

**095203**



**ARCTURUS VENTURES INC.**

**ASSESSMENT REPORT ON THE  
2008 GEOPHYSICS SURVEYS**

**ON**

<b>YT 77 - 80</b>	<b>YC39354 - 57</b>
<b>YT 82</b>	<b>YC39359</b>
<b>YT 101 - 109</b>	<b>YC39378 - 86</b>
<b>BC 106 - 107</b>	<b>YC39392 - 3</b>
<b>BC 109 - 110</b>	<b>YC39395 - 6</b>
<b>YT 110 - 113</b>	<b>YC66972 - 75</b>

**And**

<b>YT 115</b>	<b>YC66977</b>
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**Claims**

**Whitehorse Copper Belt**

**August 18 - October 7, 2008**

**NTS 105 D/10**

**In the**

**Whitehorse Mining District  
Yukon Territory**

**Prepared by  
R Stroshein, P.Eng.**

**May 2, 2009**

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## **1. SUMMARY AND RECOMMENDATIONS**

The BC and YT claims are located within the city limits of Whitehorse, Yukon Territory near the south-eastern boundary east of the Alaska Highway. Figure 1. Location Map. The property consists of 58 quartz claims located on NTS Map Sheet 105 D/10.

A cut line grid has been established to trace the postulated southeastern margin of the Whitehorse Batholith. The Whitehorse Batholith was integral to the formation of copper-gold rich skarn deposits that formed within pendants and embayments of the batholith.

The results of the total field magnetic survey indicate a potential magnetic source that is interpreted to be the contact zone of the Whitehorse Batholith and Lewes River Group sedimentary rocks. A strong magnetic anomaly is potentially a magnetite body within a sedimentary rock embayment in the batholith.

The results of the IP survey are inconclusive with a broad chargeability zone related to the unconformable overlying Miles Canyon Basalt flow.

It is recommended to investigate the anomalous magnetic zones with follow up geochemical soil sampling. The program must account for dispersion in the glacial till cover. Diamond drilling is recommended to test the strong magnetic anomaly at the southwestern corner of the cut line grid.

## **2. INTRODUCTION**

The 2008 exploration program consisted of line-cutting with magnetic and Induced Potential (IP) geophysical surveys. A 1500 meter central base line was oriented in a northwest-southeast direction. The grid has 14 section lines at 100 meter spaces cut perpendicular to the base line.

The project area is covered by glacial till deposits with no outcrops in the immediate area. Drilling east of the project area intersected copper bearing magnetite skarn mineralization below the till in contact with the rocks of the batholith.

Geophysical surveys enable the operators to possibly trace sub-surface lithological contacts and mineralization. Magnetic surveys are able to detect magnetic mineralization and variations in the magnetic susceptibility of different lithological units. IP surveys are able to detect chargeability and resistivity variations in the underlying bedrock units. Sulfide mineralization has higher chargeabilities than unmineralized rock and all units have variation of resistivity. These two surveys were selected to make the initial assessment of the project area. Magnetometer surveys can be carried out without cut line grids using gps instruments while the IP survey requires a cut line as the equipment involves the use of electrical cables.





### 3. CLAIMS STATUS

The Lewes River Property is composed of 58 contiguous quartz claims owned or optioned by Arcturus Ventures Inc. The claims are displayed on the Figure 2, Claim Map.

The claims are listed below:

BC 18	Y23043
BC 20	Y23045
BC 57	Y23078
YT 76 – 80	YC39354 – 357
YT 82	YC39359
YT 84 – 109	YC39361 – 386
BC 101 – 110	YC39387 – 396
YT 110 – 119	YC66972 – 981
BC 111 – 113	YC83304 – 306

### 4.0 PROPERTY LOCATION AND ACCESS

The YT and BC claims are located at the southeastern boundary of the city of Whitehorse, Yukon Territory centered at approximately 134° 50' west longitude and 60° 37' north latitude lying just north of the Alaska Highway near the South Klondike Highway Junction.

The claims are accessible from the Alaska Highway at several locations. Access for the current program was from the Remote Controlled Model Airplane site on the YT 110 quartz claim.

### 5. HISTORY

Copper mineralization was first discovered in 1897 on the Whitehorse Copper Belt as it became to be known. Exploration and mining development have been carried out intermittently since that time with the main production era lasting between 1967 and 1982 where production totaled 267,500,000 pounds copper, 225,000 ounces of gold and 2,838,000 ounces of silver from 11.1 million tons of mineralized skarn ore milled.

The list of references that is included with this report provides a more complete history of the Whitehorse Copper Belt.

The BC-YT property was first staked by Lewes River Mines Ltd. prior to 1968. Lewes River Mines carried out an aeromagnetic survey in 1968 followed by line cutting, ground magnetic, geochemical and IP surveys.

Canex-Placer optioned the property from Lewes River Mines in 1969 and carried out an IP survey followed by diamond drilling five holes. A vertical drill hole intersected 40 meters grading 1.04% copper including 12 meters grading 2.04% copper (Assessment report 091117). Despite the positive results Canex-Placer dropped the option on the property.

One of the principals of Lewes River Mines maintained three BC claims until optioning the property to Arcturus Ventures Inc. who subsequently added the remaining BC and YT claims in 2006. Arcturus carried out a ground magnetic survey and GPS mapping on the claims in 2006.



## **6. REGIONAL GEOLOGY**

The Whitehorse Copper Belt is located within the Whitehorse Trough, a structural/geological subdivision of the Intermontane Belt. The trough trends northwesterly through south central Yukon and is comprised of rocks that formed an Island Arch Complex that ranges from upper Paleozoic through Jurassic time period.

Within the Whitehorse Copper Belt, clastic and carbonate rocks of the Upper Triassic Lewes River Group and clastic rocks of the Lower Jurassic Laberge Group predominate. The copper bearing skarns occur over a length of 32 kilometers along the western flank of the Whitehorse Batholith, a Cretaceous diorite body of the Coast Plutonic Complex. The postulated trace of the batholith contact in the claim area is shown on Figure 3, Geology Map.

Locally flows of the Miles Canyon Basalt were deposited in depressions during the Tertiary. The flows are shallow and generally mask the underlying bedrock formations.

### **7.0 GEOLOGY OF THE SKARN DEPOSITS**

Ore bodies occur mainly within limestone of the Lewes River Group adjacent to or in proximity of the Whitehorse Batholith contact. Skarn deposits commonly form within irregularities or pendants of the batholith. The most extensive ore zones are developed in coarsely crystalline limestones of the Lewes River Group near the contact with quartzite footwall rocks of the Laberge Group where the contact sup-parallel the diorite batholith contact.

Iron-rich magnetite skarns contain abundant serpentine, talc and chlorite. Calc-silicate skarn deposits contain only minor magnetite and serpentine but are rich in garnet, tremolite, wollastonite, actinolite and diopside.

### **8.0 2008 EXPLORATION PROGRAM**

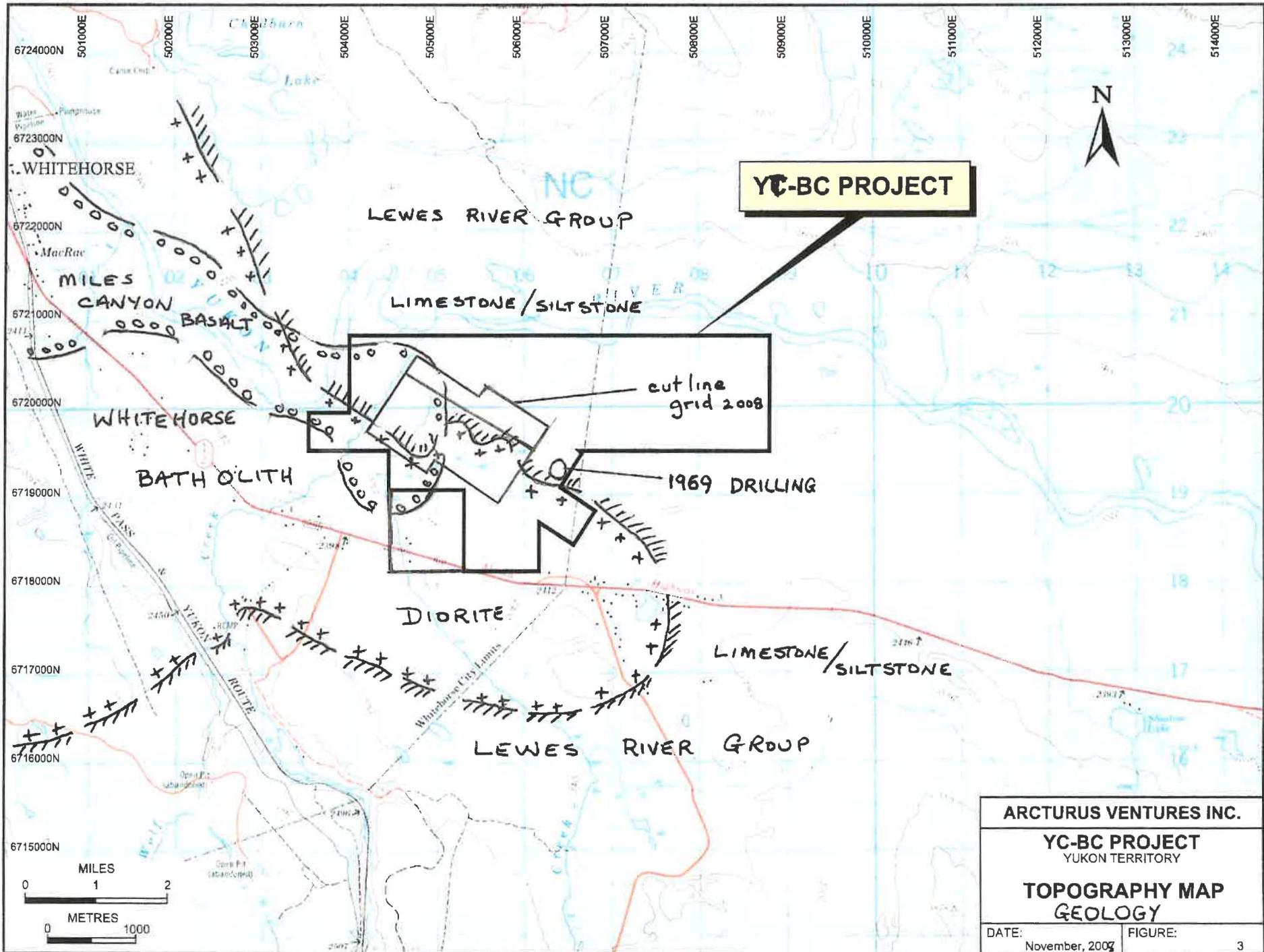
The exploration program in 2008 consisted of 19 kilometers of magnetic survey from May 1 to May 8, 14 lines cut and surveyed by IP instruments from August 26 to October 11. The IP survey grid is displayed on Figure 4, IP Survey Grid Map. This work was performed by Aurora Geosciences Ltd. under contract to Arcturus Ventures Inc. Details of the completed surveys are included in Appendix 4 – Memorandums by Aurora Geosciences Ltd. on the total magnetic field and IP surveys.

