

# Assessment Report

on the

## 2006 Geophysical Program

### YUKON OLYMPIC PROJECT

for work performed  
on the following claims:

Claim Name	Grant No.
Hem 135	YC21627
Hem 136	YC21628
Hem 137	YC21629
Hem 143	YC21635
Hem 145	YC21637
Hem 152	YC21644
Hem 154	YC21646
Hem 156	YC21648
Hem 157	YC21649
Hem 162	YC21654
Hem 164	YC21656
Hem 165	YC21657
Hem 167	YC21659
Hem 182	YC21674

Dawson Mining Division

NTS 116G/01

Yukon Territory

138° 12' north latitude and 65° 03' west longitude  
6300100E, 7220000N, NAD 83, UTM Zone 7

Report written by

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KGE Management Ltd.

January 18, 2008

## SUMMARY

This report has been prepared to document the results of a geophysical exploration program carried out in August and September of 2006 that is being applied as assessment work on the Yukon Olympic claim group.

The Yukon Olympic property saw limited exploration in the 1990's, but did not undergo serious exploration activity until it was acquired by Copper Ridge Explorations Inc. from prospector Shawn Ryan in 2001. Since that time, various geophysical surveys, including magnetics, gravity and Induced Polarization as well as diamond drilling have been carried out. The target deposit model is a copper and gold-bearing iron oxide deposit ("IOCG") similar to the numerous occurrences in the Wernecke Mountains to the east and the Monster and Olympic properties in the Ogilvie Mountains to the west. The classic deposit example is the giant Olympic Dam copper-gold-uranium deposit in Australia.

Iron-rich breccias, locally with associated copper mineralization, have been noted at several locations within the property. However, the geophysical studies, particularly the gravity surveys, suggest that the main target is just below an unconformity where the host Quartet Group Proterozoic sediments and related breccia mineralization are covered by Paleozoic Bouvette Group carbonates.

In 2002, Canadian Empire Exploration Ltd. optioned the property from Copper Ridge and drilled 773 m in two holes. The first of these, at the western end of the large gravity anomaly, failed to reach the unconformity and terminated in the overlying Paleozoic carbonate rocks at a depth of 563 m. The second, a short hole at the Highway showing, outside the main gravity anomaly, encountered a weak zone of breccia with minor copper mineralization.

Janina Resources Limited optioned the property from Copper Ridge in 2004 and carried out further gravity, magnetics and IP surveys. This work refined the Blackstone target, located at the eastern end of the main gravity anomaly trend, along the edge of the unconformity where the Paleozoic cover was expected to be minimal.

In 2005, Janina drilled 5 holes, for a total of 527.1 m, from three set-ups, all to the east of the main Blackstone target. The first hole failed to reach bedrock. The other four holes all encountered iron-rich breccia mineralization and related mafic intrusive rocks from top to bottom, with extensive but low grade copper mineralization occurring through most of the core. Drill hole selection was limited by available drill sites. The intersections from the 2005 drilling are on the fringes of the main gravity and IP anomalies and do not appear to reflect the main causative feature of these anomalies. Janina returned the Property to Copper Ridge in June, 2006.

In September, 2006, Copper Ridge completed 15.9 km of Induced Polarization surveying and 9.45 km of gravity and magnetic surveying at a cost of \$29,417.40. The objective of this work was to more closely define the Blackstone target for drill testing and to attempt to obtain a clearer idea of the depth to the top of the Western gravity anomaly. This work was successful in defining three anomalies that may be reflecting metallic mineralization at depth. A four hole, 1000m drill program is proposed to test the 2 higher priority anomalies with an estimated budget of \$350,000.

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## **INTRODUCTION**

This report has been prepared to describe a geophysical program that included establishing 57 gravity stations, 9.45 km of magnetic survey and 15.9 line km of IP, at a cost of \$29,417.40, that has been applied as assessment work on the Yukon Olympic iron oxide copper-gold (“IOCG”) project, to summarize the results of this geophysical program and to make recommendations for further work on the property.

Sources of information on the area geology include a regional compilation by the Geological Survey of Canada (Gordey and Makepeace, 1999), an assessment report on the initial gravity and magnetics surveys carried out by Copper Ridge (Carlson, 2003), a report on the 2002 drill program on the Yukon Olympic property (Thurston and Roberts, 2003), the report on the 2003 gravity, magnetic and IP surveys on the property (Thurston, 2003) and a 43-101 report prepared for Janina describing additional gravity and IP surveys carried out in early 2004 (Robertson, 2004) and the 2005 drill program (Carlson, 2006).

The author has visited the property several times during the period 2002 to 2005 and designed the current exploration program that is the subject of this report. The geophysical surveys were contracted to Aurora Geosciences of Whitehorse, under the supervision and management of Copper Ridge Explorations Inc.

## **PROPERTY DESCRIPTION AND LOCATION**

### **Property Description**

The Yukon Olympic property consists of 272 quartz mining claims, approximately 5,359 hectares, located in the Dawson Mining Division, NTS 116G/01, Yukon Territory, Canada, as more fully described below in Table I (the “Property”). The claims are owned 100% by Copper Ridge Explorations Inc. (“Copper Ridge”), subject to a 1.5% NSR to Mr. Shawn Ryan.

## **ACCESSIBILITY AND PHYSIOGRAPHY**

### **Location and Access**

The Property is located in the Ogilvie Mountains approximately 134 kilometers north-northeast of Dawson City in north central Yukon (Figure 1). The claims are located in the Dawson Mining Division, NTS sheet 116G/01, centred at 138° 12' north latitude and 65° 03' west longitude.

The claims straddle the Dempster Highway, from the northwest corner of the claim block north of Engineer Creek at kilometer 161, to the southeast corner east of the Blackstone River at kilometer 142. The 2006 program was run out of a tent camp located on the banks of the Blackstone River just off the Dempster Highway.



Figure 1: Yukon Olympic Project Yukon location.

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

Dawson City is the closest community to the Yukon Olympic property and can adequately support exploration programs in the area. The property is easily accessed by road or helicopter from Dawson. The average driving time from Dawson to the property is 2 to 2.5 hours. The Dempster Highway runs through the center of the property along the west side of the Blackstone River. The claim area east of the Blackstone River is accessible by boat or by helicopter. Most of the property can be accessed by foot. Federal law restricts motorized-wheeled vehicles from leaving the highway right-of-way without a permit.

Elevations range from approximately 850 meters in the Blackstone River valley to approximately 1600 meters on the ridge south of the central part of the property. The property area is covered by permafrost-tundra to sparse treed areas to rocky talus slopes. The majority of the claim group is above tree line. Climate is typical for northern Yukon, with long cold winters, and warm, typically dry summers. Snow accumulation within the property area is normally minimal due to low precipitation and high winds through the pass along the Dempster Highway. By April most of the snow has disappeared.

The exploration field season usually runs from early June until mid-September. However, geophysical surveys and drill programs can extend the field season from March through October.

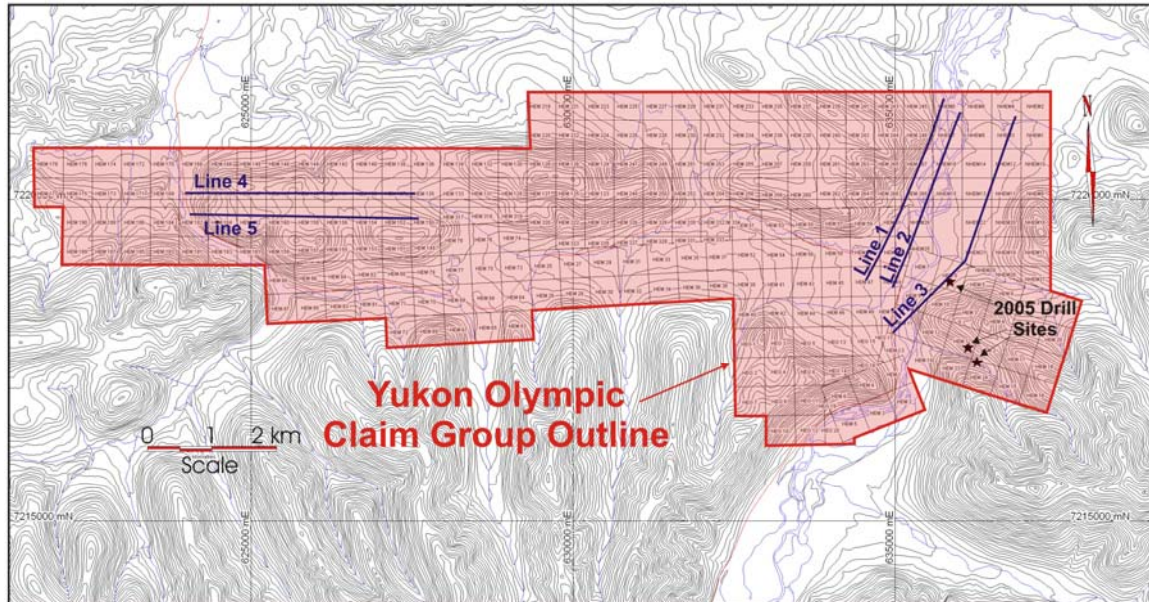
The migration of the Dempster-Porcupine caribou herd has been known to pass by or through the claim area.

## List of Claims

Yukon Olympic property consists of a total of 272 claims that are listed below:

**Table I**  
**Yukon Olympic Property Claims**

<b>Claim Name</b>	<b>Grant No.</b>	<b>Expiry</b>	<b>Owner</b>	<b>NTS</b>	<b>No.</b>
HEG 1 – 7	YC21595 – YC21601	2-Aug-09	Shawn Ryan	116-G-01	7
HEG 9 - 12	YC21603 - YC21606	2-Aug-09	Shawn Ryan	116-G-01	4
HEG 13 – 17	YC21607 – YC21611	8-Aug-09	Shawn Ryan	116-G-01	5
HEG 19 – 20	YC21613 – YC21614	8-Aug-09	Shawn Ryan	116-G-01	2
HEM 1 – 6	YC19966 – YC19971	2-May-13	Shawn Ryan	116-G-01	6
HEM 1 – 62	YC20973 – YC21034	7-Sep-12	Shawn Ryan	116-G-01	62
HEM 63 – 78	YC21035 – YC21050	7-Sep-08	Shawn Ryan	116-G-01	16
HEM 79 – 88	YC21135 – YC21144	29-Nov-08	Shawn Ryan	116-G-01	10
HEM 123 – 128	YC21615 – YC21620	8-Aug-09	Shawn Ryan	116-G-01	6
HEM 129 – 178	YC21621 – YC21670	8-Aug-07	Shawn Ryan	116-G-01	50
HEM 181 – 190	YC21673 – YC21682	8-Aug-07	Shawn Ryan	116-G-01	10
HEM 219 – 268	YC21711 – YC21760	8-Aug-09	Shawn Ryan	116-G-01	50
HEM 317 - 319	YC21809 – YC21811	8-Aug-07	Shawn Ryan	116-G-01	3
HEM 320	YC21812	4-Aug-09	Shawn Ryan	116-G-01	1
HEM 322 – 333	YC21814 – YC21825	4-Aug-09	Shawn Ryan	116-G-01	12
HEM 334	YC21826	8-Aug-09	Shawn Ryan	116-G-01	1
NHEM 1 – 22	YC33691 – YC33712	15-Jun-10	Shawn Ryan	116-G-01	22
NHEM 25 – 29	YC33715 – YC33719	15-Jun-10	Shawn Ryan	116-G-01	5
<b>Total</b>					<b>272</b>



**Figure 2: Yukon Olympic Property claim map, showing 2006 geophysical grid lines and 2005 DDH collars.**

## HISTORY

### Property Ownership and Exploration History

Although the area has been prospected over the years and copper showings have been known in this area along the Dempster Highway since the 1950's, no previous exploration work on the property is reported prior to 1993. Recent exploration activity is listed below:

- 1993 Pamicon Developments Ltd. and Equity Engineering Ltd. jointly conducted a small work program consisting of limited geological mapping, prospecting and soil geochemical sampling. This work was carried out on the Devil claims (now known as HEM 1-6 claims) located on the west side of the Dempster highway at approximately kilometer 134. A total of 21 rock samples and 32 soil samples were collected and assayed. The claims were allowed to lapse in 1994.
- 2001 Shawn Ryan prospected the area of the Devil claims and re-staked the ground.
- 2002 Copper Ridge acquired an option from Shawn Ryan. In June and July of 2002, Copper Ridge contracted Aurum Geological Consultants Inc. ("Aurum Geological") to carry out a Phase I exploration of the Property. Work included regional scale mapping in the area east of Blackstone River in the Spectacular Creek valley and the laying out of 110 km of grid lines, over which 95 km of ground magnetic surveys, covering an area of approximately 20km (E-W) by 10km (N-S), were carried out by Ryanwood Explorations Inc. The survey identified a large magnetic anomaly measuring 2.5 kilometers by 1.5 kilometers. In addition, between July 15 and August 3, Aurora Geosciences Ltd. ("Aurora Geosciences") was contracted to conduct a gravity survey on the Property. A total of 261



