

**EXPLORATION REPORT**  
**ON**  
**GEOPHYSICS on the SURPRISE SHOWING GRID**  
**and**  
**SOIL GEOCHEMISTRY on the PLUMB PROSPECT GRID**  
**SURPRISE LAKE PROPERTY**  
**PINE CREEK, ATLIN AREA**  
**ATLIN MINING DIVISION, BRITISH COLUMBIA**

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**PROPERTY LOCATION:** On Pine Creek 15.7 km 070°E of Atlin,  
British Columbia  
59° 38' N Latitude, 133° 28' W Longitude  
Mineral Titles Maps: M104N053, '54, '63, '64  
N.T.S. - 104N/11

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## **SUMMARY**

Magnetic, VLF-EM, induced polarization (IP), resistivity, and self potential (SP) surveys were carried out on the Surprise Showing Grid, and MMI soil sampling was carried out on the Plumb Prospect Grid. Both grids occur within the Surprise Lake Property owned by Double Crown Ventures. This property is located on Pine Creek at the west end of the Surprise Lake within the Atlin Mining Division of B.C.

The main purpose of the geophysical surveys was to locate gold/silver mineralization, perhaps similar to the nearby Yellowjacket Prospect, which is being explored for by Prize Mining. Here, bonanza-type gold occurs within listwanite and with associated sulphides.

The magnetic survey was carried out with two proton precession magnetometers, with one being a base station, by taking readings every 12.5 m over ten lines for a total survey length of 9,975 meters. The readings were input into a computer, and profiled above the IP and resistivity pseudosections. They were also plotted onto a base map at a scale of 1:5000, and contoured as well as plotted onto a second base map and profiled.

The VLF-EM survey was carried out with a Sabre model 27 receiver by taking dip angle readings of the electromagnetic field along the same survey lines as the magnetic survey, but for less survey length, being a total of 4,550 meters. The readings were then input into a computer, Fraser-filtered, and then contoured onto a base map at a scale of 1:5,000.

The IP and resistivity surveys were carried out using a BRGM Elrec-6 multi-channel receiver operating in the time-domain mode. The transmitter used was a BRGM VIP 4000 powered by a 6.5-kilowatt motor generator. The dipole length and reading interval chosen was 25 meters read up to 12 levels and carried out over three lines for a total survey length of 1,800 meters. The IP and resistivity results were plotted in pseudosection form and contoured and the SP and magnetic results were profiled above the IP and resistivity pseudosections.

The MMI sampling consisted of 56 samples taken along two lines for a total survey length of 1800 meters. The samples were picked up every 25 meters where a picket was placed with the grid coordinates marked on an aluminum tag. The samples were sent to SGS labs in Toronto and tested for 45 elements.

## CONCLUSIONS

1. The magnetic survey on the Surprise Grid revealed a strong magnetic anomaly sub-parallel to the base line and to the immediate east of the northerly-trending band of listwanite. It correlates with a resistivity high. The resistivity/magnetic high is probably reflecting an ultrabasic, or possibly basic, rock-type.
2. A second magnetic high, but weaker than the main one and to its east, also correlates with a resistivity high. Thus it also probably reflects an ultrabasic rock-type.
3. The IP survey revealed five chargeability highs that have been labeled by the upper case letters A to E. Anomaly A is the main high and occurs along the western boundary of the main magnetic high with a magnetic low to its west, the low being a reflection of the main band of listwanite. It also correlates with the boundary of a resistivity high and a resistivity low. Therefore, anomaly A is probably reflecting sulphides occurring within a contact zone between an ultrabasic rock type and the listwanite.
4. Anomaly B, also probably reflecting sulphides, occurs to the immediate west of the eastern magnetic high and correlates with a resistivity low. Anomaly C correlates directly with the weaker magnetic anomaly as well as a resistivity high. This suggests that the causative source is sulphides within a basic or ultrabasic intrusive.
5. Anomaly D occurs to the west of anomaly A as well as correlates directly with the listwanite suggesting the listwanite at this location contains sulphides. Anomaly E correlates with the northern end of the main magnetic high as well as a resistivity high suggesting the causative source may be the same as that of anomaly C, that is, sulphides within a basic or ultrabasic intrusive.
6. The VLF-EM survey was very limited in scope, with only three lines done, but it responded with weak conductors, one of them correlating with IP anomaly A. It probably was reflecting the lithological contact that the magnetic and resistivity surveys were reflecting.
7. The MMI soil sampling revealed three two-station anomalies, the first being highly anomalous in silver and gold, the second being anomalous in silver, gold and copper, and the third in zinc and cobalt.

## **RECOMMENDATIONS**

### **Surprise Showing Grid**

1. The magnetic survey should be continued to the north, east, and west with the same survey parameters, that is, taking a reading every 12.5 meters on lines 50 meters apart. The magnetic survey to date has been particularly adept at mapping the ultrabasic rock types that are related to any possible mineralization.
2. MMI soil sampling should be carried out wherever possible over the grid area. The sampling should be done every 25 meters preferably on the 50-meters lines. If the budget is limited, then the line spacing should be no more than 100 meters.
3. The IP survey should also be continued to the north, east, and west, but on lines 100 meters apart. At this point the IP survey has produced drill targets, but the IP survey should be filled in and extended in order to optimize the drill targets.
4. The grid and surrounding area should also be geologically mapped.
5. Targets resulting from the above work, especially the IP and MMI sampling, should then be diamond drilled.

### **Plumb Showing Grid**

The airborne VLF-EM survey as well as the reconnaissance MMI sampling has shown this area to have exploration potential. It is thus recommended to establish a grid and carry out MMI soil sampling, say every 25 meters on lines 100 or 200 meters apart. If significant anomalies result from this work, than more detailed sampling should be done as well as magnetic and IP/resistivity surveying.

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**INTRODUCTION AND GENERAL REMARKS**

This report discusses survey procedure, compilation of data, interpretation methods, and the results of magnetic, VLF-EM, induced polarization (IP), resistivity, and self potential (SP) surveys carried out on the Surprise Showing Grid, as well as MMI soil sampling carried out on the Plumb Prospect Grid. Both grids occur within the Spruce Mountain Property, which is located to the east of Atlin, BC, and is owned by Double Crown Ventures.

The exploration work was carried out by a Geotronics crew of two to five men, one of whom was the writer, during the period of August 9<sup>th</sup> to November 5<sup>th</sup>. The amount of work carried out was as follows:

GRID	WORK TYPE	WORK AMOUNT
Surprise	Grid emplacement	10,587.5 meters
Surprise	Magnetic Survey	9,962.5 meters
Surprise	VLF-EM Survey	4,550 meters
Surprise	IP/resistivity Survey	1,800 meters
Plumb	Soil Sampling	56 samples along 1800 meters



The purpose of the exploration program on this property is to look for gold mineralization, possibly associated with silver and copper values, and possibly similar to the nearby Yellowjacket Prospect which is being explored by Prize Mining. The Yellowjacket mineralization consists of bonanza-type gold with surrounding disseminated sulphides occurring within a listwanite host rock. Listwanite, especially on the Surprise Grid is known to occur on the Double Crown's Surprise Lake Property

The purpose of the magnetic survey is to map rock types, such as the listwanite, and geological structure, and that of the VLF-EM survey is to map structure as well as possible sulphide veins.

The general purpose of IP is to respond to sulphide mineralization especially that which occurs as fracture-filling and/or disseminated. The size of the IP anomaly is directly related to the surface area of the sulphides and thus fracture-filling and disseminated sulphides give a much higher anomalous reading than massive sulphides do. It was thus expected that the IP method would give the best results to the known mineralization on this property since it appears that much of the gold mineralization occurs as, or is associated with, disseminated or fracture-filling sulphides.

The purpose of the resistivity surveying was to reflect the mineral zones by responding as lows to any geological structure and/or alteration, or as highs to silicification and/or calcification any of which may be associated with mineralization. For geological mapping, the resistivity method is particularly adept at mapping lithology since all rock types have their own resistivities, i.e., intrusives usually respond as resistivity highs and argillites usually respond as resistivity lows. Also, as indicated above, the resistivity method is particularly proficient at mapping geologic structure.

Self potential, or SP, is essentially a by-product of carrying out IP/resistivity surveying. (It needs to be nulled out in order to measure the IP value.) Therefore it is not a prime exploration tool for this property. However, it is possible that it may respond to the mineralization and therefore prove to be quite useful. SP surveying usually has the best response to more massive sulphide mineralization such as vein-type.

The purpose of the MMI soil sampling is to look for mineralization directly. MMI stands for mobile metal ions and describes ions, which have moved in the weathering zone and that are weakly or loosely attached to surface soil particles. MMI, which requires special sampling and testing techniques, are particularly useful in responding to mineralization at depth probably in excess of 700 meters. It also is not affected by glacial till, while standard soil sample techniques are. MMI is characterized in having a high signal to noise ratio and therefore can provide accurate drill targets. However, it may also move along fault lines and therefore could show the causative source to be laterally moved from where it actually is.

## **PROPERTY AND OWNERSHIP**

The property is comprised of 7 contiguous tenures that comprise an area of 2,096 ha and occurs within the Atlin Mining Division as shown on figure #2: These tenures occur on BC Mineral Title map sheets M104N053, M104N054, M104N063, and M104N064. The property is 100% owned by Double Crown Ventures Ltd. of Vancouver, British Columbia.

<b>Tenure Number</b>	<b>Type</b>	<b>Claim Name</b>	<b>Expiry Date</b>	<b>Area (ha)</b>
517460	Mineral	BIRCH BITS WEST M	2007/02/02	229.226
518849	Mineral	GOMER 1	2007/02/02	81.851
526930	Mineral	MIDNIGHT MADNESS	2007/02/02	114.635
529820	Mineral	THE PLUMB	2007/02/02	802.129
534083	Mineral	SURPRISE	2007/05/16	409.629
534084	Mineral	SURPRISE RESOURCE	2007/05/16	409.414
534085	Mineral	THREE CELLS	2007/05/16	49.107
			<b>TOTAL AREA</b>	<b>2095.991</b>

The expiry date shown assumes that the work discussed within this report is accepted as submitted for assessment credits.

## **LOCATION AND ACCESS**

The Surprise Lake Property is located within the northwestern corner of British Columbia, as shown on figure #2, to the east of Atlin Village which is on the east shore of Atlin Lake and which is 145 km 150° E (S30°E) of the city of Whitehorse, Yukon and 1,290 km 333°E of the city of Vancouver, BC. It occurs on and around Pine Creek and its tributaries at the west end of Surprise Lake. Pine Creek drains Surprise Lake and flows westerly into Atlin Lake.

This property occurs within NTS map sheet number 104N/11. For the center of the property, the latitude is 59° 38' North and the longitude is 133° 28' West. The property boundaries occur within UTM co-ordinates 243000 and 251600 west; and 6614000 and 6620500 north.

Access to the Surprise Lake Property can be gained by traveling for 10 km almost due east from the town of Atlin along the Surprise Lake Road. To gain access to the eastern part of the property, one then turns south to travel along the Otter Creek road and thence along the Snake Creek road which becomes a drill access road. The road comes within 200 meters of the Surprise Showing. The western part of the property, which is largely north of Pine Creek and within which is the Cabin Silver Showing, is most easily gained via the Birch Creek road. Four-wheel drive is recommended.

## **PHYSIOGRAPHY AND VEGETATION**

The Property is found within the Teslin Plateau, which is part of the Yukon Plateau, which itself is a physiographic unit of the Interior Plateau System. The Teslin Plateau consists of an upland surface which rises to heights of 1800 and 2100 meters, such as Mount Barham (2,093 meters) west of Surprise Lake. These upland surfaces are dissected by broad valleys such as those of Atlin Lake, Surprise Lake, and their tributaries. Surprise Lake, which occurs within the northeast corner part of the property, is at an elevation of 942 meters.

Elevations on the property vary from 910 meters on Pine Creek to 1640 meters on Spruce Mountain, which is almost at its peak within the southeast edge of the property. Slopes are gentle to moderate with the occasional steep section such as on the northern slope of Spruce Mountain to the west of the Surprise Showing. Glaciers occupied the Teslin Plateau and thus much of the claim area is covered by glacial drift. For the most part it is not thick, but can be closer to the bigger lakes.

The main water sources on the property are the west-flowing Pine Creek as well as its tributaries, some of them being the south-flowing Birch Creek and the north-flowing Otter Creek and Snake Creek.

Tree line is at about 1400 meters (4600 feet) on north-facing slopes and 1500 meters (4900 feet) on south-facing slopes. Above the tree line, the property is mostly covered in alpine vegetation, which is predominantly heather and sedges, as well as stunted buck brush. Below the tree line it is covered with light to medium forest consisting of lodge-pole pine, black spruce, aspen, and scrub birch. The underbrush is generally light but can be thick in areas around streams.

The temperatures can reach 30°C in the summer months, with an average of 20° C whereas in winter they can drop down to -35°C with an average of -15°C. Snowfall in winter months is moderate. Depending on the elevation, mining exploration can be carried out from May until the end of October, which was when the IP survey was carried out. On a good year this can extend well into November, though this cannot be relied on.

## **HISTORY OF PREVIOUS WORK**

This section is quoted from David Dupre's report on the property.

“The Surprise showing occurs within a band of listwanites that occurs on the northeast flank of Spruce Mountain (Fig. 5). The primary showing is a quartz vein emplaced in andesite that measures up to six meters in width, strikes 170° and dips 70° to the west. Exploration of this quartz vein with an adit prior to 1925 revealed minor amounts of argentiferous galena, pyrite, chalcopyrite, and siderite. Sampling in 1982 of this showing by Standard Gold Mines Ltd. (Assessment Report # 11,138) returned values of 0.042 ounces per ton (1.27 g/t) of gold and

1.20 ounces per ton (36.58 g/t) of silver. A series of bulldozer trenches exposes a carbonatized serpentinite (Listwanite) containing pyrite and pervasive mariposite.”

“In 1985 Daiwan Engineering (Assessment Report # 13,643) carried out a large program of soil sampling (538 samples), grid establishment, prospecting and geological mapping over an area to the north of Pine Creek and west of Birch Creek. The Cabin Silver showing was discovered at this time and was sampled.

“The showing comprises three quartz-calcite veins, which are around 50 centimeters wide and have varying attitudes. One of the veins contains visible galena, chalcopyrite, pyrite, arsenopyrite, and sphalerite. One grab sample (#8400502) contained 583 grams per tonne silver, 0.96 per cent lead, 0.14 per cent zinc, and 0.002 ounces per ton gold. A 20-centimeter vein sample contained 0.04 ounces per ton gold (Assessment Report #13643). The veins are exposed in the bank of Birch Creek.

“In 1985, the Surprise Lake Exploration Syndicate carried out a 7 line-kilometer ground magnetometer and VLF survey to investigate anomalies detected by a Dighem Survey in 1984. Strong magnetic responses typical of unaltered ultramafic or volcanic rock were delineated. Several discontinuous VLF anomalies were also outlined. This showing is located just to the north of the Cabin Silver occurrence – outside the Surprise Lake property.”

No work, other than what is described within this report, has been carried out by Double Crown on the Surprise Lake property.

## **GEOLOGY**

This section is quoted from David Dupre’s Summary within his report on the property.

The Surprise Lake Property is predominantly underlain by the Atlin Ophiolitic Assemblage, a sequence of mid-Jurassic, relatively flat-lying, coherent thrust slices of oceanic crustal and upper mantle rocks. The most dominant lithological unit is metabasalt. Ultramafic peridotite occurs in an arcuate thrust slice in the northwestern part of the property and as small lenses in the southeast.

Placer deposits in the Atlin camp are situated in stream valleys occurring within erosional windows through the carbonatized, relatively flat lying thrust faults within the ophiolitic assemblage. The placers are considered to be derived from auriferous quartz lodes previously hosted by the ophiolitic crustal rocks. Large parts of the Surprise Lake property are situated within the drainage basins of several prolific gold placer streams such as Pine Creek and Spruce Creek. It can be concluded that some of the placer gold was likely derived from the bedrock on the property.