#### **Magnetic Survey**

The magnetic survey was carried out using a GEM 1 magnetometer. The magnetometer measures variations in the vertical component of the earth's magnetic field. Readings were taken at 25 meter spacing along the cut lines. The 2008 survey was a western extension to the 2006 survey completed by Arcturus Ventures Inc., Assessment Report number 094807.

#### **IP Survey**

The IP survey utilized an expanding pole-dipole array with a dipole spacing of 25 meters along each of the 16 grid cut lines. The lines are located at 100 meter intervals along a central baseline. Separation readings n+1 to 10 on 25 meter dipoles for the IP survey.



**YC-BC PROJECT**

cut line  
grid 2008

1969 DRILLING

<b>ARCTURUS VENTURES INC.</b>	
<b>YC-BC PROJECT</b> YUKON TERRITORY	
<b>TOPOGRAPHY MAP</b> <b>GEOLOGY</b>	
DATE: November, 2008	FIGURE: 3



## **9.0 RESULTS OF 2008 MAGNETIC AND IP SURVEYS**

### **Magnetic Survey**

The combined 2006 – 2008 total Magnetic field results are displayed on Figure 5. The survey results range from 55728 nT, in cool colors to highs of 59513 nT displayed in warm colors.

The results show a broadly anomalous zone along the baseline from line 1000E to line – 700E. This zone is interpreted to correlate with the contact between the Whitehorse Batholith and the Lewes River Group sedimentary rocks. The most intense anomaly occurs as a circular feature centered near UTM coordinates 672000 N and 504300 E (nad 83). This anomaly is interpreted as a possible embayment of Lewes River Group sedimentary rocks and the Whitehorse Batholith. The strength of the magnetic feature indicates that there is potential magnetic mineralization and an exploration target.

### **IP Survey**

The results of the IP survey are presented as field pseudo-sections for the individual survey lines in Appendix 3. The apparent Resistivity and Apparent Chargeability for  $n=1$  to  $n=10$  are plotted for the recorded stations on each line.

A broad chargeability anomalous zone on all  $n=$  separations covers the western half of the grid area. There is a partial correlation with the intense circular magnetic anomaly but there is a more consistent correlation with the distribution of the Miles Canyon Basalt cover.

There are scattered anomalous zones that occur on the  $n=1$  to  $n=3$  separations. A weak anomaly coincides with the magnetic anomalous zones. The most intense anomaly is an outlier centered at UTM 619800 N and 504800 E (nad 83). The anomalous zones may indicate less overburden in these areas.

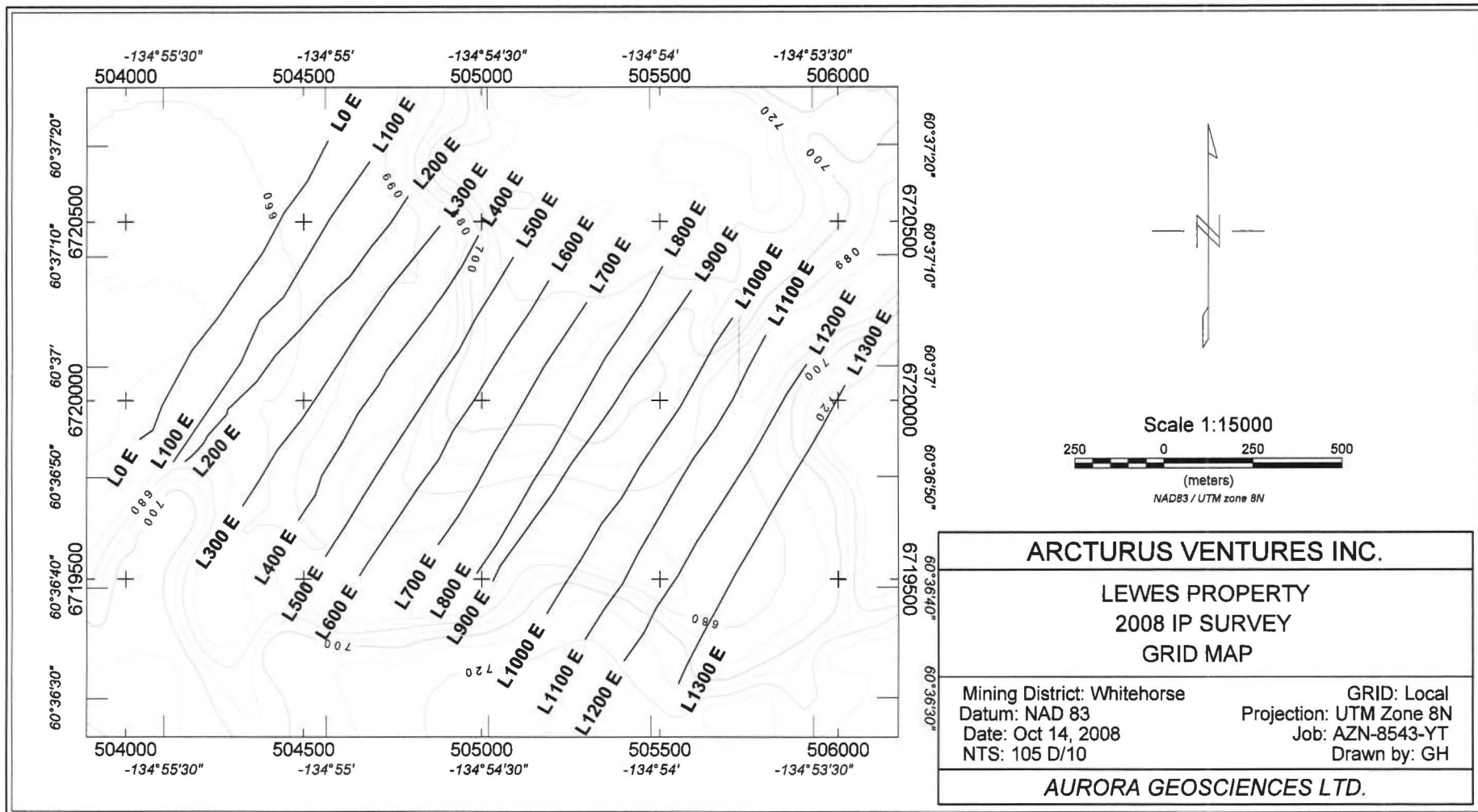


Figure 4.

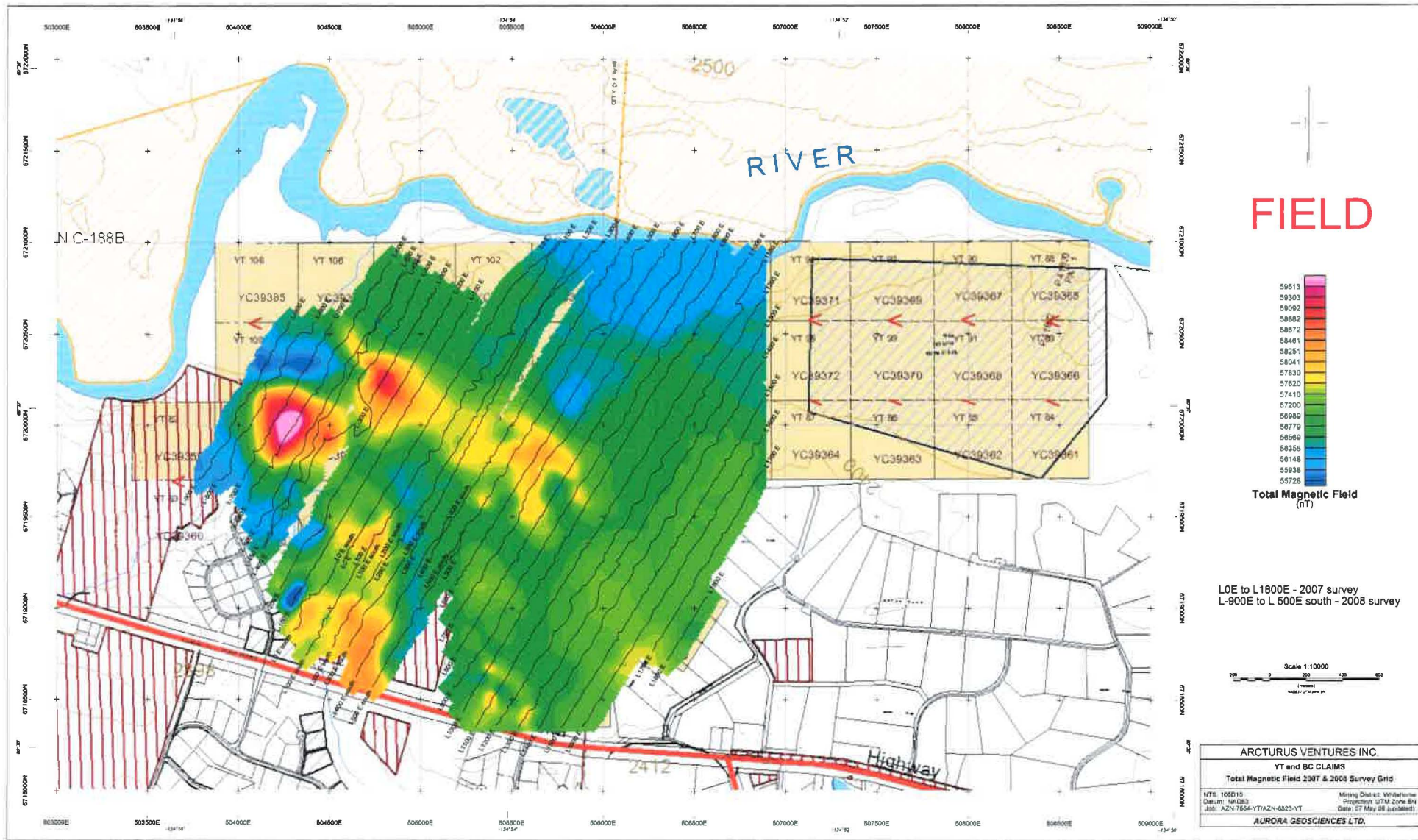


Figure 5.

## 10. BIBLIOGRAPHY

Dobrowolsky, H., Ingram, R., 1993, A History of the Whitehorse Copper Belt. Department of Indian and Northern Affairs Canada, Open File 1993-1, 31p.

Gordey, S.P., Makepeace, A.J., 1999, Yukon Digital Geology. Geological Survey of Canada, Open File D3826; Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File #1999-1(D).

MacKay, G., et.al., 1993, Whitehorse Copper Belt – A simplified Technical History. Department of Indian and Northern Affairs Canada, Open File 1993-2 (1), 48p.

