LAMONTAGNE GEOPHYSICS LTD
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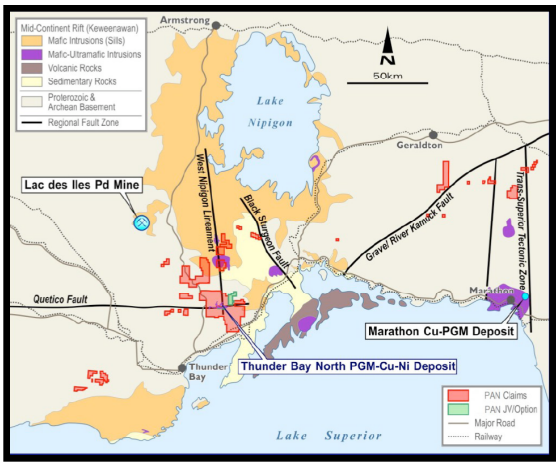
TBN - Inductive Source Resistivity - ISR - Bridge Zone - Thunder Bay North Project

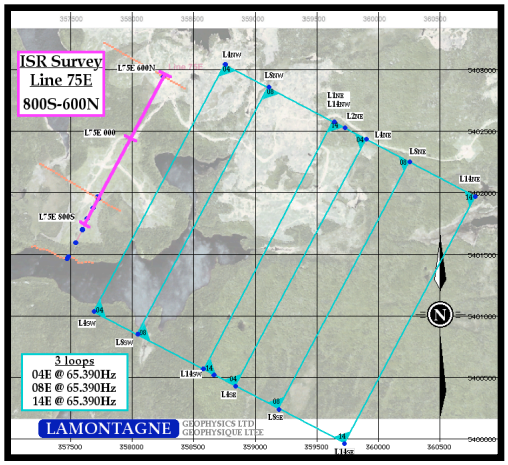
ISR across the Current Lake Intrusive Complex - Ni-Cu-PGM

ISR Survey Background

A UTEM Inductive Source Resistivity (ISR) test was carried out in early October 2010 over the Bridge Zone of the Thunder Bay North Project (TBN) of Panoramic Resources Ltd. (ASX:PAN). The survey was carried out to showcase the capabilities of ISR and as a test of the ISR method as an exploration tool in the detection of the magma conduit system of the Current Lake Intrusive Complex. The conduit system hosts platinum-palladium-copper-nickel (rhodium-gold-silver-cobalt) mineralization.



The TBN project is located in the Midcontinent Rift, an emerging nickelcopper- platinum group metal (Ni-Cu-PGM) mining camp. Mineralization is hosted in a mafic-ultramafic magma conduit, the Current Lake Intrusive Complex. The conduit hosts mainly disseminated sulphides as well as zones of high-grade semi-massive and massive sulphides. The defined mineral resource extends 3.4km, and is open along strike to the north and south-east. Resources estimate: 10.4Mt @ 1.13gm/t Pt and 1.07 gm/t Pd.
Preliminary Economic Assessment for Thunder Bay North Project
Magma Metals, Feb, 2011

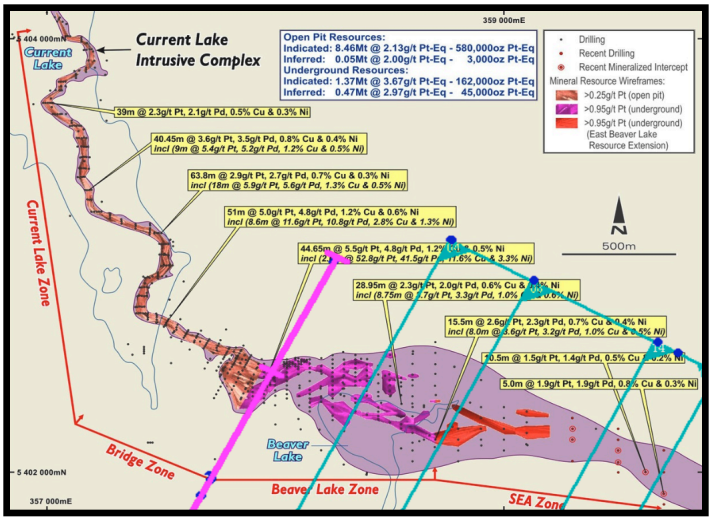


ISR Survey Layout and Setting

The ISR Survey Layout and Setting is shown on a property scale to the right - survey **Line 75E** and the transmitter loops are shown superimposed on the an image of the property and then, in detail, on a map showing drilling results.