Gold quartz veins in the Atlin area are poorly and erratically developed within the ultramafic rocks and more commonly occur as random fracture fillings. Wider, more continuous tabular fissure veins have only been identified in the mafic igneous crustal components (andesite, gabbro, and diabase) of the Atlin ophiolite assemblage. Gold-quartz vein deposits and their derived placers are commonly

associated with carbonate+/-sericite+/-pyrite altered ophiolitic and ultramafic rocks known as “listwanites”. Provincial examples of gold camps with spatially associated ultramafic rocks include the Bridge River, Cassiar and Rosslund lode gold and the Atlin and Dease Lake placer camps.

The prospective ophiolite assemblage and the adjacent carbonatized ultramafic rocks underlie large parts of the Surprise Lake property. Listwanites have also been identified at the Surprise showing. These favourable geological settings indicate that the property has the potential to host gold deposits of the listwanite association. The best target is considered to be within a belt enveloping the contact zone between the ultramafic and ophiolitic assemblages.

## **YELLOWJACKET SHOWING**

The Yellowjacket showing is currently being explored by Prize Mining on the adjacent property to the west. Mineralization on the Surprise Lake property could be similar and hence the description of the Yellowjacket showing, taken from Prize Mining literature, is given below.

Gold mineralization at Yellowjacket consists of coarse gold hosted in light grey to white quartz veinlets generally less than two centimeters in thickness. Veining is mainly found in areas of more brittle volcanic rocks, but can also occur in altered serpentinites. Bleached, carbonated, silicified, and pyritic envelopes are common around quartz veins and often accompany most of the higher grade vein systems.

Gold is the only mineral occurrence of economic importance. Individual veins and vein stockworks frequently host sub-economic to economic grade widths of gold mineralization which exceed 3.0 grams per tonne or better. Visible gold is common but generally is at least 150 microns in size. While sulphide occurrence is often observed in association with better grade gold occurrences, it is also present in barren intersections.

Several additional sulphide occurrences have been observed in minor quantities; these include gersdorffite, arsenopyrite, millerite, chalcopyrite, and pyrrhotite.

## **SURPRISE SHOWING GRID**

### **A. Grid Emplacement**

This grid occurs within the southeastern part of the claim group as shown on figure #4. The baseline was emplaced in a due north direction with pickets every 25 meters. Eleven survey lines were emplaced in due east and west directions every 50 meters and were also marked by pickets every 25 meters. The pickets were tied with blaze orange as well as blue flagging. Where necessary, the lines were cleared of shrubs and underbrush with power saw (No trees were cut.). The baseline was put in over a 500-meter length and 10,587.5 meters of survey lines were put in.

## **B. Magnetic Survey**

### **(a) Instrumentation**

The magnetic survey was carried out with two model G-856 proton precession magnetometers manufactured by Geometrics of San Jose, California. One was used as a base station and the other was used as the field unit. This instrument reads out directly in nanoTeslas (nT) to an accuracy of  $\pm 1$  nT, over a range of 20,000 - 100,000 nT. The operating temperature range is  $-40^{\circ}$  to  $+50^{\circ}$  C, and its gradient tolerance is up to 3,000 gammas per meter.

### **(b) Theory**

Only two commonly occurring minerals are strongly magnetic, magnetite and pyrrhotite and therefore magnetic surveys are used to detect the presence of these minerals in varying concentrations, as follows:

- Magnetite and pyrrhotite may occur with economic mineralization on a specific property and therefore a magnetic survey may be used to locate this mineralization.
- Different rock types have different background amounts of magnetite (and pyrrhotite in some rare cases) and thus a magnetic survey can be used to map lithology. Generally, the more basic a rock-type, the more magnetite it may contain, though this is not always the case. In mapping lithology, not only is the amount of magnetite important, but also the way it may occur. For example, young basic rocks are often characterized by thumbprint-type magnetic highs and lows.
- Magnetic surveys can also be used in mapping geologic structure. For example, the action of faults and shear zones will often chemically alter magnetite and thus these will show up as lineal-shaped lows. Or, sometimes lineal-shaped highs or a lineation of highs will be reflecting a fault since a magnetite-containing magmatic fluid has intruded along a zone of weakness, being the fault.

### **(c) Survey Procedure**

Readings of the earth's total magnetic field were taken every 12.5 meters along 10 east-west survey lines with a separation of 50 meters. The total amount of surveying is 9,975 meters.

The diurnal variation was monitored in the field by a base station.

### **(d) Data Reduction**

The data was input into a computer. Using Geosoft software, it was next plotted with 57,000 nT subtracted from each posted value and contoured at an interval of 100 nT on

a base map, GP-1, with a scale of 1:5,000. Also, as is mentioned below, the magnetic data were profiled above each resistivity pseudosection.

### **C. VLF-EM Surveys**

#### **(a) Instrumentation**

The VLF-EM survey was carried out with a VLF-EM receiver, Model 27, manufactured by Sabre Electronics Ltd. of Burnaby, British Columbia. This instrument is designed to measure the electromagnetic component of the very low frequency field (VLF-EM), which for this survey is transmitted at 24.8 kHz from Jim Creek, which is east of Arlington in the state of Washington.

#### **(b) Theory**

In all electromagnetic prospecting, a transmitter induces an alternating magnetic field (called the primary field) by having a strong alternating current move through a coil of wire. This primary field travels through any medium and if a conductive mass such as a sulphide body is present, the primary field induces a secondary alternating current in the conductor, and this current in turn induces a secondary magnetic field. The receiver picks up the primary field and, if a conductor is present, the secondary field distorts the primary field. The fields are expressed as a vector, which has two components, the “in-phase” (or real) component and the “out-of-phase” (or quadrature) component. For the VLF-EM receiver, the tilt angle in degrees of the distorted electromagnetic field with a conductor is measured from that which it would have been if the field was not distorted with a conductor.

Since the fields lose strength proportionally with the distance they travel, a distant conductor has less of an effect than a close conductor. Also, the lower the frequency of the primary field, the further the field can travel and therefore the greater the depth penetration.

The VLF-EM uses a frequency range from 13 to 30 kHz, whereas most EM instruments use frequencies ranging from a few hundred to a few thousand Hz. Because of its relatively high frequency, the VLF-EM can pick up bodies of a much lower conductivity and therefore is more susceptible to clay beds, electrolyte-filled fault or shear zones and porous horizons, graphite, carbonaceous sediments, lithological contacts as well as sulphide bodies of too low a conductivity for other EM methods to pick up. Consequently, the VLF-EM has additional uses in mapping structure and in picking up sulphide bodies of too low a conductivity for conventional EM methods and too small for induced polarization. (In places it can be used instead of IP). However, its susceptibility to lower conductive bodies results in a number of anomalies, many of them difficult to explain and, thus, VLF-EM preferably should not be interpreted without a good geological knowledge of the property and/or other geophysical and geochemical surveys.

### **(c) Survey Procedure**

The VLF-EM readings were taken along with the magnetic survey using the same grid but the survey amount was less at 4,550 meters.

Tilt angle readings of the electromagnetic field from the transmitter station, Seattle (Jim Creek) at 24.8 kHz, were taken at the 12.5 m stations on the 50-meter separated lines with the operator facing towards the transmitter, which is at a direction of 250°E (S70°W).

### **(d) Compilation of Data**

The VLF-EM tilt angle data were input into a computer and subsequently 4-point Fraser-filtered. The filtered data were then plotted and contoured onto a base map, GP-2, at a scale of 1:5,000. The contour interval used was 2°.

## **D. INDUCED POLARIZATION AND RESISTIVITY SURVEYS**

### **(a) Instrumentation**

The transmitter used was a BRGM model VIP 4000. It was powered by a Honda 6.5 kW motor generator. The receiver used was a six-channel BRGM model Elrec-6. This is state-of-the-art equipment, with software-controlled functions, programmable through a keyboard located on the front of the instrument. It can measure up to 6 chargeability windows and store up to 2,500 measurements within the internal memory.

### **(b) Theory**

When a voltage is applied to the ground, electrical current flows, mainly in the electrolyte-filled capillaries within the rock. If the capillaries also contain certain mineral particles that transport current by electrons (mostly sulphides, some oxides and graphite), then the ionic charges build up at the particle-electrolyte interface, positive ones where the current enters the particle and negative ones where it leaves. This accumulation of charge creates a voltage that tends to oppose the current flow across the interface. When the current is switched off, the created voltage slowly decreases as the accumulated ions diffuse back into the electrolyte. This type of induced polarization phenomena is known as electrode polarization.

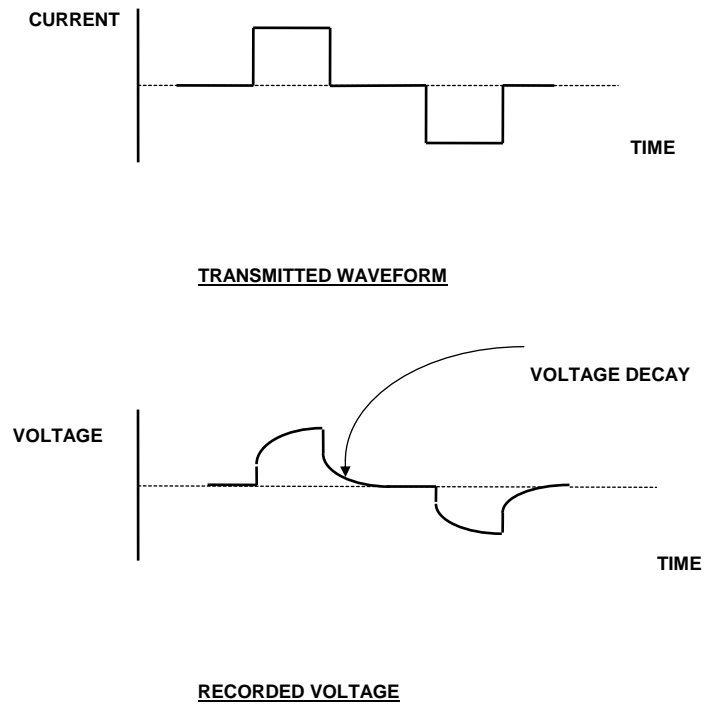
A similar effect occurs if clay particles are present in the conducting medium. Charged clay particles attract oppositely-charged ions from the surrounding electrolyte; when the current stops, the ions slowly diffuse back to their equilibrium state. This process is known as membrane polarization and gives rise to induced polarization effects even in the absence of metallic-type conductors.

Most IP surveys are carried out by taking measurements in the “time-domain”, and some in the “frequency-domain”.



Time-domain measurements involve sampling the waveform at intervals after the current is switched off, to derive a dimensionless parameter, the chargeability “M”, which is a measure of the strength of the induced polarization effect. Measurements in the frequency domain are based on the fact that the resistance produced at the electrolyte-charged particle interface decreases with increasing frequency. The difference between apparent resistivity readings at a high and low frequency is expressed as the percentage frequency effect, or “PFE”.

The quantity, apparent resistivity,  $\rho_a$ , computed from electrical survey results is only the true earth resistivity in a homogenous sub-surface. When vertical (and lateral) variations in electrical properties occur, as they almost always will, the apparent resistivity will be influenced by the various layers, depending on their depth relative to the electrode spacing. A single reading, therefore, cannot be attributed to a particular depth.



The ability of the ground to transmit electricity is, in the absence of metallic-type conductors, almost completely dependent on the volume, nature and content of the pore space. Empirical relationships can be derived linking the formation resistivity to the pore water resistivity, as a function of porosity. Such a formula is Archie’s Law, which states (assuming complete saturation) in clean formations:

$$R_o = O^{-2} R_w$$

Where:  $R_o$  is formation resistivity  
 $R_w$  is pore water resistivity

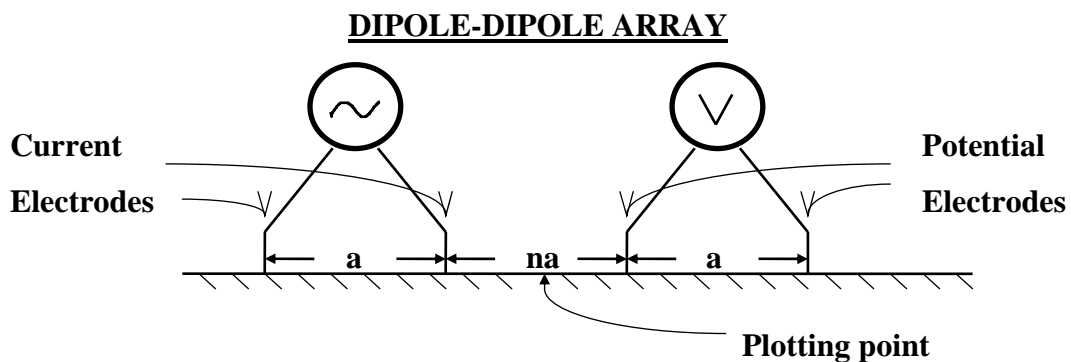
O is porosity

### (c) Survey Procedure

Three IP/resistivity survey lines were carried out within the grid area which was based on the magnetic survey results. The survey line direction was due east.

The IP and resistivity measurements were taken in the time-domain mode using an 8-second square wave charge cycle (2-seconds positive charge, 2-seconds off, 2-seconds negative charge, 2-seconds off). The delay time used after the charge shuts off was 80 milliseconds and the integration time used was 1,760 milliseconds divided into 10 windows.

The array chosen was the dipole-dipole, shown as follows:



The electrode separation, or 'a' spacing, and reading interval were chosen to be 25 meters read to 12 separations (which is the 'na' in the above diagram). The theoretical depth penetration is about 115 meters, or 380 feet.

Stainless steel stakes were used for current electrodes as well as for the potential electrodes.

In places, there was some difficulty in reducing the stake resistance down to acceptable levels, which is a typical problem in alpine areas. (However, at most of the locations, there was no problem at all.) The result was that in places only a minimal current of 50 milli-amperes could be put into the ground. The surveying was done on the following lines and to the following lengths.

Line Number	Survey Length	PseudoSection Figure #	Inversion Figure #
100N	725	GP - 3	GP - 6
250N	550	GP - 4	GP - 7
400N	525	GP - 5	GP - 8

The total amount of IP and resistivity surveying carried out was 1,800 meters.

#### **(d) Compilation of Data**

All data were reduced by a computer software program developed by Geosoft Inc. of Toronto, Ontario. Parts of this program have been modified by Geotronics Consulting Inc. for its own applications. The computerized data reduction included the resistivity calculations, pseudosection plotting, and contouring.

The chargeability (IP) values are read directly from the instrument and no data processing is therefore required prior to plotting. However, the data is edited for errors and for reliability. The reliability is usually dependant on the strength of the signal, which weakens at greater dipole separations and which also weakens in areas of lower resistivity.

The resistivity values are derived from current and voltage readings taken in the field. These values are combined with the geometrical factor appropriate for the dipole-dipole array to compute the apparent resistivity.

All the data have been plotted in pseudosection form at a scale of 1:2,500. One map has been plotted for each of the three pseudosections, as shown on the above table and in the Table of Contents. The pseudosection is formed by each value being plotted at a point formed from the intersection of a line drawn from the mid-point of each of the two dipoles. The result of this method of plotting is that the farther the dipoles are separated, the deeper the reading is plotted. The resistivity pseudosection is plotted on the upper part of the map for each of the lines, and the chargeability pseudosection is plotted on the lower part.

All pseudosections were contoured at an interval of 5 milliseconds for the chargeability results, and at a logarithmic interval to the base 10 for the resistivity results.

The self-potential (SP) data from the IP and resistivity surveys were plotted and profiled above the resistivity pseudosection for each line at a scale of 1 cm = 100 millivolts with a base of zero millivolts. In addition, the magnetic data was profiled below the SP profile but above the resistivity pseudosection at a scale of 1 cm = 125 nT with a base of 57,200 nT.

A 2-D inversion interpretation was carried out on the IP and resistivity data using computer software produced by Geotomo Software. This purpose of inversion interpretation is to eliminate the electrode effect that is endemic with IP and resistivity data and thus locate the causative sources more accurately. The Geotomo inversion is a rapid method that uses the least squares interpretation. The results are shown in section format for each line as shown in the above table and within the Table of Contents.

#### **E. Discussion of Results**

The magnetic surveying has resulted in locating a strong magnetic high trending in a north to north-northeast direction on and to the immediate east of the base line. It is open to the north and to the south for a minimum strike direction of 450 meters. A

second high, but weaker, is located at 225E to 300E and is sub-parallel to the first one. From known geology of the area these highs may be reflecting basic or ultrabasic rock-types. There are two other highs that could be reflecting sub-parallel bands of basic/ultrabasic rocks as well, and these are located at 150W to 250W, as well as at 375W to 475W, respectively.