Tenney, D., 1981, The Whitehorse Copper Belt: Mining Exploration and Geology (1967-1980). Department of Indian and Northern Affairs, Geology Section, Yukon Region, Bulletin 1, 29p.

Watson, P.H., 1984, The Whitehorse Copper Belt – A Compilation. Exploration and Geological Services Division – Yukon, Indian and Northern Affairs Canada, Open File #1984-1, 1:25,000 scale map with marginal notes.  
Assessment Reports



## APPENDIX 1

### STATEMENT OF QUALIFICATIONS

**ROBERT W. STROSHEIN P.ENG.**

I, Robert W. Stroshein of the City of Whitehorse, Yukon Territory, hereby certify that:

1. I am a Professional Engineer registered (No. 1165) as a member of the Association of Professional Engineers of Yukon Territory.
2. I graduated from the University of Saskatchewan at Saskatoon, Saskatchewan in 1973 with a Bachelor of Science Degree in Geological Engineering.
3. I have been actively engaged as an Exploration Geologist in the Mineral Industry in Western Canada since graduation. This included a number of exploration programs on the Whitehorse Copper Belt for Hudson Bay Exploration, Company Limited and Kluane Drilling Ltd.
4. I was consulted on the exploration proposal for Arcturus Ventures Inc. 2008 exploration program and completed the report on the 2008 exploration program on the BC-YT property.
5. My business and residential mailing address is:

Box 10559  
Whitehorse, Yukon Territory  
Y1A 7A1

Signed,



Robert W. Stroshein, P.Eng.

May 5, 2009

**STATEMENT OF WORK AND COSTS**

**APPENDIX 2**

# Statement of Work and Costs

BC and YT Claims 105D10

Whitehorse Mining District

November 18, 2008

## Period Work Performed

April, May, August, September and October 2008, Blake Macdonald

8 days and Aurora Geosciences Ltd. per attached.

## Cost Allocations

Blake Macdonald 8 days @ \$500.00/day	4,000.00
Meals and accommodations	1,000.00
Aurora 8185	5,133.98
Aurora 8502	20,000.00
Aurora 8519	13,909.55
Aurora 8580	27,744.88
Aurora 8619	1,477.88
Estimated Final reports, maps etc	<u>10,000.00</u>
Total	83,266.29

## Allocated as to:

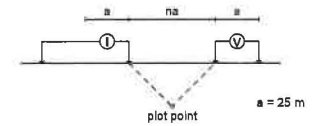
Group 1	21,550.00
Group 2	13,400.00
Group 3	21,900.00
Group 4	<u>25,500.00</u>
Total	82,350.00

**IP PSUEDO – SECTION PLOTS**

**APPENDIX 3**

## PSEUDOSECTION PLOTS 0 E

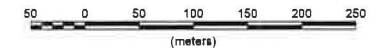
Modified Pole-Dipole Array



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Transmitter: GDD Tx-II 3.6kW  
Dates Surveyed : Sept 25 - Oct 11, 2008

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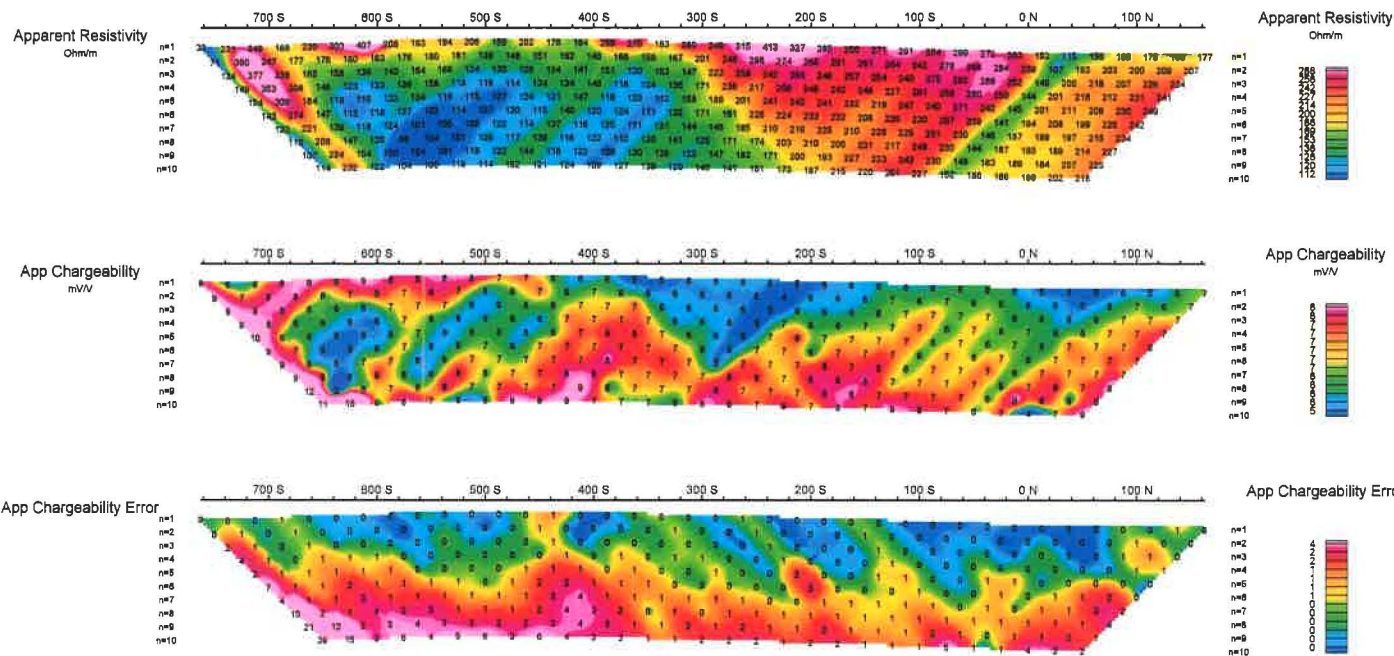


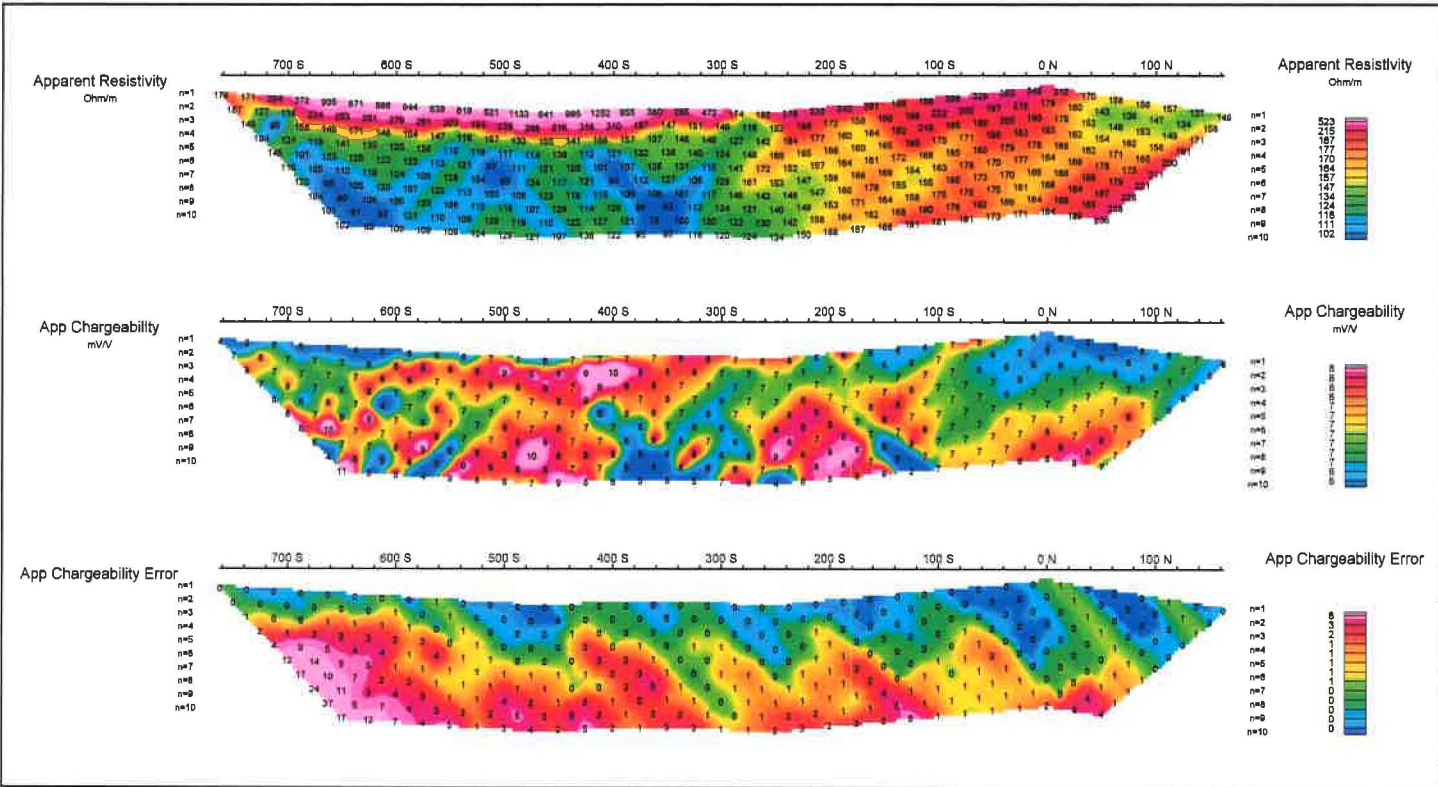
ARCTURUS VENTURES INC.