Line 75E was selected as the site of the test survey because of the availability of geophysical/geological data/drilling results for comparison and the relatively modest depth-to-top, ~160m. The site is also relatively flat with few cultural features.

The in-line component of the electric field - Ex - was measured along **Line 75E** 800S-600N from a total of three 2275x1300m Tx loops offset to the grideast of the line by 400/8000/1400m. E-field measurements were collected using stainless-steel rods and 20m dipoles.



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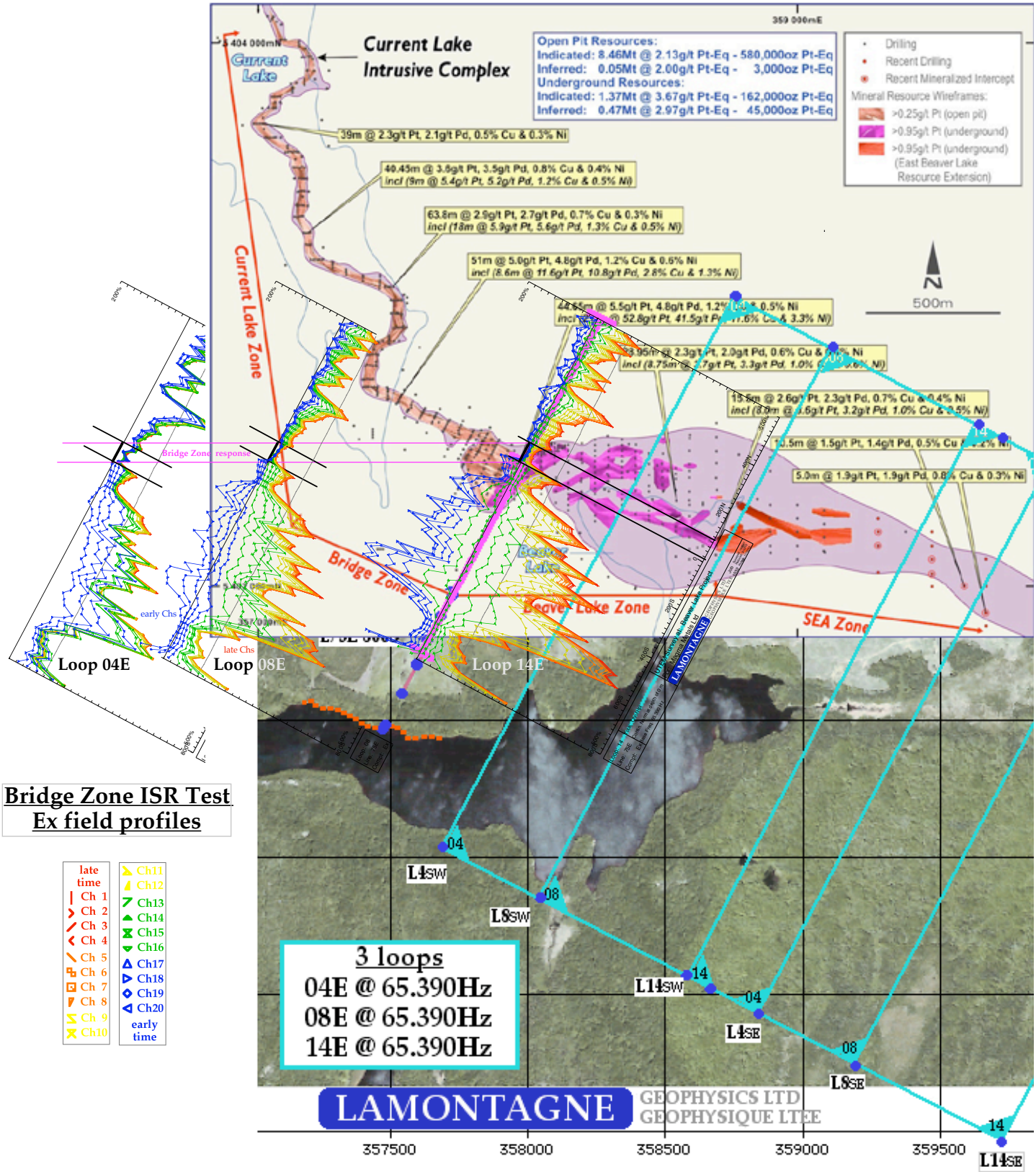