The main magnetic high is located to the immediate east of a band of listwanite that strikes through the grid area in a north-south direction. Listwanite in the area, such as on the adjacent Prize Mining property, is associated with base metal sulphides containing gold and silver mineralization.

The resulting pseudosections showed IP highs of strong exploration interest and thus an inversion interpretation was carried out on each of the three IP lines. The purpose of doing inversion is to take away the electrode effects and thus attempt to show the locations of the cause of the IP highs more accurately.

The IP survey located five anomalies that have been labeled by the writer by the upper case letters A to E according to their location on the grid as well as their association with the resistivity survey and magnetic survey results.

**Anomaly A** is the main anomaly and is also the strongest one, correlating with the boundary of a resistivity low to the west and resistivity high to the east. It also occurs along the boundary of the main magnetic high with the listwanite and thus indicates that the listwanite not only is reflected as a magnetic low but also as a resistivity low. The adjacent resistivity high, since it correlates with a magnetic high, is probably reflecting the same rock type as the magnetic high is, which as mentioned above, is probably a basic or ultrabasic intrusive. Anomaly A has a north to north-northeast strike and a minimum strike length of 300 meter being open both to the north and to the south. The associated magnetic high suggests the IP anomaly is at least 450 meters long.

The magnetic high/listwanite boundary suggests that IP anomaly A is reflecting sulphide mineralization associated with a contact zone. Considering that known base metal sulphides as well as gold mineralization occurs on the property, there is a reasonable likelihood that at least some of the sulphides are base metals with associated gold and silver mineralization. The resistivity low may be caused by alteration associated with the mineralization and/or the lithological contact.

**Anomaly B**, also probably reflecting sulphides, occurs to the immediate west of the eastern magnetic high and correlates with a resistivity low. **Anomaly C** correlates directly with the weaker magnetic anomaly as well as a resistivity high. This suggests that the causative source is sulphides within a basic or ultrabasic intrusive. These two additional IP highs appear to have the same strike length and are likely reflecting sulphides as well.

*Anomaly D* occurs to the west of anomaly A as well as correlates directly with the listwanite suggesting the listwanite at this location contains sulphides. *Anomaly E* correlates with the northern end of the main magnetic high as well as a resistivity high suggesting the causative source may be the same as that of anomaly C, that is, sulphides within a basic or ultrabasic intrusive.

The VLF-EM survey shows weak conductors, one of which correlates with IP anomaly A. It is probably reflecting the lithological contact that the magnetic and resistivity surveys are reflecting.

## **PLUMB PROSPECT GRID**

### **A. MMI Soil Sampling**

#### **(a) Sampling Procedure**

Two lines were carried out in the Plumb Prospect area. The purpose of the first line, labeled 000 (E or W), was to test an airborne VLF-EM anomaly. That of the second, labeled 2, was to test mineralization potential across the contact between basaltic rocks with ultramafics rocks.

The first survey line was started 500 meters south of the Plumb Creek access road. The survey line was then emplaced from this point 1,450 meters to the south. Each sample spot was marked by a 60 cm wooden picket with an aluminum tag stapled to it and the grid coordinates marked thereon. Samples were picked up every 25 meters for the first 675 meters and every 50 meters for the remaining 750 meters. The MMI samples for this line totaled 43.

The second line, labeled 2, was started 1500 meters 300°E of the UTM point (6609734N, 585546E, zone 8, NAD 83) which is on the Birch Creek access road near the property's southern boundary. Samples were taken every 25 meters to 1850 meters for a total of 13 samples along a length of 350 meters. Two stations were not sampled due to rocky ground.

The sampling procedure was to first remove the organic material from the sample site ( $A_0$  layer) and then dig a pit over 25 cm deep with a shovel. Sample material was then scraped from the sides of the pit over the measured depth interval of 10 centimeters to 25 centimeters. About 250 grams of sample material was collected and then placed into a plastic Zip-loc sandwich bag with the sample location marked thereon. The 111 samples were then packaged and sent to SGS Minerals located at 1885 Leslie Street, Toronto, Ontario. (This is only one of two labs in the world that do MMI analysis, the other being in Perth, Australia where the MMI method was developed.)

## **(b) Analytical Methods**

At SGS Minerals, the testing procedure begins with weighing 50 grams of the sample into a plastic vial fitted with a screw cap. Next is added 50 ml of the MMI-M solution to the sample, which is then placed in trays and put into a shaker for 20 minutes. (The MMI-M solution is a neutral mixture of reagents that are used to detach loosely bound ions of any of the 45 elements from the soil substrate and formulated to keep the ions in solution.) These are allowed to sit overnight and subsequently centrifuged for 10 minutes. The solution is then diluted 20 times for a total dilution factor of 200 times and then transferred into plastic test tubes, which are then analyzed on ICP-MS instruments.

Results from the instruments for the 45 elements are processed automatically, loaded into the LIMS (laboratory information management system which is computer software used by laboratories) where the quality control parameters are checked before final reporting.

## **(c) Compilation of Data**

Seven elements, or metals, were chosen out of the 45 reported on and these were gold, silver, copper, lead, zinc, cobalt, and nickel. The mean background value was calculated for each of the seven metals and this number was then divided into the reported value for that metal to obtain a figure called the response ratio. Two stacked histograms were then made of the response ratios for each of the two lines of the seven metals as shown on figures #6 through to #9, inclusive. The first stacked histogram included copper, gold and silver, and the second one included copper, lead, zinc, nickel, and cobalt.

## **B. Discussion of Results**

The survey revealed two silver/gold anomalies that are of strong exploration interest on line 0. One occurs at 425S and is a two-value anomaly with an intervening sample with values not much above background. It has a silver response ratio up to 238 which is extremely high.

The other occurs at 675S, which is also a two-value anomaly that is weaker in silver than the first anomaly but quite strong in copper as well as gold. This anomaly is also high in nickel which is at the northern end of a nickel anomaly. The nickel is probably reflecting ultrabasic rock-types and thus this anomaly probably occurs on the contact of ultrabasic rocks to the south and basaltic volcanic rocks to the north.

The main feature of line two is a very strong two-value zinc anomaly at 1675 NW that reaches 346 times background. Cobalt is also very anomalous in this area and could be reflecting pyrite. The entire line is anomalous in nickel indicating that the underlying rock-type is probably the same as the southern part of line 0, which is ultrabasics.

## **GEOPHYSICIST'S CERTIFICATE**

I, DAVID G. MARK, of the City of Surrey, in the Province of British Columbia, do hereby certify that:

I am registered as a Professional Geoscientist with the Association of Professional Engineers and Geoscientists of the Province of British Columbia.

I am a Consulting Geophysicist of Geotronics Consulting Inc, with offices at 6204 – 125<sup>th</sup> Street, Surrey, British Columbia.

I further certify that:

1. I am a graduate of the University of British Columbia (1968) and hold a B.Sc. degree in Geophysics.
2. I have been practicing my profession for the past 38 years, and have been active in the mining industry for the past 41 years.
3. This report is compiled from data obtained from IP, resistivity, SP, magnetic, and VLF-EM surveys carried out by a crew of Geotronics Consulting headed by me over the Surprise Showing Grid occurring on Spruce Mountain, and from MMI soil sampling carried out on the Plumb Prospect Grid area. Both grids occur within the Surprise Lake Property located on and to the west of Surprise Lake within the Atlin Mining Division of British Columbia. The work was done during the period of August 9<sup>th</sup> to November 5<sup>th</sup>, 2006.
4. I do not hold any interest in Double Crown Ventures Ltd, nor in the property discussed in this report, nor in any other property held by this company, nor do I expect to receive any interest as a result of writing this report.

David G. Mark, P.Ge.  
Geophysicist

February 10, 2007

## **AFFIDAVIT OF EXPENSES**

Grid emplacement as well as magnetic, VLF-EM, IP, resistivity, and SP surveying was carried out over the Surprise Showing Grid, and MMI soil sampling was carried out over the Plumb Prospect Grid, both grids occurring within the Surprise Lake Property, which occurs on Pine Creek at the west end of Surprise Lake, located 11 km 70°E of the village of Atlin, B.C. This work was done during the period of August 9<sup>th</sup> to November 14<sup>th</sup> 2006, and to the value of the following:

### **FIELD (Surprise Showing Grid):**

Mob/demob from Vancouver-Atlin, rtn, Double Crown's share	\$2,800.00	
IP/Resistivity Survey, 5-man crew, 3 days @ \$2,550 per day	7,650.00	
IP/Resistivity Survey, 4-man crew, 3 days @ \$2,350 per day	7,050.00	
Magnetic and VLF-EM Surveys with line cutting and grid emplacement, 4-man crew, 11 days @ \$1,700/day	<u>18,700.00</u>	
<b>TOTAL</b>	<b>\$31,400.00</b>	<b>\$36,200.00</b>

### **FIELD (Plumb Prospect Grid):**

MMI Survey, 3-man crew, 2 days @ \$1,100/day	\$2,200.00	
MMI Survey, 2-man crew, 1 day @ \$850/day	850.00	
Laboratory testing of 54 samples @ \$34/sample	1,836.00	
Courier costs for sample shipping	<u>45.00</u>	
<b>TOTAL</b>	<b>\$4,931.00</b>	<b>\$4,931.00</b>

### **DATA REDUCTION and REPORT:**

Senior Geophysicist, 21 hours @ \$50/hour	\$3,350.00	
Professional Drafting	1,725.00	\$5,075.00
<b>GRAND TOTAL</b>		<b>\$46,206.00</b>

Respectfully submitted,  
Geotronics Surveys Ltd.

David G. Mark, P.Geo,  
Geophysicist

February 10, 2007



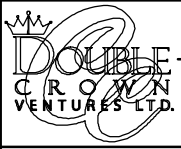
**APPENDIX –GEOCHEMISTRY DATA**

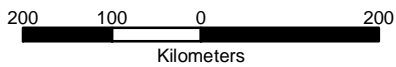
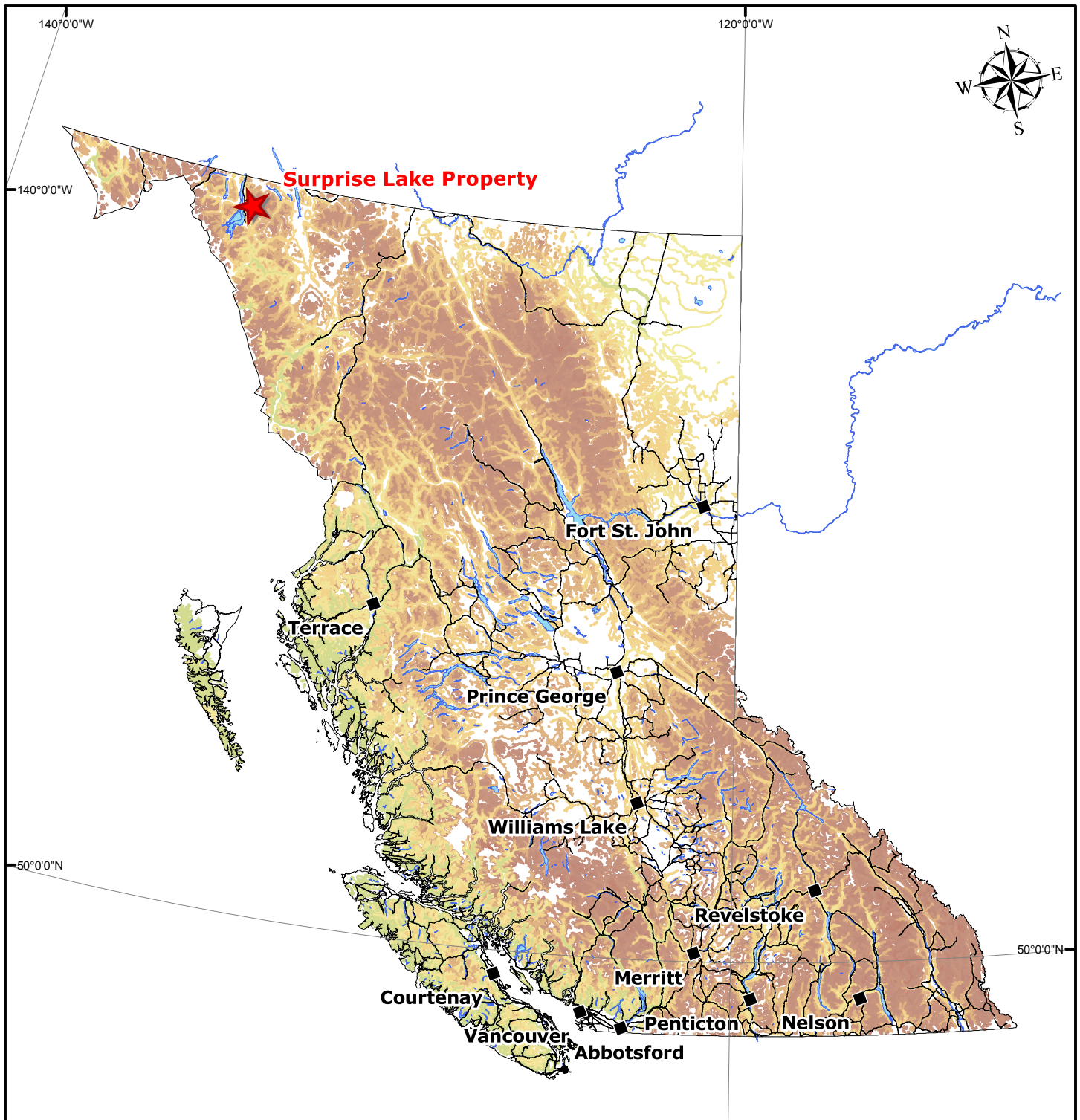


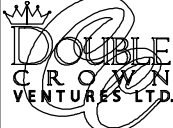


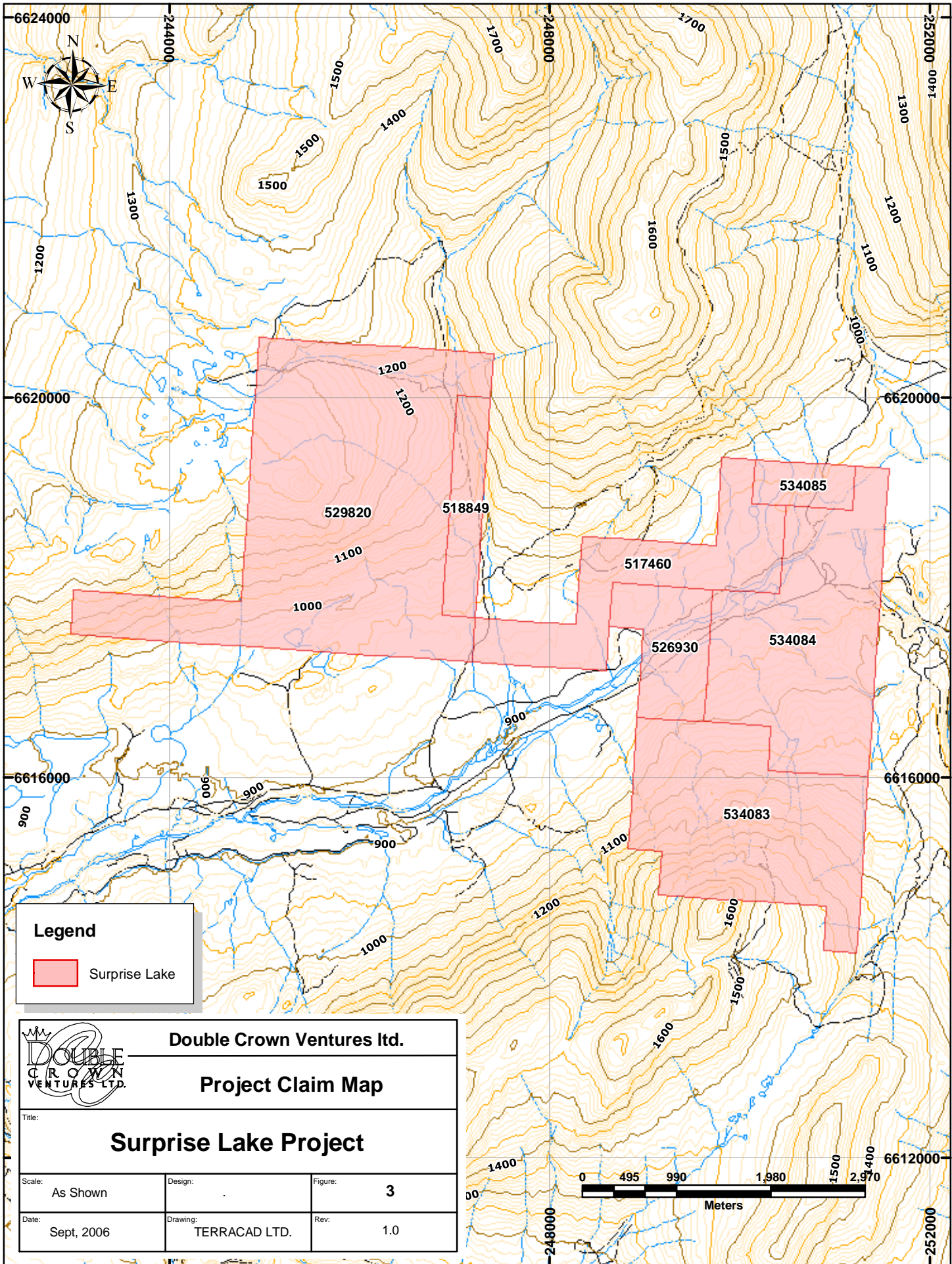




			<b>Double Crown Ventures Ltd.</b>		
			<b>Project Locations in Canada</b>		
Title:			<b>Surprise Lake Project</b>		
Scale:	As Shown	Design:		Figure:	<b>1</b>
Date:	Sept, 2006	Drawing:	TERRACAD LTD.	Rev:	1.0