**INDUCED POLARIZATION SURVEY**  
LEWES RIVER PROPERTY - L0 E  
App. Resistivity, Chargeability & Error

Mining District: Whitehorse      GRID: Local  
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Date: Oct 14, 2008      Job: AZN-8543-YT  
NTS: 105 D/10      Drawn by: GH

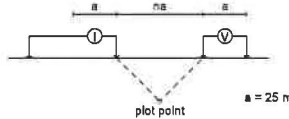
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**PSEUDOSECTION PLOTS**  
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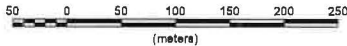
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Date Surveyed: Sept 25 - Oct 11, 2008

**FIELD**

Scale 1:4000



**ARCTURUS VENTURES INC.**  
**INDUCED POLARIZATION SURVEY**  
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App. Resistivity, Chargeability & Error

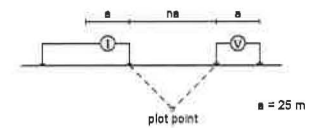
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**AURORA GEOSCIENCES LTD.**



## PSEUDOSECTION PLOTS 200 E

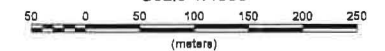
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**ARCTURUS VENTURES INC.**

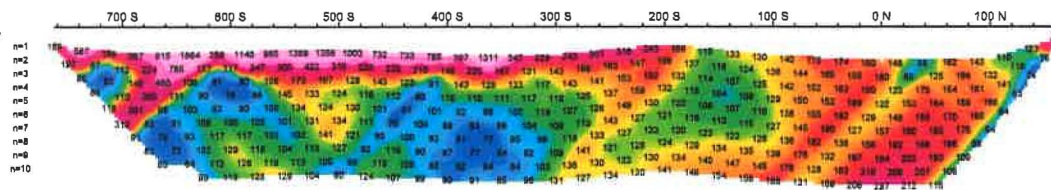
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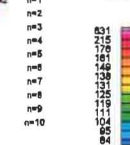
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**AURORA GEOSCIENCES LTD.**

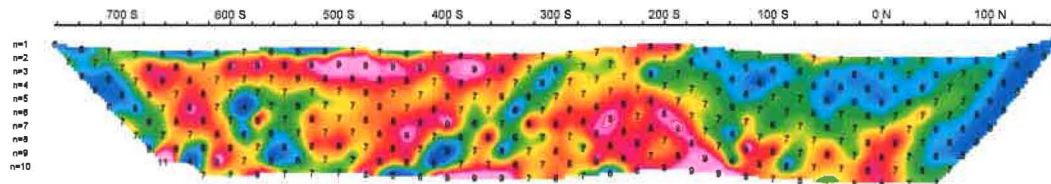
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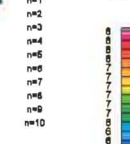
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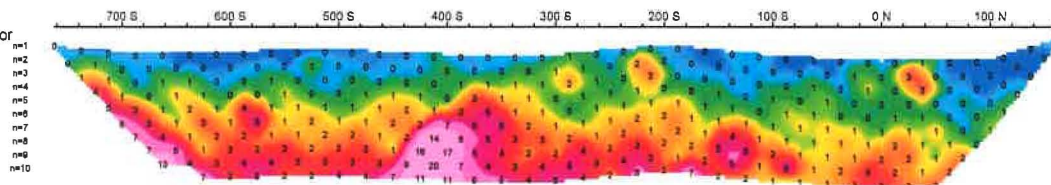
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mV/V



App Chargeability  
mV/V



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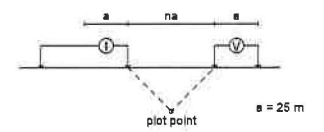


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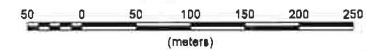
Modified Pole-Dipole Array



Stationary electrode at 800S (moving N),  
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Dates Surveyed: Sept 25 - Oct 11, 2008

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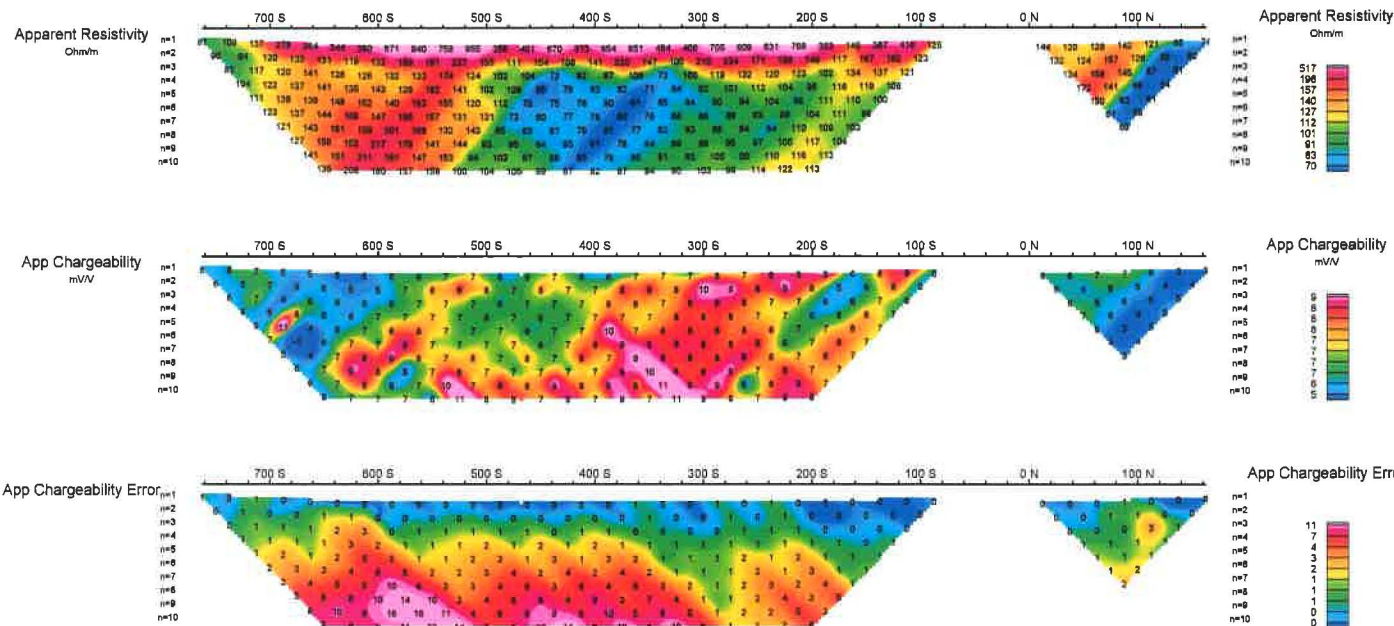


**ARCTURUS VENTURES INC.**

**INDUCED POLARIZATION SURVEY  
LEWES RIVER PROPERTY - L300 E**  
App. Resistivity, Chargeability & Error

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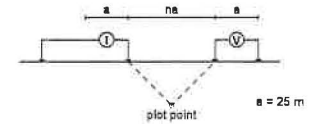
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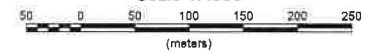
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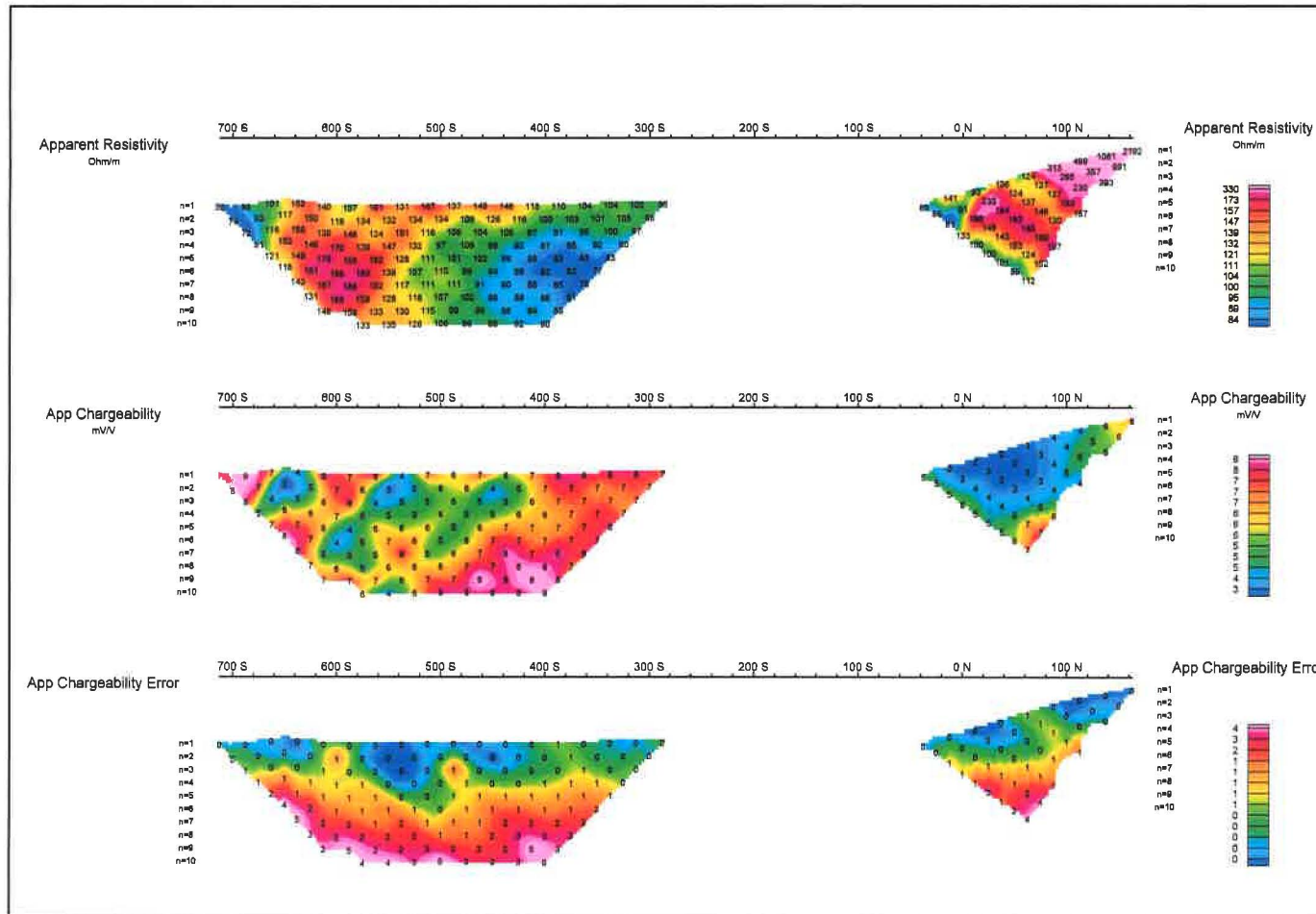


**ARCTURUS VENTURES INC.**

**INDUCED POLARIZATION SURVEY  
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App. Resistivity, Chargeability & Error**

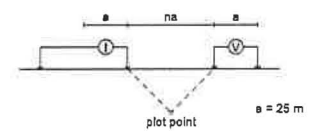
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NTS: 105 D/10      Drawn by: GH

**AURORA GEOSCIENCES LTD.**



## PSEUDOSECTION PLOTS 500 E

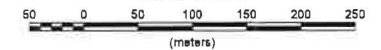
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Dates Surveyed : Sept 25 - Oct 11, 2008

FIELD

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ARCTURUS VENTURES INC.

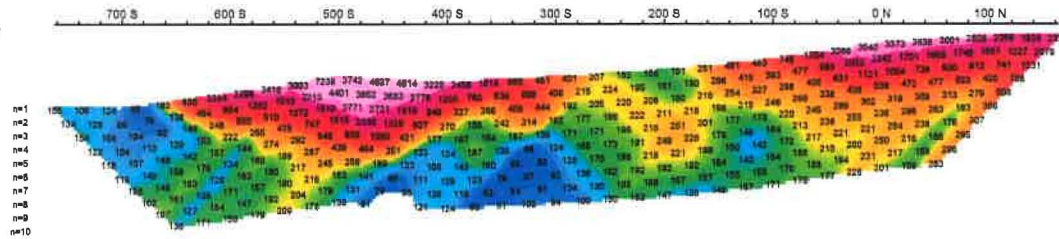
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App. Resistivity, Chargeability & Error

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NTS: 105 D/10

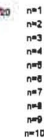
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AURORA GEOSCIENCES LTD.