- points were surveyed in an area of approximately 20 km (E-W) by 10 km (N-S). The survey identified a large Bouguer gravity anomaly measuring 8 km by 1 km.
- 2002 In the fall of 2002, Copper Ridge optioned the Property to Canadian Empire Exploration Ltd. (“Canadian Empire”). Canadian Empire contracted SJ Geophysics Ltd. to assess and model the gravity data collected by Aurora Geosciences. A 4-kilometer by 10-kilometer block was extracted from the raw Bouguer gravity data to create an inversion model to determine the causative source of the gravity feature. A block model showing the distribution of densities defined three high density targets.
- 2002 During the fall of 2002, a diamond drill program was conducted on the Property by Canadian Empire, contracted to E. Caron Diamond Drilling Ltd. from Whitehorse. Drilling commenced October 30, 2002 and was completed on November 22, 2002. A total of 773.43 meters were drilled in two holes. The first hole focused on the modeled gravity target in the western part of the Property. Unfortunately, at a final length of 563 m the hole was still in the overlying carbonate rocks and therefore did not reach the targeted gravity anomaly in the underlying Proterozoic rocks. The second hole, drilled at the Highway showing, intersected breccia but only minor copper values.
- 2003 Canadian Empire contracted Aurora Geosciences to conduct IP, magnetics and gravity surveys on four widely spaced, north-south lines across the gravity anomaly, for a total of 20.25 km, covering an area roughly 10 km by 5 km. Ryanwood Explorations cut the lines and collected ground magnetometer readings. Using 250 m dipole spacings, the IP survey penetrated to depths of in excess of 500 m but was unable to clearly define the unconformity on the western side of the Property.
- 2004 Canadian Empire dropped their option and the property was returned to Copper Ridge. Janina subsequently acquired an option on the property and contracted Aurora Geosciences to complete a winter program that included a detailed gravity survey accompanied by magnetics and IP surveys at the eastern end of the main gravity trend. Ryanwood was contracted to establish a grid of 6 lines for a total of 31.05 km. The survey successfully defined the gravity and magnetic details of the eastern or Blackstone anomaly, while the IP survey provided partial results on only one line due to the frozen ground.
- 2005 Janina completed a drill program including 503.6 m in five core holes from three set-ups. One of the holes did not reach bedrock. The remaining four holes all intersected hematitic breccia, from top to bottom, but with relatively low total iron content, mostly in the form of jasper. Chalcopyrite mineralization was observed through much of the core as disseminated blebs and along fractures. Anomalous results include 0.071% copper over 9.8 m or 0.02% copper over 19.5 m, both starting at 4.2 m depth in hole YO-05-02, 0.02% copper over 30.0 m starting at 74.0 m, also in hole YO-05-02 and 0.061% copper over 6.75 m in hole YO-05-03.
- 2006 Janina dropped its option on the Property. Copper Ridge completed a program of 15.9 km of line cutting followed by IP, magnetics and gravity surveys, the subject of this report.

# GEOLOGICAL SETTING

## Regional Geology

Reconnaissance mapping of the Ogilvie River 1:250,000 map sheet (116G & 116F) was conducted by the Geological Survey of Canada (Norris, 1979). The majority of the map sheet consists of strongly deformed marine and lesser non-marine, arkosic sedimentary rocks from Cretaceous to Cambrian in age that unconformably overlie the oldest rocks exposed in the map sheet, consisting of Proterozoic Quartet Group argillite, shale and siltstone. The Proterozoic sedimentary rocks have been intruded by gabbro and hematite breccia bodies, also of Proterozoic age. The following list provides a brief description of the sedimentary rocks observed within the immediate vicinity of the Property:

<u>Formation</u>	<u>Description</u>
Ford Lake Formation (Upper Devonian – Permian)	generally fine to coarse grained clastic succession equivalent to Canol, Imperial and (?) Tuttle Assemblages
Bouvette Formation (Upper Cambrian – Lower – Devonian)	grey and buff weathering dolomite and limestone, medium to thick bedded; white to light grey weathering, massive dolomite; minor platy black argillaceous limestone, limestone conglomerate, and black shale; massive bluish-grey weathering dolostone
Road River Group (Cambrian – Devonian)	black graptolitic shale, limestone and minor chert with mappable subdivisions of sandstone
Quartet Group (Lower Proterozoic)	black weathering shale, finely laminated dark grey weathering siltstone, and thin to thickly interbedded planar to cross laminated light grey weathering siltstone and fine grained sandstone; minor interbeds of orange weathering dolostone in upper part

The property lies along a major, east-west trending crustal structure as indicated by regional aeromagnetics. The westerly trend includes the Monster and Olympic IOCG properties in the Ogilvie Mountains to the west. It can be seen that the Yukon Olympic property occurs at a flexure point along the structure coincident with a large magnetic high, possibly reflecting a buried intrusive center.

Recent studies have suggested that the Stuart Shelf area of Australia, a crustal segment that hosts the Olympic Dam Cu-Au-Ag-U deposit, and the Ogilvie-Wernecke trend in the Yukon were a part of the same land mass 1.6 billion years ago, at the time of breccia formation (Figure 3). This work also suggests that the breccias and mineralization in both areas formed in response to extensional tectonics and related intrusive activity that affected the entire belt.

## DEPOSIT TYPE

The geological setting the Yukon Olympic property is thought to be favorable for hosting Olympic Dam style copper-uranium-gold-silver breccia type deposits. The Olympic Dam deposit contains a resource of 4.43 billion tonnes at 1.1% copper, 0.4 kg/t uranium (U<sub>3</sub>O<sub>8</sub>) and 0.5 g/t gold. The deposit occurs within a 5 kilometer by 7 kilometer zone of apparently fault controlled brecciation and alteration cored by a diatreme complex and developed entirely within granite dated at 1588±4Ma (Johnson and Cross, 1995). The diatreme is intruded by many ultramafic, mafic and felsic dykes which are temporally related to the diatreme. Economic IOCG deposits in Australian Proterozoic terrains are extremely variable in character ranging from very large (Olympic dam) to small, high grade deposits such as those near Tennant Creek and Eloise in the Cloncurry district. The iron-oxide association varies from magnetite-dominated (e.g. Ernest Henry) to hematite-dominated (e.g. Olympic Dam). Iron sulfides present vary from pyrite (e.g. Olympic Dam, Starra), to pyrrhotite (e.g. Eloise) or both (e.g. Mt. Elliott). Chalcopyrite is commonly the only significant copper mineral but some deposits, such as Olympic Dam and Starra, have hypogene bornite and chalcocite. Copper to gold ratios (Cu:Au) vary substantially among deposits and there is no single consistent minor element association. However, there is a distinctive association with fluorine, barium, rare earth elements and uranium. Cobalt and molybdenum are commonly present at near economic levels while bismuth shows a specific and extreme enrichment in certain deposits. Some deposits also contain amounts of arsenic that become a concern in smelting (Oreskes and Hitzman, 1993).

## MINERALIZATION

Mineralization within the Yukon Olympic property is associated with hematitic breccias and gabbro intrusives that are exposed at several locations within the property. The largest exposure is an area measuring approximately 1.5 by 1 kilometers within the Spectacular Creek valley, east of the Blackstone River (see Figure 5). The breccias occur within the Proterozoic Quartet Group shale and siltstones just below an unconformity with overlying Paleozoic carbonate rocks. Although detailed study of the breccia bodies has not been carried out, there appear to be two distinct varieties. One type is a pink to pale colored multilithic jasper breccia with disseminated hematite common in a fine-grained matrix. Both fragments and matrix are coloured with pink hematite. The other variety is dark green, chloritic breccia that often contains disseminated to massive specular hematite. It is sometimes associated with mafic intrusive rocks and has slightly elevated magnetic susceptibility. Copper mineralization observed to date is most often associated with the chloritic breccia as well as with the related mafic intrusive rocks.

Although none of the breccia bodies have been systematically or adequately sampled on surface, grab rock samples from the property have shown that the breccias are locally enriched in copper, cobalt, fluorine, rare earth elements and barium, with local minor gold and uranium enrichment. Chalcopyrite, malachite and locally bornite mineralization have been observed within the breccias and related intrusive rocks throughout the property. Analysis of grab samples has returned values up to 0.9% Cu. Minor cobalt mineralization has also been observed (Carlson, 2003).

During late 2002 a single short hole, YO02-02, was drilled off the Dempster highway into the Highway breccia occurrence. Hematitic breccia was intersected from the collar to a depth of 32 meters and contained anomalous copper values. Secondary copper oxide mineralization occurred along fractures within the overlying Paleozoic limestone in drill hole YO02-01 suggests possible

copper remobilization from a nearby source. A detailed account of the mineralization encountered during the 2002 drilling program is reported in Thurston and Roberts (2003).

In 2005, Janina drilled 5 holes, for a total of 527.1 m, from three set-ups, all to the east of the main Blackstone target. The first hole, on the edge of the Blackstone River valley, failed to reach bedrock. The other four holes all encountered iron-rich breccia mineralization and related mafic intrusive rocks from top to bottom, with extensive but low grade copper mineralization occurring through most of the core. The target of the 2005 drill program was coincident IP and gravity anomalies, but selection of drill sites was limited by topography. The mineralized breccia intersections from the 2005 drill program are on the fringes of the main gravity and IP anomalies. The breccia mineralization and related copper and iron mineralization in the holes is not particularly intense and does not appear to reflect the causative feature of these anomalies.

## PREVIOUS EXPLORATION RESULTS

### Regional Geophysical Surveys

#### Aeromagnetic Survey

The NTS 116G01 map area was flown by the Geological Survey of Canada (“GSC”). The first derivative maps (below) tend to emphasize structural trends and the magnetic contrast between adjacent rock units.

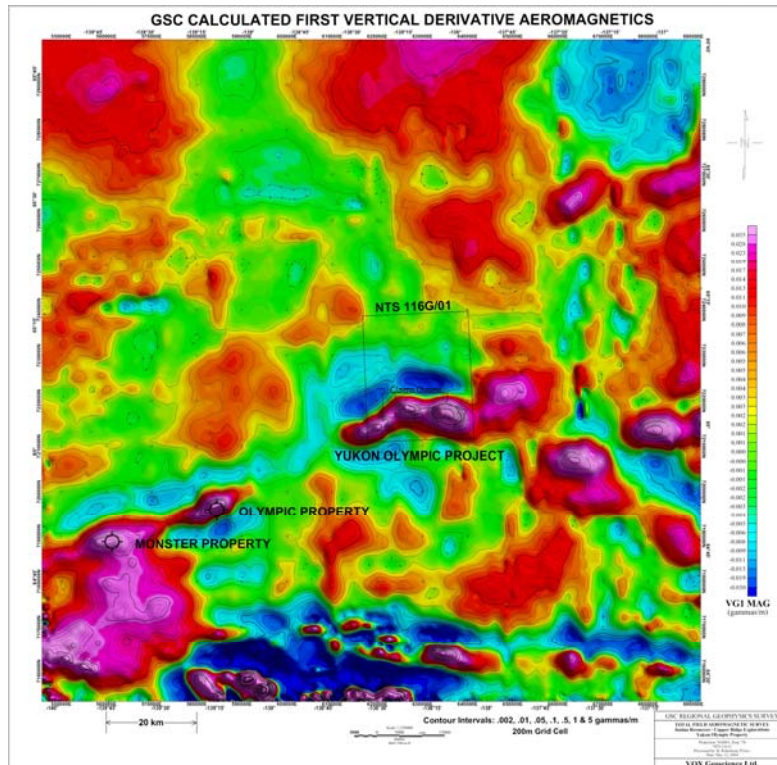


Figure 3. Regional calculated first derivative magnetic map.