Bridge Zone ISR Test
Ex field profiles

late time
Ch 1
Ch 2
Ch 3
Ch 4
Ch 5
Ch 6
Ch 7
Ch 8
Ch 9
Ch10
Ch11
Ch12
Ch13
Ch14
Ch15
Ch16
Ch17
Ch18
Ch19
Ch20
early time

Bridge Zone ISR Test: Ex field profiles

- Line 75E Ex profiles overlay an outline of the Current Lake Intrusive with grade contours -
- the Bridge Zone is clearly seen in the Loop 04/08/14E profiles as a conductive zone -
- note the line-to-line correlation of many features in the profiles -
- coverage with loops to the east will more strongly reflect features to the east of the survey line -

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ISR Processing

The E-field data collected during this test was processed with the goal of obtaining an ISR - **I**nduced **S**ource **R**esistivity - resistivity-depth section for the line surveyed. The method used to obtain the resistivity section involves two processes: 1) **E**-field **C**onductivity **D**epth **I**maging and 2) **ISR E-field Imaging**.

1) ECDI (E-field Conductivity Depth Imaging)

The **ECDI** process is as follows: (example Line 75E profile shown at the right)

- Step Correct the field data - this converts the data into a single step response.
- normalise the data to the Late-Time (Last Channel) limit
- apply lateral averaging to the late-time normalised data

The averaged data are then fit to apparent diffusion time as a function of depth, creating a laterally-smooth conductivity distribution.

2) ISR E-field Imaging

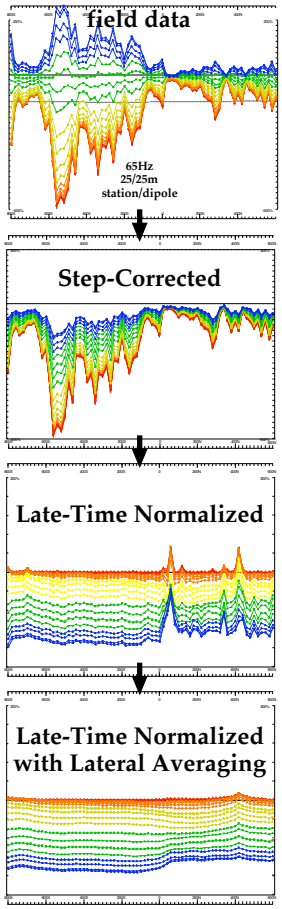
E-field imaging is done on stacked, Step-Corrected data which are not late-time normalized. E-field imaging is simply a DC resistivity inversion process where the source E-field is inferred as a function of time from the ECDI results.