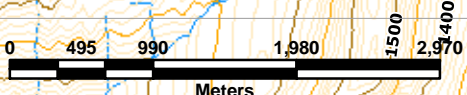
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	<b>Project Locations in British Columbia</b>	
<b>Title:</b> <b>Surprise Lake Project</b>		
<b>Scale:</b> As Shown	<b>Design:</b> .	<b>Figure:</b> <b>2</b>
<b>Date:</b> Sept, 2006	<b>Drawing:</b> TERRACAD LTD.	<b>Rev:</b> 1.0

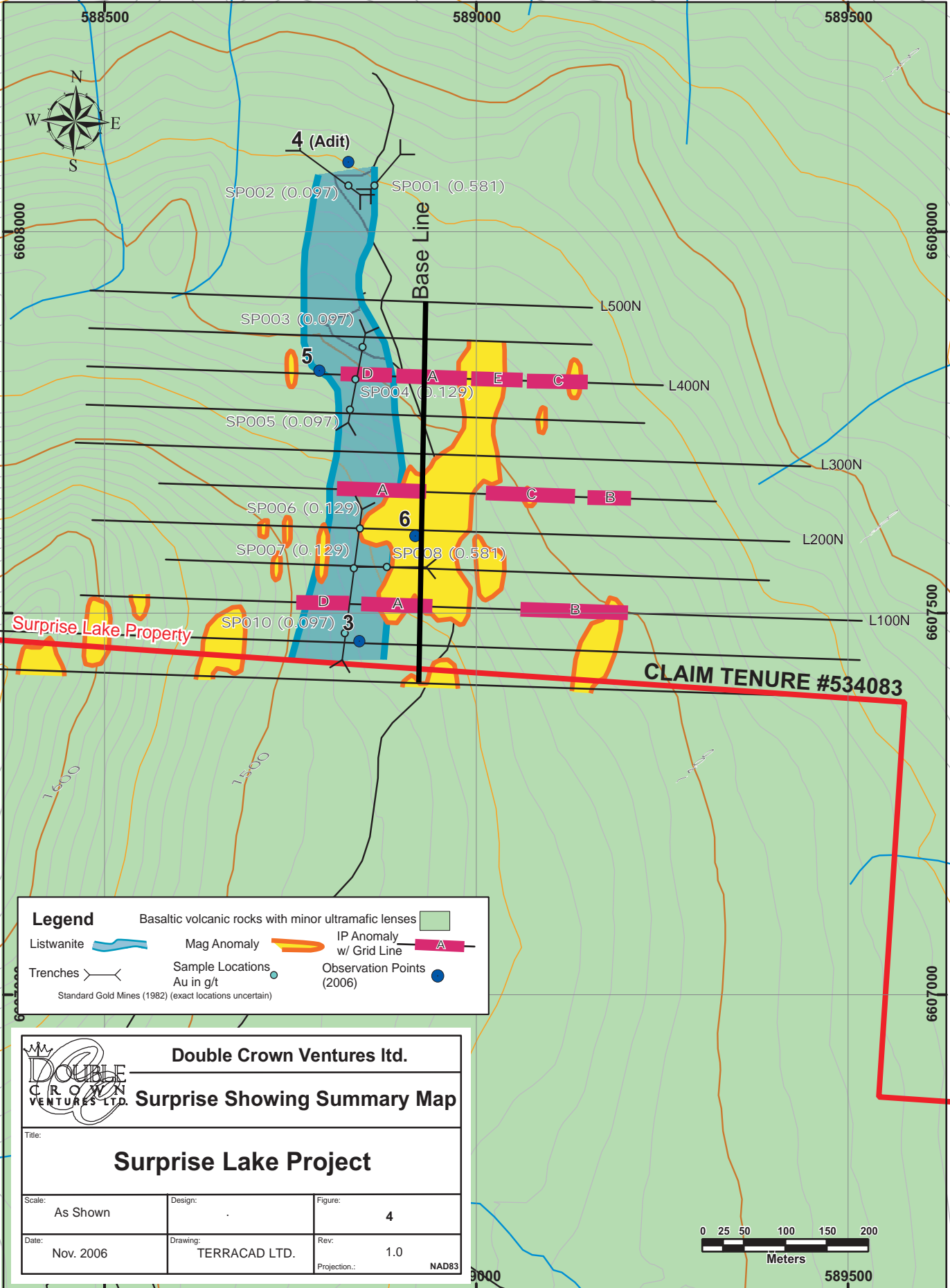


**Legend**

Surprise Lake

<b>Double Crown Ventures Ltd.</b>		
<b>Project Claim Map</b>		
Title: <h2 style="margin: 0;">Surprise Lake Project</h2>		
Scale: As Shown	Design:	Figure: <b>3</b>
Date: Sept, 2006	Drawing: TERRACAD LTD.	Rev: 1.0





**Legend**

- Basaltic volcanic rocks with minor ultramafic lenses
- Listwanite
- Trenches
- Mag Anomaly
- Sample Locations Au in g/t
- IP Anomaly w/ Grid Line
- Observation Points (2006)

Standard Gold Mines (1982) (exact locations uncertain)

**Double Crown Ventures Ltd.**

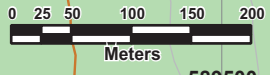
**Surprise Showing Summary Map**

Title:

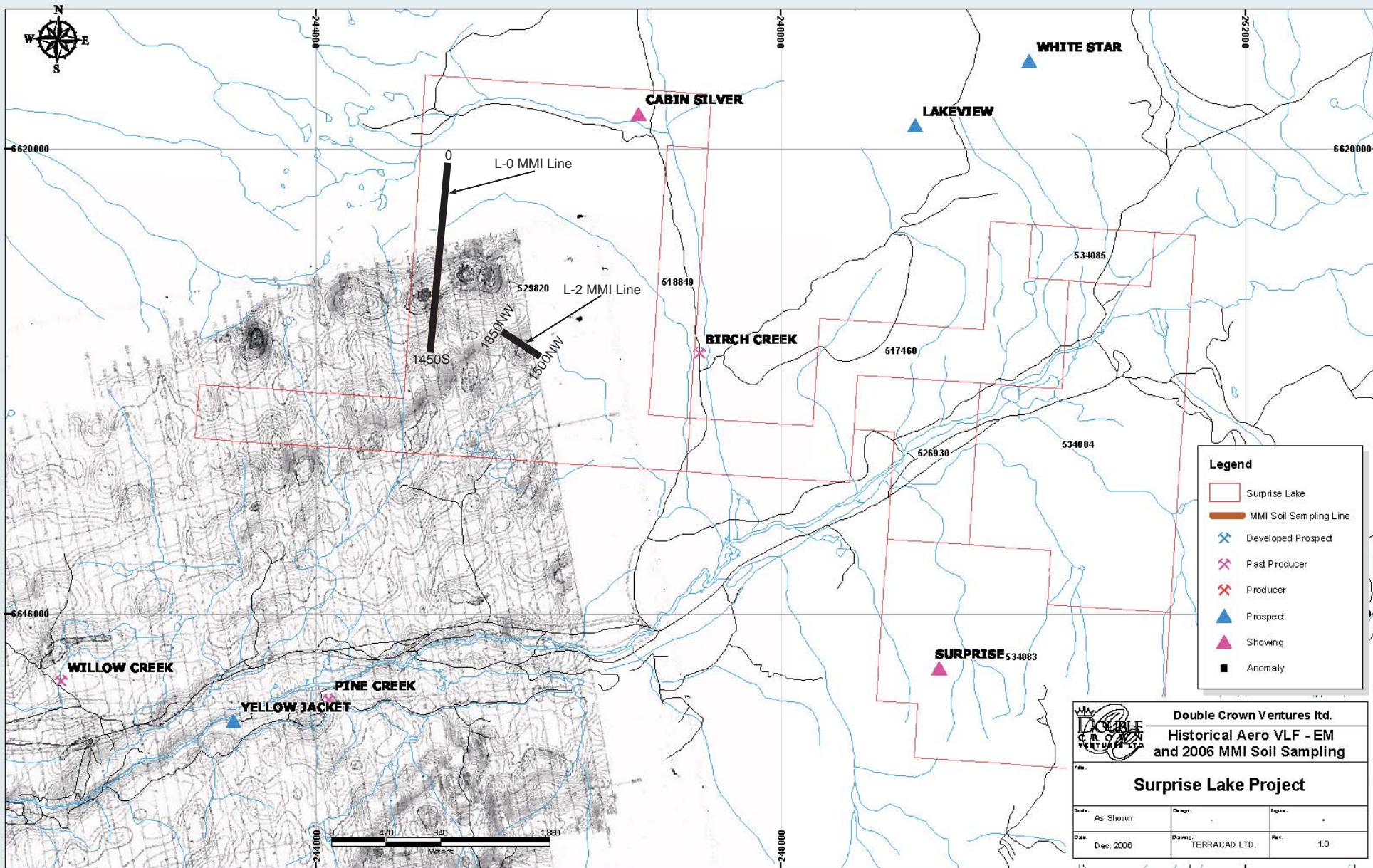
**Surprise Lake Project**

Scale: As Shown	Design:	Figure: 4
Date: Nov. 2006	Drawing: TERRACAD LTD.	Rev: 1.0

Projection: NAD83







**Legend**

- Surprise Lake
- MMI Soil Sampling Line
- X Developed Prospect
- X Past Producer
- X Producer
- ▲ Prospect
- ▲ Showing
- Anomaly

**DOUBLE CROWN VENTURES LTD.**

Double Crown Ventures Ltd.  
 Historical Aero VLF - EM  
 and 2006 MMI Soil Sampling

**Surprise Lake Project**

Scale:	As Shown	Design:		Figure:	
Date:	Dec, 2006	Drawn:	TERRACAD LTD.	Rev.:	1.0

**DOUBLE CROWN VENTURES LTD.  
SURPRISE LAKE PROPERTY**

Birch Creek, Surprise Lake Area  
Atlin Mining Division, B C

**MMI SOIL SAMPLING**

**Response Ratio - Histogram  
Plumb Prospect - Line 0**

fig. # 6

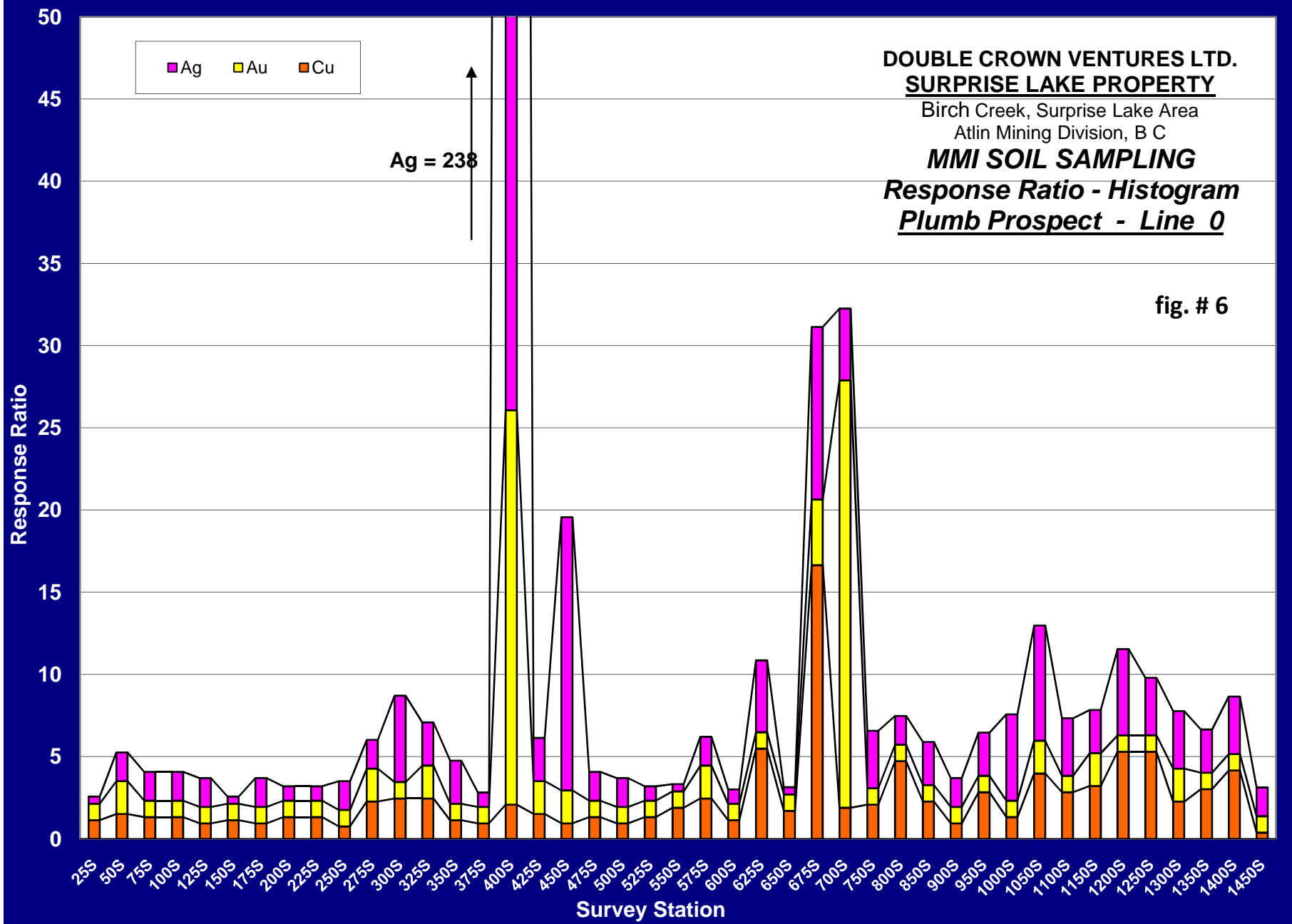
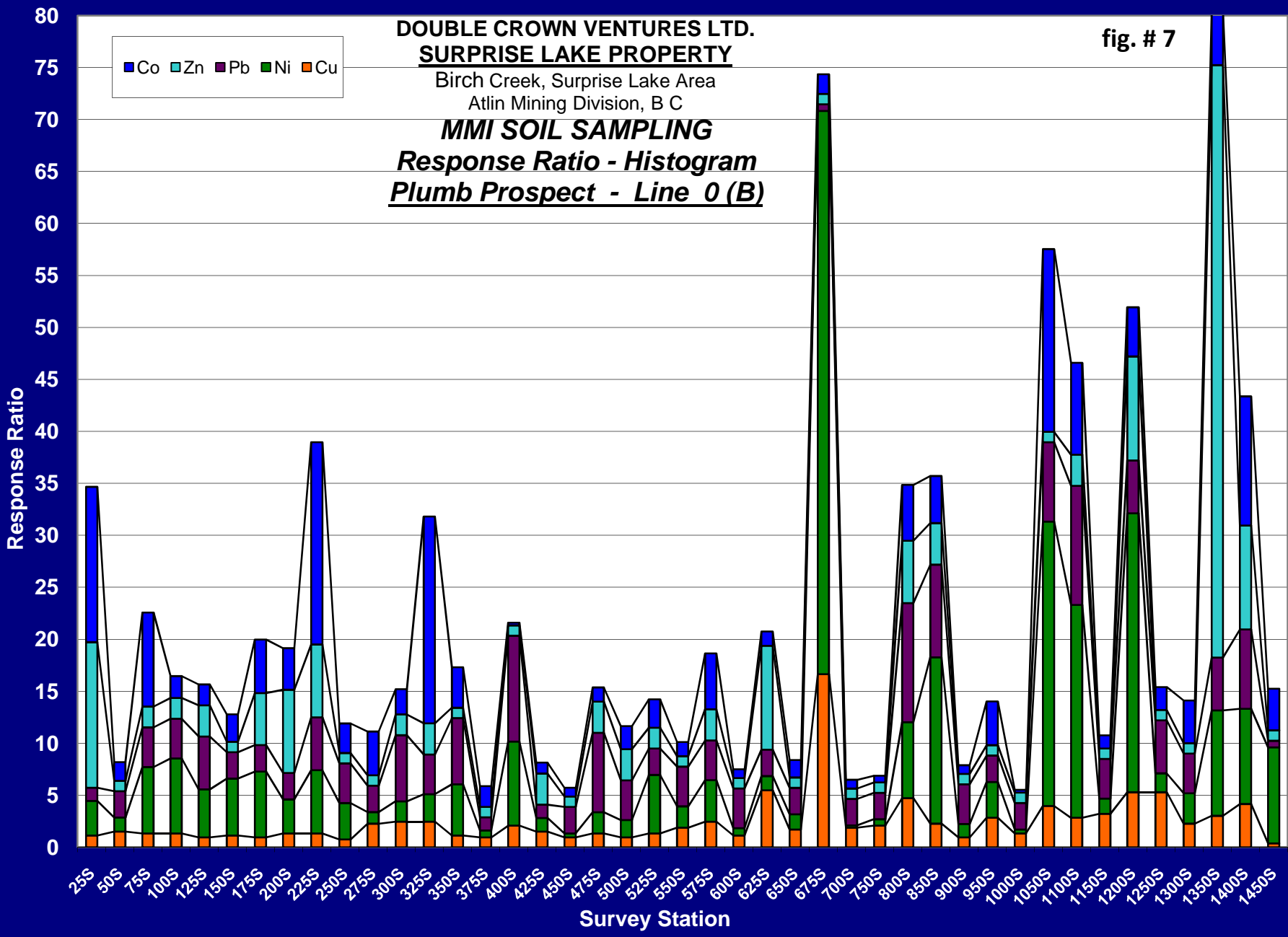


