

17

**TECHNICAL REPORT  
FOR APEX E CLAIMS  
YMIP # 09-169**

**TARGET EVALUATION PROGRAM  
CARMACKS AREA YUKON**

**Whitehorse Mining District**

**Report for Period of Work: July 10<sup>th</sup> – September 18<sup>th</sup> 2009**

**Location:**

- 1. 7 km NNW of Minto Mine, Yukon**
- 2. NTS Map Area 115 I-11**
- 3. Easting: 383 120**  
**Northing: 6 951 790**

**By:**

**BCGOLD CORP**  
**Suite 1400, 625 Howe Street**  
**Vancouver, BC**  
**V6C 2T6**  
**Gary Sidhu**

**March 16<sup>th</sup>, 2010**



YUKON MINING INCENTIVES PROGRAM (YMIP)

FINAL SUBMISSION FORM

Submit completed form by March 31<sup>st</sup> to:

Yukon Mining Incentives Program  
 Energy, Mines and Resources  
 Government of the Yukon  
 102 - 300 Main Street  
 Box 2703 (K102), Whitehorse, Yukon, Y1A 2C6  
 E-mail: [ymip@gov.yk.ca](mailto:ymip@gov.yk.ca)

YMIP # 09-169

PROJECT NAME: APEX

NAME AND ADDRESS	Please indicate any changes or omissions
	<hr/> <hr/> <hr/> <hr/>
E-mail:	Correct e-mail if it has changed: _____

**SUMMARY OR TECHNICAL REPORT CHECKLIST**

- Please check ✓ appropriate section.
- **MUST** be completed and submitted with your final report.
- Ensure all required information is attached to prevent delays in processing your claim

INFORMATION	INCLUDED	NOT APPLICABLE
1. Description/implementation of work	<u>  x  </u>	
2. Location map(s) of completed work	<u>  x  </u>	
3. Colored maps at adequate scale showing		
- Geology	<u>  x  </u>	<u>          </u>
- Geophysics	<u>  x  </u>	<u>          </u>
- Geochemistry	<u>          </u>	<u>  x  </u>
4. Results		
- Drill core assays	<u>          </u>	<u>  x  </u>
- Geochemistry data	<u>          </u>	<u>  x  </u>
- Geophysical data	<u>  x  </u>	<u>          </u>
5. Drill collar location map(s)	<u>          </u>	<u>  x  </u>
6. Drill hole sections	<u>          </u>	<u>  x  </u>
7. Typewritten drill logs	<u>          </u>	<u>  x  </u>
8. Longitudinal Section(s)	<u>          </u>	<u>  x  </u>
9. Recommendations	<u>  x  </u>	
10. Future Plans	<u>  x  </u>	
11. Detailed list of project expenditures	<u>  x  </u>	
12. Copies of receipts	<u>  x  </u>	
13. Final submission form signed and dated	<u>  x  </u>	
14. Hardcopy of report with maps and data	<u>  x  </u>	
15. Electronic version of report, etc in <b>PDF</b> format	<u>  x  </u>	

**Access to Information and Protection of Privacy Act**

The information requested on this form is collected under the authority of and used for the purpose of administering the Yukon Mining Incentives Program. Questions about the collection and use of this information can be directed to the Mineral Development Geologist, Department of Energy, Mines and Resources, Yukon Government, Box 2703 (K102), Whitehorse, Yukon Territory, Y1A 2C6 (867) 456-3828.

The Department of Energy, Mines and Resources may verify all statements related to and made on this form, in any previously submitted reports, interim claims and in the Summary or Technical Report which accompanies it. I certify that;

1. I am the person, or the representative of the company or partnership, named in the Application for Funding and in the Contribution Agreement under the Yukon Mining Incentives Program.
2. I am a person who is nineteen years of age or older, and I have complied with all the requirements of the said program.
4. I hereby apply for the final payment of a contribution under the Yukon Mining Incentives Program (YMIP) and declare the information contained within the Summary or Technical Report and the Financial Summary Report to be true and accurate.

Signature of Applicant  Date March 17, 2009

Name (print) Brian Fowler

Your opinions are requested to help evaluate the formal objectives of the program, client satisfaction with regard to its administration and delivery and to determine if any changes or improvements are indicated.

1. Have you previously applied for financial assistance through YMIP?    X YES    NO

a. If YES, proceed to 'Question 2'.

b. If NO, what was your reason for not applying:

- Desire to maintain confidentiality
- Moral objection to YMIP
- Thought it was a hardrock program
- Not aware of YMIP
- To much work to apply
- Other \_\_\_\_\_

2. How important was YMIP funding to your decision to undertake the proposed project?

	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree
a. Without YMIP the project would not have gone ahead.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. The project would have gone ahead, but on a reduced scale.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. The project would have gone ahead with or without YMIP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: \_\_\_\_\_

3. Did YMIP help to lever additional funding and/or secure an option deal? YES    X NO

If YES, please provide details: \_\_\_\_\_

4. Regarding the YMIP application/approval process, please indicate your agreement or disagreement with the following statements:

	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree
a. Written program information and forms were clear.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Questions and inquiries were answered promptly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Applications were fairly and consistently handled	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Project evaluations were done in a timely manner	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Interim claims and payments were processed on time	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. If you have any suggestions for improvements or changes to YMIP or any other additional comments, please include them below.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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## **1.0 SUMMARY**