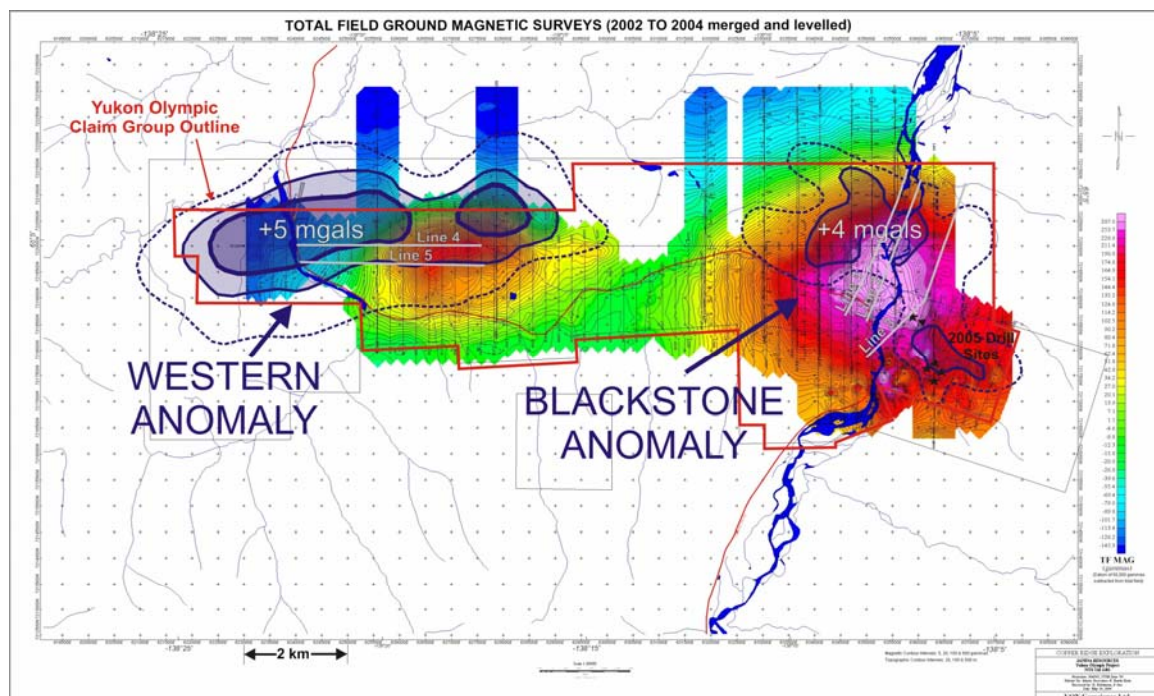
Figure 3 shows that the property appears to lie along a major east-west trending crustal structure. The first derivative map highlights this trend through the Monster and Olympic IOCG properties aligned along this structure in the Ogilvie Mountains to the west. The Yukon Olympic property is situated on a pronounced arcuate magnetic high that could be related to a buried mafic igneous body that was intruded at a major flexure along this structure. The Blackstone River, at the eastern end of this magnetic high (see Figure 4), may represent a cross-cutting northeasterly trending intersecting structure.

## GSC Regional Bouguer Gravity Network

The Geological Survey of Canada has, over many years, built a regional gravity network where gravity stations were established every 10 to 15 kilometers. The Yukon Olympic claim block is observed to lie on the south flank of a pronounced regional gravity high.

## Property Scale Geophysics

### Gravity Surveys



**Figure 4. Ground magnetics (coloured) and gravity (blue contours) for the Yukon Olympic property, showing drill holes and 2006 geophysical grid.**

Figure 4 shows the detailed Property magnetics and gravity with the merged 2002, 2003 and 2004 data sets. A distinct gravity high with a strike length of 9 kilometers, a width of 3 kilometers and a maximum amplitude of between 4 and +5 milligals is mapped on the west side of the property. This gravity high is coincident with the gravity high defined by the GSC regional survey. In addition, two more gravity highs are mapped on the east side of the property, one on the west side of and straddling the Blackstone River and one more or less coincident with the Spectacular

Creek hematite showing. These gravity highs have amplitudes of approximately 2 to 2.5 milligals and are the focus of the 2006 exploration program.

## **Magnetic Surveys**

Figure 4 shows the merged total field magnetics from the 2002 to 2004 surveys with an overlay of the gravity high. The magnetic highs are believed to represent buried, magnetite-bearing mafic intrusions. The weaker western anomaly is on the southern flank of the main gravity anomaly while the stronger eastern anomaly, centred on the Blackstone River valley, generally coincides with the eastern gravity anomaly.

The manner in which the gravity anomalies tend to flank the magnetic anomaly suggest that the cause of the gravity anomaly could be high density, iron-rich breccias that are related to and overlie the buried, magnetite-bearing intrusions. Preliminary modeling suggests that the top of the feature causing the Blackstone magnetic anomaly could be on the order of 1,000 m.

## **Induced Polarization / Apparent Resistivity**

Much of the 2003 and 2004 IP surveys were carried out under difficult frozen ground conditions, with poor electrode contact and, in many cases, unusable data. Blocky limestone subcrop, with little associated soil development, also negatively impacted the quality of data (see Robertson, 2004). The westernmost lines appear to reflect chargeability and resistivity contrasts between shale and limestone in the overlying sediments and do not appear to have penetrated to the depth of the unconformity separating these sediments from the underlying Proterozoic rocks and potential breccia mineralization.

The easternmost line from the 2003 survey shows a distinct, gently north-dipping feature below which the rocks have higher chargeability. This feature is believed to be the unconformity and the higher chargeability rocks below may represent mineralized breccia material. Proterozoic rocks are exposed at surface under the southern end of this line and the mapped unconformable contact occurs at approximately the same location where the north-dipping feature intersects surface on the modeled cross section. It was the main objective of the 2006 survey to more clearly define this chargeable source.

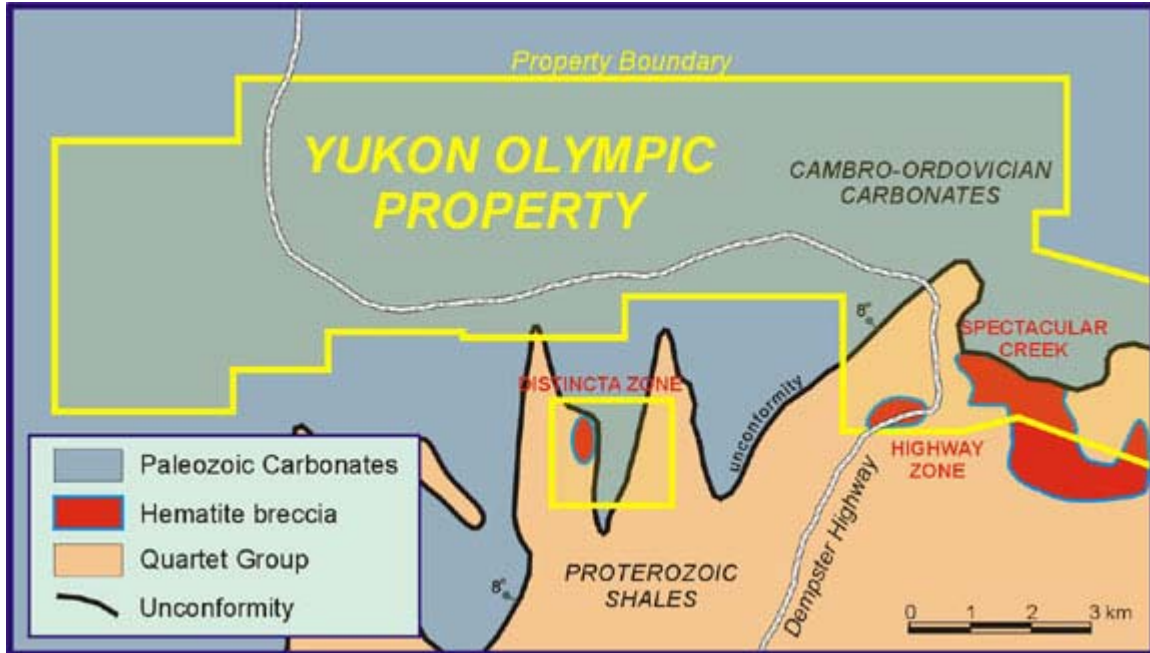
## **Property Geology**

The Yukon Olympic property is located on the northern limb of the Chapman Anticline, which is bisected by east-west trending thrust faults. The property is underlain by Proterozoic age rocks consisting of argillite, shale and siltstone. These rocks have been intruded by a variety of gabbroic magmatic rocks and related hematitic breccia bodies. The main breccia mass, east of the Blackstone River along Spectacular Creek, covers an area of approximately 1 by 1.5 kilometers, with additional occurrences noted intermittently up to 6 kilometers to the west (see Figure 5). The breccias are of Proterozoic age and correlate with many known hematitic breccias elsewhere in the Ogilvie Mountains as well as in the Wernecke Mountains further to the east.

The Proterozoic rocks are in turn overlain unconformably by Paleozoic sedimentary rocks, consisting of predominantly massive to bedded Cambrian limestone and dolostone overlain by basinal shale to siltstone sequences. Over most of the western part of the property, this major Proterozoic to Paleozoic unconformity dips gently to the north at about 8 degrees. The trend of



the unconformity is east- west overall, with sharp changes in strike as the contact roughly follows stratigraphy. On the eastern part of the property near Spectacular Creek, however, the unconformity trends sharply to the north and cross-cuts topography. The dip of the contact between the Proterozoic and Paleozoic rocks in this area must therefore be steeply dipping, with some component of fault contact between the two successions.



**Figure 5. Generalized geology of the Yukon Olympic property.**

Hematitic breccias are exposed over an area approximately 1 km by 1.5 km along Spectacular Creek, east of the Blackstone River. Although detailed study of the breccia has not been carried out, there are two distinct varieties. The first is monolithic to polymict breccia, pink to pale coloured, with disseminated hematite common in a fine-grained matrix. The second variety is dark green, chloritic breccia that typically contains massive to disseminated specular hematite and is associated with mafic intrusive rocks. This latter breccia variety has slightly elevated magnetic susceptibility. Copper mineralization is most often associated with this breccia variety and with the mafic intrusive rocks.

Grab rock samples from the Yukon Olympic property have shown that the breccias are locally enriched in copper, molybdenum, cobalt, fluorine, rare earth elements and barium, with local minor gold and uranium enrichment. Chalcopyrite and locally bornite mineralization have been observed within the breccias and related intrusive rocks throughout the property. Analysis of grab samples has returned up to 0.9% Cu. Minor cobalt mineralization has also been observed. The exposed areas of hematitic breccia mineralization have not yet been systematically sampled.

## 2006 EXPLORATION PROGRAM

### Purpose

The objective of the 2006 program was to more clearly define the nature of the source of the Blackstone gravity anomaly with IP (see Figure 6), particularly along the Blackstone River valley. Two east-west IP lines, totaling 6.45 km, were run in the western part of the claim group to attempt to detect the unconformity between the Proterozoic Quartet Group sediments and overlying Cambrian carbonate rocks.

