



## **BCGold Corporation**

# **2008 Geophysical Report on the Spear Property**

Claims SPEAR 1 - 12  
Grant Numbers YC 46722 - 46725  
YC 66540 – YC 66547

Owned by Shawn Ryan (100%)

Located in the Minto area  
Whitehorse Mining District  
NTS 115I/11

62<sup>0</sup> 40' N  
137<sup>0</sup> 23' W

Prepared by  
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Work performed  
July 4<sup>th</sup> to 13<sup>th</sup>, 2008

## **Abstract**

The Spear property consists of 12 claims: SPEAR 1 - 12. The property is located about 90km northwest of Carmacks, Yukon in the Whitehorse Mining District. The claims are owned 100% by Shawn Ryan of Dawson City, YT and are under option to BCGold Corp. The property is underlain by early Jurassic foliated and non-foliated granitoid rocks of the Minto Pluton. A gradient array induced polarization survey was conducted in July 2008. The survey outlined several linear anomalies. Geological mapping and prospecting and a possible tighter-spaced follow up induced polarization survey is recommended to define drill targets.

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## **1.0 Introduction and Terms of reference**

The Spear property consists of 12 claims. The Spear property is owned 100% by Shawn Ryan, of Dawson City, YT subject to an option agreement with BCGold Corp (“BCGold”) whereby BCGold can earn a 100% in the Spear property as part of a larger set of claims located in the Carmacks copper-gold belt.

This report describes work completed on July 19<sup>th</sup> – 24<sup>th</sup>, 2008 on the SPEAR 1-12 claims to comply with reporting requirements under the Yukon Quartz Mining Act.

## **2.0 Reliance on other experts**

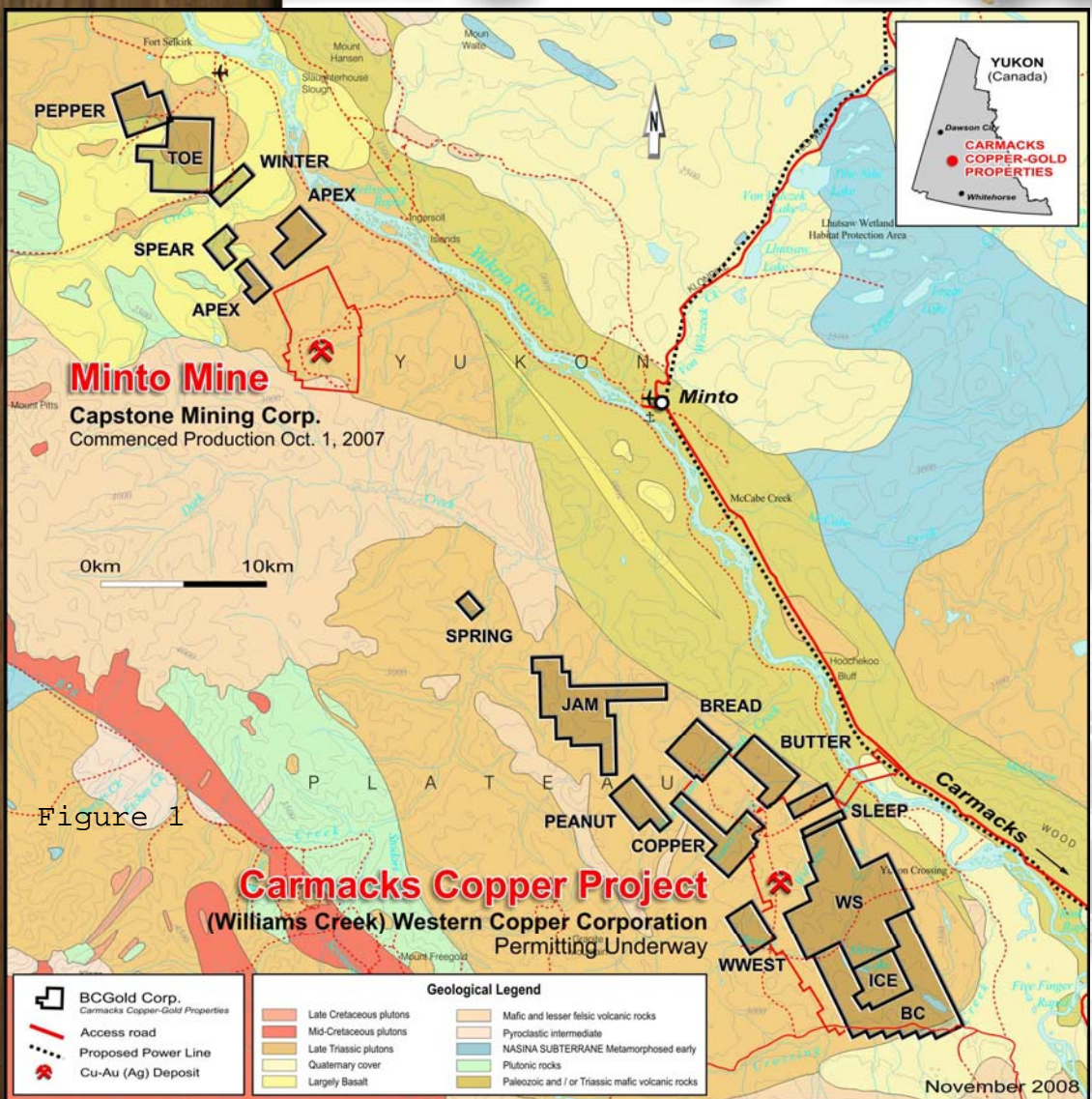
This report is based upon the results of fieldwork supervised by Ivan Drury of Aurora Geosciences Ltd. (“Aurora”) and reports prepared by Aurora for BCGold. There is no reason to believe that any of this information is incorrect.

Information provided by the Yukon Mining Recorder’s website was used to describe the mineral tenure status of the property. This information is believed to be correct.

## **3.0 Property Description and Location**

The Spear property is located in the Yukon’s Dawson Range about 90km northwest of Carmacks, in the area covered by NTS map sheet 115I/11 (Fig. 1). The Spear property consists of claims SPEAR 1 - 12 (Fig. 2).

Claims SPEAR 1-12 were staked under the Yukon Quartz Mining Act in the Whitehorse Mining District. The SPEAR Claims are all owned 100% by Shawn Ryan and are under option to BCGold (Table 1).



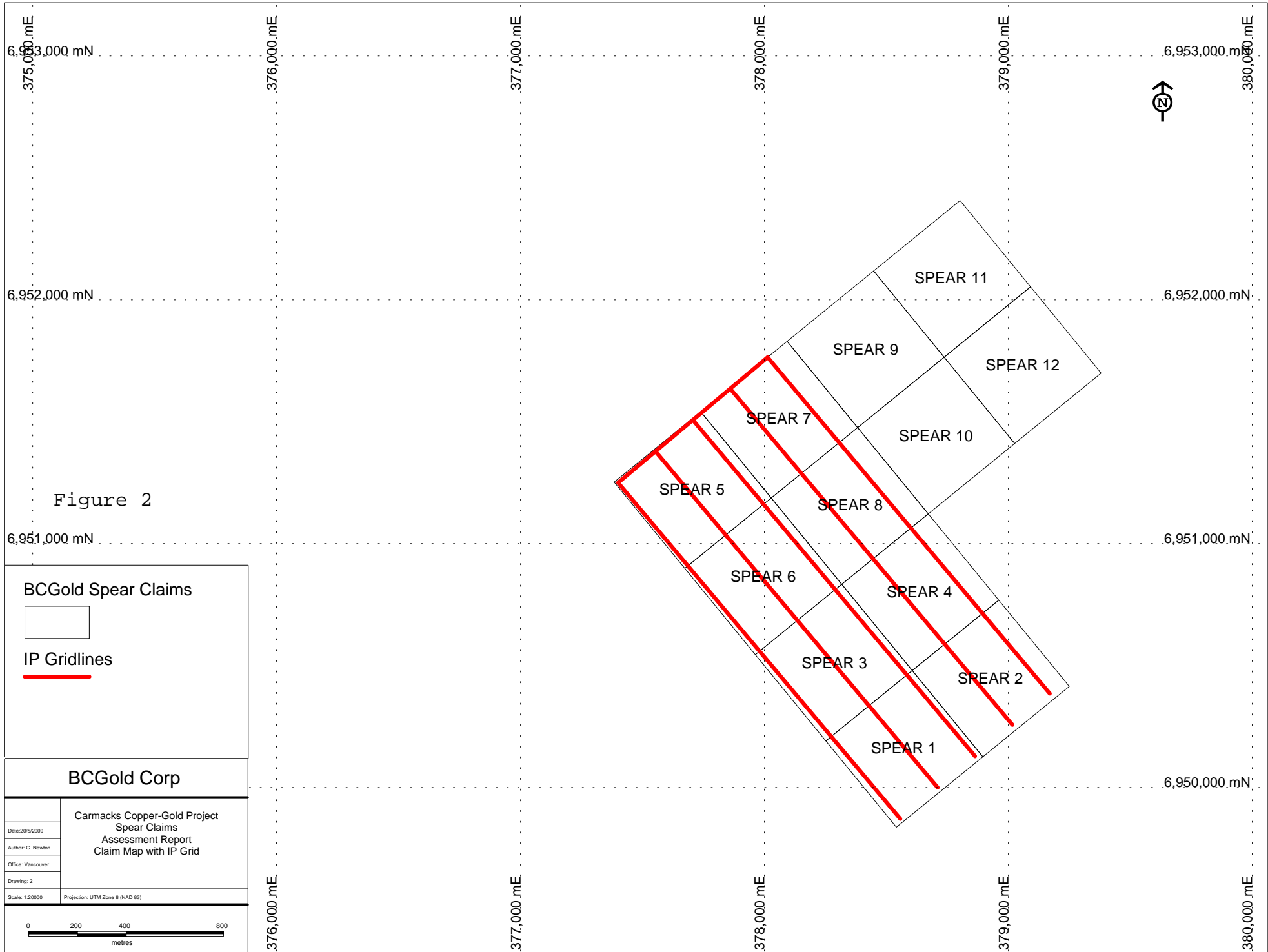


Figure 2

**BCGold Spear Claims**



**IP Gridlines**



**BCGold Corp**

Carmacks Copper-Gold Project  
Spear Claims  
Assessment Report  
Claim Map with IP Grid