The APEX property, comprised of 27 contiguous claims, located approximately 7 km northwest of the Minto Mine in the Whitehorse Mining District of central Yukon. The claims were originally staked by Shawn Ryan of Dawson City, Yukon and are currently optioned to BCGOLD Corporation ("BCG"). The history of exploration in the area stretches back to the turn of the century when copper mineralization was first discovered at Williams Creek some 40 km south of the Minto copper-gold deposit. Foliated and non-foliated granitic rocks of the Early Jurassic Aishihik Suite underlie most of the property although rock exposures are poor comprising less than 5% of the area. Work completed in 2009 consisted 15.2 km of line cutting, and a pole dipole geophysical induced polarization (IP) survey.

## **2.0 INTRODUCTION AND TERMS OF REFERENCE**

The APEX Claim group is owned 100 % by Shawn Ryan of Dawson City Yukon subject to an option agreement with BCG whereby BCG can earn a 100% interest in the APEX Claims as part of a larger 845 claims located in the Carmacks copper-gold belt which hosts the Minto and Williams Creek deposits.

The purpose of this report is to summarize the work completed during the months of July to September which consists of 15.2 km of line cutting, and a pole dipole geophysical induced polarization (IP) survey.

## **3.0 RELIANCE ON OTHER EXPERTS**

This report is based upon the results of fieldwork partially supervised by the author, publicly-available assessment reports, and certain private reports prepared for and provided by BCG. There is no reason to believe that any of this information is incorrect.

The author has relied on information provided by the Yukon Mining Recorder to describe the mineral tenure status of the property and believes, to the best of his knowledge, that this information is correct.

This report is based upon the results of geophysical fieldwork supervised by Andre Lebel of Aurora Geosciences Ltd. ("Aurora") and a geophysical summary report by Frank Dziuba of Aurora for BCGold. The line cutting was done by Coureur Des Bois (CDB) and sample data compilation and plotting was completed by Gary Lustig, M.Sc., P. Geo. of G. N. Lustig Consulting Ltd.

## **4.0 PROPERTY DESCRIPTION AND LOCATION**

The APEX mineral claims are located 80 kilometres NW of Carmacks and approximately 7 km northwest of the Minto Mine (Figs. 1, 2). The property falls within the Whitehorse Mining District on NTS map sheets 115I/11 and is centred at an easting of 383 120 and a northing of 6 951 790. The claims cover favourable geology and regional airborne magnetic anomalies and regional stream sediment anomalies that are prospective for Minto style copper-gold

mineralization. The mineral claims are registered to Shawn Ryan of Dawson City, Yukon and are under an option agreement to BCG.

In accordance with the Yukon Quartz Mining Act, yearly extensions to the expiry dates of quartz claims are dependent upon conducting \$100 of work per claim or paying the equivalent cash in lieu of work. Work must be filed in the year the work was completed. Excess work can be used to extend expiry dates up to maximum of four years. Assessment costs can be applied to adjoining claims through filing grouping certificates. Filing a statement of work and costs and submission of an assessment report to the Whitehorse Mining Recorder verifying completion of the work, are also required no later than six months after the anniversary date of the claim.

The claims are located within the Traditional Territory of the Little Salmon Carmacks First Nation, which has a land claim settlement Agreement under the Yukon Umbrella Final Agreement.

## **5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY**

Access to the property is by helicopter from Carmacks. Low precipitation and a wide temperature range characterize the climate. Winters are cold, and temperatures of -30° C to -40° C are common. Summers are moderately cool to hot, with daily highs of 15° C to 30° C. The town of Carmacks is the closest centre for obtaining groceries, fuel, accommodation and some limited rental and contracted exploration services. Trans North Helicopters maintains a summer helicopter base at Carmacks.

## **6.0 HISTORY**

The area covered by the APEX claims has seen some prior reconnaissance exploration work as part of the property work around the Minto mine deposit primarily by Hudson Bay Exploration and possibly by Black Giant ML., however there are no known historical showings within the property bounds.

In 2007 BCG completed an airborne magnetic and radiometric survey with 200m spaced lines that were flown over the entire belt claims.

In 2009 273 MMI samples were carried out by Ryanwood Explorations and based on the results this IP survey was conducted.

