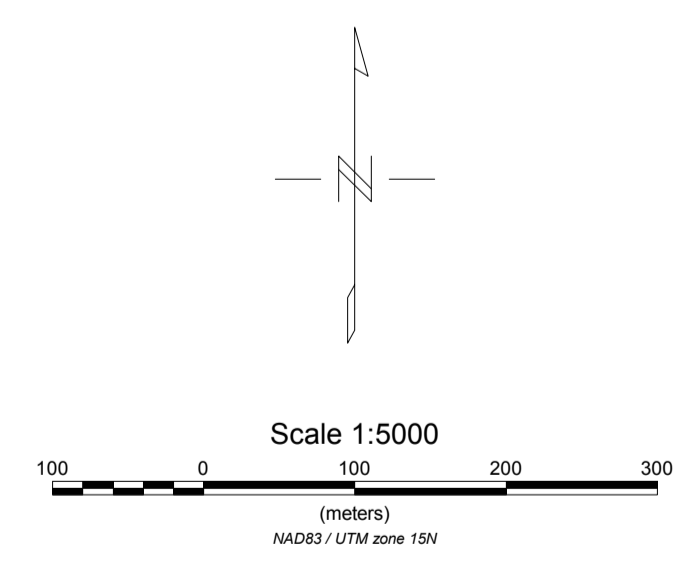
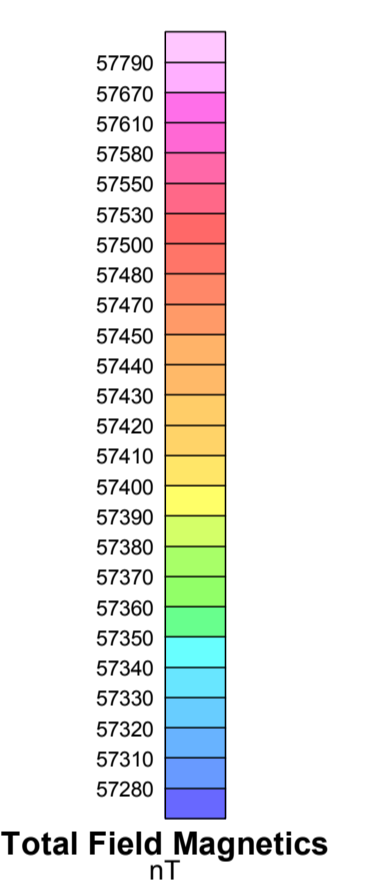
**SURVEYED BY: R J MEIKLE AND ASSOCIATES**