Date: 20/5/2009

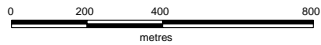
Author: G. Newton

Office: Vancouver

Drawing: 2

Scale: 1:20000

Projection: UTM Zone 8 (NAD 83)



**Table 1  
List of Claims**

District	Grant Number	RegType	ClaimName	Claim Nbr	Claim Owner	Recording Date	Expiry Date	Status	NTS MapNumber
Whitehorse	YC46722	Quartz	SPEAR	1	Shawn Ryan - 100%.	3/24/2006	3/24/2015	Active	115I11
Whitehorse	YC46723	Quartz	SPEAR	2	Shawn Ryan - 100%.	3/24/2006	3/24/2015	Active	115I11
Whitehorse	YC46724	Quartz	SPEAR	3	Shawn Ryan - 100%.	3/24/2006	3/24/2015	Active	115I11
Whitehorse	YC46725	Quartz	SPEAR	4	Shawn Ryan - 100%.	3/24/2006	3/24/2015	Active	115I11
Whitehorse	YC66540	Quartz	SPEAR	5	Shawn Ryan - 100%.	11/21/2007	11/21/2013	Active	115I11
Whitehorse	YC66541	Quartz	SPEAR	6	Shawn Ryan - 100%.	11/21/2007	11/21/2013	Active	115I11
Whitehorse	YC66542	Quartz	SPEAR	7	Shawn Ryan - 100%.	11/21/2007	11/21/2013	Active	115I11
Whitehorse	YC66543	Quartz	SPEAR	8	Shawn Ryan - 100%.	11/21/2007	11/21/2013	Active	115I11
Whitehorse	YC66544	Quartz	SPEAR	9	Shawn Ryan - 100%.	11/21/2007	11/21/2013	Active	115I11
Whitehorse	YC66545	Quartz	SPEAR	10	Shawn Ryan - 100%.	11/21/2007	11/21/2013	Active	115I11
Whitehorse	YC66546	Quartz	SPEAR	11	Shawn Ryan - 100%.	11/21/2007	11/21/2013	Active	115I11
Whitehorse	YC66547	Quartz	SPEAR	12	Shawn Ryan - 100%.	11/21/2007	11/21/2013	Active	115I11

Source: Yukon Mining Recorder Website. Information current to May 12<sup>th</sup>, 2009



## 4.0. Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Spear property is helicopter-accessible only. Precipitation in the area is low. Winters are cool and temperatures of  $-30^{\circ}$  to  $-40^{\circ}\text{C}$  are common. Summers are moderately cool to hot with daily highs of  $15^{\circ}$  to  $30^{\circ}\text{C}$ . The towns of Carmacks and Pelly Crossing are the closest centres for obtaining groceries, fuel, accommodation and some limited rental and contracted exploration services. Trans North Helicopters maintains a seasonal helicopter base in Carmacks (Doherty, 2007).

## 5.0 History

The area covered by the SPEAR 1-12 claims may have seen some prior reconnaissance exploration work as part of the property work around the Minto deposit, but no reference to work prior to staking in 2006 has been located (Doherty, 2007). Helicopter-borne magnetometer and scintillometer surveys were flown over the property by BCGold in July 2007. 100 MMI samples were collected by BCGold on the property in 2007.

## 6.0 Geology

### 6.1 Regional Geology

The Spear property is underlain by the Early Jurassic Minto Pluton (Hood et al, 2009), which is intrusive into the Paleozoic Yukon-Tanana Terrane (Gordey and Makepeace, 1999). These intrusive rocks are locally unconformably overlain by Late Cretaceous Carmacks Group volcanic rocks and Quaternary Selkirk Volcanics (Hood et al, 2009). Outcrop in the area is very sparse. The area is unglaciated and rocks are deeply weathered (Mortensen and Tafti, 2003).

### 6.2 Property Geology

The Spear property is underlain by foliated to non-foliated hornblende-biotite granodiorite with minor aplite dykes.

## 7.0 Work Program/Method

### 7.1 Line Cutting

A field crew from Coureur des Bois Ltd. of Whitehorse, YT cut the IP gridlines in June 2008 (Fig. 2).



## 7.2 Gradient array induced polarization survey

A field crew from Aurora conducted a gradient array induced polarization survey from July 19<sup>th</sup> to 24<sup>th</sup>. Details of the survey are included in appendices 1, 2 and 3. The digital data from the survey is included in appendix 4, on the CD-ROM included with this report.

## 8.0 Results and Interpretation

The induced polarization survey outlined three features of higher chargeability: A, B and C and an area of lower resistivity (Figs. 6 and 7).

### Feature A

Feature A has a moderate chargeability anomaly. This anomaly is not strongly correlated with either resistivity anomalies or elevated MMI copper values.

### Feature B and Feature C

Feature B and C are a pair of subparallel chargeable linear features south of feature A. These anomalies are not strongly correlated with either resistivity anomalies or elevated MMI copper values.

The eastern edge of the surveyed area has lower resistivity. This resistivity low is not well correlated with a chargeability anomaly. None of the IP anomalies are strongly correlated with elevated copper values from earlier MMI sampling.

## 9.0 Recommendations

The anomalies identified by the gradient array induced polarization survey should be thoroughly mapped and prospected. If prospecting results suggest that mineralization is associated with any of the anomalies discovered, extra gridlines could be cut between the existing gridlines and a closer-spaced follow up pole-dipole or dipole-dipole induced polarization survey could be run over the existing anomalies to better define possible drill targets.



## 10.0 Statement of costs

### **SPEAR 1-12 Claims YC 46722 – YC 46725 and YC 66540 – 66547 NTS 115I/11**

One certificate of work was filed in November 2008 covering the SPEAR claims. The work was completed from July 4<sup>th</sup> to 13<sup>th</sup>, 2008 on the following claims:

#### **Certificate 1**

SPEAR 1 – 8 YC 46722 – YC 46725 and YC 66540 – YC66543

Renewals were requested for :

SPEAR 1-12 YC 46722 – YC 46725 and YC 66540 – 66547

Renew for 5 years

Total exploration expenditures required \$6,000.00



### Detailed statement of work

Item	Cost
Coureur des Bois Ltd. 23-Jun-08	\$13,544.60
Total invoices from Coureur des Bois Ltd. Were \$144,291.47 for 104.4km of linecutting. The average cost per km was \$1,382.10. Coureur des Bois cut 9.8km of line on the Spear claims, for an estimated cost of \$13,544.60	
Aurora Geosciences Ltd. 31-Jul-08	\$20,482.63
Total invoices from Aurora Geosciences Ltd. Were \$197,771.17 for 86.9km of IP surveys. The average cost per km was \$2,275.85. Aurora Surveyed 9.0km of line on the Spear claims, for an estimated cost of \$20,482.63	
<b>Total</b>	<b>\$34,027.23</b>

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Geoff Newton, G.I.T.  
Project Geologist  
**BCGold Corp**  
May 20<sup>th</sup>, 2009



## 11.0 Certificate of qualifications

I, Geoff Newton, hereby certify that:

1. I am a Project Geologist with BCGold Corp, #1400, 625 Howe Street, Vancouver, BC, V6C 2T6
2. I am a graduate of Laurentian University, with a degree in Geology (B.Sc. Honours, 2005).
3. I have been involved in mineral exploration in the Yukon continuously since 2005.
4. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia and have been registered as a Geoscientist in training since 2008.
5. I am the author of all sections of this report, except where cited, on the SPEAR 1-12 claims. The report is based on fieldwork conducted in June and July 2008 and company files.

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Geoff Newton, G.I.T.  
Project Geologist  
**BCGold Corp**  
May 20<sup>th</sup>, 2009



## 12.0 References

- Doherty, R.A. 2007. Assessment report on the APEX 1-39 claims (YC47182 – YC47220) Wolverine Creek area, Yukon. Yukon Assessment Report #
- Gordey, S.P. and Makepeace, A.J. (comp). 1999. Yukon bedrock geology in Yukon digital geology, S.P. Gordey and A.J. Makepeace (comp.); Geological Survey of Canada Open File D3826 and Exploration and Geological Services Division, Yukon, Indian and Northern Affairs Canada, Open File 1999-1(D)
- Hood, S., Hickey, K., Colpron, M. and Mercer, B.. 2009. High-grade hydrothermal copper-gold mineralization in foliated granitoids at the Minto mine, central Yukon. Yukon Exploration and Geology 2008: 137-146.
- Mortensen, J.K. and Tafti, R.. 2003. Nature and origin of copper-gold mineralization at the Minto and Williams Creek deposits, west-central Yukon: Preliminary investigations. Yukon Exploration and Geology 2002: 175-182.