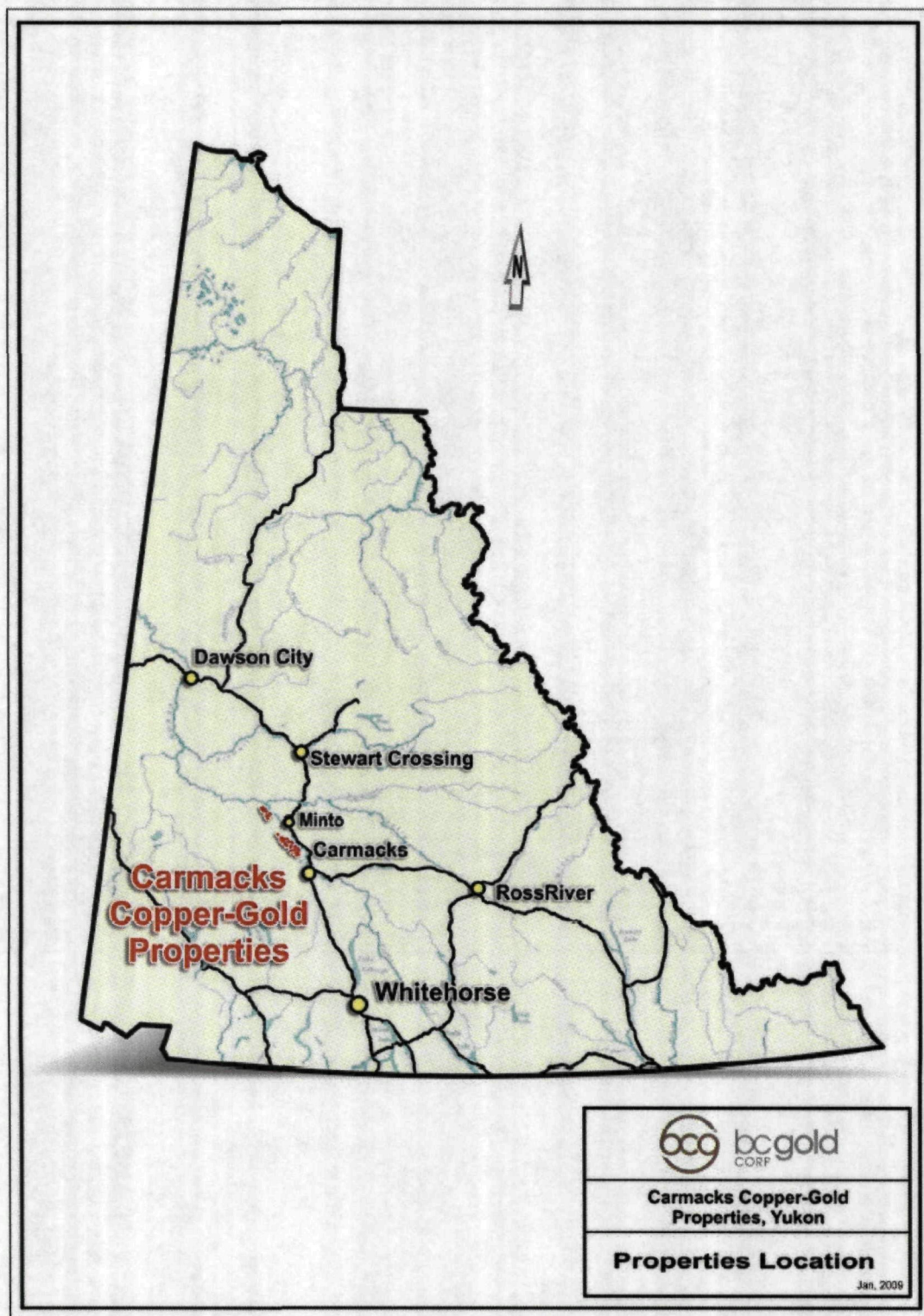


Figure 1: Carmacks area location map.



