

NTS 31 M/4



2.35469

**GROUND GEOPHYSICAL SURVEYS  
Magnetometer, VLF-EM and HLEM Surveys**

**Strathy and Chambers Grids  
O'Connor Property**

**June 2007.**

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## **1.0 INTRODUCTION:**

From March 11 to June 20, 2007 a program of linecutting and geophysical surveying was carried out on the O'Connor Property. The objective of the work was to map the magnetic and electrical characteristics and to detect significant lithological trends as they relate to precious and base metal deposits. The property is held by Aura Resources Corp. 202-930 East 7<sup>th</sup> Avenue, Vancouver, B.C. V5T 1P6. The geophysical work was executed by David Laronde, Pierre Coulombe, Sebastien Coulombe, Kevin Picard and Tom Von Cardinal all employees of Meegwich Consultants Inc. P.O. Box 482, Temagami, Ontario P0H 2H0. Laronde authored this report.

The lines were cut by Theberge Linecutting of Chapais, P.Q. and are considered to be good quality.

### **Grid Summary**

Strathy Grid	24 km
Chambers Grid	26 km

## **2.0 PROPERTY:**

The 79-unit (1264 hectare) property consists of a contiguous group of eight mining claims situated on the common boundary of Strathy and Chambers. The claims are numbered as follows:

Claim No.	No. of units	Due date
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### **Strathy Tp.**

1229486	8	March 11, 2008
4205112	8	January 25, 2008
4205113	8	January 25, 2008
<b>Chambers Tp.</b>		
3004969	11	March 11, 2008
3007655	15	April 15, 2008
3011896	10	January 7, 2009
4201104	13	January 20, 2008
4203210	6	December 16, 2009

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### **3.0 LOCATION AND ACCESS:**

The property is located 5 km west northwest of the town of Temagami as the crow flies. Good road access is available from Hwy 11 by turning west on the Kanichee Mine Road 5 km north of Temagami. Once on the property there are tertiary logging roads that penetrate further.

### **4.0 MAGNETOMETER SURVEY:**

Combining the two grids a total of **50 km** was surveyed (10,080 readings) at 5 meter stations on lines spaced at 100 meters.

**4.1 Instrumentation:** A GEM Systems GSM 19 Overhauser Magnetometer, Serial no. 58479 was used for the survey. A base station (Scintrex EDA Omni IV) was set up near the property to monitor and correct for

the diurnal variation during the course of the survey. These instruments are micro-processor based and measure the earth's total magnetic field to an accuracy of one-tenth of a gamma.

**4.2 Survey Results:** The results are presented in contour format on plans at 1:5000 scale.

### **Strathy Grid**

A total of **24 km** of detailed magnetics was surveyed on this grid. The survey yielded a series of linear highs trending more or less east west. Two of these, span the grid completely while two other seem to end on the grid. The features are fairly intense at a common range of 1000-2000 nT with a less common range of 2000-4000 nT. The width peters in and out but for the most part is from 50-75 meters which is typical width for a diabase dike.

A totally different feature is outlined at the eastern corner of the grid. It has a circular shape with a 200 meter diameter. Values range up 3700 nT but a 1200-2000 nT range is common.

The rest of the grid is relatively quiet as expected over a volcanic sequence of rocks.

### **Chambers Grid**

A total of **26 km** of detailed magnetics was surveyed on this grid. The main feature on this surveyed area is an east west trending mafic intrusion spanning the width of the grid. The intensity ranges up to 4337 nT at the eastern limit but for the most part ranges from 1000-3000 nT. The width varies from 50-200 meters and is undeterminable in areas of partial coverage. Isolated highs occur on L 1700 – 2200 W from 1700 – 2300 S. These features are likely gabbro or an altered equivalent and are

prospective for copper-nickel and PGE's. The remainder of the grid is relatively quiet except for a few highs in the northeast section.

A group of four isolated highs occur on L 1800, 1900 and 2000 W from 1700 –2100 S. These are not intense ranging only a few hundred nT. They are however interesting occurring over what is mapped as a gabbro.

## **5.0 VLF Electromagnetic Survey:**

A total of **50 km** was surveyed on both grids for a total of 2000 readings taken at 25 meter stations on lines spaced at 100 meters.

**5.1 Instrumentation:** A Geonics VLF-EM receiver was used for the survey. The VLF transmitter station was Cutler, Maine NAA transmitting at 24.0 kHz. The measured quantities are the in-phase and quadrature components of the vertical magnetic field measured as a percentage of horizontal primary field (read to a resolution of +/- 1%). All readings were taken facing north.