## **Appendix 1**

### **Aurora Geosciences Ltd. Field Crew Survey Log 11 August 2008**

## SURVEY LOG BCG-8533-YT BC Gold Gradient IP

Crew chief	Ivan Drury	July 4 - August 5
Field Hand	Olivier Barre	July 4 - August 1
Field Hand	Nicolas Tremblay	July 4 - August 1
Field Hand	Stacey Bishop	July 4 - August 1
Linecutter Crew Chief	Gaetan Cyr	July 25 - July 31
Brusher	Dan Mackenzie	July 25 - July 31
Linecutter	Richard Smaslet	July 25 - August 1
Brusher	Ben Power	July 25 - August 1
Field Hand	Kim Ayles	August 1 - August 5
Field Hand	Dan Mackenzie	August 1 - August 5
Field Hand	Gaetan Cyr	August 1 - August 5

LINECUTTER TOTALS	
Days worked	6
Standby days	0
Travel days	2
Line-Km cut	6.5 Km

IP SURVEY TOTALS	
Days surveyed	23
Standby days	4
Half-survey / half-travel	2
Travel days	4
Line-Km surveyed	54.55 Km

Date	Grid	IP Survey		Total	Linecutting	Survey	Remarks
		Lines	Stations	(line-km)	Line Km Done	Hours	
Jul-04	Spear						Travel day. Drove from Whitehorse to the Minto landing strip with one truck and one driver. Flew to the Spear Grid camp by Transnorth helicopter; two trips with crew and gear and four sling loads. ID located and cut a heli-pad for the transmitter location. Set up camp.
Jul-05	Spear					10	Survey day. All crew on current wire. Set out current wire for the Spear grid. Ran out of wire 500m short of complete circuit. WEATHER: Warm and sunny in the AM. Periodic rain in the afternoon. Helicopter made 1 trip in to drop off a supply of water because the area is completely dry.
Jul-06	Spear					9	Survey day. All crew on current wire. Rolled up current wire on the north end of the grid to re-set it 500m closer to the grid to make up for being short of wire to complete the circuit. When the wire was laid out, we had an open loop. Did not fix it before work was halted due to a serious safety incident. WEATHER: Thunder storms of varying intensity all day. Had to stop work in the afternoon for 2 hours due to a heavy thunder and lightning storm directly overhead. SAFETY INCIDENT: An adult black bear entered camp, ripped out the wall of the food tent and got into camp food supplies. OB saw it and scared it off with a bear banger. The bear returned two more times. OB shot it with the shotgun twice on its last visit. It ran off injured.
Jul-07	Spear						Standby day. Stayed up all night and all day in shifts to watch over camp in case the bear returned. From 3pm to 6pm OB and ID attempted to track the bear to find out if it was dead or injured. Gave up the search due to safety concerns when tracks entered a swampy area that was dense with willow with very poor visibility. Did not work due to safety concerns because of uncertainty about the condition and location of the bear. WEATHER: periodic rain with storms in the afternoon.
Jul-08	Spear						Standby day. Made a bear alarm out of fishing line and cans last night so we did not do shifts in the kitchen tent like the night before. Did not work due to safety concerns because of uncertainty about the condition and location of the bear. Contacted the Aurora office to request a second firearm so the crew can work in pairs with one gun to each pair. Will remain on standby until the second firearm and a bear fence arrives by helicopter. The Aurora office is in contact with the government about protocols for dealing with the bear incident. WEATHER: periodic rain.
Jul-09	Spear						Standby day. Helicopter came in with a Conservation officer and RCMP officer to investigate the bear incident. They brought the additional firearm and a bear fence with them. Set up the bear fence but it was too late at that point to begin the day.
Jul-10	Spear	10000 10200	10000-11800 10000-11800	1.8 1.8 TOTAL 3.6km		14	Survey day. ID on Rx, SB on Tx, OB and NT on cables. After 3 days off there were more than 15 breaks in the current line, including one break where the bear carried off 130m of wire into the bush. More than 30m of this broken wire was smeared with the bear's blood. Worked fixing breaks in the current wire from 8am until 3:30pm; when we started surveying. Long day. WEATHER: Fair and mostly sunny all day. EQUIPMENT: Broke a new cable on the first pull on the first line, then the same cable broke again later in the day and we ended up running a wire from the 250m point to the end for the



rest of the day. Retired it for repair at the end of the day and will use the backup cable until it's fixed.

Jul-11	Spear						Standby day. A bear came back to camp again during the night, ripped the side of the tent open and got into the food again - with the bear fence armed. Stayed in camp because the lines run straight through its flight paths and we felt it likely that it would return to camp again. It did not. Ivan and Olivier went out looking for the bear for 2 hours in the afternoon without any results.
Jul-12	Spear	10400 10600	10000-11800 10000-11800	1.8 1.8 TOTAL 3.6km			10 Survey day. ID on Rx, NT on Tx, OB and SB on cables. Fewer breaks in the current wire, fixed in the AM. Ran the survey with tight safety and security practices; worked only one line at a time to have everyone together with the Rx, carrying the second firearm. Ran the cables two at a time on each line with the Rx plugs meeting in the centre, so the harness would be alternately plugged in forwards (1 to 7) and backwards (7 to 1). WEATHER: patchy cloud most of the day with a heavy thunderstorm at 5pm that lasted half an hour and then passed.
Jul-13	Spear	10800	10000-11800	1.8 TOTAL 1.8km			9 Survey day. ID on Rx, OB on Tx, SB on cables, NT on current wire. Some far apart breaks in current wire, took 3 hours to fix. NT stayed out on the current wire line while ID and SB dragged cables and read the last line of the grid. ID and SB packed up the cables, OB packed up Tx site and the wire near the Tx, NT rolled up wire along the west side of the grid. Wire on the south side will be rolled up tomorrow morning. WEATHER: Sunny and hot all day. SAFETY: Some initial signs of heat exhaustion in some crew. Rested and drank lots of water. EQUIPMENT: Cable broke on L10800, fixed in the field.
Jul-14	Toe						12 Survey / Travel day. ID and SB finished rolling up the current wire from Spear grid while OB and NT packed up camp. Demobed from Spear grid to Toe grid by helicopter; 5 sling loads and 2 trips with crew. The GPS points for Toe grid were off by 1.5km so it was necessary to replan camp and Tx locations from the air. ID replotted line and current pit locations in the evening after everyone set up camp.
Jul-15	Toe						9 Survey day. All crew on current pit building. Set up pits for the southern 600m box of the Toe grid. Pits were set at 1.8km from line ends, as consulted with the office project manager.
Jul-16	Toe	11100 10900 10700 10500 10300	10000-10600 10000-10600 10000-10600 10000-10600 10000-10600	0.6 0.6 0.6 0.6 0.6 TOTAL 3km			11 Survey day. ID on Rx, NT on Tx, SB on cables, OB on pit building. EQUIPMENT: There were no breaks in the wire in the AM but there were numerous sections of failed wire that had to be carefully checked and repaired before we could run the survey. Cables broke three times on the lines, once from animal chewing. WEATHER: Hot and sunny all day. Finished the southern box (600m) of the Toe grid. OB set up the pits for the northern 900m box of the grid.
Jul-17	Toe	10300 10500 10700 10900 11100	10550-11500 10550-11501 10550-11502 10550-11503 10550-11504	0.95 0.95 0.95 0.95 0.95 TOTAL 4.75km			9 Survey day. ID on Rx, SB on Tx, OB and NT on cables. WEATHER: Sunny in the AM and storm clouds came in the afternoon with no storm. Had no breaks in the current wire today. Finished Toe grid.
Jul-18	Toe						7 Survey day. All crew worked rolling up current wire. WEATHER: Rain until 5pm.
Jul-19	Pepper						Travel day. Demobed from Toe grid, set up camp at Pepper grid. There is evidence of bear activity in the area around Pepper camp so we set up the bear fence with two lines around the kitchen and sleeping tent. EQUIPMENT: Mobe to Pepper grid took 5 sling loads with the helicopter and 2 loads of crew members.

Jul-20	Pepper					8	Survey day. All crew set up current wire. Ran out of wire laying out the grid so we have none to spare and must roll up the pits for the south box before laying out the centre and north box current pits. SAFETY: Had two bear sightings while laying out current wire; both within 100m of camp. In both cases the bear ran off. Keeping the bear fence armed at night.
Jul-21	Pepper	10000 10000 10200 10400 10600	10000-10900 10800-11400 10000-10900 10000-10900 10000-10900	0.9 0.6 0.9 0.9 0.9 TOTAL: 4.2km		10	Survey day. ID on Rx, OB on Tx, SB on cables, NT on cables and current wire. Had 4 current wire breaks after the first reading of the day, lost nearly 2 hours to fixing the breaks. While ID and SB finished the south box, NT headed to the north pit to roll up wire and lay out the centre box's north pit. After reading 600m on the centre box, had another break in the current wire and called it a day. WEATHER: Rained heavy all night. Periodic cloud and cool all day with some showers.
Jul-22	Pepper	10000 10200 10400 10600	11400-11700 10800-11700 10800-11700 10800-11700	0.3 0.9 0.9 0.9 3 TOTAL: 3km		10	Survey day. ID on Rx, NT on Tx, SB and OB on cables. Readings were slow due to poor signal to noise ratio compared to other boxes on the grid. Where standard deviation was above threshold, numerous repeats at stacks of 15 were taken to ensure repeatability. WEATHER: Overcast all day, with periodic light rain and wind. Called the GSC data centre for space weather report and the Auroral zone was quiet.
Jul-23	Pepper	10000 10200 10400 10600	11600-12500 11600-12500 11600-12500 11600-12500	0.9 0.9 0.9 0.9 TOTAL: 3.6km		10	Survey day. ID on Rx, SB on Tx, OB and NT on cables. WEATHER: Mostly clear with wind and light cloud. Finished Pepper grid.
Jul-24	Pepper					5	Survey day. All crew rolling up current wire. Cleaned up the grid and prepared for mobe to Peanut. WEATHER: Overcast in the AM, rain in PM.
Jul-25	Peanut						Travel day. Demobed from Pepper to Peanut. Set up camp at Peanut. Mobe took 4 sling loads with the helicopter and 2 trips with crew. LINECUTTER crew of 4 mobed into the Toe grid by helicopter. 1 truck and driver drove them from Whitehorse to the Five Finger Rapids staging area. 2 internal loads and 4 sling loads done by helicopter.
Jul-26	Peanut	12200	11500-10000	1.5 Linecutting L10300 L10500 TOTAL: 1.35km		9	Survey day. ID on Rx, OB on Tx, SB on current, NT on cables. Set up and read the first line of the Peanut grid. Checked gear in the AM and still had 3 broken cables on the line (2 shorts and one that broke with use). Found the ground to be highly resistive and difficult to pass a current through because of 1 to 3 feet of volcanic ash that lay everywhere just beneath the surface moss. Experimented with deeper pits and ended up digging mobile current pits at every station for the second current position. WEATHER was warm and clear.
Jul-27	Peanut	12000 11800	11500-10000 11500-10000	1.5 Linecutting L10300 L10500 TOTAL: 1.2km TOTAL: 3km		11	Survey day. ID on Rx, NT on Tx, OB on current wire, SB on cables. Difficult current conditions continued so we continued to dig pits for each location. WEATHER was mostly clear with some cloudy periods. SAFETY: OB and ID saw a pack of wolves at the south end of line 12000; they ran off. Did not consider them a serious safety issue.
Jul-28	Peanut	11400 11600	11500-11000 11500-10000	1.5 Linecutting L10700 L10900 TOTAL: 1.25km TOTAL: 3km		9	Survey day. ID on Rx, SB on Tx, OB on cables, NT on current. WEATHER mostly cool and clear.