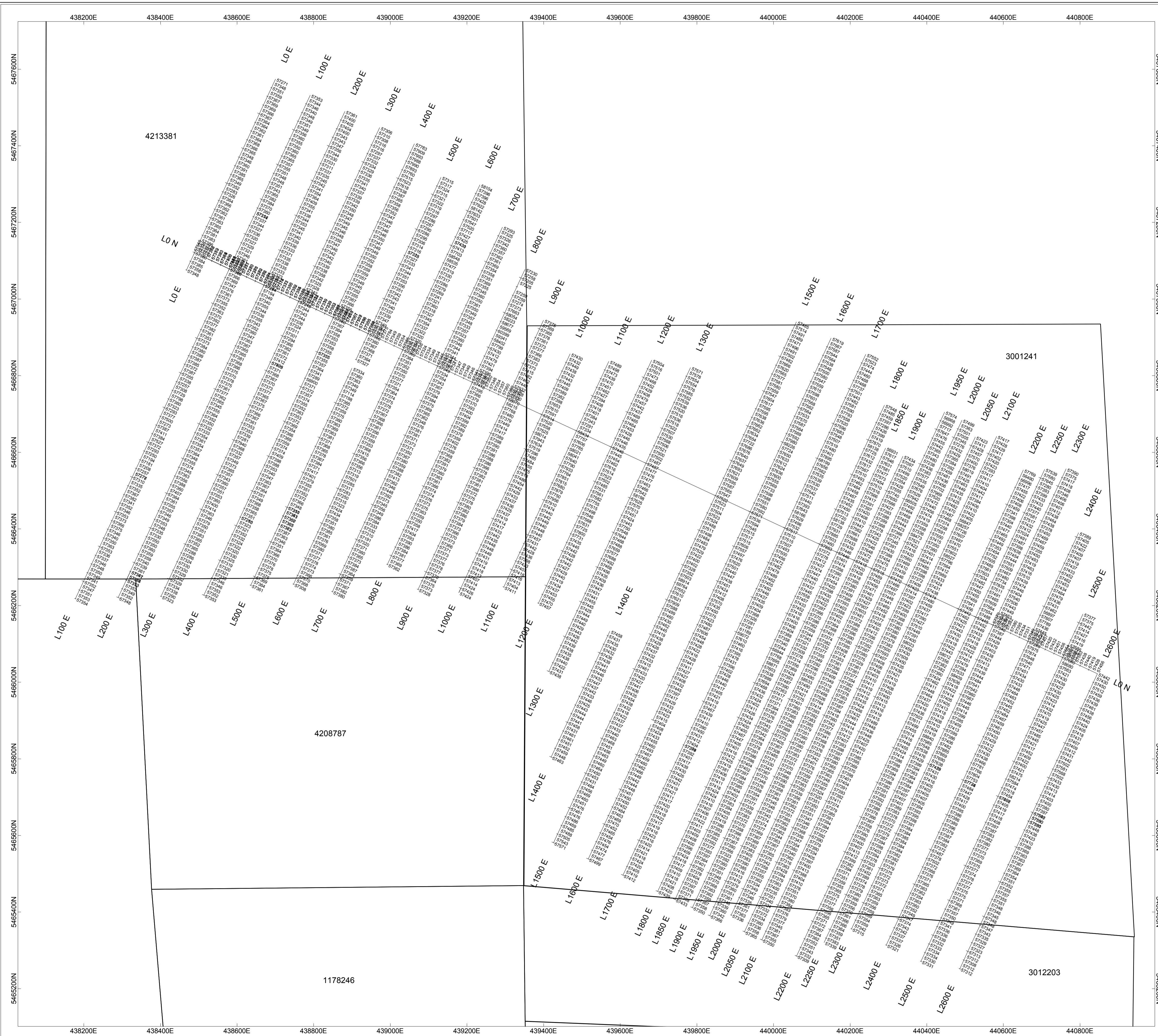
**Legend**

-  Interpreted Magnetic Fault/Lineament Location
-  Interpreted Magnetic Anomaly Location/Trend

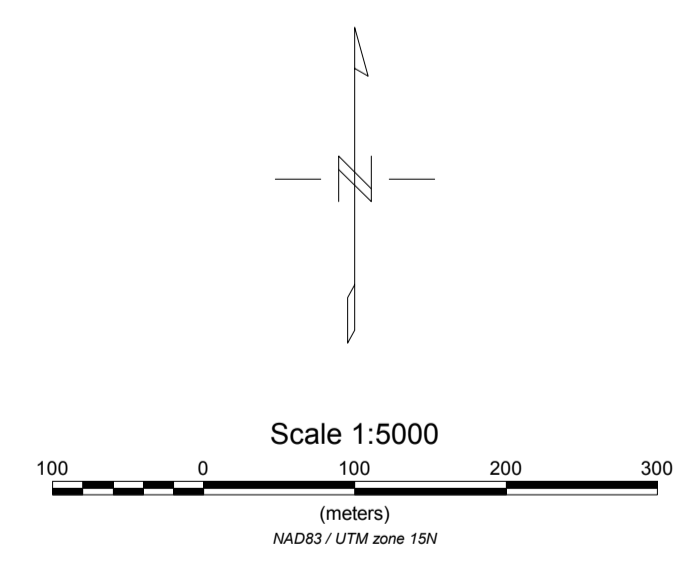


Line Kilometers Surveyed: 37.5

**METALS CREEK RESOURCES CORP.**  
**DOG PAW PROJECT - FLINT LAKE GRID**  
**TOTAL FIELD MAGNETIC SURVEY - CONTOURS**  
**FEBRUARY 2010**  
 DOG PAW LAKE AREA - KENORA MINING DIVISION  
 CLAIMS: POSTED ON MAP  
 CONTOUR INTERVAL = 20, 100 nT  
 INSTRUMENT: GEM SYSTEMS GSM-19 MAGNETOMETER  
**SURVEYED BY: R J MEIKLE AND ASSOCIATES**



5467600N  
5467400N  
5467200N  
5467000N  
5466800N  
5466600N  
5466400N  
5466200N  
5466000N  
5465800N  
5465600N  
5465400N  
5465200N

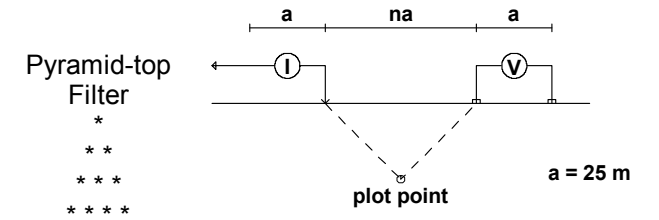


Line Kilometers Surveyed: 37.5

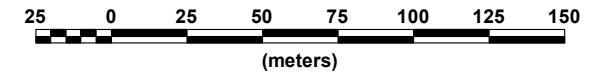
**METALS CREEK RESOURCES CORP.**  
**DOG PAW PROJECT - FLINT LAKE GRID**  
**TOTAL FIELD MAGNETIC SURVEY - POSTED DATA**  
**FEBRUARY 2010**  
 DOG PAW LAKE AREA - KENORA MINING DIVISION  
 CLAIMS: POSTED ON MAP  
 MAGNETIC REFERENCE FIELD: 57000 nT  
 INSTRUMENT: GEM SYSTEMS GSM-19 MAGNETOMETER  
**SURVEYED BY: R J MEIKLE AND ASSOCIATES**