fig. # 7

**DOUBLE CROWN VENTURES LTD.**  
**SURPRISE LAKE PROPERTY**  
Birch Creek, Surprise Lake Area  
Atlin Mining Division, B C  
**MMI SOIL SAMPLING**  
**Response Ratio - Histogram**  
**Plumb Prospect - Line 0 (B)**

■ Co ■ Zn ■ Pb ■ Ni ■ Cu

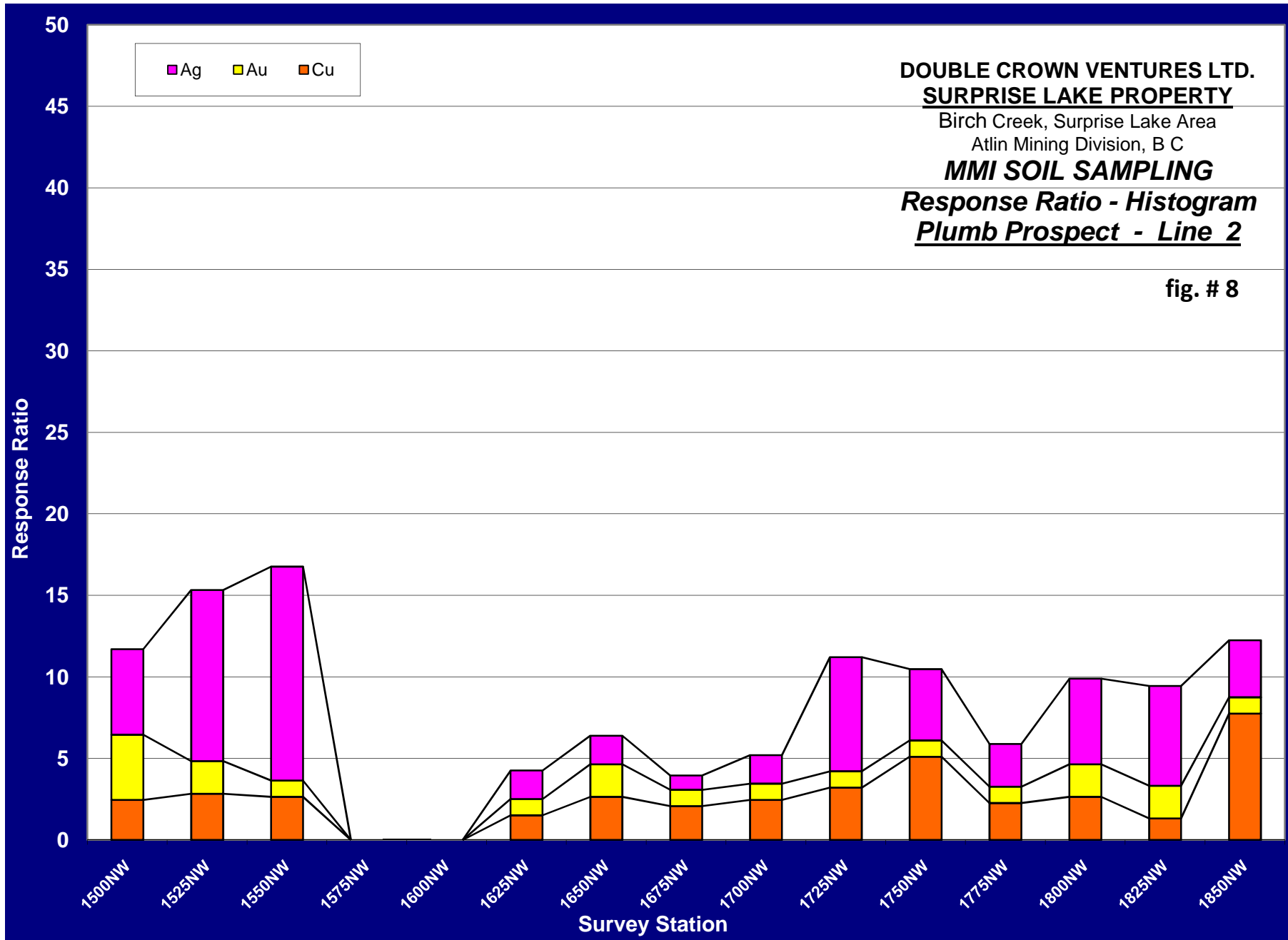


**DOUBLE CROWN VENTURES LTD.  
SURPRISE LAKE PROPERTY**

Birch Creek, Surprise Lake Area  
Atlin Mining Division, B C

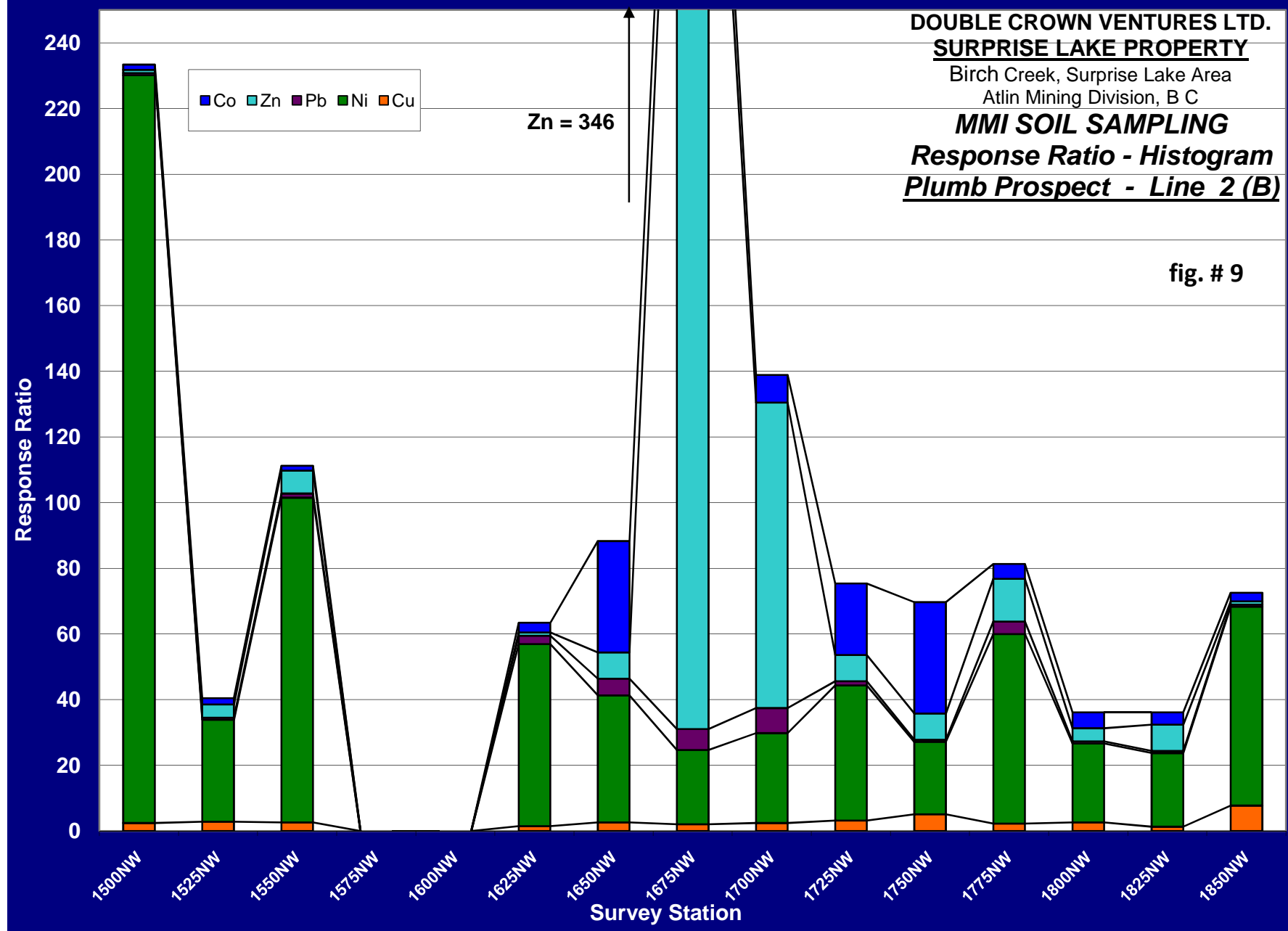
**MMI SOIL SAMPLING  
Response Ratio - Histogram  
Plumb Prospect - Line 2**

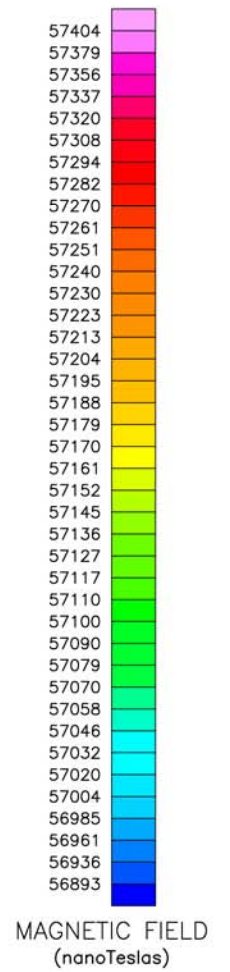
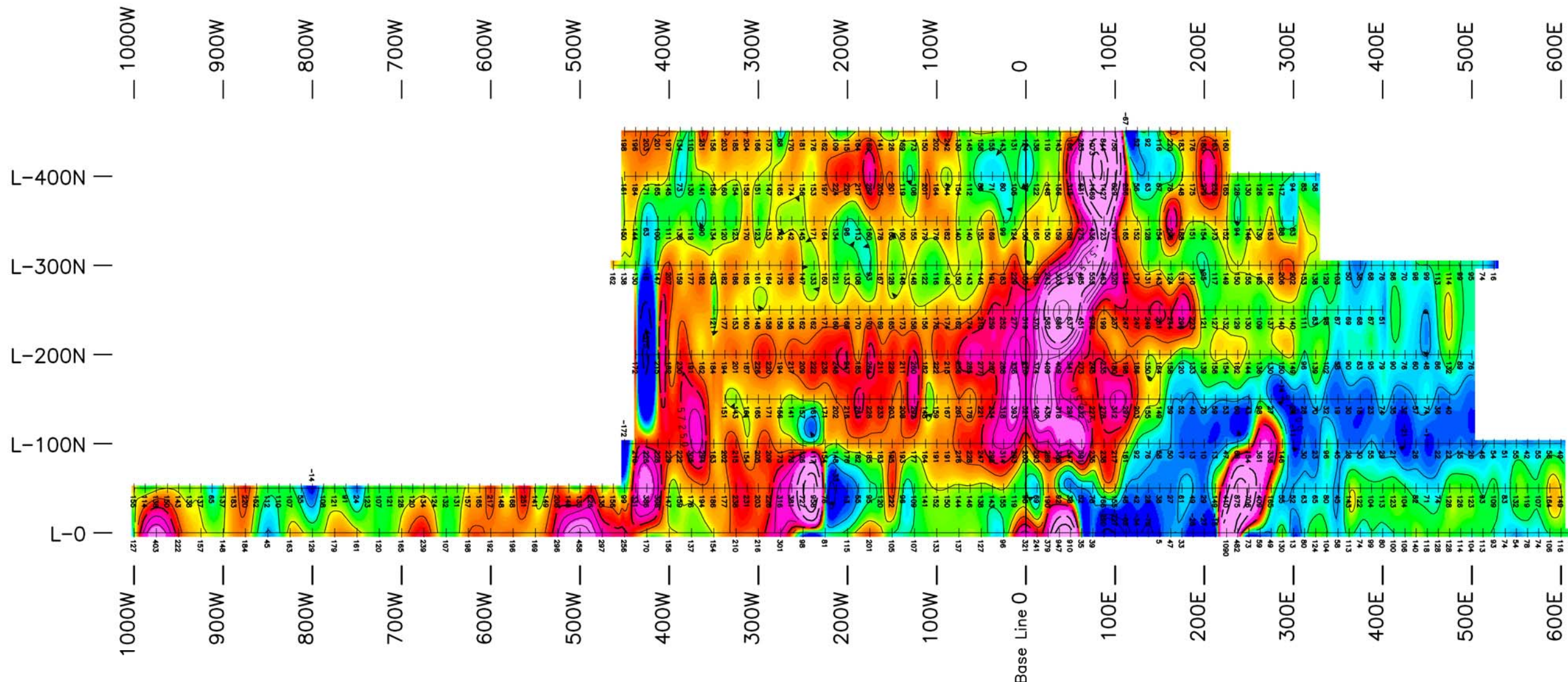
fig. # 8



**DOUBLE CROWN VENTURES LTD.**  
**SURPRISE LAKE PROPERTY**  
 Birch Creek, Surprise Lake Area  
 Atlin Mining Division, B C  
**MMI SOIL SAMPLING**  
**Response Ratio - Histogram**  
**Plumb Prospect - Line 2 (B)**

fig. # 9





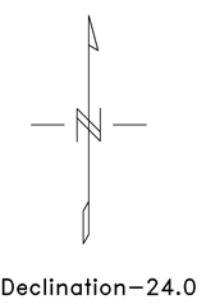
MAGNETIC FIELD  
(nanoTeslas)

