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**REPORT ON AN INDUCED POARIZATION/ MAGNETOMETER**

**GEOPHYSICAL SURVEY**

**on the**

**DOROTHY LAKE PROPERTY**

**MEGGISI LAKE AREA, KENORA MINING DIVISION, ONTARIO**

**for**

**FANCAMP EXPLORATION LTD.**

**Submitted by: Ray Meikle**

**R.J. MEIKLE & ASSOCIATES**

**Oct 24th, 2019**

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## **1.0 Introduction**

The Dorothy Lake Property (“the Property”) consists of a group of staked mining claims in the Meggisi Lake Area, Kenora Mining Division, Ontario. A total of 164 unpatented mining cell claims totalling 3,448.5 ha in area. The claims are held (100%) by Fancamp Exploration Ltd (“Fancamp”). R.J. Meikle & Associates was contracted to conduct an Induced Polarization (“IP”) and Magnetometer Survey over parts of the claim block. The work was completed in February and March, 2019.

The work was completed to follow up on anomalous gold and base metal values obtained by Fancamp in the summer/fall of 2018 prospecting program, as well following up on a single, highly anomalous gold value collected from a lake-bottom sediment sample by the OGS. This report describes the technical aspects of the surveys and subsequent results and recommendations for future geophysical/geological exploration.

## **2.0 Location and Access**

The Property is located 268 km west-northwest of Thunder Bay, Ontario and 340 km east of Winnipeg, Manitoba, and 53 straight line kilometers southeast of the town of Dryden. Thunder Bay, Ontario is approximately 4 hours by highway to the east and Winnipeg, Manitoba is about 4 hours west by highway (see figures 1 & 2).

Access to the western part of the property, subject of this report, is via Hwy. 594 for 6km west from of the town of Dryden, then south on Hwy. 502 for 63km. From here a secondary bush road, Meggisi Lake Road, is taken east for 6.6km to the Trout River and north on the river to Dorothy Lake and the survey grid. Access for the geophysical surveys described in this report was by snowmobile. Summer access would be via ATV to Trout Lake and boat or canoe to Dorothy Lake.

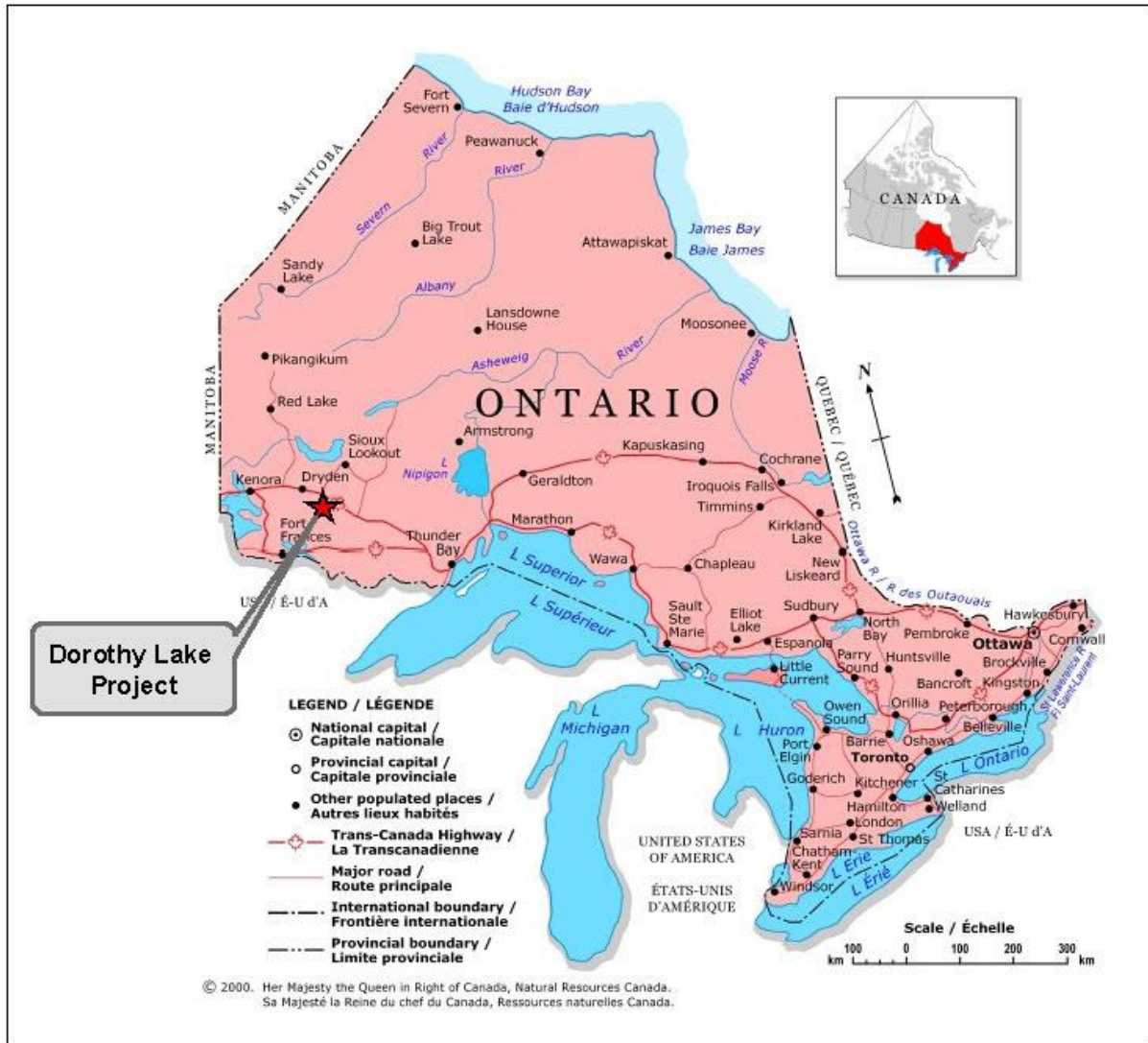
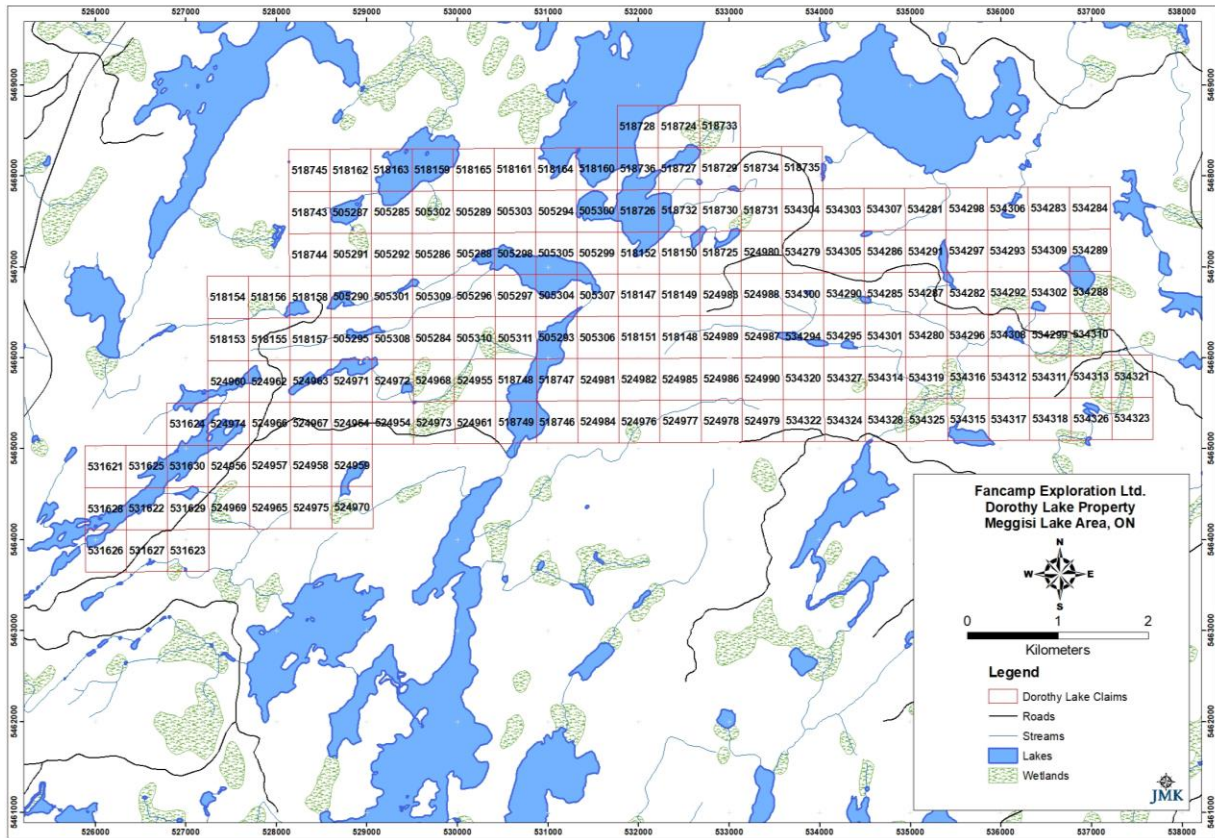