**5.2 Survey Results:** The results of the survey are presented in profile format on plans at 1:5000 scale.

In many cases weak VLF conductors are electrolytic (bedrock shears and fractures, overburden filled bedrock troughs and valleys) or poorly connected metallic grains such as stringer sulphides.

### **Strathy Grid**

A total of **24 km** (1040 readings) was done on this grid.

The VLF-EM survey picked a series of short weak conductors that are likely related to faults (electrolytic) and topographic sources. Northeast trending

faulting seems to be indicated by **conductors A, A-1, B and C**. Conductors D and E indicate north south faulting.

### **Chambers Grid**

There was a total of **26 km** (1000 readings) surveyed on this grid.

There were five conductive horizons encountered A, A-1, B, C, D, D-1, E and E-1. These trend east west consistent with stratigraphy except for B. They are weakly conductive horizons for the most part and an electrolytic source is suspect. However a few noteworthy comments can be said about C and E.

**Conductor C** is found over a magnetic high presumed to be a gabbro or an altered equivalent. This rock unit is prospective and may contain disseminated sulphides and therefore significant. **Conductor E** is a partially covered, strongly conductive anomaly found in sediments. This could be a graphitic horizon but also may be massive sulphides. Follow-up work is warranted to explain the anomaly.

## **6.0 HLEM SURVEY**

A total of **45.6 km** (1824 readings) was surveyed on the two grids. The coil spacing was 150 meters throughout the surveys. The coils were held horizontal during the survey and later corrected to account for the slopes measured in the field from station to station.

**6.1 Instrumentation:** An Apex Maxmin I unit (ser. no. 5309) was used for the horizontal loop EM survey. Three frequencies were read, 440, 1760 and 3520 Hz, measuring the in-phase and quadrature components of the secondary field to an accuracy of +/-1%.

**6.2 Survey Results:** The results of the survey are presented in profile form on plans at 1:5000 scale. Conductor axis are indicated on the plans.

### **Strathy Grid**

A total of **21.6 km** (864 readings) was surveyed on this grid. There was only a weak response in the eastern corner of the grid. Perhaps poorly connected metallic grains or disseminated sulphides would explain this anomaly. HLEM does not respond very well with this type of mineralization.

### **Chambers Grid**

A total of **24 km** (960 readings) was done on this grid. Three conductive areas were detected. **Conductor A** is a very strong conductor that is partially covered at the south end of the grid on L 2100 and 2200 W. This is the same anomaly picked up by the VLF and needs follow-up to determine source.

**Conductors B and C** are very weak responses and might be explained by poorly connected metallic grains

## **7.0 CONCLUSIONS AND RECOMMENDATIONS:**

### **Strathy Grid:**

#### **Magnetometer survey:**

The magnetometer survey has mapped three rock types. These are diabase, gabbro and volcanic. Diabase dikes or mafic intrusives traverse the grid on "splay" angles. An interesting circular magnetic feature found on L 1200, 1300 and 1400 W might be a gabbro with copper-nickel and PGE potential. Further work focus on this area that also contains good gold values in past workings.



**VLF-EM survey:**

Conductors A, A-1, B and C could be significant in identifying northeast faulting that could be a part of the Vermillion Lake-Net Lake deformation zone with good gold potential. Conductors D and E are significant because these anomalies identify a north south trend. Gold deposits further east in Strathy Twp. occur on north south structure.

The angle of the grid was poor for EM coupling with the transmitter station NAA Cutler, Maine. Ideally the baseline should strike toward the transmitter station but with no available stations in a southwest direction NAA was the only option.

**HLEM survey:**

This survey yielded little results, which leads one to believe that the sulphides are disseminated in nature. This type of mineralization does not respond well to HLEM.

**Further work:**

Additional work is warranted since structure and the right rock type are present. While there were no strong conductors present there is a strong probability that there are anomalies containing disseminated sulphides or poorly connected metallic grains. Therefore an I.P. survey is recommended in conjunction with geological mapping, bedrock trenching and sampling.

**Chambers Grid****Magnetometer survey:**

The survey has identified a gabbroic intrusive that is prospective for copper-nickel and PGE deposits. The rock unit contrasts well against the background of volcanic rocks.

**VLF-EM survey:**

The survey has outlined five conductive horizons. Conductor C should be followed up for disseminated sulphides since this is coincident with the underlying gabbro intrusion. Conductor E should be followed up to determine source as either graphite or massive sulphide. The grid should be extended first.

**HLEM survey:**

Conductor A should be followed up for the same reasons as the VLF survey. The other two conductors are seemingly insignificant but should still be tested for disseminated sulphides.