Survey Date:  
September 2006

Instrumentation:  
Proton Precession Magnetometer  
Geometrics, Model G-856

Contour Interval:  
50 nT

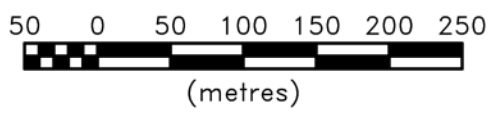
Note:  
57,000 nT subtracted from each reading



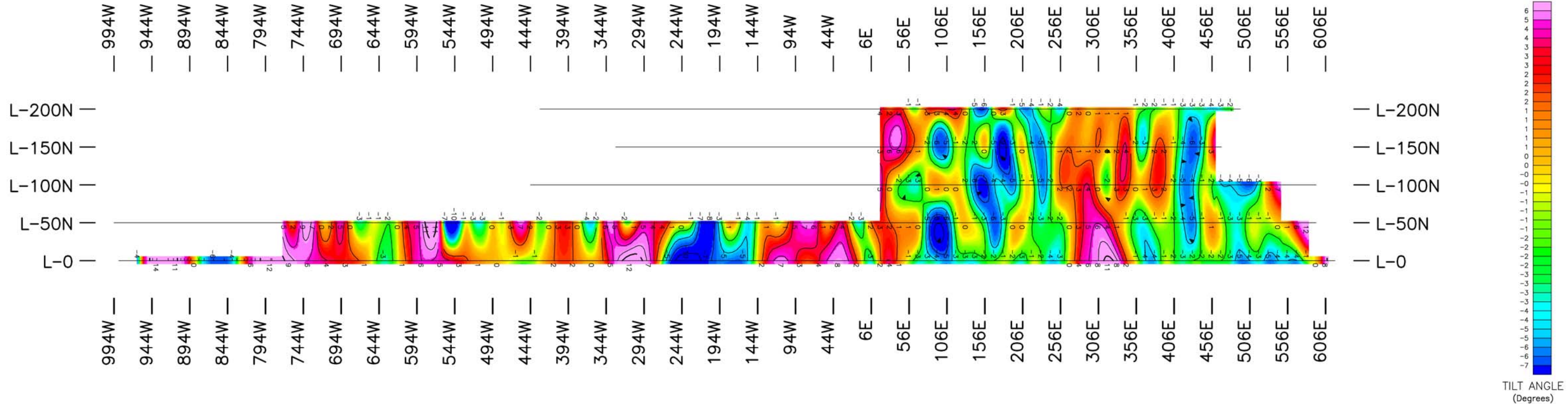
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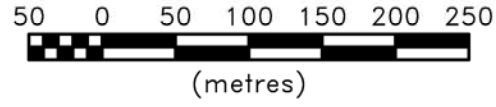
Survey and Data Reduction by:  
**GEOTRONICS CONSULTING INC**  
**SURREY BC.**



GEOTRONICS CONSULTING INC				
DOUBLE CROWN VENTURES LTD				
SURPRISE LAKE PROPERTY				
ATLIN AREA ATLIN MINING DIVISION, BRITISH COLUMBIA				
<b>MAGNETIC SURVEY</b> <b>CONTOUR PLAN</b>				
Drawn by: DGM	Job No. 06-14	NTS 104N/11	Date Oct. 06	Fig No. GP-1



**GEOTRONICS CONSULTING INC**  
**SURREY BC.**

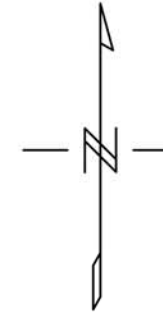


Instrumentation:  
 Sabre VLF-EM Receiver, Model 27

Survey Date:  
 August 2006

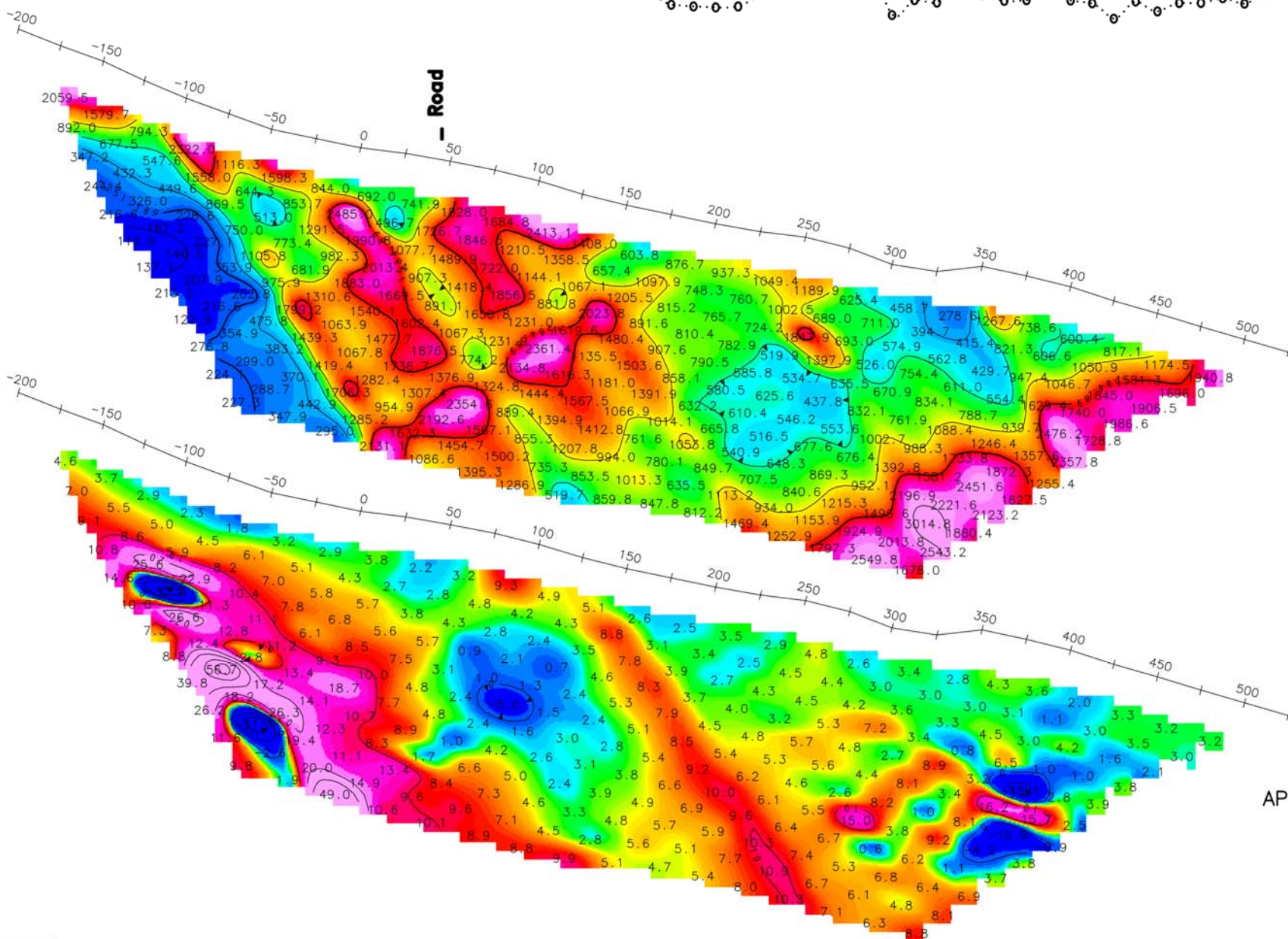
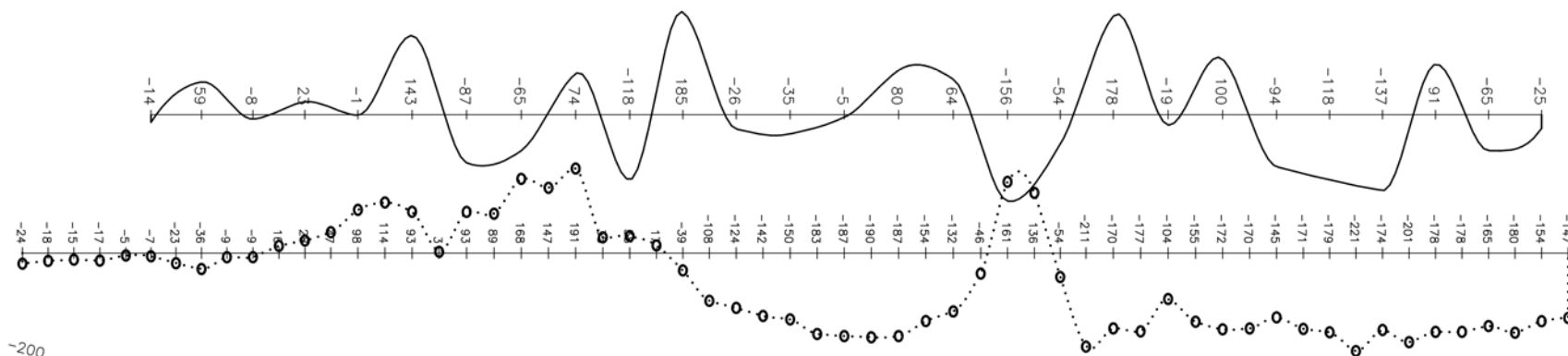
Contour Interval:  
 2 Degrees

Base:  
 0 Degrees



GEOTRONICS CONSULTING INC				
DOUBLE CROWN VENTURES LTD				
SURPRISE LAKE PROPERTY				
ATLIN AREA				
ATLIN MINING DIVISION, BRITISH COLUMBIA				
<b>VLF-EM SURVEY</b>				
<b>CONTOUR PLAN - FRASER FILTERED</b>				
Drawn by: DGM	Job No. 06-14	NTS 104N/11	Date Oct. 06	Fig No. GP-2

Line Direction: East



**LEGEND**

**CONTOUR INTERVALS**

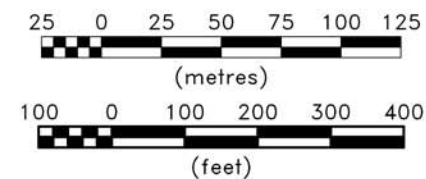
Resistivity: log base 10 ohm-metres  
 Chargeability: 10 milliseconds

**INSTRUMENTATION**

IP Receiver: BRGM IRIS ELREC 6  
 IP Transmitter: BRGM VIP 4000  
 IP Generator: 6.5 kWatt Honda  
 Magnetometer: Geometrics G-856

**IP SURVEY PARAMETERS**

Survey Mode: Time Domain  
 Array: Dipole-Dipole  
 Dipole Length: 25 meters (82 feet)  
 Dipole separation: n=1 to n=12  
 Delay Time: 240 milliseconds  
 Integration Time: 1600 milliseconds  
 Charge Cycle: 8 second square wave



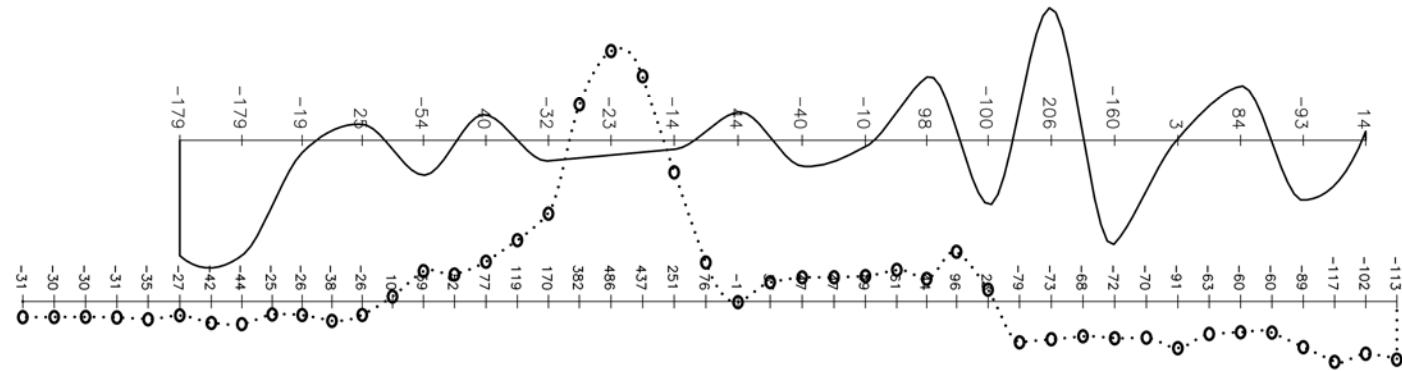
**GEOTRONICS CONSULTING INC**  
**SURREY BC.**

Survey date: October 2006

GEOTRONICS CONSULTING INC			
DOUBLE CROWN VENTURES LTD			
SURPRISE SHOWING			
SURPRISE LAKE AREA, ATLIN MD, BC			
<b>IP &amp; RESISTIVITY PSEUDOSECTIONS</b>			
WITH SELF POTENTIAL & MAGNETIC PROFILES			
<b>LINE 100N</b>			
Drawn by: DGM	Job No: 06-14	NTS: 104N/11	Date: Nov 06
			Fig No: GP-3

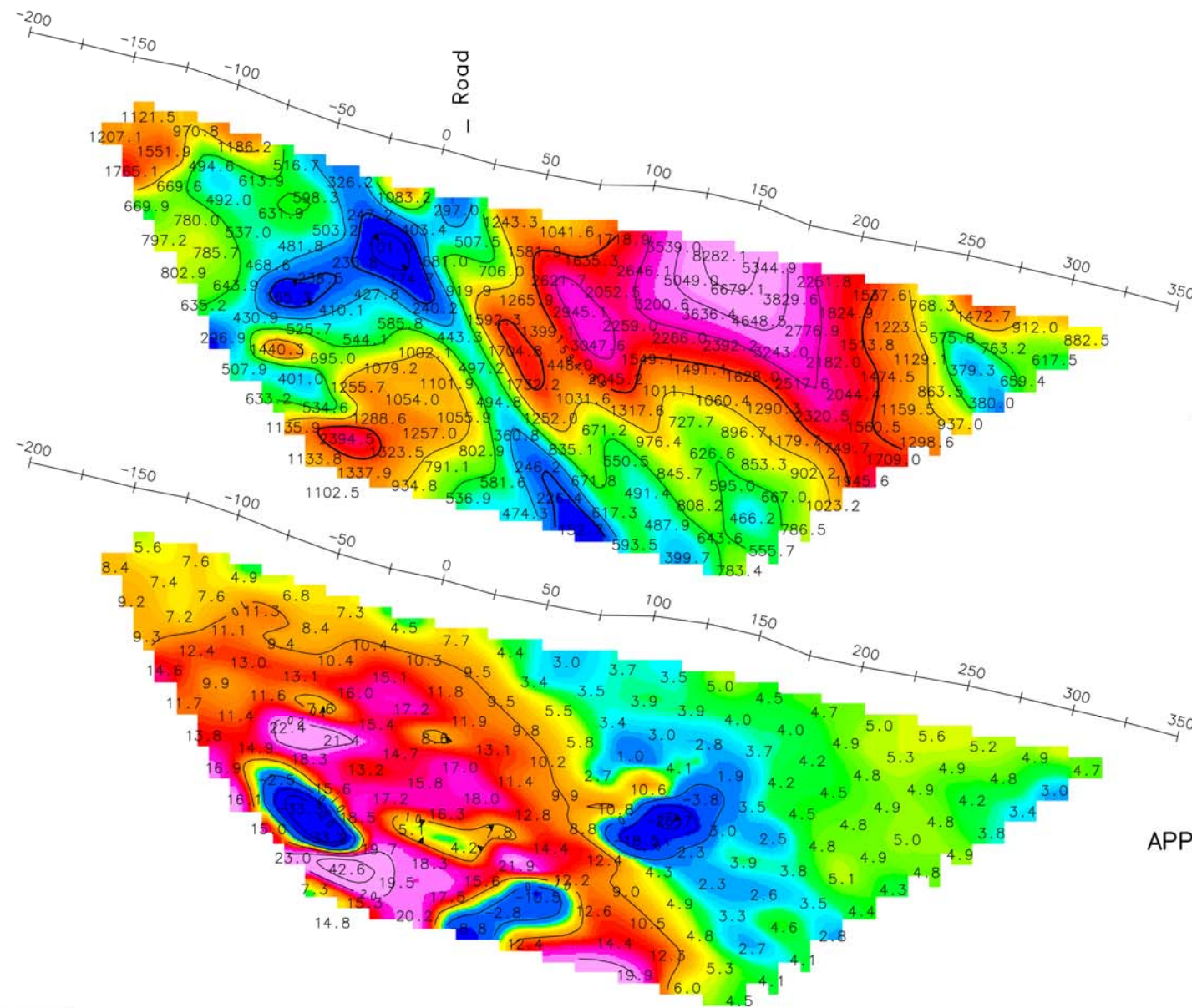


Line Direction: East



SELF POTENTIAL (Base = 0 mv)