Figure 1: Location of the Dorothy Lake Property, Ontario



**Figure 2: Tenure of the Dorothy Lake Property**

### **3.0 Geophysical Program**

The Haveman Brothers of Kakebeka Falls, Ontario were contracted to cut a total of 22.7 km of grid lines, consisting of BL-0N (1,350m), Tie Line 1500N (1,500m), azimuth 035 degrees true north and cross lines at 125 degrees.(see fig.3)

The Linecutting and Geophysical surveys were carried out in February to early March, 2019. The I.P. Survey and Magnetometer Survey was completed between March 5,2019 – March 23,2019.

The original plan was to survey the cross lines with a Pole-Dipole Induced Polarization Survey and ground Magnetometer survey on the cross lines,



baseline and tieline. The steep topography with numerous cliffs with little or no soil for electrode contacts proved to be too difficult to obtain reliable I.P. data and what soil there might have been under the snow cover was in isolated hidden pockets on the cliffs and frozen. Part of L1050E and L1350E were surveyed with pole-dipole and a decision was made to switch to a “Gradient Array” I.P. Survey which does not require current electrode contacts to be obtained every move along the line. This change was done to get I.P. coverage of the grid in the limited time remaining before break up. It would be extremely difficult if not impossible to cover the grid with an I.P. Survey in the summer due to the extensive lakes on the survey area.