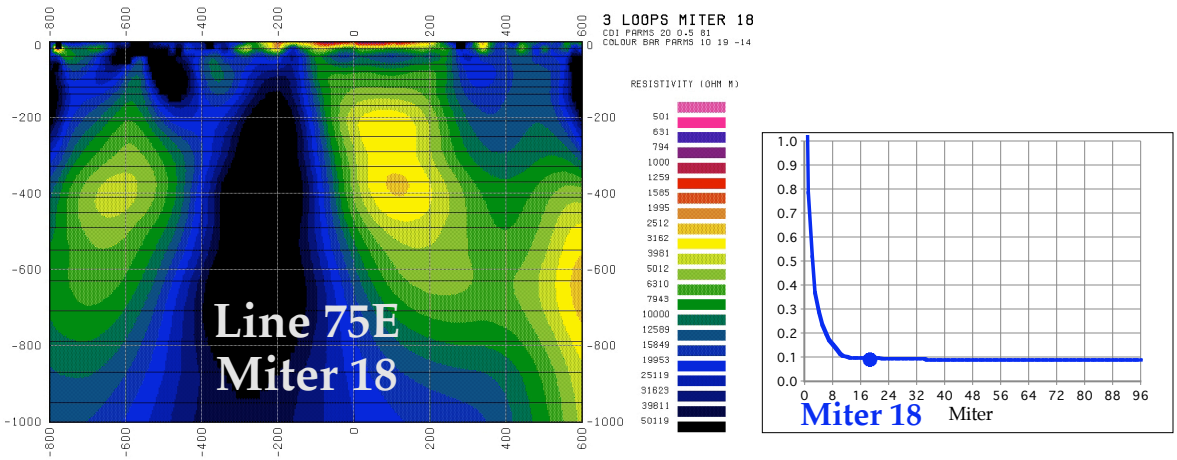
The ISR inversion is a 2-step process. At each outer (main) iteration (MITER) the Step-Corrected E-field data and the diffusion time data are jointly fitting using a trade-off parameter subject to smoothing conditions.

The number of anomaly profiles fitted is the number of channels (20) multiplied by the number of loops (4).

This process is repeated until the RMS (root mean square) residuals no longer appreciably decrease - the generally accepted practice.

Line 75E Ex
Loop 14E





Line 75E 800S-600N

ISR Results

The Line 75E ISR Section is presented - @ MITER 18.
The RMS residuals - overall fit - plot shows
~no improvement in the overall fit after MITER 18.

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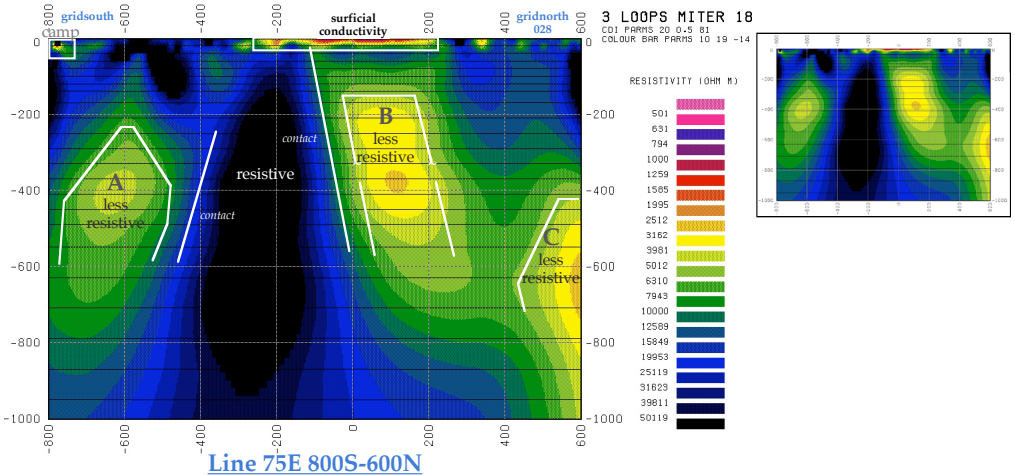