Jul-29	Peanut	11200 11000 10800	11500-11000 11500-11000 11500-11000	1.5 1.5 1.5 TOTAL: 4.5km	Linecutting L10700 L10900 TOTAL: 1.6km	10	Survey day. ID on Rx, OB on Tx, SB on current, NT on cables. OB left the Tx to help with line changes and we managed a very productive day. WEATHER cloudy and cool. EQUIPMENT: 1 Helicopter flight in to deliver drinking water.
Jul-30	Peanut	10600 10400	11500-10000 11500-10000	1.5 1.5 TOTAL: 3km	Linecutting L10900 L11100 TOTAL: 1.8km	8	Survey day. ID on Rx, NT on Tx, SB on cables, OB on current. WEATHER: Light rain all day. SAFETY: SB noted a bear den on line 10400 station 10550; OB saw an unidentifiable animal inside the den.
Jul-31	Peanut	10200 10000	11500-10000 11500-10000	1.5 1.5 TOTAL: 3km	Linecutting L11100 TOTAL: 0.3km	9	Survey day. ID on Rx, SB on Tx, OB on cables, NT on current. WEATHER: light cloud in the AM, overcast PM. Finished the Peanut grid and cleaned up all wire.
Aug-01	Toe					5	Travel / Survey day. Demobed Peanut grid. SB, OB and NT demobed to Whitehorse with a truck shared with two linecutters who demobed at the same time from Toe grid. One truck and driver, KA, came from Whitehorse and joined ID in a mobe into Toe grid. Overall there were 3 sling loads, 3 crew loads and 1 separate internal gear load done by helicopter for both mobes. The new crew at Toe grid laid out the current pits. SAFETY: A black bear came into the Peanut grid camp early in the AM. The dog chased it off. It came back 6 times before the crew demobed and left each time with yelling and bear bangers.
Aug-02	Toe	11100 10900 10700	8500-9400 8500-9400 8500-9400	0.9 0.9 0.9 TOTAL: 2.7km		11	Survey day. ID on Rx, KA on Tx, GC and DM on cables and current wire. GC and DM finished laying out the south current pit in the AM. GC set out alone at first but ran into a grizzly bear and DM joined him for safety. After they got the pit finished there were two open loops on the south side, so the survey did not begin until after 3pm. WEATHER: Clear and warm. SAFETY: GC saw a grizzly bear that left after he fired off a bear banger. ID saw a possible bear den between lines 10700 and 10500 at station 9400.
Aug-03	Toe	10500 10300 10700 10900 11100	8500-10150 8500-10150 9250-10150 9250-10150 9250-10150	1.8 1.8 0.9 0.9 0.9 TOTAL: 6.3km		12	Survey day. ID on Rx, DM on Tx, GC & KA on cables. EQUIPMENT: A cable and an electrode broke and were fixed in the field. The north current pit burned out and was fixed by replacing the wire connecting the pit. WEATHER: Cloudy with some rain.
Aug-04	Toe					7	Survey day. All crew cleaned up the current wire from the grid.
Aug-05	Toe						Travel day. Demobed from Toe grid by helicopter with 4 sling loads and 2 internal loads of crew. A truck and driver met the helicopter at the Minto strip and drove the crew back to Whitehorse.

## **Appendix 2**

### **Aurora Geosciences Ltd. Field Report 11 August 2008**



**Whitehorse Office**  
34A Laberge Road  
Whitehorse, YT  
Y1A - 5Y9

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## MEMORANDUM

**To:** Geoff Newton  
BC Gold Corp.

**Date:** 11 August 2008

**From:** Ivan Drury, Steven Kramar

**Re:** 2008 Induced Polarization Survey Preliminary Field Report

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This memorandum is a preliminary field report describing an induced polarization (IP) survey conducted on BC Gold properties. A modified pole-dipole IP survey was conducted on the WS, Copper, and Peanut grids and a gradient IP survey was conducted on the Spear, Toe, and Pepper grids, Whitehorse Mining District, Yukon Territory. The survey was conducted from June 13 to August 5 2008 by two separate crews.

The first crew surveyed a total of 22.1 line-km on the WS grid over 20 working days and 12.8 line-km were surveyed on the Copper grid over 6 working days. There was a bear problem on the Copper grid which resulted in the Conservation officer flying in to camp to destroy the bear. The WS grid lines were not completely cut upon arrival which adversely affected production. A full survey log is attached to this report.

The second crew surveyed a total of 27.55 line-km of gradient IP on the Spear, Toe, and Pepper grids and 18 line-km of in-line modified pole-dipole IP was surveyed on the Peanut grid over a total of 25 working days. A separate bear incident on the Spear grid resulted in four stand-by days for the crew due to safety concerns. A conservation officer and RCMP officer flew into camp to investigate the incident but were not able to locate the wounded bear. The Toe grid was cut 1.5km off of where it had been planned, so after the initial survey of the Toe grid was complete a linecutting crew was flown in to re-cut the grid. The second crew returned to re-survey Toe when the re-cutting was complete. A separate full survey log for the second crew is attached to this report.

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

The IP surveys were conducted by the following personnel:

<b>Crew #1</b>		
Steven Kramar	Crew chief	June 13 – July 12
Luc Harvey	Technician	June 13 – July 12
Dan Mawhinney	Helper	June 13 – July 12
Mike Krause	Helper	June 13 – July 12

<b>Crew #2</b>		
Ivan Drury	Crew chief	July 4 – August 5
Stacey Bishop	Helper	July 4 – August 1
Olivier Barre	Helper	July 4 – August 1
Nicolas Tremblay	Helper	July 4 – August 1
Gaetan Cyr	Helper	August 1 – August 5
Kim Ayles	Helper	August 1 – August 5
Dan MacKenzie	Helper	August 1 – August 5

The linecutting done on the Toe grid was conducted by the following personnel:

Gaetan Cyr	Linecutter / Crew chief	July 25 – July 31
Dan MacKenzie	Brusher	July 25 – July 31
Richard Smaslet	Linecutter	July 25 – August 1
Ben Power	Brusher	July 25 – August 1

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

IP receiver	1	Iris Elrec 6   S/N: 120
IP receiver	1	Iris Elrec Pro   S/N: 166
IP transmitter	2	GDD TxII 3.6 kW   S/N: TX-242 & TX-267
Generator	2	Honda 5kW generator
IP equipment	2	Repair tools & spare IP parts
	14 km	18 gauge wire

	23	6 conductor 100m IP cables
	3	6 conductor 300m IP cables
	9	VHF handheld radios
		Geo-reels & spools, Speedy winders and spools, stainless steel electrodes
	2	Laptops with Geosoft IP packages
Other	2	4 man summer camps
	3	Garmin 72 GPS units
		Truck and driver for each mobe / demobe
		Helicopter for camp-moves between grids

#### **b. IP survey specifications.**

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

Array	Modified Pole-Dipole Array
Dipole spacing	100 m on all lines
Dipoles Read	N=1 through 6 (6 Channels)
Tx	Time domain, 50% duty cycle, reversing polarity, 0.125 Hz.
Stacks	Minimum 15
Rx error	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, whichever was longer. All coordinates in NAD83 UTM Zone 8N.

The gradient IP survey was conducted according to the following specifications:

Array	Gradient rectangular array
Dipole spacing	50 m on all lines

Tx	Time domain, 50% duty cycle, reversing polarity, 0.125 Hz.	
Stacks	Minimum 15	
Rx error	5 mV/V or less, otherwise repeated several times until repeatability assured	
Grid registration	Handheld GPS points at line ends and every 300m minimum averaged 60 s or until estimated accuracy < 10 m, whichever was longer. All coordinates in NAD83 UTM Zone 8N.	
Gradient Arrays read	Spear grid	800m x 1800m with current electrodes at
	1 box	379499E 6949355N and 377074E 6952267N
	Toe grid	800m x 900m with current electrodes at
	4 boxes	375928E 6953605N and 376015E 6957928N
		800m x 900m with current electrodes at
		375928E 6953605N and 376052E 6958490N
		800m x 600m with current electrodes at
		376001E 6955086N and 376044E 6959085N
		800m x 950m with current electrodes at
		376045E 6954886N and 376046E 6959757N
	Pepper Grid	600m x 900m with current electrodes at
	3 boxes	374370E 6956989N and 372491E 6960814N
		600m x 900m with current electrodes at
		374370E 6956989N and 372151E 6961537N
		600m x 900m with current electrodes at
		373628E 6958189N and 371948E 6962275N

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

Data was downloaded nightly from the receiver and imported into 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 apparent resistivity and chargeability were calculated using a weighted mean based on the number of stacks and the standard deviation of the chargeability; except in the case of the WS and Copper grids where the number of stacks taken in each reading was not downloaded from the receiver.

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. On the Peanut grid, Line 11400, and the Copper grid, Lines 104 and 106, single data points were deleted from the final database because they stood apart too greatly from the chargeability patterns noticeable on said and surrounding lines.

GPS points were dumped from the handheld units and the coordinates for the stations determined by linear interpolation between GPS units. Elevations were determined from a digital elevation model equivalent to NTS 1:50:000 maps.

For those grids surveyed with a modified pole-dipole array pseudosections of apparent resistivity, apparent chargeability, and apparent chargeability error, draped over topography, were produced with Oasis Montaj. For those grids surveyed with a gradient array separate maps for apparent resistivity, apparent chargeability, and apparent chargeability error were produced with contoured topography. Each map was then exported in .pdf format.