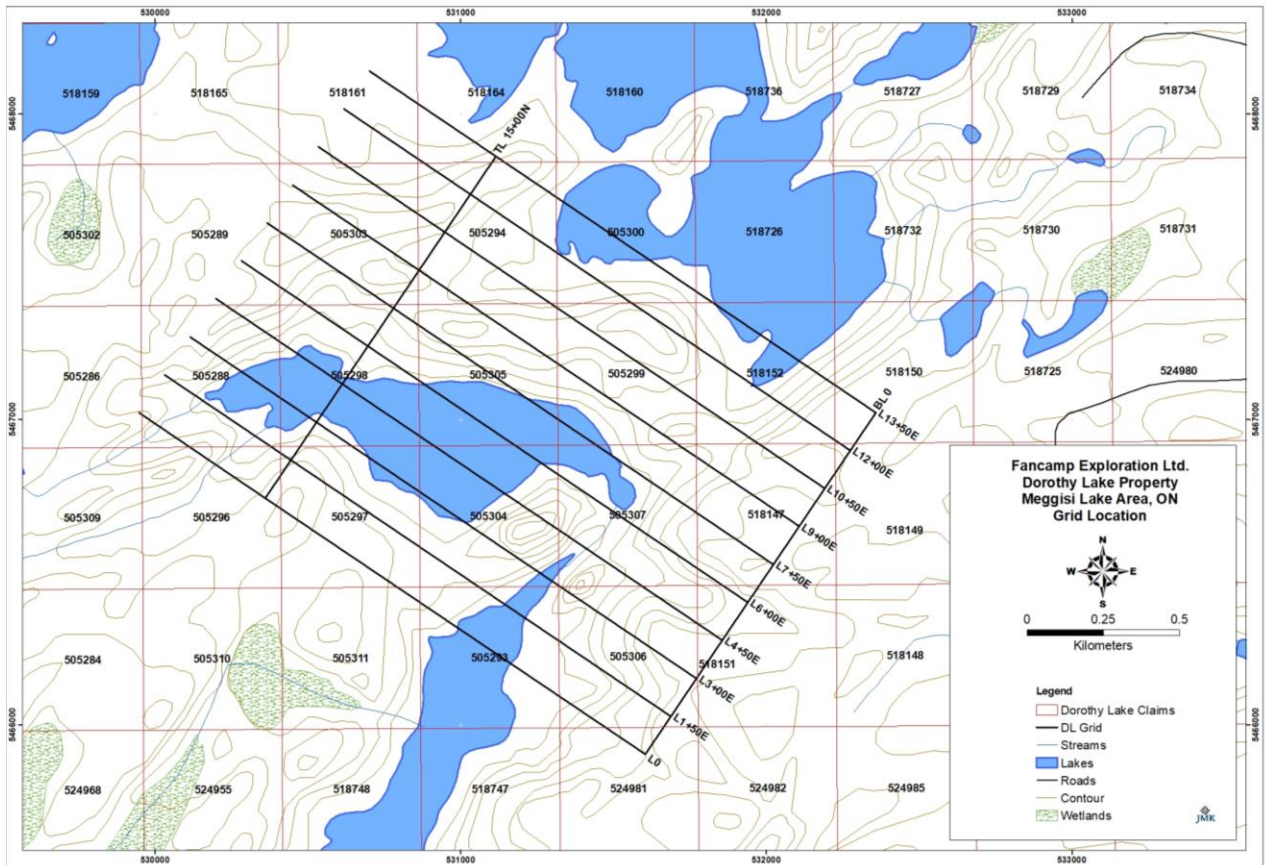


Figure 3: Location of the Dorothy Lake Grid



#### **4.0 I.P. Survey Parameters**

The following is a brief description of the theory and parameters used for the Induced Polarization survey:

The Induced Polarization (I.P.) method involves applying voltage across two electrodes in a pulsed manner, i.e. 2 seconds on, 2 seconds off. A second “dipole” or electrode pair measures the residual potential or voltage between them after the voltage is shut off during the 2 second off cycle. The potential is recorded at different times after the shut off. If, for example, there is sulphide mineralization within the measuring dipoles, they will be polarized or charges set up on the individual sulphide particles. This polarization gives the zone a capacitor effect, thereby delaying the current dissipation resulting in a higher chargeability reading (residual voltage), across the measuring dipoles at pre set time windows, during the 2 second transmitter shut off period.

A typical I.P. response for many gold showings would be a chargeability high, resistivity high and magnetic low. This would be characteristic of disseminated mineralization, alteration, carbonatization and or silification. However, this is by no means the only geological setting for gold, therefore every I.P. profile should be looked at individually and correlated with all other geophysical and geological data.

A typical I.P. response for base metal mineralization such as copper, and or nickel would be a higher chargeability anomaly associated with a higher concentration of sulphides and a low resistivity due to the conductivity of the

It should be noted that because of the steep topography on much of the surveyed area, the nominal distance between electrodes of 25 meters is quite variable with a short chainage between many stations. The grid would have had to be secant chained to maintain this “a” spacing. Time and conditions did not permit this. A large percentage of both the Pole-Dipole IP and Gradient IP surveys were subject to short chaining, resulting in false higher “apparent resistivity” readings. Chargeability readings for the most part were not affected.

#### **4.1 Pole-Dipole Induced Polarization Survey**

As stated above, a limited amount of Pole-Dipole Survey was done on parts of L1350e and L1050e. In this array, one current electrode "C1), is placed at "infinity" usually greater than 1 km from the survey area, normal to assumed strike direction. The other current electrode (C2) is moved down a picket line in 25m intervals, preceded by 7 potential electrodes or dipole pairs spaced 25m apart. For a N=1 reading the first pair of potential electrodes is 25m meters from the C2 current electrode. Successive dipole electrode pairs are read from the same C2 position to obtain the remaining N=2-6, with the farthest electrode pair from the current electrode having a greater depth of penetration.

The following survey parameters were used:

Method: Time Domain

Electrode Array: Pole-Dipole

"a" spacing: 25 meters

Number of dipoles read: N=1-6

Pulse Duration: 2 seconds on, 2 seconds off

Delay Time after current shut off to first time window: 310 milliseconds

Integration Time, width of windows: 140 milliseconds

Receiver: Iris Instruments, Elrec- Pro Time domain

Transmitter: GDD 5KVA, square wave, time domain with 5KW Honda Mg

Data Presentation: Individual Psuedosections, scale 1:2500

#### **4.2 Gradient Array Induced Polarization Survey**

A portion of the grid (11km) was surveyed using a "Gradient Electrode

**Array". The basic principles of Induced Polarization Surveys described above apply to this survey as well. The electrode configuration consists of two distant(infinity) electrodes placed parallel to and off the ends of the central line of the survey area. Current is applied across the two infinity electrodes and a single receiver dipole of 25 meters was moved along the survey lines using the central 1/3 portion of the area between the current electrodes. This dipole recorded the voltage remaining on the current off cycle with a resultant 'M' or chargeability reading. The primary voltage recorded while the current is on is used to calculate the apparent resistivity using ohm's law of Resistivity = Voltage divided by output current times a constant or 'K' factor relevant for the distance from the remote current electrodes.**

**The "Gradient Electrode Array" permits a single chargeability reading and a single apparent resistivity reading at each station. The results are plotted on two separate plan contoured maps, one for chargeability and resistivity respectively. The Gradient Array provides a good horizontal resolution helping to outline narrow zones of mineralization and or resistivity highs resulting from quartz veining, etc. While it does not provide as good of depth resolution as Pole-Dipole, it does have a good depth of penetration.**

**Because of the impending break up of the river and trail access, only a portion of the grid was surveyed. Coverage was prioritized to include the portage area on the north side of Dorothy Lake where anomalous gold bedrock samples were reported in the previous summer prospecting program.**

#### **4.3 Magnetometer Survey**

**A total of 22.7 km of ground Magnetometer Survey was completed concurrent with the I.P. Survey. The following parameters were used for the survey:**

**Instrument: Gem 19 Proton Precession Magnetometer**

**Reading Interval: 12.5km**

**Parameters Measured: Total Field magnetic susceptibility, in nano-teslas**

**Data Presentation: Map no.5, plan, posted, contoured, imaged, total field readings**

**Diurnal Correction method: compatible GEM-19 magnetometer in base station mode, data corrected nightly to remove diurnal variations.**

## **5.0 Results of the Geophysical Surveys**

### **5.1 Magnetometer Survey Results**

The magnetometer survey indicates an area of higher and erratic magnetic susceptibility in the north west part of the grid and in the south east corner, with relatively weaker susceptibility in the most of the southern-southwest part. This is believed to be the result of different geological settings with the higher background coincident with mafic volcanics and the lower, more uniform magnetic susceptibility coincident with granite intrusives as per regional scale government geological maps.