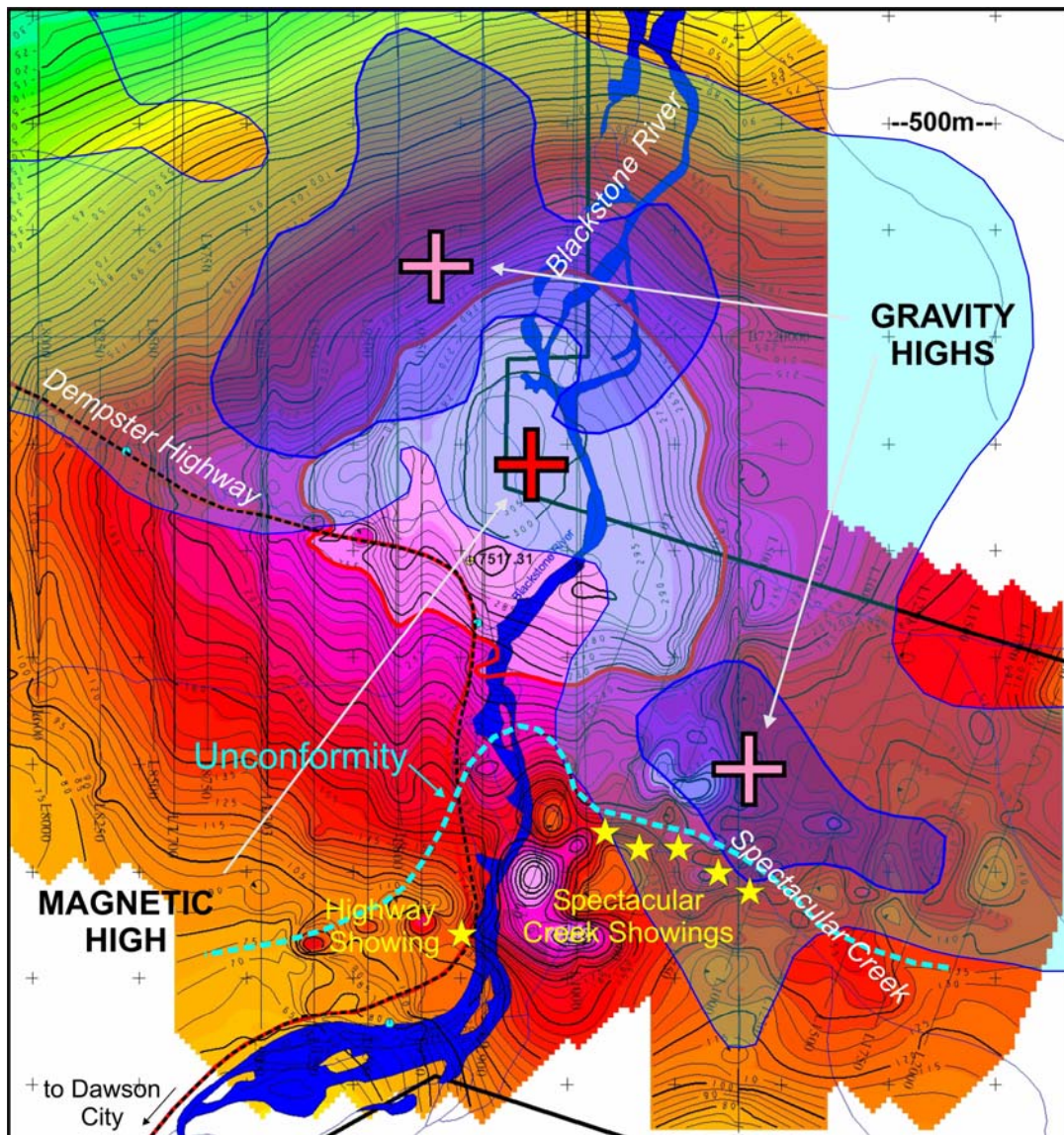


Figure 6. Combined magnetic and gravity contours, Blackstone anomaly.



At the Blackstone anomaly, the magnetic high is believed to be caused by a buried intrusion, the top of which could be on the order of 1,000 m depth (K. Robertson, pers. comm.). Superimposed on this is a broad, +2 milligal gravity anomaly which has two areas of higher intensity flanking the magnetic high, one to the northwest and one to the southeast. It has been interpreted (Carlson, 2003; Thurston, 2003; Robertson, 2004) that the gravity anomalies could be reflecting relatively dense, iron-rich breccia buried beneath the younger, unconformably overlying carbonate rocks. This interpretation is given further credence by the occurrence of an extensive zone of iron-rich breccia, locally containing copper mineralization, along the edge of the southwestern gravity anomaly along Spectacular Creek.

## **Work Completed**

### **Line cutting**

On July 17 and during the period July 25 to July 31, 2006, a crew from Ryanwood Exploration established 15.9 km of line grid, as shown in Figure 2. This work has been applied previously as assessment.

### **Geophysical Survey**

The gravity and magnetics surveys were carried out from August 12 to 18, 2006 while the IP survey was completed during the period September 20 to October 01, 2006. IP, magnetics and gravity surveys (57 stations) were carried out along the three lines, totaling 9.45 km, along the Blackstone River valley. IP only was run along the two western lines, totaling 6.45 km. All geophysical surveys were carried out under contract by Aurora Geosciences of Whitehorse.

## **Results**

### **Geophysical Surveys**

The geophysical field report prepared by Aurora Geosciences (Hildes, 2006) is attached to this report as Appendix I. Results of the survey are shown as profiles for the gravity and magnetic data as well as pseudosections and inversion models for the IP data (for resistivity and chargeability) in Figures 7 to 11, below.

Lines 1 and 2 (Figures 7 & 8) parallel the Blackstone River, with Line 1 on the valley floor hard against the west valley wall while Line 2 more closely follows the course of the river, mainly along the west bank. Anomaly A is a moderate to strong chargeability anomaly with corresponding low resistivity, 200 to 300 m across, that is centered at 1450 N on Line 1 and at 1500 N on Line 2. A weak chargeability zone at 1950 to 2300 N on Line 3 may also correlate with this zone. The estimated depth to the top of the chargeable feature is 150 m. There is a good correlation between this chargeability feature and the 2 milligal gravity anomaly, suggesting that the source could be a large mass of metallic mineralization, such as an iron-rich IOCG breccia.

A second, weak chargeability anomaly occurs at 2100 N on Line 1 and 2275 N on Line 2. This anomaly occurs on the northern fringe of the gravity anomaly and could also reflect mineralized

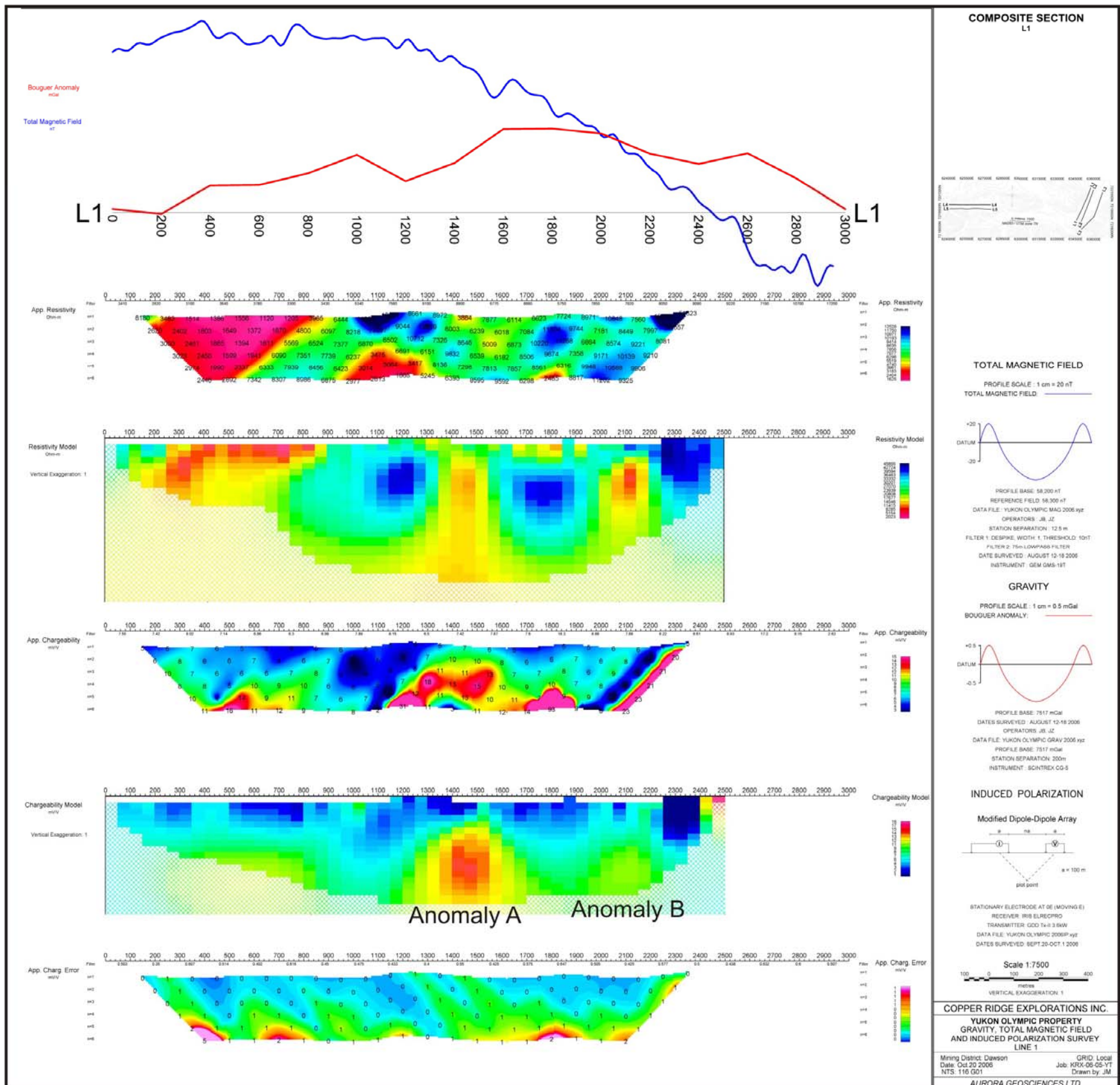


Figure 7. Line 1 - Gravity, magnetics and IP with pseudosections and modeled inversion profiles.



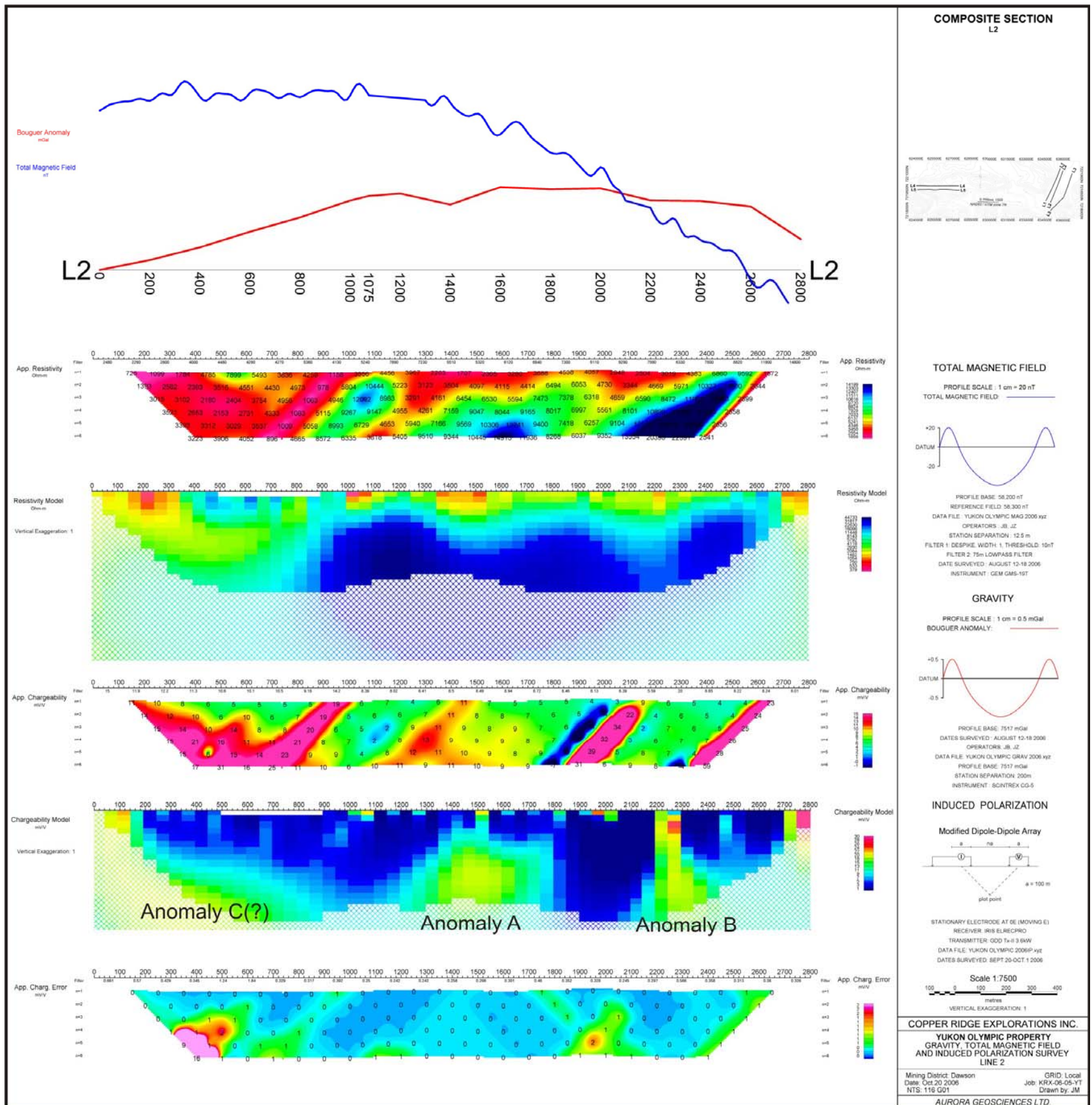


Figure 8. Line 2 - Gravity, magnetics and IP with pseudosections and modeled inversion profiles.