#### **d. 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	Plan maps and pseudosections in .pdf format of apparent chargeability, apparent resistivity, & chargeability error (scale = 1:2500 or 1:5000). Grid maps with GPS coordinates in NAD83, UTM zone 8N (scale = 1:5000).
Raw	A folder with all the raw instrument dump files.
BC Gold 2008 IP Field Report.pdf	A PDF of this report.
BC Gold IP Crew #1 Survey Log.pdf	Survey log for IP crew #1
BC Gold IP Crew #2 Survey Log.pdf	Survey log for IP crew #2 and the linecutting crew

Respectfully submitted,  
AURORA GEOSCIENCES LTD.

Steven Kramar

Ivan Drury

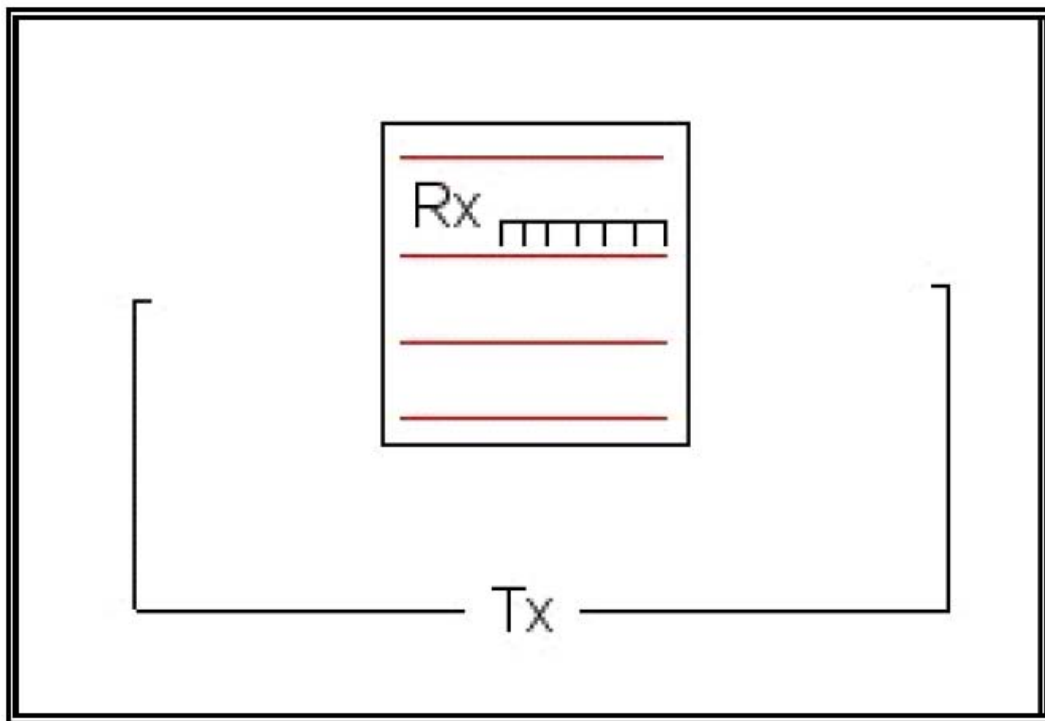
## **Appendix 3**

### **Aurora Geosciences Ltd. Memo 10 September 2008**

## GRADIENT GRIDS

### a. Gradient IP Method.

An IP / resistivity survey using a gradient array (also known as a modified Schlumberger array) has a source field generated by a grounded current dipole with a very large spacing compared to the potential dipoles. The potentials are surveyed within a smaller area centred at the mid-point between the two transmitting electrodes. The survey geometry is sketched below:



The receiver array (typically 10 dipoles) moves along the survey lines in 10-dipole steps (for example 500 m each move for a survey using 50 m dipoles). The survey lines are confined the area of a survey “box” centred on the mid-point between the transmitting electrodes so that the electric field (and therefore the current) is approximately uniform and horizontal throughout the survey area. As the transmitting electrodes are both stationary, the survey typically proceeds faster than moving source IP surveys.

The dimensions of the survey areas for the Spear, Toe and Pepper grids were as follows:

<b>Grid</b>	<b>Box</b>	<b>Potential Box Size</b>	<b>Current Electrode Locations</b>	<b>Current Separation</b>
Spear	Box 1	800m X 1800m	379499E 6949355N and 377074E 6952267N	3800m
Toe	Box 1	800m X 900m	375928E 6953605N and 376015E 6957928N	4325m
Toe	Box 2	800m X 900m	375928E 6953605N and 376052E 6958490N	4900m
Toe	Box 3	800m X 600m	376001E 6955086N and 376044E 6959085N	4000m
Toe	Box 4	800m X 950m	376045E 6954886N and 376046E 6959757N	4875m
Pepper	Box 1	1 600m X 900m	374370E 6956989N and 372491E 6960814N	4250m
Pepper	Box 2	600m X 900m	374370E 6956989N and 372151E 6961537N	5050m
Pepper	Box 3	600m X 900m	373628E 6958189N and 371948E 6962275N	4415m

The uniform source field of a gradient array differs fundamentally from a dipole-dipole or pole-dipole IP survey where the proximity of the potential electrodes to the current source results in a varying source field which can be exploited to extract depth information about the target. The data are typically plotted in pseudosections with distal potentials plotted below proximal potentials to indicate their greater depth sampling. In a gradient survey, all potential stations are equivalent as the source field is uniform within the survey area and pseudosections cannot be made. This is a disadvantage of the gradient method: very little target depth information can be derived.

Because the source field is horizontal, gradient array surveys are relatively insensitive to thin vertical conductors striking aligned normal to the direction of the primary electric field and are most sensitive to horizontal or flat-lying conductors. Conversely, the gradient array is more sensitive to steeply dipping resistive features than horizontal resistive features (Furness, 1993). Similarly, the gradient array is more sensitive to vertical chargeable bodies than horizontal ones. Despite the gradient array insensitivity to vertical conductors, the array is more sensitive to dip than dipole-dipole and poledipolesurveys and has better horizontal resolution (Coggon, 1973).

Although depth resolution is poor for a gradient array, the depth of investigation, defined as the depth at which a thin horizontal conductor contributes the maximum amount to the total measured signal at the ground surface, is relatively deep. For these three grids it ranges from 240 m for a maximum response at the edge of the Spear potential array to 640 m for a maximum response at the centre of Box 2 of the Pepper grid in an isotropic half-space (Bhattacharya and Dutta, 1982). The depth of investigation for vertical bodies is typically on the order of  $\frac{1}{2}$  that of horizontal bodies.

The situation of a constant source field is analogous to that of a magnetic body in the Earth's magnetic field and therefore basic potential theory can be applied. *Quick* (1974) has shown through laboratory experiments that standard potential field depth estimates based on anomaly half-width can be used for gradient array chargeability anomalies.

## **b. Results and Interpretation.**

### **Spear grid**

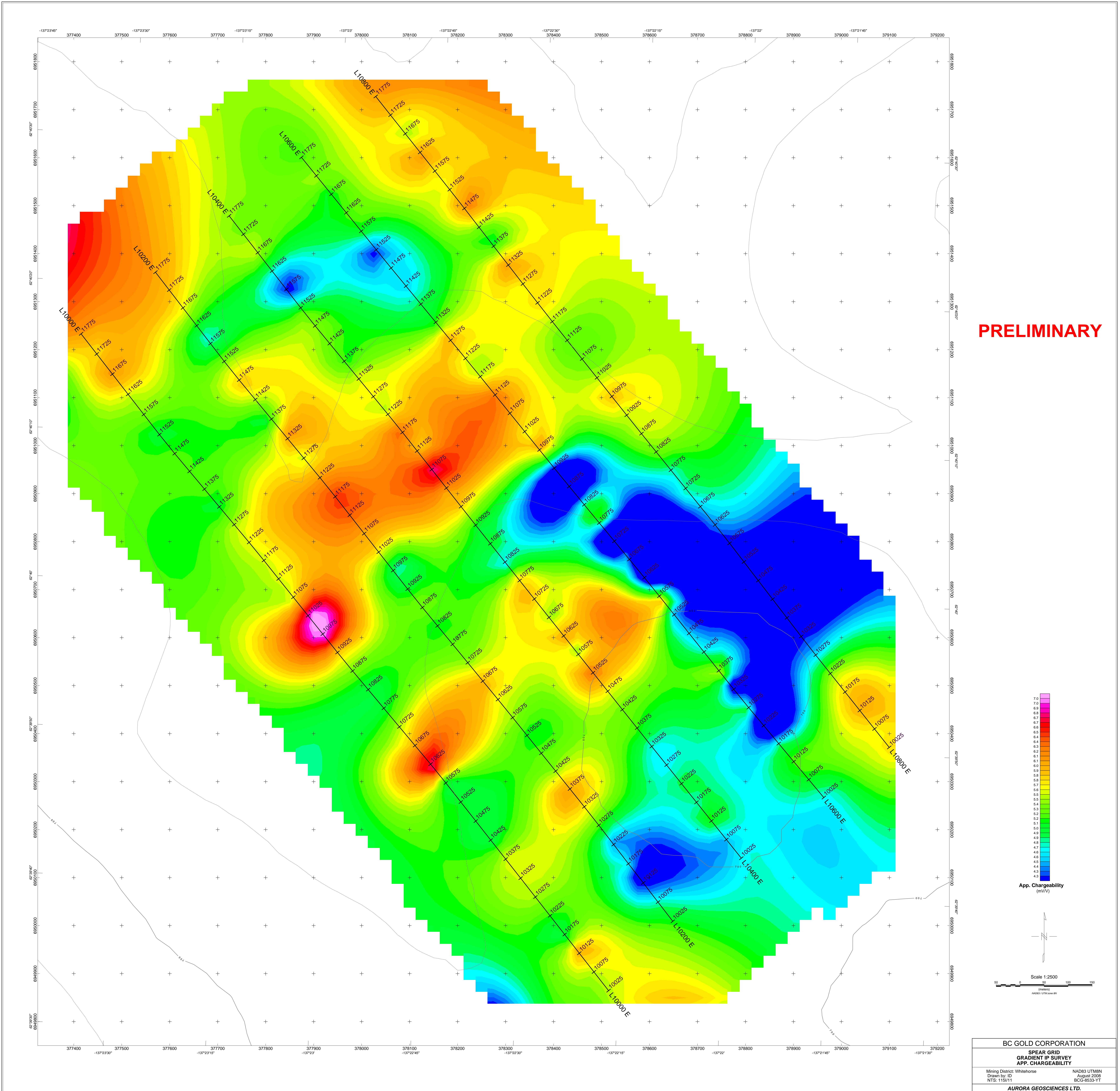
The chargeability plan map shows several chargeable features running nearly perpendicular to the wing lines. The furthest north, at approximately station 11175, is broadest with a half-height width of 335 m on the NE profile (labelled **A**) shown in the accompanying figure *BCG\_Spear\_Gradient\_IP\_with\_Profiles.pdf*, suggesting a depth to the top of the feature of 167.5 metres for a thin prism. If the body is not thin relative to the depth of burial, the depth to the top would be less than 167.5 metres at L10500E (the approximate location of the NE profile). The asymmetry of the profile suggest a dip to the NW. The feature to the south consists of 2 sub-parallel chargeability highs, labelled **B** and **C**, which coalesce at line 10400. These linear features are truncated to