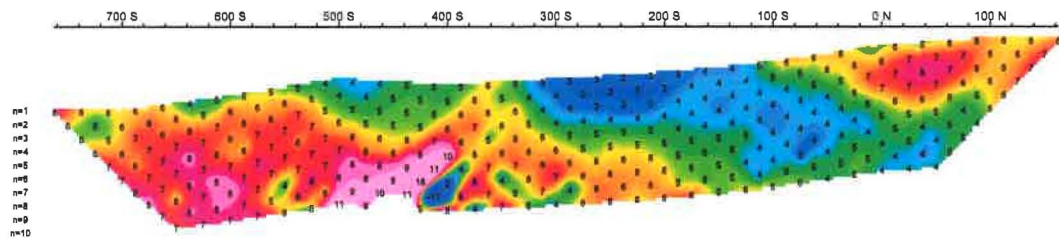
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Ohm/m



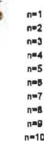
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Ohm/m



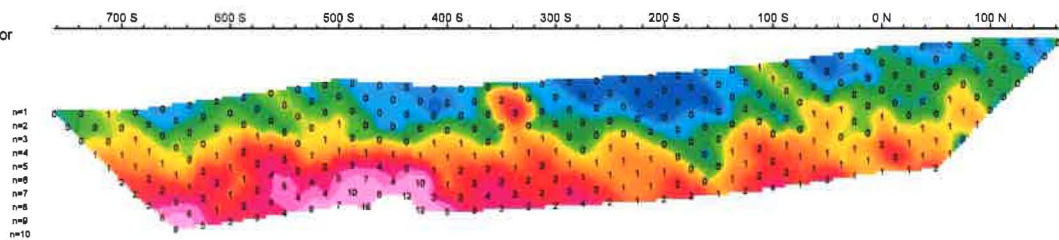
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m/VV



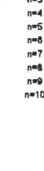
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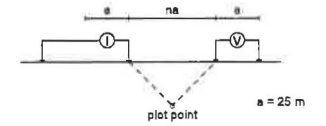


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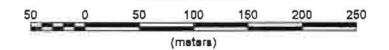
Modified Pole-Dipole Array



Stationary electrode at 800S (moving N),  
Receiver: Iris EirecPro  
Transmitter: GDD Tx-II 3.6kW  
Dates Surveyed: Sept 25 - Oct 11, 2008

FIELD

Scale 1:4000

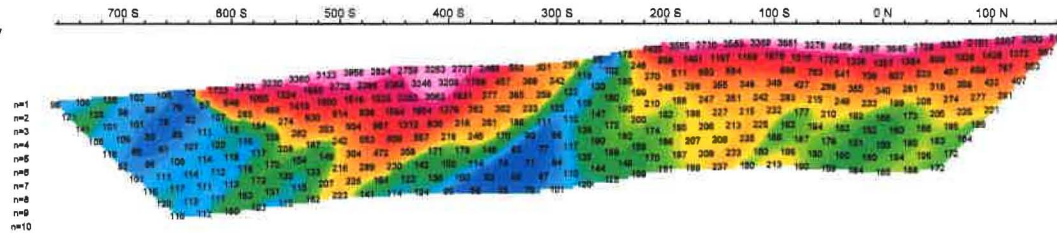


ARCTURUS VENTURES INC.  
INDUCED POLARIZATION SURVEY  
LEWES RIVER PROPERTY - L600 E  
App. Resistivity, Chargeability & Error

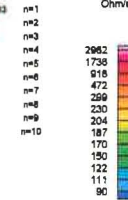
Mining District: Whitehorse      GRID: Local  
Datum: NAD 83      Projection: UTM Zone 8N  
Date: Oct 14, 2008      Job: AZN-8543-YT  
NTS: 105 D/10      Drawn by: GH

AURORA GEOSCIENCES LTD.

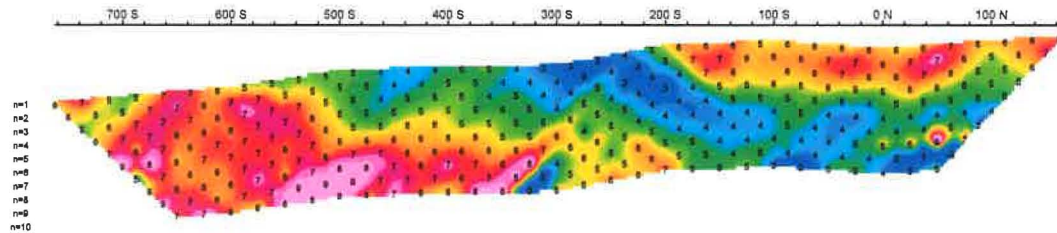
Apparent Resistivity  
Ohm/m



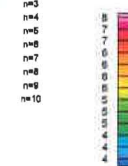
Apparent Resistivity  
Ohm/m



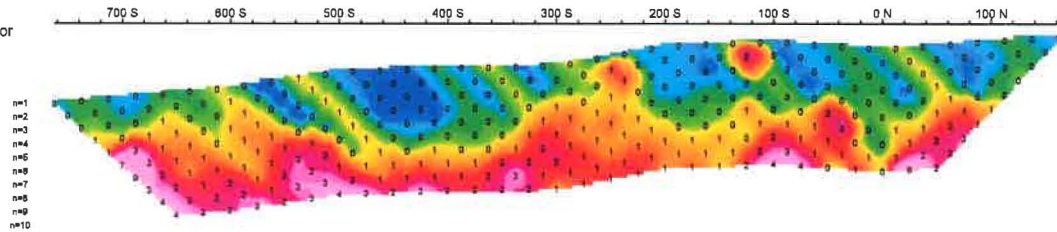
App Chargeability  
mV/V



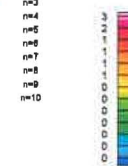
App Chargeability  
mV/V



App Chargeability Error



App Chargeability Error

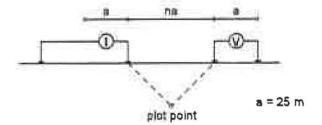






## PSEUDOSECTION PLOTS 800 E

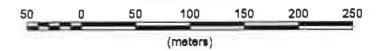
Modified Pole-Dipole Array



Stationary electrode at 80DS (moving N).  
Receiver: Iris ElecPro  
Transmitter: GDD Tx-II 3.5KW  
Dates Surveyed: Sept 25 - Oct 11, 2008

FIELD

Scale 1:4000



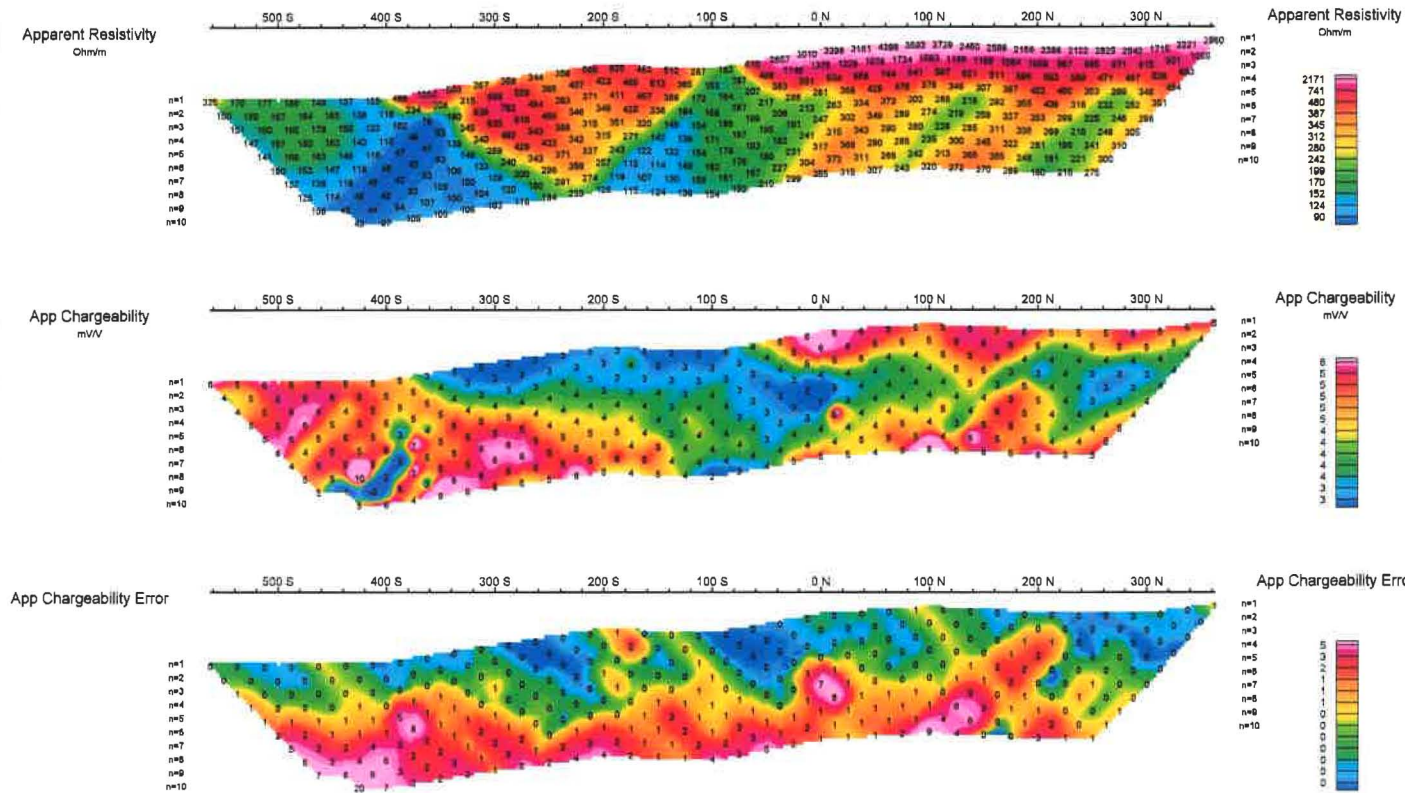
ARCTURUS VENTURES INC.

INDUCED POLARIZATION SURVEY  
LEWES RIVER PROPERTY - L800 E  
App. Resistivity, Chargeability & Error

Mining District: Whitehorse  
Datum: NAD 83  
Date: Oct 14, 2008  
NTS: 105 D/10

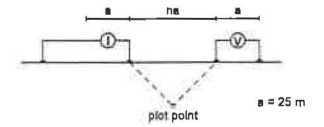
GRID: Local  
Projection: UTM Zone 8N  
Job: AZN-8543-YT  
Drawn by: GH

AURORA GEOSCIENCES LTD.