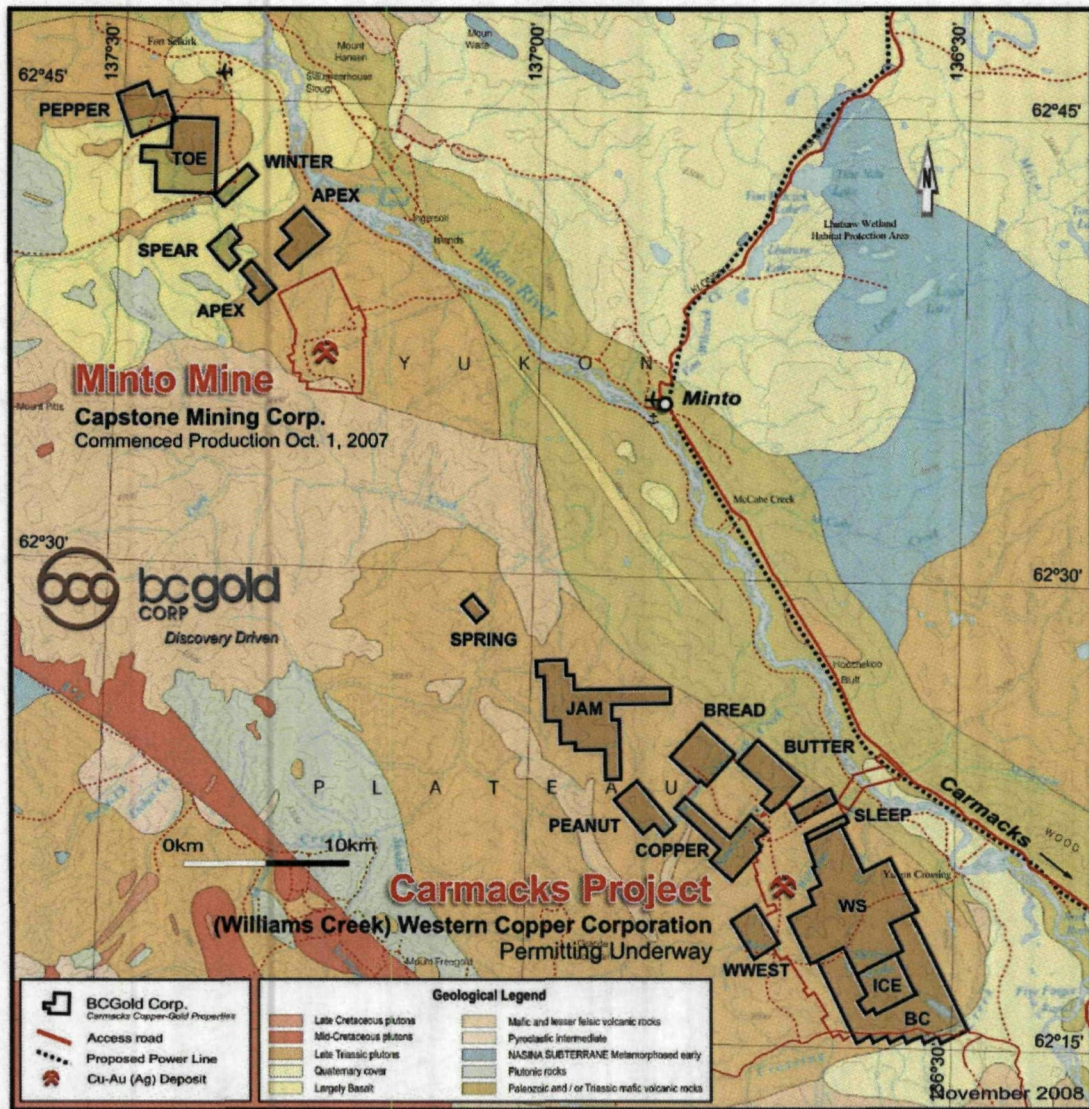


Figure 2: Carmacks regional geology and claim location map.



## **7.0 GEOLOGICAL SETTING**

### **7.1 Regional Geology**

The APEX claims are located approximately 7 kilometres northwest of Capstone's Minto Mine copper-gold deposits. This area of the Yukon is bounded by the Stikinia Terrane rocks to the east, Yukon Tanana Terrane rocks to the north and the Coast Plutonic Complex rocks to the west. The Williams Creek and Minto Area is underlain by the Early Jurassic Granite Mountain Batholith and the related Minto Pluton, which are unconformably overlain by sedimentary rocks and flows of the Late Cretaceous Tanatalus Formation and the Late Cretaceous Carmacks Group. These units are further overlain by Quaternary volcanic rocks. The Minto Pluton, as designated by the Yukon Government is referred to as the Klotassin Batholith in the Orequest technical report on the Minto Property (Cavey et al, 2005).

### **7.2 Property Geology**

The property geology consists mainly of aplite and pegmatite dikes which form topographic highs due to the greater resistance compared to the surrounding rocks. They range from centimetre to meter wide dikes and commonly strike northwest to southeast. Volcaniclastics are also present as small pods occurring on topographic high features. Outcrop is scarce (< 5%) and normally confined to rounded ridge tops and stream cuts.

## **8.0 EXPLORATION PROGRAMS**

### **8.1 Induced Polarization (IP) Survey**

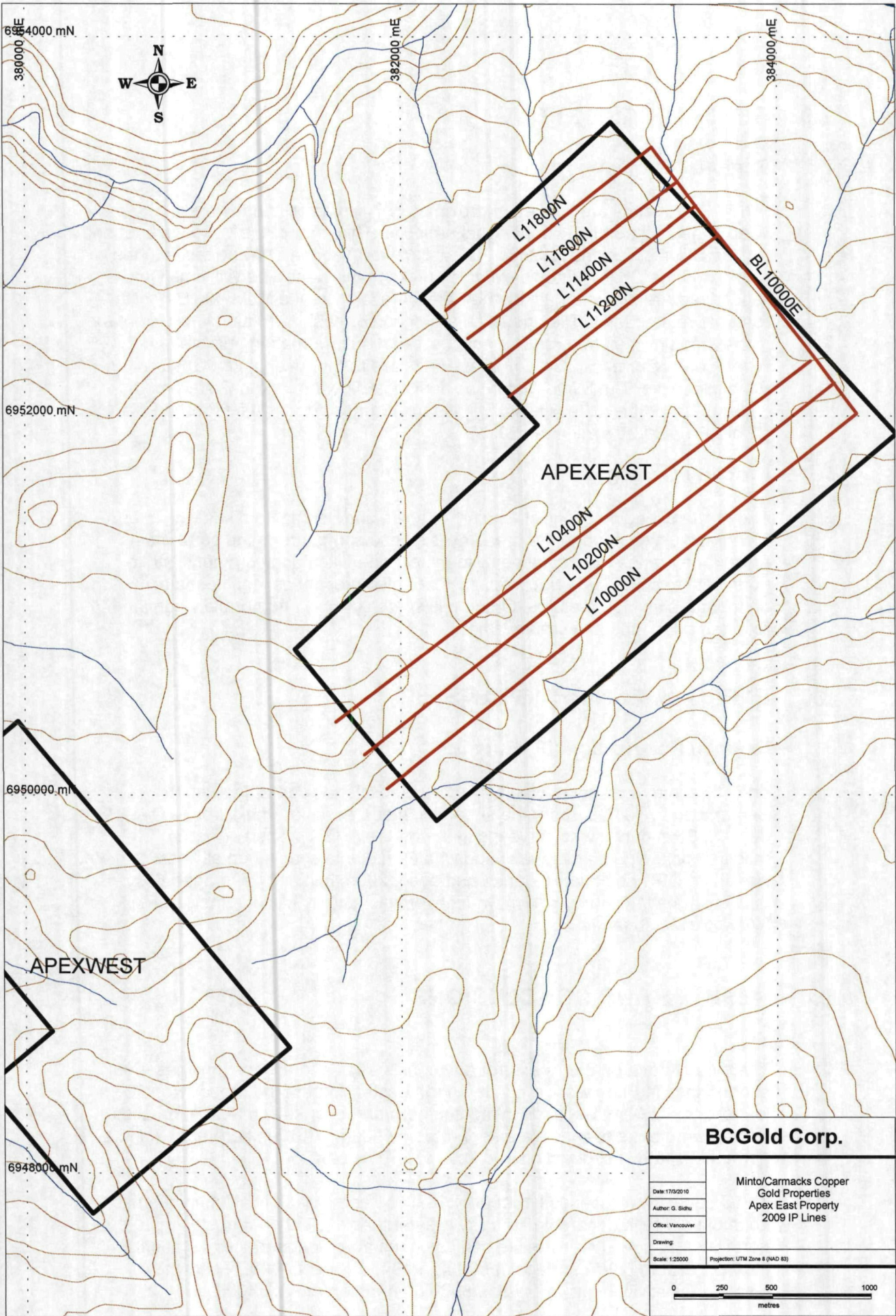
The IP survey was conducted by Aurora Geoscience during August 15<sup>th</sup> – September 11<sup>th</sup>, 2009 under the supervision of crew chief Andre Lebel. Over 28 days 15.3 km of line was surveyed in the on the APEX property (Fig. 3). A modified pole-dipole array was used with 50m dipole spacing on all lines. Handheld GPS points at line ends and every 200m minimum averaged 60s or until estimated accuracy < 10m, whichever was longer. All coordinates are in NAD83 UTM Zone 8N.