the east between lines 10400 and 10600. The north-western splay, linear **B**, (at station 10675 on L11000E, the approximate location of the SW profile) has a half-height width of 160 m while the south-eastern splay (at station 10350 on L11000E) has a half-height width of 150 m and is of lower amplitude suggesting a depth to top of feature of 80 m and 75 m respectively. As above, if the body is not thin relative to depth, the depth would be less than 75-80 m. The 1-dimensionality of these features suggests that they are not caused by Minto-style flat-lying bodies.

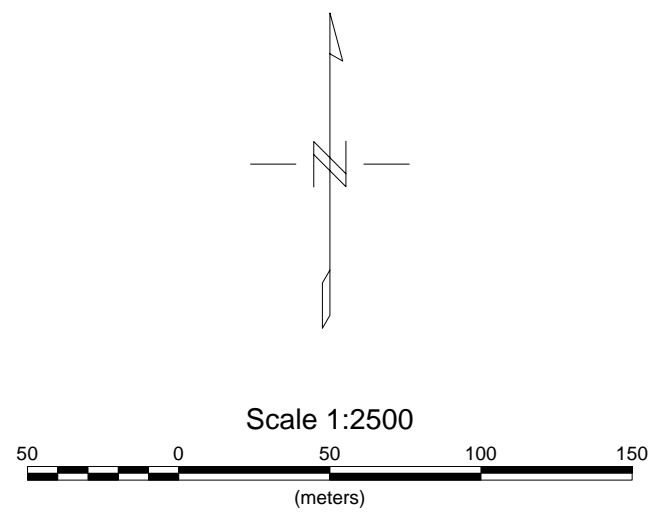
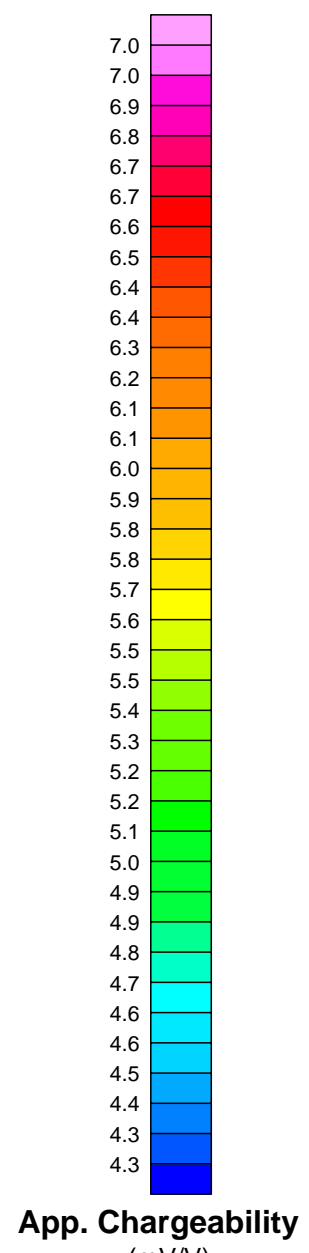
The apparent resistivity (accompanying figure *BCG\_Spear\_Gradient\_Res.pdf*) shows slightly more conductive ground to the north-east aside from the extreme NE corner which is the most resistive of the grid. The correlation between the IP and resistivity is very low. This area could be the result of a deep horizontal conductor (to which the gradient survey is particularly sensitive to) - the geometry is most sensitive to horizontal conductive targets at a depth of 240 metres but the response could equally be produced by a horizontal layer with three times the contrast at 70 m (Bhattacharya and Dutta, 1982). From the half-width of the conductive anomaly it is unlikely caused by anything deeper. The conductive feature is moderately correlated with a magnetic low.

The MMI Cu geochemistry shows relatively high values in the area between features **A** and **B** and would be on the up-dip side of feature **A** based on interpreted dip from the apparent chargeability. There does not appear to be an MMI Cu anomaly associated with chargeability features **B** and **C**. Only a small portion of the Spear Grid was covered by the MMI soil sampling program.

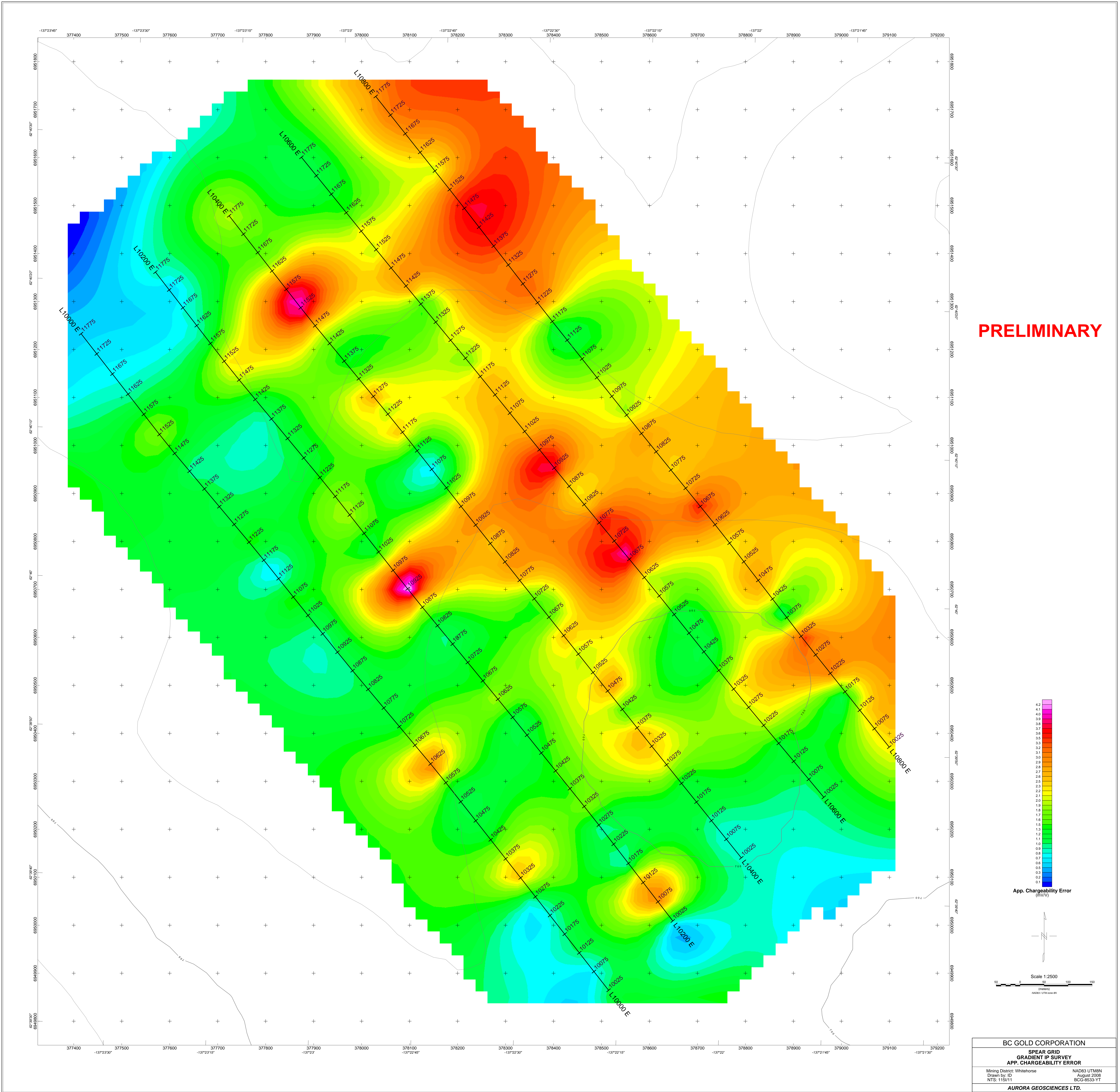
The best IP drill target would be collared on L10400E at station 11200N, drilled with a grid south azimuth and a dip of 55 degrees, however the small chargeability anomaly on L10800E between station 11025N and 10875N is more proximal to the elevated MMI results. Several lines of 50 m dipole separation inline IP surveying over targets of interest prior to drilling is recommended.