### **5.2 Pole-Dipole I.P. Survey Results**

Parts of L1050E and L1350E were surveyed with a Pole-Dipole electrode array. Results on L1350E indicate a chargeability high with a coincident resistivity high and magnetic high. There is no gradient IP coverage on this line. A lower chargeability and resistivity background at 450N and 1100N correlate with the lake portion of the line.

Results on L1050E indicate a coincident chargeability and moderate to low resistivity at 225N on the north flank of a magnetic high. Background to the south is incomplete due to a steep cliff. This anomaly has a coincident Gradient IP chargeability high with low to moderate resistivity.

### 5.3 Gradient Array I.P. Survey Results

The Gradient I.P. Survey outlined several anomalous zones, some with coincident high resistivity and others with a lower to moderate resistivity. Magnetic correlation varies from anomaly to anomaly. Most of the chargeability anomalies have a high resistivity signature which is not always easy to correlate as there is a variable depth of overburden ranging from deeper, conductive lake bottom sediments to a high percentage of outcropping. In many cases the higher chargeability background is due to outcropping as well as lower background chargeabilities and resistivities over the lake covered portions of the surveyed area.

The following is an attempt to describe the more obvious anomalous IP trends and their magnetic correlation:

Anomaly 'A' - This gradient IP anomaly on L450E/500N, L600E/450N, and L750E/425N, has a high chargeability, 21ms +, with a coincident resistivity high, in an area of low magnetic susceptibility.

Anomaly 'B' - This gradient IP anomaly is on L900E/75N, L1050E/0N, L750E/0N, has a high chargeability/moderate resistivity and is open to the south on each end. It lies on the south flank of a magnetic high. Strike correlation line to line is difficult due to insufficient coverage to the south.

Anomaly 'C' - L900E/865N, L1050E/780N. It has a high chargeability 25ms +, with a moderate resistivity and coincident magnetic high.

Anomaly 'D' - L450E/500N, L600E/450N, L750E/425N. This ip anomaly has a strong chargeability 25ms+, with a coincident resistivity high in an area of lower magnetic susceptibility. The response on L450E appears to be wide and or has a north plunge. It ends to the east.

Anomaly 'E' - L150E/900N. It is a weaker, chargeable/resistive IP anomaly in an area of lower magnetic background. It is open to the east because of incomplete coverage on L300N due to a very high steep cliff.

**Anomaly 'F'** - L300E/1210N. This is a strong chargeable 25ms +, with a coincident resistivity high in an area of lower magnetic susceptibility.

**Anomaly 'G'** - L1050E/1200N, L1200E/1185N. This a very strongly chargeable 50ms+, resistive IP anomaly, in an area of lower magnetic susceptibility. It is open to the east.

**Anomaly 'H'** - L1200E/575N-635N, open to the east. This IP anomaly is chargeable and moderately resistive with a coincident magnetic high. It may be a continuation of Anomaly 'C' and is open to the east.

**Anomaly 'I'** - L1050E/250N, L1200E/200N, open to the east. Chargeable 21ms+ in area of lower resistivity flanking a resistivity high. The IP anomaly is on the north flank of a magnetic high. There is a coincident Pole-Dipole anomalous response over this zone.

## **6.0 Conclusions and Recommendations**

**The Pole-Dipole IP and Gradient IP Survey outlined several chargeability anomalous zones, some resistive and others moderately resistive in areas of both magnetic and non magnetic susceptibility as described above.**

**It is recommended that the Property be mapped in detail and the geology correlated with the results of the Magnetic and I.P. Surveys to attempt to explain the causative sources for the anomalies. While many of the above anomalies may be caused by outcrop vs. lake and or overburden, it would be prudent to ground source all where possible. Based on the compilation of all data, further I.P Survey is recommended on the rest of the Property if warranted.**



**APPENDIX 'A'**

**CERTIFICATION OF AUTHOR**

## CERTIFICATION

I, Raymond Joseph Meikle of North Bay, Ontario hereby certify that:

1. I hold a three year Technologist Diploma from the Haileybury School of Mines, Haileybury, Ontario, obtained in May 1975.
2. I have been practising my profession since 1973 in Ontario, Quebec, Nova Scotia, New Brunswick, Newfoundland, NWT, Manitoba, Greenland, Colorado, Nevada, Germany and Chile.
3. I have been employed directly with Teck Corporation, Metallgesellschaft Canada Ltd. Sabina Industries, R.S. Middleton Exploration Services Ltd., self employed 1979-1997 (Rayan Exploration Ltd.) and with Geophysical Engineering & Surveys Inc., currently with R.J. Meikle & Associates.
4. I have based conclusions and recommendations contained in this report on knowledge of the area, my previous experience and on the results of the fieldwork conducted on the property during 2019.
5. I hold no interest, directly or indirectly in this property, nor do I expect to receive any interest or considerations from the property owners, other than for professional fees rendered.