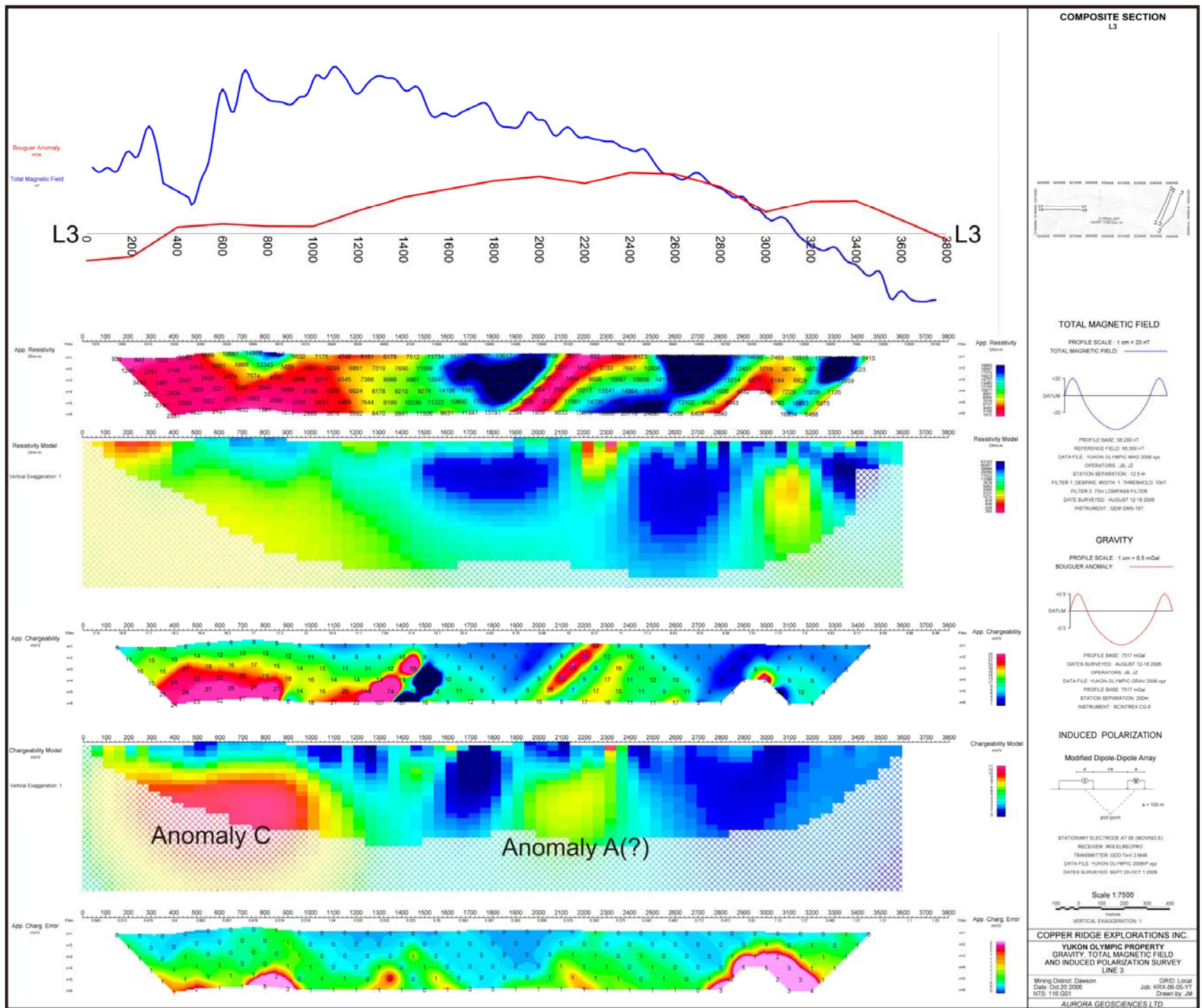


Figure 9. Line 3 - Gravity, magnetics and IP with pseudosections and modeled inversion profiles.



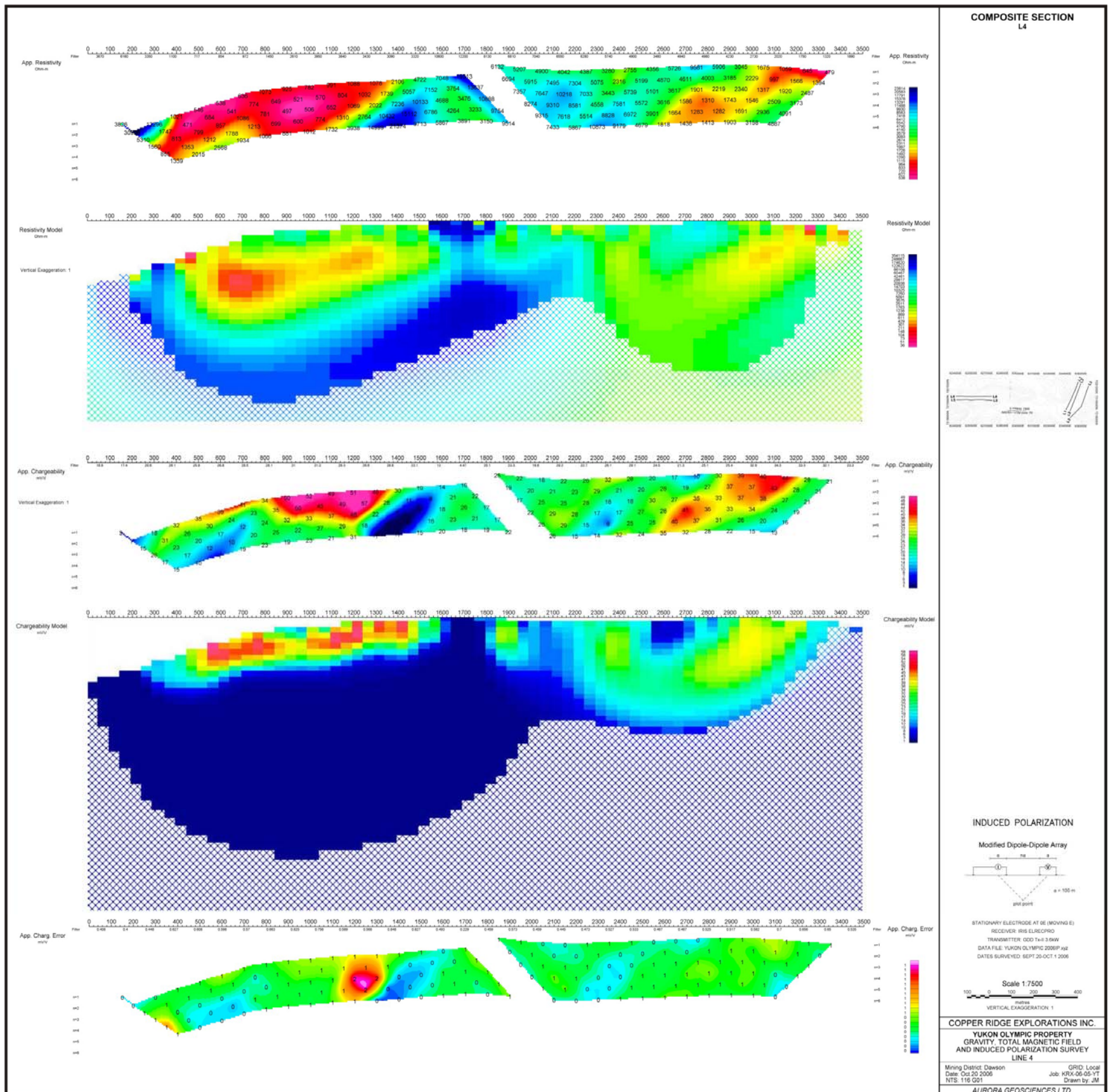


Figure 10. Line 4 - IP pseudosections and modeled inversion profiles.



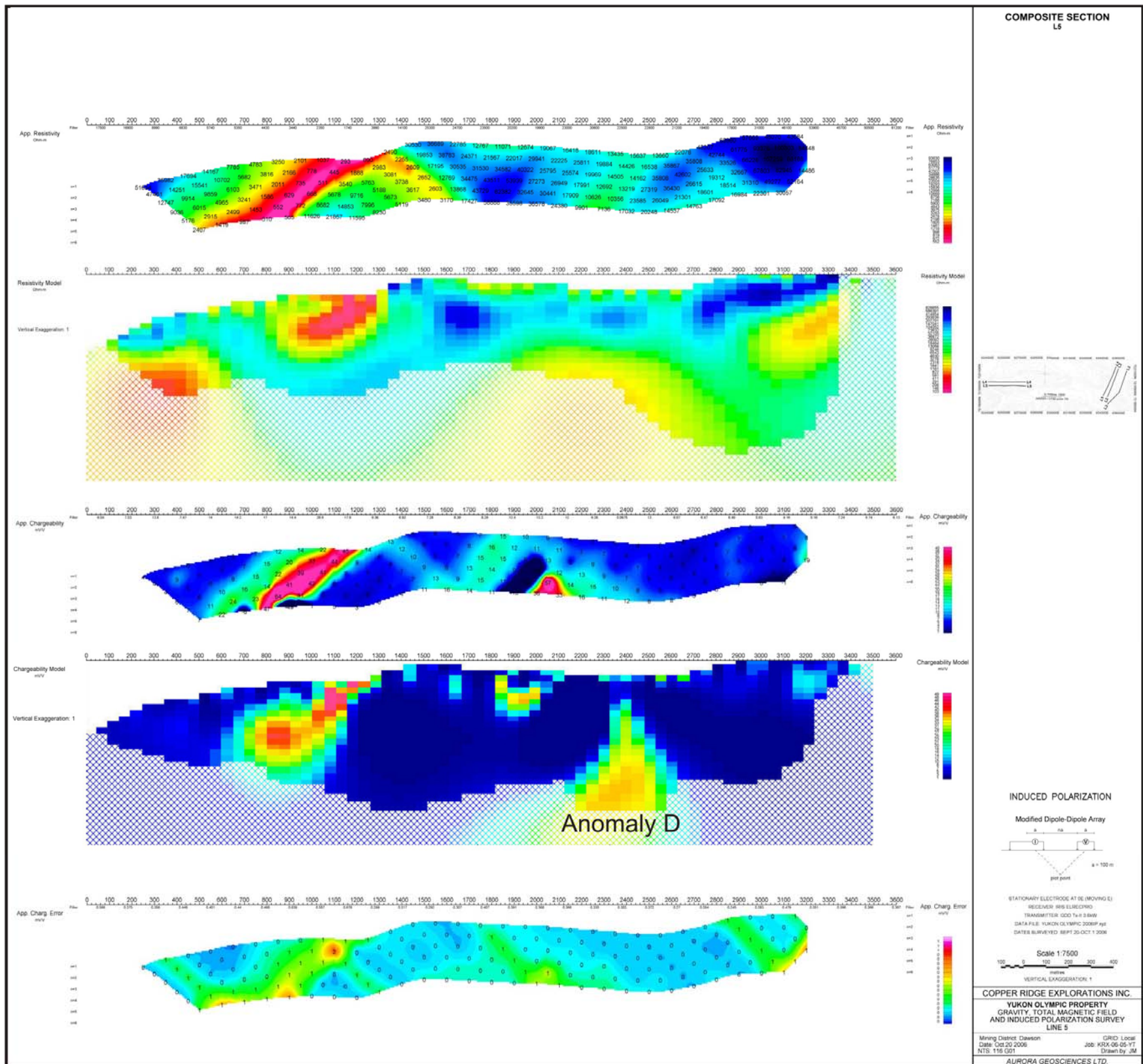


Figure 11. Line 5 - IP pseudosections and modeled inversion profiles.

breccia. The depth to the top of the anomaly is greater than Anomaly A, on the order of 200 m, as would be expected for a source beneath a gently north-dipping unconformity.

Line 3 parallels the river along the eastern side of the valley. A broad, strong chargeability zone occurs between 200 N and 1000 N. This area is underlain by Quartet Group sediments, with no Paleozoic carbonate cover. It is also the area where some of the most attractive copper-bearing IOCG float was found, at the lowest portions of Spectacular Creek. The depth to the top of the strong chargeability is approximately 200 m and the upper contact appears to be relatively flat.