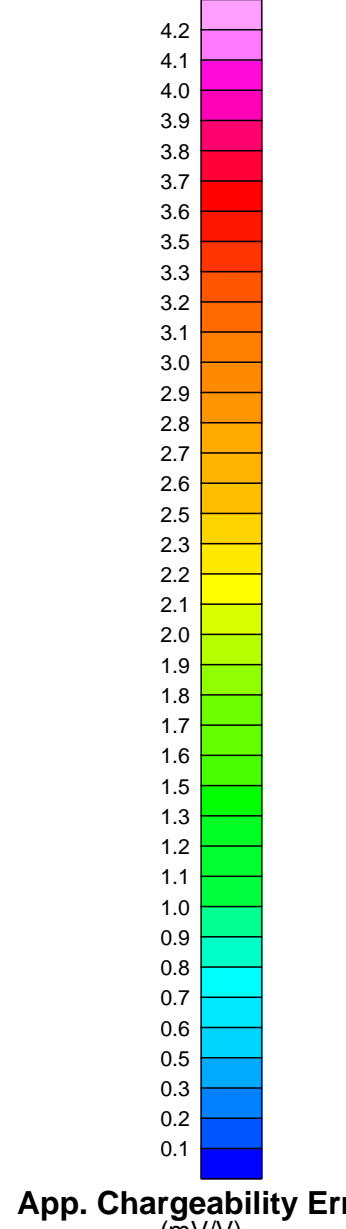
**PRELIMINARY**



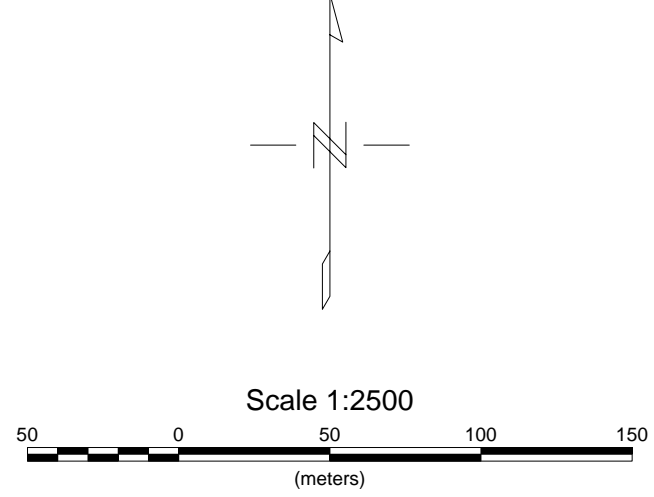
<b>BC GOLD CORPORATION</b>	
<b>SPEAR GRID GRADIENT IP SURVEY APP. CHARGEABILITY</b>	
Mining District: Whitehorse	NAD83 UTMN August 2008 BCO-8533-YT
<b>AURORA GEOSCIENCES LTD.</b>	



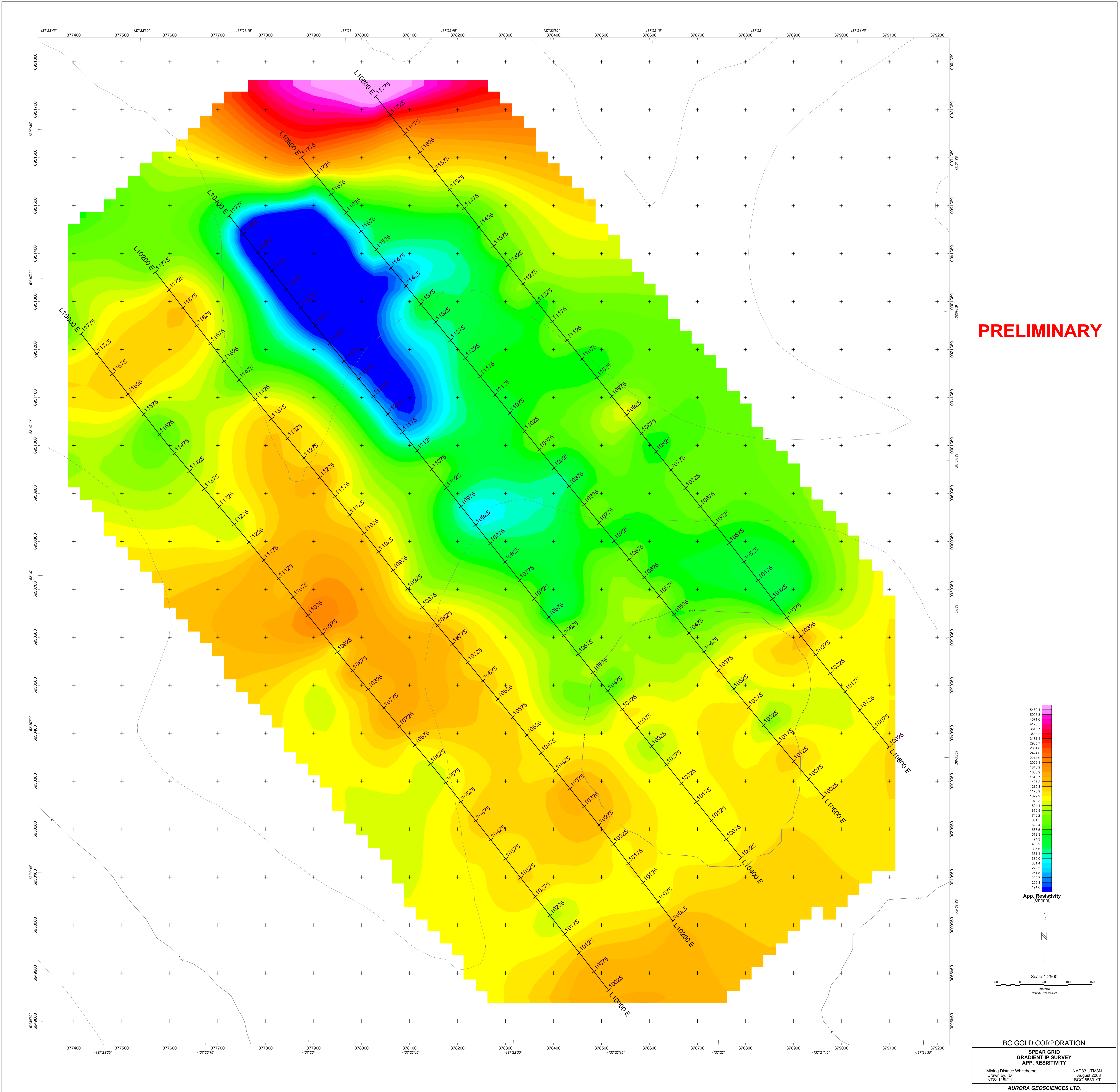
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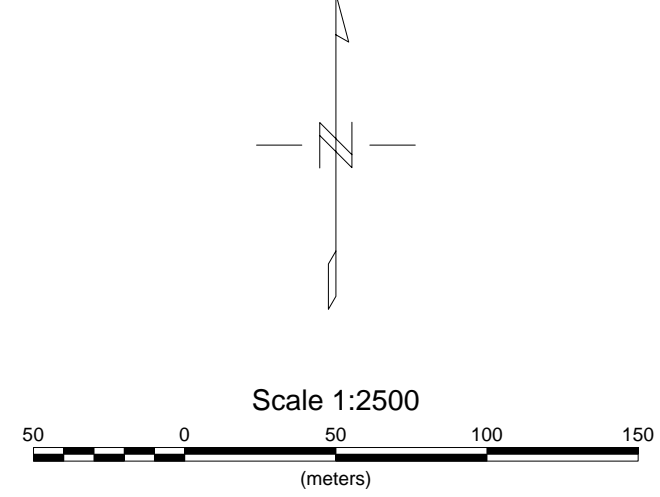
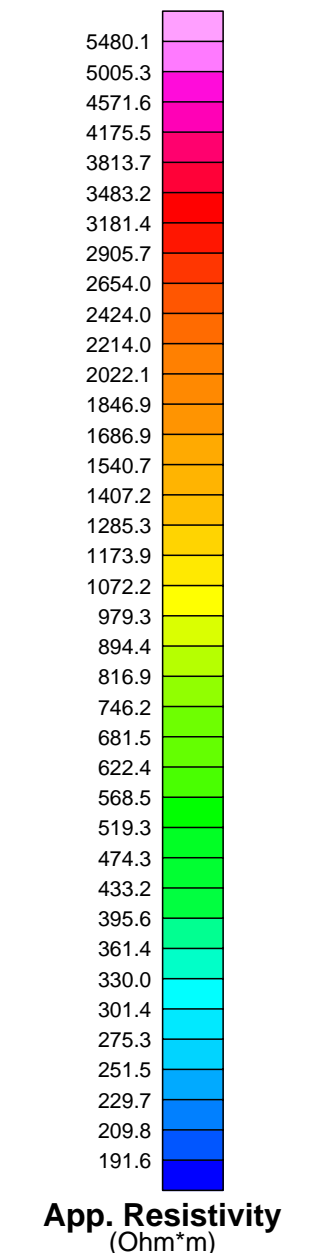
App. Chargeability Error (mV/V)