MAGNETICS (Base = 57,200 nT)



APPARENT RESISTIVITY

APPARENT CHARGEABILITY (IP)

**LEGEND**

**CONTOUR INTERVALS**

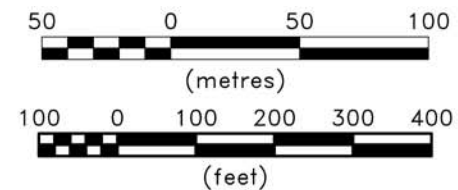
Resistivity: log base 10 ohm-metres  
Chargeability: 10 milliseconds

**INSTRUMENTATION**

IP Receiver: BRGM IRIS ELREC 6  
IP Transmitter: BRGM VIP 4000  
IP Generator: 6.5 kWatt Honda  
Magnetometer: Geometrics G-856

**IP SURVEY PARAMETERS**

Survey Mode: Time Domain  
Array: Dipole-Dipole  
Dipole Length: 25 meters (82 feet)  
Dipole separation: n=1 to n=12  
Delay Time: 240 milliseconds  
Integration Time: 1600 milliseconds  
Charge Cycle: 8 second square wave

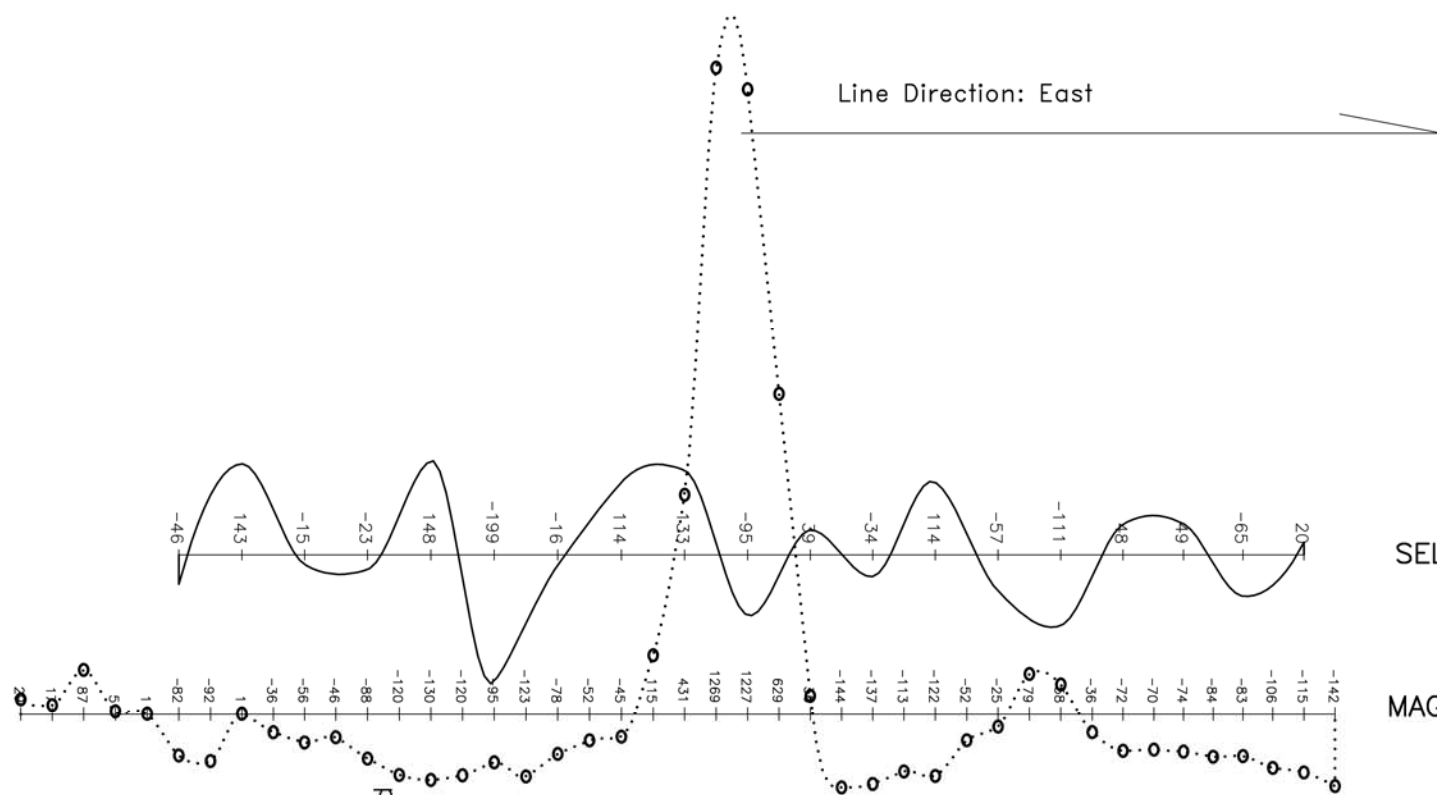


**GEOTRONICS CONSULTING INC**  
**SURREY BC.**

Survey date: October 2006

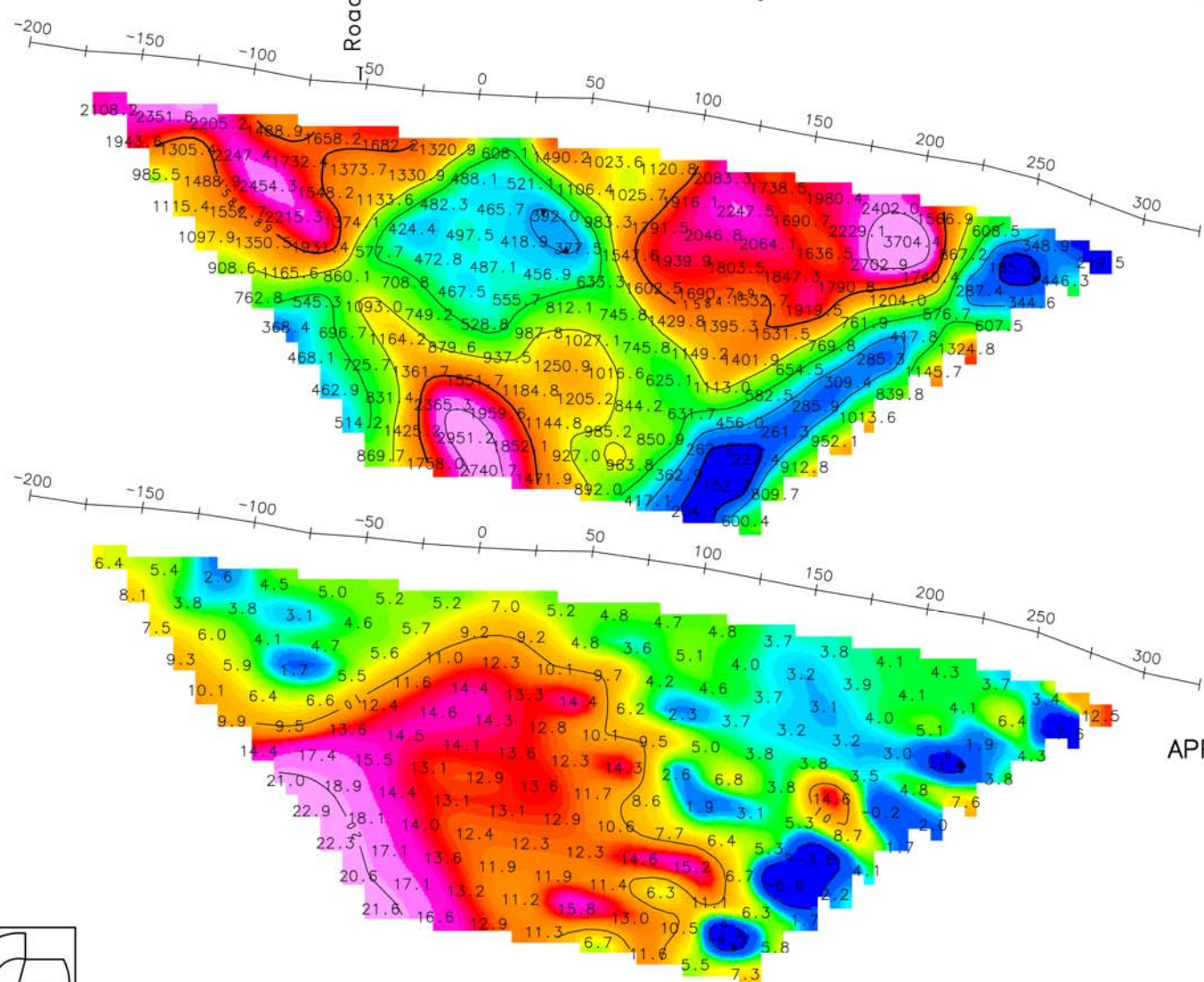
GEOTRONICS CONSULTING INC				
DOUBLE CROWN VENTURES LTD				
SURPRISE SHOWING				
SURPRISE LAKE AREA, ATLIN MD, BC				
<b>IP &amp; RESISTIVITY PSEUDOSECTIONS</b>				
WITH SELF POTENTIAL & MAGNETIC PROFILES				
<b>LINE 250 N</b>				
Drawn by: DGM	Job No: 06-14	NTS: 104N/11	Date: Nov 06	Fig No: GP-4

Line Direction: East



SELF POTENTIAL (Base = 0 mv)

MAGNETICS (Base = 57,200 nT)



APPARENT RESISTIVITY

APPARENT CHARGEABILITY (IP)

**LEGEND**

**CONTOUR INTERVALS**

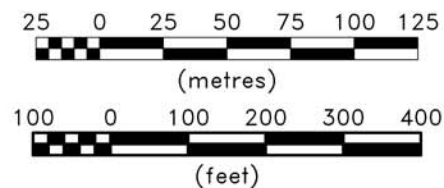
Resistivity: log base 10 ohm-metres  
Chargeability: 10 milliseconds

**INSTRUMENTATION**

IP Receiver: BRGM IRIS ELREC 6  
IP Transmitter: BRGM VIP 4000  
IP Generator: 6.5 kWatt Honda  
Magnetometer: Geometrics G-856

**IP SURVEY PARAMETERS**

Survey Mode: Time Domain  
Array: Dipole-Dipole  
Dipole Length: 25 meters (82 feet)  
Dipole separation: n=1 to n=12  
Delay Time: 240 milliseconds  
Integration Time: 1600 milliseconds  
Charge Cycle: 8 second square wave



**GEOTRONICS CONSULTING INC**  
**SURREY BC.**

Survey date: October 2006

GEOTRONICS CONSULTING INC				
DOUBLE CROWN VENTURES LTD				
SURPRISE SHOWING				
SURPRISE LAKE AREA, ATLIN MD, BC				
<b>IP &amp; RESISTIVITY PSEUDOSECTIONS</b>				
<i>WITH SELF POTENTIAL &amp; MAGNETIC PROFILES</i>				
<b>LINE 400 N</b>				
Drawn by: DGM	Job No: 06-14	NTS: 104N/11	Date: Nov 06	Fig No: GP-5

Geotronics Consulting Inc.

DOUBLE CROWN VENTURES LTD.

# SURPRISE SHOWING

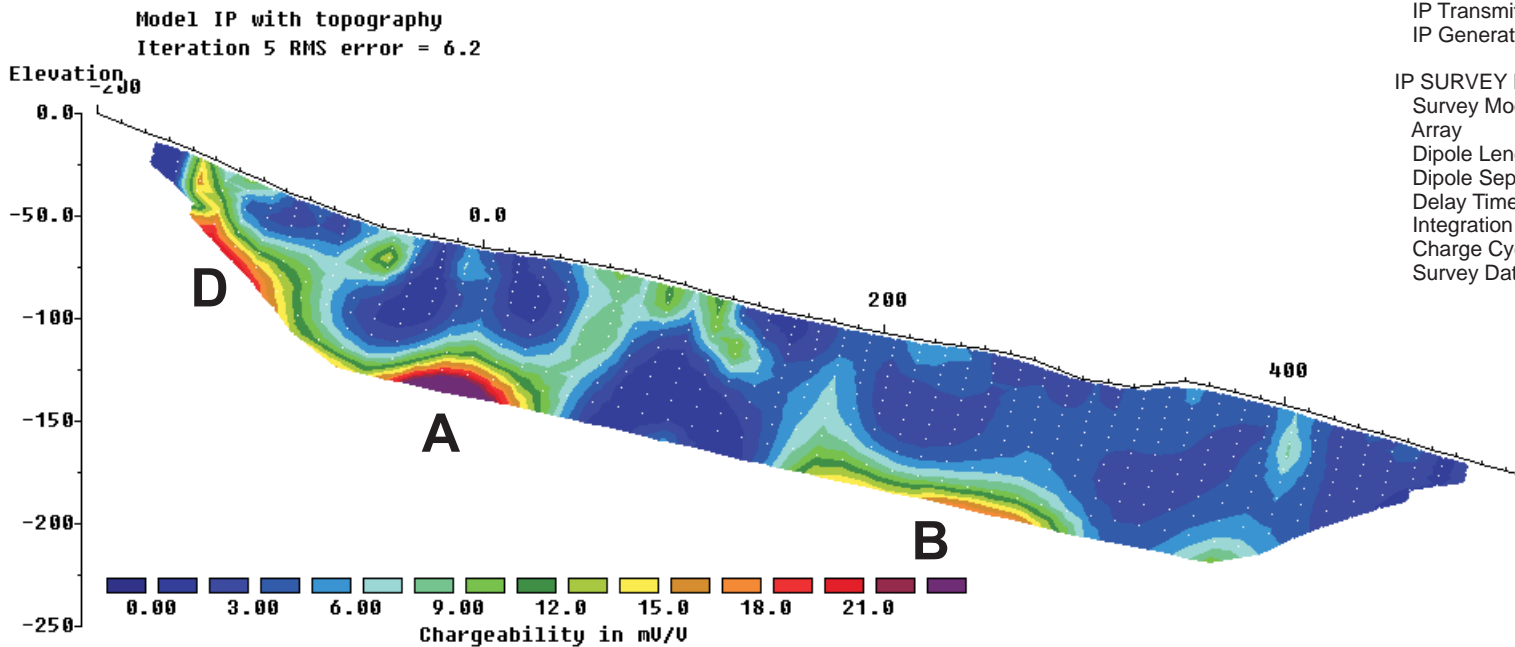
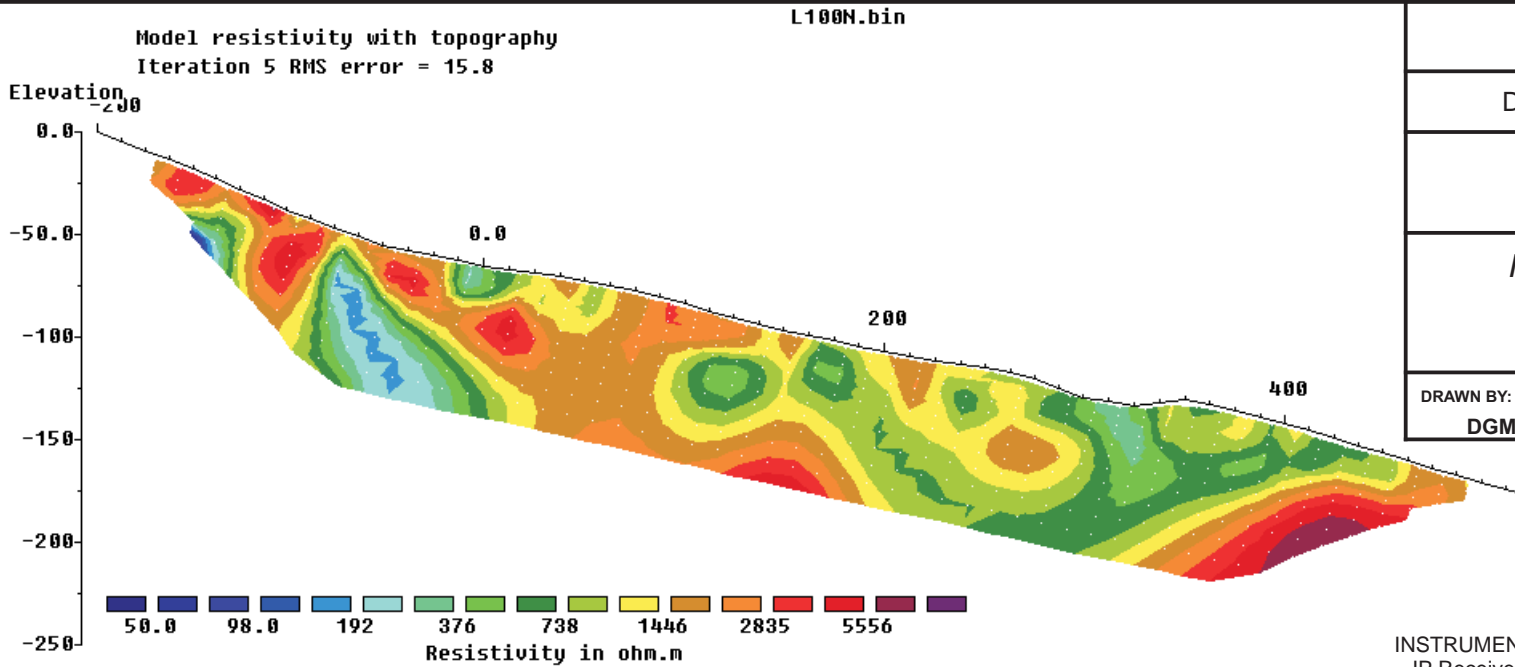
SURPRISE LAKE AREA, ATLIN MD, BC