In the area of the Yukon Olympic property, there are no observed possible chargeability sources within Quartet Group sediments other than specular hematite +/- chalcopyrite +/- magnetite mineralization. There is a positive magnetic response that correlates with Anomaly C. This is also an area with a moderate gravity anomaly, although it is on the fringe of the main gravity target. Therefore, there is a good chance that Anomaly C reflects IOCG type mineralization.

Lines 4 and 5 run east-west in the western part of the claim block over part of the Western Anomaly. Only IP was run along these lines. Drill hole 2002-01 was drilled just west of the western end of these lines and encountered over 550 m of carbonates with minor shale. The depth to the unconformity is expected to be +300 m even at the eastern end of these lines. The chargeability features and related low resistivity observed on Line 4 are relatively shallow and are expected to be caused by shale interbeds in the limestone. Some of these shales are pyritic.

Similar features are observed on Line 5. However, at 2400 E on Line 5 there is a deeper chargeability feature (Anomaly D) that may reflect a sub-unconformity source. The depth to the top of this feature is 300 to 400 m and it correlates with the fringe of the main gravity anomaly as well as a local magnetic anomaly. In other words, this could be an indication of metallic, IOCG-type mineralization in Quartet Group sediments.

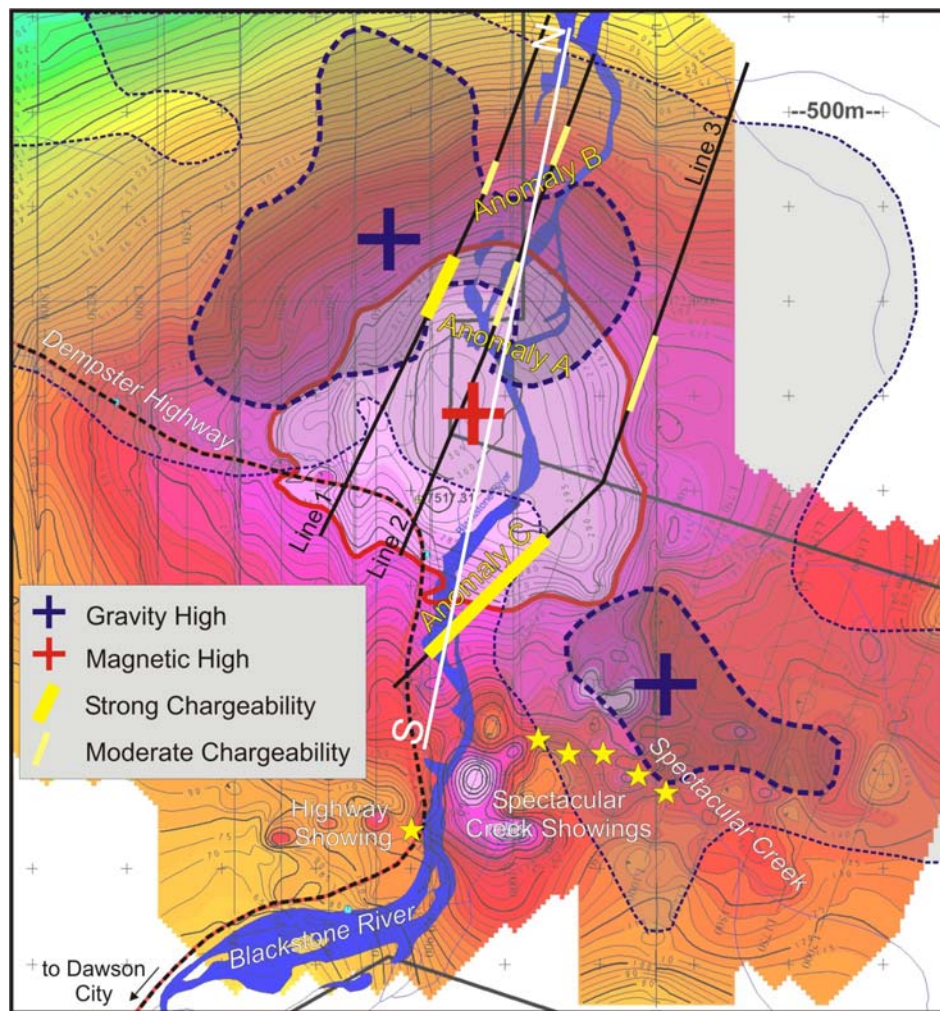
## **INTERPRETATION AND CONCLUSIONS**

Previous exploration within the Yukon Olympic property has defined a very large zone, in excess of 15 km in strike length, of anomalous gravity readings, with maximums of +5 milligals. Associated, but not exactly coincident with the gravity, are regional magnetic anomalies. IOCG-style breccia mineralization, locally with anomalous copper values, has been discovered in a number of areas around the fringe of the gravity anomaly. Similar mineralization in the adjacent Ogilvie and Wernecke Mountains has been shown to be 1.6 by in age, the same age as the famous Olympic Dam IOCG deposit in Australia. The gravity and slightly offset magnetic patterns at Yukon Olympic are similar to the geophysical pattern observed at Olympic Dam. There, the gravity anomaly is caused by dense, iron-rich mineralization while the magnetic anomaly is thought to be caused by a deeper, magnetite-bearing intrusion.

At Yukon Olympic, the large, regional magnetic anomaly occurs along a major east-west trending crustal structure along which two other known IOCG deposits occur (see Figure 3). A major north-south cross structure, along the Blackstone River valley, is believed to intersect the east-west structure at the bulls-eye Blackstone magnetic anomaly (see Figure 12). As at Olympic Dam, the gravity anomalies are believed to reflect, at least in part, iron-rich breccia mineralization, while the magnetic anomalies are believed to represent more deeply buried intrusive rocks (see Figure 13).

Exploration at Yukon Olympic is hampered by the presence of younger limestone cover over most of the property, varying in thickness from zero to in excess of 550 m. In 2005, drilling east of the Blackstone River intersected breccia from top to bottom in all four completed holes. However, the breccia here is only weakly mineralized. The gravity anomaly in this area is not strong and tends to follow an east-west ridge. Therefore, it may in part be caused by topography that was not adequately compensated for in the gravity reduction calculations. IP responses in this area, from a single line from the 2004 survey (Robertson, 2004), showed only local weak chargeability in the vicinity of the 2005 drill holes. This correlates with the weakly disseminated mineralization observed in the drill core.

The purpose of the 2006 program was to focus on the Blackstone Anomaly in areas where the depth to the unconformity, or to the top of the favourable Proterozoic rocks, would be 200 m or less and thus within easy reach of a drill hole. Since mineralization is exposed at surface where the Proterozoic rocks are exposed in the Spectacular Creek area, it was presumed that breccia mineralization should occur at or very near to the unconformity. The lines were run along the valley floor of the Blackstone River, also minimizing the depth to any potential buried mineralization.



**Figure 12. Blackstone Anomaly showing IP chargeability anomalies relative to gravity and magnetic anomalies and section line (N-S) for Figure 13.**



The 2006 geophysical survey successfully defined at least two strong chargeability anomalies with corresponding gravity and magnetic anomalies that have a good possibility of reflecting hematitic IOCG-style breccia mineralization in Quartet Group Proterozoic sedimentary rocks.

Anomaly A correlates with a portion of the main Blackstone gravity anomaly, near its core, and is in an area where the unconformity is expected to be less than 200 m deep. There is a good correlation of an approximate 2.5 milligal gravity anomaly with magnetics and a strong chargeability anomaly, up to 93 mv/V and averaging 15 to 30 mv/V. If the gravity, magnetic and IP responses are caused by the same source, there is a strong possibility that source is an iron-rich breccia. At Yukon Olympic, whenever iron-rich, specular hematite breccias have been observed, they typically have associated copper mineralization in the form of disseminated chalcopyrite and sometimes bornite. Therefore, Anomaly A is a high priority drill target. At the anomaly, the IP line follows the extreme western limit of the valley floor. Outcrops of limestone occur locally, so it is expected that overburden should not be a problem for drilling. The depth to the top of the chargeability target is interpreted to be 150 m.

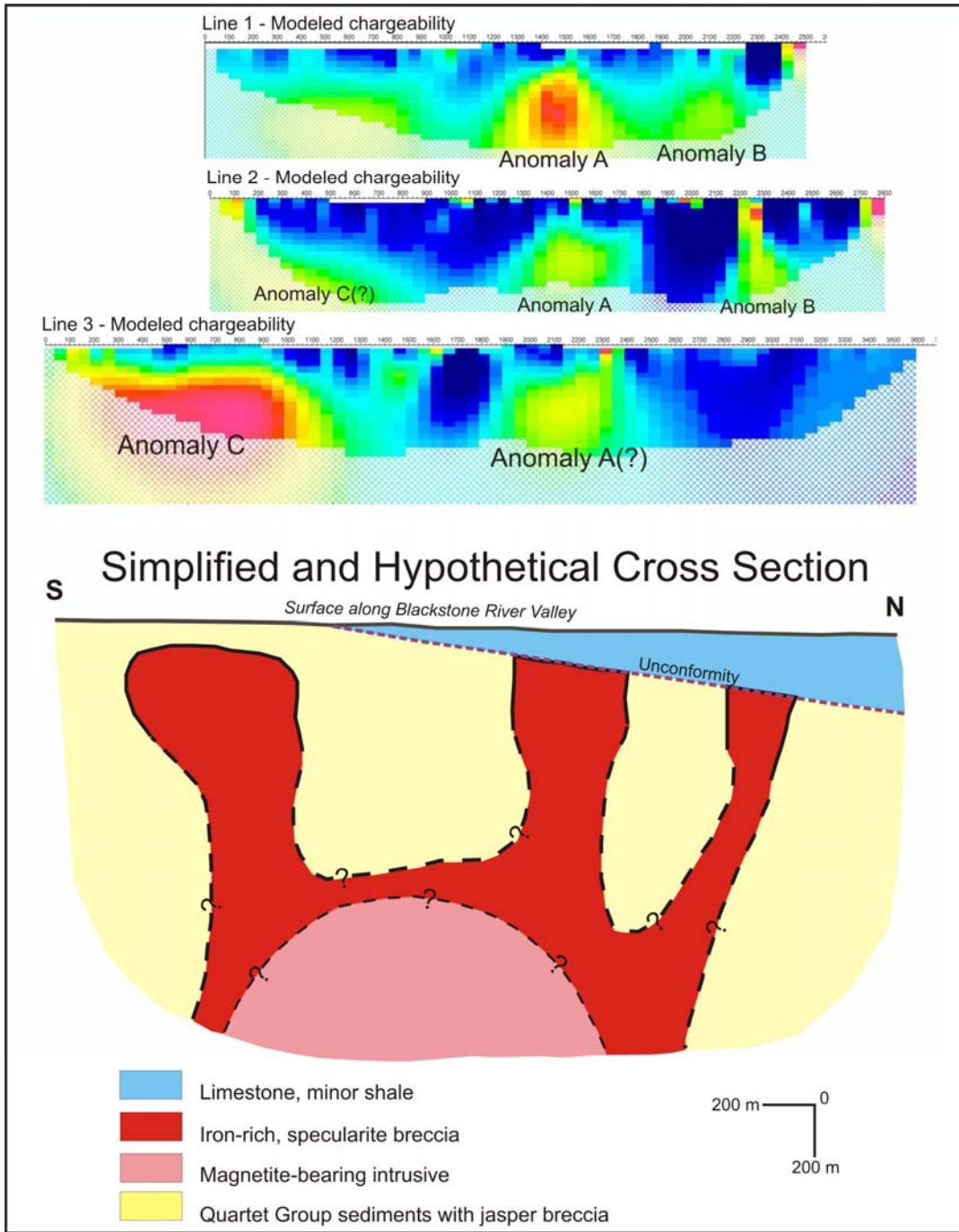
Anomaly B correlates with the northern edge of the gravity anomaly, 700 m north of Anomaly A. This is a weaker chargeability high. Because the unconformity is north-dipping, the depth to the top of the unconformity is likely to be greater at Anomaly B than Anomaly A. The depth to the top of B appears to be in excess of 200 m. However, it is still within the main part of the gravity anomaly. Given the weak chargeability and possible greater depth, this is a lower priority target for first pass drill testing.