## PSEUDOSECTION PLOTS 900 E

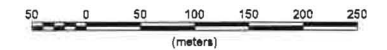
Modified Pole-Dipole Array



Stationary electrode at 600E (moving N).  
Receiver: Iris ElecPro  
Transmitter: GDD Tx-II 3.0KW  
Dates Surveyed: Sept 25 - Oct 11, 2008

FIELD

Scale 1:4000



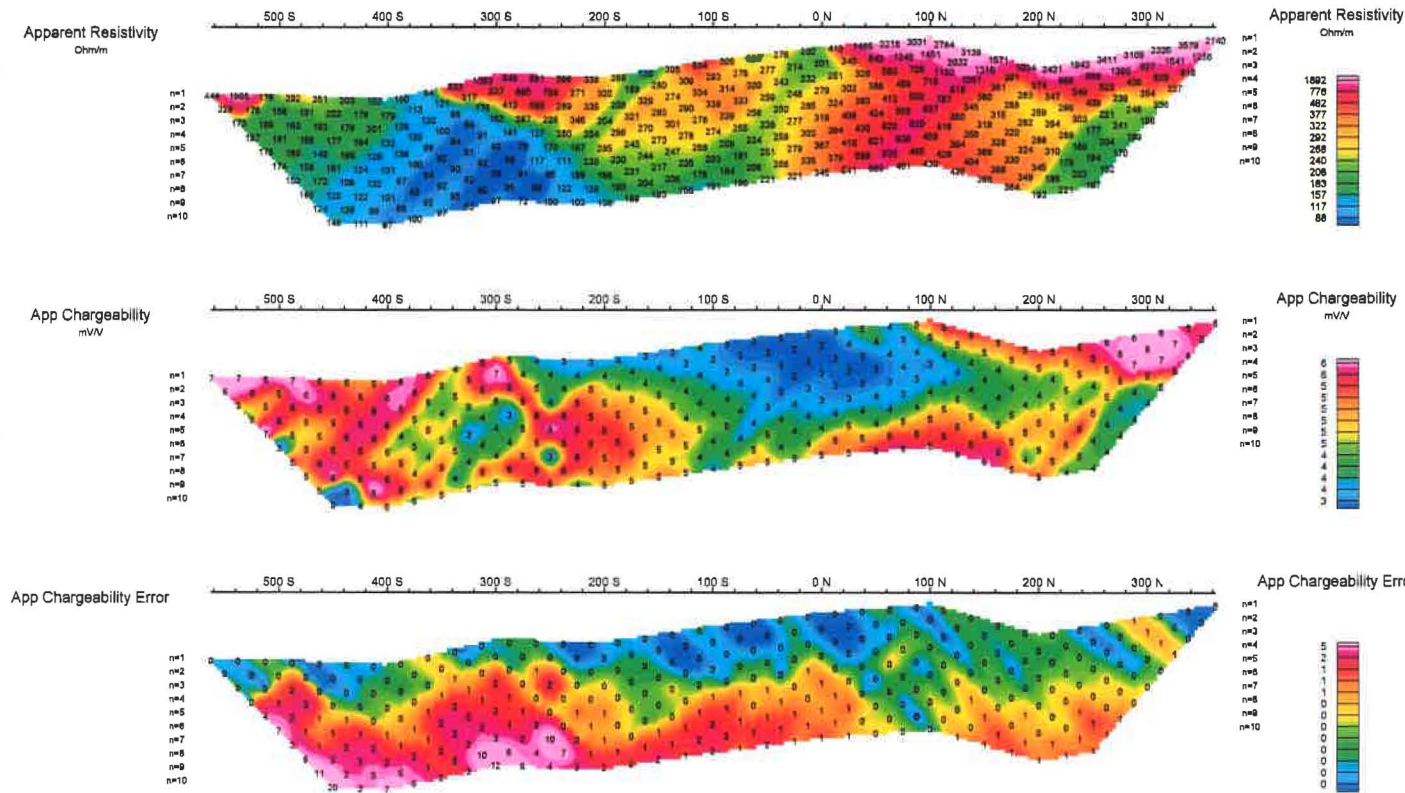
ARCTURUS VENTURES INC.

INDUCED POLARIZATION SURVEY  
LEWES RIVER PROPERTY - L900 E  
App. Resistivity, Chargeability & Error

Mining District: Whitehorse  
Datum: NAD 83  
Date: Oct 14, 2008  
NTS: 105 D/10

GRID: Local  
Projection: UTM Zone 8N  
Job: AZN-8543-YT  
Drawn by: GH

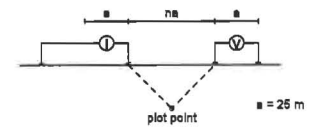
AURORA GEOSCIENCES LTD.





## PSEUDOSECTION PLOTS 1000 E

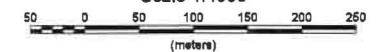
Modified Pole-Dipole Array



Stationary electrode at 600B (moving N).  
Receiver: Iris ElrePro  
Transmitter: GDD Tx-II 3.6kV  
Dates Surveyed: Sept 25 - Oct 11, 2008

FIELD

Scale 1:4000

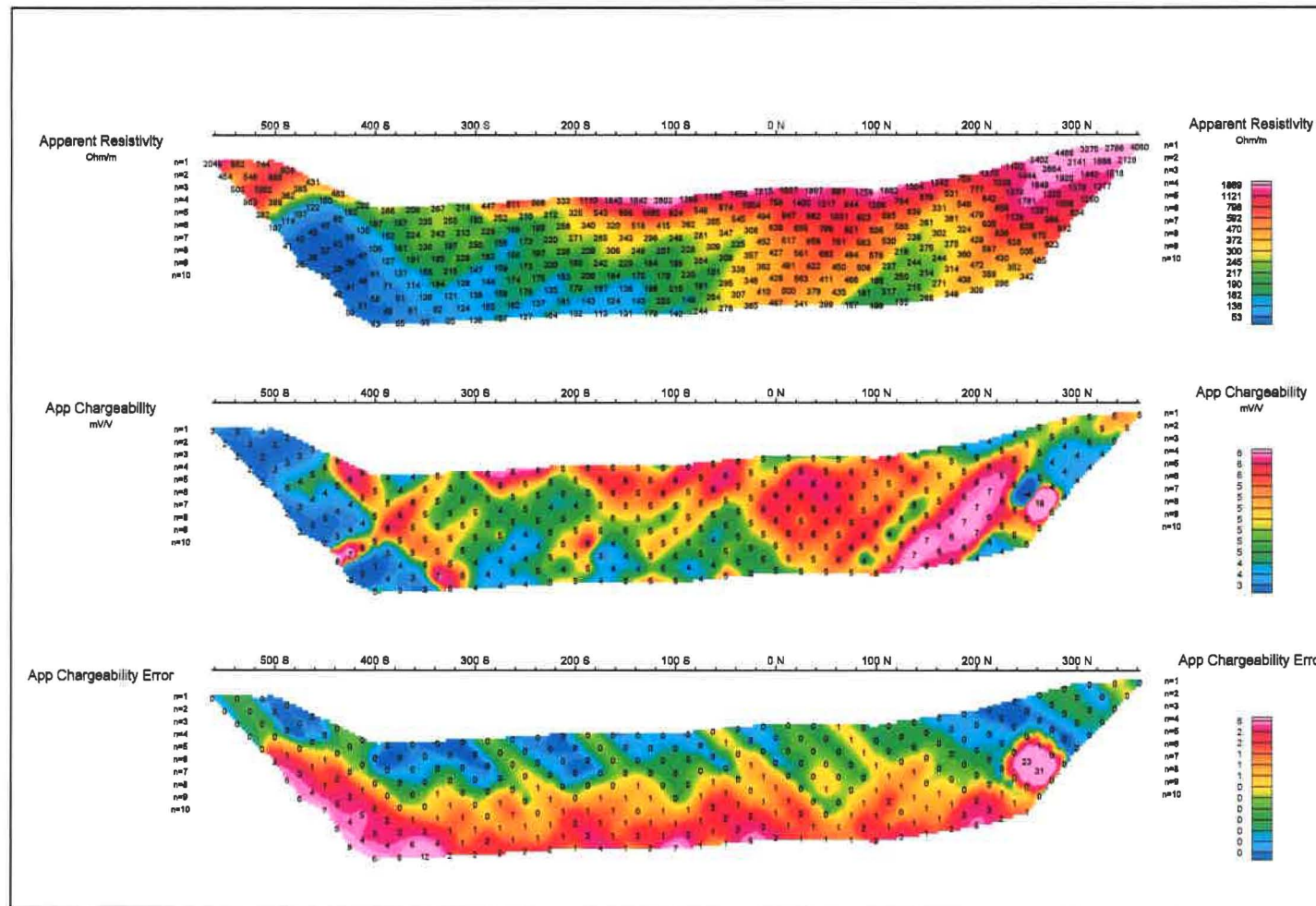


ARCTURUS VENTURES INC.  
INDUCED POLARIZATION SURVEY  
LEWES RIVER PROPERTY - L1000 E  
App. Resistivity, Chargeability & Error

Mining District: Whitehorse  
Datum: NAD 83  
Date: Oct 14, 2008  
NTS: 105 D/10

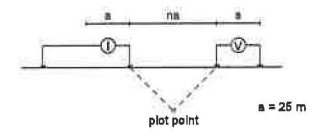
GRID: Local  
Projection: UTM Zone 8N  
Job: AZN-8543-YT  
Drawn by: GH

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**PSEUDOSECTION PLOTS  
1100 E**

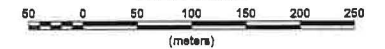
Modified Pole-Dipole Array



Stationary electrode at 600S (moving N).  
Receiver: Iris EirecPro  
Transmitter: GDD Tx-II 3.8KW  
Dates Surveyed : Sept 25 - Oct 11, 2008