## **9.0 RESULTS AND CONCLUSIONS**

The survey done on the Apex property consisted of a total of seven lines. Four shorter lines (1.5km) were run in the north eastern part of the property and 3 longer lines (3.0km) were run in the southern part over known MMI anomalies. These two groups of lines were separated by 800m. The lines are oriented in a northeast southwest direction and spaced 200m apart.

The 3 southern most lines L10400n, L10200N, and L10000N all show a broad zone of very high apparent resistivity greater than 10,000 ohm-m striking to the northwest (Fig. 4). This resistive body plunges from near surface at station 7200E to 200m below surface at 8300E. L10400N and L10000N show two discrete resistivity highs averaging 8000 ohm-m centred at 8300E and





6954000 mN

382000 mE

384000 mE



6952000 mN

APEXEAST

L11800N

L11600N

L11400N

L11200N

BL1000E

L10400N

L10200N

L10000N

6950000 mN

APEXWEST

6948000 mN

**BCGold Corp.**

Date: 17/02/2010

Author: G. Sidhu

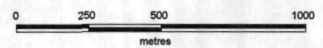
Office: Vancouver

Drawing:

Scale: 1:25000

Projection: UTM Zone 8 (NAD 83)

Minto/Carmacks Copper  
Gold Properties  
Apex East Property  
2009 IP Lines





approximately 90m below surface. These resistivity highs are coincident with chargeability highs with values up to 8.8 mV/V (Fig. 5). The chargeability highs have the same strike and dip character as the resistivity highs. This broad chargeability and resistivity high zone is proximal to elevated copper MMI values and magnetic lineament (Fig. 6).

The four shorter northern lines have resistivity values that are much lower compared to the western parts of the southern lines (Fig. 4). However, a contact with lesser resistive material can be picked out near stations 9150E. Chargeabilities averaging 4.5 mV/V occur proximal to these moderate resistivity values (Fig. 5). A narrow low resistivity feature running from station 9350E on L11800N to 9600E on L11200N occupies a topographic low (Dzubia, 2009). This topographic low may be related to a vertical gradient magnetic lineament indicating a fault (Fig 6.)

## **10.0 RECOMMENDATIONS**

The following recommendations should be considered based on the recent and past exploration work:

- i) Further geophysical surveys north of L10400N in order to define the open ended IP chargeability anomaly
- ii) Top priority for drilling should be the coincident areas of MMI, IP and magnetic anomalies found on L10200N, target APEX1 (Fig. 5)
- iii) The second drill target should be APEX2 (Fig. 5). Both of the aforementioned drill targets are in the projected Minto high grade copper-gold corridor.