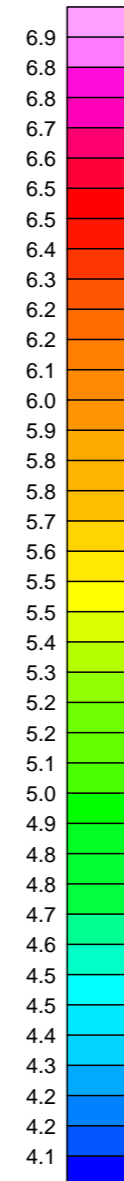
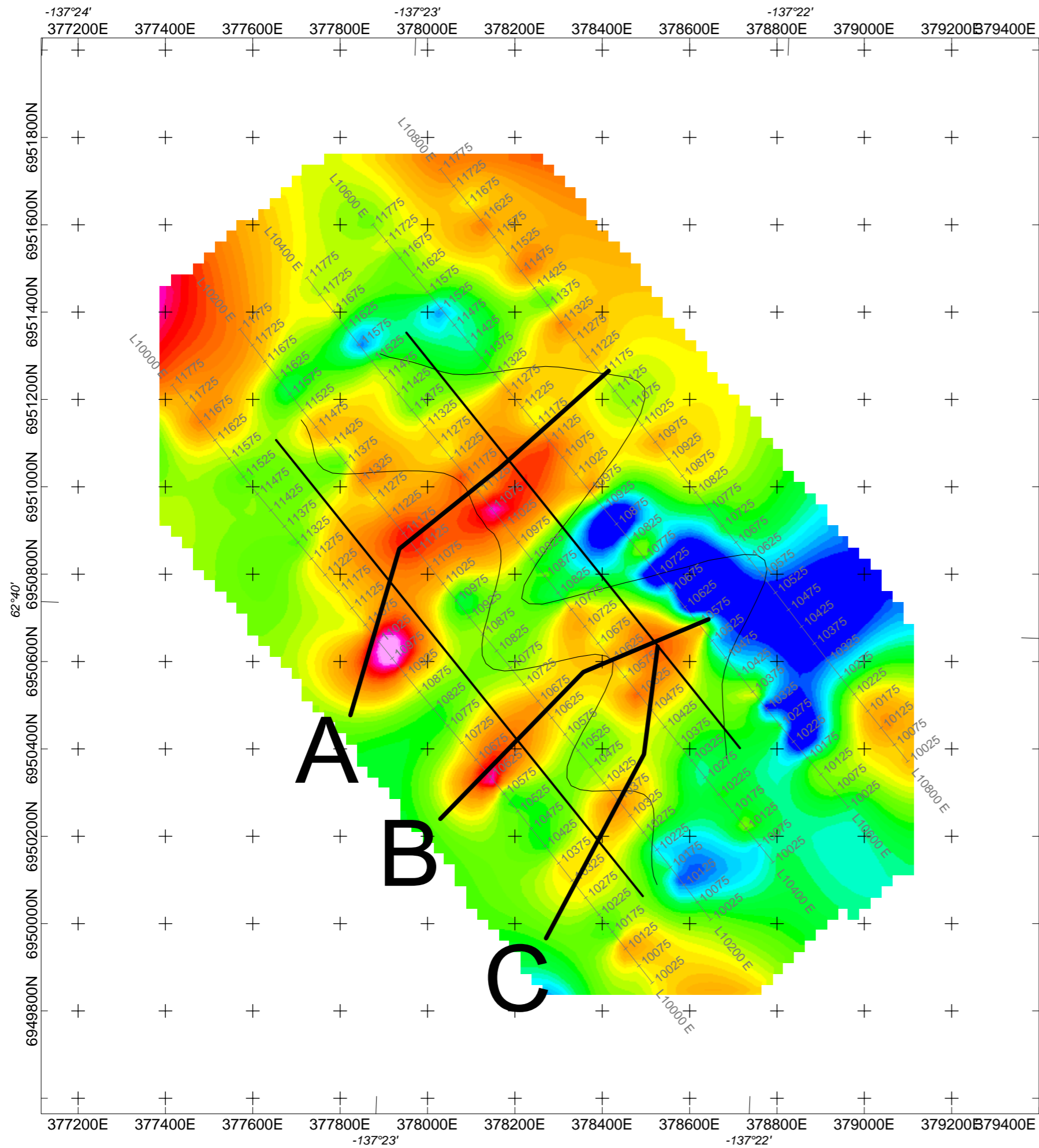
BC GOLD CORPORATION  
 SPEAR GRID  
 GRADIENT IP SURVEY  
 APP. CHARGEABILITY ERROR  
 Mining District: Whitehorse NAD83 UTMN  
 Drawn by: ID August 2008  
 NTS: 115/11 BCO-8533-YT  
 AURORA GEOSCIENCES LTD.



**PRELIMINARY**

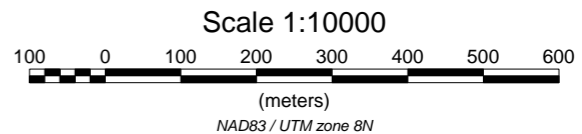
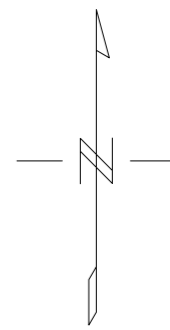


BC GOLD CORPORATION  
 SPEAR GRID  
 GRADIENT IP SURVEY  
 APP. RESISTIVITY  
 Mining District: Whitehorse NAD83 UTMN  
 Drawn by: ID August 2008  
 NTS: 1156/11 BCO-8533-YT  
 AURORA GEOSCIENCES LTD.

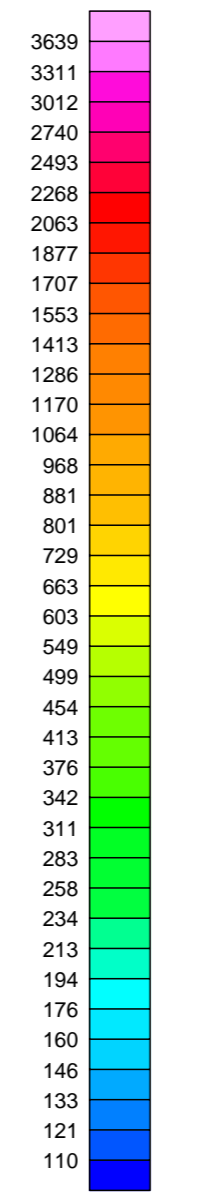
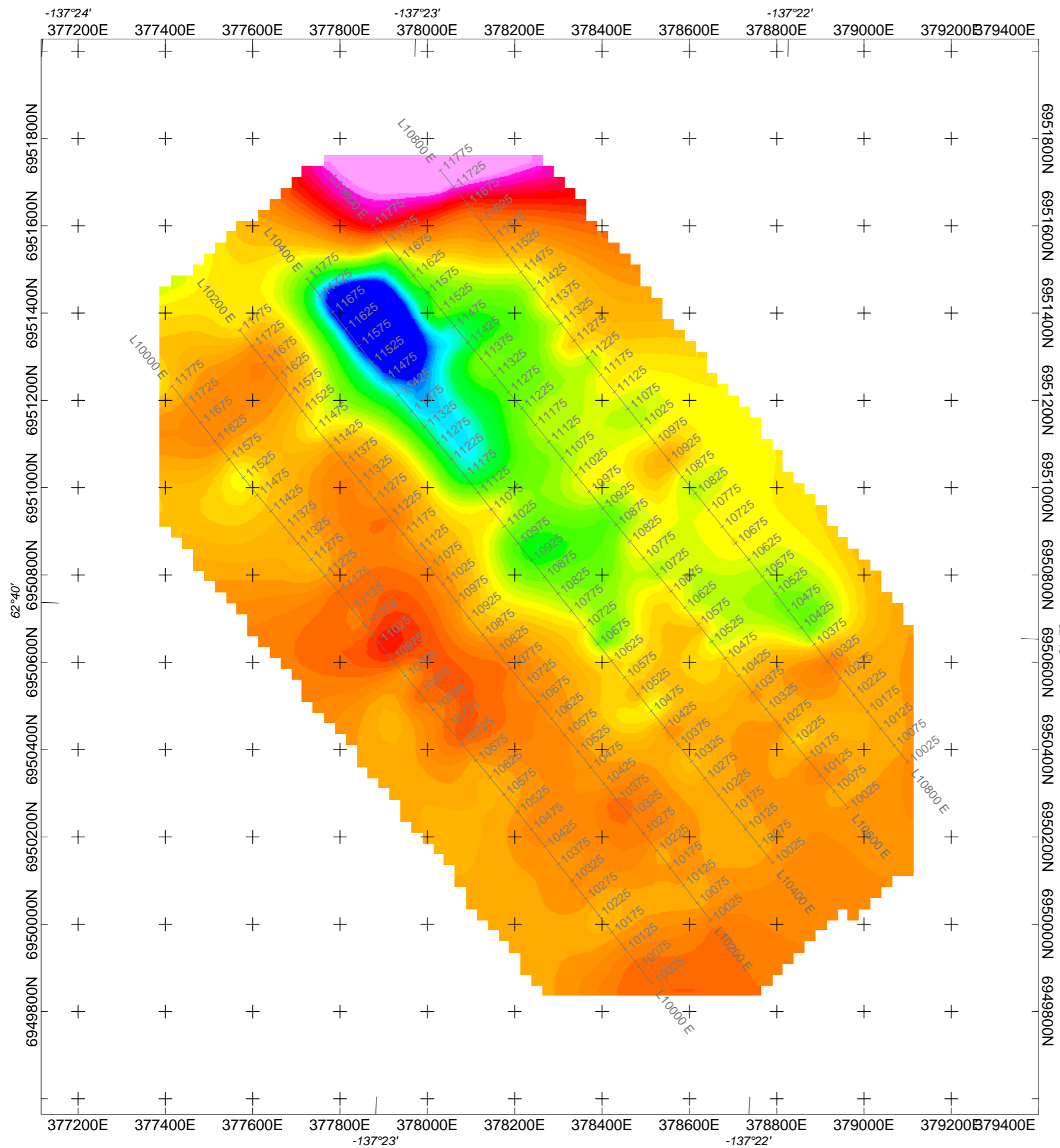


**App. Chargeability**  
(mV/V)

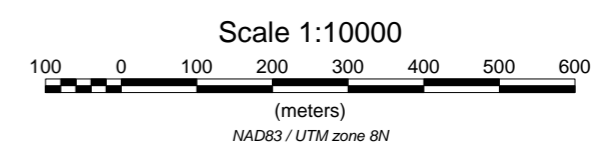
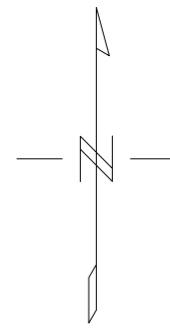
Profile base: 5 mV/V  
Profile scale: 0.4 mV/V per cm



<b>BC GOLD CORPORARION</b>	
<b>SPEAR GRID GRADIENT IP SURVEY App. Chargeability with Selected Profiles</b>	
Date: Sept 07 2008	Job #: BCG-8533-YT
Drawn by: DH	NTS: 115111
Dates Surveyed: July 2008	Mining District: Whitehorse
Datum: NAD83	Projection: UTM Zn 8N
<b>AURORA GEOSCIENCES LTD</b>	



**App. Resistivity**  
(Ohm-m)



<b>BC GOLD CORPORARION</b>	
<b>SPEAR GRID GRADIENT IP SURVEY App. Resistivity</b>	
Date: Sept 07 2008	Job #: BCG-8533-YT
Drawn by: DH	NTS: 115111
Dates Surveyed: July 2008	Mining District: Whitehorse
Datum: NAD83	Projection: UTM Zn 8N
<b>AURORA GEOSCIENCES LTD</b>	