**FIELD**

Scale 1:4000



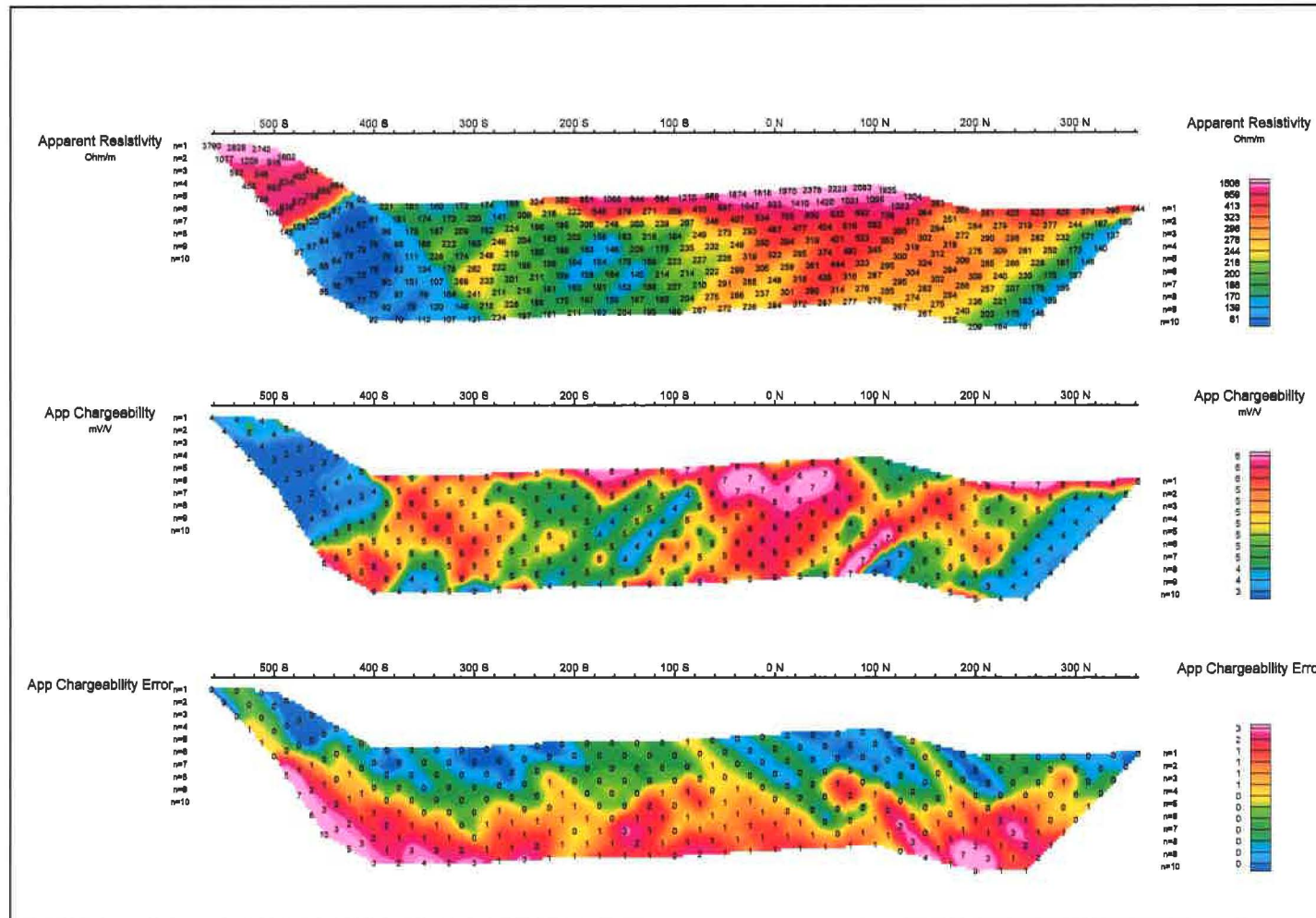
**ARCTURUS VENTURES INC.**

**INDUCED POLARIZATION SURVEY  
LEWES RIVER PROPERTY - L1100 E  
App. Resistivity, Chargeability & Error**

Mining District: Whitehorse  
Datum: NAD 83  
Date: Oct 14, 2008  
NTS: 105 D/10

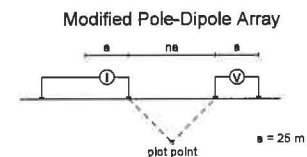
GRID: Local  
Projection: UTM Zone 8N  
Job: AZN-8543-YT  
Drawn by: GH

**AURORA GEOSCIENCES LTD.**





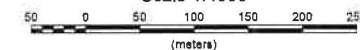
## PSEUDOSECTION PLOTS 1200 E



Stationary electrode at 600S (moving N),  
Receiver: Iris ElrecPro  
Transmitter: GDD Tx-II 3.6kW  
Dates Surveyed : Sept 25 - Oct 11, 2008

FIELD

Scale 1:4000



ARCTURUS VENTURES INC.

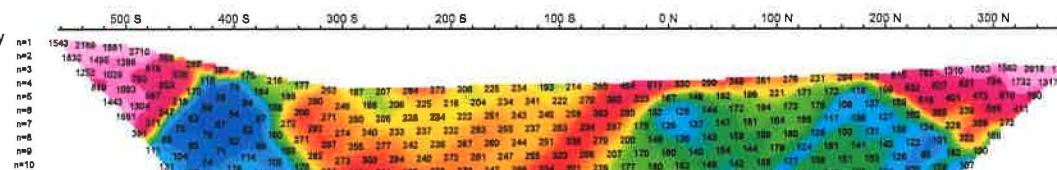
**INDUCED POLARIZATION SURVEY**  
LEWES RIVER PROPERTY - L1200 E  
App. Resistivity, Chargeability & Error

Mining District: Whitehorse  
Datum: NAD 83  
Date: Oct 14, 2008  
NTS: 105 D/10

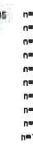
GRID: Local  
Projection: UTM Zone 8N  
Job: AZN-6543-YT  
Drawn by: GH

AURORA GEOSCIENCES LTD.

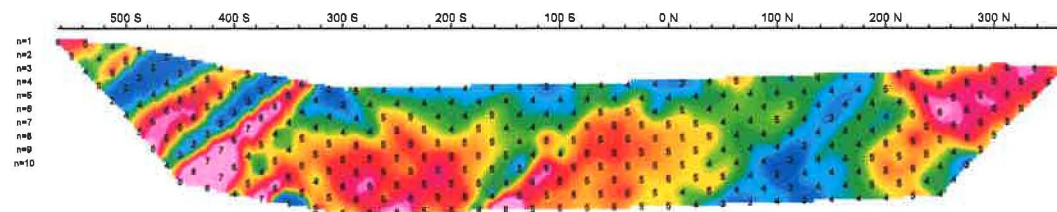
Apparent Resistivity  
Ohm/m



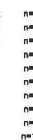
Apparent Resistivity  
Ohm/m



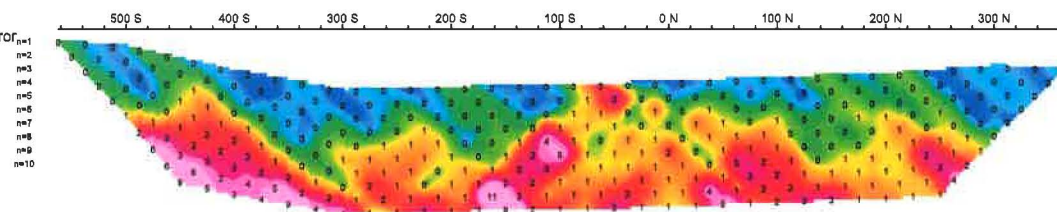
App Chargeability  
mV/V



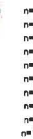
App Chargeability  
mV/V

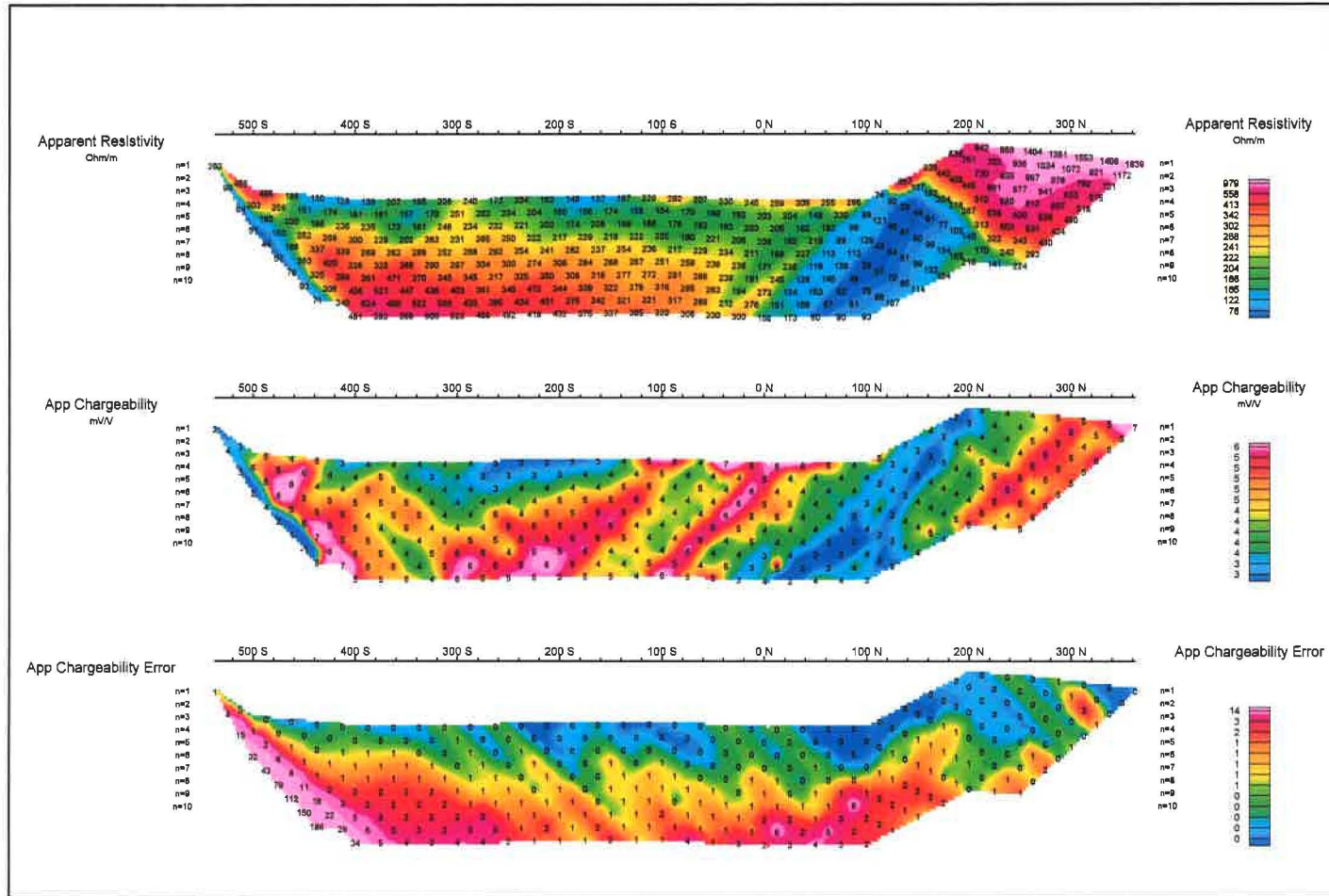


App Chargeability Error



App Chargeability Error





### PSEUDOSECTION PLOTS 1300 E

**Modified Pole-Dipole Array**

Stationary electrode at 575S (moving N).  
Receiver: Iris ElecPro  
Transmitter: GDD Tx-II 3.6KW  
Dates Surveyed : Sept 25 - Oct 11, 2008

FIELD

Scale 1:4000

(meters)

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**ARCTURUS VENTURES INC.**

**INDUCED POLARIZATION SURVEY**  
LEWES RIVER PROPERTY - L1300 E  
App. Resistivity, Chargeability & Error

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Mining District: Whitehorse	GRID: Local
Datum: NAD 83	Projection: UTM Zone 8N
Date: Oct 14, 2008	Job: AZN-8543-YT
NTS: 105 D/10	Drawn by: GH

AURORA GEOSCIENCES LTD.