Dated this 24th day of October, 2019

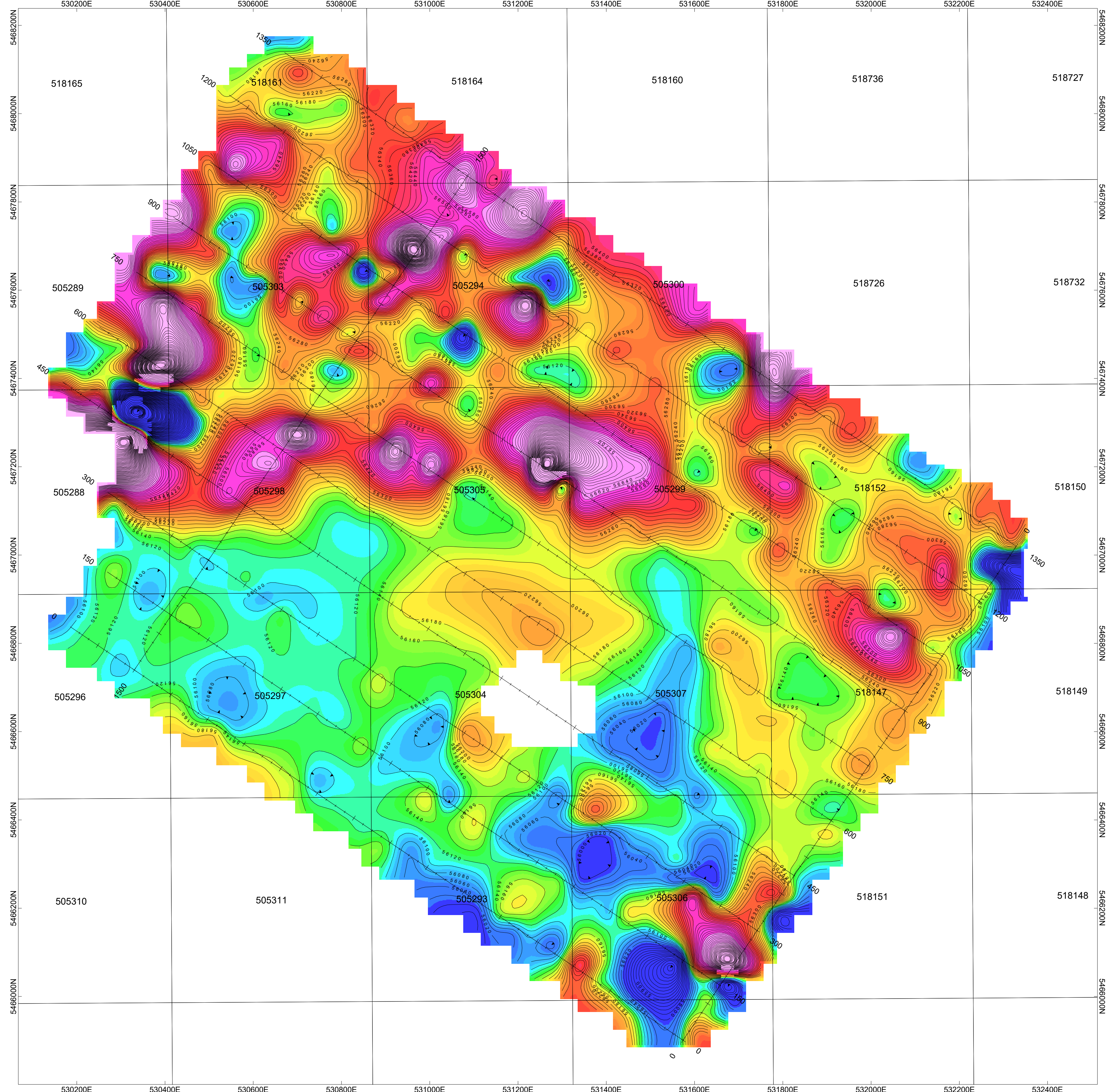
at North Bay, Ontario.

R.J. Meikle

**APPENDIX 'B'**

**PLAN MAGNETOMETER MAP (FANCAMP EXPLORATION)**



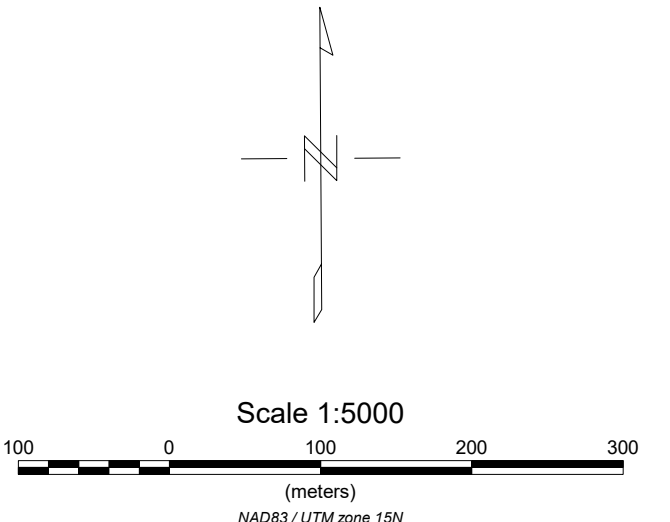
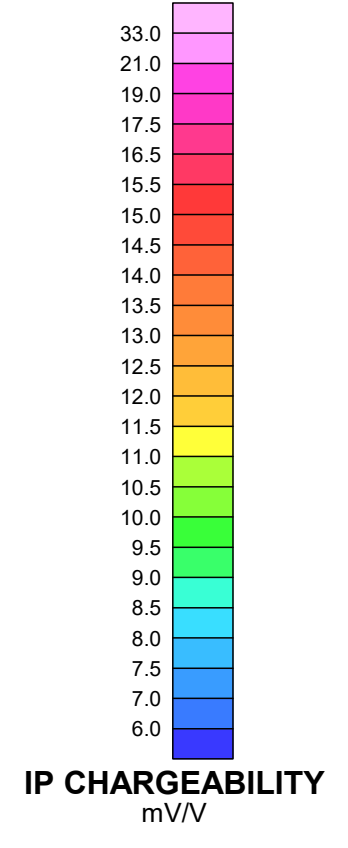
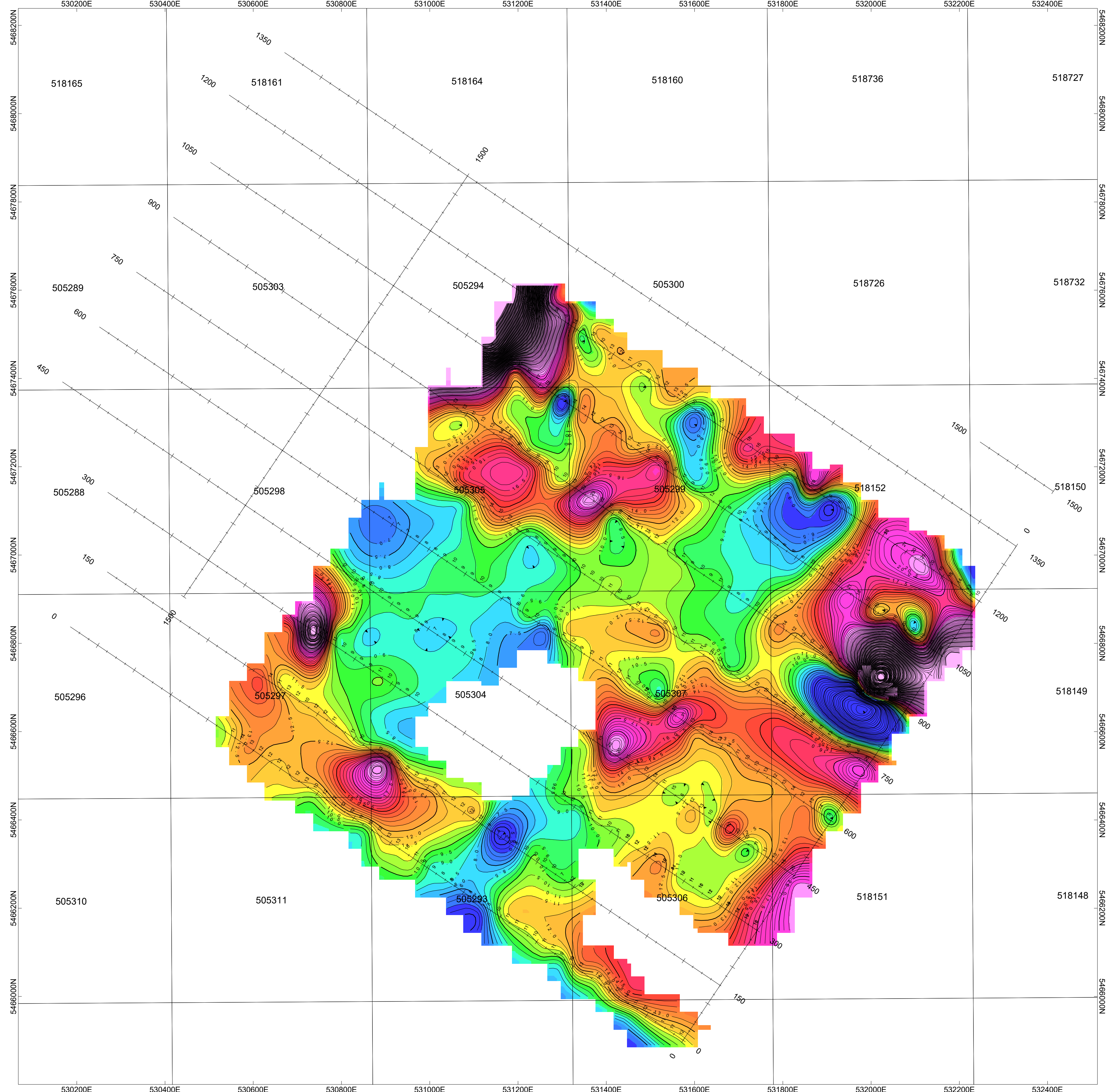