## IP & RESISTIVITY SURVEYS

GEOTOMO INVERSION

### Line 100N

DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
DGM	06-14	104N/11	MAY 08	GP-6



#### INSTRUMENTATION

IP Receiver BRGM IRIS ELREC 6  
IP Transmitter BRGM VIP 4000  
IP Generator 6.5 kWatt Honda

#### IP SURVEY PARAMETERS

Survey Mode Time Domain  
Array Dipole-Dipole  
Dipole Length 25 meters  
Dipole Separation n=1 to n=12  
Delay Time 240 ms  
Integration Time 1800 ms  
Charge Cycle 8 second square wave  
Survey Date October 2006

Unit Electrode Spacing = 12.5 m.

Horizontal scale is 16.00 pixels per unit spacing  
Vertical exaggeration in model section display = 1.00  
First electrode is located at -200.0 m.  
Last electrode is located at 525.0 m.

LOFON.bin

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DOUBLE CROWN VENTURES LTD.

### SURPRISE SHOWING

SURPRISE LAKE AREA, ATLIN MD, BC

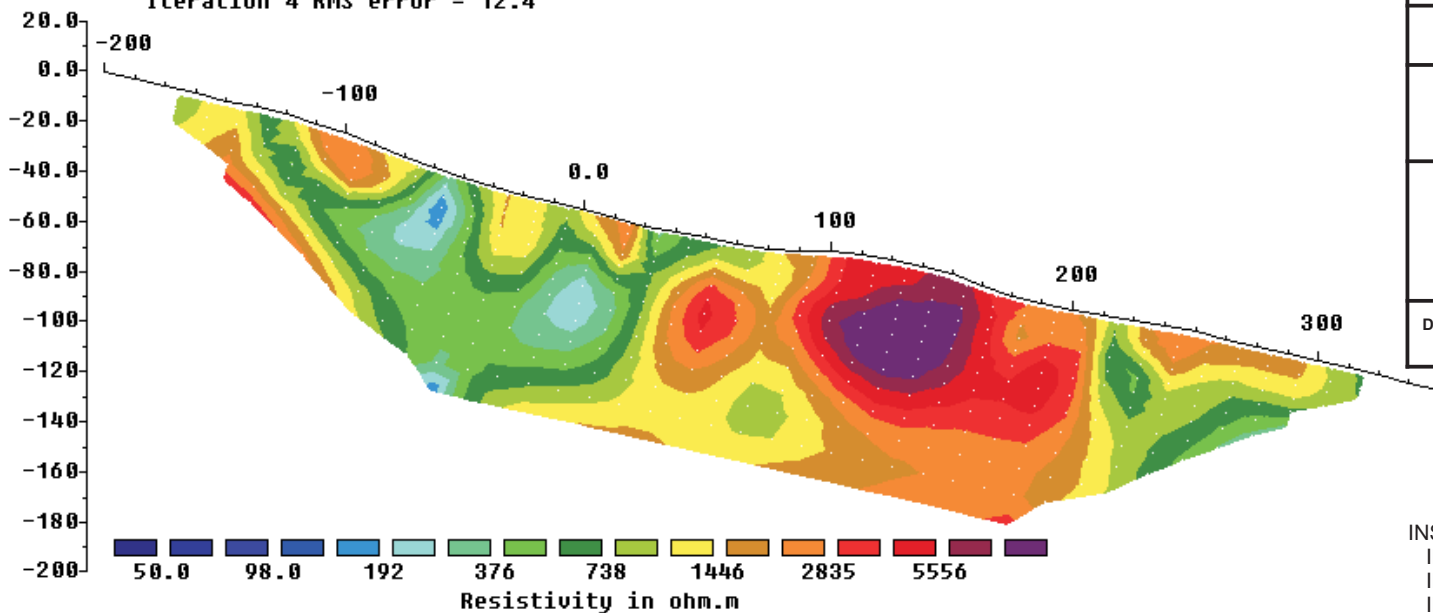
### IP & RESISTIVITY SURVEYS

GEOTOMO INVERSION

### Line 250N

DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
DGM	06-14	104N/11	MAY 08	GP-7

Elevation Model resistivity with topography  
Iteration 4 RMS error = 12.4



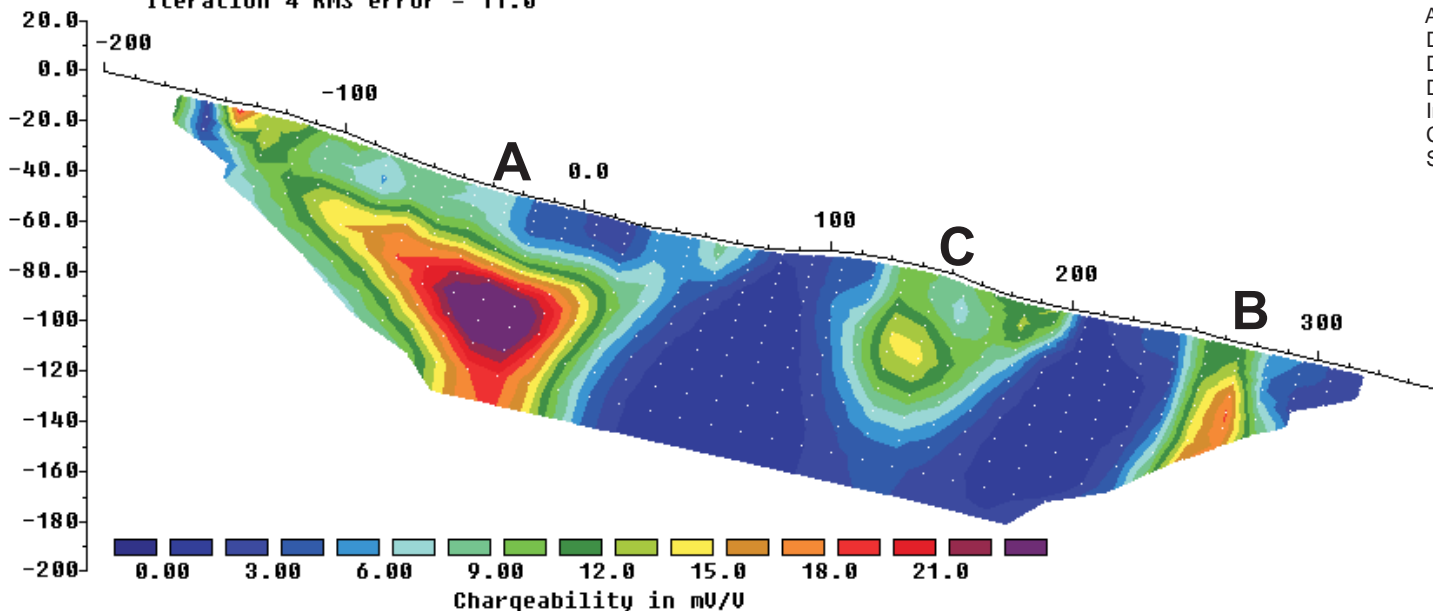
#### INSTRUMENTATION

IP Receiver	BRGM IRIS ELREC 6
IP Transmitter	BRGM VIP 4000
IP Generator	6.5 kWatt Honda

#### IP SURVEY PARAMETERS

Survey Mode	Time Domain
Array	Dipole-Dipole
Dipole Length	25 meters
Dipole Separation	n=1 to n=12
Delay Time	240 ms
Integration Time	1800 ms
Charge Cycle	8 second square wave
Survey Date	October 2006

Elevation Model IP with topography  
Iteration 4 RMS error = 11.0



Unit Electrode Spacing = 12.5 m.

Horizontal scale is 18.00 pixels per unit spacing  
 Vertical exaggeration in model section display = 1.00  
 First electrode is located at -200.0 m.  
 Last electrode is located at 350.0 m.

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DOUBLE CROWN VENTURES LTD.

# SURPRISE SHOWING

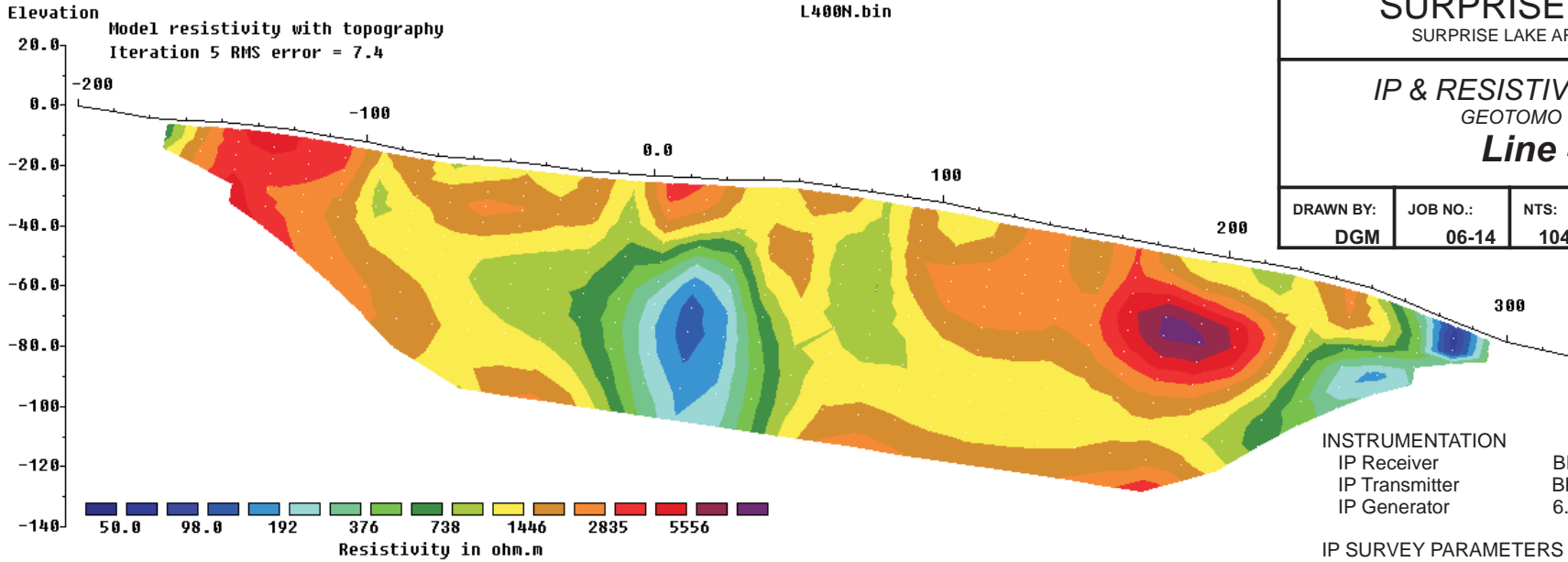
SURPRISE LAKE AREA, ATLIN MD, BC

## IP & RESISTIVITY SURVEYS

GEOTOMO INVERSION

### Line 400N

DRAWN BY:	JOB NO.:	NTS:	DATE:	FIG NO.:
DGM	06-14	104N/11	MAY 08	GP-8

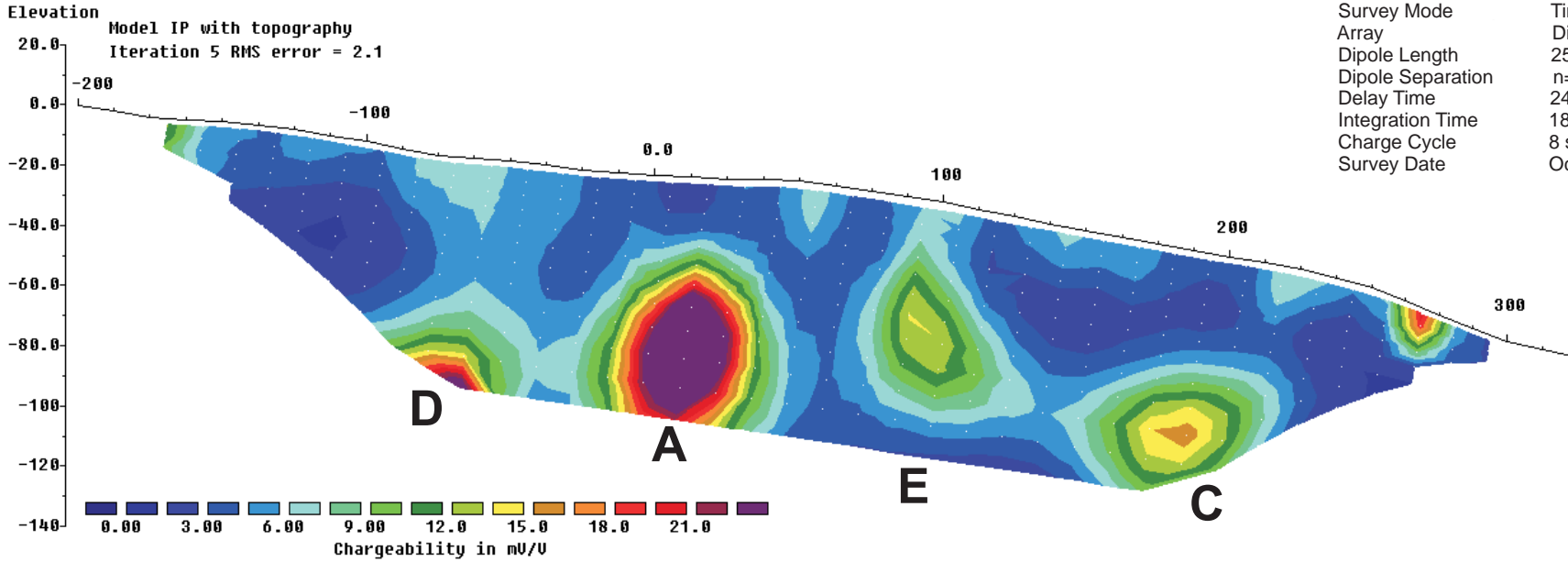


INSTRUMENTATION

IP Receiver	BRGM IRIS ELREC 6
IP Transmitter	BRGM VIP 4000
IP Generator	6.5 kWatt Honda

IP SURVEY PARAMETERS

Survey Mode	Time Domain
Array	Dipole-Dipole
Dipole Length	25 meters
Dipole Separation	n=1 to n=12
Delay Time	240 ms
Integration Time	1800 ms
Charge Cycle	8 second square wave
Survey Date	October 2006



Unit Electrode Spacing = 12.5 m.

Horizontal scale is 28.55 pixels per unit spacing  
Vertical exaggeration in model section display = 1.00  
First electrode is located at -200.0 m.  
Last electrode is located at 325.0 m.