Anomaly C is located mainly on Line 3, although possible weak expressions can be observed on the chargeability profiles at the south ends of Lines 1 and 2. This is a strong chargeability anomaly, with chargeabilities averaging 20 to 30 mv/V and reaching highs of 74 and 107 mv/V. It occurs in an area of Proterozoic rock outcrop and so it is not hidden beneath the Paleozoic unconformity, except possibly at the northernmost end of the anomaly. Anomaly C is within the main gravity anomaly, but it does not correlate with either of the high gravity cores. However, it is in the area of some well mineralized breccia float that was discovered near the mouth of Spectacular Creek in 2003. Although breccia is exposed in outcrop near the anomaly, it is the jasper variety of breccia with low iron content and little or no specularite. The depth to the top of the chargeability anomaly is indicated to be about 200 m, suggesting that the source of this anomaly does not reach surface. Drilling should not be difficult here, as the IP line runs very close to bedrock exposures on the east side of the Blackstone River valley in the vicinity of Anomaly C.

Although a weak chargeability zone that could represent IOCG-style breccia mineralization (Anomaly D) was detected on Line 5, the fact that the anomaly is weak and is 300 to 400 m below surface make this a lower priority drill target.

Figure 13, below, shows the modeled inversion IP chargeability profiles for Lines 1, 2 and 3. Below this is shown an extremely simplified possible interpretation of the gravity, magnetic and IP data. The hypothetical section is intended to demonstrate the interpreted relationship between potential IOCG breccia mineralization, the present day land surface along the Blackstone River valley and the interpreted location of the Paleozoic unconformity. This interpretation suggests that both Anomaly A and Anomaly C could be readily tested by 250 m vertical drill holes.

The interpreted breccia shown in red on the cross section is the iron-rich, specular hematite-bearing variety that could contain copper mineralization in whole or in part. Adjacent to these breccia bodies, and perhaps across the entire cross section, the Proterozoic Quartet Group sediments would be for the most part reddish coloured, iron-enriched jasper breccia.



**Figure 13. Hypothetical cross section showing possible interpretation of gravity and magnetic data along Blackstone River valley.**

## RECOMMENDATIONS

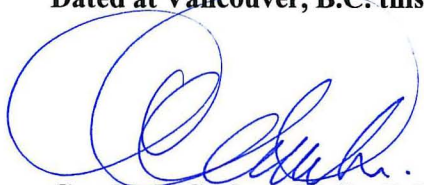
A program of diamond drilling of four holes, for a total of 1,000 m, is recommended. Two holes should test Anomaly A and two holes should test Anomaly C. The budget for this helicopter-supported program is estimated at \$350,000.

## STATEMENT OF QUALIFICATIONS

I, Gerald G. Carlson, hereby certify that:

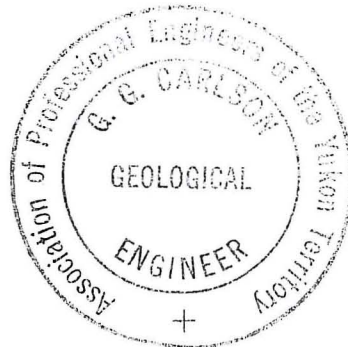
1. I am a consulting mineral exploration geologist and President of KGE Management Ltd. of 1740 Orchard Way, West Vancouver, B.C. V7V 4E8.
2. I am a graduate of the University of Toronto, with a degree in Geological Engineering (B.A.Sc., 1969). I attended graduate school at Michigan Technological University (M.Sc., 1974) and Dartmouth College (Ph.D., 1978). I have been involved in geological mapping, mineral exploration and the management of mineral exploration companies continuously since 1969, with the exception of time between 1972 and 1978 for graduate studies in economic geology.
3. I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia, Registration No. 12513 and of the Association of Professional Engineers of Yukon, Registration No. 0198.
4. I am the author of this assessment report on the Yukon Olympic Project, Report on the 2006 Geophysical Program. The report is based on a literature review, on private company reports and on property visits during the 2003, 2004 and 2005 field seasons and the results of the 2006 field program.
5. I am a Director, President and CEO of Copper Ridge Explorations Inc.
6. I personally planned and assisted with the supervision of the exploration program conducted on the area discussed in this report.

**Dated at Vancouver, B.C. this 18th day of January, 2008.**



**Gerald G. Carlson, Ph.D., P. Eng.**

KGE Management Ltd.  
1740 Orchard Way  
West Vancouver, B.C. V7V 4E8  
604-816-3012



## STATEMENT OF COSTS

IP, Gravity and Magnetics Survey (see receipts – Appendix II)	\$29,417.00
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## LIST OF REFERENCES

- Awmack, Henry J. (1993): 1993 Report On The Devil 1-24 Claims, located in the Ogilvie Mountains, Dawson Mining District, NTS 116G/1, Monster Joint Venture, Equity Engineering Ltd.
- Carlson, Gerald G. (2003): Assessment Report, Yukon Olympic Project, HEM 1-78 and HEM 79-88 Claims, Dawson Mining District, Yukon, 2002 Field Program, for Copper Ridge Explorations Inc., Company Report.
- Carlson, Gerald G. (2007): Assessment Report on the 2006 Line Cutting Program, Yukon Olympic Project, Hem Claims, Dawson Mining District, Yukon, 2006 Field Program, for Copper Ridge Explorations Inc.
- Hildes, Dave (2006): Yukon Olympic 2006 geophysical surveys – preliminary report. Internal report for Copper Ridge Explorations Inc., 9 p.
- Norris, D.K. (1979): Geology, Ogilvie River map-area, Yukon-Northwest Territories; Geological Survey of Canada, Map 1526A.
- Oreskes, N. and Hitzman, M.W., (1993): A model for the origin of Olympic Dam-type deposits, in Kirkham, R.V., Sinclair, W.D., Thorpe, R.I. and Duke, J.M., eds., Mineral Deposits Modeling: Geological Association of Canada, Special Paper 40, p. 615-633.
- Robertson, Ken (2004): Summary and Interpretation Report on the Yukon Olympic Property (Cumulative Geophysical Surveys, 2002 to 2004), 43-101 report filed by Janina Resources Ltd.
- Scott, I.R. (1987): The development of an ore reserve methodology for the Olympic Dam copper-uranium-gold deposit: Resources and Reserves Symposium, Australian Institute of Mining and Metallurgy, p. 99-103.
- Thurston, Brian G (2003).: Report on the 2002 Drilling Program of the Yukon Olympic Property, HEM-HEG-HM Claims, Dawson Mining District, Yukon Territory, Vancouver, British Columbia January 20, 2003 for Canadian Empire Exploration Corp.

APPENDIX I

AURORA GEOPHYSICAL REPORT



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## MEMORANDUM

**To:** Gerry Carlson, Greg Dawson  
Copper Ridge Explorations Inc. **Date:** 20 Oct 06

**From:** Dave Hildes  
[dave-aurora@klondiker.com](mailto:dave-aurora@klondiker.com)

**Re:** Yukon Olympic 2006 geophysical surveys – preliminary report

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This memorandum is a preliminary report describing induced polarization / resistivity (IP), total magnetic field and gravity surveys conducted at the Yukon Olympic Property, Dawson Mining District, Yukon. The gravity (57 stations) and total magnetic field (9.45 line-km) surveys were conducted from August 12 to 18, 2006. The IP survey (15.9 line-km) was conducted September 20 to October 01, 2006.

### a. Crew and equipment.

The surveys were conducted by the following personnel:

#### Gravity & Total Magnetic Field

Jenn Black	Crew chief
Jeff Zurek	Technician

#### IP

Jacob Moeller	Crew chief
Gaetan Cyr	Technician
Terry Creamer	Helper
Christian Ducharme	Helper

The crews were equipped with the following instruments and equipment:

### **Gravity & Total Magnetic Field**

Gravimeter	1	Scintrex CG-5 s/n 911009188
DGPS Base	1	Topcon GB-500 GPS s/n T652102, with PC-A1 antenna s/n 308-0428
DGPS Rover	1	Topcon Hiper GPS s/n 251-1054 with Recon pocket PC
Magnetometers	3	GEM GSM 19 proton precession magnetometers s/n 2011133 and 2011135/R and GEM Overhauser magnetometer s/n 705678
Other	1	Impulse laser range finder
	1	2 man summer camp
	1	Laptop with Geosoft, Gravred2.
	2	VHF handheld radios
	2	Non-differential GPS receivers
	1	GlobalStar satellite phone
	1	1 Ton Truck
	1	Boat and Trailer (no motor)

### **IP**

IP receiver	1	Iris Elrec Pro s/n 2315-275800063-165
IP transmitter	1	GDD TxII 3.6 kW s/n Tx242
	1	Honda 5Kw generator
IP equipment	1	Repair tools & spare IP parts
	6 km	18 gauge wire
		100 m IP cables
	4	VHF handheld radios
	1	VHF base radio
		Georeels & spools, Speedy winders and spools, stainless steel electrodes
Other	3	Non-differential GPS receivers
	1	Laptop with Geosoft IP package



- 1 4 man summer camp
- 1 GlobalStar satellite phone with data package
- 1 Laptop with Geosoft (IP package)
- 1 1 Ton Truck
- 1 Boat and Trailer (no motor)

**b. Survey specifications.**

The IP survey was conducted according to the following specifications:

Array	Expanding pole-dipole
Dipole spacing	100 m
Tx	Time domain, 50% duty cycle, reversing polarity, 0.125 Hz.
Separations read	N=1 to 6.
Rx sampling	20 channels, semi-logarithmic channel widths. Stacked minimum 15 times per reading.
Rx error	5 mV/V or less, otherwise repeated several times
Grid registration	Handheld GPS points every 500 m (nominal) and line-ends averaged 30 s or until estimated accuracy < 10 m, whichever was longer. All coordinates in NAD83 UTM Zone 7N.

The total magnetic field survey was conducted according to the following specifications:

Base station	Installed at 635091E, 7218542N and cycled at 5 s throughout the survey period.
Diurnal correction	Base and rover magnetometers were synchronized to GPS time prior to each survey day. Temporal geomagnetic variation was removed by linear interpolation using the base station data. Data collected during periods in which geomagnetic variation exceeds 5 nT / 5s were not included in the final data set.
Levelling	Each operator surveyed 15 stations in 4 directions on 2 orthogonal lines daily.
Station spacing	12.5 m along picketed lines.

The gravity survey was conducted according to the following specifications:

Datums & projections	NAD83 UTM Zone 7N, elevations in metres above sea level using the World EGM96, 15' geoid.
Station spacing	Every 200 m along picketed lines.
Station marking	Station hubs marked with flagged nails driven flush to ground level where possible.
Gravimeter preparation	The gravimeter was levelled and warmed up for a period of at least 48 hours to stabilize. Thereafter, the instrument was cycled for at least 48 hours taking readings for 120 seconds every 10 minutes to ensure the stable operation of the instrument. The instrument remained under power at all times throughout the survey operation.
Gravity reading	Readings were stacked for 60 s and the maximum standard deviation kept to less than 50 $\mu$ Gal if possible. If this was not possible, readings were repeated several times to ensure that the data were repeatable. Seismic filters were engaged to remove wind noise.
Gravimeter check-in	Readings were taken 3 times at a check-in point in camp (635097E 7218520N), before, after and at a midpoint of each day's surveying. The location of the check-in was marked with a rock cairn. These readings were used for removal of remnant drift.
DGPS base	The DGPS base station was installed at 635095.81E, 7218532.08N and cycled at 5 s throughout the survey collecting data for DGPS post processing.
DGPS Rover	Repeat readings (temporally spaced by minimum several hours) were made at 4 stations to estimate the accuracy of the DGPS survey.
Near station terrain measurements	Terrain elevations within 20 m of the gravity station were measured directly using a handheld clinometer.

**c. Data processing.**

*IP*

Data were downloaded nightly from the receiver and imported into the Geosoft Oasis Montaj IP package. Every reading was inspected and readings with high error or which did not repeat were rejected from the dataset. Repeat readings that were not rejected were then averaged using a weighted average based on the error. Corrections for the effect of a proximal infinite electrode were applied. GPS points were dumped from the handheld units and coordinates for the stations determined by linear interpolation between GPS points. Topographic data were extracted from a digital elevation model. Pseudosections of apparent resistivity, apparent chargeability and the standard deviation of the apparent chargeability were then produced, draped over the topographic data.

Data were formatted for entry into the UBC 2D DCIP package and inversions were run. Errors of 5%+0.001 were added to the resistivity data (voltage normalized by the current) for the resistivity inversions. For the chargeability inversions the standard deviation +0.2 mV/V was used as the error. The following table details parameters of the inversions.

Resistivity inversion parameters

Line	Chi Factor	DOI model (Ohm-m)	DOI cutoff	Comments
L1	1	10000	0.2	
L2	1	10000	0.2	
L3	1	10000	0.1	
L4	7	10000	0.1	
L5	2	10000	0.1	

Chargeability inversion parameters

Line	Chi Factor	DOI model (Ohm-m)	DOI cutoff	Comments
L1	18	100	0.2	Did not capture some of the small scale high chargeabilities. Overall texture OK.
L2	25	100	0.2	
L3	128	100	0.1	Did not capture high gradient data at station 1200 or high at station 2300.
L4	18	100	0.1	
L5	78	100	0.1	Did not capture high gradient data at station 1700.