Line 75E 800S-600N
3 Loops - 04/08/14E

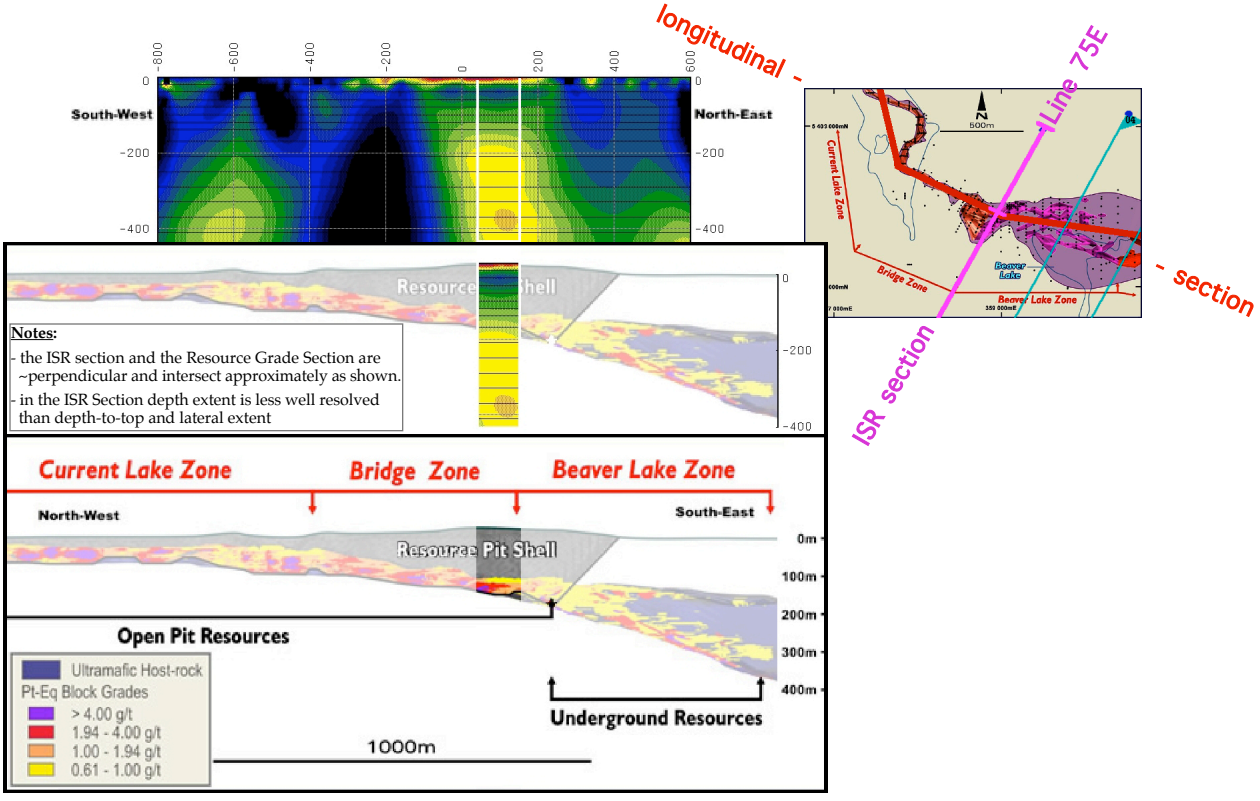
Line 75E ISR Section Interpretation

Features to note include contacts, a zone of surficial conductivity and three zones of lower resistivity at depth - the three zones are labelled **A**, **B** and **C**. **Zone B** is coincident with the Bridge Zone target.

Zone B details: @~000-175N on Line 75E with a depth-to-top of ~150-175m

Top and lateral extent are nicely defined. The figure below shows that the depth-to-top indicated on the ISR section is in agreement with the longitudinal section (~perpendicular to the survey Line 75E) through the Current Lake-Bridge-Beaver Lake Zones of the Current Lake Intrusive Complex.

There is a sharp contact with resistive country rock to the gridsouth of **Zone B**. Dip should be compared to available geologic information. The lateral extent of **Zone B** and the apparent gridnorth dip may reflect the ENE trend of the contoured mineralization within the Current Lake Intrusive Complex passing out of the Bridge Zone into the Beaver Lake Zone.



For more information, please visit us at PDAC booth 1103