**APPENDIX 'C'**

**I.P. CHARGEABILITY CONTOURED PLAN MAP**

**GRADIENT ELECTRODE ARRAY**



LINE KILOMETERS SURVEYED: 10.95

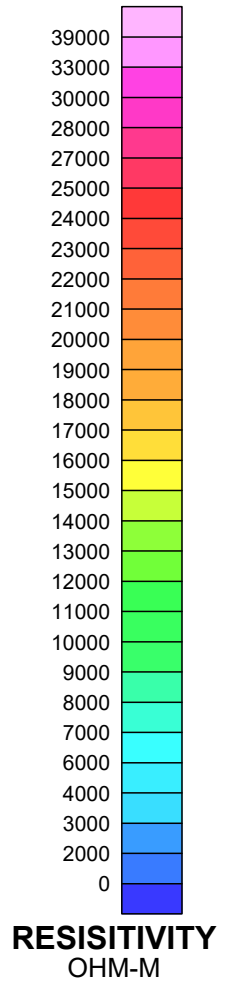
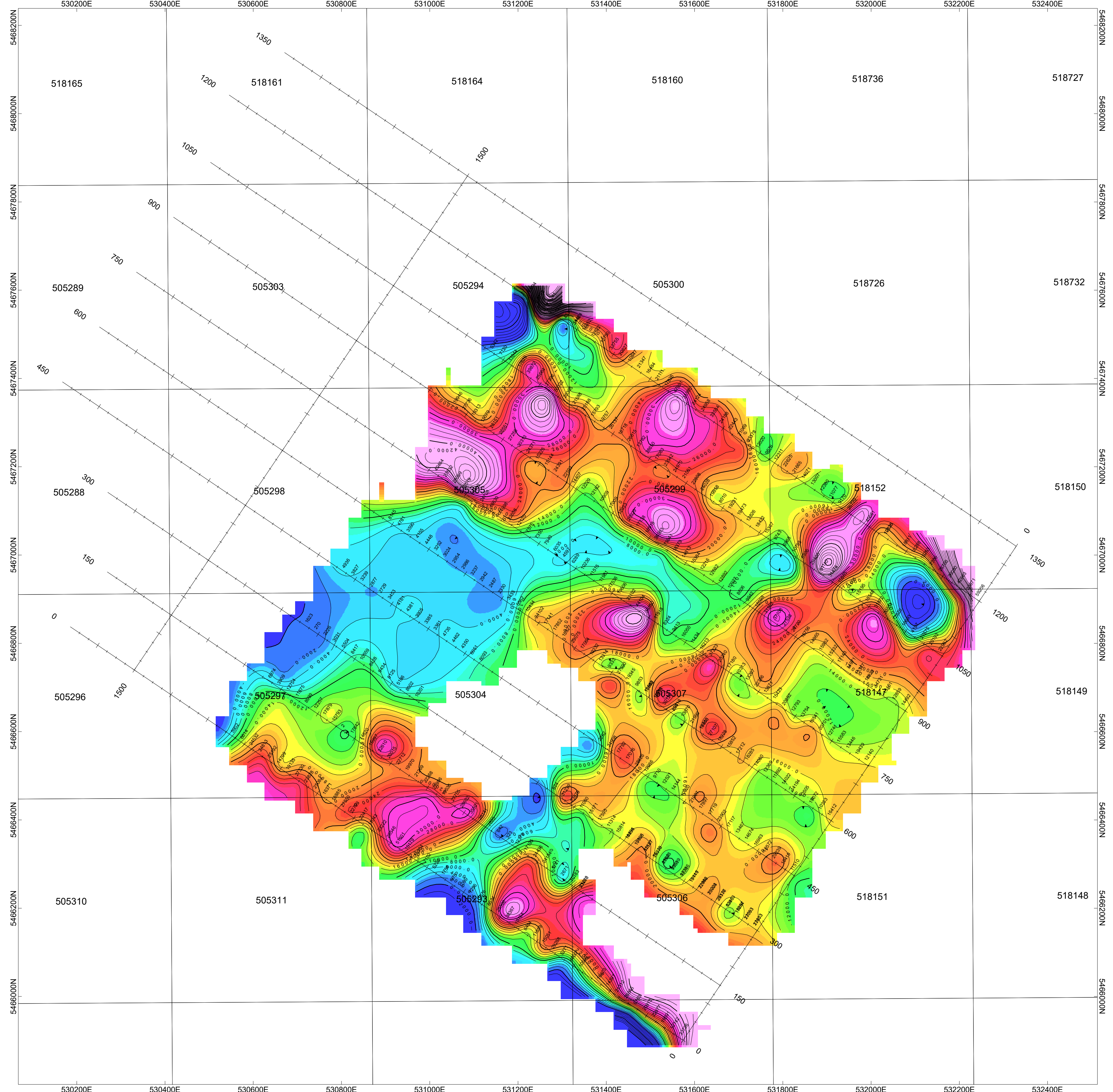
**FANCAMP EXPLORATION LTD.**  
**DOROTHY LAKE PROJECT**  
**GRADIENT IP SURVEY - CHARGEABILITY CONTOURS**  
**MARCH 2019**  
 MEGISSI LAKE AREA - KENORA MINING DISTRICT  
 CLAIMS: POSTED ON MAP  
 CONTOUR INTERVAL = .5, 2.5 mV/V  
 INSTRUMENT: IRIS ELREC-PRO TD RECEIVER  
**SURVEYED BY: RAY MEIKLE AND ASSOCIATES**