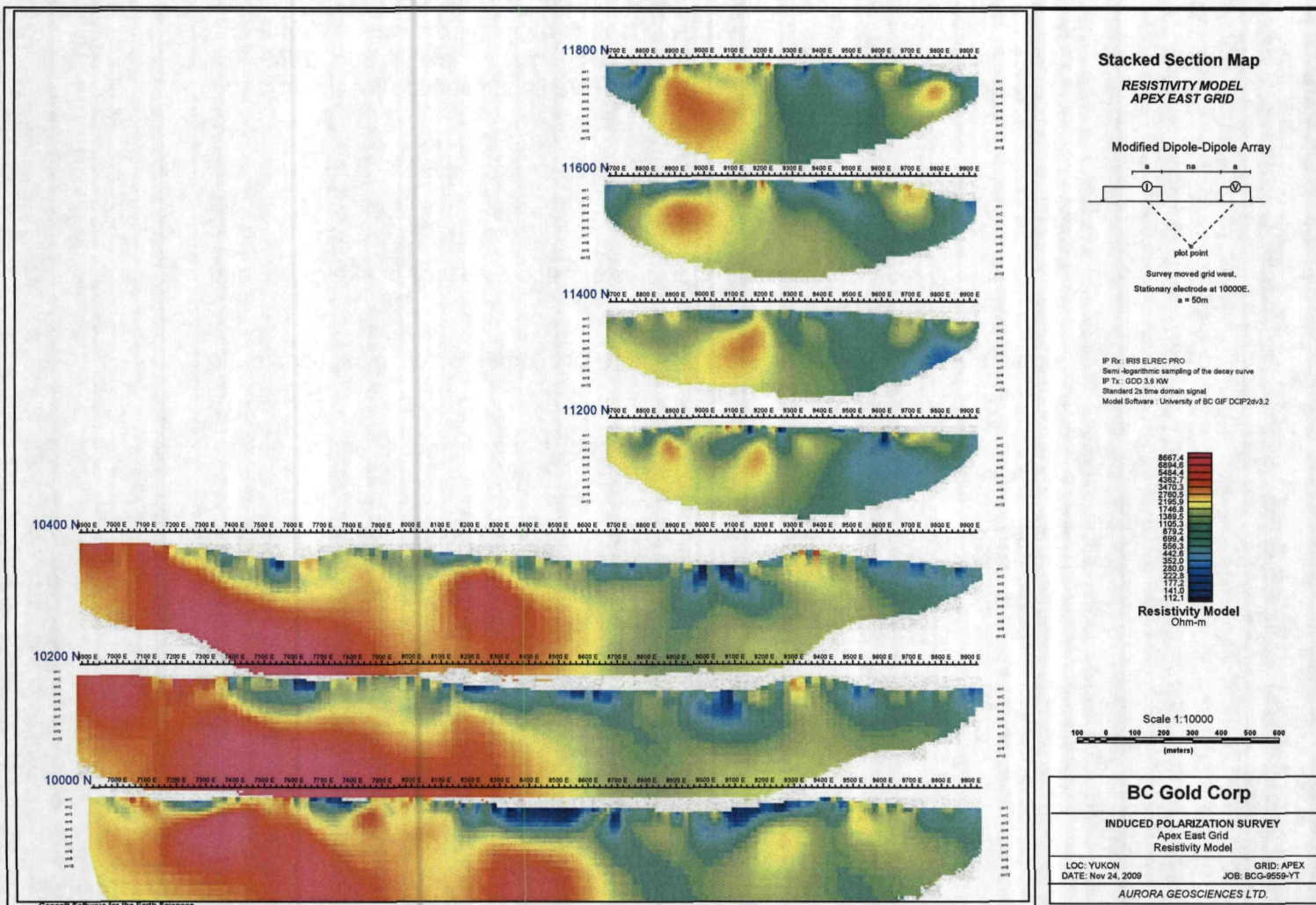


Figure 4: Apex E Resistivity Model