**Further work:**

More work should be concentrated over the gabbro intrusive. This rock type is analogous to the Temagami Copper Mine on Lake Temagami. PGE potential is also a prime consideration. An I.P. survey is recommended to cover this rock unit. The grid should be extended east and west to expand the coverage along strike first. Conductor A from the HLEM survey should be

**References**

Geological map 1 inch to four miles OGS Sudbury-Cobalt – Geological  
Compilation Series

**CERTIFICATE OF AUTHOR**

I, David Laronde of the town of Temagami, Ontario hereby certify:

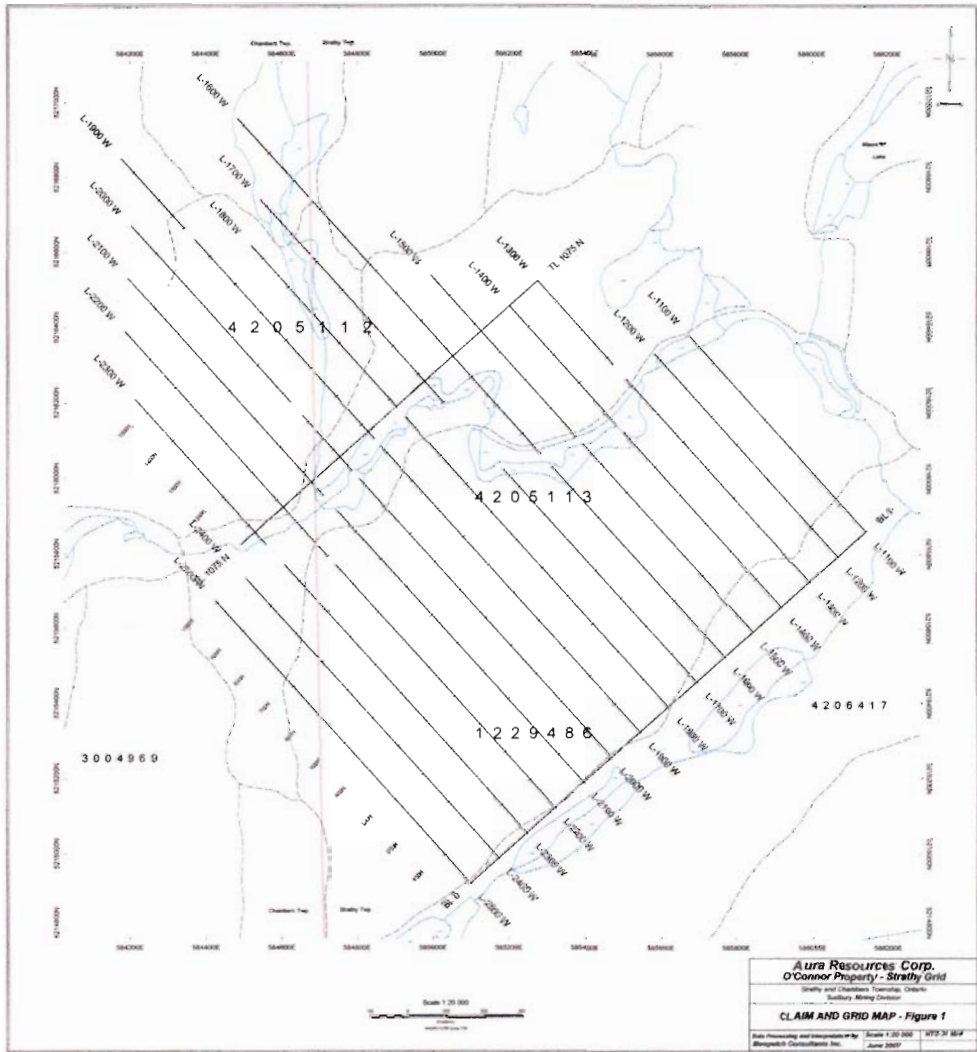
1. That I am a geology engineering technologist and have been engaged the mineral exploration industry for the past 27 years.
2. That I am a graduate of Cambrian College in Sudbury with a diploma in Geology Engineering Technology 1979.
3. That my knowledge of the property described herein was acquired by field work and documentation.

Dated at Temagami this 30th day of June 2007.



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David Laronde



**Aura Resources Corp.**  
**O'Connor Property - Strally Grid**  
 Grids and Claims, Trenching, Claims  
 Sulphury Mining Division  
**CLAIM AND GRID MAP - Figure 1**  
 Data Processing and Interpretation by Scale 1:20,000 473-34 SWP  
 Winnipeg, Manitoba, Canada June 2007