**APPENDIX 'D'**

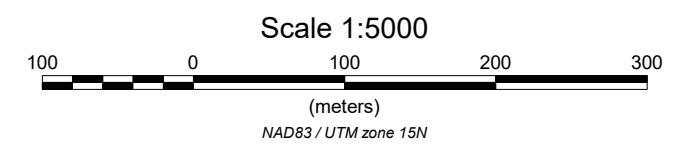
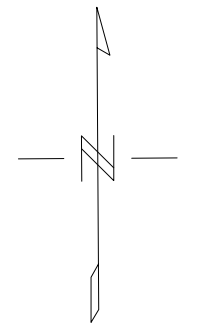
**I.P. RESISTIVITY CONTOURED PLAN MAP**

**GRADIENT ELECTRODE ARRAY**





RESISTIVITY  
OHM-M



LINE KILOMETERS SURVEYED: 10.95

**FANCAMP EXPLORATION LTD.**  
**DOROTHY LAKE PROJECT**  
**GRADIENT IP SURVEY - RESISTIVITY CONTOURS**  
**MARCH 2019**  
 MEGISSI LAKE AREA - KENORA MINING DISTRICT  
 CLAIMS: POSTED ON MAP  
 CONTOUR INTERVAL = 2000, 10000 OHM-M  
 INSTRUMENT: IRIS ELREC-PRO TD RECEIVER  
**SURVEYED BY: RAY MEIKLE AND ASSOCIATES**

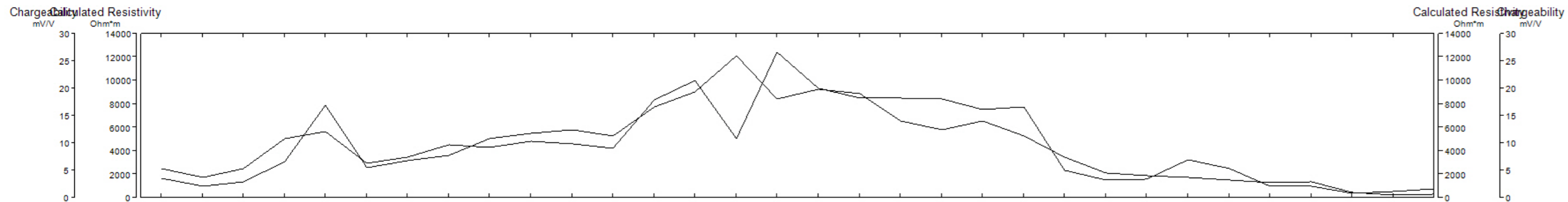
**APPENDIX 'E'**

**INDIVIDUAL I.P. PSEUDOSECTIONS**

**POLE – DIPOLE ELECTRODE ARRAY**

**LINE 1350E**

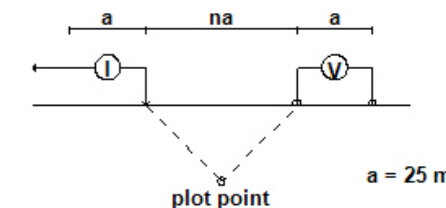




## Pseudo Section Plot 13+50 E

Pole-Dipole Array

Pant-leg  
Filter  
\* \*  
\* \*  
\* \*

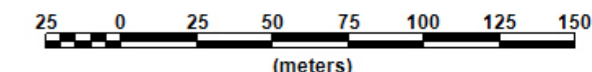


Logarithmic  
Contours  
1, 1.5, 2, 3, 5, 7.5, 10, ...

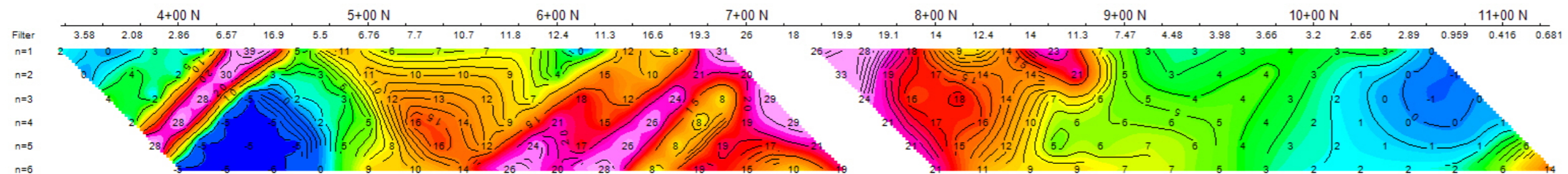
### INTERPRETATION

- 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.