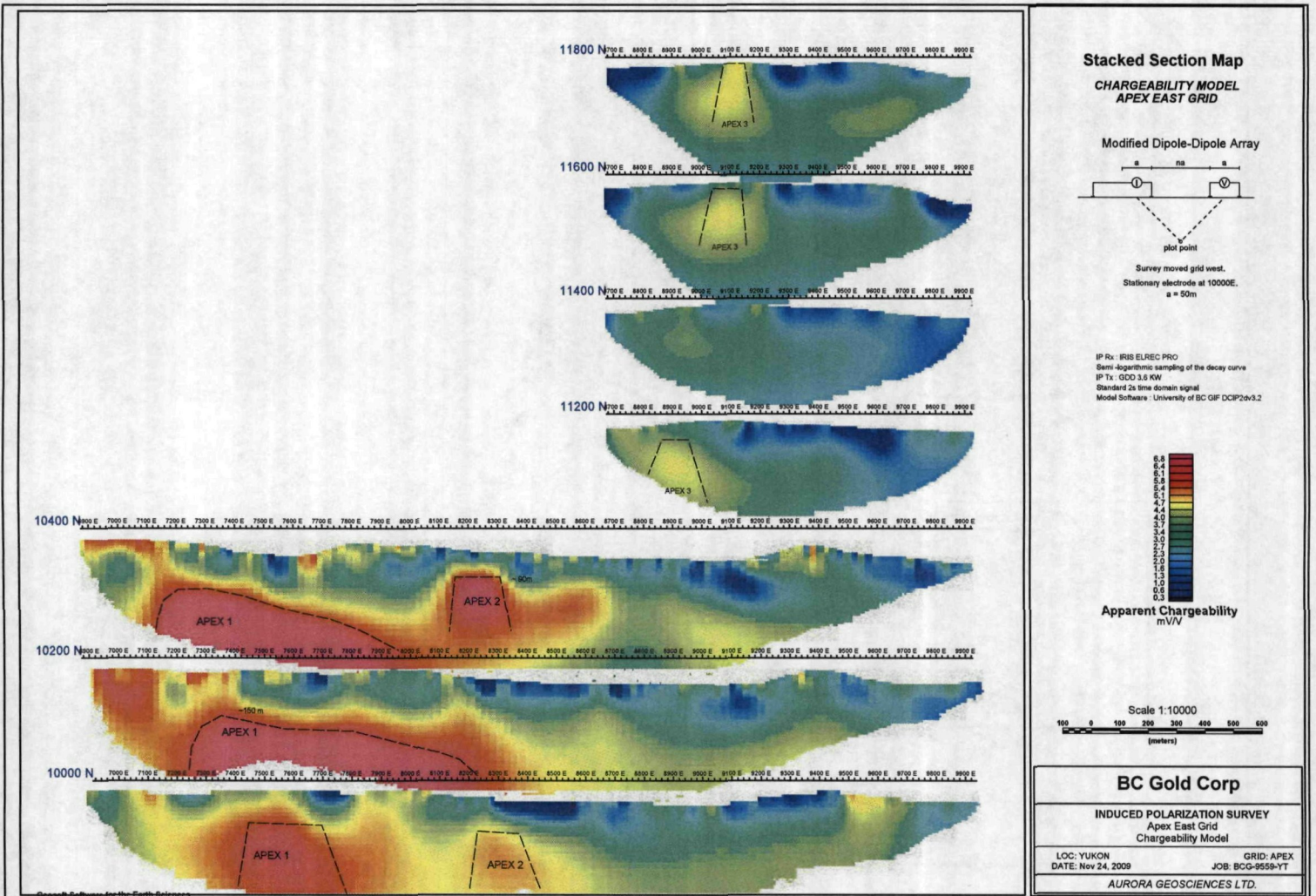
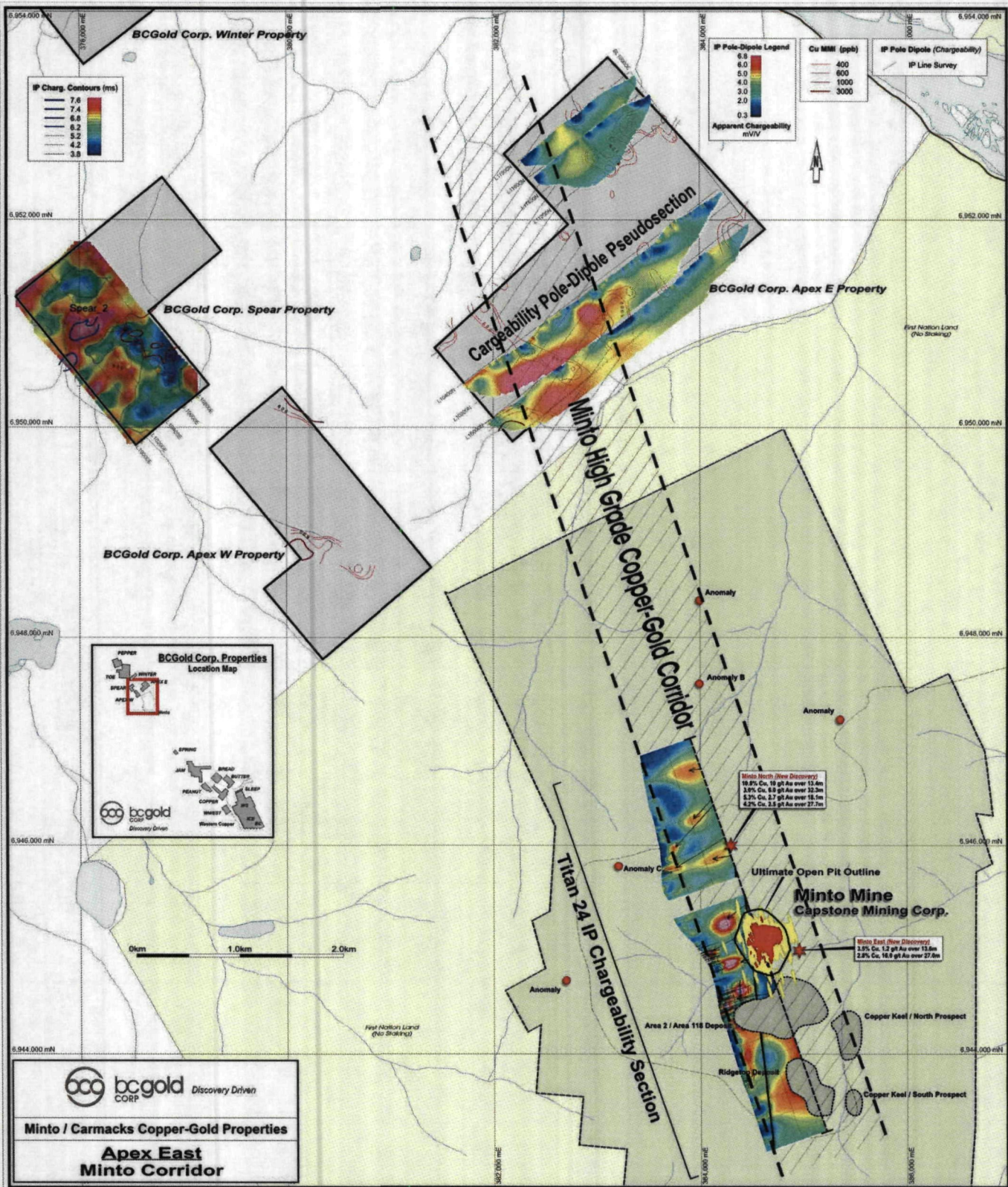