**APPENDIX 4**

**MEMORANDUMS**

**AURORA GEOSCIENCE LTD.**

**2008 Total magnetic field survey – field report**

**And**

**Lewes 2008 IP Survey – Field Report**



**AURORA GEOSCIENCES**

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**Whitehorse Office**  
34A Laberge Road  
Whitehorse, Yukon Y1A 5Y9  
Phone (867) 668-7672  
Fax: (867) 393-3577  
[www.aurora-geosciences.com](http://www.aurora-geosciences.com)

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## MEMORANDUM

**To:** Blake MacDonald **Date:** May 08<sup>th</sup>, 2008  
**From:** Shawn Walker  
**Re:** YT claims, 2008 Total magnetic field survey – field report

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This memorandum is a field report describing a total magnetic field (TMF) survey conducted over the YT claims, Whitehorse mining district Yukon Territory. A total of 19.0125 line kilometres of TMF was completed as an extension of the magnetic survey that was completed in 2007.

### **a. Crew and equipment.**

The surveys were conducted by the following personnel:

Shawn Walker	Crew chief
André Lebel	Tech. Operator
Matt McConnell	Tech. Operator
Jordan Soprovich	Tech. Operator

The crew was equipped with the following instruments and equipment:

<u>Mag</u>	2 - GSM-19 SN 705678 and 45337
	2 - GSM-19T SN 712784 and 2011132

- Other:
- 1 - Pentium 4 lap top computer
  - 1 - Repair tools
  - 1 - Battery box
  - 3 - Handheld radios
  - 4 - Garmin Handheld GPS Units
  - 1 - 1 ton truck

Software:

- Geosoft Oasis 6.4
- GemLink
- GPSU 4.3
- Microsoft Excel

**b. Grid.**

The mag survey was conducted along a virtual grid of 15 lines varying from 462.5m to 2000 meters in length and 100m apart.

**c. Survey specifications.**

The mag survey was conducted according to the following specifications

Station spacing 12.5 metres (nominal)

Base station Cycled at a 5 second interval. The base station magnetometer and field magnetometers times were synchronized daily prior to surveying.

Corrections Temporal geomagnetic variation was removed by linear interpolation of drift from the base station magnetometer. Readings were rejected in the base magnetometer if there was a magnetic variation of 10nT or greater over a 10 second period.

Levelling Levelling lines surveyed daily with 2 lines surveyed in both directions. 1 line perpendicular to the grid lines and 1 line parallel to the grid lines of 10 points each.

**d. Data processing**

The total magnetic field data was corrected for temporal variations in the earth's magnetic field using linear interpolation between base mag readings. UTM coordinates were determined using linear interpolation between GPS track points. A total of six readings were rejected from the base mag due to a 10nT variation over 10 seconds. Data from difference operators and days were levelled to a common datum for the 2008 grid. All 2008 data was then levelled to the 2007 data

The total magnetic field was gridded using a minimum curvature algorithm with a grid cell size of 10 m and plotted with a linear colour distribution. The grid was then plotted on a 1:10000 scale map of the area which also included the claim blocks, local topography, and residential features.

**e. Products.**

The following data files are appended to the digital version of this report

Raw	Folder with all the unedited daily instrument dump files.
Data	Total magnetic field processed data in Geosoft database format (*.gdb) and ASCII (*.xyz).
Figures	1:10000 scale image of the contoured total magnetic field.
YT Claims 2007 Mag – Field report.pdf	A PDF of this report.
YT Claims 2007 Mag – Survey Log.pdf	A PDF of the survey log

Respectfully submitted,  
**AURORA GEOSCIENCES LTD.**

Shawn Walker  
Geophysicist





**Whitehorse Office**  
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Whitehorse, Yukon Y1A 5Y9  
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Fax: (867) 393-3577

[www.aurorageosciences.com](http://www.aurorageosciences.com)  
[info@aurorageosciences.com](mailto:info@aurorageosciences.com)

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## MEMORANDUM

**To:** Blake MacDonald  
Arcturus Ventures Inc. **Date:** 14 October 2008

**From:** Geneviève Héту  
[Genevieve.Hetu@aurorageosciences.com](mailto:Genevieve.Hetu@aurorageosciences.com)

**Re:** Lewes 2008 IP Survey – Field Report

---

This memorandum is a field report describing an expanding pole dipole IP survey conducted at the Lewes River Property, Whitehorse Mining District, Yukon Territory. The survey was conducted from September 25, 2008 to October 11, 2008. The lines were each 1.0 km long except line 700E which was 800 m long. All the lines were surveyed using 25m dipoles. In total, 13.725 m of IP was surveyed on 14 lines. A beaver pond interrupted the survey on line 300E between station 50S to 0 and on line 400E between station 250S to 25S. Public access caused by surrounding residential subdivisions and a wide network of trails on the property increased the public hazard of the survey. To minimize the risk, the transmitter was moved by helicopter to a less frequented area. Also, communication posters, warning signs and caution flagging tape were used abundantly to warn the residents about the survey.

This report also describes the line cutting performed on the same property prior to the IP survey, from August 28, 2008 to September 17, 2008. Many creek crossings required the crew to build log bridges for access. The beaver pond prevented line cutting on lines 200E, 300E and 400E.

Full survey logs for the IP and the line cutting are attached to this report.

**a. Crew and equipment.**

The IP surveys were conducted by the following personnel:

Geneviève Héту	Crew chief	Sept 25 – Oct 11
Shawn Walker	Crew chief (replacement)	Oct 02
Jean-Phillipe Lemire	Helper	Sept 25 – Oct 11
Pierre-André Lemire	Helper	Sept 25 – Oct 5
Jerrid Owlchild	Helper	Sept 27 – Oct 11
Rafe Etzel	Helper	Oct 6 – Oct 11
Alicia Cannata	Helper	Sept 25 – 26
Matt Higgs	Helper	Sept 26

The line cutting was conducted by the following personnel:

Louis Bissonnette	Crew chief	Aug 28 - Sept 8
JP Lemire	Crew chief	Sept 11 - 17
Mitch Smaaslet	lead cutter	Aug 28, 29, Sept 1-5, 7, 8, 11-17
Dave Germain	lead cutter / staker	Sept 14 - 16
Alicia Cannata	Brusher	Aug 31, Sept 14 - 16
Jean-Phillipe Lemire	Brusher	Sept 3 - 4
Pierre-André Lemire	Brusher	Sept 3 - 4

The IP crew was equipped with the following instruments and equipment:

IP receiver	1	Iris Elrec Pro   S/N: 2315-2023534051-122
IP transmitter	1	GDD TxII 3.6 kW   S/N: TX242
Generator	1	Honda 5kW generator
IP equipment	1	Repair tools & spare IP parts
	6 km	18 gauge wire
	4	VHF handheld radios
	1	Base radio
		Georeels & spools, Speedy winders and spools, stainless steel electrodes, 25m 10 pins cables
Transportation	1	Truck
	1	ATV
	1	Truck trailer (from Oct 9 to Oct 11)
	1	ATV trailer (from Oct 9 to Oct 11)
Other		Laptop with Geosoft IP package



The line cutting crew was equipped with the following instruments and equipment:

Line cutting	3 Chainsaws axes, machetes, Sandviks compasses, chains, hip chains
Line survey	2 Non-differential handheld GPS receivers
Transportation	1 Truck 1 ATV

**b. Work and survey specifications.**

The IP survey was conducted according to the following specifications:

Array	Expanding pole-dipole, with the stationary current electrode at the south end of each line.
Dipole spacing	25 m, n=1 through 10
Tx	Time domain, 50% duty cycle, reversing polarity, 0.125 Hz.
Stacks	Minimum 15
Rx error	5 mV/V or less (on the first six channels of the 10 channel survey), otherwise repeated several times until repeatability assured
Grid registration	Handheld GPS points every 100 m (nominal) averaged 60 s or until estimated accuracy < 10 m, whichever was longer. All coordinates in NAD83 UTM Zone 8N.

The line cutting proceeded according to the following specifications:

Width / condition	Maximum 1.5 m width and cleared to ground level of all brush.
Station spacing	25m on all lines.
Station marking	Marked with tagged half length pickets. Line / station coordinate to be written on both the tags and pickets.
Chainage	All stations tight chained and not slope corrected.

### **c. Data Processing.**

Data were downloaded nightly from the receiver and imported into the Geosoft Oasis Montaj IP package. Every reading was inspected and individual outlier readings were rejected from the dataset. Apparent resistivity was recalculated using a four electrode equation assuming a homogeneous earth. Average apparent resistivity and chargeability were calculated when repeat reading were present (excluding the rejected outliers) using a weighted mean based on the number of stacks and the standard deviation of the chargeability. Averages of other parameters were calculated with a simple mean.

GPS points were dumped from the handheld units and the coordinates for the stations determined by linear interpolation between GPS points. It appears that the DEM (equivalent to a 1:50000 NTS map) for this area is shifted and does not coincide with the steep surrounding topography. For this reason the elevations were determined by GPS and starting on line 900 included the measured slopes taken by a handheld clinometer. Elevations for line 0E, line 300E and line 1200E were determined by applying the topography from the DEM to the coordinates measured by GPS.

Pseudosections of apparent resistivity, apparent chargeability and apparent chargeability error were produced draped over topography with the Oasis Montaj IP package.

### **d. Products.**

The following data files are appended to the digital version of this report:

Final Data	Final data folder in Geosoft ASCII xyz and gdb format. The stationary current locations are at the southern end of all lines. Included is channel.txt, a file that describe the database channels.
Figures	Pseudosections in PDF format for each line showing apparent resistivity, apparent chargeability, & chargeability error (scale = 1:4000). There is also a grid map at a 1:15000 scale showing UTM coordinates and topography overlain by the lines.
Raw	A folder with all the raw instrument dump files. All GPS measurements taken in NAD83, UTM zone 8N coordinates.
Lewes River 2008 IP Field Report.pdf	A PDF of this report.

LC log AZN-8543-YT.pdf  
IP log AZN-8543-YT.pdf

Logs for the IP survey and the line cutting.

Respectfully submitted,  
AURORA GEOSCIENCES LTD.

Geneviève Héту

FIELD