Scale 1:2500

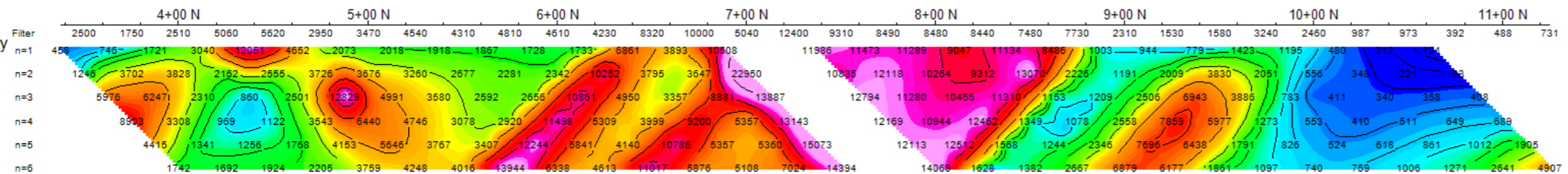


Chargeability  
mV/V



Chargeability  
mV/V

Calculated Resistivity  
Ohm\*m



Calculated Resistivity  
Ohm\*m

**fANCAMP EXPLORATION**

**INDUCED POLARIZATION SURVEY  
DOROTHY LAKE PROPERTY  
DRYDEN AREA**

Date: 18/03/2019  
Interpretation:

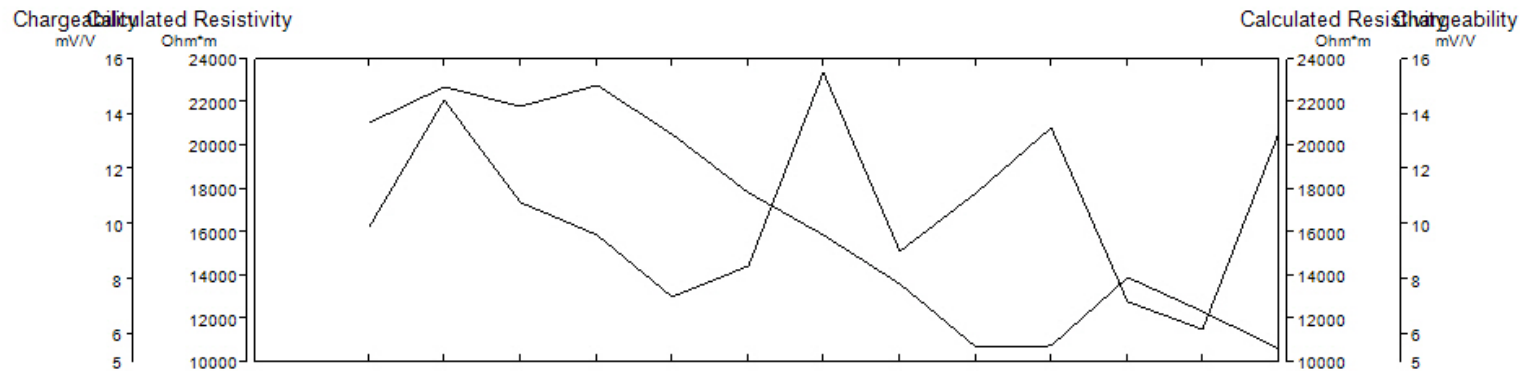
**R.J. MEIKLE & ASSOCIATES**

**APPENDIX 'F'**

**INDIVIDUAL I.P. PSEUDOSECTIONS**

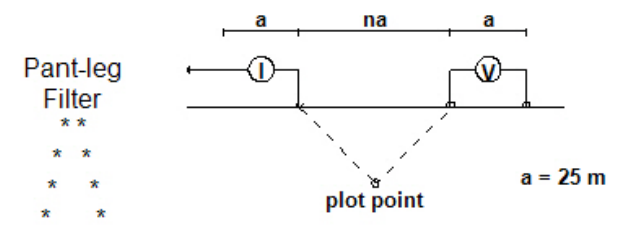
**POLE – DIPOLE ELECTRODE ARRAY**

**LINE 1050E**



# Pseudo Section Plot 10+50 E

Pole-Dipole Array

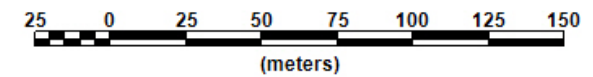


Logarithmic Contours  
1.5, 2, 3, 5, 7.5, 10, ...

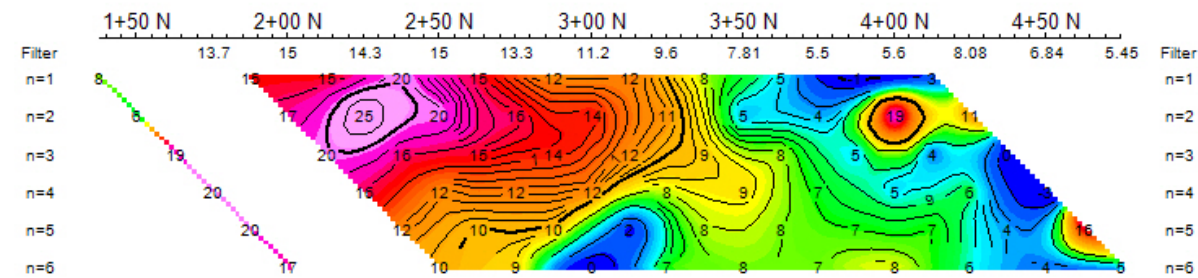
## INTERPRETATION

- Strong increase in polarization accompanied by marked decrease in resistivity.
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- Poorly defined polarization increase with no resistivity signature.
- ▼ Low resistivity feature.

Scale 1:2500

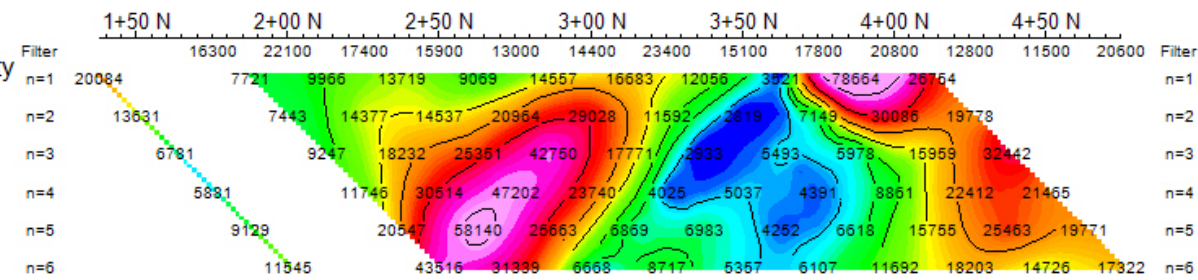


Chargeability  
mV/V



Chargeability  
mV/V

Calculated Resistivity  
Ohm\*m



Calculated Resistivity  
Ohm\*m

**fANCAMP EXPLORATION**  
**INDUCED POLARIZATION SURVEY**  
**DOROTHY LAKE PROPERTY**  
**DRYDEN AREA**

Date: 14/03/2019  
Interpretation:

**R.J. MEIKLE & ASSOCIATES**

**APPENDIX 'G'**

**Claim Details**