Figure 5: Apex E Chargeability Model





## **11.0 REFERENCE**

1. Dzuibia, Frank. 2009. Memorandum: Carmacks 2009 IP Surveys. December 15, 2009. Aurora Geosciences.



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## MEMORANDUM

**To:** Geoff Newton  
BC Gold Corp. **Date:** Sept 22, 2009

**From:** Andre Lebel

**Re:** 2009 Induced Polarization Survey Field Report

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This memorandum is a field report describing an induced polarization (IP) survey conducted on BC Gold properties. A modified pole-dipole IP survey was conducted on the ICE, Northeast WS, and APEX properties, Whitehorse Mining District, Yukon Territory. The survey was conducted from August 15, 2009 to September 11, 2009

A total of 12.8 line-km on the ICE grid over 11 working days, 9 line-km were surveyed on the Northeast WS grid over 5 working days, and 15.2 line-km on APEX grid over 7 working days. The poor production on the ICE grid was due to wet rainy weather, and L14600N on the Northeast WS grid was surveyed using 6 dipoles because of rainy weather. The camp for the ICE property was located at 417400E 6907400N NAD83 UTM zone 8N, and the only source of water nearby is Merrice Lake. The camp on the Northeast WS property was located at 419300E 6911800N NAD83 UTM zone 8N, and there were no sources of water in the area. The camp for the Apex property was located 383600E 6952200N NAD83 UTM zone 8N, and there were no sources of water in the area. A full survey log is attached to this report.

### a. Crew and equipment.

The IP surveys were conducted by the following personnel:

#### Crew

Andre Lebel	Crew chief	August 24 – September 11
Tim Stewart	Crew chief	August 15 – August 24
Dave Robinson	Technician	August 15 – September 11
Dan Mawhinney	Helper	August 15 – September 11
Alicia Cannata	Helper	August 15 – September 11

The IP crews were equipped with the following instruments and equipment:

IP receiver	1	Iris Elrec Pro   S/N: 2315-2023534501-122
IP transmitter	1	GDD TxII 3.6 kW   S/N: TX-242
Generator	1	Honda 5kW generator
IP equipment	2	Repair tools & spare IP parts
	8 km	18 gauge wire
	33	10 conductor 50m IP cables
	5	VHF handheld radios
		Geo-reels & spools, Speedy winders and spools, stainless steel electrodes
	2	Laptops with Geosoft IP packages
Other	1	4 man summer camps
	2	Garmin 76 GPS units
		Truck and driver for each move/ demobe and camp moves
		Helicopter for camp-moves between grids

**a. IP survey specifications.**

The modified pole-dipole IP surveys were conducted according to the following specifications:

Array	Modified Pole-Dipole Array
Dipole spacing	50 m on all lines
Dipoles Read	N=1 through 10 (10 Channels)
TX	Time domain, 50% duty cycle, reversing polarity, 0.125 Hz.
Stacks	Minimum 15
Rx error	a standard deviation of 5 mV/V or less, otherwise repeated several times until repeatability assured
Grid registration	Handheld GPS points at line ends and every 200m minimum averaged 60 s or until estimated accuracy < 10 m. All coordinates are in NAD83 UTM Zone 8N.



## **b. Data Processing.**

Data was downloaded nightly from the receiver and imported into the Geosoft Oasis Montaj IP package. Every reading was inspected and readings which did not repeat were rejected from the database. Apparent resistivity was recalculated using a four electrode equation assuming a homogeneous earth. Average chargeability was calculated using a weighted mean based on the number of stacks and the standard deviation of the chargeability.

The ground provided clear and consistent readings. However, in those areas that produced a relatively lower signal to noise ratio additional readings as well as greater stacks of averaged readings were taken in order to ensure repeatability. GPS points were dumped from the handheld units and the coordinates for the stations determined by linear interpolation between GPS points. Elevations were determined from a digital elevation model equivalent to NTS 1:50:000 maps. Pseudosections of apparent chargeability, apparent chargeability error, and apparent resistivity were draped over topography which were produced with Oasis Montaj.

## **c. Products.**

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

Data	Final data in Geosoft ASCII xyz and gdb format. The GPS files have all GPS coordinates taken in NAD83, UTM zone 8N coordinates.
Images	Pseudosections in .pdf format of apparent chargeability, apparent resistivity, & chargeability error (scale = 1:5000). Grid maps with GPS coordinates in NAD83, UTM zone 8N (scale = 1:5000 For NEWS and 1:10000 for Ice and Apex).
Raw	A folder with all the raw instrument dump files.
BC Gold 2009 IP Field Report.pdf	A PDF of this report.
Field Summary BC Gold IP summer 2009.xls	Survey log

Respectfully submitted,  
AURORA GEOSCIENCES LTD.

Andre Lebel