# Pseudo Section Plot 15+00 E

Pole-Dipole Array



Scale 1:2500

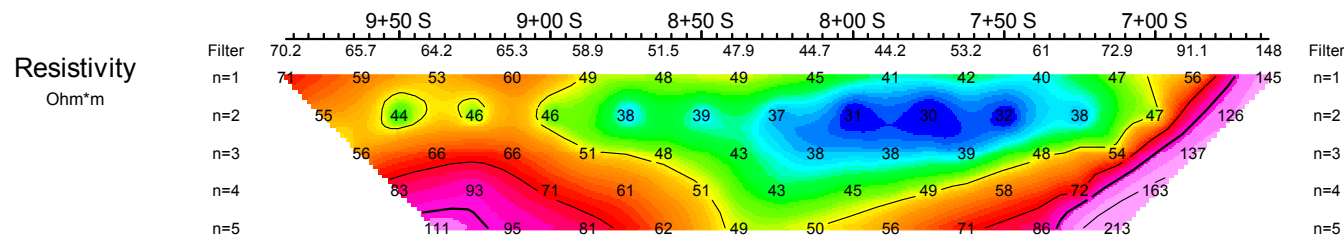
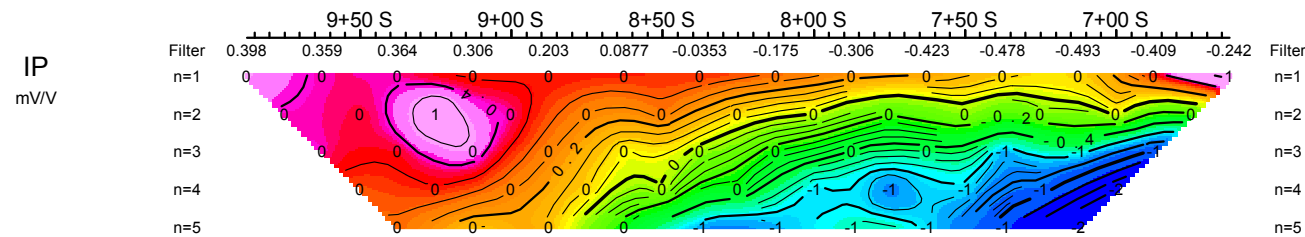
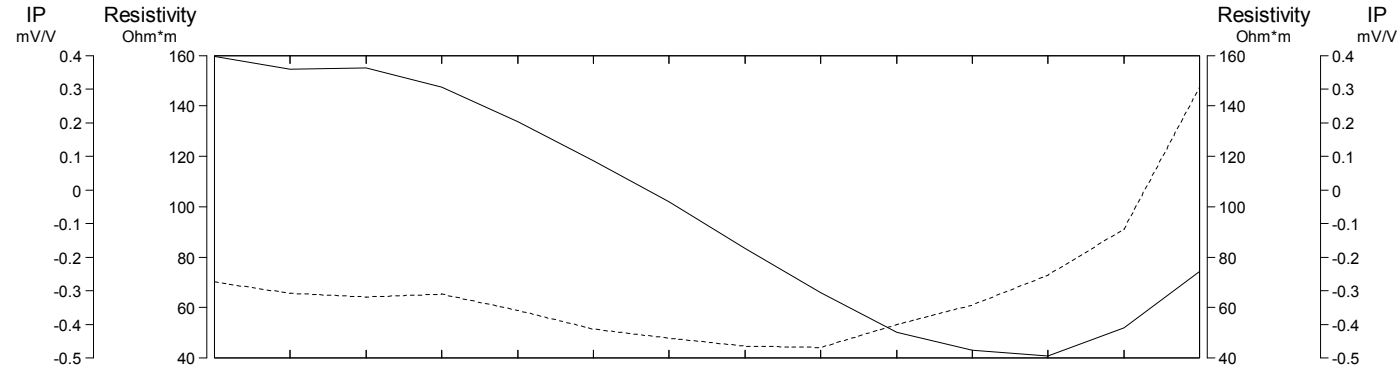


**METALS CREEK RESOURCES CORP.**

**INDUCED POLARIZATION SURVEY  
FLINT LAKE GRID  
FEBRUARY 2010**

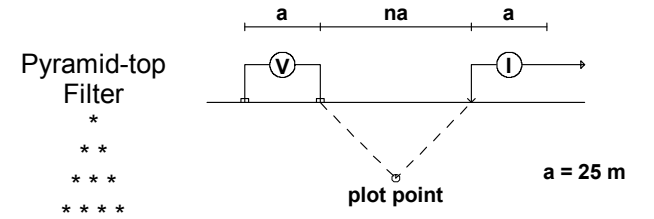
Dogpaw Lake Area  
Kenora Mining Division

**SURVEYED BY: RJ NEIKLE ANS ASSOCIATES**

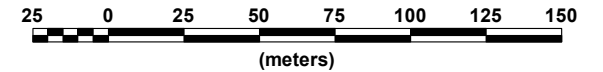


# Pseudo Section Plot 16+00 E

Dipole-Pole Array



Scale 1:2500



**METALS CREEK RESOURCES CORP.**

**INDUCED POLARIZATION SURVEY  
FLINT LAKE GRID  
FEBRUARY 2010**

Dogpaw Lake Area  
Kenora Mining Division

**SURVEYED BY: RJ NEIKLE ANS ASSOCIATES**