## Total Magnetic Field

The total magnetic field data was registered to UTM coordinates by matching or interpolating between known GPS points. The magnetic data were then corrected for diurnal corrections by linear interpolation using the base station magnetometer with a reference field of 58,300 nT. Each operator's data were levelled to a common datum using the 60 common points surveyed daily. The data were despiked using a filter width of 1 and a threshold of 10 nT, then a 6 fid (75 m) lowpass filter was applied. Profiles were made using a profile base of 58,200 nT and a scale of 20 nT = 1cm of the *FinalMag* channel.

## Gravity

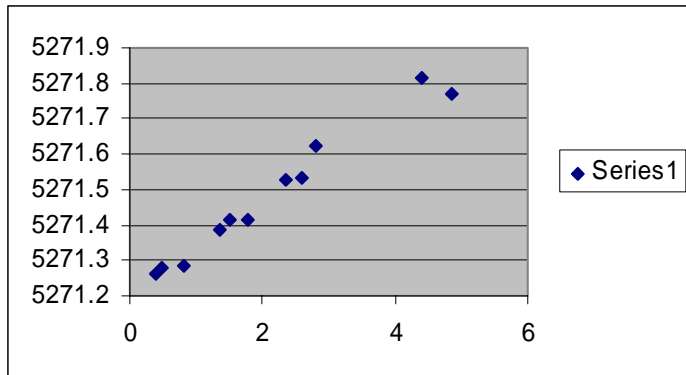
The location of the DGPS base station was determined by averaging the non-differential location throughout the survey. This position was then used as a fixed reference point to differentially correct the rover readings by post processing. The ellipsoid heights were converted to geoid heights and compared with the digital elevation model (DEM). A datum shift of -1.64 metres was necessary to reconcile the GPS data with the DEM. In addition, where individual surveyed points differed from the DEM, the DEM points were removed in an area surrounding the gravity station and a new DEM generated to guarantee that the two data sets were consistent.

Repeat GPS readings, tabulated below, were taken at four station. The maximum discrepancy from the mean is 0.693 m and the standard deviation is 0.25 m.

Station	north	north- AVG	east	east- AVG	Elev	ELEV- AVG	date	Time
L3Stn400	7218314.794	-0.070	635257.573	0.051	858.989	-0.367	14- Aug	Noon
L3Stn400	7218314.826	-0.038	635257.521	-0.001	859.030	-0.326	14- Aug	Night
L3Stn400	7218314.972	0.108	635257.473	-0.049	860.049	0.693	15- Aug	Noon
<b>Average</b>	<b>7218314.864</b>		<b>635257.522</b>		<b>859.356</b>			
L3Stn1400	7219032.627	-0.194	635964.372	0.064	878.94	-0.369	14- Aug	Noon
L3Stn1400	7219033.016	0.195	635964.244	-0.064	879.678	0.369	15- Aug	Noon
<b>Average</b>	<b>7219032.822</b>		<b>635964.308</b>		<b>879.309</b>			
L3Stn2200	7219755.816	0.216	636281.415	-0.027	876.058	-0.017	15- Aug	Morn
L3Stn2200	7219755.383	-0.217	636281.47	0.027	876.092	0.017	15- Aug	Noon
<b>Average</b>	<b>7219755.600</b>		<b>636281.443</b>		<b>876.075</b>			
L3Stn2400	7219948.646	-0.002	636348.522	-0.027	875.329	0.008	15- Aug	Morn

L3Stn2400	7219948.65	0.002	636348.576	0.027	875.312	-0.009	15- Aug	Noon
Average	7219948.648		636348.549		875.321			

Tidal corrections to the data were performed based on latitude of 65.1 and longitude of -138.1. Remnant drift was corrected by linear interpolation between check-in points. As can be seen from the graph below with gravity in mGal on the y-axis and decimal days on the x-axis, the linear assumption if remnant drift is adequate.



Latitude corrections were made based on a centre latitude of 65.0, and centre UTM coordinates of 635097E, 7218570N with a declination of 2.6 degrees W. Free air corrections were made and Bouguer slab, Bullard B and all terrain corrections were made assuming a density of 2.67 g/cm<sup>3</sup>. Near station terrain corrections were made by Kane's method using measured relative elevation differences within 20 m of the station in 6 sectors. An inner 20 metres DTM with corners 614000E, 7209000N and 641000E, 7227000N, adjusted as required to be consistent with the DGPS survey was used to calculate an a second terrain correction using the flat-top prism method (Nagy's Method). This inner DTM extends to approximately 3 km outside the survey area. Lastly a third terrain correction was applied using a 1000 m grid from the outside of the inner DTM to approximately 100 km outside the survey area. A line-mass method was used for this outer terrain correction.

All corrections were made using Gravred2, proprietary software developed by Amerok Geosciences Ltd. except the tidal corrections which were made with ETGTAB, software developed at the University of Karlsruhe.

Repeat readings were averaged using a weighted mean based on the standard deviation of the individual readings. Lastly, a datum shift of 2074.357 mGal was applied to level the data set to the 2004 survey. This datum is based on an average from five repeat points (with a standard deviation of 0.123 mGal).

The final data, channel *Final\_2004levelled*, was profiled using a base of 7517 mGal and a scale of 0.5 mGal = 1 cm.

**d. Products.**

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

Data\Yukon Olympic 2006 IP.xyz Data\Yukon Olympic 2006 IP.gdb Data\Yukon Olympic 2006 Mag.xyz Data\Yukon Olympic 2006 Mag.gdb Data\Yukon Olympic 2006 Grav.xyz Data\Yukon Olympic 2006 Grav.gdb	Final data in Geosoft database and ASCII xyz format.
Data\Yukon Olympic GPS.txt	Non-differential GPS locations with estimated accuracy < 10 m. NAD83, UTM Zone 7N.
Figures\L1.pdf & L1.jpg Figures\L2.pdf & L2.jpg Figures\L3.pdf & L3.jpg Figures\L4.pdf & L4.jpg Figures\L5.pdf & L5.jpg	Composite section with 2006 data. Lines 4 and 5 did not have total magnetic field nor gravity surveys conducted. in PDF and JPEG formats. Scale = 1: 7,500.
Inversion Images\L1 dc model.jpg Inversion Images\L1 dc predicted.jpg Inversion Images\L1 IP model.jpg Inversion Images\L1 IP predicted.jpg ... Inversion Images\L5 IP model.jpg Inversion Images\L5 IP predicted.jpg	Inversion models with convergence curves for lines 1 through 5. Inversion observed and predicted data for lines 1 through 5.
Raw	A folder with all the raw instrument dump files.
Yukon Olympic 2006 Geophysics Preliminary Report.pdf	A PDF of this report.

**e. Preliminary results**

- There is a 1-2 mGal Bouguer anomaly high centred at station 1800 on lines 1 and 2 and 2400 on line 3 (no gravity was conducted on lines 4 and 5) with a half width of approximately 1000 m. There are smaller scale Bouguer anomaly features within this broad high.
- The total magnetic field has a broad peak at approximately station 700 on lines 1 and 2 and 1100 on line 3, offset from the Bouguer anomaly. The amplitude of

the anomaly is approximately 200 nT.

- Lines 1, 2 and 3 all have a conductive area at the start (SW end) of the line, coincident with a chargeable zone. In addition, all three lines have a second chargeability anomaly in the central part of the line, on lines 1 and 3 coincident with another resistivity low. Lines 1 and 2 have a third chargeability anomaly on at the end (NE) of the line.
- Line 4 has a broad low-resistivity area at the west end of the line coincident with a shallow chargeability anomaly. There is a weaker conductive and weaker chargeable area at the east end of the line.
- Line 5 has a 400 m low-resistivity, high chargeability area at the west end of the line. Another weaker chargeable zone, 300 m wide is centred at 2400.

Respectfully submitted,  
**AURORA GEOSCIENCES LTD.**

Dave Hildes, Ph.D., P. Geo.,  
Geophysicist

## APPENDIX II

### LIST OF RECEIPTS





Whitehorse Office  
 108 Gold Road  
 Whitehorse, Yukon  
 Y1A 2W3  
 Phone: (867) 668-7672  
 Fax: (867) 393-3577

# Invoice

RECEIVED  
 AUG 31 2006

Date	Invoice #
15/07/2006	6213

Bill To
Copper Ridge Explorations Inc. Suite 500 625 Howe St. Vancouver, BC V6C 2T6

Terms	File:
Net 15 days. 2% per month	KRX-06-05-YT Yuk...

Description	Qty	Unit	Rate	Amount
ADVANCE FOR YUKON OLYMPIC PROPERTY - GEOPHYSICAL SURVEY		Fixed Cost (as per Contract)	17,000.00	17,000.00

**PAID**  
 OCT 30 2006

1410

Subtotal	\$17,000.00
GST	\$0.00
<b>Balance Due</b>	<b>\$17,000.00</b>



Whitehorse Office  
 108 Gold Road  
 Whitehorse, Yukon  
 Y1A 2W3  
 Phone: (867) 668-7672  
 Fax: (867) 393-3577

# Invoice


Date	Invoice #
8/26/2006	6360

<b>Bill To</b>
Copper Ridge Explorations Inc. Suite 500 625 Howe St. Vancouver, BC V6C 2T6

Terms	File:
Net 15 days. 2% per month	KRX-06-05-YT Yuk...

Description	Qty	Unit	Rate	Amount
<b>YUKON OLYMPIC PROPERTY</b>				
<b>GRAVITY SURVEY</b>				
Service Invoice - Service log attached August 11-25, 2006				
Operations				
Crew, instrument & equipment preparation		Fixed charge per contract	1,100.00	1,100.00T
Gravity survey - Travel (Aug 12,18)	2	Days	1,450.00	2,900.00T
Gravity survey - Work (mag standby) (Aug 13-15, 17)	4	Days	1,590.00	6,360.00T
Magnetic field survey - Work (Aug 16)	1	Days	1,710.00	1,710.00T
Camp	7	Days	90.00	630.00T
Truck	7	Days	100.00	700.00T
Boat, trailer (no motor)	7	Days	90.00	630.00T
Client advance applied			-7,000.00	-7,000.00
Business Number: 886365816				

Subtotal	\$7,030.00
GST	\$841.80
<b>Balance Due</b>	<b>\$7,871.80</b>

 Yukon Oy

*net needed to be paid*



Whitehorse Office  
 108 Gold Road  
 Whitehorse, Yukon  
 Y1A 2W3  
 Phone: (867) 668-7672  
 Fax: (867) 393-3577

# Invoice

Date	Invoice #
29/09/2006	6557

Bill To
Copper Ridge Explorations Inc Suite 500 625 Howe St. Vancouver, BC V6C 2T6

Terms	File:
Net 15 days. 2% pcr month	KRX-06-05-YT Yuk...

Description	Qty	Unit	Rate	Amount
<b>YUKON OLYMPIC PROPERTY</b>				
EXPENSES (As per attached spreadsheet)				
Room & Board	} 2323		89.29	89.29T
Field Supplies			9.38	9.38T
Food, non-taxable			2,214.28	2,214.28
Food, taxable	} 2340		683.37	683.37T
Fuel			772.14	772.14T
Administration fee, 15%			565.27	565.27T
Business Number: 886365816				

Subtotal	\$4,333.73
GST	\$127.17
<b>Balance Due</b>	<b>\$4,460.90</b>



Whitehorse Office  
 108 Gold Road  
 Whitehorse, Yukon  
 Y1A 2W3  
 Phone: (867) 668-7672  
 Fax: (867) 393-3577

# Invoice

Date	Invoice #
30/09/2006	6520

<b>Bill To</b>
Copper Ridge Explorations Inc. Suite 500 625 Howe St. Vancouver, BC V6C 2T6

Description	Qty	Unit	Terms		File:
			Rate	Amount	KRX-06-05-YT Yuk...
YUKON OLYMPIC IP/GRAV/MAG Processing to September 30, 2006					
Geophysical data processing - Jenn Black	23	Hours	65.00	1,495.00T	
Client advance applied			-1,500.00	-1,500.00	
Business Number: 886365816					
2332 					
<b>Subtotal</b>					-\$5.00
<b>GST</b>					\$89.70
<b>Balance Due</b>					\$84.70